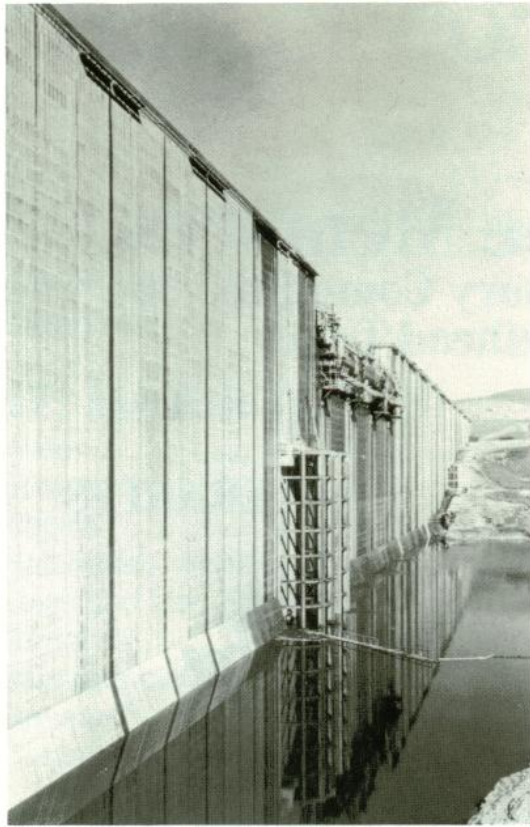




A NEW PARTNERSHIP
California Advisory Committee
on Salmon and Steelhead Trout
1987 ANNUAL REPORT



BUREAU OF RECLAMATION

A potent state-federal partnership provided early twentieth century California an agriculture unparalleled in history, an economy based on cheap, abundant water.

But, as California's fields flourished, its streams withered and, with them, our once great fisheries.

Efforts to mitigate the impact of the state's water diversion projects on the fisheries have failed; all have fallen short of restoring flow to the rivers.

During 1986, the chronic neglect of the state's fisheries was finally addressed. Recognition of the problem has caused a stir in the state's courts. It has led to action by Congress and the Legislature. And it has spurred the public to demand new partnerships that recognize the fisheries' contribution to the state's economy.



BUREAU OF RECLAMATION

A NEW PARTNERSHIP

1987 ANNUAL REPORT

prepared by

The California Advisory
Committee on Salmon
and Steelhead Trout

pursuant to Chapter 1686
of the Statutes of 1984

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California Advisory Committee on Salmon and Steelhead Trout

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TABLE OF CONTENTS

Letter of Transmittal	4
Executive Summary	5
Introduction	7
Authorization	9
Organization	9

SECTION ONE: MAJOR TOPICS

Water	11
Economics	19
Habitat	21
Hatcheries: Artificial Propagation	24
Laws and Law Enforcement	25
Genetics	26
Interagency Coordination	26
Research and Data Collection	26
Conservation Education	26

SECTION TWO: BASIN MANAGEMENT REGIONS AND PLANS

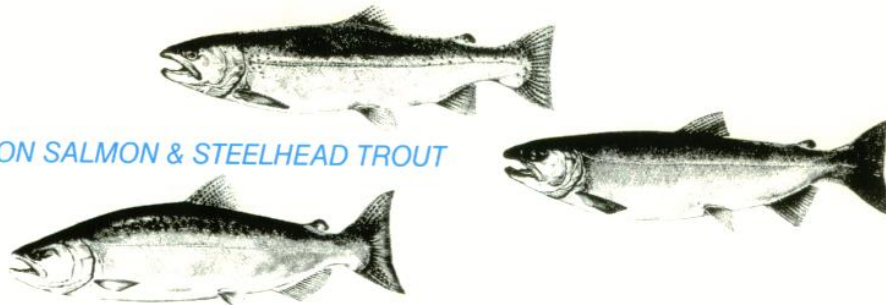
Map Legend	27
Smith River, Redwood Creek, Mad River Region	28
Klamath River, Lower Trinity River	28
Trinity River Upstream from Hoopa	29
Mattole River, South Fork Eel River, Lower Eel River, Van Duzen River	29
Upper Eel River	29
Sacramento River System	30
Marin, Sonoma & Mendocino County Coastal Streams	30
Russian River	30
San Francisco Bay Streams	30
San Joaquin River System	32
South Coast Streams	32

SECTION THREE: STATUS OF RECOMMENDATIONS FOR LEGISLATIVE ACTION IN 1986

Status of Recommendations	33
Conclusion	36

CALIFORNIA ADVISORY COMMITTEE ON SALMON & STEELHEAD TROUT

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Senator Barry Keene, Chairman
Joint Legislative Committee on
Fisheries and Aquaculture
State Capitol
Sacramento, California 95814

Mr. Jack C. Parnell, Director
Department of Fish and Game
1416 Ninth Street
Sacramento, California 95814

Dear Senator Keene and Director Parnell:

The California Advisory Committee on Salmon and Steelhead Trout, established by Senate Joint Resolution 19 (Resolution Chapter 141, Statutes of 1983), is pleased to submit its 1987 Annual Report. It covers activities that occurred in 1986 and includes recommendations for action during 1987.

The Advisory Committee's most pressing concern relates to a number of Central Valley water allocation proposals to be considered by the State Water Resources Control Board this year. There is little doubt that these proposals will have a major effect on the public's ability to restore the salmon and steelhead fisheries. We recommend that you urge the Board to withhold its final decision on the availability of water from the federal Central Valley Project until the needs of the fisheries are clearly established during the forthcoming Bay-Delta water rights hearings.

Additional recommendations on water and related issues were presented to you at the 15th Annual Fisheries Forum in February, 1987. This report sets forth the basis for our recommendations.

We look forward to working closely with you to restore the salmon and steelhead trout resources of California.

Sincerely,

A handwritten signature in blue ink that reads "Earl H. Carpenter". The signature is fluid and cursive, written in a professional style.

EARL H. CARPENTER, Chairman
California Advisory Committee
on Salmon and Steelhead Trout

LETTER OF TRANSMITTAL

EXECUTIVE SUMMARY

The California Advisory Committee on Salmon and Steelhead Trout was created by the California Legislature in 1983 to develop a strategy for the rehabilitation and protection of the state's salmon and steelhead fisheries. The Committee is patterned after a citizen's advisory group appointed seventeen years ago. This group contributed substantially to the improvement of the state's fisheries. The present Committee consists of 11 members representing the commercial fisheries, sportsfishing organizations, fisheries science, California native Americans and the general public.

The Committee operated for nearly two years without funds of its own, but with substantial assistance from the Department of Fish and Game (DFG). Funds were provided by the Legislature in 1986 and the Committee employed a staff assistant, established an office and began to assemble the resources needed to complete its principal assignment: to provide the Legislature and Director of the Department of Fish and Game with a comprehensive plan for salmon and steelhead trout by January, 1988.

The Committee has approached this task by investigating *topics* that affect salmon and steelhead trout and *basins* that include streams with these anadromous fish. Each Committee member leads work on 1) a specific topic, such as water development, economics, law enforcement, etc., and 2) a specific group of streams, such as the coastal streams of Marin, Sonoma and Mendocino counties, the Sacramento River

system, etc.

The topical analyses examine how various social and political processes impact the salmon and steelhead fisheries and lead to recommendations where improvements are needed.

The basin analyses identify the principal salmon and steelhead conservation problems—and opportunities—in each area.

Two closely related topics occupied much of the Committee's concern during 1986—water development and fisheries habitat. The Committee makes a number of recommendations in these two areas and urges that the Legislature and Department of Fish and Game act on these matters at once.

A specific example of the tangled relationship between water development and fisheries habitat is the State Water Resource Control Board's upcoming review of Central Valley water allocation proposals. The Legislature and Department of Fish and Game must do all in their power to convince the Board to reserve adequate streamflow to begin the restoration of the salmon and steelhead fisheries of the Sacramento and San Joaquin rivers.

Two major initiatives occurred during 1986 that will help accelerate the restoration of the fisheries in the Central Valley and throughout the state.

In May, 1986, the State Court of Appeals reviewed more than thirty lawsuits re-

garding state and federal water permits in the Central Valley. In this so-called "Racanelli" decision, the appellate court found that the State Water Resources Control Board *must* exercise more care over the public trust resources, including the fisheries, than it had in the past.

In November, the Pacific Fisheries Management Council, created by the federal government, completed a new salmon habitat protection policy. This policy emphasizes the need for state and federal agencies to conform their actions in ways that protect Pacific salmon habitat.

The Advisory Committee observed in its last progress report that "water is life for fish". These two initiatives provide new fishery protection tools that will assure that adequate water remains for fish in the Central Valley and elsewhere, where water exploitation, primarily for irrigated agriculture, has caused and is still causing severe declines in salmon and steelhead trout resources. ■

"I like free men, free markets, free ideas, freedom to succeed or fail."
— Adlai Stevenson

Eighty percent of California's salmon and steelhead migrate through San Francisco Bay.



