

HEADWATERS to the PACIFIC OCEAN

and

FAIR ECOLOGICAL SHARE

by

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Prepared

for

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Introduction

For eons the waters of the Coast and Cascade Ranges, and Sierra Nevada flowed in their natural channels on their way to the Sacramento and San Joaquin Rivers, Delta, San Francisco Bay and the Pacific Ocean. Each river and stream contributed its **Fair Ecological Share (FES)** to downstream reaches, to inflow to the Delta and to outflow through San Francisco Bay to the Pacific Ocean. For eons several races of Chinook salmon, steelhead and other native fishes navigated or otherwise utilized these waters for migration, holding, spawning, nursery and rearing purposes. The riparian vegetation provided shade to cool these waters and was home for insects, an important food source for both the aquatic and terrestrial communities.

The keystone for protecting the public's resources under the public trust doctrine is that the State must administer its trust interests consistent with trust purposes and values. The duties imposed upon the State are those of a trustee, not simply the duties of a business manager trying to cut a deal. The key to carrying out the public trust duties of the State are its powers to regulate as well as protect the State's fundamental rights in trust properties and the use of those properties.

Background

The California Court in National Audubon Society v. Department of Water and Power, City of Los Angeles (33 Cal 3d 419, 658 P 2d 709 -1983) provided guidelines for managing the public trust. The Court stated that the public trust is more than affirmation of State's power to use public property for public purposes. It is an affirmation of the duty of the State to protect the people's common heritage of streams, lakes, marshlands and tidelands surrendering that right of protection only in rare cases when abandonment of that right is consistent with the purposes of the trust. The Court relied on Marks v Whitney (6 Cal. 3d 251-1971, a tidelands case) for an enlightened definition of traditional trust purposes. This included the preservation of stream beds and the waters over them as open space, as environments which provide food and habitat for birds, fish, and other aquatic life and which favorably influence the scenic values of an area. The Audubon Court also said parties

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acquiring rights in trust property (in this case water), hold those rights subject to the trust, and can assert no vested right to use those rights in a manner harmful to the trust. The Racanelli Decision (U.S. v State Water Resources Control Board, 227 Cal Rpt 161 -1986) reinforced some major points which were established in the Audubon decision.

The provisions of California Fish and Game Code Section 5937 -the owners of any dam shall allow sufficient water at all times to pass through a fishway or in absence of a fishway, allow sufficient water to pass over, around or through the dam to keep in good condition any fish that may be planted or exist below the dam -- is an expression of the State legislature that protecting the State's waters as habitat and associated fish resources is in the public interest. The practical effect of Fish and Game Code Section 5937 is to limit the amount of water that may be appropriated by requiring that sufficient water first be released to provide habitat conditions to assure that fish, other aquatic life and trust resources below the dam are maintained in good condition. This is within the meaning of public trust protection.

During early water development in the Central Valley Basin, there were few fish resources mitigation or compensation measures or features incorporated into water projects or water right permits. When such measures were incorporated, they were inadequate or otherwise failed to do the intended job. Today the evidence is very poor water quality, marginal stream environments, severely depressed aquatic resources and greatly reduced riparian community. The primary culprit being low stream flows, widely fluctuating flow regimens and inadequate water temperature conditions for desired species such as anadromous fishes. This resulted in the near or total destruction of instream resources, ecological values and beneficial uses. By most any definition of "in good condition", the health or quality of the aquatic ecosystem or the renewability of associated fish resources are not being met. Today's evidence is that the naturally spawning steelhead are listed as endangered under the Federal Endangered Species Act, (FESA), while the natural spawning Fall / Late Fall-run Chinook salmon are proposed for listing as threatened and the spring-run Chinook salmon is proposed as endangered. The winter-run Chinook salmon is listed as endangered under the FESA, the Delta smelt listed as threatened and the Sacramento splittail as threatened.

