

## **Water Resources, the Public Trust Doctrine and Racanelli**

by  
Felix E. Smith \*

### **Abstract**

*Water development and use is the basis of much of California's prosperity. Water is a valuable resource. It is also a valuable ecosystem supporting fish and wildlife, and many uses, and values to society free of charge. Water development and the use of water are at the heart of much of California's land and water degradation.*

*The ownership of water in California resides in the people and managed by the State (as trustee) for the benefit of the people. The California Supreme Court in Eddy v. Simpson (1853) stated "It is laid down by our law writers that the right of property in water is usufructuary, and consists not so much of the fluid itself as the advantage of its use".*

*The Public Trust Doctrine has persisted in European, English and American law but has its roots back in Roman times. The Institutes of Justinian in the Sixth Century A.D. stated: "by the law of nature these things are common to mankind —the air, running water, the sea and consequently the shores of the sea." These resources, associated uses and ecological values are therefore held in trust by governments for the people. The Public Trust Doctrine makes government agencies the trustee of our water, fish and wildlife resources, associated uses, and ecological values and other assets of significant public use and value. This trusteeship is for the benefit of people. Protecting the sustainability of the people's property associated uses and values is a duty and a moral obligation at all levels of government*

*The National Audubon case (1983) brought classic public trust doctrine protection for water quality, aquatic habitats, and environmental amenities to the Mono Lake Basin. The Audubon Court tied the protection of the public trust assets to the maintenance of natural resources for their innate value and not to private beneficial uses of water.*

*Racanelli's Delta decision (1986) re-enforced many of the Audubon findings, clarified others and gave the State Board additional guidelines / instructions for managing water quality to protect beneficial uses of the Delta. Racanelli states that the State Board must take a "global perspective" in its water quality and water allocation functions. The "global perspective" would be the entire Central Valley watershed tributary to the Delta -Estuary, plus the Trinity / Klamath River system because Trinity River water is diverted to the Central Valley. The State Board, in carrying out its water allocation and water quality functions must consider all upstream diverters and polluters, and past, present and probable future beneficial uses.*

*The State Board has the implied power to do everything necessary to protect the viability of our water resources. To protect and help assure resource sustainability, the State Board must use caution and err on the side of resource renewability. It must set standards to protect beneficial uses and enforce those standards against all upstream diverters and polluters. It has been reluctant to do so. Court decisions have been the way to force the State Board to carry out its duties and responsibilities.*

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*\* Felix E. Smith is a professional fish and wildlife biologist, with 34+ years of experience with the U.S. Fish and Wildlife Service in supervisory and field positions. He has over 50 years experience working on water management issues. He was one of the biologists on the study team that found the first deformed American Coot at Kesterson National Wildlife Refuge. He is a member of the Environmental Water Caucus of the Sacramento Area Water Forum and is on the Board of Directors of Save the American River Association. The author can be contacted at <febesmith@sbcglobal.net> Aug, 20.09*

## **Water Resources, The Public Trust Doctrine and Racanelli**

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### **Background**

Water development is the basis of much of California's prosperity. Water is used to quench the thirst of cities and expand irrigated agriculture to arid and semi-arid lands. Water development is also at the heart of much of California's land and water degradation. Water, all too frequently, is viewed as a commodity to be used for selected activities and then discarded. In agriculture, wastewater and drainage is frequently so polluted that it is not fit for other beneficial uses. This wastewater and drainage becomes a source or non-point discharge to surface waters (both inland and coastal) or to groundwater.

The ownership of water in California resides in the people and managed by the State (as trustee) for the benefit of the people. The California Supreme Court in *Eddy v. Simpson* (3 Cal 249 - 1853) stated "It is laid down by our law writers that the right of property in water is usufructuary, and consists not so much of the fluid itself as the advantage of its use". The American Heritage Dictionary defines – usufruct – as the right to utilize and enjoy the profits and advantages of something belonging to another so long as the property is not damaged or altered in any way.

Water is free in California. There are no annual royalty fees. When one receives a water allocation permit or license to use water from the State Water Resources Control Board (State Board), one pays an application fee, and the costs to develop and transport that water to its place of use. This allocation of water is really permission by the State to use a fixed amount of water in a time and at a recognized place of use. It is not a transfer of ownership. In many situations the responsibilities of the water right holder ceases at that point. The water diverter is not responsible for cleaning up or restoring the quality of the once used water. Cleaning-up is often foisted off to others to accomplish or is not undertaken at all. Too often the cost of cleaning-up becomes a social cost with the price paid being lost or degraded public resources, beneficial uses are reduced or restricted and ecological values degraded or foregone. For example, 130 miles of the San Joaquin River is degraded by trace elements (boron and selenium), a variety of salts, and several agricultural pesticides (DDT, Diazinon, chlorpyrifos, etc.) as well as suffering toxicity from unknown sources. The primary stressors are agricultural pesticides, various leached salts and trace elements. Another example is the Colusa Drain, a tributary to the Sacramento River at Knight Landing. This 70 mile long drain suffers from poor water quality and toxicity from unknown sources with the primary stressor being agricultural pesticides (SWRCB – 2000).