MARIE DE SANTIS

INTRODUCTION

The California Advisory Committee on Salmon and Steelhead Trout presented findings in last year's annual report that underscored the tragic, ongoing and seemingly irreversible declines suffered by California's salmon and steelhead resources. It described a chronic loss in revenues, unfavorable bias in government policy and law, and the absence of interagency cooperation on matters relating to anadromous fisheries. The report offered recommendations to the Legislature reflecting the Advisory Committee's charge to develop a comprehensive management program aimed at revitalizing these important resources.

With this in mind, it is a pleasure to report that 1986 was an exceptionally positive and important year for the salmon and steelhead trout fisheries. Major initiatives at both state and federal levels were made in defense of these diminishing resources. Such decisions provide the means needed to forge the positive partnerships needed to restore the salmon and steelhead resource.

At the federal level, a new salmon habitat protection policy was completed by the Pacific Fisheries Management Council (PFMC) in November, 1986. This Council was created by Congress in 1976 to manage the use of ocean fish resources. Salmon are considered ocean fish despite their fresh water origins, since most of their harvest occurs at sea. This new habitat protection policy emphasizes the need for state and federal agencies to conform their actions in ways that protect Pacific salmon habitat. The major provisions of

this policy are:

- There shall be no net loss in the productive capacity of any marine, estuarine or freshwater habitats that sustain Pacific salmon;
- Pacific salmon shall be assured co-equal treatment with other purposes of water and land resource development programs;
- There shall be vigorous efforts by responsible public agencies to restore and strengthen salmon stocks;
- State and federal regulatory agencies should be strict in requiring the best management practices available for timber harvest, mining, water development, agriculture and other activities under their control that can have adverse effects on salmon; and
- Water development programs should be reviewed and undertaken on a comprehensive or programmatic basis, in order to identify and eliminate cumulative or "synergistic" impacts in drainages where salmon spawn and rear.

These guidelines are precisely the kind of perspective held by the Advisory Committee and others concerned with the salmon and steelhead fisheries. Throughout this annual report, recommendations are offered that will aid the implementation of the PFMC policy in California and allow the agencies involved to become active partners in restoring this valuable resource.

There has been a significant change in direction on a state level, as well. In

1978, the State Water Resources Control Board issued a major decision concerning water permits held by the federal Central Valley Project and the State Water Project to divert water from the Sacramento and San Joaquin rivers Delta. The decision was challenged by more than thirty lawsuits.

The State Court of Appeal completed its review of the trial court findings of these lawsuits in 1986. In this so-called "Racanelli" decision, the appellate court found that the State Water Resources Control Board must exercise more care over the public trust resources, including the fisheries, than it had in the past. There will be an opportunity to see the impact of the Racanelli decision in the months ahead, as the Water Resources Control Board announced it will reconsider these water rights beginning in July, 1987.

The Racanelli decision and the PFMC's new habitat policy provide a focus that will enable state and federal agencies to work jointly on the restoration of salmon and steelhead trout. These two major actions also allow for a more equitable

distribution of the risks historically forced on the fisheries by California's traditional approach to water development.

While this all sounds encouraging, to define new priorities and form new partnerships will be a challenge for many state and federal agencies. The very programs that have caused or participated in the decline of the fisheries will now be expected to actively pursue the revitalization of the resource. This will not be easy. A public agency that has spent 50 years developing a system to remove water from the Delta, for example, may find it difficult to restore streamflow to the fisheries.

The California Advisory Committee on Salmon and Steelhead Trout expects the State to take an active role in this process. California must adopt a more thoughtful approach to the stewardship of her public trust resources—an approach characterized by new partnerships formed with appreciation of the economic and social values that will result from restoring the salmon and steelhead trout resources of this state. ■

Life is the flow of energy through time and space. The watershed is the natural geographic unit of measurement, and the salmon is the primary indicator organism of the quality of life within the watershed.

— J. Kreger



AUTHORIZATION

The California Advisory Committee on Salmon and Steelhead Trout was reestablished by the Joint Committee on Fisheries and Aquaculture, in consultation with the Fish and Game Commission and the Department of Fish and Game, pursuant to Resolution Chapter 141 of the Statutes of 1983. The Advisory Committee was later modified by Chapter 1686 of the Statutes of 1984. It was formed to investigate and address the problems facing the salmon and steelhead trout resource.

The eleven members of the Committee (and their alternates) have practical knowledge of and experience in the following areas:

- a) Commercial Salmon Industry—four representatives
- b) Inland/Ocean Fisheries Sportsmen's Groups—four representatives
- c) Native American Interests—one representative
- d) Biologist—one representative
- e) Public Interests—one representative

ORGANIZATION OF REPORT

This Annual Report is divided into three major sections. In the first, the Advisory Committee presents its recommendations for Legislative action during 1987. Each recommendation is followed by an explanation of why such action is required.

The second section provides a map il-

lustrating eleven basin regions of importance to salmon and steelhead trout. It is followed by a brief geographic description of each region.

The third section of the report restates the recommendations presented to the Legislature for action during 1986 and gives a progress report on each.



BUREAU OF RECLAMATION



SECTION ONE: MAJOR TOPICS

The nine major subject areas that follow discuss specific issues that affect the salmon and steelhead fisheries. The Advisory Committee's investigations in each area have led to nearly two dozen recommendations. Each time a sugges-

tion for action is offered, it is followed by an explanation of why such action is required. In subject areas where recommendations have not yet been reached, a description of progress to date is offered.

WATER

The Legislature and the Department of Fish and Game should insist that the US Bureau of Reclamation suspend its current Central Valley water marketing program.

In its 1986 report, covering the events of 1985, the Advisory Committee noted that "water is life for fish". This vital fact, so often disregarded by modern water planners, was clear to workers a generation ago. In 1966, the Department of Water Resources prepared an economic assessment of the San Francisco Bay region. It predicted a 25 percent decline in the region's salmon and steelhead due to the Delta diversion effects of the federal Central Valley Project and the State Water Project. Although this projection missed its mark—the actual decline has been over 60 percent—it was an honest effort compared to current attempts to explain away the decline.

The Central Valley Project was created by Congress fifty years ago to divert the Trinity, Sacramento and San Joaquin Rivers for the benefit of irrigated agriculture. Despite the expected difficulties of growing through decades of rapid social change, the Project is doing the job Congress intended.

The State Water Project is another mat-

ter. It was debated by the Legislature for 40 years and finally approved by a razor-thin voter majority in 1960. This project is *not* serving its intended purpose of providing water to Southern California cities, as the population growth in that area has been much slower than water planners anticipated 30 years ago. Instead, the state has been providing cheap water to agribusiness ventures in the San Joaquin Valley.

Recently, the net demand for irrigation water has diminished. For 50 years, California's irrigated agriculture grew at an average annual rate of 100,000 acres. Since 1980, there has been no net increase in irrigated agriculture. In 1986 alone, 25 percent of California's cotton acreage was abandoned; rice acreage has decreased by one-third since 1983. Both crops were targets of Congressional and Administration concern with the inflationary effects of farm price supports and subsidies.

Fishery interests are amazed that agriculture has enjoyed such unwavering federal favor, while the fisheries have been virtually ignored and destroyed. At the same time that general tax funds were being used to underwrite agriculture's place in the world market, California's domestic and overseas salmon markets were diminishing—at least tem-

porarily—due to supply interruptions caused by water exploitation. It would be hard to find a more dramatic case of inequitable policy treatment of two different groups of food producers!

The Advisory Committee is relieved that help for the fisheries is on the way. The federal government, through the Pacific Fishery Management Council's (PFMC) salmon habitat protection policy, has elevated its commitment to the fisheries. Similar safeguards are now required by the Racanelli decision, in which the State Court of Appeals found that California's Water Resources Control Board must exercise more care for public trust resources.

These trends demand that the Bureau of Reclamation halt its present water marketing efforts. As far as fishery interests are concerned, there is no surplus water available for sale in the Central Valley.

The Legislature should insist that the Bureau of Reclamation's Central Valley Fish and Wildlife Task Force complete its determination of the water needs of fish and wildlife during 1987. These needs must be known when Congress considers the reauthorization of the Central Valley Project for fish and wildlife purposes.

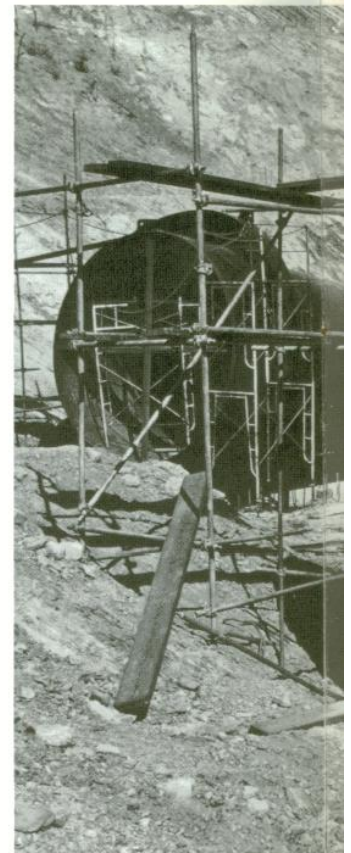
The Bureau of Reclamation contends that water is available from surpluses created by its reservoirs. It also asserts that Congress' 1986 approval of the Coordinated Operations Agreement between the Bureau of Reclamation and the Department of Water Resources renews its authority to sell an additional one million acre feet of water to interested parties. In his decision of December 29, 1978, the Secretary of the Interior urged that the Central Valley Project be reauthorized by Congress to include the conservation of fish and wildlife as project purposes; he also asked that the water requirements for these purposes be determined before more

water was diverted or sold. This is precisely the policy espoused by the PFMC and supported by this Committee.

