



File FR
Humboldt

DRAFT

SN 90463

1994 REDWOOD CREEK SUMMER STEELHEAD SURVEY

DATES: August 4, 5, and 6, 1994

LOCATION: Redwood Creek, Humboldt County, California
Chezem Rd. bridge downstream to Stover Creek

DISTANCE: 12 miles

CREW: Thomas J. Weseloh*, Patrick Dellasega, Pat Moorhouse*, and Bill Reid*
(* Indicates person with prior Redwood Creek summer steelhead survey experience)

METHOD: Mask and snorkel (visual observation)

ITINERARY:

- 8/04 - Bair Rd. bridge to Beaver Creek
Weseloh, Moorhouse, and Reid (6 SSHD)
- 8/05 - Beaver Creek to Stover Creek
Weseloh, Moorhouse, and Reid (7 SSHD)
- 8/06 - Chezem Rd. bridge to Bair Rd. bridge
Weseloh and Dellasega (3 SSHD)

TOTAL NUMBER OF ADULT (OVER 16") SUMMER STEELHEAD OBSERVED: 16

LOCATIONS OF ADULT (OVER 16") SUMMER STEELHEAD:

Date	# of SSHD	Est. Length (inches)	Location/Description
8/04/94	1	17"	In first pool below Toss Up Creek. Pool less than 4 feet in depth. Temp. was influenced by Toss Up Creek subsurface flow: 19.5 C near seepage, 20.5 C in main flow.
8/04/94	2	25" 18"	In riffle @ 1/4 mi. below Toss Up Creek. Second SSHD in pool below riffle. Cold seep on west bank: 19.5 C near seep, 21.0 C in main flow. Lots of LOD and boulders. Colony of rough skinned newts also in pool.

Date	# of SSHD	Est. Length (inches)	Location/Description
8/04/94	3	27" 29" 19"	In first pool below Pilchuck Creek. Downed maple provided excellent cover. Two larger SSHD in branches of maple, smaller SSHD in tailout of pool. No temps. taken. Small rock dam deepened pool by @ 1 foot. Anglers present.
8/05/94	1	16"	In first pool below Beaver Creek. No cover except for depth. No temps. taken but cooling influence of Beaver Creek suspected.
8/05/94	1	20"	In first pool below Garcia Creek. Seen hiding under boulder in tailout.
8/05/94	1	22"	In large pool by unnamed seep @ 1/3 mi. below Garcia Creek. SSHD sighted here in 1993. First sighted near seep then cruising in pool. Seep was 15.5 C, Redwood Creek near seep was 18.0 C, mid stream was 19.0 C. Coho YOY present.
8/05/94	3	17" 20" 24"	In impoundment formed by earthen dam at Adventist Camp. Individually sighted under large wood and/or rootwads in deep cool spots (cool areas felt but not recorded).
8/05/94	1	18"	In third or fourth pool below impoundment. Hiding under boulder. No noticeable cool spot.
8/06/94	1	26"	In impoundment formed by earthen dam at Chezem Rd.. On bottom under log. Impoundment stratified.

Date	# of SSHD	Est. Length (inches)	Location/Description
8/06/94	1	17"	Very large pool (12 ft deep) @ 1/2 mile above Minor Creek. Hiding in eddy under boulder at tailout near cold seep. Seep was 20.5 C (after we caused some mixing of water), Redwood Creek was 23.0 C.
8/06/94	1	18"	Pool at Minor Creek confluence. Hiding under fallen alder branches in tailout (originally seen in cold water at confluence). Minor Creek was 17.5 C, Redwood Creek was 23.0 C.

Notes:

Impoundments: The impoundments at Chezem Road and the Adventist Camp definitely alter the natural characteristics of Redwood Creek. It should be a priority of California Department of Fish and Game (CDFG) and Redwood National Park (RNP) to determine whether or not these impacts are detrimental or beneficial. Observed impacts include: deep stratified hole, warming of downstream temperatures (over 3 degrees centigrade), algal blooms, decrease in aquatic invertebrates immediately downstream, increased fishing pressure, and an increase in human disturbance (at the Chezem Road impoundment); deep stratified hole, increase in numbers of juvenile salmonids, cooling of downstream temperatures (over 1 degree centigrade), increase in fishing pressure, and an increase in human disturbance (at Adventist Camp). Adult summer steelhead were observed in both impoundments. Two smaller impoundments were seen: a one foot high rock dam was constructed just downstream of Pilchuck Creek, and a one foot high rock dam was constructed just above the Adventist Camp impoundment. Neither dam appeared large enough to alter natural conditions significantly.

Fishing Pressure: Fishermen were observed at both impoundments and by the houses just downstream of Pilchuck Creek. All of these locations held adult summer steelhead. No fishermen reported any success with adult fish (most were unaware of adult being present and were targeting juveniles -- we did not tell them large fish were present). Other signs of fishing (lines, lures, lure packages, bait sticks, etc.) were encountered mainly in easily accessible areas. It would be wise to implement a size restriction or zero limit in this reach to protect adult summer steelhead.

