

Appendix B. Mapping data from first-stage survey of the Upper Matilija Basin. Distances and areas are in feet and square feet. See text for descriptions of channel and riparian types.												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Matilija	start at head of reservoir, 3/9/03, Scott Riley, Est flow=10cfs											
	0	1	C-D	RS	150	2	start	32	25-50	0-25	59	Est flow: 10cfs, Mule fat, willow, cat tail, Arrundo
	792	2	C-D	RS-FM	150			600	25-50	25-50		most gravel ~ 0.5"; lots of algae and aquatic veg.
	1,152	3	C-D	RS-FM	150	3	1,152				60	Some gravel mixed w/ larger cobble; no distinct patches.
	1,300		C	RS			1,300	75	0-25	0-25		flag @ top of gravel; channel narrows, gradient increasing.
	1,908	4	D	RS	60		1,908				60	split, some trees-Alder
	2,004											good holding pool
	2,484		D	RS	50							mineral cementing
	2,670		D	RS	50							Split; ~ 10 NGF
	3,165	5	D	RS	40	4	3,170				62	
	4,160	006-009	D	RS	30		4,160				64	road x-ing
	4,626											Deep holding pool
	5,013	10	C-D	RS	30	5	5,013					Steep cut bank R.
	5,634		C									gage 7.5"
	6,000	11	C-D	RS	30	6	6,000				65	at1310 Road close
	6,249		C	RS								Rip Rap RB.
	7,000	12	C	RS	30	7	7,000				65	Larger substrate, Bldrs. ~500 NGF
	7,978	13	C	RS	30		7,978	24	25-50	25-50	65	~ 200 NGF
	9,009	14	C	RS	30	8	9,009				66	
	9,357	15						21	25-50	50-75		cemented, Sulphur spg RB. Private
	9,942	16	C	RS	30							Trib?/SC? RB
	10,005											old footbridge
	10,868	17	C	RS	40	9	10,868				66	split enters 10800-10860 came up LB side ch.
	11,680											sulphur sprg RB. Split
	11,705											Deep holding pool
	12,000	18	C-D	RS-AS	40	10	12,000				65	split ch. End split ~12500. A few Alders
	13,011	19	C	RS	45		13,011					small alders and willow
	13,431	20	C	RS	45							entering Gorge-like area.
	13,609											corner pool. Add 60' from here on
	14,033	21	C	RS	60	11	14,033	40	50-75	25-50	63	wide, large bldrs. 2 patches of gravel
	14,033							40	25-50	25-50		some trees
	14,739	22	C	RS	50		14,739				63	at1612. End.
Matilija	start at rusty gate just past prvt property, 3/9/03, Sean Thobaben											
	0	500	C	AS	80	2	SCT 000				61	started under power line, side chnl on R.
	70	501	C	RS	60		SA1	64	10	25-50		at head of side ch.
	424	502	B	RS	50		SA2	50	20	50-75		on RB, 3/4 out of water by 1' or more
	453							40	5	25-50		2' out of water on RB
												another perched SA just above boulder from prior
	881	503	B	AS	30		SA3	30	20	50-75		LB
	892		B	AS	30			40	15	25-50		just above prior
	996											good SA (8x12) on RB, but 2' out of water
	1,000	504	B	RS	40	3	SCT 1000				61	patch of arrundo on LB
	1,157											forest service gate on road above creek
	1,277	505										fence across creek, good gravel patch up high on RB (4')

Appendix B. (continued)												
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								Area	%Fine	%Embed		
Matilija	1,426											4x4 road crosses creek
	1,650											creek channelizes, RS much more dense
	2,002	506	B	RF	20	4	SCT 2002					61 flag on RB alder
	2,397	507	B	RF	25	5						60 trib on RB, 60°F, ~0.5cfs, same one we drive through
	2,604	508	B	RF								60 spring enters creek on Rb 61 F.
	2,771	509	B	RF	25							60 spring enters creek on Rb 60 F. <0.25 cfs
	2,903											many small seeps on RB for 100'
	3,002	510	B	RF	30	6	SCT 3002					60 ~180' of very low gradient here
	3,044											but most of this reach has been 1-3% grade
												60 many sulphur springs in creek, yellow staining on rocks very prevalent.
	3,140	511	B	RF								stream more contained, bedrock cliff on LB
	3,230		B	RF								6x15 gravel bed perched 2' up on RB
	3,342		B	RF								out of bedrock canyon and deep pool area
	3,460	512	B	RF	25		SA4	20	30	25-50	60	~ 60' below Murietta Cr., barely 20' in mid channel.
												arrondo on LB.
	3,515	513	B	RF	20	7	Murietta					Murietta Cr. Enters on LB (gage 27 9/16.
	3,613		B	RF	20							split ch., frog.
	3,759											end split; leaving RF
	3,955	514	B	RS	20	8	SCT 3955					61 fence on top RB
	4,222	515	C(B)	AS	10							9 water flow really spread out between bldrs.
	4,510	516	B	AS	20	10,11						road x-ing, 4' wall built for road; not a barrier.
	4,727		B	AS	20	12						deep pool below confluence w/ upper NF.
	4,826	517	B	RS		13	U.N.F.					upper north fork confluence
	4,860											30' patch of gravel ~2' out of water
	5,023	518	B	AS	20	14	SCT 5023					65 UNF trail X-ing; frog
	5,385	519	B	AS	15		SA 5	45	20	25-50		1/2 out of water, on RB
	5,460		B	AS	15							gradient> 4%; split ch.
	5,606	520	B	AS	10		SA 6	20	40	50-75		mostly small gravel; 0.5-1' out of water
	5,629		B	AS	15							end of split and high gradient
	5,829	521	B	AS	20		SA 7	29	40	25-50	64	at tail of pool; dry trib on RB
	5,900		B	AS								series of cascades through large boulders for ~80', overflow channel on RB
	5,922	522	B	AS	20	15	SA 8	20	60	>75	65	on LB partially out of water
	6,576											6x15 gravel patch on RB 2-3' out of water. Also from 5900 several 10' patches close to each other on LB
	6,720		B	AS	20	16						just came out of ~800' of large bldr and pool section.
	6,906	523	B	AS	40	17	6906/SA 9	24	20	25-50	65	gravel on LB, 1/4 ~1' out of water
	6,990		B	AS	10							stream breaks into multiple channels with dry channels
	7,075		B	AS	20			20	25	>75		gravel is cemented w/ mineral deposit
	7,130	524	B	AS	25		SA 10	20	30	50-75		cemented, 1/2 above water by 1' on LB
	7,187	525	B	AS	20		no	35	5	25-50		lightly cemented, 1/2 1' above water
	7,229		B	RF	10	17						lrg. Bldrs and change in veg type.
	7,320	526	B	RF		18	SA 12	70	20	50-75		gravel bar at tail of deep pool in small bedrock gorge.
	7,398											upper end of pool, several more gravel patches that

