

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

In the Matter of Permit 15026)
on Application 5632 of)

YUBA COUNTY WATER AGENCY,)

Petitioner.)

ORDER: WR 90-8

SOURCE: North Yuba, Yuba,
Middle Yuba, and
Oregon Creek

COUNTY: Yuba, Nevada, Butte,
and Sutter

ORDER APPROVING TEMPORARY CHANGES IN
PURPOSE OF USE AND PLACE OF USE
INVOLVING TEMPORARY TRANSFER

BY THE BOARD:

1.0 INTRODUCTION

Yuba County Water Agency (YCWA) having filed a petition on April 4, 1990 under Water Code Section 1725 et seq. for a temporary transfer of water involving a temporary change in purpose of use and place of use; the petition having been supplemented for the third time on April 20, 1990; objections to the proposed transfer and additional information concerning the proposed transfer having been received by May 10, 1990; the State Water Resources Control Board (Board) having adequate information in its files to make the findings required by Water Code Section 1727(a); additional comments having been received on May 17, 1990 during the Board's meeting to consider adopting this Order; the Board having evaluated all information available to it; the Board finds as follows:

2.0

SUBSTANCE OF PETITION

On April 4, 1990, YCWA notified the Board that it proposes temporary changes in Permit 15062, to transfer and exchange up to 300,000 acre-feet (af) of water that otherwise would spill or remain stored in New Bullards Bar Reservoir to the Department of Water Resources (DWR) during 1990. On May 10, 1990, YCWA advised the Board that only 146,000 af is available for transfer, assuming that 1991 is as dry as 1977, and that its contractors use all of the water they have requested for 1990. However, YCWA is requesting authorization to transfer up to 200,000 af in the event that local demands in 1990 are less than estimated. The proposed transfer/exchange will allow retention of up to 200,000 af of water in Oroville Reservoir, which otherwise would be released from Oroville in 1990. If up to 200,000 af of water is transferred, reducing demands on Lake Oroville, about 1,146,900 af will remain in storage in Lake Oroville on September 30, 1990, which will be about 264,900 af more than on September 30, 1977. If 1991 is a dry or critically dry year, the proposed temporary transfer will increase DWR's ability to meet its commitments in 1991 and will lessen the dry year impacts.

The temporary changes were requested to begin about May 15, 1990 and end December 31, 1990. Under the proposed change, the water transferred to DWR will be used in 1990 to partially satisfy DWR's obligations to provide Delta outflow and satisfy water quality requirements, imposed on DWR's permits by Water Right Decision 1485. The rate of transfer will be coordinated by the Department of Fish and Game (DFG) and was initially proposed to range from a maximum of 1500 cubic feet per second (cfs) in July, August, and September, down to about 300 cfs from about October 1, 1990 until the end of the transfer on December 31, 1990. The proposed change will temporarily add a place of use in the Sacramento-San Joaquin Delta and purposes of use for Delta outflow and water quality maintenance.

The proposed temporary transfer of water is for more than the maximum amount expected to be available during 1990, and may be subject to reduction and changes as hydrologic and project operations are better defined and additional information is developed. Terms and conditions will be included in the order which reserve jurisdiction and retain continuing authority over the temporary transfer.

3.0

BACKGROUND

3.1

Substance of Permit

Permit 15026 allows both direct diversion and storage. The authorized uses include irrigation and domestic use. Direct diversion is authorized from North Yuba River and from Yuba River for 43 cfs and 1550 cfs, respectively, from September 1 through June 30.

Storage under Permit 15026 is authorized in Bullards Bar Reservoir up to 490,000 acre-feet per annum (afa) from October 1 to June 30 of each year. Permit 15026 was issued on Application 5632 after a Board hearing and adoption of Water Right Decision 1159 on December 19, 1963. The concrete-arch dam which forms Bullards Bar Reservoir was completed in 1968 on the North Yuba River. Pacific Gas and Electric (PG&E) is entitled, under contract, to any power generated until the year 2016. Before 1985, the "unallocated surplus water" in the reservoir was released for PG&E, to maximize power generation. High flows from the power releases also benefited the Yuba River fisheries. In the spring, the required minimum daily releases were usually exceeded by several thousand cfs, attracting American shad and carrying outmigrating young salmon downstream. In 1985, YCWA began restricting releases for PG&E to the minimums specified in the power contract. The power contract contains minimum fish

flow release requirements specified by DFG. However, DFG is reviewing the adequacy of these flow requirements. The Federal Energy Regulatory Commission license for the Yuba River Development (Project 2246-001) contains similar bypass flow requirements.

3.2

1987 Transfer

Water year 1987 was critically dry. Therefore, YCWA cut back Yuba River releases to about 77 cfs on July 1, 1987. Flows were increased gradually until August 15, 1987, when a temporary permit change due to a transfer of water to DWR became effective pursuant to Water Code Section 1727. A total of 83,100 af was transferred to DWR during the summer of 1987, allowing for an equal amount of carry-over storage in Lake Oroville in 1988. The 1987 transfers occurred primarily during the summer months, when anadromous fish were absent from the river below Daguerre Point Dam.

3.3

1988 Transfers

Water Year 1988 was also critically dry. In 1988 YCWA transferred a total of 122,000 af of water to DWR under the provisions of Water Code Sections 1735 et seq. and 1435 et seq. for use in meeting Delta outflow requirements. SWRCB Order WR 88-12 authorized transfer of 110,000 af under Water Code Section 1735. SWRCB Order WR 88-17 modified and validated an August 19,

1988 order by Chairman Maughan which allowed transfer of 12,000 af to DWR pursuant to Water Code Section 1435. The purpose of the 1988 transfers was to increase carry-over storage in Lake Oroville for 1989. The transfers were completed in about 90 days with transfer rates of about 750 cfs. Both transfers were subject to instream flow requirements agreed to by DFG. The transfers were completed primarily during the summer months, when anadromous fish were absent from the river below Daguerre Point Dam.