Fair Ecological Share

The concept of "Fair Ecological Share" (FES) has been accepted by most people in the water / fish and conservation communities. It was discussed at a November 1976 SWRCB hearing, regarding the matter of Water Quality Control Program for the Protection of Beneficial Uses in the Sacramento-San Joaquin Delta and Suisun Marsh.

The meaning of "FES" is that every stream and every water right holder has an obligation to contribute its fair share of the water needed to provide the stream flows and environmental conditions necessary to preserve, restore, and protect trust resources and interests from its headwaters, through its length, to contribute to Delta inflow and Delta outflow all the way to the Pacific Ocean. Judge Racanelli in his 1986 decision, (U.S. v State Water Resources Control Board), commented on the duties of the State Board indicating that the Board needs to consider the impacts of all upstream diversions and uses of water and that taking a global perspective is essential for the Board to carry out its water quality planning obligation. The FES concept easily fits Racanelli's global perspective of having all rivers and streams tributary to Delta, contribute instream flows to protect water quality and other beneficial uses. Each water right holder on each tributary would contribute its FES to protect instream resources, ecological uses and values, as well as provide Delta inflow to meets water quality

standards and protect public trust interests.

It is important that the FES concept be applied to all streams and rivers of the Central Valley Basin. Important aspects toward gaining an understanding of what is the **FES** should include:

1. The natural / unimpaired flow for each river at selected sites,
2. Water rights to storage (reservoir storage) for each permit holder.
3. Reservoir capacity associated with diversion to storage.
4. Water rights for direct diversion (no storage capability). This must include riparian and appropriative right holders.
5. Evaporation at major and minor storage reservoirs.

Water flowing in a stream, by itself, does not indicate that there is unappropriated water available for appropriation. From a planning and public trust management perspective, all streams and all activities that store, divert or otherwise modify the flow of a stream should contribute their **FES** in order to maintain downstream trust resources, uses, and values "in good condition".

Most people realize that reservoir operation, water storage and diversion alters the amount and timing of flows that pass downstream. Therefore it is most reasonable that all reservoir projects and all water diverters have the responsibility to bypass or contribute their **FES** to the stream flows necessary to protect, conserve and restore downstream resources and values protected by the public trust. This **FES** flow contribution would pass from the headwaters, commingle with others waters and pass downstream through the entire reach and continue on to the Delta, thereby contributing to the protection of environmental amenities, beneficial uses, public trust concerns and to Delta outflow to the Pacific Ocean.

There probably is no fixed percentage or amount of instream flow that can be called the **FES** necessary to protect public trust interests and assure resources/ecosystem renewability associated with each river or stream or any reach thereof. In some situations the stream flow required to meet **FES** may be 50 to 65 percent of the average annual flow / discharge. In some situations all the flow may be needed to meet the **FES**, such as providing good spawning and rearing conditions for short lived species such as Delta smelt or species that spawn only once such as Chinook salmon.

The Judge Hodge “physical solution” in his decision in Environmental Defense Fund v East Bay Municipal Utility District (EDF v EBMUD) (Sup. Ct. Alameda County No. 425955, January 1990), was a contemporary response for protecting and restoring the Lower American River, its fish resources, a variety of other instream uses and ecological values. The Hodge “physical solution” placed an ecological perspective on the management of the Lower American River to protect a variety of public trust resources, uses and values (Sax -1993). The Hodge “physical solution” requires about 1.75 MAF to provide minimum instream flows necessary to protect in good condition the public trust resources, uses and values of the Lower American River. This 1.75 MAF is about 65 percent of the average annual runoff of the American River Basin plus the management of Folsom Reservoir’s cool water pool. The State Lands Commission participated in the EDF v EBMUD case.

