

fish was 6.46 inches TL with of 3.39 to 8.46 inches. Their average weight was 1.08 oz. liberation into Lake Jennings, 211 of the catfish were held in a barrel for a period of 21 hours. No mortality occurred.

On November 18, 1969, 2,014 channel catfish, *Ictalurus punctatus*, averaging 6.65 inches were marked with a left pelvic clip and released into Lake Jennings for comparison of growth and harvest rates with the blue catfish.

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## OCCURRENCE ON THE HIGH SEAS OF A STEELHEAD TROUT IN ITS NINTH YEAR

A steelhead trout (*Salmo gairdnerii*) of unusual age was captured in the eastern North Pacific Ocean on September 11, 1969, by the RV *George B. Kelez*, Bureau of Commercial Fisheries. It was taken in a surface gillnet at lat 53°00' N, long 160°00' W (about 100 miles south of the Shumigan Islands, Alaska) during a survey to determine the relative abundance and distribution of Pacific salmon (*Oncorhynchus* spp.). The fish, a female, was 33.7 inches (857mm) long, was emaciated, and was recovering from its last spawning migration (one of four in as many years). About 12 eggs that had been retained in the ovaries after the last spawning were being resorbed, and the next generation of immature eggs was present.

Age determination was made from microprojections of scale impressions on a plastic card (Koo, 1962; Mosher, 1950). The scales showed a freshwater age of 3 years and an ocean age of 2 years before the first of four successive spawnings, plus additional summer growth in 1969 (3.1GGGG+). Thus the fish had completed 8 years and was in its ninth year (Figure 1).

Plastic impressions of scales were sent to several agencies for verification of the age of this fish. All experts agreed on the life history of the specimen (i.e., 3 years in fresh water, 2 years in the ocean, four successive annual spawning migrations, and a period of post-spawning recovery in the summer of 1969). Agreement was not complete, however, on the total age of the fish (8 or 9 years) because of a difference in the interpretation of steelhead age designations by the Koo (1962) formula and by F. H. Sumner (pers. comm., Dec. 18, 1969). According to Mosher (pers. comm.) the use of Sumner's interpretation increases total age of the fish by 1 year—the year that is added between the first year of ocean growth and the initial spawning check.

Most of the literature reviewed showed 7 years to be the maximum age attained by steelhead trout (Snyder, 1925, 1933; Neave, 1940; Pautzke and Meigs, 1941; Meigs and Pautzke, 1941; Shapovalov and Taft, 1954; Maher and Larkin, 1955; Bali, 1959; Withler, 1966; Bulkley, 1967; Narver, 1969). Sumner (1948), however, reported an 8- and a 9-year-old steelhead trout.

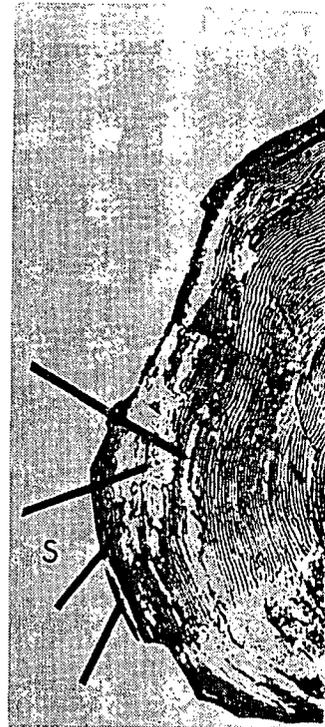


FIGURE 1—Scale of steelhead trout water marks ("F"), for (numbers 1-5). Microph

Because we had captured and because it had new eggs survived to another spawning its 10th year. The only other at least 25 years ago (Sumner and the 1969 steelhead as 9 and commercial exploitation since 1945, the average age decrease (Watt, 1968), as advanced age. Thus, the fish (or 8-year-old, depending on unusual in 1945, would be remarkable today.

I thank the following people of the fish: T. S. Y. Koo, Bureau of Commercial Fisheries Research Board of Canada Department of Fish and Game Commission.

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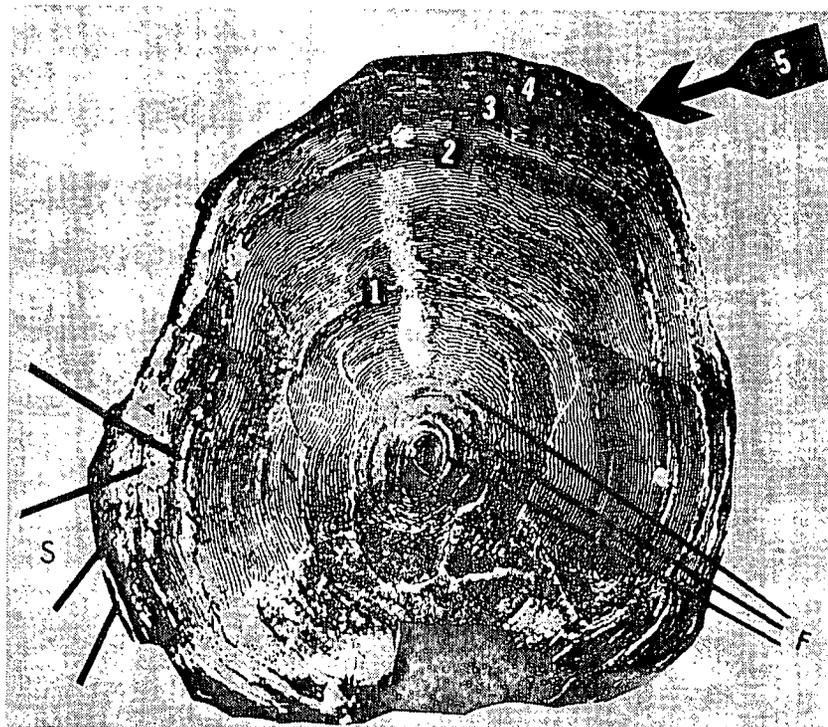


FIGURE 1—Scale of steelhead trout (*Salmo gairdnerii*) in its ninth year, showing three freshwater marks ("F"), four spawning checks ("S"), and five ocean winter marks (numbers 1-5). Microphotograph by Kenneth H. Mosher.

Because we had captured this fish on the high seas in September and because it had new eggs developing, the fish probably would have survived to another spawning and year of life, thereby putting it in its 10th year. The only other 8-year-old steelhead trout was recorded at least 25 years ago (Sumner, 1948); Sumner aged both his 1945 fish and the 1969 steelhead as 9-year-olds (Sumner, pers. comm.). As sport and commercial exploitation of steelhead trout stocks has increased since 1945, the average age of fish in the population would probably decrease (Watt, 1968), as would the probability of a fish reaching an advanced age. Thus, the fact that a steelhead trout in its ninth year (or 8-year-old, depending on the total age designation used) was very unusual in 1945, would in theory make such an occurrence even more remarkable today.

### ACKNOWLEDGMENTS

I thank the following persons for their interpretations of the age of the fish: T. S. Y. Koo, University of Maryland; Kenneth Mosher, Bureau of Commercial Fisheries, Seattle; G. Lewis Robins, Fisheries Research Board of Canada, Nanaimo; Leo Shapovalov, California Department of Fish and Game; and Francis H. Sumner, Oregon State Game Commission.