The Central Valley Fish and Wildlife Task Force has not completed its determinations, or at least, has not made them public. The Bureau of Reclamation's present efforts to market additional water are in defiance of the Secretary's 1978 decision. All water marketing strategies should be halted until the work of the task force is completed and publicly reviewed.

The State Water Resources Control Board should be directed to delay consideration of the Bureau of Reclamation's petitions to alter its water rights permits until after the Board has completed its review of all major Delta water permits. This review is scheduled to begin in July, 1987.

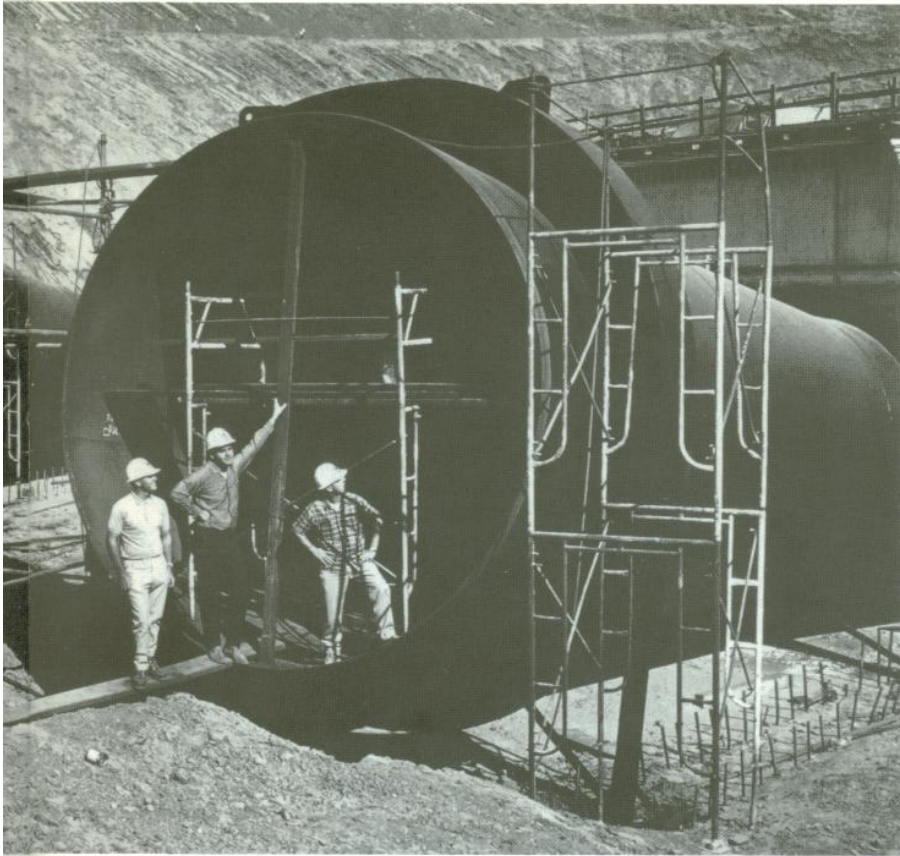
The Bureau of Reclamation has petitioned the State Water Resources Control Board to consolidate its Central Valley water permits. It wishes to change the points of diversion and places of use in ways that, taken together, would expand the Bureau's operations from 13 million to 17 million acres of farmland. This would give the Bureau of Reclamation control of over 14 million acre-feet of water—more than three times the amount of water that reached the Bay/Delta estuary during the 1977 drought.



The Bureau of Reclamation seeks to expand its control to 17 million acres of California farmland.



BUREAU OF RECLAMATION



DEPARTMENT OF WATER RESOURCES

Most of the water pumped from the Delta is sold cheaply to San Joaquin agribusiness interests.

The Legislature should direct the Bureau of Reclamation and the Departments of Fish and Game and Water Resources to determine how much of the storage at New Melones Reservoir on the Stanislaus River should be dedicated to improving fishery conditions on the Stanislaus River, San Joaquin River and across the southern Delta.

A decade ago, the Bureau of Reclamation asserted there was a need for the New Melones Reservoir's 600,000 acre-foot yield in the immediate irrigation area. To this day, not one acre-foot of water has been sold! Now, the Bureau wants to release the water from New Melones and recapture it at its Delta pumps for export into the southern San Joaquin Valley. This was not Congress' intent when it authorized the New Melones Dam; nor does this plan correlate with the decreasing demand for irriga-

tion water in the San Joaquin Valley.

Prior to the construction of Friant Dam on the San Joaquin River, up to 300,000 salmon spawned in the watershed; today, as few as 10,000 fish enter the watershed to spawn. The federal and state Delta pumps can destroy up to 99 percent of the young salmon and steelhead that reach the lower river.

The Advisory Committee believes that the New Melones storage offers a ready, practical means to begin the restoration of the San Joaquin watershed's salmon and steelhead resources. According to the Department of Fish and Game, this restoration will require that sufficient flows are provided to carry young fish past the Delta pumps and into the estuary.

The Legislature should direct the Bureau of Reclamation, the Department of Fish and Game and the Water Resources Control Board to explore the potential for providing a fishery streamflow release from Friant Dam, including the conjunctive use of the New Melones storage, in order to restore the public trust fisheries.

In 1959, the State Water Rights Board (the predecessor of the State Water Resources Control Board) determined that it was *not* in the public interest to require a release of water from the Bureau of Reclamation's Friant Dam, despite the fact that 70,000 salmon had spawned in the area in prior years. The fisheries have declined dramatically since then. This ruling was and is still clearly at odds with California law. It is time to correct the Board's out-dated finding.

The Legislature should ask the Secretaries of the Departments of Commerce and the Interior to actively pursue full implementation of the 12-point program to restore the Sacramento River winter run chinook salmon.

California's commercial salmon catch declined from 13 million pounds in 1945 to 3 million pounds in 1985.



DEPARTMENT OF WATER RESOURCES

The winter run of chinook salmon on the Sacramento River has declined 90 percent since the construction of the Red Bluff Diversion Dam, 20 years ago, by the Bureau of Reclamation. The American Fisheries Society (AFS) despaired over the inability of the "responsible agencies" to safeguard the winter chinook. In 1985, the AFS petitioned the Secretary of Commerce to place the run on the official federal threatened species list. In early 1987, the Secretary of Commerce denied the petition. Instead, the National Marine Fisheries Service developed a 12-point program that, if pursued, would partially ameliorate some of the detrimental conditions for the winter run.

The first of the 12 points—raising the Red Bluff Diversion Dam's gates for the winter season—was taken in December of 1986. In January, 1987, the Bureau of Reclamation dropped the gates for two

weeks because drought conditions required a water diversion for agricultural purposes.

The second point was to provide \$2.2 million to reconstruct winter run broodstock facilities at the Coleman National Fish Hatchery at Battle Creek. This was an essential element of a commitment made by regional federal officials to protect the winter run chinook salmon resource of the Sacramento River. Over a period of several months, these funds have been deleted from and returned to the budget several times.

Wavering on these two important points underscores the instability of the federal commitment to this 12-point program. In fact, there are problems with implementation and enforcement of most of the other points, as well. Without the promised \$2.2 million, the federal government's commitment is worthless. These

funds must be restored and all 12 points of the program must be fully implemented. The AFS petition to give the run threatened status is still a legitimate concern and it is likely action will be pursued vigorously if federal commitments are not forthcoming.

The Legislature should request that the Department of Fish and Game, the National Marine Fisheries Service and the American Fisheries Society review the 1986 "management plan" for the winter run of the Sacramento River chinook salmon. This plan should 1) identify all state and federal agencies whose actions bear directly on the health of the run; 2) specify the tasks to be completed and the policies to be pursued by each agency; and 3) require each agency to enter into an enforceable agreement to implement the tasks and policies described.

Controversy over the Coleman Fish Hatchery funds underscores the fragile nature of the federally-crafted multi-agency winter run chinook restoration program. Since this program is the legal foundation for the Secretary of Commerce's decision to shelve the AFS petition, the program should be made a binding agreement for the parties involved. The Advisory Committees also

notes there are agencies, as the US Army Corps of Engineers and the State Reclamation Board, whose decisions have a direct bearing on the health of the winter run, but which are *not* named in this important restoration program.

The Legislature should resolve that the US Army Corps of Engineers grant a permit of no more than one season's duration to the Glenn-Colusa Irrigation District (GCID). This one-year limit should continue until GCID can operate its pumps without significant damage to young salmon and steelhead.

The Glenn-Colusa Irrigation District has a pumping plant on the Sacramento River near Hamilton City. It is capable of drawing more than 3,000 cubic feet per second. In front of the pumping plant, there is a fish screen that was constructed by the Department of Fish and Game less than 20 years ago. Changes in the river channel have made the screen almost completely ineffectual during normal GCID operations.