The East Bay Municipal Utility District, in its fisheries management plan for the Lower Mokelumne River determined that only about 12 percent (85,000 af) of the Mokelumne River annual runoff of 730,000 acre feet was all that was needed to flow down the Lower Mokelumne River to the Delta to protect public trust interests, water quality in the Delta and contribute to Delta outflow standards. This was disputed by the Fish and Wildlife Service (FWS) and California Department of Fish and Game (CDFG) before the State Board. The FWS recommended 193,000 af annually while the CDFG recommended 207,000 af with 262,000 af annually in above normal and wet runoff years for the protection and restoration of Chinook salmon and steelhead resources. The Mokelumne River flows needed as Delta inflow, to protect Delta water quality and other public trust values were not submitted into evidence. The State Lands Commission did not participate in the State Board review.

Therefore, there can be no greater justification for an instream water right than that needed to protect the people's rivers, associated fish property, aquatic resources and riparian systems and other interests entitled to public trust protection. This water right would fit the concept of **FES**.

The "in good condition" criteria of Fish and Game Code Section 5937 is not defined, however, it includes the health of all components of the aquatic ecosystem needed to sustain renewable populations. It includes the conservation and protection of the biological, physical, and chemical parameters of the aquatic environment that are necessary to support self-maintaining or renewing fish populations, associated aquatic life and ecological values, and other public trust uses from the headwaters all the way through the Delta, to San Francisco Bay and the Pacific Ocean.

This **FES** flow regimen should be considered **inviolable**, as common property owned by all the people. Flow regimens for each stream involved should be established **first** before any new water rights are granted (Cal. Trout v SWRCB, 207 Cal App 3d 585-1989). In addition at storage reservoirs, a minimum pool based on the ecological needs of downstream fish resources and other trust interests including ecological emergencies, water quality needs, temperature control, etc., should be established to be drawn upon when needed.

The State, in granting the privilege to store or divert water to an individual, must also consider what is a fair return to the public in who's name the permit is granted. This return must be more than economic considerations, it must include the protection or improvement of trust interests, including stream resources, ecological values and associated beneficial uses. This privilege, while being very valuable, may actually be unreasonable today because of ongoing impacts to resources, uses and values covered by the public trust or

because state agents failed to act to protect the State and its rights in an earlier time (Cal. Trout v SWRCB - 1989).

The Marks v Whitney, Audubon, Cal. Trout and Racanelli decisions are mainstream public trust doctrine (Sax-1989). The Hodge “physical solution” in his decision in EDF v EBMUD was a contemporary response for the restoration and protection of the Lower American River’s many resources, uses and values protected by the public trust doctrine (Sax -1993).

The U.S. Court of Appeals, regarding the operations of Friant Dam, stated that based on Section 8 of the Reclamation Act of 1902, the Bureau of Reclamation has the duty to comply with state law. This includes the duty to comply with Fish and Game Code Section 5937 and to keep fish in “good condition” below the dam. The law applies independently of any contractual arrangements with Federal or non-Federal water users (Natural Resources Defense Council v Houston, D.C No. CV 88-1658 LKK, June 24, 1998). The U.S. Court of Appeals sent the case back to the district court for it to determine if Section 5937 specifically applies to the owner of Friant Dam.

Entities obtaining permission to use the water resource of any river, stream, lake, etc. of this State are the ones legally and morally responsible for preserving and protecting the fish resources, water quality and other interests protected by the public trust by incorporating mitigation or compensation features into the project operations. The destruction of trust resources incidental to a lawful activity does not make the destruction legal. The activity is controllable through an injunction or through the regulatory process.

If all water projects and diverters in the Central Valley Basin contributed their **FES** of stream flow equal to the percentage contained in the Hodge “physical solution” (EDF v EBMUD) for the Lower American River to protect public trust interests, and to provide timely Delta inflow and positive Delta outflow, the present instream and Delta problems associated with water quality, fish resources, aquatic ecosystem protection and renewability would be greatly reduced.

Recommendations

The following recommended actions support the concept of **Fair Ecological Share**. They are also what is believed reasonable and necessary to conserve, protect and restore the public trust resources and interests of the Sacramento and San Joaquin River Basins and San Francisco Bay Estuary, for people who utilize and/or depend on those ecosystems and resources.

