

Appendix Va. Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	ALISO CREEK		SANTA MARGARITA RIVER								
	AC-PPD	AC-CCR	SMR-WGR	SMR-DP	SMR-CP	SMR-SMB	MC-GS	TC-I-15	RC-WGR	MC-WB	SC-SCR
1. Instream Cover	5	3	10	16	1	1	4	5	15	1	13
2. Embeddedness	4	3	13	13	1	1	7	4	12	1	11
3. Velocity/ Depth Regimes	8	8	13	13	5	5	7	10	10	5	10
4. Sediment Deposition	3	4	13	13	1	1	7	4	13	1	11
5. Channel Flow	3	17	10	9	10	8	6	10	14	6	11
6. Channel Alteration	20	9	18	13	18	17	18	18	18	16	15
7. Riffle Frequency	8	10	7	2	18	10	5	12	15	5	12
8. Bank Vegetation	13	9	10	12	13	12	17	15	10	11	9
9. Bank Stability	8	16	18	16	11	10	17	13	10	11	14
10. Riparian Zone	18	8	16	14	20	16	13	18	18	18	16
TOTAL	90	87	128	121	98	81	101	109	135	75	122
Physical Condition	Fair	Fair	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good

Appendix Va (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN LUIS REY RIVER					CARLSBAD						
	KC-LR	SLRR-PG	SLRR-395	SLRR-MR	SLRR-FR	LAC-CB	LAC-ECR	BVR-ED	BVR-SVW	AHC-SA	AHC-ECR	TC-TCNP
1. Instream Cover	14	11	4	2	3	2	3	0	3	3	2	DRY
2. Embeddedness	13	14	3	3	2	2	3	0	3	4	3	
3. Velocity/ Depth Regimes	10	10	6	7	5	7	6	5	5	7	7	
4. Sediment Deposition	14	14	3	3	2	2	3	1	3	4	3	
5. Channel Flow	19	18	6	2	4	3	2	18	6	5	4	
6. Channel Alteration	18	20	19	17	18	15	8	0	7	8	15	
7. Riffle Frequency	15	13	12	12	7	5	10	5	6	8	7	
8. Bank Vegetation	9	18	17	15	16	8	11	0	16	16	12	
9. Bank Stability	10	16	15	14	16	10	14	20	17	17	15	
10. Riparian Zone	16	17	16	16	18	9	9	0	7	8	15	
TOTAL	138	151	101	91	91	63	69	49	73	80	83	
Physical Condition	Good	Excellent	Good	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Fair	

Appendix Va (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	CARLSBAD					ESCONDIDO CREEK			LOS PENASQUITOS CREEK			
	SMC-M	SMC-SP	SMC-LCCC	SMC-RSFR	EC-GVR	EC-HRB	EC-EF	EC-RSFR	RC-HP	LPC-CCR	CCC-805	LPC-BMR
1. Instream Cover	5	9	8	13	6	8	9	2	4	13	DRY	13
2. Embeddedness	8	5	13	10	5	8	11	2	2	11		11
3. Velocity/ Depth Regimes	8	10	8	12	10	8	12	5	6	7		7
4. Sediment Deposition	8	6	13	9	4	8	11	2	3	11		10
5. Channel Flow	13	15	4	11	6	13	11	1	12	10		9
6. Channel Alteration	12	10	14	10	19	5	16	18	7	17		17
7. Riffle Frequency	5	8	10	8	6	5	13	5	8	8		8
8. Bank Vegetation	12	14	17	8	16	9	11	16	15	11		16
9. Bank Stability	18	15	16	16	14	15	13	17	13	11		16
10. Riparian Zone	18	11	19	11	19	8	14	18	7	13		18
TOTAL	107	103	122	108	105	87	121	86	74	112		125
Physical Condition	Good	Good	Good	Good	Good	Fair	Good	Fair	Fair	Good		Good

