

Spawning Ground Surveys, mainstem Mattole River, 1997-98 Season

Surveys conducted by the Mattole Salmon Group (P.O. Box 188, Petrolia, CA 95558; phone 707-629-3660/3670; fax 707-629-3679). Funding provided by the California State Coastal Conservancy (contract #96-002) and the Bureau of Land Management, Arcata Resource Area (Cooperative Agreement B300-A7-1010, Task Order 001). Data compiled Jan. 1998 by Gary D. Peterson, MSG fisheries biologist.

Map Code No.	MAINSTEM SURVEY REACHES Location & Description	Survey Date (m/d/y)	Reach Length (miles)	Inventory Procedure (type/direction)	Survey Personnel	Live Fish Seen	Carcasses & Skeletons Examined	Fresh Redds & designation by species	
								total # redds	# occupied
1	Mattole headwaters, primary index reach, from Stanley Creek (RM 57.1) to Hulse Creek (RM 61.8). [Note: Due to the length of this reach, it is divided into two sections. The upper section, from the county bridge to Hulse Creek, is about 2.5 miles long and is surveyed walking upstream. The lower section, from the county bridge to Stanley Creek, is about 2.2 miles long and is surveyed walking downstream.]	11/28/97	4.7	W/u above county bridge	upper section: GP, MD, JW	-	-	-	-
				W/d below county bridge		-	-	-	-
		12/6/97	4.7	W/u above county bridge	upper section: CT, MD	-	-	5 KS 1 SS 4 UN 2 possible	0 0 0 -
				W/d below county bridge		-	1c SSF	1 KS 1 possible	0 -
		12/18/97	4.7	W/u above county bridge	upper section: GP, LP	1 KSF 1 KSM 1 KSG 1 SSF 1 SSG	1s SSM	4 KS 3 SS 3 UN	1 1 0
				W/d below county bridge		-	-	1 UN 2 possible	0 -
		1/8/98	4.7	W/u above county bridge	upper section: GP, WZ	4 SSF 2 SSM 1 SSG	1s SSM	8 KS 8 SS 3 UN 7 ND 5 possible	0 4 0 0 -
				W/d below county bridge		2 KSF 1 KSM 2 KSG 1 UNF 1 UNM 2 UNG		9 KS 3 UN 2 ND	2 1 0
2	upper mainstem Mattole, from Junction Hole at McKee Creek (RM 52.8) to "Raintree" and "Mattole Meadows" area on Huckleberry Lane (RM 51.2)	12/2/97	1.6	W/d	CT, HS	1 KSF 3 UNG	-	-	-
		12/11/97	1.6	W/d	GP	1 KSM	-	3 KS	0
		12/24/97	1.6	W/d	GP, SZ	-	1s KSF 1s KSM* (with Rt Max clip)	3 KS	0
		1/10/98	1.6	W/d	GP	-	-	-	-
		12/27/97	4.6	Canoe survey	GP, CT	1 KSX	1s KSM	11 KS 2 possible	0 -
3	middle mainstem Mattole, from Big Finley Creek (RM 47.4) down to Bear Creek near Ettersburg (RM 42.8)	12/31/97	8.1	Canoe survey	CT, MD	2 UNX	1c KSM 1s KSM	-	-
4	middle mainstem Mattole, from Bear Cr. (RM 42.8) down to about 0.1 mile upstream from Fourmile Cr. (enters at RM 34.6)								
TOTALS: MAINSTEM SURVEYS		Two index reaches walked four times each in the upper mainstem Mattole River, plus 12.7 additional miles surveyed by canoe in the middle mainstem.		11 different surveyors participated		4 KSF 3 KSM 3 KSG 1 KSX 5 SSF 2 SSM 2 SSG 1 UNF 1 UNM 5 UNG 2 UNX	1s KSF 1c KSM 4s KSM* 1c SSF 2s SSM *one KSM skeleton with Rt Max clip	44 KS redds 12 SS redds 14 UN redds 9 ND redds 12 possible redds	3 5 1 0 -
		Ten separate surveys, totalling 37.9 miles surveyed in the mainstem Mattole.							

Abbreviations used:

RM = River-Mile reference location along the channel of the mainstem Mattole River, expressed as distance upstream from the mouth. River-Mile designations are based on mapping by the California Department of Water Resources (1973). [DWR, 1973. Character and use of rivers: Mattole River (a pilot study). Memorandum Report, CA Dept. of Water Resources, Division of Resources Development, Sacramento, CA, April 1973. 145 pp + 3 appendices.]