3.4

1989 Transfers

Water year 1989 was classified as average in the Yuba River under YCWA's agreement with DFG. In 1989, Bullards Bar Reservoir was held at the flood control level of 800,000 af during March through reservoir releases. It subsequently filled to a maximum of 961,300 af. In 1989, YCWA was authorized to transfer a total of 246,000 af of water. Order WR 89-17 authorized the transfer of up to 200,000 af to DWR for municipal and industrial use in the Santa Clara Water District, for irrigation in the Tulare Lake Basin Water Storage District and in the Empire Westside Irrigation District, and to help meet DWR's carriage water and outflow requirements in the Sacramento-San Joaquin Delta. Order WR 89-20 authorized the transfer of up to 39,000 af to DFG for outflow in the Delta and for use

in the Grasslands Water District for wildlife. On April 3, 1989, the Chief of the Division of Water Rights also approved a transfer of up to 7,000 af to several municipalities in the Napa Valley.

3.5

Transfers in 1990

In addition to the proposed transfer considered in this Order, YCWA petitioned on March 12, 1990 to transfer 7,000 af of water to four member agencies of Napa County Flood Control and Water Conservation District (NAPA) for municipal purposes, at a rate of up to 21 cfs, to be rediverted at Barker Slough within the Bay-Delta Estuary, into the North Bay Aqueduct. The Chief of the Division of Water Rights approved the transfer to NAPA, subject to terms and conditions, on May 11, 1990.

4.0

PRESENT STATUS OF RESERVOIRS AFFECTED BY PROPOSED TRANSFER

4.1

New Bullards Bar Reservoir

New Bullards Bar Reservoir (Bullards Bar) is located about 29 miles northeast of Marysville on the North Yuba River. The reservoir has a total storage capacity of 961,300 af with a usable capacity of 727,400 af. Permit 15026, together with Permits 15027 and 15030, limit collection to storage in Bullards Bar to 960,000 af in any year. On March 17, 1990, Bullards Bar

contained about 700,000 af. As of May 10, 1990, YCWA expected up to 777,202 af to be in storage on June 30, 1990. The current year is classified as critical dry in the Yuba River watershed under the 1965 fishery protection agreement with the DFG. In a normal year, the minimum fish flow in the Yuba River is 70 cfs from July 1 to September 30, 400 cfs from October 1 to December 31, and 245 cfs from January 1 to June 30 of each year.

4.2 Oroville Project

Lake Oroville is located on the Feather River about 2 miles northeast of Oroville, which is about 27 miles north of Marysville. Lake Oroville has a total storage capacity of about 3,537,600 af with a usable capacity of about 2,685,400 af. As of May 10, 1990, DWR expected up to 1,395,500 af of water to be stored in Lake Oroville on July 1, 1990. During the proposed transfer, demands for releases from Lake Oroville are expected to be more than 1,000,000 af. If up to 200,000 af of water is available to reduce Lake Oroville demands (by meeting a portion of the 1990 Delta outflow requirements from Bullards Bar) projections indicate that about 1,146,900 af will remain in storage in Lake Oroville on September 30, 1990, of which about 852,200 af will be considered dead storage. If Lake Oroville has 1,146,900 af in storage

on September 30, 1990, it will contain about 264,900 af more than on September 30, 1977.

Water year 1990 is a critically dry year in the Sacramento River Basin, which includes the Feather and Sacramento Rivers under the criteria specified in Water Right Decision 1485, the Sacramento River Index, and DWR's water right permits, and the storage in Oroville Reservoir is below 1,500,000 af. Under these circumstances the minimum permitted instream flow release from Lake Oroville to the Feather River for fish is 750 cfs from March through September, and 1200 cfs from October through February.

4.3

Coordination of SWP and CVP Reservoir Operations

DWR and the USBR coordinate the operations of their projects under the Coordinated Operations Agreement. Because of the coordination of the two projects, the amount of water in storage in either project can influence the operations of the other project. Under the Agreement, the proposed additional releases of water from Bullards Bar will be treated as if they were from Lake Oroville. The proposed transfer may enhance the possibility of saving cold water in Lake Shasta because it represents a larger release capability for DWR to use to meet in-basin uses and Delta outflow requirements, offsetting low volume releases from

USBR's upper Sacramento River facilities during certain periods. The USBR could later repay the water to DWR at a time when cold water releases were needed for the upper Sacramento River fishery. This type of operational flexibility can maximize benefits for fishery resources as well as other uses.

5.0

AVAILABILITY OF WATER FOR TRANSFER

As stated in Part 4.1, Bullards Bar has a capacity of 961,300 af and a usable capacity of 727,400 af. YCWA expects up to 843,857 af to be in storage on May 31, 1990. This amount assumes that about 22,700 af will have been transferred to DWR by the end of May. During the proposed temporary transfer, assuming 146,000 af is transferred, about 270,901 af will be withdrawn from Bullards Bar for other uses in addition to the amounts transferred to DWR under this Order and to NAPA. This will leave about 652,781 af in storage on September 30, 1990, and 520,731 af on December 31, 1990. YCWA's May 10, 1990 operations study indicates that with a transfer of this size, if inflows to Bullards Bar in 1991 are equal to those in 1977, YCWA will barely meet the full projected demands of its contractors within its service area in 1991.