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								Area	%Fine	%Embed		
Matilija												are ~ 6x6 but deep water and poor access prevent measuring
	7,872			B RS	25	19						4" falls w/ 3' deep pool @ base; passable.
	7,916											frog
	7,942											5x8 gravel patch 1- 1.5' above water RB
	8,127	527	B	RS	25	20	SCT 8127					62 4x4 road crossing, flag on RB
	8,337	528	B	AS			SA 13	25	15	25-50		heavily cemented gravel @ tail of big pool
	8,965											frog
	9,002	529	B	AS	20	21	SCT 9002					60 flag on RB dead alder
	9,557	end09	B	AS			SCT 9557					60 out of string
	start at end of above, 3/10/03, Sean Thobaben											
	0	530	B	AS		22	begin					53 below large square rock on road above.
	52		B	AS				55	25	>75		highly cemented, several gravel areas close by
	238		B	AS				24	25	25-50		on RB but mostly out of water by > 1'
	319											several more gravel patches just above water
	915											small step cascade through boulders, boulder choke
												at bottom of chute could make passage difficult,
												but still passable at this flow.
	954		B	RS				27	45	>75		good gravel patch in pool on RB
	1,004	531	B	RS	30	24	SCT 1004					55 new roll of film
	1,159											side channel drops in w/ steep 5' cascade on RB
	1,420											upper end of side channel, ~1/3 flow uses side ch.
	1,506	532	B	RS			1506 SA	30	20	25-50		55 good gravel in deep pool, lightly cemented.
	1,550											entering a long series of cascade and pool
	1,670											woody debris jam under large boulder
	1,913					2						bedrock falls, ~ 3' high x 8' horizontal, deep pool
												below, shouldn't be a problem for passage.
	2,079	533	B	RS	15	3	SCT 2079					57
	2,178	534	B	RS				80	5	0-25		very good gravel in deep pool, beach w/ structure
												on LB just above pool.
	2,250											below last property at end of road
	2,367											55 sulphur smell strong, spring close, pH=8.0, yellow
												staining on rocks, woody debris, dry channel comes in on LB
	2,512											many more springs in creek
	2,613											woody debris, more springs
	3,000	535	B	RF	20	4	SCT 3000					54 old flagging just below
	3,062											Old man creek enters LB
	3,193		B	RF				20 (2)	10	25-50		2 patches in pool below cascade
	3,312											multiple 2-4' falls, all easily passable
												lots of BLDRS small falls and deep pools
	3,682	536	B	RF	40	5	3682 SA	40	25	25-50		good spawning gravel a tail of deep pool
	3,821											4' falls, passable
	3,877											Large(40x30) deep cover, 10' pool w/ 5' falls
	4,040	537	B	RF	40	6	SCT 4040					54 long pool along bedrock slab, good trail access.
	4,228		B	RF				24	15	25-50		spawnig area in pool, trout feeding
	4,262											substrate changes to angular bedrock, about to