Today the people and the courts realize that water is a multiple use / multi benefit resource and ecosystem. In the context of a water right - a water right holder or user of water must respect the rights and interests of others and protect the integrity of that water as a supply and an ecosystem. To say it another way, the holder of a water right or a water contract, has the obligation to secure for the rest of us the right to use that same water for beneficial uses down stream or down slope into the future.

About 35 years ago (1975-76) forty-six (46) water projects in California were reviewed and evaluated to determine effects on fish and wildlife resources (Hazel -Dec. 1976). These 46 projects covered a variety of habitats and fish species, many purposes and several sponsors. The results were: two streams were extinct along with their fish resources and aquatic biota while wildlife numbers were greatly reduced; 20 streams were degraded along with some species of fish eliminated or their populations severely reduced and about 20 streams were maintained or improved. The primary reason for the degraded state was insufficient instream flow / conditions during some critical period of the year. The overall impact assessment of such water projects on fisheries and fish resources was severely adverse. (Final Report - Governor's Commission to Review California Water Rights Law-1978).

Not much has changed in the past 35 years. It does not stretch one's imagination that California's salmon and steelhead resources continue to be hammered by the operations of water projects. Headlines in the Sacramento Bee and the San Francisco Chronicle discuss the collapse of the Central Valley Chinook salmon resources. The Pacific Fishery Management Council (PFMC) on April 10, 2008 voted to close the 2008 commercial and recreational salmon fishery off the coast of California and most of the Oregon Coast, because of poor return of the 2007 fall-Chinook salmon run. In 2009 the PFMC closed the ocean fishery because of poor return of the 2008 fall-Chinook salmon run. The closure of the Pacific Ocean salmon fisheries (sport and commercial) impact communities from Port San Luis and Moro Bay on California's South Central Coast, north along the Central and North Coast, to Fort Bragg, Eureka, and Crescent City and on to communities along the Oregon and Washington coast.

The Spring-run Chinook salmon and Steelhead of the Central Valley are listed as threatened, while the Winter-run Chinook salmon is listed as endangered under the Federal Endangered Species Act (FESA). The Trinity River supports runs of Coho salmon, Spring- and Fall-runs of Chinook salmon and Steelhead. Coho salmon is listed as threatened under the FESA. Dams have barred the Spring-run Chinook salmon from their historical spawning grounds. High water temperature, inadequate stream releases and fluctuating stream flows have resulted in the extirpation of the Spring-run from the San Joaquin River system and in several Sacramento River tributaries (CDFG-1993). The future of the Central Valley's Fall-run Chinook salmon, the heart of California's commercial and sport fisheries, though not listed, is of considerable concern since the population crash of 2007 (CDFG, July 2009).

## **Public Trust Protection and Management**

Public trust protection has persisted in European, English and American law throughout history. Its roots trace back to Roman times. The Institutes of Justinian in the Sixth Century A.D. stated: "by the law of nature these things are common to mankind —the air, running water, the sea and consequently the shores of the sea". These resources belonging to all the people are therefore held in trust by governments (Sax 1970, Althaus – 1978).

The Public Trust Doctrine makes government agencies the trustee of common heritage resources, uses, and ecological values and other assets of significant public use and value. This trusteeship is for the benefit of people. Public Trust assets are not held primarily for sale or conversion into money. In simple terms Public Trust assets, associated uses, and ecological values should be devoted to fulfilling the purposes of the trust, i.e., in the service of the people (Sax –1970, -1992; Raffensperger-2006).

This held in trust or trusteeship fixes the responsibility for the day-to-day, as well as long-term management of public trust assets. Federal and State agency administrators, as trustees, have a high fiduciary duty and responsibility to manage such assets for the long-term public interest (Cohen –1970). The obligations of a trustee are to protect trust assets from decline and to increase trust assets in numbers and value for use by the public. Trusteeship extends far beyond custodial activities. It requires prudent management. A trustee must be aware of potential adverse impacts; seek out improvement opportunities and act upon them appropriately consistent with its stewardship duties and responsibilities.

The heart of the Public Trust Doctrine is that it imposes limits and obligations upon government administrators, on behalf of all the people. That obligation is that the State as trustee, is not to impair the resources, uses, or ecological values even if private interests are involved. This strengthens the people's hand to share trust assets so long as the corpus of the trust is protected. There may be times that the corpus of the trust maybe impaired. However the State must bear in mind its duty as trustee to consider the effect of the taking (in this instance water) on the public trust and to preserve so far as is consistent with the public interest, the uses, resources and values protect by the public trust. To destroy public trust assets to benefit of one aspect of society at the expense of the larger society is wrong, because it penalizes future users of such resources, uses, and values and is inconsistent with the long-term public interest.

The Public Trust Doctrine, as a resource management tool predates California's water right, and waste discharge permits (air, water), and land use laws and regulations since it goes back to the Roman Empire of the Sixth Century A.D.

The key case regarding the Public Trust Doctrine and the allocation of trust resources is *Illinois Central R.R. v. State of Illinois*, (146 U.S. 387 – 1892). In this case, the U. S. Supreme Court said that it may be reasonable for the State of Illinois to grant to the Illinois Central Railroad some of the Chicago waterfront and lands underlying

Lake Michigan for public trust purposes. However, it was the “wholesale giveaway” of the Chicago - Lake Michigan waterfront and its submerged lands to a private corporation for seemingly private purposes that was unreasonable and illegal. A grant to use a resource held in trust is subject to revocation according to *Illinois Central* case.