5.1

Effect on Legal Users of Water

Notice of the proposed transfer was sent to the known legal users of water that could be affected by the temporary transfer. Only the U. S. Bureau of Reclamation (USBR) raised concerns about effects on its water rights. No other water right holders objected to the temporary transfer or came forward with evidence that the temporary transfer will result in a substantial injury to any legal user of water. YCWA's May 10, 1990 operations study shows that during 1990, YCWA will be able to deliver water sufficient to meet the full demands within its service area under its contracts, while transferring up to a total of 153,000 af to DWR and NAPA. The USBR will work out procedures with DWR to protect its interests this year. Therefore, the proposed temporary transfer will not injure any legal user of the water.

We will approve the proposed temporary transfer for up to 200,000 af, as YCWA requests. However, to ensure that adequate water is available for all current uses of the water in 1990 and 1991, we will not authorize YCWA to transfer more than the 153,000 af unless YCWA can show that it will have more water available because of reduced demand or because of unanticipated inflow. Further, we will reduce the amount released in the transfer to DWR by the amount needed for mitigation

purposes, as set forth in other parts of this Order. We will delegate to the Chief of the Division of Water Rights the authority to allow any increases, up to 200,000 af.

5.2

Effect on Fish, Wildlife, or Other Instream Beneficial Uses

According to YCWA's operation study and report, as modified on May 10, 1990, there could be a 40,000 af (15 percent) reduction in instream flow releases for fish in 1991, if 1991 inflows to Bullards Bar are equal to those in 1977. This reduction is allowable under the 1965 agreement between DFG and YCWA, in a year when the streamflow in the Yuba River at Smartville is 50 percent or less of normal. Additionally, such a reduction may be necessitated in 1991 if inadequate carry-over storage is available to maintain the normal instream flows. Under Water Code Section 1725, a temporary transfer cannot be made if it will unreasonably affect fish, wildlife, or other instream beneficial uses. Even without the proposed transfer, however, YCWA has authority to reduce instream flows for fish by 15 percent if the streamflow in 1991 is 50 percent or less of normal. Consequently, such a potential reduction in 1991 would not be an effect of the proposed temporary transfer, and does not affect the availability of water for transfer in 1990.

5.3

Water Subject to Transfer or Exchange

Under Water Code Section 1725, a temporary transfer may include only the amount of water that would have been consumptively used or stored by the permittee or licensee in the absence of the proposed temporary change. In this case, YCWA would have stored all of the water proposed to be transferred if it did not make the proposed temporary transfer.

6.0

ENVIRONMENTAL CONSIDERATIONS

6.1

Effects on Fish, Wildlife, or Other Instream Beneficial Use

Water Code Section 1727 authorizes approval of the proposed temporary transfer only upon a finding that the transfer would not injure any legal user of water and would not unreasonably affect fish, wildlife, or other instream beneficial uses. Potential impacts to fish, wildlife and other instream beneficial uses are considered below in accordance with statutory requirements.

In order to satisfy the requirements of Section 1727, Board Orders WR 89-20 and WR 89-21 require that temporary transfers involving an increase in exports through the Delta be preceded by an adequate environmental analysis of the potential fishery impacts and other environmental effects.

Potential adverse effects of the proposed temporary transfer on fish, wildlife and other instream beneficial uses may occur in three areas: in the Yuba River after the transfer, in the Feather River above the confluence with the Yuba River during the transfer, and in the Bay-Delta Estuary in 1991. Each area in which impacts may occur is discussed separately below.

Pursuant to Water Code Section 1729, the proposed temporary transfer is exempt from the requirements of the California Environmental Quality Act (CEQA), set forth in Division 13, Section 21000 et seq., of the Public Resources Code.

6.2 Study Plans for the Feather and Yuba Rivers

In Order WR 89-17 we ordered YCWA and DWR to jointly submit to the Board, by April 1, 1990, a specific and detailed plan for carrying out a series of detailed studies on the Yuba and Feather Rivers. DFG requested the studies during our proceeding on a petition of YCWA for a trial transfer in 1988. The studies are listed in Order WR 88-12, Finding 9.5. We have received a plan from YCWA, in accordance with the requirement. However, we have received only a preliminary response to our requirement from DWR. The studies, while primarily directed toward evaluating the impacts of a

permanent transfer of water from YCWA to DWR and long-term flow needs, are important as well for determining the effects of temporary transfers. YCWA has requested temporary transfers every year since 1987.

6.3

DFG Coordination of Project Operations

Careful coordination, monitoring and regulation of temperatures and flow will be needed to ensure the potential positive aspects of the proposed transfer. The DFG has agreed that it will work with YCWA and DWR, and possibly also with the USBR to coordinate operation of the affected water development projects. In 1989, the DFG likewise worked with DWR and USBR to determine the operational modifications that would best benefit the fisheries. The inherent variability of fishery needs dictates that in a year of limited water supply such as 1990, water operations should be controlled closely to maximize the many beneficial uses of the available water. Consequently, we will again designate DFG as the controlling agency to determine modifications in YCWA and DWR project operations to benefit the fisheries. Nevertheless, all project operations will be subject to the terms and conditions specified in the water right permits, operating criteria needed to meet flood control purposes, and the

terms and conditions set forth in this Order. Also, all rights under the temporary transfer will remain subject to the Board's reserved jurisdiction and continuing authority. We will require that all operations be reported to the Chief of the Division of Water Rights and to any party who requests the reports.

As in 1989, DWR and YCWA should provide to DFG and the Board on a weekly basis a schedule showing the projected daily operations for the following two week period and projected weekly operations for the remainder of the period of the transfer. The schedule should include the following:

1. Projected flow in the Yuba River at Marysville
2. Projected flow in the Yuba River below Daguerre Point Dam
3. Projected flow in the Feather River at Gridley
4. Projected releases from Shasta Reservoir
5. Projected transfers from the Trinity River to the Sacramento River
6. Projected flow in the Sacramento River below Keswick Dam

DWR and YCWA should notify the Chief of the Division of Water Rights before they make any changes in the flow projections between the weekly submittals. The schedules will be deemed approved unless objections are raised by the Chief of the Division of Water Rights. DWR or YCWA should also provide the above information upon request of any other interested party.

