

Big Bar Ranger District
Virgin Creek; T.8N., R.7E., Sections 9, 16, 21, 27, 28, and 35
August 19-20, 1985
Surveyors: Gary Rensink and Paul Renoud

Virgin Creek was visually surveyed by walking from the mouth to a point about 7 miles upstream. Sampling for fish was done using hook & line. This medium-sized perennial stream was rated Class I because it supports significant runs of anadromous salmonids, and its flow comprises more than half of that of the New River at its origin.

Virgin Creek flows in a southerly direction through canyon and mountainous watershed. Major forest species include Douglas fir, white fir, madrone, chinquapin, and several species of oak and maple. The stream gradient averaged 1.5%, and the side slopes were usually greater than 60%. Stream and channel widths averaged 20 feet and 30 feet respectively.

Fish habitat was rated very good overall. Spawning gravels were firm, and plentiful in riffle stretches and pool tail-spills. The pool:riffle ratio was about 1:2, and pools were rated 20% Class A and 70% Class B. Pools were formed by bedrock, averaged 30 feet in diameter, and overall had good in-pool shelter. Canopy was light to moderately dense (averaging 20%) and consisted of alder, Darmera (Peltiphyllum), and some oak and big-leaf maple.

Overall productivity was rated **medium-high**. Aquatic food organisms ranged in density from 14-32/ft.² (primarily caddisfly and mayfly larvae, although stonefly nymphs were also common in the middle and upper sections). Aquatic plants were abundant in all reaches surveyed, and consisted mainly of Nostoc, green algae, and moss.

Rainbow trout and juvenile steelhead were common (18-25/100 ft.) in all reaches, and fry were abundant (60/100 ft.) as well. Sixes ranged from 2-11 inches long, and the fish averaged 4 1/2 inches in length. Only one adult steelhead 26 inches long was sighted, in the middle section, but most of these fish in Virgin Creek were probably missed because snorkeling was not attempted.

Water temperatures were 62°F (1345 hours, partly cloudy, 79°F air) at the mouth and 59°F (0920 hours, overcast, 54°F air) in the middle section. The water quality was good with no turbidity present. Flow was approximately 8 c.f.s. at the mouth, and occupied about 60% of the channel in most sections. Channel and bank stabilities were excellent, with lots of bedrock present.

No diversions were noted, and only two barriers were seen. The first one may be considered a partial barrier only during very low flow years, and that is the bar that Virgin Creek flows over as it enters the New River. The second barrier completely blocks fish passage

upstream, and is a very large log jam located approximately 6 1/4 miles up from the mouth. Its dimensions are 35' high X 80' wide X 125' deep. Three springs were noted as follows:

S1	-	<0.10	c.f.s.	51°
s2	-	x0.10	c.f.s.	51°
S3	-	x0.10	c.f.s.	53°

Thirteen tributaries were noted, ranging from less than 0.1 to 4.0 c.f.s. Six-mile Creek, Soldier Creek (T9) and Eight-mile Creek (T13) were the only three tributaries with fishery potential, while all other were rated Class IV (no fishery potential).

T1	-	0.8	c.f.s.	60°F	Class IV	(Fawn Creek)
T2	-	0.1	c.f.s.	60°F	Class IV	(Two-mile Creek)
T3	-	0.3	c.f.s.	56°F	Class IV	
T4	-	0.4	c.f.s.	55°F	Class IV	(Four-mile Creek)
T5	-	0.2	c.f.s.	54°F	Class IV	
T6	-	1.0	c.f.s.	56°F	Class III	(Six-mile Creek)
T7	-	0.3	c.f.s.	54°F	Class IV	
T8	-	0.1	c.f.s.	55°F	Class IV	
T9	-	3.0	c.f.s.	58°F	Class II	(Soldier Creek)
T10	-	0.1	c.f.s.	57°F	Class IV	
T11	-	0.2	c.f.s.	56°F	Class IV	
T12	-	0.5	c.f.s.	52°F	Class IV	
T13	-	4.0	c.f.s.	62°F	Class I	(Eight-mile Creek)

Access is fair to the mouth of Virgin Creek via a three mile trail from the New River Trailhead, but poor to the rest of the stream because of longer trail distances and the trail is perched high up the canyon walls most of its length. The trail crosses the stream at Soldier Creek and Eight-mile Creek (see map). Fishing intensity was rated light, and other uses of the area include mining, camping, and hiking.

There does exist several placer mining claims on Virgin Creek in the lower and middle sections, although only two claims near Barritt's Cabin (see map) seemed active. All other lands adjacent to the stream are part of the Salmon-Trinity Alps Wilderness Area.