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Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)	
								Area	%Fine	%Embed			
Matilija												enter canyon, water fast and shallow.	
	4,602		B	RF								out of canyon, back to boulders	
	4,752		B	RF		7						long series of bedrock poor-overs	
	4,830											small log jam, 4' falls 50' US	
	4,969	538	B	RF	40	8	SCT 4969	25	30	25-50	55	spawning area on RB	
	5,071		B	RF				30, 50	20	50-75		2 spawning areas in large deep pool below falls	
	5,124		B	RF								camp area w/ some work up on LB. Good trail access	
	5,264											5' falls not passable, small "ladder" channel on RB	
	5,390					9						provides passage at current flow, but probably not at lower flow.	
	5,504					10						frog	
	5,747											bedrock water slide	
	6,043	539	B	RF	50	11	SCT 6043				57	many bedrock sills, water shallow where it	
	6,200	steep chu	B	RF	20	12,13						poors over, trout in pool	
	6,348							40	10	25-50		channel split	
	6,470											bedrock poor-overs w/ long pools in between	
	6,606							20	10	0-25		under large boulder perched 50' on RB	
	6,664							20	35	50-75		3' falls with steep, narrow chute above;	
	7,000	540	B	RF	30	14	SCT 4000				56	45' of steep chute then 45' of lower angle chute.	
	7,516	541	B	RF				32	40	>75		Boulder at bottom makes leap up falls difficult. Possible barrier.	
	7,734							60	15	25-50		spawning area in pool	
	7,945	542	B	RF	50	15	SCT 7945	20	20	25-50	58	60' bedrock chute, low angle, cascade at top, passable	
	8,410	543				16						pool at base of bedrock poor-over; more gravel in pool above.	
	8,481											steep 45' long bedrock slide	
	8,591							40	60	>75		woody debris	
	8,807											gravel at tail of large pool	
	8,977	544	B	RF	25	17,18	SCT 8977	30	40	50-75	58	50' long BRK chute, 4 % grade	
	start at end of above, 3/13/03, Sean Thobaben												gravel pile in big pool, possible barrier
	0	544	B	RF			8977 end				56		
	158	545	A	RF	15	19							Channel more confined, BDRK substrate, pool/slide/falls series
	277							40	10	25-50			gravel bed in tail of large pool
	344												35' bedrock cascade, not barrier
	633		A	RF	15			20	15	50-75			gravel sharp and angular. Part of larger pile on finer substr.
	872	546	B	RF	20								out of narrow bedrock canyon, bldr and Cobble dominate substr.
	906												5-6" RBT
	959												stream flows over bdrk as far as I can see
	1,003	547	B	RF	25	20	SCT 1003	25	25	>75	56		gravel bed in pool
	1,094												3' falls to bdrk chute 30' long
	1,234					21							55' low angle bedrock chute

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								Area	%Fine	%Embed		
Matilija	1,391											long, deep pool w. 5"RBT feeding
	1,462							20	15	50-75		in tail of pool
	?							30	15	25-50		gravel in deep water at head of long, deep pool
	1,906											2 snakes on LB
	1,973											4' falls, not a barrier
	2,048	548	B	RF								entering bdrk cnyn, sulphur sprgs in stream.
	2,156					22						bdrk cascade; 8' high 30'long
	2,216											5' falls at head of deep pool; not a barrier
	2,326											two western pond turtles
	2,634	549	B	RF	25	23	SCT 2634				56	5' falls at head of deep pool, camp on RB
	2,896					2						very large, deep pool w/ sprgs along LB
												3 western pond turtles
	3,041	550	B	RF	40	3,4,5	SCT 3041				56	18' high, 56' long high angle bdrk falls/chute
	3,252											garter snake
	3,370	551	B	RF		6						entering highly eroded bdrk cnyn. Channel full of sharp,
												angular gravel
	3,669					7						spectacular geology, bdrk layers tilted to near verticle
	3,865											5' falls w/ deep pool at base
	3,951											snake
	4,095	552	A	RF	30	8	SCT4095				57	10' falls followed by 5' falls w/ deep pool separating,
												although there are large quantities of spawning sized gravel
												through this canyon reach it is sharp and angular rock that looks
												like it would lacerate any fish attempting to dig in it
	4,509											bdrk chute 4' wide 24' long; not very steep
	4,732											chute along near verticle bdrk wall
	4,963											channel highly confined by bdrk walls
	5,033											springs cascade into creek on LB
	5,212		A/B	RF	15	9,10,11	none					50' falls; 2 stripe racer
Up NF Matilija	start at confluence w mainstem Matilija, 3/10/03, Scott Riley, est. Flow=4cfs											
	0	23	B	RF	20	14 US	start				50	at 0845
	154		B	RF				35	25-50	25-50		velocity 1 rebar
	725	24	B	RF	20			21	50-75	25-50		in pool; lots of fines
	961	25	B	RF	20		961	35	25-50	25-50	50	most< 6" OW at pool tail
	1,175		B	RF	25			21	25-50	25-50		
	1,175							32	50-75	25-50		
	1,896	26	B	RF	25		1,896	30	50-75	25-50	50	most gravel ~0.5"
	2,144											LWD: 3 downed alders
	2,224											plunge pool w/ 3' drop; passable
	2,365											pool w/ LWD
	2,450	27	B	RF	25	15 US	2,450	21	25-50	25-50	51	trail X-ing; slightly less slope
	2,950							60	25-50	75-100		very cemented
	3,015							20	50-75	50-75		lots of fines; slope increasing
	3,191											2' plunge passable
	3,490	28	B	RF	25		3,490				52	good trail access
	3,532							28	25-50	0-25		very lrg bldrs/bdrk