6.4 Effect of Transfer in the Yuba River

This transfer can benefit the Yuba River fisheries during 1990 if flows and temperatures are regulated so that they provide the greatest benefit for the fisheries. Early implementation of the transfer will facilitate the American shad spawning by attracting them into the Yuba River more than into the Feather River for spawning in May and June. It is important to approve the proposed temporary transfer early to achieve this benefit. The transfer may, if certain terms and conditions are included, also benefit the salmon and steelhead fisheries in the Yuba River by changing the timing of flows and increasing the rates of flow.

6.4.1 Potential adverse effects to Fish, Wildlife, and Instream Beneficial Uses

The potential adverse effects to fish, wildlife, and other instream beneficial uses of the Yuba River as a

result of this transfer include (1) temperatures that are too high or too low for the fisheries at critical times, (2) potential abrupt reductions in flow which may strand fish or dewater redds during critical periods for the fisheries or between stages in the transfer, (3) possible effects on a pair of bald eagles nesting near Bullards Bar Reservoir, and (4) decreases in flow commencing in January 1991 after the transfer is concluded, which could dewater salmon redds (nests) and strand emerging fry in the shallow sides of the river.

To avoid unreasonable effects to the fisheries because of temperatures or because of abrupt reductions in flows, we adopt terms and conditions in this Order that, together with coordination by the DFG, reserved jurisdiction, and supervision by the Chief of the Division of Water Rights, will protect the fisheries. The terms and conditions include temperature requirements for certain periods, minimum and maximum rates of transfer, ramping, and coordination of operations by the DFG.

Bald eagle reproduction can be adversely affected by extreme drawdown of reservoirs when the chicks are in the nest. Bald eagles are listed as an endangered species under the federal Endangered Species Act.

16 U.S.C.A. Sections 1531 et seq. Young bald eagles leave the nest and the area by late June or early July. By early July 1990, the drawdown in Bullards Bar will be minimal. Therefore, an adverse effect on the bald eagles will not occur as a result of the transfer in 1990. However, if 1991 is a critically dry year, and the low levels anticipated by the end of the proposed transfer are carried over into the spring and summer of 1991, there may be some undefined adverse effects on the bald eagles. Nevertheless, a significant amount of storage will remain in Bullards Bar even in the event of a critically dry year. Given the speculative effect on the eagles of the anticipated drawdown, and the need to retain water in Lake Oroville if 1991 is another critically dry year, we find that any adverse effect on the bald eagles in 1991 as a result of the proposed transfer would not be unreasonable under the circumstances.

The minimum required instream flow in the Yuba River below Daguerre Point Dam under Permit 15026 is 400 cfs from October 1 through December 31, and 245 cfs from January 1 through June 30. Because of the transfer, however, the flows in the Yuba River may be as high as 700 cfs through December 31, 1990. Under the permit, the flows may then drop to 245 cfs. At 700 cfs during the October through December period, Chinook salmon

will spawn in areas that will be dewatered if the flow is decreased to 245 cfs in January. The young fish emerge from the redds through February. Consequently, to avoid adverse effects to the Chinook salmon fishery by dewatering the redds, the same flow that is maintained during October through December should be maintained through February unless YCWA can show, to the satisfaction of the Chief of the Division of Water Rights, that redds will not be dewatered and fry will not be stranded at lower flows. The water required to meet the flow during January and February shall be retained in Bullards Bar until it is needed.

The minimum flow required in this Order during October through December is 700 cfs. However, this flow may be too low to attract many adult salmon into the Yuba River to spawn. Consequently, we will require a short-term flow of at least 1000 cfs, during a forty-eight hour period to be specified by the DFG in October.

6.5

Effect of Transfer in the Feather River

According to YCWA's operation study and report, as modified on May 10, 1990, Feather River flows during the temporary transfer will be at the minimum flow rate of 750 cfs in May and June, and will rise to approximately 3200 cfs in July. Flows will then decline during the balance of the transfer, to

approximately 1500 cfs. The required minimum flow rate in July through December is 1200 cfs. Without the transfer, the flow in July would be about 4300 cfs, and would fall to around 1750 cfs by December.

The generally lower flows in the Feather River above the confluence with the Yuba River will reduce the holding habitat somewhat for the spring-run adult Chinook salmon during July, August, and September. This effect will be minimal, however, because most spring-run Chinook salmon hold in the pools in the low-flow area of the river between Oroville Dam and the outlet structure from the Thermalito Afterbay facility. The flows during spring-run spawning in mid-August through mid-October will be close to 2000 cfs. The recommended minimum spawning flow is 1700 cfs. The primary question regarding flow rates, discussed below, is whether they will be sufficient to avoid high temperatures which could kill salmon eggs and fry. The proposed transfer will coincide with the fall-run Chinook salmon rearing and emigration only in May and June. Since the flows will be steady, they should not strand fall-run Chinook salmon during rearing and emigration. However, the proposed transfer will result in a reduction to 1500 cfs in November and December when the fall-run salmon will spawn. This is 200 cfs less than the recommended 1700 cfs minimum spawning

flow for Chinook salmon in the Feather River, and will result in some reduction in spawning habitat for the fall-run Chinook salmon. This is a minimal reduction considering the current year type and the need to retain water in Lake Oroville in case 1991 is another critically dry year.