1. As a matter of public policy the State should assume the posture that instream flows and the protection of associated trust interests will receive first priority in this water right determination. A certain level of historic natural flow should be reserved for non-consumptive instream uses and to help assure ecological integrity, resource viability and renewability. This flow should be considered inviolable, as a common property owned by all the people. Therefore all reservoir projects and all water diverters (all water right holders) in the Basin should bypass or contribute their **FES** to the stream flows necessary to protect, conserve and restore resources and values protected by the public trust. This **FES** stream flow would pass from the headwaters, through the various facilities commingling with other Basin water and continue to the Delta to meet water quality and outflow standards. Such waters would contribute to the protection of

environmental amenities, beneficial uses, public trust concerns en route to, in the Delta and as Delta outflow.

2. As a matter of public policy the State should undertake the development of a Basin reservoir minimum pool and instream flow management plan to protect and conserve public trust interests. Such a minimum pool along with an adequate instream flow regimen released would help restore or protect reaches of the Basin's rivers to the criteria "in good condition" contained in Fish and Game Code Section 5637.

The points made in the Mono Lake (1983), Racanelli (1986) and Cal Trout (1989) decisions by California courts are not new. They easily fit the statements made in the 1913 California Fish Company decision and in the 1970 Mansell decision that "The powers of the state as trustee are not expressed. They are commensurate with the duties of the trust. The State as trustee has the implied power to do everything necessary to the execution and proper administration of the trust" (underlining added for emphasis.) People v. California Fish Company, 166 Cal. 576, 138 Pacific 79, 87, 88 (1913), City of Long Beach v. Mansell 91 Cal 23., 476 P. 2d 423 at 437 (1970).

The Cal Trout decisions (Cal Trout I, 255 Cal. Rptr. 184 - 1989, and Cal. Trout II, 266 Cal. Rptr. 788 - 1990) told the State Board that it had to recreate the pre-diversion fishery relative to the streams tributary to Mono Lake (Weber -1996). While it may not be possible to recreate the pre-diversion fishery on all tributaries to the Sacramento and San Joaquin River, significant efforts must be made to improve ecosystem conditions (the tributary as well as in the Delta) for those species listed under FESA or are species of special concern that utilize or have utilized such waters and watercourses.

The California courts also said, "The public is not to lose its rights through the negligence of its agents, nor because it has not chosen to resist an encroachment by one of its own number, whose duty it was, as much as that of every other citizen, to protect the state in its rights". The Court in Cal Trout v State Water Resources Control Board (207 Cal App 3d 585 - 1989) relied on People v Kerber (152 Cal 731,732-736, 93 Pac 878 1908) for the continuous protection of public trust interests. With this understanding a member of the public can call for or the State Board can revisit existing water rights at any time.

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CALIFORNIA CENTRAL VALLEY UNIMPAIRED FLOW DATA 1/

River or Area	Average Annual Runoff	Percent of Total
Sacramento Valley Floor	671,000	
Putah Creek	382,000	1.35%
Cache Creek	505,000	1.78%
Stoney Creek	415,000	1.46%
Sacto Valley Westside Minor Streams	445,000	
Sacramento River @ Red Bluff	8,303,000	29.24%
Sacto Valley Eastside Minor Streams	1,245,000	
Feather River @ Oroville	4,441,000	15.64%
Yuba River @ Smartville	2,333,000	8.21%
Bear River @ Wheatland	323,000	
American River @ Fair Oaks	2,660,000	9.36%
San Joaquin Eastside Minor Streams	378,000	
Cosumnes River @ Michigan Bar	370,000	
Mokelumne River @ Pardee	730,000	2.57%
Calaveras River @ Jenny Lind	163,000	
Stanislaus River @ Melones	1,131,000	3.98%
San Joaquin Valley Floor	191,000	
Tuolumne River @ Don Pedro Res.	1,841,000	6.48%
Merced River @ Exchequer Res.	967,000	3.40%
Chowchilla River @ Buchanan Res.	75,000	
Fresno River @ Daulton	90,000	
San Joaquin River @ Friant	1,740,000	6.13%
Tulare Basin Inflow	174,000	
San Joaquin Westside Minor Streams	7,000	
TOTAL ESTIMATED DELTA INFLOW	29,580,000	
ESTIMATED DELTA CONSUMPTION	1,191,000	
TOTAL ESTIMATED DELTA OUTFLOW	28,389,000	