W/u = wading upstream K S = king (chinook) salmon F = female G P = Gary D. Peterson G B e = Geoff Beyersdorf
 W/d = wading downstream S S = silver (coho) salmon M = male C T = Cam Thompson M R = Maureen Roche
 *Rt Max = right maxillary clip U N = unknown if chinook or coho G = gurne (KS chub or SS jack) M D = Mickey Dulas S Z = Seth Zuckerman
 (adult return from 1994 N D = species not determined X = sex of fish undetermined L P = Larry Preston J W = Jeremy Wheeler
 or 1995 release)

C = carcass (recently dead fish, suitable for jaw tagging because head and body are relatively intact)
S = skeleton (pieces or parts of fish, not suitable for jaw tagging because head and backbone are not intact)

Mattole Salmon Group
x 188, Petrolia, CA 95558

Spawning Ground Surveys, Mattole River tributaries (except Bear Creek), 1997-98 Season

Surveys conducted by the Mattole Salmon Group (P.O. Box 188, Petrolia, CA 95558; phone 707-629-3660/3670; fax 707-629-3679). Funding provided by the California State Coastal Conservancy (contract #96-002) and the Bureau of Land Management, Arcata Resource Area (Cooperative Agreement B300-A7-1010, Task Order 001). Data compiled January 1998 by Gary D. Peterson, MSG fisheries biologist.

Map Code No.	TRIBUTARY SURVEY REACHES (except Bear Creek) Location & Description	Survey Date (m/d/y)	Reach Length (miles)	Inventory Procedure (type/direction)	Survey Personnel	Live Fish Seen	Carcasses & Skeletons Examined	Fresh Redds & designation by species	
								total # redds	# occupied
5	Thompson Creek mainstem, from mouth to confluence of Danny's Creek (North Fork Thompson Creek)	12/10/97	2.2	W/u	CT, GH	-	-	2 KS 3 SS 3 possible	0 0 -
		12/19/97	2.2	W/u	CT	2 SSF 1 SSM	-	2 SS 2 UN	2 0
		1/9/98	2.2	W/u	CT	-	1s UNF	1 KS 1 UN 1 ND 2 possible	0 0 0 -
6	Danny's Creek (North Fork Thompson Creek), from mouth to 0.9 miles upstream	12/10/97	0.9	W/u	CT, GH	-	-	-	-
		12/19/97	0.9	W/u	CT	1 SSF	-	2 SS	1
		1/9/98	0.9	W/u	CT	-	-	1 SS	0
7	Yew Creek, from mouth to major south-side tributary (near west edge of Section 27)	12/11/97	0.55	W/u	GP	-	-	1 UN	0
7	Yew Creek, from mouth to 0.4 miles upstream from major south-side tributary (near east edge of Section 28)	12/20/97	0.95	W/u	CT	-	-	1 KS 1 SS	0 0
		1/10/98	0.95	W/u	CT, JW	3 SSF 2 SSM 1 SSX	-	4 SS 5 ND	4 0
8	Baker Creek, from mouth up to first major forks	12/9/97	1.0	W/u	CT	-	-	-	-
		12/20/97	1.0	W/u	CT	1 SSF 1 SSX	-	2 SS	2
		1/10/98	1.0	W/u	CT, JW	-	-	1 UN 2 ND 2 possible	0 0 -
9	Bridge Creek mainstem, from mouth up to beginning of gorge area	12/2/97	0.5	W/u	CT, HS	-	-	-	-
		12/10/97	0.5	W/u	GP, BM	-	-	2 KS	0
		12/20/97	0.5	W/u	GP	-	-	-	-
		1/9/98	0.5	W/u	GP	-	-	2 KS	0
10	Bridge Creek, from ford at Stevenson's 100' below major forks, & up Robertson Creek (South Fork Bridge Cr.) to West Fork Robinson Creek (0.25 mi); then up West Fork Bridge Cr. to bridge (0.15 mi)	12/10/97	0.4	W/u	GP, BM	-	-	-	-
		12/20/97	0.4	W/u	GP	-	-	-	-
		1/10/98	0.4	W/u	MR, DT	-	-	-	-
11	Eubanks Creek, from Torbert's bridge up to about 0.15 miles above road crossing	12/11/97	1.4	W/u	CT	-	-	-	-
		12/22/97	1.4	W/u	CT, MD	-	-	-	-
12	Honeydew Creek mainstem, from mouth to upstream end of BLM parking areas	12/30/97	1.0	W/d	GP	-	-	2 KS	0
13	Honeydew Cr. mainstem, from Catalina/BLM property boundary (0.8 miles upstream from county bridge, & 0.8 miles downstream from Lower East Fork Honeydew Creek) up to West Fork Honeydew Creek	12/12/97	2.3	W/u	GP, DB	-	-	1 KS	0
		12/26/97	2.3	W/u	GP, WZ	-	-	1 KS	0
14	West Fork Honeydew Creek, from mouth up to former debris jam barrier	12/12/97	0.2	W/u	GP, DB	-	-	1 KS	0
		12/26/97	0.2	W/u	GP, WZ	-	-	-	-
15	Lower East Fork Honeydew Creek, from mouth up to 3rd major east-side tributary (southern edge of Section 19)	12/12/97	1.8	W/u	CT, GBe	-	-	-	-
16	Lower East Fork Honeydew Creek, from 4th major east-side tributary (Sect. 29) up to Correll property (near center of Sect. 32)	12/29/97	1.6	W/u	GP, CT, GW	-	-	1 ND 1 possible	0 -
17	Bear Trap Cr., from mouth up to impassable bamer (2-step falls/cascade, 12' & 6' high)	12/13/97	0.7	W/u	GP	-	-	-	-
		12/30/97	0.7	W/u	GP	-	-	1 ND	0
18	Squaw Creek, from mouth up to Ayers property	12/13/97	0.9	W/u	GP	-	-	-	-
		12/30/97	0.9	W/u	GP	-	-	1 KS	0
19	Mill Creek (southwest of Petrolia), from mouth to uppermost log weirs	12/13/97	0.5	W/u	JV	-	-	-	-
		12/21/97	0.5	W/u	JV	-	-	-	-
		12/25/97	0.5	W/u	JV, DW	2 NDX	-	-	-
		12/27/97	0.5	W/u	JV	-	-	-	-
TOTALS: MATTOLE TRIBUTARY SURVEYS (except Bear Creek)		1.0 mile surveyed four times, 5.05 miles surveyed thrice, 5.9 miles surveyed twice, and 4.4 miles surveyed once in seven key tributaries of the Mattole River.		36 separate surveys, totalling 35.35 miles of stream walked.		15 different surveyors participated	7 SSF 3 SSM 2 SSX	1s UNF	14 KS redds 15 SS redds 5 UN redds 10 ND redds 8 possible redds