The more critical issue for Chinook salmon in the Feather River is the maintenance of low water temperatures during spawning and egg incubation. When temperatures rise above 56°F, substantial mortality occurs, and when temperatures are above 60°F, mortality is essentially complete. DWR's permits contain no temperature requirements for Chinook salmon spawning in the river, although they do contain requirements for the fish hatchery. As noted above, we required DWR in Order WR 89-17 to prepare a detailed plan for carrying out environmental studies on the Feather River. However, no studies have been done, and the plan has not yet been completed. In most years, salmon spawning has been relatively successful in the Feather River because of higher release flows and because of the hatchery. This year, the flows will be lower and may result in higher water temperatures. If it is needed to ensure that the salmon spawning is successful, DWR should adjust its operations at its Thermalito facility. This may include releases that

bypass the Thermalito facility. We will condition this transfer on there being specified temperatures in the Feather River below the Thermalito facility low enough to protect salmon spawning and incubation when it occurs.

For steelhead trout in the Feather River, the effect of the proposed transfer is speculative. However, the flows in the Feather River will be well above the minimum instream flow requirements for steelhead trout.

Impacts of the proposed transfer on American shad spawning and rearing in the Feather River below the confluence with the Yuba River are speculative, and depend on the temperatures there during spawning and rearing. The higher flows may be helpful in controlling the temperatures. Striped bass spawning is expected to take place before the transfer, but the higher flows from the transfer, below the confluence with the Yuba River, may improve rearing conditions for striped bass.

The proposed transfer also is expected to have no impact on bald eagle reproduction at Lake Oroville, since the lake will be higher than it would be without the transfer.

Effects of the Proposed Transfer in the Sacramento-San Joaquin Delta

During 1990, the Delta will have the same outflows, water quality, and exports as it would have without the proposed transfer. However, a memorandum dated April 19, 1990 from the DWR shows that in 1991 there is a 30-percent likelihood of there being increased exports from the Delta in 1991, and a 10-percent likelihood of increased exports in 1992. Such an increase in exports would occur as a result of the proposed transfer only if 1991 and 1992 are dry or critically dry years. According to DWR, any increase in exports would take place in the months of August and September.

The potential adverse cumulative effects to the Delta fisheries of exporting additional water from the Delta if 1991 or 1992 is dry are not susceptible to accurate measurement at this time, but our information indicates that they will be minimal. We will require mitigation for the adverse effects to the extent reasonable and feasible. The following addresses mitigation.

Exports during the summer are less damaging to a majority of fish species than exports during the spring because fish susceptible to the effects of export generally are more abundant in spring than they are

during late summer and early fall. A notable exception is American shad, which typically reaches its peak abundance at the export facilities in August. Salmon have their peak abundances in May and June and drop to very low levels in July through September; striped bass abound in June and July. Delta smelt abundance is elevated in May and June, peaks in July, and drops dramatically in August. For striped bass and Delta smelt, the June and July abundances differ from the August and September levels by a factor of approximately 10. Therefore, a relatively small reduction in exports in the earlier months can offset the direct effects on these species caused by increased exports in August and September.

Both striped bass and Delta smelt populations are at all time low levels. Delta smelt is currently being considered by the Department of Fish and Game to be added to the list of endangered species.

About 30 percent of the water to be transferred and exchanged to Lake Oroville will be required for carriage water. Assuming the transferred water is not lost by spilling, the amount of increased exports during August and September 1991 will be about 70 percent of the transfer. If the normal operation exported quantity is reduced by 10 percent of the

transfer amount during May through July, we expect that the loss of fish to the export pumps will not increase by reason of the transfer. Therefore, we will require that total exports during May through July of 1991 be reduced by 10 percent of the amount transferred under this Order. The reduction during May through July can be made up in September 1991 without net adverse effects to the fishery.

If DFG proposes an alternative means of meeting the objective described above, the Chief of the Division of Water Rights will consider it at a future date and order appropriate modifications to this Order if necessary, provided the effect on the temporary transfer we approve in this Order is not substantially different from the above adjustment.

With the above mitigation measures, and considering that the need for water in export areas during 1991 and 1992 will be great if those years are dry or critically dry, we find that the relative effect of the proposed temporary transfer on fish, wildlife, and other instream beneficial uses in the Delta will not be unreasonable.

7.0

COMMENTS AND OBJECTIONS TO THE PROPOSED TRANSFER

Notice of the proposed temporary transfer was provided by mail to all known interested parties and was published in the Sacramento Bee and the Oroville Mercury Register. The Board received responses as discussed below.

7.1

Departments of Water Resources and Fish and Game

The DWR and the DFG submitted a joint memorandum supporting the proposed temporary transfer. They pointed out that the purpose of the transfer is to mitigate for the effects of the current drought by providing for more carry-over storage in Oroville Reservoir at the end of the year than would otherwise be available. They pointed out that with the greater flexibility provided by the proposed transfer, DFG will be able to request flow rates and timing that will maximize benefits available for the fisheries. DFG has agreed to serve as the lead fishery agency to determine the most beneficial manner to implement the transfer. In addition to the joint memorandum, we have received technical information from DWR pertinent to the proposed transfer, which is discussed elsewhere in this Order.

U. S. Fish and Wildlife Service

The U. S. Fish and Wildlife Service (USFWS) commented extensively on the probability of fishery impacts in the Delta if 1991 and 1992 are dry years. USFWS argues that mitigation measures are needed, and that the transferred water should be used to minimize water project impacts to the fisheries, not increase exports. USFWS believes that there is a high likelihood of Delta impacts in the winter and spring of 1991, because statewide water storage is currently very low. USFWS points out that in Order WR 89-17, term 11, the Board required that a report be prepared by June 1, 1990 on the carry-over effects of the 1989 transfers on both hydrology and fish, wildlife, and other instream beneficial uses. USFWS urges that the Board wait until the report is submitted before approving the proposed transfer.

As discussed above, we will require mitigation for any increase in exports from the Delta in 1991 as a result of the proposed transfer.

