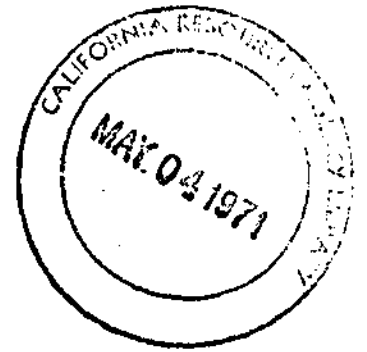


PRELIMINARY REPORT ON THE FISHERIES OF THE
RUSSIAN RIVER SYSTEM, CALIFORNIA¹



By Leo Shapovalov
Bureau of Fish Conservation
California Division of Fish and Game

The purpose of this report is to bring together some of the scattered information pertaining to the fisheries of the Russian River system, particularly the Steelhead fishery. Although the report is very incomplete, it is hoped that it will provide a basis for a more comprehensive and detailed study. The sections on climate, stream flows, and development are based largely on U. S. Bureau of Reclamation data.

DESCRIPTION OF THE AREA

LOCATION

The Russian River enters the Pacific Ocean about 50 miles north of San Francisco Bay. It drains an area of 1,508 square miles of the Coast Range of California.

CLIMATE

The climate is characterized by a short, rainy winter season and long dry summers. About 82 per cent of the annual rainfall, which totals about 30 inches at Santa Ross, occurs from November to March, inclusive.

¹ Submitted August 25, 1944

Streams of the Russian River System

The following list shows the principal streams in the basin, proceeding upstream, and their lengths:

<u>Name of Stream</u>	<u>Total Length in Miles</u>
Below Healdsburg Reservoir Site	
Russian River	34
Jenner Creek	3
Sheephouse Creek	2
Willow Creek	5
Freezeout Creek	2
Austin Creek	12
Kidd Creek	3
Austin Creek, East Fork	13
Wards Creek	6
Dutch Bill Creek	7
Green Valley Creek	13
Santa Rosa Creek	20
Mark West Creek	18
Porter Creek	7
Laguna de Santa Rosa	11
Robert Crane Creek	8
Copeland Creek	5
Porter Creek	6
Dry Creek	38
Mill Creek	6
Felta Creek	2
Pena Creek	10
Peaches Creek	2
Dutcher Creek	3
Little Hot Springs Creek	12
Little Hot Springs Creek	3
Ranchero Creek	6
Galloway Creek	6
Cherry Creek	6
Peter Creek	2
	271 (47%)

<u>Name of Stream</u>	<u>Total Length in Miles</u>
Healdsburg Reservoir Site to Forks Reservoir Site	
Russian River	58
Brooks Creek	6
Maacama (McDonald) Creek	11
Holmes Creek	7
Briggs Creek	5
Little Briggs Creek	1
Sausal Creek	7
Sulphur Creek, Big	14
Sulphur Creek, Little	13
Sulphur Creek, Little, North Fork	6
Squaw Creek	5
Ash Creek	3
Edwards Creek	4
Cummiskey Creek	8
Pieta Creek	9
Feliz Crook	9
Feliz Creek, Middle Fork	4
McDowell Creek	7
McNab Creek	6
Robinson (Robertson) Creek	10
Middle Creek	5
Orr Creek	7
Sulphur Creek	3
Ackermans Creek	11
Hensley Creek	3
	222 (39%)

Above Forks Reservoir Site

Russian River	13
Russian River, East Fork	20
Cold Creek	7
Alder Creek	6
P.G. and E. Canal (artificial)	2
York Creek	7
Forsythe (Howard) Creek	13
Seward Creek	7
Mill (Reeves Canyon) Creek	8
	83 (14%)

Total, Russian River System 576

Stream Flows

Estimated annual runoff during the period 1930-1941 varied from 321,000 to 3,200,000 acre-feet and averaged 1,455,000 acre-feet. Stream flow varies from less than 90 second-feet inclusive of water imported into the basin, to devastating winter floods which have reached a recorded peak of 89,000 second-feet.

Damaging floods occur on the average once in four years. Damage is greatest to agricultural lands and improvements, with lesser damages to commercial properties, highways, streets, bridges, and railways. The larger floods have inundated acres aggregating 30,000 acres, mostly cultivated lands. The 1940 flood caused damage estimated by the U.S. Engineers at \$1,200,000.

Since 1908 water has been diverted from Van Arsdale reservoir (Cape Horn Dam) on the main Eel River by means of a tunnel, for power development and for irrigation in Potter Valley. Until completion of Lake Pillsbury (Scott Dam) above Van Arsdale Reservoir in 1922, only the natural flow of the Eel River was available for importation. At the present time a quantity not exceeding 50 second-feet of the imported water is purchased from the Pacific Gas and Electric Company, owner of Potter Valley Power Plant, by Potter Valley Irrigation District; the remainder, averaging 157 second-feet for the months April to October for the period 1930-1940, flows into Russian River.