Appendix Va (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN DIEGO RIVER			SWEETWATER RIVER			SAN JUAN CREEK		
	SDR-MD	SDR-MT	SDR-1	SR-79	SR-94	SR-WS	SJC-74	OC-FR	ATC-AP
1. Instream Cover	5	15	4	4	3	3	DRY	DRY	DRY
2. Embeddedness	4	12	5	5	3	2			
3. Velocity/ Depth Regimes	8	10	5	10	5	7			
4. Sediment Deposition	6	12	6	6	2	2			
5. Channel Flow	7	9	10	10	4	6			
6. Channel Alteration	20	20	11	11	15	20			
7. Riffle Frequency	5	12	5	6	5	7			
8. Bank Vegetation	16	17	12	12	12	12			
9. Bank Stability	16	17	15	15	8	10			
10. Riparian Zone	20	18	14	14	14	20			
TOTAL	107	142	87	93	71	89			
Physical Condition	Good	Good	Fair	Fair	Fair	Fair			

Appendix Vb. Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in September 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	ALISO CREEK		SANTA MARGARITA RIVER								
	AC-PPD	AC-CCR	SMR-WGR	SMR-DP	SMR-CP	SMR-SMB	MC-GS	TC-I-15	RC-WGR	MC-WB	SC-SCR
1. Instream Cover	4	3	10	14	1	No Flow	5	8	15	DRY	13
2. Embeddedness	3	2	15	10	1		2	8	9		7
3. Velocity/ Depth Regimes	8	8	13	13	5		7	10	10		10
4. Sediment Deposition	4	2	15	10	1		7	6	9		7
5. Channel Flow	2	2	5	5	12		2	5	7		8
6. Channel Alteration	20	3	20	16	20		18	18	20		18
7. Riffle Frequency	8	10	7	2	16		5	12	15		12
8. Bank Vegetation	7	10	11	17	18		17	17	13		16
9. Bank Stability	5	16	20	16	17		18	14	17		17
10. Riparian Zone	20	4	20	15	20		19	17	19		16
TOTAL	81	60	136	118	111		100	115	134		124
Physical Condition	Fair	Fair	Good	Good	Good		Fair	Good	Good		Good

Appendix Vb (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in September 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN LUIS REY RIVER					CARLSBAD						
	KC-LR	SLRR-PG	SLRR-395	SLRR-MR	SLRR-FR	LAC-CB	LAC-ECR	BVR-ED	BVR-SVW	AHC-SA	AHC-ECR	TC-TCNP
1. Instream Cover	11	12	2	2	2	3	3	1	1	3	2	DRY
2. Embeddedness	6	11	2	2	2	2	3	0	0	3	2	
3. Velocity/Depth Regimes	10	10	6	7	5	7	6	5	5	7	7	
4. Sediment Deposition	6	12	2	2	2	2	3	15	2	4	3	
5. Channel Flow	18	17	1	4	1	5	10	18	20	2	2	
6. Channel Alteration	18	20	18	20	20	18	8	0	18	9	18	
7. Riffle Frequency	15	13	12	12	7	5	10	5	6	8	7	
8. Bank Vegetation	8	18	14	17	14	6	13	0	0	12	16	
9. Bank Stability	9	16	14	14	20	11	16	20	20	10	6	
10. Riparian Zone	10	19	17	19	20	7	9	0	0	16	16	
TOTAL	111	148	88	99	93	66	81	64	72	74	79	
Physical Condition	Good	Good	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	

Appendix Vb (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in September 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	CARLSBAD					ESCONDIDO CREEK			LOS PENASQUITOS CREEK			
	SMC-M	SMC-SP	SMC-LCCC	SMC-RSFR	EC-6 GVR5	EC-HRB	EC-EF	EC-RSFR	RC-HP	LPC-CCR	CCC-805	LPC-BMR
1. Instream Cover	5	13	12	7	6	6	9	No Riffle	2	13	13	4
2. Embeddedness	12	12	10	7	5	3	11		1	12	13	3
3. Velocity/Depth Regimes	8	10	12	8	10	8	12		5	7	7	7
4. Sediment Deposition	12	12	9	7	5	3	11		14	12	13	3
5. Channel Flow	10	10	5	2	6	5	10		8	4	11	5
6. Channel Alteration	12	4	12	15	19	5	10		6	15	17	15
7. Riffle Frequency	5	8	8	10	6	5	13		5	8	7	8
8. Bank Vegetation	9	15	9	17	14	18	8		6	7	11	19
9. Bank Stability	18	14	17	16	14	18	13		18	18	15	19
10. Riparian Zone	18	7	10	19	19	4	15		5	9	15	12
TOTAL	109	105	104	108	104	75	112		70	105	122	95
Physical Condition	Good	Good	Good	Good	Good	Fair	Good		Fair	Good	Good	Fair