USFWS also states that there may be adverse effects on the Delta fisheries during the winter and spring of 1991 because of the proposed transfer. We are not aware of any specific effects.

We will not wait until after June 1, 1990 to approve the proposed transfer. We have the information we need to make the required findings at this time, and any further delay may reduce the positive effect this Order is expected to have in attracting American shad into the Yuba River rather than the Feather River for spawning in May and June. That water may also be beneficial to outmigrating salmon smolts.

7.3

The Bay Institute of San Francisco

The Bay Institute of San Francisco (Bay Institute) opposes the proposed temporary transfer on four grounds, which are discussed below. The Bay Institute requests that the Board schedule a hearing on this matter.

First, Bay Institute argues that the proposed temporary transfer is not exempt from CEQA. Bay Institute bases its argument on the fact that this is the fourth year in a row that YCWA has transferred water, and that the transfer is therefore not a "trial" transfer for the purpose of obtaining information, as provided under the law that existed at the time of the 1988 transfer. While it is correct that this is not a "trial" transfer within the meaning of the statute that was in effect in 1988, the current law does not restrict the number of times that water may be transferred by a particular

transferor for a period of one year or less. The proposed temporary transfer will be in effect for less than one year. Further, the current law provides that temporary changes under Section 1725 et seq. are exempt from CEQA. Contrary to Bay Institute's assertion, the Board did not recognize any lack of authority to make future temporary transfers under the CEQA exemption in Order WR 89-20. Rather, the Board concluded that it would require an adequate environmental assessment before it approved future transfers which involve increased Delta exports. This does not mean a formal Environmental Impact Report, but rather just what it says: an adequate environmental assessment. While, as we stated in Order WR 89-20, such an assessment would require CEQA documentation if it involved a temporary urgency change (Water Code Section 1435 et seq.) or a temporary permit (Water Code Section 1425 et seq.), the change herein does not require CEQA documentation.

The Bay Institute's second point is that the Board should not act without the information required in Condition 11 of Order WR 89-17, which is not due until June 1, 1990. The report requires an evaluation of whether the hydrological changes involved in the 1989 transfers caused measurable impacts to fish, wildlife, and other instream beneficial uses. Notwithstanding that the report is not yet available, however, we have reviewed the likely effects of the proposed transfer

and have required mitigation for the affected fishery resources, even though the expected adverse effects are minimal. Based on the information we have before us, it is unnecessary to wait for the report of 1989's transfers, in order to determine the effects of the proposed transfer; particularly since the proposed transfer is more like the 1988 transfer than the 1989 transfer.

Bay Institute's third point is that we cannot make the findings required by Water Code Section 1725 et seq. if we do not know the precise details of pumping rates and times, or where transferred water was used in 1989. The precise data for 1989 is only minimally helpful in making the required findings, since the proposed transfer differs from the 1989 transfers. However, we did receive such data from YCWA on April 30, 1990, in accordance with condition 10 of Order WR 89-17.

Finally, Bay Institute asserts that the Board should not allow further transfers to DWR until DWR supplies the specific and detailed plan for carrying out environmental studies on the Feather River, that was required by Condition 13 of Order WR 89-17. While we have not yet received the completed plan from DWR, we

have received parts of it, with assurances that the balance will be forthcoming. These circumstances do not warrant denying the proposed transfer.

7.4

Walter Cook

Mr. Cook made several comments regarding the proposed transfer. First, he argues that the evidence before the Board does not justify a finding that instream uses will not be unreasonably affected by the proposed transfer. We disagree. The Board's staff has diligently sought and obtained information from the various interested parties, including the Department of Fish and Game, sufficient to make the required finding.

The second point is that the proposed transfer apparently includes an undisclosed transfer by the Browns Valley Irrigation District (Browns Valley) to DWR, which should be made separately. A Browns Valley transfer was discussed in a local newspaper. However, no such transfer is authorized under this Order; nor has it ever been requested for consideration herein. Any such transfer would have to be authorized under a separate petition.

Third, Mr. Cook asserts that a DFG study shows that the transfer will have an unreasonable effect on fish and wildlife in the Yuba River, and that the fluctuation of flows set forth in the petition would be detrimental to

river habitat, fish and wildlife, riparian vegetation, and recreation. Based on the information before us, the transfer will have a much more positive effect on the river's public trust resources than not having a transfer, because the flows will be regulated and will be present at the times when they are needed by the fish, wildlife, and other instream beneficial uses.

Finally, Mr. Cook argues that the series of temporary transfers resembles a permanent transfer, and should be treated as such. He argues that before any more temporary transfers are approved, studies should be completed of the effects of the transfers, and YCWA should demonstrate a willingness to provide for the fish and wildlife of the Yuba River. We agree that studies are necessary, and we are requiring them.

However, the transfers approved since 1987 have been approved during drought conditions, when very close management of water is essential. The greatest public benefit is gained by authorizing the transfers during these conditions. These benefits include better flows for the Yuba River fisheries than would exist without the transfers and the opportunity to study responses to flow conditions that are not ordinarily available.

7.5

California Sportfishing Protection Alliance

California Sportfishing Protection Alliance (CSPA) made numerous comments regarding the proposed transfer. One

comment, regarding CSPA's complaint against conditions on the Yuba River, is outside the scope of this proceeding and is not addressed in this Order. All of the other comments are discussed below.

First, CSPA asserts that the proposed transfer could cause a 30-percent increase in Delta exports in 1991. This is not correct. The data and technical analysis provided by DWR shows that a 30-percent probability exists that some increase in Delta exports will occur in 1991, if 1991 is a dry or critically dry year. This does not mean that a 30-percent increase will occur. As discussed above, we have assessed the potential effects, and have established mitigation.