Virgin Creek is a significant stream for anadromous salmonids, particularly to summer steelhead, and the habitat is in very good shape. If possible, the large amounts of old mining equipment and other garbage should be cleaned out, and current mining and wilderness regulations need to be enforced. The large log jams should be watched in case flows shift them around to where they block the stream. Maintain the water quality and pristine habitat, and the present fish populations will probably experience no major reductions in the near future.

GARY RENSINK
Biological Technician, Fisheries

STREAM SURVEY

FOREST SHASTA-TRINITY	DISTRICT BIG BAR
1. NAME OF STREAM VIRGIN CREEK	2. RIVER SYSTEM NEW RIVER, TRINITY RIVER
3. TRIBUTARY TO NEW RIVER	4. TOTAL LENGTH 10 MILES
3. STREAM SECTION FROM: MOUTH TO: APPROX. MILES UPSTREAM	
6. LOCATION OF MOUTH OR LOWERMOST POINT TOWNSHIP T. 8N RANGE R. 7E SECTION 35	
7. DESCRIPTION OF STREAM: (USE PAGE 4 OR SEPARATE SHEET TO RECORD NOTES MADE DURING SURVEY).	

SECTION DATA

	LOWER	MIDDLE	UPPER
8. LOCATION	TWP 8N RG 7E SEC 35	TWP 8N RG 7E SEC 27	TWP 8N RG 7E SEC 10
9. ALTITUDE RANGE	2000 FT. TO 2240 FT.	2240 FT. TO 2700 FT.	2700 FT. TO 2775 FT.
10. WIDTH OF STREAM	RANGE 15-35 FT. AVE 20 FT.	RANGE 15-35 FT. AVE 20 FT.	RANGE 10-25 FT. AVE 18 FT.
11. DEPTH	RANGE 0.1-0.6 FT. AVE 0.4 FT.	RANGE 0.1-0.6 FT. AVE 0.5 FT.	RANGE 0.1-0.6 FT. AVE 0.4 FT.
12. FLOW	8 cfs	7 cfs	5 cfs
13. VELOCITY	2.0 f/s	0.7 f/s	0.7 f/s
14. AIR TEMPERATURE	79°	54°	—°
15. WATER TEMPERATURE	62°	59°	60°
16. HOUR AND SKY	HOUR 1345 SKY PC	HOUR 0920 SKY Overcast	HOUR 1600 SKY PC
17. POOLS-ABUNDANCE	COMMON 10%A 20%B	COMMON 30%A 60%B	COMMON 15%A 65%B
a. Size (diameter)	RANGE 20-60 FT. AVE 40 FT.	RANGE 15-9 FT. AVE 30 FT.	RANGE 10-50 FT. AVE 25 FT.
b. Formed by	Bedrock	Bedrock	Bedrock
c. Shelter	Poor	Medium	Medium
18. RIFFLES-ABUNDANCE	P:R ≈ 2:3	P:R ≈ 1:2	P:R ≈ 1:2
19. BOTTOM TYPE	Bedrock Boulders Rocks Rubble Gravel Sand Silt Mud	Bedrock Boulders Rocks Rubble Gravel Sand Silt Mud	Bedrock Boulders Rocks Rubble Gravel Sand Silt Mud
a. Pools	5 5 5 35 40 10	15 8 15 20 30 12	15 10 15 12 7 25 8
b. Riffles	5 8 12 45 15 5	8 12 25 35 15 5	8 15 25 35 12 5
20. SHADE CANOPY	Moderate (15%)	Moderate (25%)	Moderate (25%)
a. Species	Alder, Darnera	(Betula, phyllem), Willow	Oak
21. AQUATIC VEGETATION	Abundant	Abundant	Abundant
a. Species	Nostoc, Algae, Moss		
22. AQUATIC FOOD ORGANISMS	Common	Abundant	Abundant
a. Caddisflies	8/ft. ^a	15/ft. ^a	20/ft. ^a
b. Mayflies	5/ft. ^a	8/ft. ^a	8/ft. ^a
c. Stoneflies	1/ft. ^a	3/ft. ^a	4/ft. ^a
d. Diptera	NS	NS	NS
e. Beetles	NS	NS	NS
f. Other Insects	NS	NS	NS
g. Crustacea	NS	Snail 1/ft. ^a	NS
h. Others	NS	NS	NS
23. OVERALL AQUATIC FOODS	14/ft.	27/ft. ^a	32/ft. ^a
24. FISHES PRESENT			
a. All Species Combined			
b. Species 1	Rainbow Trout/Steelhead	Rainbow Trout/Steelhead	Rainbow Trout
(1) Abundance	Abundant	Abundant	Abundant
(2) Ave. No. per 100 ft.	20	18	22
(3) Length Range	2-9 INCHES	2-9 INCHES	2-11 INCHES
(4) Ave. Length	4 INCHES	4 INCHES	5 INCHES