Water Withdrawals: Pumps were seen in five locations: Chezem impoundment, Sweathouse Creek, Redwood Creek Ranch (2), and the Adventist Camp impoundment.

Other Sightings: Coho juveniles were observed throughout the reach in relatively low abundance (at most one or two encounters per mile of up to 40 fish). Coho were only seen near woody debris that provided lots of cover and several escape routes. No chinook were observed. Juvenile steelhead (YOY, 1+, 2+) were frequently observed (nearly every pool). Cover, especially woody debris, determined locations and densities of juveniles. Many juveniles had predator scars--all adult fish were in excellent condition. Predators were very common and included: osprey, mergansers, kingfishers, ouzels, herons, otters, humans, etc.. Other species sighted include: crayfish (dead), rough skinned newts, pacific giant salamanders (four dead ones were seen), lamprey ammocetes, roach, dace, and suckers.

Reported Sightings of Adult Summer Steelhead: Local residents reported observing adult summer steelhead in the following locations: Chezem impoundment (second hand verbal report of lots of huge fish going out when the impoundment was removed in fall), the mouth of Minor Creek, the Bair Rd. bridge hole, the hole below Pilchuck Creek, and the Adventist Camp impoundment. Adults were observed at all locations except the Bair Rd. bridge.

Temperatures: Water temperatures were taken with a hand held thermometer below the water surface in the main flow of Redwood Creek and tributaries (see Table 1). Additional information on "cold pools" are in the location/description of where adult summer steelhead were located.

Future Recommendations: In order to maintain and improve conditions for summer steelhead a list of future recommendations has been developed.

1. Continue adult summer steelhead surveys in the entire accessible reach of Redwood Creek on an annual basis. Collect more specific information regarding habitat in holding areas (temperature, cover, etc.) to determine preferred habitat. Monitor half pounders and juveniles also.

2. Standardize survey protocols and data collection.

3. Monitor the impoundments at Chezem Rd. and the Adventist Camp for beneficial/detrimental impacts on summer steelhead.

4. Utilize information from recommendations 1 and 2 to develop a Restoration Plan for summer steelhead (there should be both short term and long range goals for implementation strategies).

5. Protect all adult summer steelhead from legal harvest through sportfishing regulation amendments. A 14 inch maximum size limit or zero limit regulations will be submitted to the Fish and Game Commission by CalTrout.

6. Encourage regulatory agencies and private landowners to review land use practices as related to upslope and stream habitat.

This report was written by Thomas J. Weseloh of California Trout Inc.. If you have any questions or comments please call (707) 839-1056 or write 1976 Archer Rd. McKinleyville CA. 95519.

Table 1. Water temperatures (C) measured during the 1994 Redwood Creek summer steelhead trout survey. Locations are listed south to north. Alignment refers to tributary watershed position: E = eastside, W = westside, and REDW = mainstem Redwood Creek.

LOCATION	ALIGNMENT	1994 DATE	TIME	TEMPERATURE C WATER
Redwood Creek(Chezem Rd Br)	REDW	8/06	0930	16.5
Redwood Creek(dam outlet)	REDW	8/06	1030	20.0
Redwood Creek(above GrPt)	REDW	8/06	1330	22.0
Green Point Cr.	W	8/06	1330	14.0
Santa Fe Cr.	W	8/06	1340	14.0
Redwood Creek(above Loin)	REDW	8/06	1430	23.0
Loin Cr.	W	8/06	1430	14.0
Redwood Creek(above Minor)	REDW	8/06	1515	23.0
Minor Cr.	E	8/06	1515	17.5
Redwood Creek(Bair Rd. Br)	REDW	8/04	1000	19.5
Redwood Creek(above TossU)	REDW	8/04	1145	21.0
Toss Up Cr.	W	8/04	1145	15.0
Redwood Creek(above Mill)	REDW	8/04	1400	21.0
Mill Cr.	E	8/04	1400	15.0
Pilchuck Cr.	W	8/04	1410	14.5
Redwood Creek(above Beav)	REDW	8/04	1500	21.5
Beaver Cr.	E	8/04	1500	15.5
Redwood Creek(above Beav)	REDW	8/05	0945	17.0
Beaver Cr.	E	8/05	0945	13.0
Redwood Creek(above Cash)	REDW	8/05	1045	18.0
Cashmere Cr.	W	8/05	1045	13.0
Redwood Creek(above Garc)	REDW	8/05	1050	18.0
Garcia Cr.	W	8/05	1050	12.5
Redwood Creek(above RoGl)	REDW	8/05	1230	19.5
Roaring Gulch	E	8/05	1230	14.5
Redwood Creek(above Lee)	REDW	8/05	1345	21.0
Lee Cr.	W	8/05	1345	14.0
Redwood Creek(above Karn)	REDW	8/05	1415	21.0
Karen Cr.	W	8/05	1415	13.0
Redwood Creek(above AC dam)	REDW	8/05	--	21.5
Redwood Creek(below AC dam)	REDW	8/05	--	20.0
Redwood Creek(above Stvr)	REDW	8/05	1600	21.5