Appendix Vb (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in September 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN DIEGO RIVER			SWEETWATER RIVER			SAN JUAN CREEK		
	SDR-MD	SDR-MT	SDR-1	SR-79	SR-94	SR-WS	SJC-74	SJC-OC	SJC-ATC
1. Instream Cover	9	12	7	10	3	3	15	DRY	8
2. Embeddedness	8	12	8	11	3	2	12		9
3. Velocity/ Depth Regimes	8	10	5	10	5	7	10		7
4. Sediment Deposition	10	15	8	10	2	2	12		9
5. Channel Flow	14	15	4	5	1	3	3		15
6. Channel Alteration	15	15	15	20	16	20	14		20
7. Riffle Frequency	5	12	5	6	5	7	7		5
8. Bank Vegetation	16	18	12	16	12	12	10		9
9. Bank Stability	13	16	16	16	13	12	13		13
10. Riparian Zone	16	18	15	19	16	20	15		18
TOTAL	114	143	95	123	76	88	111		113
Physical Condition	Good	Good	Fair	Good	Fair	Fair	Good		Good

Appendix Vc. Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in November 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	ALISO CREEK		SANTA MARGARITA RIVER								
	AC-PPD	AC-CCR	SMR-WGR	SMR-DP	SMR-CP	SMR-SMB	MC-GS	TC-I-15	RC-WGR	MC-WB	SC-SCR
1. Instream Cover	6	3	11	16	1	No Flow	2	5	15	Poor Flow	14
2. Embeddedness	3	2	13	11	1		2	5	10		8
3. Velocity/ Depth Regimes	8	8	5	13	13		6	10	10		10
4. Sediment Deposition	3	2	13	11	1		3	5	10		8
5. Channel Flow	6	13	7	7	8		2	5	15		6
6. Channel Alteration	20	13	20	17	20		20	20	20		15
7. Riffle Frequency	8	10	18	2	7		5	12	15		12
8. Bank Vegetation	11	7	12	18	19		8	16	15		12
9. Bank Stability	5	11	19	16	7		13	14	16		15
10. Riparian Zone	20	6	20	18	20		20	19	18		15
TOTAL	90	75	129	129	97		81	111	144		115
Physical Condition	Fair	Fair	Good	Good	Fair		Fair	Good	Good		Good

Appendix Vc (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in November 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN LUIS REY RIVER					CARLSBAD						
	KC-LR	SLRR-PG	SLRR-395	SLRR-MR	SLRR-FR	LAC-CB	LAC-ECR	BVR-ED	BVR-SVW	AHC-SA	AHC-ECR	TC-TCNP
1. Instream Cover	8	12	2	2	2	2	3	0	1	No Flow	2	10
2. Embeddedness	6	15	2	2	2	2	3	0	0		2	9
3. Velocity/ Depth Regimes	10	10	6	7	5	7	6	5	5		7	10
4. Sediment Deposition	5	16	2	2	2	2	2	0	0		2	9
5. Channel Flow	13	16	1	8	16	9	3	14	20		3	6
6. Channel Alteration	14	20	20	20	20	12	10	0	0		15	20
7. Riffle Frequency	15	13	12	12	7	5	10	5	6		7	6
8. Bank Vegetation	9	18	16	18	18	12	8	0	1		8	12
9. Bank Stability	12	18	15	18	16	11	13	20	20		4	13
10. Riparian Zone	15	20	20	19	20	11	4	0	6		7	19
TOTAL	107	158	96	108	108	73	62	44	59		57	114
Physical Condition	Good	Excellent	Fair	Good	Good	Fair	Fair	Poor	Fair		Fair	Good

