

**STATE OF CALIFORNIA**  
**DEPARTMENT OF FISH AND GAME**  
**Intraoffice Correspondence**

**DATE** August 15, 1955

**TO:** Robert L. Jones, Manager, Region III

**FROM:** Willis A. Evans, Fisheries Management Supervisor, Region III

**SUBJECT:** Meeting at Fort Bragg, July 19, 1955. regarding King Salmon Project in Big River, Mendocino County

Represented at the subject meeting in Fort Bragg were Ray Welch, who presided, and 10 to 15 local people representing sportsmen and commercial fishing interests. Department representatives present were Jones and Evans from the regional staff, and Fry, Hughes and Meecham from the Marine Fisheries Branch.

Mr. Welch introduced the subject by pointing out how the king salmon fingerling planting in Big River, which took place several years ago over a four-year period, improved both the sport and commercial catch of king salmon locally in that area. He requested that the Department undertake a project of stocking eyed eggs of king salmon in Big River over a four-year period. Mr. Fry proceeded to expound on the previous experiment. He indicated that 135,000 king salmon fingerlings were marked and released during May 1950. A total of 480,000 king salmon fingerlings which were not marked were released during the period of 1949-52. The egg stock came from the Mad River. Despite an intensive check of the commercial fishery plus field services on the Big River itself, only 14 marked fish were recovered. Making ample allowance for incomplete coverage during the recheck period, an estimated 72 fish might have returned from the ocean. An upswing of fish present occurred in the local area during the year that the recheck was made; however, this increase in numbers was primarily due to the presence of Sacramento River fish plus Umpqua River fish. It was further pointed out that planting of eggs in Big River means the taking away of eggs from another area. Most of our salmon areas cannot stand any appreciable reduction in the spawning population. Mr. Fry emphasized that the Big River was mostly a silver salmon stream rather than a king salmon stream and methods to improve the area might best be directed along those lines.

A similar king salmon plant in Papermill Creek, Marin County, was made around 1900. It met with no success since this likewise is primarily a silver salmon-steelhead stream. Chuck Meecham, Marine Fisheries Biologist, thoroughly checked the Big River drainage during the winter of 1952. He found only silver salmon present.

WELCH: He felt that the king salmon planted in the Big River could have been planted as eyed eggs rather than fingerlings. Taft did not agree. Some king salmon have been seen in the Big River; 2 to 3 carcasses were seen last winter. A few king salmon are also seen in the Noyo River occasionally. A few are likewise reported from the Ten-Mile and Garcia Rivers. Following the plant, a fishery for king salmon developed off Mendocino Bay. "Biologically such a plant may not be sound but from our standpoint it is worthwhile."

FRY: Use of king salmon stock from the Sacramento River has certain disadvantages. Since they are used to a long migration, it would reduce their chances of success in a short stream system such as Big River. The use of Mad River stock is likewise of doubtful value since the run in that stream is in such poor condition. What is the status of silver salmon in local streams?

WELCH: The silver salmon fishery is gone; few are left. We saw only two in all of last year.

FRY: Most of the silver salmon picked up along the California coast are from Oregon rather than local streams. The basic cause for lack of king salmon in the Big River is that existing conditions just are not conducive to their increase. The trouble may be that our coastal streams are too short and contain too much fast water; king salmon want more water and longer streams. Extreme fluctuation is a hazard. Local logging activities have not helped. By heavy stocking you could perhaps get a slight increase in the run but you would be putting in far more than would be taken out.

Salmon Troller:

Many marked fish were taken at Mendocino Bay after the Big River plantings.

FRY: Undoubtedly these were Sacramento River marked fish turned loose at the same time during the year 1950, which is the one in question, there was no duplication of marks used. We can, therefore, definitely trace these fish as being of Sacramento River origin.

WELCH: What number of king salmon eggs would it be reasonable to plant in the Big River

FRY: If a planting were made, 200,000 to 300,000.

WELCH : What per cent could be expected to survive?

FRY: Eggs would make about a 40% survival in the stream. The average female produces about 6,000 eggs. It would require 50 to 100 adult females.

WELCH: Has any run been re-established successfully by fingerling plants?

FRY: So our knowledge, we know of no run becoming established due to previous plants

JONES: The king salmon stocking proposal for the Russian River in relation to the new proposed Coyote Dam was outlined. It was indicated that we felt this was a highly desirable project and that the Fort Bragg people might discuss their problem jointly with the Sonoma County group by means of the Redwood Empire Council.

FRY: the Fort Bragg area, 65 to 70% of the commercial catch of king salmon comes from Sacramento River stock. Oregon coastal streams also supply some. A startling change has taken place in the fishery in recent years in that more and more king salmon are being picked up further south from their place of origin. They go as far south as San Luis Obispo County. The ocean king salmon fishery throughout the State, as a whole, hit a low point during 1930. It picked up during 1945-47 with a peak of 13 million pounds. This dropped and leveled off, then came up again during 1954 to a peak of 8 to 9 Billion pounds. The influx of northern numbers and the increase of the sport fishery are the main factors in this change. So far, the fishery has been able to maintain itself. The basic problem is to maintain satisfactory spawning success.

FRY: If a planting is made in Big River, we can expect no flash build-up of the salmon population. It will be a slow process. If a flash build were possible, it would have happened previously. Stream improvement should accompany the project. We should, endeavor to protect adults running upstream. The chances of making sufficient changes in the environment to establish a successful king salmon run is doubtful. The chances of the rehabilitation of a good silver salmon run are better. A source of silver salmon eggs would have to come from out of State. Silver salmon have undergone decline in our north coastal area, probably as a result of logging, creation of barriers, and erosion. No thorough study has been made to determine this. Some small streams which have not been logged also show a similar decline.

WELCH: If local people organize to carry out the planting, could the State provide the eggs.

FRY: Don't know. Possible legal question of taking fish outside the Sacramento system. Colman Hatchery is the only source at present. The Sacramento system can spare them better than any other known area.

WELCH: "We want to back a long-shot." We have not complained on removal of steelhead from Mendocino County for use elsewhere. Present regulations are conducive to king salmon protection. The spawning areas are above the area open to winter fishing.

MEECHAM: The best area in Big River for planting eggs or fingerlings would be in the North Fork.

FRY: Try concluded that it is up to your local people to consider if you wish to back such odds. It is suggested you further investigate the degree to which local people can participate. Local, people could negotiate to see if they could obtain, the egg supply. It must be a continuing program. It is our belief that silver salmon stocking coupled with stream improvement offer the best possibilities. Oregon and Washington are worried about their king salmon runs. They are in poorer condition than those in California streams.