The GCID's permit to divert and dredge the river has expired and GCID has asked the Corps of Engineers for a new, ten-year permit. Studies by the US Fish and Wildlife Service in 1985 demonstrate that GCID pumps are destroying



BUREAU OF RECLAMATION

The federal winter run chinook salmon management plan must be made binding on the responsible agencies to preserve this type of habitat.

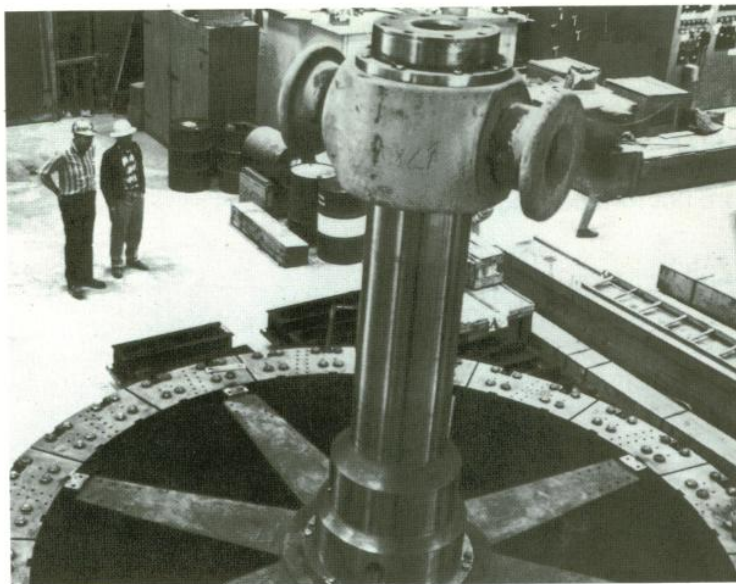
up to 20 million juvenile salmon a year—far more than the total production of the Coleman National Fish Hatchery, located upstream!

The US Fish and Wildlife Service believes that GCID should be required to renew its Corps of Engineers permit each year, until it operates its pumps in a way that conserves most of the fish in the stream. While GCID vehemently opposes the US Fish and Wildlife Service proposal, the Advisory Committee endorses it as precisely the approach required by the PFMC's new habitat policy concerning federal agency licensing responsibilities.

The Legislature should direct the Department of Fish and Game to provide the State Water Resources Control Board with a useful estimate of the damage done to the fisheries by state and federal Delta pumping operations. The information should be available prior to the Delta water hearings beginning in July, 1987 and should be widely disseminated to the public before being entered into the public hearing record.

On December 30, 1986, the Directors of the Departments of Fish and Game and Water Resources entered into an Agreement to Offset Direct Fish Losses in Relation to the Harvey O. Banks Delta Pumping Plant. This agreement provides for a one-time payment of \$15 million to the Department of Fish and Game. Some have misunderstood this to be compensation for past damage to the fisheries. The State Water Contractors Association has publicly stated that this \$15 million is *not* compensation for past damage.

The Advisory Committee agrees wholeheartedly with the water contractors on this point. According to Department of Fish and Game estimates, since state pumping began in 1967, declines in the



DEPARTMENT OF WATER RESOURCES



DEPARTMENT OF WATER RESOURCES

In 1986, the Department of Water Resources added four more giant pumps to the seven pumps already pulling water from the Delta.

Despite shrinking farm acreage, Kern County wants more water from the Delta—to recharge groundwater basins it has overdrawn.

striped bass resource *alone* have resulted in a \$448 million loss in revenue for the Bay and Delta regional economies. Fifteen million dollars could hardly be viewed as compensation for such dramatic losses!

In order to avoid future losses, it is critical for the Department of Fish and Game to complete an accurate determination of the effects of pumping on the fisheries. The Water Resources Control Board must have this information in order to balance the public interest in water diversions with those of fisheries protection.

The Legislature should appropriate full funding—\$2 million a year—for the Department of Fish and

Game's program of determining the in-stream flow requirements for fish and wildlife.

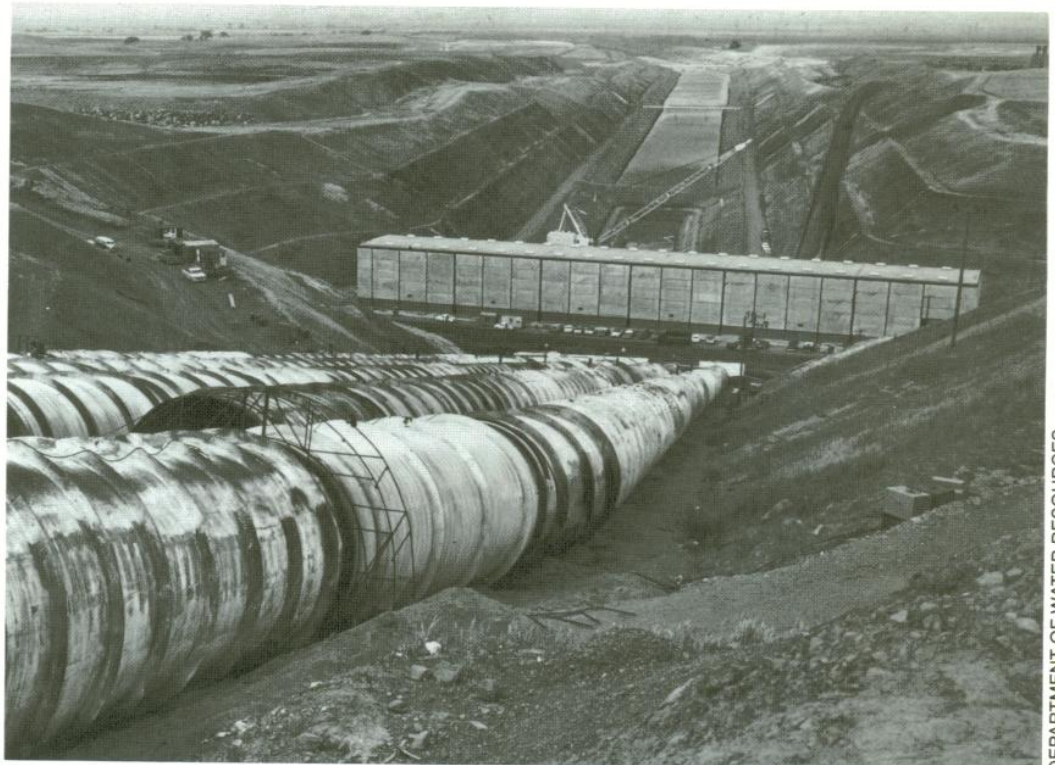
The Legislature has specifically directed the Department of Fish and Game to determine the instream flow requirements for fish and wildlife in the waters of the state. It is the State Water Resource Control Board's duty to determine whether sufficient water remains in a given stream to accommodate further appropriation of water. The Racanelli decision makes it clear that water necessary to maintain the public trust resources of any stream is *not* available for appropriation. The Department of Fish and Game's analysis of instream flow requirements is a necessary precursor to the removal of water from any stream with significant fish and wildlife values.

Emerging law on the relationship of the public trust doctrine to the administration of state water rights attaches even greater importance to the Department of

Fish and Game's program. To be effective and timely, the Department of Fish and Game has determined it will require an annual appropriation of \$2 million. To date, the state has allowed only \$500,000 for this program.

The Legislature should direct the State Water Resources Control Board to develop a specific plan to increase monitoring and enforcement of water permits to an adequate level. The Legislature should appropriate funds to support this program.

The Water Resources Control Board has a responsibility to place conditions on water use permits to protect the public interest. The Board requires the owners of dams, for example, to release specific amounts of water downstream in order to maintain fishery conditions at a reasonable level. The Board, in turn, is required to monitor and enforce these permit conditions.



Diversions remove more than 50 percent of the historic freshwater inflow to the San Francisco Bay estuary.

DEPARTMENT OF WATER RESOURCES

Statewide, there are 13,000-14,000 permits and only 500 of them include fish bypass flow requirements as a condition of the permit. In the Central Valley watershed alone, there are more than 7,500 permit holders. The Board has just four employees assigned to monitor and enforce all of these permits and these employees estimate that together, they devote less than one person-year monitoring downstream releases. There is little doubt that the public trust resources suffer from such severe limitations. Lack of monitoring and enforcement make a sham of the water use permit process.

The Legislature should recognize that mitigation hatchery workers are essentially contract employees of other agencies and should allow the Department of Fish and Game to exclude them from their personnel ceiling.

When a dam is constructed across a salmon and steelhead stream and blocks the migration of fish to their spawning grounds, the law provides that a dam developer may be required to construct a hatchery to compensate for the loss of natural spawning. These "mitigation hatcheries" are commonplace in California. They are normally operated by the Department of Fish and Game under contracts that require dam owners to pay their costs. There are more than 40 workers employed at mitigation hatcheries. They are considered Fish and Game employees, but their salaries are covered by the mitigators, not by the Fish and Game Fund.