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								Area	%Fine	%Embed			
Up NF Matilija	3,835	29		B	RF							trail x-ing	
	3,983			B	RF			24	25-50	0-25		in bend	
	4,028											2.5' plunge, passable	
	4,146	30		B	RF	20	4,146	40	25-50	0-25	54	pool tail; less canopy	
	4,430	31		B	RF	25	4,430	49	0-25	0-25	54	trail x-ing; 3 3-5" RBT	
	4,430						16	21	25-50	0-25		"best" patches so far; more smaller patches in unit	
	4,557			B	RF			32	50-75	25-50		lots of fines; 2 YOY	
	4,710											trail x-ing	
	5,235											no bdrk, lrg bldrs; steeper open	
	5,301	32		B	RF	20	5,301	49	50-75	25-50	55	orange X on rock MC	
	5,488											slope decreasing; out of canyon like area, wider flood plain	
	6,291	33		B	RF	20	6,291				58	at 1146; alder and berryvines	
												many fish observed; a few RBT mostly other NG	
	6,332							21	50-75	25-50		most OW	
	6,432											many small, disjunct patches of gravel	
	6,649	34		B	RS	20						willow, mule fat very open. Abrupt transition	
	7,134	35		C-B	AS	20	17				58	substrate very imbedded; lots of silt; 1snake, 2 frogs	
	7,625											RBT	
	7,894											split	
	8,048	36		C	AS	20	8,048				58		
	9,006	37		C	AS	20	9,006						
	9,454											plunge pool; passable	
	9,732											good holding pool, >4' deep	
	10,067	38		C-B	AS	20	10,067				56	a few trees beginning to appear, valley becoming narrow, steeper	
	10,500	39		C-B	RF/AS	20							
	10,684	40		B	RF	20	18	10,684	24	25-50	25-50	55	Trail x-ing; orange flag in tree no #; steep rock face RB
	11,060											deep (>4') pool; ~15 fish	
	11,460											channell becomes steeper	
	11,526											plunge pool, 2.5' falls passable	
	11,643	41										trail x-ing	
	0	42		B	RF	25	19-21	0			58@1433	re-zero at possible barrier ~ 200' US of 11643	
	0	43						000B				re-zero, hipchain not working properly. Trail x-ing	
	641			B								steep walls on either side of stream	
	922	44		B/A	RF	25	22	922			58	lots of silt, not very steep	
	1,210	45										possible barrier	
	1,660			B/A	RF							getting steeper	
	2,011	46		B/A	RF	25	2,011	42	25-50	75-100	56	cemented. Some small patches of very imbedded gravels	
	2,600	47		B	RF	25	2,600				56	trib. RB ~1.5 cfs; 57 deg.F	
	2,678											end 03/10/03; Start 03/11/03	
	2,911											fish	
	3,019	48		B	RF	20	3,019	20	25-50	25-50	54	many small falls with shallow jump pools that make passage difficult at current flow, passable at higher flow	
	3,137											~ 5 fish 3-5"	
	3,160							24	25-50	25-50		~ 75% OW; most gravel <0.5"	

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								Area	%Fine	%Embed		
Up NF Matilija	3,247											3' falls, passable
	3,387	49					3,387					possible barrier
	3,875	50						27	25-50	0-25		from shale face LB
	4,021	51	B/A	RF			4,021					barrier
	4,295											steep 2.5' falls w/ poor jump pool. Passable at higher flow
	4,341											nice holding pool. 4.7' deep.
	4,515	52	A	RF								Trail x-ing
	4,545											3.5' falls, passable
	4,663											3.5' falls, passable
	5,239											LWD
	5,260	53	A/B	RF	20							Trail x-ing
	5,414											cascade. Passge difficult but not impossible
	5,503	54	A	RF	20	11 US	5,503				56	Campground RB
	5,663											LWD
	5,708					12						Photo typical of stream/cascades
	5,920											4' falls possible barrier at current flow, passable at higher flow
	6,203											RBT
	6,510	55	A	RF	20		6,510					bdrk/bldr dominant
	6,840	56										Trail x-ing
	7,159	57										Trail x-ing
	7,243											possible barrier at current flow
	7,453											possible barrier at current flow
	7,476	58	A	RF	20						56	Trail x-ing. 2RBT ~6-7"
	7,578											1 RBT 7-8"
	7,926											1 RBT ~7"
	7,953	59										Trail x-ing
	8,158		A	RF	30		8,518				57	RBT throughout; Trail x-ing
	8,655	60						40	50-75	50-75		lots of fines
	8,940											LWD
	9,230	61	A	RF	25		9,230					
	9,300											RBT
	9,473	62	A	RF								barrier
	9,574											cascade currently impassable
	9,860					21						9860-9881 cascade probable barrier
	9,891	63	A	RF	25		9,891				57	barrier
unnamed trib	start at confluence w Up NF Matilija, 3/10/03, Scott Riley, Est. flow=1.5cfs											
to Up NF	0	92	B	RF	15-20	17 US						55
	94											fish in pool. LWD.
	235											small patches of small gravel, lots of fines.
	271	93	B	RF	20							Trail x-ing
	770											LWD
	1,012	94	B	RF	20		1,012					small patches of gravel throughout. ~4 fish observed.
	1,067							20	25-50	25-50		gravel small
	1,112											lots of bdrk
	1,448											cascade/falls; passable at higher flows

