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BIENNIAL REPORT STATE OF CALIFORS 1884-1886.

#### THE AMERICAN RIVER.

The American is a shallow, muddy stream and empties into the Sacramento at Sacramento City. But few fish are found in the lower part of the stream. Trout are found in some of its branches above the mining districts-notably Silver Creek and the Rubicon. This river, prior to placer mining, was one of the best salmon streams in the State. Of late years no salmon have ascended it.

## THE YUBA RIVER.

The Yuba is a branch of the Feather River. It is a shallow stream. except during the rainy season. Considerable mining is carried on in its bed and along its banks, and its water is muddy. Trout are found in its headwaters above the mining districts.

### BEAR RIVER.

Bear has lost all claim to the name of river. Above the town of Wheatland it has lost its channel and volume as a Summer stream. It never was noted as a fish stream, although a few salmon and perch were taken from its waters in early days.

### THE SAN JOAQUIN RIVER.

The San Joaquin, once a noted salmon stream; of late years few salmon have been taken in its waters. The principal cause of abandonment is the great number of dams upon its various branches, which are so constructed as not to allow the fish to reach their spawning grounds. Salmon and other varieties of fish are taken in considerable quantities near the mouth of the river. Most of the fishing in this stream is done below the city of Stockton.

# THE TUOLUMNE RIVER.

The Tuolumne, a branch of the San Joaquin, at one time was one of the best salmon streams in the State. Salmon have not ascended the stream for some years.

## THE STANISLAUS RIVER.

What has been said of the Tuolumne is true of the Stanislaus. Occasionally a salmon may be seen trying to get over one of its numerous dams.

# COAST RIVERS AND CREEKS.

Smith River, in the county of Del Norte, with its north and south forks, makes a large stream. It has a regular run of salmon and is also well stocked with salmon and brook trout.

The next stream south of the Smith of any consequence is the Klamath. This is an excellent salmon stream, not fished, however, to any great extent. The time is close at hand when it will have its share of fishing camps and canneries.

Trinity River, owing to the debris from the placer mines in that section, does not amount to much as a fishing stream. The fish will not ascend a stream to spawning grounds through water heavily charged, as this is, with mining detritus.

Redwood Creek and Mad River are not much fished, notwithstanding the fact that salmon and trout abound in them.

Eel, one of the principal rivers running through Humboldt County, is a large stream and has many fishing camps upon its banks, in which large quantities of salmon are salted annually.

Mattole River and Casper Creek are comparatively small streams. They

are well stocked with fish.

A great many salmon are taken in Little River and shipped to San Francisco, where they are known as coast salmon.

The same can be said of the Navarro River in Mendocino County.

Russian, the longest river running through Sonoma County, is a good · fish stream. There are several camps upon its banks near its mouth, and vast quantities of fish are taken in its waters. Its best fish is the salmon,

perch, pike, and chub.

San Lorenzo, Benito, and Soquel Creeks, are about the only streams of any consequence in Santa Cruz County. Several smaller streams empty into Monterey Bay. At times salmon run in them, but never in great quantities. These are the most southerly streams entered by salmon, being between latitude thirty-six degrees and thirty-seven degrees north, and are the lowest salmon streams on either the Atlantic or Pacific Coast.

In the rivers and creeks of Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, and San Diego, no salmon enter to speak of, but

salmon trout are taken in large quantities.

# BIENNIAL REPORT

# State Board of Fish Commissioners

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State of California

1891-92

When the vast extent of territory included within this State is considered, it can be readily understood that the accomplishment of this object is a very difficult one, and yet without it the law would be inoperative and useless.

REPORT OF STATE BOARD OF FISH COMMISSIONERS.