The U.S. Supreme Court, in *Illinois*, held “The state can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, so as to leave them entirely under the use and control of private parties, except in the instances of parcels mentioned for improvement of the navigation and use of the waters and when parcels can be disposed of without impairment of the public interest in what remains, than it can abdicate its police power in the administration of government and preservation of peace.”

The U.S. Supreme Court held that the State of Illinois did not have the authority to make wholesale grants of public resources held in trust, because to do so violated the trust under which such resources are held. The giveaway of the entire Chicago – Lake Michigan waterfront by the State was ruled illegal. The outcome was that the Chicago – Lake Michigan waterfront did not pass to the Illinois Central Railroad, but was preserved for diverse public uses that include commercial navigation, fishing, recreation, and other public interests.

The U.S. Supreme Court relied on the Public Trust Doctrine to limit the actions of the Illinois State legislature. From this case, one can conclude that the State cannot make wholesale grants of public trust assets to benefit one aspect of society at the expense of the larger society, because it penalizes future generations of such resources, associated uses and values. Such a give-away was deemed inconsistent with the long-term public interest.

A logical extension of the *Illinois Central* case and the Public Trust Doctrine is that the State can only issue permits to appropriate an amount of water from a lake, river or stream that does not abrogate the State’s public trust responsibilities to the stream, its resources, uses and values. It can be stated that the stream flow and water quality needed to protect fish, other aquatic resources, and the dependent ecosystem, were not and never were transferable by a water right allocation. If there are impacts to resources, uses, and ecological values, the permit to use that amount of water violates the trust under which such assets are held. Therefore the permit is revocable.

Taking the lead from the *Illinois Central* case, the State can only issue waste discharge permits for substances to be discharged to a lake, river or stream or coastal waters in an amount that does not abrogate the State’s public trust responsibilities to protect the water quality, associated resources and beneficial uses of the receiving waters. An unreasonable discharge or use of water is one that pollutes, or one that offends our sense of aesthetics or natural beauty, or one that interferes with the right of the public to enjoy a natural resource of state or national significance, or one that threatens in a harmful way to upset the ecological balance of nature. To allow this

discharge or use confers a valuable privilege that would be inconsistent with protecting the public trust and beneficial uses.

State and Federal agency administrators have the duty and responsibility to protect aquatic ecosystem sustainability so people can continue to benefit from their public trust resources, uses and ecological values. This is a duty – moral obligation supported by nuisance law and the principles of the Public Trust Doctrine. This meaning has been supported by Federal and California Court decisions in *Woodruff v. North Bloomfield* (Fed Rpt. Vol. 12 –1884), *People v. Gold Run Ditch and Mining Co.*, (4 Pac. Rpt. 1152-1884), *People ex rel Ricks Water Co. v. Elk River Mill and Lumber Co* (40 Pac Rpt 486-1895) and *People v. Truckee Lumber Co.* (116 Cal 397 –1897). These case findings and decisions make it clear that as a matter of law, one must exercise his or her rights or use his or her property so as not to infringe on the rights, interests or properties of others. Also holders of water rights are entitled to the natural flow of the water undiminished in quality. In *People ex rel Ricks Water Co.* –1895, the California Court stated if the conformation of the defendant land is such that the owner cannot carry out a dairy and milling activity without putting debris and filth into Elk River, then the owner must find some other use for the land.

An enlightened perspective of what encompasses the public trust of coastal waters and tidelands is found in *Marks v. Whitney*, (6 Cal. 3d 251; 98 Cal. Rptr. 790, 491 P.2d 374 –1971). *Marks* recognized and clarified that uses encompassed within the tidelands trust, in addition to the traditional purposes of navigation, fishery, and commerce, also included the preservation of those tidelands in their natural state as open space, and as environments which provide food and habitat for preservation and protection of birds and marine life, and for their preservation for ecological study, open space, scenery, and the climate of the area. The *Marks* Court recognized that tidelands, with their plant and invertebrate life, the water over them and in the sand, gravel, or mud substrate, all interact and are valuable ecosystems in themselves supporting a variety of public trust interests. This no doubt applies to California's rivers, streams, and lakes. It might also apply to the vast forest and rangelands, other open space lands, State and National Parks, and prime agricultural lands. (Also see Sax – 1971, and 1992; Stevens –2004.)

Public trust protection moved from the coastal waters and tidelands of *Marks v. Whitney*, to the Bay and marshlands of *Berkeley v. Superior Court* (1980), inland to river, streams, and lakes in *State of California v. Superior Court- Lyons* (1981) for Clear Lake, and to Lake Tahoe in *State of California v. Superior Court – Fogerty* (1981), in the same manner as maturing Chinook salmon and steelhead, after spending their growth period on their Pacific Ocean pasture, migrate to their ancestral spawning rivers, streams and nursery grounds.