Abbreviations used:

W/u = wading upstream
W/d = wading downstream

KS = King (chinook) salmon
SS = Silver (coho) salmon
UN = unknown if chinook or coho
SH = steelhead
ND = species not determined

F = female
M = male
G = grilse (KS chub or SS jack)
X = sex of fish undetermined

CT = Cam Thompson
GP = Gary D. Peterson
GH = George Holper
HS = Harold Schlange
BM = Ben Morehead
JW = Jeremy Wheeler
DT = Dava Taylor

JV = John Vargo
GBe = Geoff Beyersdorf
MR = Maureen Roche
MD = Michael Dulas
DB = Drew Barber
WZ = Willie Ziolkowski
GW = Greg Winfree
DW = Damon Wagner

Spawning Ground Surveys, Bear Creek, 1997-98 Season

(Bear Creek enters the Mattole River at river-mile 42.8, near Ettersburg)

Surveys conducted by the Mattole Salmon Group (P.O. Box 188, Petrolia, CA 95558; phone 707-629-3660/3670; fax 707-629-3679). Funding provided by the California State Coastal Conservancy (contract #96-002) and the Bureau of Land Management, Arcata Resource Area (Cooperative Agreement B300-A7-1019, Task Order 001). Data compiled January 1998 by Gary D. Peterson, MSG fisheries biologist.

Map Code No.	BEAR CR. SURVEY REACHES	Survey Date (m/d/y)	Reach Length (miles)	Inventory Procedure (type/direction)	Survey Personnel	Live Fish Seen	Carcasses & Skeletons Examined	Fresh Redds & designation by species		
								Total # redds	# occupied	
20	North Fork Bear Creek, from mouth to bridge at Horse Mountain Road	12/28/97	1.9	W/u	CT, SM	-	-	-	-	
21	South Fork Bear Creek headwaters, from Day's (0.4 miles downstream from BLM's Nadelos Campground) up to Edwards' house	12/5/97	1.2	W/u	GP, BS, LE	-	-	5 UN ↑ possible	0	
		12/20/97	1.2	W/u	TD	1 KSF	-	1 KS 4 UN	1	
		1/10/98	1.2	W/u	MR, DT	-	-	2 SS 1 UN	0	
22	South Fork Bear Creek, from confluence of Hidden Valley Creek (about 0.15 miles downstream from Chemise Mountain Road culvert) up to Day's house	12/5/97	0.9	W/u	GP, BS, LE, TD	-	-	5 UN 2 possible	0	
		12/20/97	0.9	W/u	GP	-	-	2 KS 1 SS 1 UN	0	
		1/8/98	0.9	W/u	GB, GM	-	-	1 UN	0	
23	South Fork Bear Creek, from Marenghi/Lingel bridge up to Shelter Cove Road ("Bear Creek pool")	12/5/97	1.7	W/u	CT, RL, GM	1 SSX	-	3 KS 1 SS 8 UN 2 possible	0	
		12/20/97	1.7	W/u	GB, MR, RA	-	-	1 KS 1 ND	0	
		1/9/98	1.7	W/u	GP	-	-	4 KS 2 SS	0	
24	South Fork Bear Creek, from near BLM/Brown property line where gradient steepens up to Marenghi/Lingel bridge	12/5/97	0.6	W/u	GB, MR	-	-	1 KS 1 SS	0	
		12/20/97	0.6	W/u	GB, MR, RA	-	-	2 KS 1 ND	0	
		1/9/98	0.6	W/u	GP, GB	-	-	1 UN	0	
25	South Fork Bear Creek, from BLM's Tolkan Campground up to Queen Peak Mine Road crossing	12/10/97	1.75	W/u	RL, TD	-	2s KSX 2s UNX	9 KS	0	
		12/23/97	1.75	W/u	GP, BS	2 KSF 3 KSM 3 KSG	-	5 KS	2	
		1/10/98	1.75	W/u	GB, RA	-	1s KSF 1s KSM 4s UNX	-	-	
26	S. Fx. Bear Creek, from BLM's Tolkan Campground down to old bridge site at Low Gap Creek (major west-side tributary located 0.4 miles south of BLM's Horse Mountain Campground)	12/2/97	1.8	W/d	RL, BS	1 KSG	-	-	-	
TOTALS: BEAR CR. SURVEYS		6.15 miles surveyed three times and 3.7 miles surveyed once in 7 different reaches in the Bear Creek watershed.		13 different surveyors participated	3 KSF	1s KSF	27 KS redds	3		
		17 separate surveys, totalling 22.15 miles of stream walked.			3 KSM	1s KSM	7 SS redds	0		
					4 KSG	2s KSX	26 UN redds	0		
					1 SSX	4s UNX	2 ND redds	0		
							5 possible redds	-		