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
unnamed trib	1,462							24	25-50	25-50		
to Up NF	1,592							28	25-50	25-50		
	1,736											LWD
	1,770	95	B	AS-RF								much less canopy
	1,911											5' falls, barrier at present flow
												possible high flow channel on left
	2,034	96	B	AS-RF	20		2,034				58	fish throughout.
	3,075	97	B	RF-AS	20		3,075					More alder and shade
	3,399											Deep pool >4'
	3,809							21	25-50	25-50		small gravel tallus from shale wall LB
	3,858							21	25-50	25-50		most just OW
	4,143	98	B	RF	20		4,143					Deep pool
	4,318	99	B	RF	20		4,318	70	25-50	25-50	58	Barrier; large pile of tallus at base of falls
Old Man	start at confluence with mainstem Matilija, 3/12/03, Scott Riley, Est. flow=0-1cfs											
	0	64	A	AS		22 US						No water; difficult to determine barriers
	102	65				23,24						falls; assume passable
	806		A	AS								small falls assume passable
	901	66	B-A	AS								trail X-ing; substrate embeded and cemented.
	1,014	67										photo #1 cover
	1,345	68	A	AS/RF		2 US	1,345				55	begin wetted channel
	1,510		A-B	RF								flow< 0.5 cfs. Sulphur springs; LWD; frogs.
	1,626	69	A	AS								loose water
	1,960	70	A	AS			1,960					flow begins ~0.5 cfs
	2,714	71	B-A	RF	15-20							small patches of very cemented gravel; flow ~1cfs
	2,850							20	25-50	50-75		out of water, cemented.
	3,010	72	B	RF	15-20	3	3,010				57	downed alder
	3,215											LWD
	3,285	73										spring/seep LB
	3,472	74	B	RF/AS	20-25	4						potential barrier
	3,925											LWD
	4,084		B	RF								
	4,438	75	B-A	RF	20	6						some patches very cemented
	4,688											falls/cascade passable at higher flow;
	4,929											small falls, 3.5', paassable at higher flow
	5,089		A	RF								several small falls and cascades which make passage difficult, but proba
	5,202	76	A-B	RF	20	7	5,202					Cascade difficult but passable
	5,260											1 RBT ~6"; Bldr dominated; some WD
	5,527							24	25-50	75-100		cemented; RBT in pool
	5,530	77						20	0-25	25-50		good small (3x5) patches of gravel
	5,729											25% Out of Water
	5,855	78	A-B	AS	20		5,855	96	25-50	25-50		barrier at current flow; 5.5' jump from 2.5' deep pool; distance ~8'
	5,946		A-B	RF				30	0-25	25-50		10% OW
	6,062							20	25-50	25-50		not cemented
	6,106	79	A-B	RF/AS		8	6,106					loose flow@ btm of CAS. Rattler Photo #9
	6,156							20	25-50	25-50		dry 2 patches

Appendix B. (continued)													
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)	
								Area	%Fine	%Embed			
Old Man	6,185							20	25-50	25-50			
	6,266							24	25-50	0-25		most prob. OW, but w/ in bankful	
	6,350	80	A-B	AS		10		20	25-50	25-50		most prob. OW, but w/ in bankful	
	6,873							84	25-50	25-50		most of this patch would be wetted with most flows	
												there are lots of highly perched gravel patches	
	6,991	81	A-B	AS/RF			6,991				62	wetted channel returns	
	7,124											barrier: jump height 4.5', dist 6'. definite barrier at current flow	
	7,151	82						50	25-50	25-50		30% barely OW. Loose flow	
	7,194											channel totally dry	
	7,501	83										two isolated pools wetted channel returning	
	7,526							24	0-25	0-25		gravel in isolated pool; virtually 0 flow	
	7,531											channel dry	
	7,696											possible barrier; w/water jump may only be 3'	
	8,038							80	25-50	25-50		Dry	
	8,357	84	A	AS								Dry	
	8,843	85										isolated pools	
	8,961											some flow; very little	
	9,973	86	A	AS/RF		12						57	4.5' bdrk falls barrier at current flow, flow ~ 1cfs
	10,152		A	RF									
	10,334												LWD
10,404	87						28	25-50	50-75			string broke	
0	88	A	RF		20	13	0				58	out of string; re-zero	
790												LWD; trees growing in channel	
896	91											barrier #91bdrk falls/cascade	
971	92	A	RF									channel dry	
1,181												very dry; end survey; no fish observed in upper wetted section	
Murietta	start at confluence with mainstem Matilija, 3/11/03, Sean Thobaben, Est. flow=0-1.5 cfs												
	0	600	B	RF		20	0					57	woody debris in tail at confluence; gage=27.25"
	161												large overhead logs
	660		B	RF/RS		21							although riparian tree species are present on banks
													the channel opens up here and has drought tolerant
													species as well. Water noticeably less
	728		B	RS/RF									60' w/ no surface flow
	791		B	RS/RF									dry channel enters on RB
	872		B	RS/RF									significant woody debris for several hundred feet
	909	601	B	RF	10	22	SCT 909					53	end surface flow
	996												channel "bone" dry.
	1376	602	B	RF			1376					53	pool (2' deep)along bdrk bank for 45'
	1488		B	RF	5								flow same as below
	1697	603	B	RF	20	23	SCT 1697	25	20	50-75			gravel in 65' pool below confluence w/ trib.
	1967		B	RF	10								trib. Is a split that reenters here, but is dry at top
	2041	604	B	RF	15	24	SCT 2041					55	at tail of pool w/ small falls
	2312		B	RF	20								3' falls, not a barrier
	2347	605	B	RF	10			30	20	25-50			gravel on LB, more available at high flow
	2725		B	RF	20								split channel w/ 5' cascade, not a barrier