*Audubon (National Audubon Society v. Department of Water and Power, City of Los Angeles*, - 33 Cal 3d419, 658 P 2d 709, 189 Cal. Rpt. 346, cert. Denied 464 U.S. 977 – 1983, also called Mono Lake) extended public trust doctrine protection to Mono Lake and its tributaries. *Audubon* was a transformative decision (or should have been)

regarding the public trust doctrine and the protection of water quality, aquatic habitats, and environmental amenities. This case involved the near total diversion of inflow to Mono Lake from 5 tributary streams. This resulted in the level of Mono Lake dropping 43 feet from pre-diversion level. The surface area had diminished by one-third threatening the brine shrimp fishery, and nesting islands important to migratory birds i.e. California gulls. The Mono Lake brine shrimp, a food source along the migration route of thousands and thousands of Northern Phalarope, Wilson Phalarope and Eared Grebes, was threatened. A unique recreational, scenic, and scientific resource was threatened by the near total diversion of tributary inflow.

The *Audubon* decision re-enforced many earlier public trust findings and clarified or broadened the meaning of others. *Audubon* gave guidance to the State Board to be proactive to protect the public trust rather than being merely reactive. Some major points of *Audubon* decision include:

- Public Trust Doctrine protects navigable waters from harm caused by diversion of non-navigable tributaries (pg. 357).
- Parties holding permission to use water hold those rights subject to the trust and if water is used for trust purposes there is no taking issue (pgs. 359-360).
- Public trust protection includes the protection of ecological and biological aspects of State's waters whether navigable or not (pgs. 360-361).
- The State Board has the authority and duty to take the public trust into account and to avoid or minimize damage to fish, wildlife, and water quality in the allocation and use of water (pgs. 363 – 364).
- The State Board has continuous authority and supervisory control to vigorously protect public trust lands and waters to prevent harmful impacts to resources, uses and values protected by the public trust (pg. 364).
- The State Board can reconsider past water allocations at any time under its continuous authority (pg. 365).

The *Audubon* case verified findings of *Illinois Central*. A key point made by *Audubon* was "the public trust is more than the affirmation of State powers to use public property for public purposes. It is an affirmation of 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" (*Audubon* at 360-361, underlining added for emphasis).

The *Audubon* Court tied the protection of the public trust assets to the maintenance of natural resources for their innate value and not to private beneficial uses of water (Koehler – 1995). The same can be said for the *Illinois Central* case. The *Illinois* Court protected the lands and waters of the Chicago / Lake Michigan waterfront for the benefit of all the people and future generations.

The State Board's Mono Lake Basin Water Rights Decision -1631 of September 1994, set the stage for restoring Mono Lake and several tributaries by setting fishery protection flows, lake elevation to be attained, and the protection of public trusts resources and interests of Mono Lake and the Mono Lake Basin.

Adolph Moskovitz, an old time water lawyer, was involved in the *Audubon* case, speaking to the Sacramento Area Water Forum described the Public Trust Doctrine as multi-faceted involving many resources, uses, and ecological values. Protecting the public trust is not just another use co-equal with irrigation, power production, an industrial use, or leaching salt from soils, etc. Protecting the public trust, including the preservation and enhancement of fish, wildlife, and other aquatic resources, occupies an exalted position in any judicial and administrative determination of water resource allocation (March 3, 1994).

### **The Meaning of Racanelli**

The Sacramento – San Joaquin Delta – Estuary serves as the central point for the transfer of water for the Central Valley Project (CVP) and the State Water Project (SWP). There have been a combined 34 water use permits issued to the Bureau of Reclamation (USBR) for the CVP and to the California Department of Water Resources for the SWP, to divert water from the southern Delta for irrigation, industrial and municipal uses south of the Delta. Water from Delta channels is used for irrigation, industrial and municipal uses of the Delta and adjacent lands. The Delta–Estuary is a critical ecosystem to the people's fish trust including 4 races of Chinook salmon, Central Valley steelhead, and many native fishes including the longfin smelt, the Delta smelt, and green sturgeon and the introduced striped bass and American shad. Upstream storage reservoirs modify the timing, quantity and quality of water released to downstream to the Delta. There are depletions for irrigation, municipal and industrial uses along the way. Irrigation use results in non-point source discharges that dump agricultural wastewater and drainage that contains selenium, boron, and a variety of salts and trace elements. Irrigation return water (contains a host of agricultural chemicals), while treated urban sewage (contains pesticides and other chemicals). All contribute to degraded water quality of the Delta and tributaries.

The State Board, in 1978 after months of hearings, issued the Water Quality Control Plan (Plan) for the Sacramento- San Joaquin Delta and Suisun Marsh and Water Right Decision -1485. The Plan set new water quality standards to control salinity and to protect fish and wildlife of the Delta and Suisun Marsh and to protect agricultural, industrial and municipal uses of Delta waters. Water Right Decision -1485 modified the permits held by the USBR and DWR to compel CVP and SWP projects to release enough water to the Delta or to reduce their exports from the Delta in order to maintain water quality standards set in the Plan. No less the eight petitions for writ of mandate were filed by interested parties seeking to invalidate the Plan and Water Right Decision - 1485. These petitions were consolidated and assigned to San Francisco Superior Court Judge Richard P. Figone. He granted the peremptory writ of mandate that the State Board set aside the Plan and the Decision –1485.