The state Administration has vowed to reduce the number of state employees, when possible. The "personnel ceiling" imposed on the Department of Fish and Game is a hindrance to the state's own mandate to develop a program that will restore, enhance and preserve the salmon and steelhead resource. Imposing mitigation hatchery work on the DFG does not improve fishery conditions. Since 40 positions exist within the cur-

rent ceiling and since funding for these positions is provided by an outside source, the Department of Fish and Game should be allowed to hire 40 more workers to engage in true fishery improvement work.

The Legislature should insist that Pacific Gas and Electric Company (PG&E) fund a new fish screen at Van Arsdale Dam, in concert with the new fish ladder it will construct in 1987.

Salmon struggle up an antiquated fish ladder at Van Arsdale Dam to spawn in the river above. Most young produced here are lost to an inadequately-screened powerplant intake behind Van Arsdale Dam. The PG&E has agreed to replace the fish ladder during 1987. In fact, this will allow more fish to produce more spawn, only to disappear down the intake. Fish ladder renovation is only one-half of the job. PG&E must build a new fish screen, so these unnecessary losses can be prevented.



BOB WUNNER

At Guerneville, on the Russian River, young salmon and steelhead are forced to plunge through the narrow opening in Sonoma County's dam, only to strike the concrete sill below.

The Legislature should insist that Sonoma County provide its Healdsburg Dam with fish protection features.

Every summer for the last 34 years, the County of Sonoma has erected a temporary summer dam for swimming at Healdsburg. The dam makes no provision for allowing young salmon and steelhead produced in the watershed above Healdsburg to escape safely to the river below.

The Department of Fish and Game attempted to force Sonoma County to modify its dam, using the provisions of Fish and Game Code section 1603. This effort failed. The United Anglers of California, a private fisheries conservation organization, has sued both the DFG

and Sonoma County in order to force resolution of these problems. The suit, filed in Sacramento County Superior Court, is active and aims to prevent the County from erecting its dam in 1987 unless fishery conservation measures are included. ■

ECONOMICS

The value of California's salmon and steelhead resources has been consistently understated. Discussions of fisheries values usually involve only "marketed" values—the prices paid for goods and services directly related to fish and the fisheries. This limited perspective puts fishery interests at a severe disadvantage when considering contributions made to the state's economy.

The Advisory Committee has entered into a contract with Meyer Resources,

Incorporated of Davis, California. This firm has agreed to develop alternative methods for valuing the state's salmon and steelhead resources. Their task is to identify weaknesses inherent in the present methods used and to identify methods for establishing "non-marketed" values, as well.

The contract work will be completed by September, 1987, and will represent a major segment of the Advisory Committee's final report to the Legislature and the Department of Fish and Game. ■

These "Monterey Clippers" did double-duty as salmon and crab boats. Today, 10,000 California commercial salmon fishermen and fisherwomen operate over 4,000 licensed vessels.



NATIONAL MARITIME MUSEUM

“To waste, to destroy, our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed.”

— Theodore Roosevelt



HABITAT

The Legislature should 1) delineate a specific role for the Department of Fish and Game in the Forest Practices Act regarding the modification and review of timber harvest plans; 2) set forth a reasonable process for the arbitration of disputes between state forestry and fishery specialists; and 3) identify means for repairing logging-related damage to the fisheries.

Salmon and steelhead have been severely affected by logging operations, particularly those occurring on the highly-erodible, rain-soaked slopes of the North Coast region. The region's streams are still feeling the impact of the rapacious harvest which immediately followed World War II. That cut, like all active harvest periods, was precipitated by a strong housing demand.

Today, as then, the demand for housing and timber products is determined by lending rates. Both lending rates and the tax treatment of mortgages have improved markedly for consumers in recent months. At the same time, increases in the price of Canadian timber due to increased federal excise taxes will cause a greater demand on domestic forests. Timber harvesting will accelerate and, with it, the potential for further damage to the fisheries.

The harvest of timber from private lands requires that a timber harvest plan be submitted to the Department of Forestry (CDF). CDF approves, modifies or denies such requests depending on how well they conform to the standards set by the state Forest Practices Act and the

rules of the State Board of Forestry. In its evaluation of harvest requests, the Department of Forestry confers with the Department of Fish and Game. This is a relatively new and important process from a fisheries protection standpoint.

In 1986, the Legislature began deliberation of a proposal to increase the Department of Fish and Game's role in the approval or modification of timber harvest plans. If completed, this bill would have created a process for resolving differences between CDF and DFG, when they could not agree on specific, on-site safeguards for the fisheries. At issue, as well, was how to fund a larger DFG role in the review process; the DFG needs more personnel so that fisheries biologists will have ample time to interact directly and as needed with foresters.

The California timber industry believes that government services relating to statewide purposes, such as fisheries conservation, should not be supported by timber taxes (these are "yield" taxes paid at the time of harvest). The industry's position, however, overlooks the fact that the effects of harvest activities *do* escape their property boundaries and cause damage to the fisheries. The release of sediments, loss of shade and increase in stream temperatures are examples of such damage. These problems can occur during legal timber operations or may result from violations of approved timber harvest plans.

It is impossible to internalize the costs of logging without supporting the necessary control programs from the proceeds

BUREAU OF RECLAMATION

Cool streamflow and shade along the banks are essential for the survival of young salmon and steelhead.

of logging. The Advisory Committee believes there is a need to make amendments in the Forest Practices Act and will offer them in its final report.

The Legislature should amend the Governor's budget in order to continue the California Forest Improvement Program.

There are seven State Demonstration Forests in California; the Jackson State Forest in Mendocino County is probably the best known. In 1978, the Legislature directed that receipts from the sale of products from these forests be deposited in a special account to fund a new California Forest Improvement Program (CFIP). CFIP, which is administered by the Department of Forestry, primarily provides grants to small timberland owners to protect and enhance the timber production capacity of such lands. A portion of CFIP funds are specifically directed at improving stream conditions for fishery production.

The Administration's 1987-88 budget proposes to defund CFIP by redirecting the State Forest receipts to the General Fund. The amount is slightly more than \$2 million—small within the context of the State's \$39 billion budget, but very significant in terms of California's land and stream stewardship capabilities.

The state Administration and the Legislature must provide the state's \$1 million start-up share of the Klamath River rehabilitation program.

Some of the worst damage to California's northwest salmon and steelhead streams occurred in the post-war economic recovery years before modern forest practice rules were required by the Legislature. Much of this damage remains in the Klamath River watershed, California's second most important pro-

ducer of anadromous fish.

In 1986, Congress adopted a rehabilitation program for the Klamath drainage. The new program is authorized at a level of \$2 million a year, half of which is to be provided by the State of California. The US Fish and Wildlife Service has made \$250,000 available already and the US Bureau of Reclamation expects to identify \$500,000 for the program before the year's end. The State must provide the share it has incurred as a partner in this program. Some of this could be done through State "in kind" participation in new Klamath drainage watershed rehabilitation and fishery restoration initiatives.

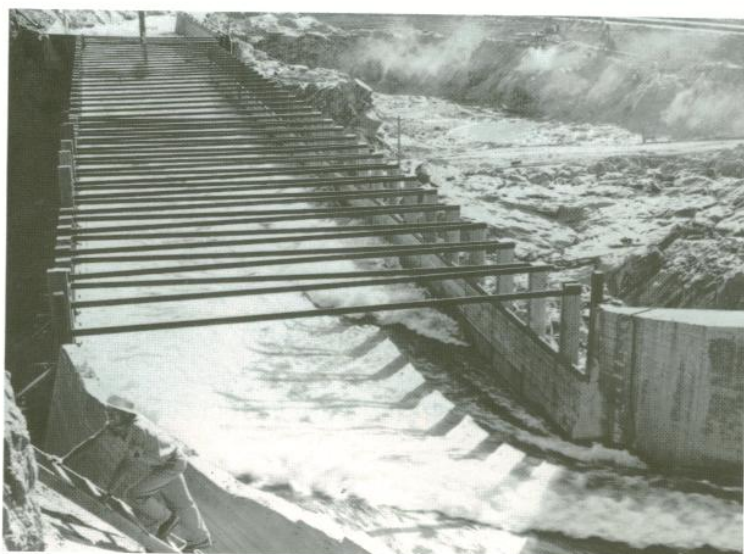
The Legislature should encourage early and deliberate consultation between the Klamath River Fisheries Restoration Council and the traditional representatives of the Karuk, Yurok and Hupa tribal entities. This will help fully determine the interests and expectations of these Indian peoples with regard to the restoration of the fishery resources of the Klamath and Trinity Rivers.

The fisheries have always played an important role in the lives of California's indigenous tribes. The decline of the salmon resource has worked a double hardship on them. In addition to the direct loss of an important source of food



Logging roads continue to be a major source of sediment in many north coast watersheds.

Close-up of flume to divert river at Friant Dam.



BUREAU OF RECLAMATION



BUREAU OF RECLAMATION

their traditional spokespersons are well known and should be given equal status with other user parties.

Legislation should be enacted that creates a major, on-going source of funding for fisheries restoration work, such as a 1988 bond proposition to the voters, patterned after recent successful, but limited, funding models.