Development

Being the nearest and most accessible coastal stream to the San Francisco Bay area, the population of which exceeds 1,300,000, it has become the basis of an important recreational development centered between Healdsburg and the ocean. Recreational activities include fishing, bathing, boating, and camping. In 1937 there were 717 permanent homes, 2,260 summer houses, more than 500 summer cottages, and a considerable number of business establishments in the recreational area.

FISHES AND FISHING

Fishes Present

The principal game fishes of the Russian River are Steelhead, Small-mouth Black Bass, Large-mouthed Black bass, and sunfish. Silver Salmon enter the stream in small numbers and Striped Bass do so irregularly. Steelhead as adults enter the river from the sea following the first fall rains in October and November. The run reaches a peak in January and continues on through March. No quantitative data regarding the size of the run are available.

Spawning Areas

Steelhead enter practically all tributaries of the Russian River to spawn and also spawn in the main river

above Healdsburg and in the East Fork, but little is known regarding extent of spawning areas. The following notes summarize the only data on spawning contained in the stream survey file at the present time.

E. G. Sack (letter to Bureau of Fish Conservation, Oct. 5, 1940) reported on an inspection of Willow, Porter, Green Valley, Freestone, and Dutch Bill (as Dutch Mill) Creeks on Oct. 2, 1940. (Freestone Creek is not named on any available maps; it is either a tributary of Dutch Bill Creek, or the upper portion of that stream.) Mr. Sack found all of the streams partly dry except for Green Valley Creek, which had a small flow throughout its course. All of the streams contained a few trout, Mr. Sack stated that according to local reports "quite a number" of Steelhead spawn in the streams which he examined.

On July 26, 1944, E. G. Sack (letter to Bureau of Fish Conservation, July 29, 1944) found Pena Creek, tributary to Dry Creek, to be "practically dry." He reported it to be a fine spawning stream. Trout three to four inches long, most of them dead, were found in isolated pools of the foothill region.

Considerable spawning is known to occur in the Dry Creek system, Big Sulphur Creek System, and other streams near Cloverdale.

Fishing

Fishing for adult Steelhead is limited by law to the main stream and the season extends from November 1 through February 23. The young Steelhead are caught during a season extending from May 1 through October 31.

Considerable angling for adult Steelhead is carried on in the section between Cloverdale and Hopland, especially near the entrance of Pieta Creek, and also in the lower river, near (sic) and other points.

The annual creel census data from anglers is reported by counties and since Sonoma and Mendocino counties, in which the Russian River lies, contain a number of other streams a definite segregation cannot be made of the number of anglers using the river or the catch therefrom. The following table, therefore, shows the county total:

TABLE 1. NUMBER OF GAME FISH AND NUMBER OF ANGLERS FOR EACH SPECIES, SONOMA AND MENDOCINO COUNTIES, CALIFORNIA, 1941.

	<u>Sonoma County</u>		<u>Mendocino County</u>		<u>Total</u>	
	<u>Anglers</u>	<u>Fish Caught</u>	<u>Anglers</u>	<u>Fish Caught</u>	<u>Anglers</u>	<u>Fish Caught</u>
(sic)	450	2,400	3,060	21,000	3,510	23,400
(sic)	5,070	212,000	10,830	589,000	15,900	801,000
(sic)	1,820	22,000	270	2,000	2,090	24,000
(sic)	4,230	59,000			4,280	59,000
(sic)	340	7,000	300	10,000	640	17,000

Stocking

At the present time stocking of the Russian River System with Steelhead is carried on only with rescued fish, from both outside and within the basin. The approximate number planted in the various streams each year are as follows: Austin Creek 5,000; Santa Rosa Creek 5,000; Big Sulphur Creek 10,000; Little Sulphur Creek 7,000; Middle Creek (stocked as Talmage Creek) 10,000; Mendocino Upper (#3) Reservoir (stocked as Talmage Creek or Talmage Reservoir) 7,000; East Fork of Russian River in Potter Valley 4,000; P. G. and E. Canal (artificial branch tributary to East Fork of Russian River in Potter Valley) 21,000; Forsythe (Howard) Creek 1,000; Mill Creek (stocked as Reeves Canyon Creek) 6,000. Thus, the annual stocking of Steelhead in the Russian River averages approximately 76,000 fish.

Fish Rescue

Only a small amount of fish rescue, in comparison with existing opportunities, is carried on in the Russian River System, Cold Creek, tributary to the East Fork, is practically the only stream in which such work is now done. Rescue of Steelhead could be carried out in Willow, Dutch Bill, Freestone, Porter, and Pena creeks, and probably many other streams in the basin. Perhaps the most profitable of these would be the Dry Creek system, Pieta Creek, and Feliz Creek.