Virtually all the parties including the State Board quickly appealed. The appeals were consolidated requiring the Court to determine the scope of the State Board's dual responsibility to regulate water quality and to supervise appropriation permits. The



Court of Appeal issued what has become known as the *Racanelli* decision (*US v State Water Resources Control Board*, 227 Cal Rpt 161 – 1986). The *Racanelli* decision re-enforced many of the Audubon findings, clarified others and gave the State Board additional guidelines / instructions for managing water quality to protect beneficial uses of the Delta. Some major points of *Racanelli* include:

- The Court reminded all parties and all diverters of the “usufructuary” nature of a water allocation, (pgs. 167-168).
- Instream uses are within the category of beneficial uses and include recreation and the preservation and enhancement of fish and wildlife resources (pg. 169).
- Water rights are limited and uncertain. The water supply available is determined by natural forces (pg. 170).
- No one has a vested right to use water in a manner harmful to the State's water, associated resources, beneficial uses and values (pg. 171).
- The State Board in its water quality role must provide reasonable protection for all beneficial uses of water (pg. 178).
- The State Board should take a “**global perspective**” and consider all competing upstream diverters and polluters (past, present, and probable future beneficial uses of water) in its water quality and water planning activities (pgs. 179 -180).
- The State Board should implement the necessary water quality standards against all factors that affect water quality i.e. against all other diverters and users of water (pgs. 179 -180).
- The State Board can impose water quality standards to protect all beneficial uses on all upstream projects under its reserved jurisdiction (pg. 195).
- The State Board has a mandate under California's Porter - Cologne Act and the Federal Water Pollution Control Acts to set standards to protect fish, shellfish, and wildlife and recreational uses of those waters (pg. 200).
- The State Board has continuing authority and a public trust responsibility to reconsider past water allocation actions (pg. 201).
- The State Board has the power and the duty to open past water allocations at any time to protect fish, wildlife and other beneficial uses of water (pg. 201).

*Racanelli* understood that to foster beneficial uses and to preserve and protect water quality and fish and wildlife resources of the Delta–Estuary, one must take a “**global perspective**” of the issue involved. In this case “**global perspective**” would be the entire Central Valley watershed tributary to the Delta –Estuary, plus the Trinity / Klamath River system because Trinity River water is diverted to the Central Valley for export. (Bold lettering added for emphasis.)

*Racanelli* understood that preserving and protecting water quality stretches the water supply and protects beneficial uses. The term “beneficial uses” means beneficial to the appropriator and water contractor and not harmful to public trust, resources, uses, values and other beneficial uses. For example, the disposal of wastewater and drainage to waters of the State is not a beneficial use because the act and its destructive aspects are detrimental to beneficial uses (Johnson –1989). The California

Regional Water Quality Control, Central Valley Region recognizes 21 beneficial uses of water in its Basin Plan (Water Quality Control Plan-Sacramento River Basin and San Joaquin River Basins – Revised October 2007).

Water quality is critical to the productivity of water as an ecosystem and as a commodity for domestic, irrigation and industrial uses and numerous uses protected by the public trust. A river can be lost to the farmer; - to fish; - as a place to recreate or as a water supply. It can be diverted, polluted, misused or over appropriated. Worster (1984) refers to Aldo Leopold's *Round River*. Leopold, looking for a way to make the principles of ecology clear and vivid, suggested that nature is a round river, (i.e. the hydrological cycle), continuously flowing into itself, going through all the soils, the flora and fauna of the earth, while supporting many resources, uses, and ecological values. Therefore any pollution by persistent and bio-accumulative chemicals and trace elements, such as selenium and persistent pesticides, have no place in our *Round River*. Destroying one part of this river can destroy other parts, or all of it with the benefits to society severely degraded or lost.

At the watershed level one must consider its characteristics, resources, uses and values. The watershed may be habitat for a multitude of wildlife species including threatened and endangered birds, mammals, fish, plants, and other wildlife. It may provide spawning, nursery and rearing habitat for unique species such as Steelhead, Chinook and Coho salmon. It may contain unique environmental values such as critical winter range for deer or important habitat for migratory birds. It must be realized that natural resource and environmental amenities have value that are not fully captured in our commodity / market place system (*U.S. v. Union Pacific R. Co.* – 2008).

*Racanelli* clarified that diverters and polluters upstream of the Delta do not have or retain unlimited access to upstream waters while downstream parties are entitled only to share the left overs, i.e. the remaining stream flow and water quality (pg.179). For example, in a watershed, a diverter or polluter's action can extend hundreds of miles downstream. It can impact many communities, resources, uses and environmental values. One can follow water from the Trinity River watershed (Trinity Dam and Clair Engle Lake) through Whiskeytown Reservoir to the Sacramento River and then to Sacramento / San Joaquin Delta-Estuary. This water is then pumped out of the south Delta and after traveling many miles in a canal, is delivered to lands of the USBR's San Luis Unit, Central Valley Project on the west side of the San Joaquin Valley. A portion of the water applied to the land becomes agricultural runoff and drainage contaminated with selenium, boron, and a variety of salts, agricultural pesticides and other chemicals. This selenium, salt and chemical-laced drainage manifests itself in a contaminated aquatic ecosystem and food chain for fish and wildlife of the San Joaquin River and Delta, as well as contaminating the area's ground water (Presser and Luoma –2006).