The second point is that the transfer may adversely affect American shad migration into the Feather River. We recognized this effect in Part 6.5 above. However, there will be a compensating increase in the American shad migration into the Yuba River because of the higher flows there. Consequently, the effect is not unreasonable.

The third, fourth, fifth, sixth, and seventh points all address effects on the fall-run and spring-run Chinook salmon in the Feather River below the Thermalito

facility. We have evaluated these effects in Part 6.5 above, and we require mitigation measures in this Order for these effects.

The eighth point is that there may be effects on the winter-run, fall-run, and spring-run Chinook salmon of the Sacramento River, which should be evaluated. Any effect of a transfer from YCWA to DWR would occur in the Delta. Based on available information, it appears that salmon do not migrate in substantial numbers through the Delta during the August and September period when there may be increased exports from the Delta in 1991 because of the proposed transfer. In 1990, because the proposed transfer will be offset by export reductions during critical earlier months, no difference will be seen by the Sacramento Chinook salmon.

The ninth point is that YCWA's April 20, 1990 supplement is hearsay and is not supported by evidence. Whether it is hearsay is not relevant for purposes of this Order. We have evaluated the information provided in the submittal, and have made our findings based on all of the information in our file, not solely on the YCWA submittals.

CSPA's tenth comment is that the Board should conduct the assessment of effects on the Delta fishery promised

in Order WR 89-17, because the proposed transfer may cause an increase in exports in 1991. We agree with this point, and the required assessment is contained in this Order.

On May 17, 1990, CSPA added a comment alleging that the diversion at the Sunset Pumps near Live Oak on the Feather River would adversely affect the American shad at the 750 cfs minimum flow that will be maintained during the balance of May and June, 1990. There may or may not be such an effect. However, the 750 cfs flow will not be a result of the transfer.

7.6

Butte Area Chapter, United Anglers of California

The Butte Area Chapter of the United Anglers of California (Chapter) does not oppose the transfer, given the needs in this drought year. However, the Chapter asks that the Board require that no further transfers from YCWA take place until DFG has produced a Management Plan for the Yuba River and it is in place and operational. It is our understanding that the plan is complete and will be released shortly. Therefore, the Chapter's request need not be considered further.

7.7

United States Bureau of Reclamation

The USBR commented that the proposed transfer may affect its water rights. The USBR is working with the

DWR to develop operational and accounting procedures that will protect its interests this year. Consequently, the USBR will not be injured this year. However, the USBR expressed concern about the effect of any long-term transfers on its rights.

8.0

CONCLUSIONS

1. The proposed changes and temporary transfer or exchange involve only the amount of water that would have been consumptively used or stored by YCWA in the absence of the proposed transfer.
2. The proposed changes and temporary transfer will not injure any legal user of water.
3. The proposed changes and temporary transfer will not unreasonably affect fish, wildlife, or other instream beneficial uses, considering the minimal supply of water available this year, and the potential for a similar water year in 1991.
4. YCWA has proceeded with due diligence, and has shown good cause for the proposed changes and transfer.
5. The statutory requirements for approval of the proposed transfer are satisfied. Consequently, no

hearing is required. The proposed transfer should be approved.

ORDER

NOW, THEREFORE, IT IS ORDERED that the Yuba County Water Agency notice of temporary transfer and petition for temporary changes is approved for up to 200,000 acre-feet of water held in storage in New Bullards Bar Reservoir to the Department of Water Resources for meeting Sacramento-San Joaquin Delta outflow and water quality requirements, subject to the following terms and conditions.

1. The temporary transfer and exchange of water between YCWA and DWR is limited to the period commencing five days following the date of this Order at a rate not to exceed 1500 cubic feet per second, and continuing through December 31, 1990.
2. To ensure that permittee retains sufficient water in storage at Bullards Bar to meet its obligations within its service area if 1991 conditions are like those during 1977, permittee shall not transfer more than 146,000 acre-feet to the Department of Water Resources unless permittee demonstrates to the satisfaction of the Chief of the Division of Water Rights that permittee will have additional water, up to 200,000 acre-feet, available for transfer during 1990, considering all requirements herein and in Permit 15026, and all demands within permittee's service area. Permittee shall

give notice to all interested parties of a request to increase the amount of transfer above 146,000 acre-feet.

3. For the protection of fishery and wildlife resources in the Yuba River, permittee shall comply with the following provisions which were derived from the 1965 agreement between permittee and the Department of Fish and Game, adjusted for the transfer to NAPA and for this transfer. Permittee shall comply with minimum flows and maximum mean daily water temperature requirements in the Yuba River at the U. S. Geological Survey (USGS) gage near Marysville and below Daguerre Point Dam as follows:

MONTH	MINIMUM FLOW (cfs)	MAXIMUM TEMPERATURE (°F)	
		Daguerre Point Dam	Marysville
May 22-31	1000		65
June	1000		65
July	91		--
August	91		--
September	91		--
TOTAL of 48 hours, starting on October 16 or other date in October to be designated by Department of Fish and Game	1000		--
October 1-15	400	60	--
October 16-31	700	56	--
November	700		56
December	700		56
January 1991	700		56
February 1991	700		56

Permittee shall coordinate releases from Englebright Reservoir with the Department of Fish and Game with the objective of minimizing flow fluctuations and optimizing temperature conditions in the Yuba River. Ramping rates between minimum flow periods shall be in accordance with directions from the Department of Fish and Game. Flows at the USGS gage near Marysville shall be reduced at a rate to be determined by the Department of Fish and Game after February 28, 1991. Fluctuations between October 15, 1990 and December 31, 1990 shall be avoided to the extent feasible. The minimum flows during January and February 1991 may be reduced based on the results of the study required in Condition 14, with the consultation and concurrence of the Department of Fish and Game. Permittee shall retain in Bullard's Bar adequate water to meet the January and February 1991 minimum flows. Permittee shall report any planned reduction in flows during January and February 1991 to the Chief of the Division of Water Rights at least 10 days in advance of the reduction. If the Chief of the Division of Water Rights objects to the reduction, it shall not be made.