Appendix Vc (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in November 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	CARLSBAD					ESCONDIDO CREEK			LOS PENASQUITOS CREEK			
	SMC-M	SMC-SP	SMC-LCCC	SMC-RSFR	EC-GVR	EC-HRB	EC-EF	EC-RSFR	RC-HP	LPC-CCR	CCC-805	LPC-BMR
1. Instream Cover	5	11	15	13	7	11	10	Slow Moving Water	3	13	14	7
2. Embeddedness	14	8	12	12	6	9	8		2	12	14	5
3. Velocity/Depth Regimes	8	10	12	8	10	8	12		5	7	7	7
4. Sediment Deposition	15	8	12	12	6	8	9		2	12	14	5
5. Channel Flow	16	10	10	2	10	10	12		12	8	7	6
6. Channel Alteration	15	8	12	18	19	10	17		7	16	16	18
7. Riffle Frequency	5	8	8	10	6	5	13		5	8	7	8
8. Bank Vegetation	13	11	12	17	14	12	11		7	7	5	18
9. Bank Stability	16	10	15	16	12	16	15		13	15	8	17
10. Riparian Zone	18	6	7	19	17	5	15		6	10	14	15
TOTAL	125	90	115	127	107	94	122		62	108	106	106
Physical Condition	Good	Fair	Good	Good	Good	Fair	Good		Fair	Good	Good	Good

Appendix Vc (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in November 1998. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN DIEGO RIVER			SWEETWATER RIVER			SAN JUAN CREEK		
	SDR-MD	SDR-MT	SDR-1	SR-79	SR-94	SR-WS	SJC-74	OC-FR	ATC-AP
1. Instream Cover	5	13	8	7	2	3	10	Marginal Flow	11
2. Embeddedness	5	11	10	5	2	2	11		9
3. Velocity/Depth Regimes	8	10	5	10	5	7	10		7
4. Sediment Deposition	4	11	10	5	2	2	11		9
5. Channel Flow	5	10	11	9	1	9	4		1
6. Channel Alteration	20	20	16	19	17	20	15		20
7. Riffle Frequency	5	12	5	6	5	7	7		5
8. Bank Vegetation	16	14	12	15	15	13	13		14
9. Bank Stability	13	16	16	15	11	13	14		7
10. Riparian Zone	20	19	13	19	12	19	11		14
TOTAL	101	136	106	110	72	95	106		97
Physical Condition	Good	Good	Good	Good	Fair	Fair	Good		Fair

Appendix Vd. Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1999. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	ALISO CREEK		SANTA MARGARITA RIVER								
	AC-PPD	AC-CCR	SMR-WGR	SMR-DP	SMR-CP	SMR-SMB	MC-GS	TC-I-15	RC-WGR	MC-WB	SC-SCR
1. Instream Cover	11	8	17	14	8	5	15	15	17	DRY	14
2. Embeddedness	5	5	14	8	0	0	4	8	14		8
3. Velocity/ Depth Regimes	9	8	17	14	8	9	13	12	6		14
4. Sediment Deposition	6	3	14	11	4	4	9	11	16		10
5. Channel Flow	12	15	8	12	2	5	6	12	7		12
6. Channel Alteration	20	8	20	12	17	17	20	18	15		14
7. Riffle Frequency	11	7	16	15	10	7	14	13	11		16
8. Bank Vegetation	13	13	19	15	16	14	14	17	16		14
9. Bank Stability	7	20	20	17	11	10	17	16	17		14
10. Riparian Zone	17	5	19	11	14	15	15	14	16		12
TOTAL	111	92	164	129	90	86	127	136	135		128
Physical Condition	Good	Fair	Excellent	Good	Fair	Fair	Good	Good	Good		Good