Hundreds of salmon and steelhead streams have been degraded by more than a century of inadequate land stewardship by parties who, in some cases, have become part of California history. In such cases of historical damage, it is not possible to find a responsible party or require them to pay for restoration costs.

and income, the decline has intensified competition between all user groups as each fought for useful shares of a dwindling resource.

Non-Indian fishery interests—the commercial and sportfishing associations—have been clearly defined and well-represented. Indian interests have often been blurred by the perceived differences between tribal groups and by the role of the Department of Interior, which has dual and potentially conflicting responsibilities for fisheries management and Indian assistance and representation.

The Klamath River fisheries rehabilitation program, authorized by Congress in 1986, affords an extraordinary opportunity for all user groups to work together for mutual benefit. Insofar as Indian interests are concerned, the Klamath River Program can be successful if each traditional Klamath River tribal group—the Karuk, Yurok and Hupa—is consulted and involved directly in the program. They should be involved from the inception in developing the program, setting objectives, making contracts and evaluating results.

This consultation can be accomplished formally with the Hupa people through their established tribal council. In the case of the Karuk and Yurok groups,

Fortunately, this state has been a leader in the rehabilitation of anadromous fishery streams. Since the 1970's, three different fisheries restoration programs have been created by the Legislature, each with modest funding and a brief life. The Department of Fish and Game has struggled heroically to administer these bursts of money; community-based groups have hastened to identify work priorities and design effective grant projects. A funding source is needed that is predictable—"even-flow" instead of "boom or bust".

Early economic analyses indicate that a fisheries restoration investment of \$20 million a year for the next 20 years would provide a higher return than the water development programs Californians have supported for the past several decades. The investment fund could be created through a 1988 bond proposition for the entire amount; or if legislative and administrative strategists prefer, sequential bond propositions could be offered at intervals throughout the 20 years. The vital feature of this program is recognition, *in statute*, that year-to-year funding must be sustained to assure the program's success. ■

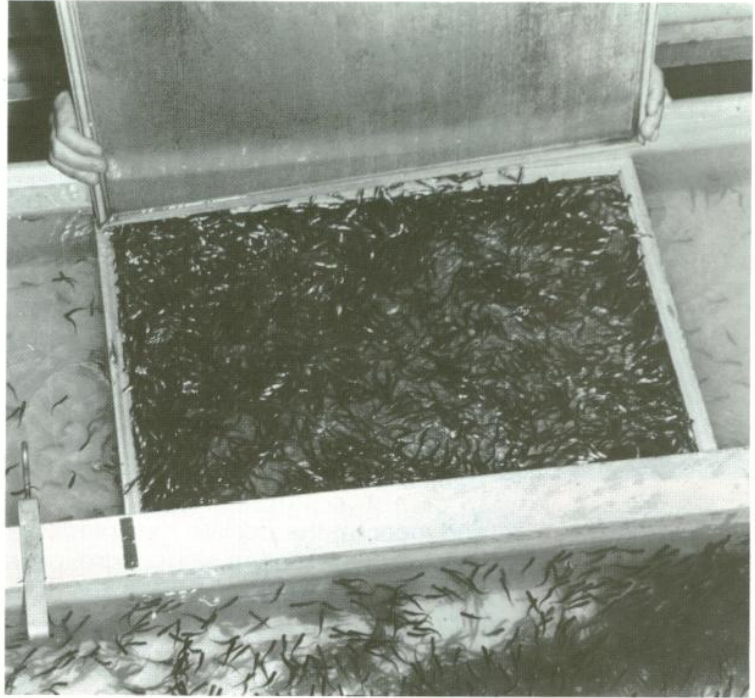
HATCHERIES: ARTIFICIAL PROPAGATION

The Legislature should direct the Department of Fish and Game to step up its search for environmentally-acceptable hatchery disease control agents.

California is extremely reliant on fish hatchery production. Recent bans of chemicals, like malachite green, used to control hatchery diseases have made a hard job more difficult. While some chemicals must be banned for the sake of water quality or human safety, the Department of Fish and Game must be encouraged to seek environmentally acceptable alternatives.

The Legislature should ask Congress to provide funds to the US Army Corps of Engineers for steelhead mitigation facilities at Coyote Valley Dam and for related improvements at Warm Springs Hatchery.

The Corps of Engineers owns and operates the Coyote Valley Dam on the Russian River. The Corps has indicated it is willing to operate facilities at the dam to compensate for steelhead spawning grounds lost above the dam; however, it will not request the funds required from the federal government. ■



BUREAU OF RECLAMATION



LAWS AND LAW ENFORCEMENT

Failure to provide a release of streamflow to maintain the fishery below Friant Dam was clearly at odds with California law.



BUREAU OF RECLAMATION

The Legislature should urge the Fish and Game Commission to amend Section 13.10 Of Title 14 of the Administrative Code to authorize the Director of the Department of Fish and Game to extend or order closures when spawners are vulnerable due to low flow conditions. To avoid such problems in 1987, the Commission should grant the Director such authority on an urgency basis by September, 1987 and should consider appropriate revisions of the 1987-88 fishing regulations.

During the fall of 1986, dry weather left North Coast streams at very low levels. Salmon that had entered the Eel River in September became extremely vulnerable to fishing activity in the weeks that followed. Present regulations allow the DFG Director to close the river fishery *only* until October 15. These regulations must be modified to give the Director authority to close areas whenever spawners are extremely vulnerable. ■

“Laws are like cobwebs, which may catch small flies, but let the wasps and hornets break through.”
— Jonathan Swift

GENETICS

The Advisory Committee has recommended a general genetics policy to the Department of Fish and Game; it includes guidelines for the transfer of stock and eggs between watersheds. The DFG has commented favorably on the Committee's initiative, made some improvements and will adopt the policy as a guide for its fish-handling operations. The DFG will present the policy for public comment and review. ■

RESEARCH AND DATA

The Advisory Committee hosted a two-day workshop at the University of California, Davis, in March, 1987. The objective of the gathering was to develop a program of research and research dissemination concerning California's salmon and steelhead trout resources. The Advisory Committee sent out several hundred invitations to scientists, landowners, resource managers, fishermen and conservation workers. The completed program will be a significant component of the Committee's 1988 report to the Legislature and the Department of Fish and Game. ■

CONSERVATION EDUCATION

The Advisory Committee, through the American Fisheries Society, is contracting with educators and fishery workers in Humboldt County to develop a pilot classroom instructional unit concerning salmon and steelhead conservation. The unit will be tested in 75 classrooms in Humboldt and Del Norte counties. The Advisory Committee is exploring means for introducing the unit, after pilot testing, into California's urban school districts. ■

INTERAGENCY COORDINATION

The Advisory Committee determined that the focus of this work group should be expanded. It should include scrutiny of certain institutional issues, such as artificial personnel ceilings, funding limitations, problems with contracting out needed work, etc. These types of institutional problems must be examined as they impair California's ability to restore the salmon and steelhead fisheries to appropriate levels. ■

"It's no fish ye're buying: it's men's lives."

— Sir Walter Scott

SECTION TWO: MAP LEGEND



1. Smith River, Redwood Creek, Mad River Region
2. Klamath River, Lower Trinity River
3. Trinity River Upstream from Hoopa
4. Mattole River, South Fork Eel River, Lower Eel River, Van Duzen River
5. Upper Eel River
6. Sacramento River System
7. Marin, Sonoma & Mendocino County Coastal Streams
8. Russian River
9. San Francisco Bay Streams
10. San Joaquin River System
11. South Coast Streams

BASIN MANAGEMENT REGIONS & PLANS

This section takes into account another reality investigated by the Committee: California's salmon and steelhead trout habitat is spread throughout several geographically distinct regions of the state. To facilitate planning, the Committee divided the state into eleven (11) geographic areas that will be considered individually. Specific basin management plans are being developed for each.

A subcommittee has been formed to study each region and to seek out local specialists to provide more specific information. Local involvement has been cultivated to assure that regional management plans have a base of local involvement and support. Several geographic regions are large and complex; in such cases, subbasin plans are being developed.



Smith River Redwood Creek Mad River Region

This region includes three major north coast streams—the Smith River, Redwood Creek and the Mad River, as well as numerous smaller coastal streams. Local working groups have been established for each of the three large streams, as well as the Little River and the Humboldt Bay watershed.

The Smith River is located in the extreme north-western corner of California in Del Norte County. This river begins in the steep, rugged, densely forested mountains of the Siskiyou Crest and eventually winds its way across a broad floodplain to join the sea, just south of the Oregon border. The river drains approximately 725 miles; most of it is within the Six Rivers and Siskiyou National Forests and is managed by the federal government.

The Redwood Creek basin is entirely within Humboldt County. The basin includes an area of 280 square miles and the creek's main channel length is approximately 63 miles. The basin is characterized by high relief with steep, unstable slopes and narrow valley bottoms. Intensive logging in the watershed began in the 1950's. By 1978, more than 70 percent of the basin had been logged. This activity, combined with a series of extreme storms, had a severe impact on fish habitat throughout the basin. Redwood National Park and Prairie Creek State Park manage approximately 35 percent of the watershed. Most of the remaining land is owned by timber corporations.