Researchers from the Northwest Fisheries Science Center and Washington State University (Laetz, et al. 2009) report study findings that when salmonid fishes are exposed to carbamate (carbaryl and carbofuran) and organophosphate (diazinon, malathion and chlorpyrifos) agricultural pesticides, the affect is "synergistic" rather than

additive, meaning that when test salmon were exposed to combinations of pesticides, the effects were more lethal than could be anticipated from simply adding the effects of the separate chemicals together. Agricultural pesticides and selenium-contaminated drainage no doubt play a role in the Delta's Pelagic Organism Decline.

The *Racanelli* decision states that it is essential that the State Board take a "global perspective" and that it must consider all upstream diverters and polluters (past, present and probable future beneficial uses) in carrying out its water quality and water planning activities (pgs. 179-180). *Racanelli* told the State Board to "Set water quality standards to protect beneficial uses (including fish and wildlife) and then let all the diverters and polluters do everything necessary to meet them."

*Racanelli's* "global perspective" is that all diverters and every water right holder on every river or stream has an obligation to contribute a share of the water needed to provide the stream flow and environmental conditions necessary to preserve, restore, and protect trust resources and beneficial uses from the many projects, downstream to and contribute to Delta inflow and Delta -Estuary outflow. With *Racanelli's* "global perspective" comes a most reasonable idea of having all rivers and streams tributary to Delta- Estuary contribute their respective "Fair Ecological Share" of the instream flows to protect water quality, fish, wildlife, and other beneficial uses.

The provision of California Fish and Game Code Section 5937 – that the owner of any dam shall allow sufficient water at all times to pass through a fishway or in absence of a fishway, allowed 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 Code Section 5937 is to limit the amount of water that may be appropriated by requiring that sufficient water first be determined and released to provide habitat conditions to assure that fish, other aquatic life and trust resources below the dam are maintained in good condition (*Cal. Trout v. SWRCB*, 207 Cal App 3d 585-1989, also called *Cal Trout 1*). In addition, minimum reservoir pools 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 for storage facilities to be drawn upon when needed. "In good condition" instream conditions should be implemented first before any water right allocations are granted or additional water is pumped from the Delta-Estuary. This is within the meaning of public trust protection. The "Fair Ecological Share" for each river or stream could be about equal to what conditions are needed to meet the intent "in good condition" of Code Section 5937.

The *Cal Trout 1* decision required that the license held by the City of Los Angeles to divert water from the Mono Lake Basin be amended to comply with Fish and Game Code Section 5937 & 5946. This action put providing or determining instream flows and the water quality needs first to protect the corpus of the trust, before water is allocated to those bent on exploitation. *Cal Trout 2*, (*Cal. Trout v. SWRCB* 266, Cal. Rptr. 788 - 1990) required that stream flow requirements be added to Los Angeles licenses

immediately, not after many years of study. This action has laid the groundwork for stream restoration activities that can be applied to the rivers and streams tributary to the Sacramento –San Joaquin Delta-Estuary.

*Racanelli's "global perspective"* would require flows (amount, timing and duration of flows, and water quality meeting temperature needs of the riverine ecosystem and its resources, etc.) to be released from upstream reservoirs on rivers and streams tributary to the Sacramento and San Joaquin Rivers and the Delta Estuary. *Racanelli's "global perspective"* would include pre-1914 right holders, post 1914 water right holders / diverters as well as dischargers. It would seem appropriate that any review of existing water allocations should include all upper basin dams and reservoirs. A portion of each water allocation should contribute a **"Fair Ecological Share"** to meet downstream public trust needs and beneficial uses. Instream flow studies downstream of all major storage reservoirs that rim the Central Valley to meet the criteria "in good condition" of Code Section 5937 have not been completed or not undertaken.

The concept of **"Fair Ecological Share"** and Fish and Game Code Section 5937 studies should be applied Central Valley wide. This is especially important if efforts to restore Chinook salmon and steelhead runs in meaningful numbers in the American, Mokelumne, Stanislaus, Tuolumne, Merced and upper San Joaquin Rivers are to be realized. There have been some negotiated settlements on these rivers. However protecting public trust resources, uses and ecological values or meeting the intent of Code Section 5937, has been is a hit and miss proposition. There was a Federal Energy Regulatory Commission settlement on the Mokelumne River between East Bay Municipal Utility District and the US Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) during the mid 1990s. This settlement was more of a shotgun settlement. The USFWS and the CDFG administrators abdicated their public trust responsibilities under special interest and political pressure.

The *Audubon* and *Racanelli* decisions provided guidelines for transformative change in the way the State Board conducts its business and for the proper administration of public trust assets. However progress to that end has been slow.

The State Board can reconsider the past water allocations from Central Valley Rivers because of changing circumstances, court decisions, and the impacts that have occurred to instream resources, beneficial uses and environmental values.

#### **An example – American River Watershed**

The flow regimen (flow, timing, duration and temperature) of flow releases from Folsom / Nimbus Reservoirs to the Lower American River (LAR) are not protective of steelhead and Chinook salmon. The flow regimen of D-893 adopted in 1958 has a minimum flow of 250 cfs January thru mid-September, and 500 cfs between September 15 and December 31. D-893 has not been updated to meet the "in good condition" meaning of Fish and Game Code Section 5937; to meet the needs of CVPIA, or the guidance provided by *Audubon*, *Racanelli*, *Cal Trout 1* and *Cal Trout 2*.