Appendix Vd (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1999. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN LUIS REY RIVER					CARLSBAD						
	KC-LR	SLRR-PG	SLRR-395	SLRR-MR	SLRR-FR	LAC-CB	LAC-ECR	BVR-ED	BVR-SVW	AHC-SA	AHC-ECR	TC-TCNP
1. Instream Cover	15	18	9	9	11	10	11	8	8	DRY	12	14
2. Embeddedness	7	10	5	0	0	5	9	0	0		2	13
3. Velocity/ Depth Regimes	10	14	6	8	12	4	8	2	2		9	13
4. Sediment Deposition	9	13	4	2	6	5	9	10	6		6	15
5. Channel Flow	14	20	19	11	19	9	7	20	20		10	5
6. Channel Alteration	9	20	15	18	20	15	11	0	8		11	20
7. Riffle Frequency	9	17	7	10	9	2	9	4	6		6	9
8. Bank Vegetation	14	19	15	16	18	9	9	2	2		12	17
9. Bank Stability	15	18	10	10	14	13	17	20	20		11	17
10. Riparian Zone	11	18	14	16	20	7	7	2	8		7	17
TOTAL	113	167	104	100	129	79	97	68	80		86	140
Physical Condition	Good	Excellent	Good	Fair	Good	Fair	Fair	Fair	Fair		Fair	Good

Appendix Vd (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1999. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	CARLSBAD					ESCONDIDO CREEK			LOS PENASQUITOS CREEK			
	SMC-M	SMC-SP	SMC-LCCC	SMC-RSFR	EC-GVR	EC-HRB	EC-EF	EC-RSFR	RC-HP	LPC-CCR	CCC-805	LPC-BMR
1. Instream Cover	12	14	16	13	14	12	14	DRY	11	17	16	13
2. Embeddedness	14	13	16	7	11	8	16		0	16	16	8
3. Velocity/Depth Regimes	7	7	10	8	8	7	17		4	10	14	10
4. Sediment Deposition	18	13	14	8	11	10	15		11	17	15	11
5. Channel Flow	14	17	15	12	13	12	17		8	15	16	13
6. Channel Alteration	12	10	14	18	14	10	14		9	12	14	11
7. Riffle Frequency	6	9	11	11	7	6	15		8	16	12	11
8. Bank Vegetation	12	14	14	18	14	14	14		8	13	13	17
9. Bank Stability	19	17	16	16	13	16	16		14	18	14	17
10. Riparian Zone	12	6	10	17	11	12	12		6	9	13	14
TOTAL	126	120	136	128	116	107	150		79	143	143	125
Physical Condition	Good	Good	Good	Good	Good	Good	Good		Fair	Good	Good	Good

Appendix Vd (continued). Physical habitat quality scores for sampling reaches within eight watersheds of the San Diego Region in May 1999. Scores for each habitat parameter range from 0 (poor) to 20 (excellent).

Habitat Parameter	SAN DIEGO RIVER			SWEETWATER RIVER			SAN JUAN CREEK		
	SDR-MD	SDR-MT	SDR-1	SR-79	SR-94	SR-WS	SJC-74	OC-FR	ATC-AP
1. Instream Cover	14	17	12	16	8	6	16	DRY	17
2. Embeddedness	4	16	11	15	0	0	16		12
3. Velocity/ Depth Regimes	11	17	12	17	3	6	10		14
4. Sediment Deposition	9	15	11	13	4	4	15		14
5. Channel Flow	17	15	15	15	11	12	11		16
6. Channel Alteration	20	18	16	18	9	20	17		18
7. Riffle Frequency	12	14	9	18	5	10	8		17
8. Bank Vegetation	16	17	13	17	11	16	15		12
9. Bank Stability	16	16	15	19	11	13	16		14
10. Riparian Zone	19	16	15	16	16	16	9		16
TOTAL	138	161	129	164	78	103	133		150
Physical Condition	Good	Excellent	Good	Excellent	Fair	Good	Good		Good

APPENDIX IIIa-IIIId
Physical Habitat Scores