Abbreviations used:

W/u = wading upstream
W/d = wading downstream

KS = king (chinook) salmon
SS = silver (coho) salmon

F = female
M = male

GP = Gary D. Peterson
RL = Ray Lingel

LE = Logan Edwards
CT = Cam Thompson

UN = unknown if chinook or coho
ND = species not determined

G = grilse (KS chub or SS jack)
X = sex of fish undetermined

GB = Gene Brown
BS = Brent Sykes

GM = Greg Mullins
MR = Maureen Roche

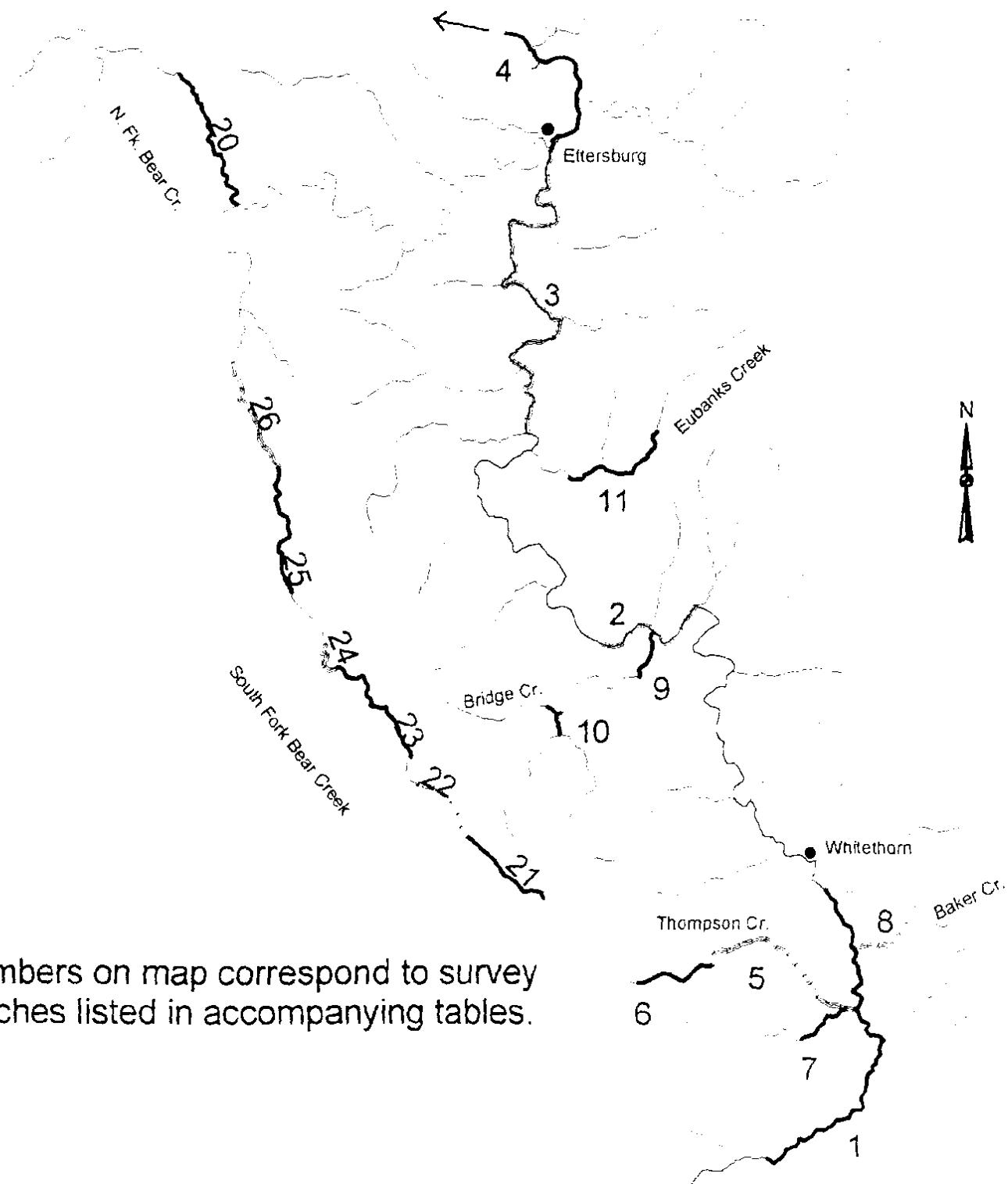
c = carcass (recently dead fish, suitable for jaw tagging because head and body are relatively intact)
s = skeleton (pieces or parts of fish, not suitable for jaw tagging because head and backbone are not intact)