The American River Watershed (ARW) prior to water development contributed an average annual runoff of about 2,800,000 acre-feet (based on years 1951-2000 - DWR). Dams and reservoirs have harnessed the waters of this watershed. This water is diverted into canals, conduits and tunnels to generate electricity, and to provide water for agricultural, domestic, and industrial purposes. The conservation and protection of fish and wildlife were secondary purposes at best. Depletions occurring from the runoff are estimated at about 550,00 acre-feet at 2030 diversion levels (Water Forum Agreement -2000). Folsom Dam and Reservoir, with a capacity of 977,000 acre-feet, is a feature Central Valley Project operated by the USBR. There are at least 845,000 acre-feet of storage upstream of Folsom Reservoir, with about 785,000 acre-feet constructed after Folsom / Nimbus Dams and Reservoirs were completed in 1955.

The operation of each upstream reservoir alters the timing and movement of water downstream, impacting fish and wildlife resources and aquatic ecosystems downstream of each facility. The cumulative operations of the upper basin facilities provide some incidental flood control for the lower watershed. The operation of these same facilities inhibit the ability of the USBR to meet flow and temperature obligations to protect and restore Chinook salmon and steelhead of the LAR and to meet Delta water quality to protect beneficial uses.

Meeting the "in good condition" of Fish and Game Code Section 5937 is the responsibility of the owner of a dam, whether or not it is a specific condition of any permit or license issued by the State Board. The criterion "in good condition" includes, 1) the health of the aquatic community, 2) the diversity and abundance of aquatic populations, and 3) the health and overall condition of individuals and of the aquatic ecosystem. It is the status of all species that indicates the overall health of the ecosystem. Code Section 5937 is state law.

The State Board can reconsider previously issued permits under Permit Term 80 – Reserved Jurisdiction, as well as under its continuing authority as discussed in *Audubon*. State Board Permit Term 90 - Reduction of Diversion Season for Delta and tributary waters, – applies to Sacramento, Cosumnes, Mokelumne, Calaveras and San Joaquin Basins. This puts the diverter on notice that water may not be available during all or a portion of the time authorized. State Board Permit Term 91 – In Basin Entitlement - Delta and tributary rivers, applies to Sacramento, Cosumnes, Mokelumne, Calaveras and San Joaquin Basins. Permit Term 91, No diversion is authorized when satisfaction of in basin entitlements requires release of supplemental project water from CVP or SWP to maintain Delta water quality and fish and wildlife. The State Board can use these Permit Terms to help assure that water released by upper watershed diverters is sufficient to protect resident fish populations, to protect Chinook salmon and steelhead in the LAR and to maintain or improve water quality in the Delta.

*Racanelli's "global perspective"* (pgs. 179-180), that the State Board must consider all upstream users and uses of water is very important to the survival of the Delta as an ecosystem. A previously granted privilege to divert and store water, may be unreasonable today, because of impacts to public trust assets such as water quality and

to Steelhead, Fall- and Late fall–runs of Chinook salmon in the Lower American River (LAR). Therefore to assist in the management of the LAR, a watershed flow regimen designed to be released from the respective dams and reservoirs should be formulated and implemented. The water released under this flow regimen should be considered public trust water and inviolate (*Cal. Trout 1*). Such an action would be consistent with the purpose, intent, and findings of *Racanelli* that all diverters and uses of water upstream of the Delta should contribute water to meet water quality and flow needs of downstream reaches to protect fish resources and other beneficial uses.

Much of the runoff of the ARW eventually passes through Folsom Reservoir to serve a variety of purposes and uses. Managing Folsom Reservoir releases to meet resource and water quality needs is challenging. The temperature, timing, duration and amount of such flow releases (the flow regimen) are critical aspects for managing “in good condition” the fish resources and ecosystem of the LAR as well as water quality in the Delta.

Judge Hodge in his 1990 decision in *Environmental Defense Fund v. East Bay Municipal Utility District (EBMUD)* – (Case No. 425955, Superior Court, Alameda County, CA.- Jan 2, 1990), provided a physical solution for the diversion of water from the American River downstream of Folsom / Nimbus Dams. For guidance he closely followed *Audubon* and *Racanelli*. He developed his own physical solution for protecting the LAR’s many public trust resources, values and beneficial uses. His priority was to protect the people’s fish interest first while still allowing EBMUD and the City of Sacramento to take some water under a set of reasonable and feasible constraints and conditions. The Hodge physical solution flow regimen follows:

October 15 thru February	–	2,000 cfs
March thru June	–	3,000 cfs
July thru October 15	—	1,750 cfs

An additional 60,000 acre-feet was to be maintained in reserve in Folsom Reservoir from mid October thru June for release upon the recommendation of the Department of Fish and Game in response to specific fishery needs.

The National Marine Fisheries Service, on June 4, 2009, completed its Final Biological Opinion for the long-term operations of the Central Valley Project / State Water Projects. The Biological Opinion included the Sacramento Water Forum’s Flow Management Standard (FMS with temperature criteria) to protect steelhead and Chinook salmon utilizing the LAR.