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Murietta	2785	606	B	RF	10	25						gradient steepens ahead (~4%)
	2908											grade relaxes again, split ends
	2939	607	B	RF	10	2	SCT 239				56	Trail x-ing; Trib. LB; pH~7.5
	3065											3' falls w/ log jam above, not a barrier.
	3140											trib enters on RB
	3305	608	B	RF			3305 SA	24	10	25-50		spawning gravel in pool
	3580							25	15	25-50		gravel in pool on RB below 2' falls
	4107	609	B	RF	10	3	SCT 4107				55	Lots of large bldrs and pools
	4309		B	RF				24	20	50-75		This stream does not have the mineral "cementing"
	4653	610	B	RF			SCT 4653	35	15	25-50		
	4694	611	B	RF		4	SCT 4694					4' falls possible barrier
	4731		B	RF				30	20	50-75		gravel in pool above falls
	4756											4' falls, at higher flow not a barrier.
	4967	612	B	RF	25	5,6,7	SCT 4967				54	5' falls possible barrier.
	4987											Trail x-ing just above falls
	5030							30	10	25-50		gravel in pool on LB
	5128							20	10	25-50		gravel in pool on LB
	5239							20	20	25-50		gravel in pool on LB. Blue Heron hunting
	5278							30	25	50-75		at tail of large, deep pool w/ falls above
	5332	613	B	RF	30	8,9	SCT 5332				54	7' falls- barrier
	5456											trout in pool ~ 4"
	5550							20	10	25-50		gravel in pool mid-channel
	5770							40	20	50-75		more gravel in pool. Trout 5".
	5869							80	20	50-75		most of gravel pile is in >4" of water
	5883											trib or split entering on LB
	6139	614	B	RF	15	10	SCT 6139				58	valley walls opening up, canopy opening up
	6270							80	20	25-50		good gravel pile
	6674											flow decreasing
	6987	615				11						small black bear! On RB
	7211	616	B	RF	10	12	SCT 7211				56	back in dense overhead canopy. Graediethn increasing
	7605							50	20	25-50		gravel pile at tail of deep pool
	7922	617	B	RF	20	13	SCT 7922					4' falls; possible barrier.
	7982							30	20	25-50		gravel patch in pool
	8325	618	B	RF	15		SCT 8325					out of string. End 03/11/03
	8455											sub-surface flow for 25'
	8530	620	B	RF		13	8530 dry					no more surface flow
	8968	621	B	RF		14	8968 wet				56	surface flow again
												pools have 0 flow, almost sagnant w/ algae and surface scum.
	9090											dry channel again
	9169											seep from RB
	9175	622	B	RF		15	9175					5' falls definite barrier at this flow. Dry channel above 1' deep pool from seep.
	9327											3' falls through narrow bldr slot.
	9346											pool holding water 2' deep.

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Murietta	9380											4' falls looks passable when water is flowing
	9593											very small surface flow over bdrk.
	9645											channel dry again
	9718											3' falls through bldrs.
	9878	623										2.5' holding pool w/ water
												gradient has been steepening and channel has
												numerous large bldrs and 2-3' falls/cascades
	10012	624	B/A	RF	15	16	CT 10012					
	10225	625	B	RF	15	17,18	CT 10225					11' falls definite barrier
Low NF	start at confluence with mainstem Matilija, 3/14/03, Scott Riley, Est. flow=3-4 cfs											
Matilija	0	101	B	RF	35	20	US					55 flags at bottom w/ orange plaque "0 +00 Hab Type 9 Jan. 03 Matilija"
	130							24	25-50	50-75		under bridge
	231							60	25-50	0-25		deep pool
	388							45	50-75	25-50		deep pool
	465							24	25-50	25-50		small gravel
	605	102	B	RF	40			98	25-50	25-50		
	634							54	25-50	25-50		
	679											bridge 33
	998	103	B	RF-AS	40		998					Bldr & Bdrk dominant some steep sections.
	1328											Steep cascade, possible barrier at current flow; passable at higher flow.
	1745											Cacade, Total height 6' w/2-3 steps.
	1800							21	25-50	25-50		
	1826							20	25-50	25-50		
	1897							24	25-50	25-50		
	1923	104	B	AS-RF	35		1923	20	25-50	25-50	56	BLdr & Bdrk
	1987							70	25-50	25-50		
	2020							40	25-50	25-50		
	2189											slope decreasing
	2322											bridge
	2350							21	25-50	25-50		possible redd in small patch US
	2439											old bridge abutment
	2594							42	25-50	25-50		possible redd
	2654	106						20	0-25	0-25		probable redd
	2704											steep Bdrk LB
	3010	107	B	RF	35-40		3010	140	25-50	25-50		possible redds
	3144							20	25-50	25-50		
	3222											small patches of gravel w/ possible redds
	3244							40	25-50	25-50		
	3341											good road access
	3455											series of man made dams
	3524							91	25-50	0-25		
	3682							28	25-50	25-50		
	3771							50	0-25	0-25		continue series of dams