TD = Tim Day
RA = Rich Abramson

RA = Rich Abramson
SM = Sue Moloney

DT = Deva Taylor

Spawning Ground Survey Reaches
Mattole River watershed
1997-98 Season
Map 1 of 3 (headwaters to Ettersburg)

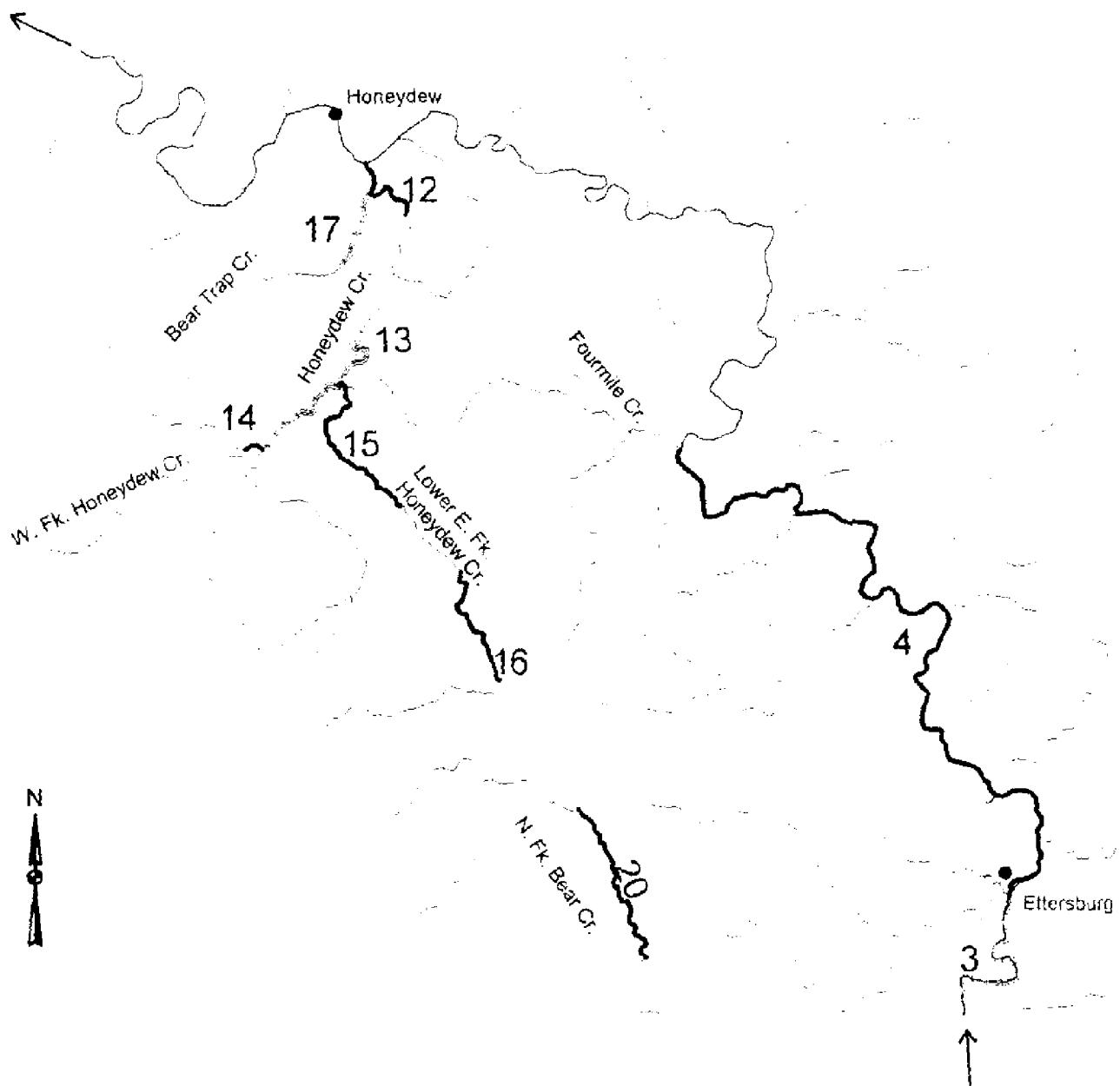


Numbers on map correspond to survey reaches listed in accompanying tables.