The major issue; – Can the USBR manage the present runoff by re-operating Folsom / Nimbus facilities in a fish and environment friendly manner to meet the Water Forum’s American River – FMS and Delta water quality needs without flow augmentation or water contributions from upper watershed diverters? If the answer is No, – then what facilities and upstream contributions are needed to meet the release of the desired water from Folsom Reservoir in a fish and environment friendly manner and to protect Delta water quality?

### Some Recent Court Actions

The U.S. Court of Appeals, in 1998, about 50 years after the USBR dried up the San Joaquin River at Friant Dam, stated the Bureau of Reclamation, based on Section 8 of the 1902 Reclamation Act, has the duty to comply with state law in the operation of Friant Dam. This included the duty to comply with Fish and Game Code Section 5937 and to keep fish "in good condition" below a dam. This 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).

To keep fish and other aquatic life "in good condition", Federal Judge Lawrence Karlton imposed the meaning of Code Section 5937 on the USBR's operation of Friant Dam (*NRDC, et al. v. Roger Patterson, et al.* No. CIV S-88-1658 LKK – Aug 27, 2004). Judge Karlton ruled that Fish and Game Code Section 5937 was an expression of the State for the protection of its fish resources and is in force independent of it being stated in a water right permit or license. Water is not yet flowing from Friant Reservoir down the San Joaquin River to the Delta, and fish and other aquatic life are not being maintained "in good condition".

The operations of several CVP facilities are integrated. One can, however, trace water delivered to the San Luis Unit back through the Delta to the operation of Shasta Dam -Sacramento River, Trinity Dam -Trinity River and Folsom Dam -American River. The operation of such facilities on their respective rivers impacted wildlife and fish resources, uses, and ecological values. The resultant impacts are very much in the news and still are controversial today.

The points made in the *Audubon* -1983, *Racanelli* -1986, *Cal Trout 1*-1989, and *Cal Trout 2* -1990, decisions by California courts are not new. They easily fit the statements made in the *California Fish Company* - 1913 and in the *Mansell* -1970 decisions 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). See *People v. California Fish Company*, 166 Cal. 576, 138 Pacific 79, 87, 88 (1913), and *City of Long Beach v. Mansell* 91 Cal 23. 476 P. 2d 423 at 437 (1970).

*Cal. Trout 1* and *Cal. Trout 2* decisions told the State Board that it had to recreate the pre-diversion fishery relative to the streams tributary to Mono Lake. While it may not be possible to recreate the pre-diversion fishery on all tributaries to the Sacramento and San Joaquin Rivers, significant efforts must be made to improve ecosystem conditions (in the tributaries as well as the Delta- Estuary) for those species listed under the Federal Endangered Species Act, or are species of special concern that utilize or have utilized such waters and watercourses.

## Conclusion

The waters of the state, the beds and bottoms of those waters, the quality of those waters, the stream flow, associated fish and other aquatic life, wildlife, and uses of those waters are held as a trust by the State for the benefit of future generations.

The Public Trust Doctrine imposes limits and obligations upon government agencies and their administrators, on behalf of all the people and future generations. It can strengthen the people's ability to share trust assets so long as the corpus of the trust is protected against loss or degradation. For example, resources, uses, and ecological values or objects in which the people have a special interest are held subject to the duty of the State as trustee, not to impair such assets even if private interests are involved. The Public Trust is not just another use co-equal with irrigation, power production, etc.; it occupies an exalted position in any judicial or administrative determination in the allocation and use of the State's water resources.

Protecting the public trust should force government administrators, at all levels, to think ecologically. The administrators must look broadly at ecosystems, understand them, and then manage them to meet the needs of the conventional economy and those of nature where lakes, rivers, streams, and estuaries produce healthy fish populations, where forests can provide timber and still provide habitats for diverse populations of wildlife, and where wetlands remain biologically productive and uncontaminated by persistent chemicals and trace elements.

Case law and findings have provided some guidance for managing public trust resources, uses and ecological values and other trust objects. Court findings and decisions will continue to impact and guide decision makers. Court decisions have impacted the diversion of water from the Lower American River, Mono Lake, and from the Delta to protect species list under the FESA, such as the Delta smelt, and winter and spring run Chinook salmon. (See Case 1:05-cv-01207-OWW Doc.575 –Filed April 8, 2008 and the Wanger decision, Case 1:06-cv-00245-OWW-GSA - of April 16, 2008, by the U.S. District Court for the Eastern District of California.)

It is reasonable to conclude that in the Central Valley watershed, all water projects and diverters of water should contribute their "Fair Ecological Share" of their allocation to meet the "in good condition" of Fish and Game Code Section 5937, be release from rim reservoirs to the Sacramento or San Joaquin River and Delta to protect water quality, aquatic resources, associated values and beneficial uses. This effort would provide timely Delta –Estuary inflow and outflow to assist the runs of Chinook salmon, Steelhead and other native species migrating to their natal streams for spawning and for rearing the next generation of fish. Under such management, the problems associated with the present instream regimens, Delta aquatic resources and water quality would be greatly reduced and more manageable.

End

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