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Low NF	3792							40	0-25	0-25		
Matilija	3889							30	25-50	25-50		hip chain broke; re-zero
	0		B	RF	40		0	600	25-50	25-50		Bridge and gage housing. Lost GPS. flag US of bridge. Several NG fish 1-2" throughout. Many more small patches of gravel 3 possible redds
	225	108										gage 27 7/8". Good road access. some cementing.
	560							280	25-50	50-75		RBT ~6". ~20 NG fish
	870							24	25-50	50-75		
	897											
	993	109	B	RF	40							No flag. Private proerty sign & water tanks RB. houses RB
	1246											
	1358							60	25-50	25-50		
	1560							20	25-50	25-50		
	1674							35	25-50	50-75		
	2002	110	B	RF	30	21 up	2002				58	seems to be more cementing
	2170											LWD, alder
	2320											good pool
	2715							24	25-50	50-75		cemented
	3029	112	B	RF	30							Trib? RB. ~1 cfs
	3065						3065					flag
	3280							20	25-50	25-50		pond turtles
	3310											
	3661	113						675	25-50	25-50		2 possible redds. Some aquatic veg growing out of gravels. Cemented Rip-Rap LB.
	3800							390	25-50	50-75		some cementing
	3942	114	B	RF	25		3942					LWD
	4052							24	25-50	50-75		~30% OW. Some cementing. Possible redd.
	4112							30	25-50	75-100		x2. cemented
	4295							96	25-50	75-100		cemented
	4467							20	25-50	75-100		cemented
	4902											RBT 4"
	5076	115	B	RF	25		5076				61	at 1241
	5143	116										Split. LWD tree across stream
	5380	117						700	25-50	50-75		cemented
	5693							450	25-50	50-75		Some cemented. Several probable/definite redds.
	5716											deep pool
	6002							200	25-50	25-50		
	6020	118	B	RF	30		6020				61	fish, some LWD
	6188							60	25-50	50-75		culvert. Steel bank stabilization.
	6229							40	25-50	25-50		
	6279											good deep pools
	6462											Large Bldrs dominant, some Bdrk.
	6677							50	25-50	25-50		no GPS.
	6789											RBT 1 ~4-5". Lots of algae on rocks

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Low NF	6892							24	25-50	25-50		Deep pool
Matilija	7055	119	B	RF	25		7055				60	Bdrk & Bldr. Steeper.
	7232							45	25-50	25-50		Definite redd. 1 RBT ~7-8" seen on redd. Bridge no GPS
	7289											dry trib RB. Private property LB
	7435							72	0-25	0-25		
	7494											dammed pool w/ slide RB.
	7514							28	0-25	0-25		
	7827							70	25-50	50-75		Cemented. Concrete shelf RB. Big hse LB
	8010	120	B	RF	25		8010	60				1 RBT ~5".
	8135							40	25-50	25-50		
	8272	121						24	25-50	25-50		definite redd
	8333							150	25-50	25-50		bridge x-ing. Most large gravel.
	8576	122	B	RF	25			108	25-50	25-50		definite redds. 2-3 RBT in pool.
												warm (85oF) water coming out of culvert LB. Prob from Wheeler springs. <1cfs.
												Temp. below sprg. 59; above 58.
	8589	123										end. SCT 0.0
start at Wheeler Springs Spa, 3/14/03, Sean Thobaben, Est. Flow=3 cfs												
	0	700	B	RF		12	SCT 0.0					55 log across channel; culvert on RB.
	26											house LB
	208							24	20	25-50		gravel in run.
	240											trout ~ 3"
	332											several hundred foot cement wall on RB
	520							36	15	50-75		lightly cemented gravel.
	697											overhead bridge. Good size gravel bed under bridge but only 0-3" submerged.
	900											Sulphur springs in stream for last 100'
	1020											possible redds.
	1161											Highway 33 overpass.
	1319											lots of gravel through this section but not meeting 6" depth requirement.
	1352	701	B	RF	50	13	SCT 1352	20	10	50-75	54	trib enters from LB, good gravel at confluence.
	1780							50	15	50-75		on LB
	1797							many areas	25	50-75		long pool behind hand built dam has lots of gravel.
	1902											end of pool
	2008	702	B	RF	20		SCT 2008				54	Road on left
	2401							48	20	>75		woody debris forms partial dam. Cemented gravel above dam.
	2618							24	15	50-75		gravel on RB.
	2730											3' falls formed by rip-rap and logs.
	2785											cement retaining wall LB.
	3113	703	B	RF	40		SCT 3113	40	20	>75		highly cemented gravel. Entering steep Bdrk canyon
	3283							80	15	>75		Highly cemented gravels; Cant break up with boot.
	3379											5' bdrk falls.
	3466							21	20	50-75		in bedrock pool.