1 0 1 2 3 4 5 Miles

Jeremy Wh
Gary D. Peters
2/4/98

Spawning Ground Survey Reaches
Mattole River watershed
1997-98 Season
Map 2 of 3 (Ettersburg to Honeydew)



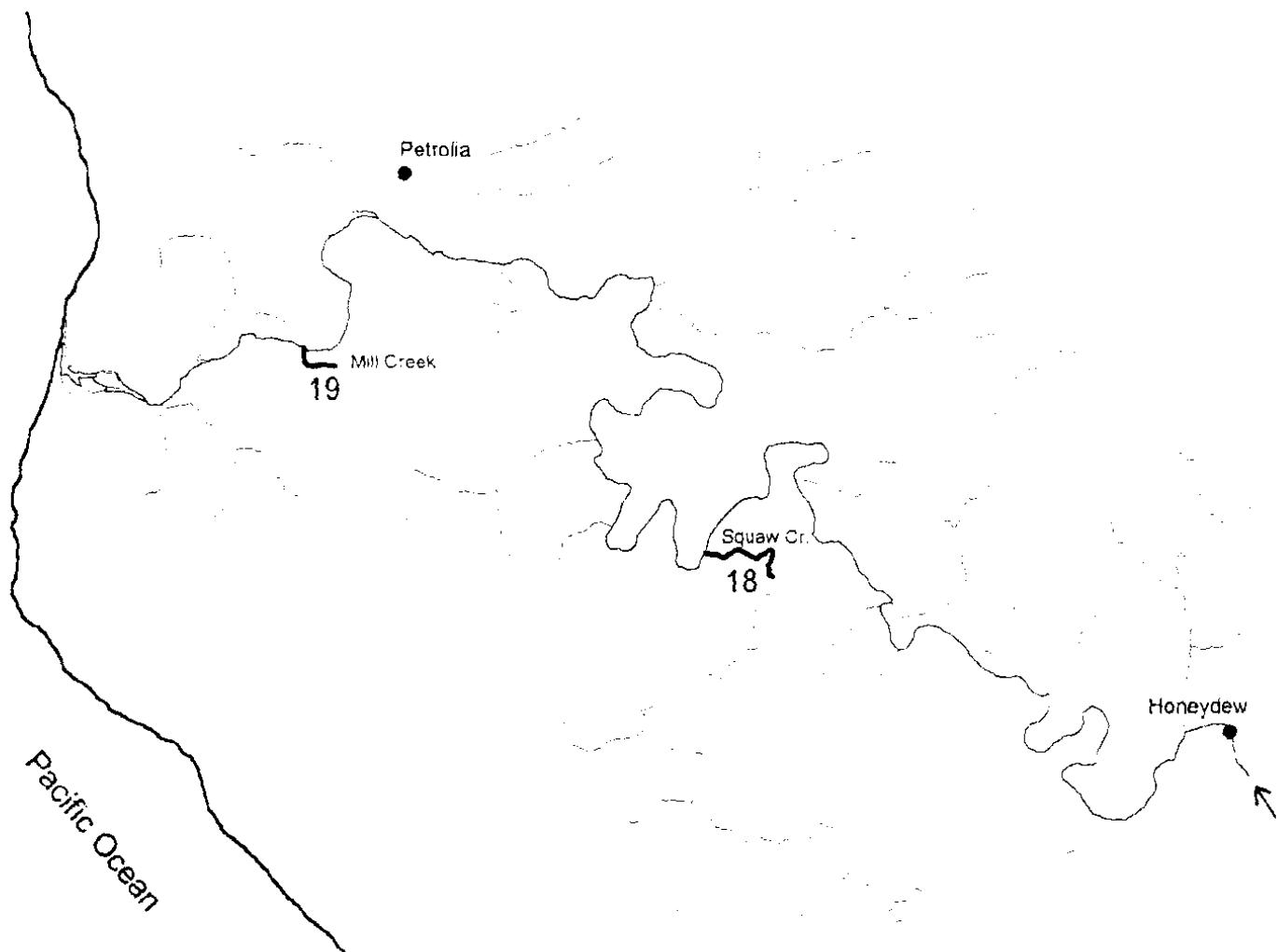
Numbers on map correspond to survey reaches listed in accompanying tables.

0 1 2 3 4 5 Miles

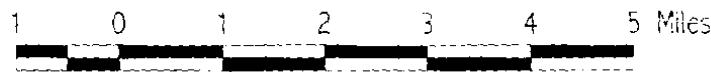
Jeremy Wheeler
Gary D. Peterson
2/4/98

Spawning Ground Survey Reaches Mattole River watershed 1997-98 Season

Map 3 of 3 (Honeydew to Pacific Ocean)



Numbers on map correspond to survey reaches listed in accompanying tables.



