Chief of Operations

November 6, 1975

King Salmon Loss in the Colusa Drain

We have identified a loss of adult king salmon in the Colusa Drain, a major drain on the west side of the valley that carries irrigation drainage water from the rice area north of Willows south to the Sacramento River at Knights Landing.

No corrective action is possible for this season, but we plan to determine insofar as possible the magnitude of the loss and to what degree management action is warranted to protect future runs. A report on this matter will be prepared this fall.

Reportedly a significant number of salmon were trapped at a weir near the Delevan National Wildlife Refuge. We observed seven fish there on November 3.

COPY ORIGINAL SIGNED BY PAUL. E. GIGUERE

Robert W. Lassen
Regional Manager
Region 2

cc: J. Robinson
AFB

bc: P. Giguere)
R. Beland)
J. Ryan) Staley has assignment to prepare report.
J. Staley)
R. Rogers)
Captain Nelson)

RDB:er

State of California — The Resources Agency

Memorandum

To : Chief of Operations

Date: December 23, 1975

From : **Department of Fish and Game** - Region 2

Subject: King Salmon Loss in the Colusa Drain

On November 6, 1975 we reported that some salmon were being lost in the Colusa Drain. We have investigated further and found that this is an annual problem. This year a U.S. Fish and Wildlife Service employee on Delevan National Wildlife Refuge estimated that approximately 200 salmon were stranded below a refuge dam during the latter part of October. He reports seeing fish every year but this year's run was about twice what he normally sees. The Delevan NWR dam is at least 35 miles upstream from the mouth of the drain.

Our local warden also reports that it is an annual problem but he did not know the magnitude of the loss. It appears that the problem is limited to the fall run during the months of September through November.

The Colusa Drain collects runoff from a large area of the Sacramento Valley west of the Sacramento River and north of Knights Landing. There are no suitable salmon spawning areas in the drainage. During September and October the flows at the mouth of the drain range from 90 to 1100 cfs. In September 1974 the mean monthly flow was 853 cfs.

In view of the large size of the drainage area and the substantial numbers of salmon regularly seen at the Delevan NWR dam, it appears that a significant salmon loss must be occurring in the Colusa Drain. This loss might be on the order of 200 to 400 fish per year. If the higher figure is used this would mean an annual loss of 1200 fish or 12,000 pounds to the commercial and sport fisheries.

Engineering Section assistance is requested to develop a solution to this problem. Our preliminary evaluation indicates an electrical barrier may be appropriate, however, there may be other solutions. Our suggested time schedule is as follows:

March 1, 1976 - develop conceptual design

April 1, 1976 - Complete cost estimates
(a) Submit as Fiscal year 1977-78 budget item, complete design by January 1, 1977 and construct prior to September 1, 1977.

or (b) Complete design by May 1, 1976 and construct prior to September 1, 1976 (Our Elk Grove Screen Shop may be able to construct the barrier depending on its design.)

If approved, Engineering should work directly with Jerry Staley on this matter.

For John B. McGuire
Robert W. Lassen
Regional Manager

cc: AFB
Engineering
J. Staley, R-2
D. Beland, R-2

RDB:dc

* APPROVED J Staley Date DEC 29 1975

* SUGGEST YOU SHOW DIRECTOR AND MYSELF THIS PROBLEM DURING FIELD INSPECTION SCHEDULED FOR JAN 15-16 IF CONVIENT.