4. Diversion and use of water authorized in this Order shall be subject to all existing terms and conditions of Permit 15026, except as modified by this Order.
5. The transfer of water from New Bullards Bar Reservoir under this Order is authorized beginning five days following the

date of this Order, at a rate of up to 1500 cfs, and ending December 31, 1990. This authorization shall be of no further force or effect on January 1, 1991.

6. For the protection of fish, wildlife, and other instream beneficial uses in the Yuba, Feather, and Sacramento Rivers and the Sacramento-San Joaquin Delta, permittee and the Department of Water Resources shall consult with the Department of Fish and Game and shall adjust flows to the extent practicable so that the proposed flow changes and operation attributable to this transfer will not unreasonably affect fish, wildlife, or other instream beneficial uses.

7. Not later than the twentieth of each month during 1990 and through February 1991 permittee shall provide to the Board, Department of Fish and Game, and other parties who request it, provisional data showing the minimum, maximum, and mean daily river flows, the amounts of water designated for NAPA, DWR, or fishery, and the maximum, minimum, and mean daily water temperatures measured in the Yuba River at the USGS Marysville gage during the preceding month. In addition, Department of Water Resources shall provide data for the period indicating maximum, minimum, and mean daily flow and temperatures measured in the Feather River at the USGS gage near Gridley.

8. From the effective date of this Order through March 31, 1991, permittee and the Department of Water Resources shall provide to the Department of Fish and Game and to the Chief of the Division of Water Rights on a weekly basis a schedule showing the projected daily operations for the following two-week period and projected weekly operations for the remainder of the period of the transfer. The schedule shall include projected:

Flow in the Yuba River at Marysville

Flow in the Yuba River below Daguerre Point Dam

Flow in the Feather River at Gridley

Releases from Shasta Reservoir

Transfers from the Trinity River to the Sacramento River

Flow in the Sacramento River below Keswick.

Any changes in the projections made between the weekly submittals shall be transmitted at the time they are made. The schedules shall be deemed approved with regard to their effect on this temporary transfer unless objections are raised by the Chief of the Division of Water Rights. The Department of Fish and Game and the Department of Water Resources shall designate a contact person for exchange of the above information.

9. Not later than April 1, 1991, permittee shall provide to the Board, Department of Fish and Game, and other parties who

request it, a consolidated summary report showing the daily and cumulative quantities of water transferred to NAPA and to the Department of Water Resources, as well as the maximum, minimum, and mean daily water temperatures measured at the USGS Marysville gage and below Daguerre Point Dam.

10. Not later than May 1 of each year, until the effects of this and any subsequent transfers are obscured hydrologically by spills at New Bullard Bar Reservoir and Lake Oroville, permittee and the Department of Water Resources shall submit a joint report to the Board, the Department of Fish and Game, and any other parties who request it. The report shall include a detailed evaluation of hydrological changes, including secondary impacts, in the Yuba, Feather, and Sacramento Rivers and the Sacramento-San Joaquin Delta attributable to the transfers of water under Permit 15026. The report shall include an evaluation of whether these hydrological changes caused measurable impacts to fish, wildlife, and other instream beneficial uses compared to without transfer conditions and an assessment of the significance of these impacts.
11. Pursuant to Water Code Sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this temporary transfer order, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the Board in accordance with law

and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

The continuing authority of the Board also may be exercised by imposing specific requirements over and above those contained in this Order with a view to minimize waste of water and to meet reasonable water requirements without unreasonable draft on the source.

12. The Board, through the Chief of the Division of Water Rights, reserves jurisdiction to supervise the transfer, exchange and use of water under this Order, and to coordinate or modify terms and conditions, at the discretion of the Board, for the protection of vested rights, fish, wildlife, instream beneficial uses and the public interest as future conditions may warrant.

13. The authorization provided by this Order is subject to DWR agreeing in writing by May 22, 1990 that, if 1991 is a dry or critical year as defined for municipal and industrial standards under Water Right Decision 1485, it will reduce its exports during the period May 1 through July 31, 1991 by 10 percent of the amount of water transferred under this Order, to help mitigate for the cumulative fishery impacts in the Delta caused by moving water across the Delta for export.

The reduction in exports during the period May 1 through July 31, 1991 may be made up in September 1991, and shall occur unless the Department of Water Resources demonstrates to the satisfaction of the Chief of the Division of Water Rights that the transferred water will not be exported. The Department of Fish and Game shall advise the Department of Water Resources and the Chief of the Division of Water Rights of the desired time and duration of the reduction, taking into account the hydrologic conditions existing in 1991. The Board reserves jurisdiction to consider alternative means of mitigating for the increased exports in August and September of 1991, proposed by the Department of Fish and Game, if such alternative means do not have a substantially different effect on the temporary transfer.

14. Permittee, in consultation with the Department of Fish and Game, shall during 1990 conduct a study in the Yuba River below Daguerre Point Dam to determine the effects of fluctuations in flow on salmon fry and redds. Permittee shall report the results of such study to the Board by December 31, 1990. Permittee shall submit the procedures for the study to the Chief of the Division of Water Rights for approval before commencing the study.

15. The authorization provided by this Order is subject to there being maximum daily average temperatures in the Feather River below the Thermalito facilities at a location where adequate

mixing exists between the river flows and return flows from the Thermalito facilities, of 65°F in May and June and 56°F in October, November, and December, except where the Department of Water Resources demonstrates that attainment of these temperatures is not reasonably achievable. If the Department of Water Resources becomes aware of any circumstances under which attainment of these temperatures is not reasonably attainable, the Department of Water Resources