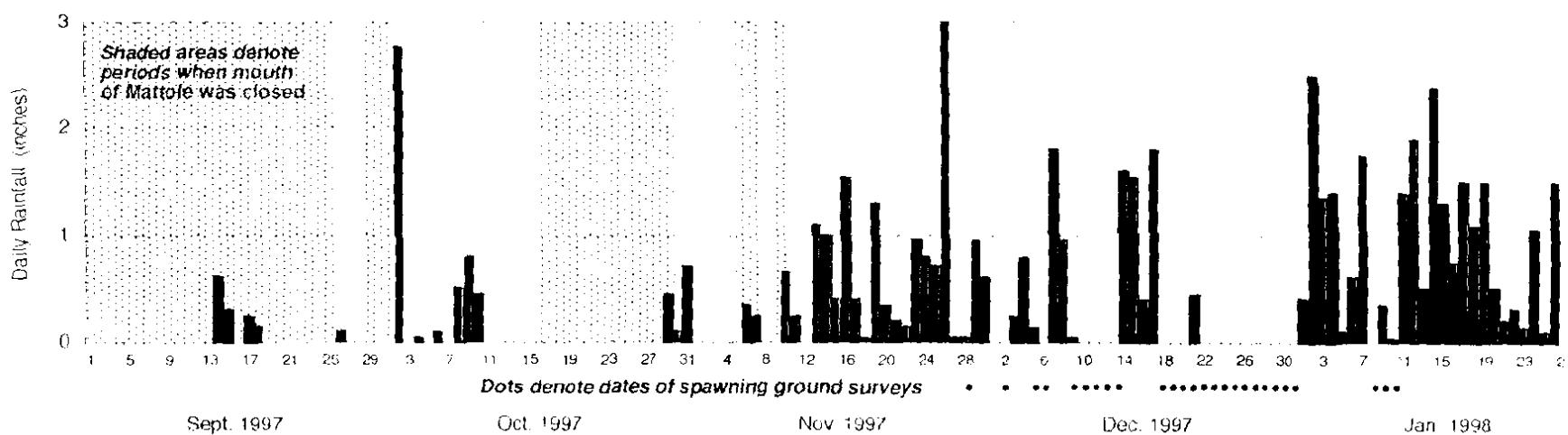
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Gary D. Pei
2/4/98

Final Budget for spawning ground surveys, 1997-98 season, Mattole River watershed

<u>PERSONNEL COSTS</u>		(25 different surveyors participated over the course of the season) (In-kind contributions = 243.5 volunteer hours)	
Wages (560.1 hours @ \$10 to \$12 per hour)	\$ 6,529.20		
Staff benefits @ 30%	1,958.76		
<u>MATERIALS, SUPPLIES, & OPERATING EXPENSES</u>			
Gear & equipment (e.g., chest waders, polaroid glasses, first aid kits, field binders, waterproof paper, thermometers, flagging, film & development, etc.), plus phone & photocopying	1,440.36		
Transportation costs: 3,542.7 miles @ \$0.24 per mile	850.25		
Insurance	513.00		
Project subtotal	11,291.57		
Administrative overhead @ 10%	1,129.15		
TOTAL PROJECT BUDGET	\$ 12,420.72	(\$5,804.71 from CSCC contract #96-002; \$6,616.01 from BLM Task Order 001)	

Timing and magnitude of precipitation, periods of mouth closure, and dates of spawning ground surveys
Mattole River watershed, September 1997 through January 1998

(Surveys conducted by the Mattole Salmon Group. Daily rainfall statistics from the Petrolia area, courtesy of Rex & Ruth Rathbun.)



Note: Not shown in the above graph, and in the tables (pages 1-3) and maps (pages 4-6), are two days of reconnaissance surveys by Mattole Salmon Group (MSG) personnel. These surveys, located outside of established index reaches, were conducted early in the season for the purpose of tracking the progress of salmon runs in conjunction with MSG's broadstock trapping operations in the mainstem Mattole at river-mile (RM) 42.9, about 0.1 mile upstream from the confluence of Bear Creek near Ettersburg. (The trap was operated for 14 nights between November 13 and December 15, 1997, as part of MSG's Stock Rescue Program, which is supported by Salmon Stamp funding under contract #FG 7007-1F with the CA Dept. of Fish & Game.) Although no live fish, carcasses or redds were seen on the two days of early-season surveys, for the sake of completeness the information is given below.