Sacramento Basin contribution to Delta inflow is about 74 percent, Delta Direct about 5 percent, and San Joaquin Basin about 21 percent. One (1) percent equals about 290,580 AF inflow, and 283,890 AF outflow. Corrected July 8,09

1/ CALIFORNIA CENTRAL VALLEY UNIMPAIRED FLOW DATA
(For the period October 1920 through September 1983)
Department of Water Resources, Second Edition 1987

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Selected References

- Althaus, Helen. 1978. Public Trust Rights. Office of the Solicitor, USDI Portland, OR. For the U.S. Fish and Wildlife Service, Region 1, Portland, OR. pp. 421
- Gould, George A, 1988. The Public Trust Doctrine and Water Rights. Rocky Mountain Mineral Law Institute, Proceedings of the Thirty-Fourth Annual Institute. July 1988.
- Jacobs, Diana, 1992. The Public Trust Doctrine and River Conservation. Presented at the Conference on California's River Heritage, May 19, 1992. State Lands Commission
- Johnson, Ralph A. , 1989. Water Pollution and the Public Trust Doctrine. Northwestern School of Law of Lewis and Clark College, Environmental Law. Vol. 19 No. 3, Spring 1989, pp 485 -514.
- Koehler, Cynthia L., 1995. Water Rights and the Public Trust Doctrine: Resolution of the Mono Lake Controversy. Ecology Law Quarterly, Vol.22, No. 3. pp 541-598.
- Sax, Joseph L, 1989. The Limits of Private Rights in Public Waters. Northwestern School of Law of Lewis and Clark College, Environmental Law. Vol. 19 No. 3, Spring 1989, pp 473 -484.
- 1993. Bringing an Ecological Perspective to Natural Resources Law: Fulfilling the Promise of the Public Trust. In Natural Resources Policy and Law, Trends and Directions. Edited by L.J. MacDonnell and S.F. Bates. Natural Resources Law Center, University of Colorado School of Law. pp 148-161.
- Smith, Felix E. 1980. The Public Trust Doctrine, Instream Flows and Resources. California Water Policy Center, U.S. Fish and Wildlife Service, Sacramento, Ca. March, 1980 pp 36.
- _____ 1996. The Kesterson Effect: Reasonable Use of Water and the Public Trust. San Joaquin Agricultural Law Review. Vol. 6. No. 1, 1996, pp 45-67
- _____ 1998. Purpose and Intent of Fish and Game Code Section 5937 and In Good Condition. Prepared for the California Sportfishing Protection Alliance, P.O. Box 357, Quincy CA 95971, pp 13
- _____ 1998. Protecting Instream Interests: Water Rights and the Rule of No Compensation, Prepared for the California Sportfishing Protection Alliance, P.O. Box 357, Quincy CA 95971, pp 15
- State Lands Commission, 1993. California's Rivers, A Public Trust Report. Prepared for

the California State Lands Commission, Sacramento, CA. pp. 334.

State Water Resources Control Board. 1995. Order WR 95-4. Bear Creek, San Bernardino County, CA. February 16, 1995

Weber, Gregory S. 1996. Articulating the Public Trust: Text, Near-Text and Context. College of Law, Arizona State University. Arizona State Law Journal. Vol. 27, pp 1155 to 1248,

Wilkinson, Charles F. 1989. The Headwaters of the Public Trust: Some Thoughts on the Source and Scope of the Traditional Doctrine. North Western School of Law of Lewis and Clark College, Environmental Law. Vol. 19 No. 3, Spring 1989, pp 425- 472