The Mad River flows northwesterly through 500 square miles of watershed. From its headwaters in

Trinity County, it travels almost 100 miles to its mouth at the Pacific Ocean, north of Eureka (Humboldt County). Most of the upper half of the basin is managed by Six Rivers National Forest. Approximately one-third of the watershed is owned by large timber corporations. The remainder is under numerous smaller private ownerships. Forestry is the predominant land use. Livestock grazing and residential development occur over a much smaller area.

The Little River enters the Pacific Ocean south of Trinidad in Humboldt County. The 50 square miles of watershed has seen extensive logging activity and is now primarily forested with mature second growth timber. Livestock grazing occurs along the lower few miles of the stream. Chinook and coho salmon, steelhead and cutthroat all utilize Little River. Habitat in Little River is generally in better condition now than it was 30 years ago; however, excellent opportunities still exist for restoration and enhancement of salmonid populations.



Klamath River Lower Trinity River

The Klamath River system has three distinct subparts: 1) the upper Klamath River above Klamath Falls, Oregon, including the Lost River; 2) the Klamath River below the falls; and 3) the Lower Trinity River.

The lower Klamath system (subpart 2) consists of the Klamath River below Klamath Falls, the Trinity River and more than 200 smaller tributary streams. For the purposes of management plan development, the Advisory Committee has broken the

lower Klamath River into two regions: 1) the lower Klamath River and its northern tributaries, as well as the lower stem of the Trinity River (below Hoopa); and 2) the Trinity River above Hoopa. The Trinity River upstream from Hoopa will be discussed in the next section.

The Klamath River basin encompasses much of extreme northern California and part of Oregon. Most of Siskiyou County is drained by the Klamath before the river crosses the line into Humboldt County. Here, it picks up the Trinity River and flows north, through a corner of Del Norte County and empties into the ocean near the city of Klamath.

On the basis of physical characteristics and fish fauna, the river system in this region is essentially a large coastal stream. It is a fast-flowing, rock-bottomed, cold trout stream over much of its length. The fish fauna is dominated by anadromous fishes including Pacific lamprey, white sturgeon, green sturgeon, eulachon, American shad and coastal cutthroat trout, as well as chinook salmon and steelhead trout. The salmon and trout spend anywhere from a few months to two years in the river before moving out to sea.

Anadromous fish migrations historically reached Klamath Falls, Oregon; however, the dams that created Copco Lake and Iron Gate Reservoir have since pushed the limit of anadromous penetration considerably downstream into California.



Trinity River Upstream from Hoopa

The Trinity River is located in northwestern coastal California, primarily in Trinity County. The river drains into the Klamath basin approximately 40 miles from the coast. The Upper Trinity River region, as delineated by the Advisory Committee, is a sociological unit that starts at the Hoopa tribe's upstream boundary and extends upriver to the Trinity River's headwaters.

In physical and faunal characteristics, the upper Trinity was very similar historically to the Klamath River region described in the previous section. The

Trinity River, however, has its own unique problems, as well as restoration and management requirements that warrant special consideration.

The Trinity River basin is home to fall and spring run chinook salmon, coho salmon and fall/winter and spring runs of steelhead trout. The basin also hosts green sturgeon and possibly a sea run brown trout.



Mattole River South Fork Eel River Lower Eel River Van Duzen River

This region includes the Mattole River, the South Fork Eel, the Lower Eel River and the Eel's tributary—the Van Duzen River.

Most of the region is within Humboldt County; however, the Van Duzen River heads in extreme western Trinity County and the South Fork Eel River heads well into Mendocino County. The Eel River, after receiving the waters of the Van Duzen, reaches the ocean just south of Humboldt Bay. The Mattole River heads in the King Mountain range and flows for 40 miles before emptying into the ocean just north of Punta Gorda.



Upper Eel River

This region includes the Main Eel River above its confluence with the South Fork Eel River, and its tributaries. The Upper Eel River has its headwaters in the counties of Trinity, Glenn, Lake and Mendocino. It flows northward into Humboldt County and is joined by the South Fork Eel River near the redwood tree that has been designated the world's tallest tree. From there, it continues northward, receives water of the Van Duzen River near Scotia and flows into the ocean just south of Humboldt Bay.

Over the years, logging, overgrazing, road build-

ing, water development and diversion have all had adverse effects on the Upper Eel's habitat and its dependent fish populations. The Eel River carries one of the world's highest sediment loads. Successful long-term restoration activities will focus on restoring ground cover and stabilizing soils, slides, gullies and streambanks in headwater areas in an effort to slow the runoff of both water and sediment.



Sacramento River System

This region is the largest area for which a plan will be developed. It includes the Sacramento River and all of its tributaries. Most of Shasta, Glenn, Butte, Colusa, Yuba, Sutter, Yolo, Placer, El Dorado and Sacramento counties are included. A variety of habitats are found in this region. Many of its natural essential features are ancient; however, much of the region has been severely modified.

Although current chinook salmon runs are drastically reduced, the Sacramento River still supports a large percentage of California's remaining chinook salmon. The majority of the salmon caught commercially and recreationally come from the Sacramento River. The Sacramento River also provides important habitat for steelhead trout and they, too, face many problems.



Marin, Sonoma and Mendocino County Coastal Streams

This region includes the numerous, small north coastal streams, such as the Navarro, Garcia, Big and Noyo rivers. These streams empty directly into the ocean without first connecting to any of the larger rivers in the area. The north coastal streams are highly variable, cold-flowing and, for the most part, permanent. Most of the streams have a high gradient and flow rapidly to the sea; a few of the larger streams, however, meander across flood-

plains in their lower reaches. There is great seasonal fluctuation in the flow levels, shifting the streams from raging torrents in the spring, to slow trickles in the summer.



Russian River

Historically, the Russian River was one of the finest steelhead streams in the world. New Zealand stocked its own inland streams with our Russian River stock because the fish were so spectacular.

The Russian River is a coastal stream that rises in the eastern slope of the Coast Range and flows southward to a junction with Santa Rosa Creek (Sonoma County) before turning westward. Then it flows through a low canyon and empties into the ocean at Jenner, just north of Bodega Head. This river is very accessible to large urban areas; consequently, it is one of California's most important steelhead trout streams.



San Francisco Bay Streams

At one time, all of the streams feeding San Francisco Bay hosted healthy populations of salmon and steelhead trout. Remnants of the steelhead trout runs remain in some streams today. This is a unique system as it dries during the summer; as a result, fish there have adapted to a short run season. Native stocks have a unique life history in that they have developed unusual patterns to accommodate the seasonal flows.

Not all of these populations could survive as an urban angling resource; however, some of the Bay Area streams are large enough to potentially support a "catch and release" urban fishery. In any case, the protection and restoration of all Bay Area streams is important because they can be valuable

*The Mediterranean
Felucca . . .
California's first
commercial salmon
vessel on San
Francisco Bay.*



NATIONAL MARITIME MUSEUM

tools for increasing public awareness and appreciation of the resource.



San Joaquin River System

The San Joaquin River System region is nearly as large as the Sacramento system. The region encompasses much of Madera, Merced, Mariposa, Stanislaus, Tuolumne, San Joaquin and Calaveras counties. It includes the San Joaquin River and its numerous tributary streams, among which are the Merced, Tuolumne, Stanislaus, Mokelumne and Consumnes rivers.

The Kern, Tule, Kaweah and Kings rivers of the southern end of the San Joaquin Valley join the San Joaquin River only in extremely wet years.



South Coast Streams

This region encompasses much of California's coast including the numerous, small coastal streams south of San Francisco Bay. The region may be divided into the following groupings: 1) the Monterey group; 2) the south-central coastal group; 3) the Santa Maria/Santa Ynez group; 4) the Los Angeles plain group; and 5) the San Diego group.

Although south coast streams no longer contribute much to the anadromous fish populations, most of the waters once supported steelhead trout runs. Vestigial populations of steelhead and coho salmon remain.

“We must dare to think ‘unthinkable’ thoughts. We must learn to explore all the options and possibilities that confront us in a complex and rapidly changing world. We must learn to welcome and not to fear the voices of dissent. We must dare to think about ‘unthinkable things’ because when things become unthinkable, thinking stops and action becomes mindless.”

— J. William Fulbright

SECTION THREE: STATUS OF RECOMMENDATIONS FOR LEGISLATIVE ACTION IN 1986

The following recommendations were offered to the Legislature in this Advisory Committee's first progress report, which was published in 1986. Each recommendation is followed by a brief status report.

The Coleman National Fish Hatchery is an important element in the artificial propagation of anadromous fish in California. A resolution is in order commending Congress for appropriating funds of \$2.2 million for this hatchery.

Funds for Coleman National Fish Hatchery improvements were appropriated by Congress in 1986, but listed for deletion by the White House in January, 1987. Fortunately, Congress did *not* affirm the proposed Executive action by the required deadline in March, 1987; therefore, the appropriation is still available to the US Fish and Wildlife Service for much-needed improvements at this federal mitigation hatchery.