We beg to call your attention to the expense bills which are hereto attached, and particularly to those items thereof which were incurred in the early work of the Commission in the matter of the collection of licenses. When it is considered that that work was absolutely necessary for the purpose of establishing a correct foundation and system for the more perfect collection of licenses, and when the work accomplished at that time is compared with the results as shown by the reports of the License Collector for the year 1890, there can be but one conclusion, and that is that the money has been well expended. The Commission is prepared at the present time to turn over to its successors a fairly complete list of all individuals and sets of individuals who are engaged in the avocation of fishing with boat and net in the waters of this State, with the exception of the extreme southern portion of the State, which, from lack of means, we have not been able to canvass, As will be seen from the amount of moneys which have been collected from this source, the collection of licenses is a very important matter to the Commission. We feel confident in stating that we have inaugurated the proper system for the accomplishment of the end which was intended, and that if this system is followed out for some length of time, the objects of the law will have been fully accomplished, and the funds of the Commission very materially increased. In this connection it is proper for us to call your attention to the fact that the fishing industry in this State has materially decreased in certain localities within the past two years, and this is especially so in the Sacramento and San Joaquin Rivers, although, as hereinafter shown, the salmon-canning industry has revived, owing to the unusually large run of salmon this

The collection of licenses from fishermen is a very difficult undertaking, for the reason that almost the entire fish industry of this State is carried on and conducted by foreigners, principally by Italians, Greeks, Slavonians, and Chinese, half of whom neither understand nor speak the English language. With the system already established, and which we intend to more fully perfect, we feel confident in saying that our next report will show a very material increase in the funds of the Commission from this source.

# THE SALMON RUN.

An extraordinary increase in the salmon run has been noticed in the Sacramento River this year, and to such an unusual extent that the several canning establishments along that river, which have remained closed for some time past, have reopened and are doing a thriving business. It is difficult to ascribe the proper cause for this unusual run. Whether it is the actual result of the several millions of young salmon deposited by the Commission in the headwaters of the Sacramento and the surrounding streams within the last six years or not, we cannot say. It is generally supposed that the salmon returns from the sea, as near as possible to the headwaters, and, in fact, to the exact locality where it was hatched. On the other hand, the run of the present season is out of all proportion to that of any other preceding year within the last

decade, and does not appear to be the natural increase from the work of the Commission in hatching and depositing these fish in the streams enumerated.

The report of the Norwegian Fish Commissioners for the year 1889 makes note of this same anomaly, namely: the unusual and enormous run of salmon up their rivers during one year after several preceding years of very inferior runs. They seek to account for it on the theory that the salmon, after leaving the fresh waters of its birthplace and gaining the sea, has no fixed or regular period, so far as the years are concerned, for returning to the fresh waters, but is likely to do so at any time after migrating indiscriminately in the deep waters of the ocean.

Attached to this report and made a part hereof is the report of the Superintendent of the State Hatchery at Sisson, California, Mr. J. A. Richardson, setting forth in detail the number of salmon eggs received from the United States Government during the last two years, the number hatched and planted, and where planted and distributed during the same period.

### SHAD.

The shad planted by the first State Commission, some fifteen years ago, have become one of the most plentiful of our fishes, is a staple article in our markets, and obtainable for less price than in any other portion of our country. Such practical results from the introduction of a fish hitherto unknown in our waters are very gratifying.

This fish in our waters is equal in every particular to the same fish found in its native haunts. In this connection, however, we would call attention to the necessity of shad being handled with great delicacy from the time it is caught until it is placed upon the table to eat. The fiber of the flesh is very tender, easily bruised, and at once softens and loses the quality of its taste by indiscriminate and improper handling. Mr. Blackford, the well-known Fish Commissioner of the State of New York, suggests in a recently published article, that the shad when caught should be packed belly upwards, and handled as carefully as ripe fruit should be for the purpose of transportation.

### STRIPED BASS.

The transplanting of striped bass has been equally as successful as that of the shad, and this delicious fish is now found in our waters and has become a permanent source of food supply in our markets. There is an important matter in this connection we beg to call your attention to, and that is that a law should be framed for the protection and preservation of striped bass. This fish seeks the slack waters of the rivers and bay for spawning. The young fish remain for some time in the waters of their birthplace, and during the period of their growth are being caught in large quantities by the fishermen, instead of being protected.

There should be a law passed making it a misdemeanor to catch, take, or have in one's possession a striped bass under two pounds in weight.

## BLACK BASS.

The Commission, through the courtesies of the Spring Valley Waterworks, have been enabled to obtain a few black bass, which we have distributed, and we are at this time engaged in the same work.