	LOWER	MIDDLE	UPPER
c. Species 2			
(1) Abundance			
(2) Ave. No. per 100 ft.			
(3) Length range			
(4) Ave. length			
d. Species 3			
(1) Abundance			
(2) Ave. No. per 100 ft.			
(3) Length range			
(4) Ave. length			
e. Species 4			
(1) Abundance			
(2) Ave. No. per 100 ft.			
(3) Length range			
(4) Ave. length			
25. REPRODUCTION			
a. Species 1	RT/SH	Excellent 60/100ft.	Excellent 50/100ft.
b. Species 2			
c. Species 3			
d. Species 4			
26. FISH PREDATORS			
a. Birds	None Seen	Water Ouzle (3)	Water Ouzle (2)
b. Snakes	Garter (2)	NS	NS
27. CHARACTER OF WATERSHED	Canyon, Wooded	Canyon, Wooded	Canyon, Wooded
28. WATERSHED SOIL STABILITY	Excellent	Good	Good
29. STREAM CHANNEL STABILITY	Good	Good	Good
30. STREAM FLOW CONDITION	Low	Low	Low
31. STREAM GRADIENT	1%	2%	1%
32. BARRIERS	None Seen	See Summary	None Seen
33. DIVERSIONS	NS	NS	NS
34. SPRINGS	NS	See Summary	See Summary
35. TRIBUTARIES	See Summary	See Summary	See Summary
36. WATER QUALITY			
a. Turbidity	Low	Low	Low
b. Nature of Turbidity			
c. Other Pollution			
37. ACCESSIBILITY			
a. Car or Trail	FAIR 3 miles by trail	POOR 5 miles by trail	POOR 10 miles by trail
38. FISHING USE			
a. Est. Fisherman days	Light	Very Light	Very Light
b. Est. ave. hours fished per day	Per Year	Per Year	Per Year

SUMMARY ENTIRE STREAM

39. STREAM CLASSIFICATION	LOWER	I	MIDDLE	I	UPPER	I
---------------------------	-------	---	--------	---	-------	---

REMARKS: IMPORTANT SPAWNING & REARING STREAM FOR STEELHEAD & SALMON.

40. STREAM CHARACTERISTICS AND REMARKS
 IN WILDERNESS AREA, MEDIUM-SIZED STREAM FLOWING THROUGH CANYON, SLIGHT GRADIENT (1-2%), GOOD IN-POOL COVER AND EXCELLENT SPAWNING AREAS, STABLE

41. FISH STOCKING PROGRAM NONE

42. MANAGEMENT RECOMMENDATIONS: REMOVE OLD MINING EQUIPMENT AND RECKAGE FROM CHANNEL AREA, MAINTAIN WATER QUALITY AND INTEGRITY OF IMMEDIATE SIDE SLOPES, PROPERLY REGULATE MINING ACTIVITIES IN THE CREEK, AND MAINTAIN GOOD ANADROMOUS RUNS NOW PRESENT.

U DATE OF SURVEY 8/19/85 - 8/20/85 43. SURVEY MADE BY GARY REINSINK PAUL RENOUF

STREAM MANAGEMENT ANALYSIS (May be filled out at Office)

1. TYPE OF FISHERY	COLD	2. PRIMARY SPECIES	RAINBOW TROUT/STEELHEAD
3. OVERALL PRESENT FISHERY RATING	EXCELLENT	a. Size of Stream	MEDIUM STREAM
c. Other Uses	MINING, HIKING, CAMPING	b. Fishing Use	LIGHT
d. Productivity	MEDIUM-HIGH	e. Habitat Condition	GOOD
4. IMPROVEMENT POTENTIAL	FAIR		

5. FISH MANAGEMENT RECOMMENDATIONS:

a. Chemical Rehabilitation	NR
b. Fishery Regulation	SAME AS PRESENT
c. Regulation of Other Activities	REGULATE MINING AND WILDERNESS ACTIVITIES
d. Introduction of Exotic Fish Species	NR
e. Maintenance-Stocking of Established Fish Species	NR
f. Others	NR

6. HABITAT MANAGEMENT

a. Watershed Management	BMP
b. Stream Protection Belt Management	BMP
c. Water Quality Management	BMP
d. Physical Corrective Measures	MAYBE CLEAN UP GARBAGE & JUNK IN CHANNEL
e. Others	NR
7. PUBLIC ACCESS AND LAND ACQUISITION	NR
8. PUBLIC USE FACILITIES	NR