AB 723 was signed into law and became effective on January 1, 1986. The legislation provides \$500,000 to the DFG to develop proposed streamflow requirements pursuant to Section 10002 of the Public Resources Code. In order to meet the intent of the law, the following should be addressed: 1) the DFG will need an annual commitment of \$1.9 million to undertake the required analysis of ten streams per year. The funding should come from the general fund and must be

addressed during the budgetary process; and 2) it must impress on the DFG that instream needs assessment should be conducted so as to assure that the proposed streamflow requirements allow for maintenance and restoration of the state's fisheries.

The Department of Fish and Game did not request funding beyond the \$500,000 for AB 723 instream needs assessments. The DFG reports it does consider the streamflow needed for restoration, as well as maintenance, when it conducts its instream determinations.

The following recommendations were made for the Sacramento River system:

1) efforts must be made to ensure that federal agencies meet their ongoing obligations for fishery restoration at Shasta and Keswick Dams, both at the time of construction and in subsequent years.

There is much evidence that the federal government is *not* meeting the mitigation responsibilities resulting from its development of Shasta and Keswick Dams. The Coleman National Fish Hatchery was built as part of that mitigation but state fishery interests must constantly pressure the federal government to live up to its commitments.

2) Action must be taken to establish annual "fish flushes" on the Upper Sacramento River, in correspondence with downstream migrations of fingerlings from Coleman National Fish Hatchery. Continued state/federal cooperation is essential.

Upper Sacramento River "fish flush" releases from Shasta are set forth as a federal requirement in the Fall, 1986 management plan for the Sacramento River winter chinook salmon.

3) Support should be given to USFWS and DFG instream studies in which the Upper Sacramento Salmon and Steelhead Advisory Committee is participating.

Funds from DFG's AB 723 instream needs studies have been made available for a specific streamflow study on the Sacramento River that is of interest to the Upper Sacramento River Salmon and Steelhead Advisory Committee.

4) Water diversions must be suspended from Red Bluff Diversion Dam to the Tehama-Colusa Canal system when down migrant fish need the water and agricultural needs are low.

Water diversions were suspended at the Red Bluff Diversion Dam on December 1, 1986, under the terms of the management plan for the Sacramento River winter chinook salmon. Diversions were briefly resumed in January, 1987, contrary to the recommendation of the Advisory Committee.

The Advisory Committee recommends reauthorization of the Salmon Stamp Program.

The Salmon Stamp Program was reau-

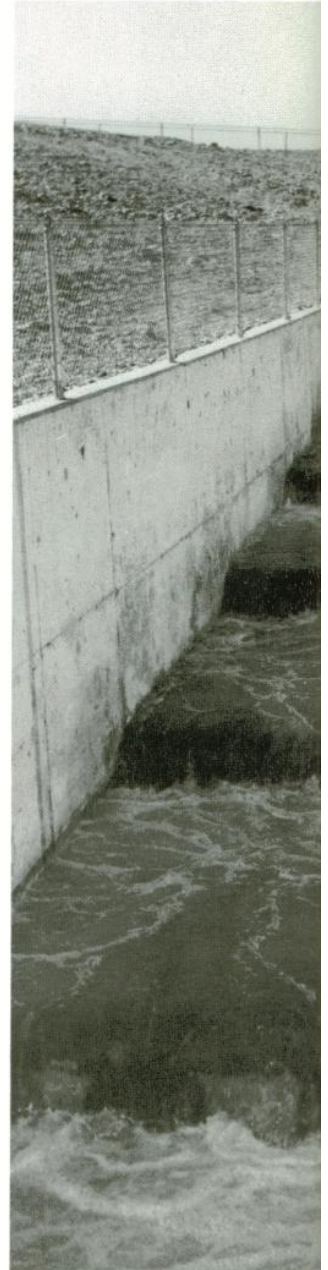
thorized in 1986 through a bill carried by Senator Keene.

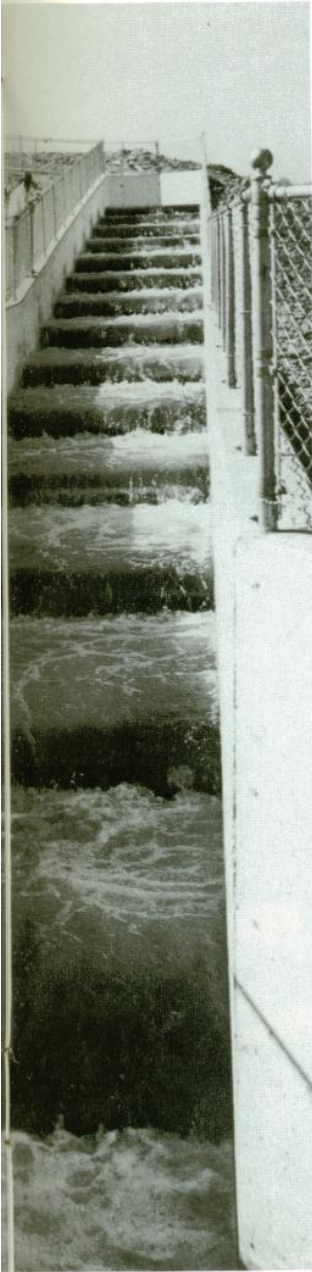
The Advisory Committee recommends moving forward with the implementation of SB 400 legislation, which provides for statewide fisheries restoration. To complete its work, this committee will need additional funds above and beyond the initial SB 400 appropriation. The amount allocated has provided a good start on the project but an annual appropriation of a comparable amount will be needed to meet the directive. Also, personnel hiring ceiling restraints that interfere with full implementation of SB 400 should be removed.

Legislation to extend the life of SB 400 funds through the 1988-89 fiscal year was introduced by Assemblyman Costa and is pending before the Assembly. Still at issue is the subject of personnel ceilings and the lack of DFG positions necessary to administer these funds effectively.

The Coordinated Operations Agreement between the Department of Water Resources and the Bureau of Reclamation should include provisions for meeting the needs of fish and wildlife before contracts are issued to deliver water to existing users or new users.

The Coordinated Operations Agreement was signed in early 1987 by Governor Deukmejian and the United States Commissioner of Reclamation. Weeks before the Agreement was executed, the





BUREAU OF RECLAMATION

Bureau of Reclamation "flooded" the State Water Resources Control Board with requests to increase its diversions from the Delta. The Bureau has not responded to inquiries regarding when it intends to complete the fish and water needs evaluations ordered by the Secretary of the Interior in December, 1978. The Legislature should ask Congress to impress on the Bureau the need to complete these evaluations in order to make intelligent decisions regarding any further commitments of water from the federal Central Valley Project.

The Advisory Committee suggests that the Joint Fisheries and Aquaculture Committee explore interest in publication of a comprehensive, statewide salmon and steelhead trout newsletter and the possibility of private or public funding.

There has been no specific progress on this recommendation.

The Advisory Committee recommends a high visibility celebration emphasizing the contributions of salmon and steelhead trout to California. The celebration should be centered in areas that can maximize media involvement.

It is likely that this celebration will accompany the sixth annual conference of the private California Salmon and Steelhead Restoration Federation. That conference will be held at the Marin Rod and Gun Club (Marin County) on February 27 and 28, 1988. The Advisory Commit-

tee's final report to the Legislature and the Director of the DFG will be available for public review and discussion at that time.

The Advisory Committee makes the following recommendations regarding its own needs: 1) funding must be provided for legitimate committee expenses; 2) individuals must be appointed to fill remaining open committee seats; 3) the life of the committee should be extended another 18 months, until July, 1989; and 4) it should be specified that the next three annual reports shall be submitted by July 1 of each year, beginning with July 1, 1987.

Funding for the Advisory Committee's needs was provided in 1986 through a bill carried by Senator Mello. Appointments to the Committee were completed in 1986. Steps are being taken to extend the Committee's authority until July, 1989, to enable it to assist the Legislature and the DFG Director in implementing the recommended salmon and steelhead restoration and conservation program. The Committee is committed to completing the salmon and steelhead trout management plan during January, 1988. ■



CONCLUSION

"May you have the health of a salmon . . . a strong heart and a wet mouth."

— An Old Irish Toast

The California Advisory Committee on Salmon and Steelhead Trout is continuing to pursue its fundamental charge to create a restoration strategy, which will be presented to the Legislature and the Department of Fish and Game by January, 1988. Without a doubt, however, the events of 1987 will play a critical role in salmon and steelhead restoration—particularly those issues related to water development.

The May, 1986 "Racanelli" Appeals Court decision and the Pacific Fisheries Management Council's November, 1986 salmon habitat policy provide two important, new tools to protect the fisheries.

It is imperative that the Legislature and the Director of the Department of Fish and Game recognize the significance of these tools and use them to the fullest extent to reverse the abuse dealt to the fisheries in recent decades.

The Advisory Committee will also work to increase public understanding of the many opportunities at hand. In the final analysis, an informed and concerned public will play a pivotal role in gaining the support needed to restore and protect California's salmon and steelhead resources. For as stated by Eugene P. Odum, in his book *Ecology*, "In a democracy it is not sufficient just to have a few trained persons who understand what it's all about; there must also be an alert citizenry to insist that knowledge, research and action are properly integrated." ■



MARIE DE SANTIS