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Low NF	3702											3' falls
Matilija	3797											trib entering on RB.
	4017	704	B	RF	40		SCT 4017					55 out of canyon.
	4833											5' bldr falls.
	5040	705	B	RF	40		SCT 5040	100+	20	50-75		54 lots of gavel @ min depth. More avail at higher flow
	5239											"bridge construction ahead sign"
	5421											logs across channel
	6016	706	B	RF	40		SCT 6016					54 no change in channel or veg for some time
	6105											camp on LB; good rad access
	6343											substrate sharp, angular slate fragments.
	6383											several trout in pool.
	6477											entering bdrk canyon.
	6584											Hwy 33 overpass. Wheeler gorge.
	7092	707	B/A	RF	30	14	SCT 7092					56 Bdrk is dominant substrate.
	7446											hand built 2' tall rock dam forming long pool entering
												wheeler gorge, lots of gravel.
	7530		B/A	RF				65	10	25-50		in mouth of gorge
	7659		A	RF		15						channel highly confined, cascades and runs.
	7682											hwy 33 overpass between tunnels.
	7792							20	10	25-50		in tail of pluge pool
	7870											several RBT (3-5")
	8025								15	25-50		channel full of gravel for ~150'
	8157	N/A	A/B	RF	30		SCT 8157					58 Hwy 33 overpass
	8257											lots of piled up woody debris
	8320											Bdrk substrate for 150'
	8637							25	10	25-50		leaving wheeler gorge
	8836	708	B	RF				60	10	0-25		good gravel w/ twice as much area on exposed
												gravel bar 4-5" OW.
	8887											8-10 RBT 5-6"
	9088	709	B	RF	25	16	SCT 9088					58 overall this section of the N. fork has much more
												gravel than the mainstem and its upper tribs.
	9200											pool w/trout
	9230											bridge (wheeler campground)
	9539							25	20	25-50		another gravel bed 20+ just above.
	9705							20	10	25-50		several spawning beds in this pool
	9945											3' bedrock poorover
	10015	710	B	RF	15	17,18	SCT 10015					57 barrier. Wheeler CG road x-ing.
	10816							20	10	25-50		hand built rock dam. Gravel in pool above.
	11014	711	B	RF	25		SCT 11014					58 boulder cascade
	11110							30	10	25-50		good gravel but 4" deep at this flow
	11422											6 5-7" RBT in pool
	11884											long pool formed by rock dam
	12120	712	B	RF	15	19,20	SCT 12120					59 road crosses creek (upper wheeler CG) forms 5'
												cascade then 20' wide sheet flow, not a barrier
												but could be improved for fish x-ing. Big gravel pile

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Low NF												up on upstream side of road x-ing.
Matilija	12469											long shallow pool.
	12956											3' falls into deep plunge pool.
	13100											Cannon cr. Enters on LB (59oF), Hwy 33 bridge crosses over N.F. Wheeler gorge trail head on RB.
												Good access from road.
	13255		B	RF	15							58 channel splits up and goes through several bldr falls (up to 6' high) not a barrier.
	13340											4' falls into plunge pool.
	13500											woody debris dam w/ small pool above
	13668		A/B									Bdrk domnates substrate.
	13910		B	RF								out of bdrk.
	14018	N/A	B	RF	15		SCT 14018					58 channel confined in steep canyon walls w/ off and on Bdrk substrate. Hyla.
	14058											4' bdrk falls. Noticeably less water flow in stream
	14169											More Hyla.
	14260	714										out of narrow bdrk canyon.
	14547	715	B	RF			SCT 14547					GPS signal returns. Hyla.
												End. Stream flow really petering out. Getting very dense w/ brush in channel.
												start at end of above, 4/13/03 (one month later), Scott Riley and Sean Thobaben, Est. flow=1.5 cfs
	0		B	RS								thick brush
	362		B	RS	20			20	25-50	25-50		
	552	716	B	RS	15							split
	890											trib. Approximate distance
	1021	717	B	RS	15							
	1400							35	25-50	25-50		
	1829											split
	2053	718	B	RF	15							
	2520		B	RS	15							opens up
	3013	719	B	RS	15		3013					
	3535		B	RS	15			20	25-50	25-50		some cementing
	3636		B	RF	15							
		720	B	RF	15							Heavy cementing. Most distances from this point on are illegible due to wet weather.
												log jam
			B	RF	15			28	25-50	0-25		4' falls
		721				27						probable barrier
												RBT ~ 4"
	5012	722	B/A	RF	15	28	5012					probable barrier
												~ 4' drop
			A	RF	15							bedrock chute
			A									flow decreasing, lots of boulders
			B	RF				18	25-50	0-25		
	5842			RS/RF	20							more open

Appendix B. (continued)												
Stream	Hipchain Distance	Way Pt Label	Channel Type ¹	Riparian Type ²	Avg Unit Length	Photo #	Flag Label	Spawning Areas			Water Temp °F	Comments (barriers, fish, springs, LWD, misc. notes)
								Area	%Fine	%Embed		
Low NF												LWD, old log
Matilija	6039	723	B	RS	15							
			B	RF	15			24	25-50	0-25		
			B	RS								
		724										Dry
		725										flow returns
			B/A		20			36	25-50	25-50		falls, passable
	7586											falls 5.5' high w/ poor landing area. Jump pool ~3.6' deep.
	8017		A/B	RF	20		8017					10' jump distance. Prob. Passable at higher flow.
	8336											good pool. 4.6' deep
	8470											good pool. 3.6' deep
	8704	726										out of string; WP 30' out of stream.
		727	B	RS								
	~10,288	728	B	RS								end. Weather very poor. Dense brush. Dist est on map w WP