10/26/97: Snorkel survey (Maureen Roche) in three areas of the mainstem Mattole River downstream from Honeydew:
 -from Upper North Fork Mattole to about 0.1 mile downstream from Bundle Prairie Creek (1.1 miles, from RM 25.5 to 24.4)
 -from Squaw Creek to downstream extent of A.W. Way County Park (0.5 miles, from RM 14.9 to 14.4)
 -from Titus Creek to Mill Creek (0.5 miles, from RM 3.3 to 2.8)

11/19/97: Wader survey (Colum Coyne) in two areas near Ettersburg:
 -mainstem Mattole River, from trap site down to county bridge (0.6 miles, from RM 42.9 to 42.3)
 -Bear Creek, from MSG holding & spawning facility down to mouth (0.4 miles)

Data summary for 1994-95 through 1997-98 seasons: Spawning ground surveys, Mattole River watershed

Spawning ground surveys in the Mattole, ongoing since the 1981-82 season, have focused primarily on assessments of fall-run chinook salmon. Surveys each season generally took place between late November and mid-January. Survey effort has varied somewhat from season to season, depending upon such factors as funding, availability of trained personnel, weather conditions and water visibility. Average number of redds per mile was calculated as total redds divided by reach length. Surveys conducted by the Mattole Salmon Group (P.O. Box 188, Petrolia, CA 95558; phone 707-629-3660/3670; fax 707-629-3679). Data summary prepared February 1998 by Gary D. Peterson, MSG fisheries biologist.

Survey Season	Survey Reaches	Reach Length (miles)	Total Miles Surveyed	Live Fish Seen					Carcasses & Skeletons					Number of Definite Redds					Ave. number of redds per mile	
				KS	SS	UN	SH	ND	KS	SS	UN	SH	ND	KS	SS	UN	SH	ND		
1994-95	Mattole headwaters index reach (Stanley Creek to Hulse Creek)	4.7	9.4	9	4	-	-	-	1	2	-	-	-	18	5	6	-	3	32	6.8
	mainstem Mattole River (except headwaters index reach)	4.3	6.4	21	-	-	-	-	7	-	-	-	-	8	-	-	-	-	8	1.9
	tributaries (except Bear Creek)	9.8	11.8	2	3	-	2	-	2	1	-	-	-	11	10	3	2	-	26	2.7
	Bear Creek (enters Mattole River at Ettersburg)	7.6	11.4	-	-	-	-	-	-	-	-	-	-	3	-	1	-	-	4	0.5
	ALL REACHES COMBINED 1994-95 SEASON	26.4	39.4	32	7	-	2	-	10	3	-	-	-	40	15	10	2	3	70	2.7
1995-96	Mattole headwaters index reach (Stanley Creek to Hulse Creek)	4.7	9.4	6	3	-	-	-	-	-	-	-	-	7	2	-	-	4	13	2.8
	mainstem Mattole River (except headwaters index reach)	23.3	33.8	68	1	-	2	6	11	-	-	-	-	25	-	-	1	1	27	1.2
	tributaries (except Bear Creek)	7.5	10.8	3	4	-	4	1	3	-	-	-	-	7	5	-	-	2	14	1.9
	Bear Creek (enters Mattole River at Ettersburg)	8.9	11.4	-	-	-	3	-	-	-	-	-	-	-	-	-	-	1	1	0.1
	ALL REACHES COMBINED 1995-96 SEASON	44.4	65.4	77	8	-	9	7	14	-	-	-	-	39	7	-	1	8	55	1.2
1996-97	Mattole headwaters index reach (Stanley Creek to Hulse Creek)	4.7	9.4	29	6	2	-	-	23	1	1	-	1	41	2	1	-	7	51	10.9
	mainstem Mattole River (except headwaters index reach)	2.4	4.0	7	2	-	-	-	6	-	-	-	-	21	-	-	-	2	23	9.6
	tributaries (except Bear Creek)	9.25	14.9	5	3	1	1	-	-	3	-	1	-	6	17	1	-	-	24	2.6
	Bear Creek (enters Mattole River at Ettersburg)	12.6	19.4	1	9	-	-	-	-	7	-	-	-	12	31	12	-	1	56	4.4
	ALL REACHES COMBINED 1996-97 SEASON	28.95	47.7	42	20	3	1	-	29	11	1	1	1	80	50	14	-	10	154	5.3
1997-98	Mattole headwaters index reach (Stanley Creek to Hulse Creek)	4.7	18.8	8	9	4	-	-	1	3	-	-	-	27	12	14	-	9	62	13.2
	mainstem Mattole River (except headwaters index reach)	14.3	19.1	3	-	5	-	-	5	-	-	-	-	17	-	-	-	-	17	1.2
	tributaries (except Bear Creek)	16.35	35.35	-	12	-	-	2	-	-	1	-	-	14	15	5	-	10	44	2.7
	Bear Creek (enters Mattole River at Ettersburg)	9.85	22.15	10	1	-	-	-	4	-	4	-	-	27	7	26	-	2	62	6.3
	ALL REACHES COMBINED 1997-98 SEASON	45.2	95.4	21	22	9	-	2	10	3	5	-	-	85	34	45	-	21	185	4.1

Abbreviations used:

KS = king (chinook) salmon

SS = silver (coho) salmon

I = unknown if chinook or coho

SH = steelhead

ND = species determined