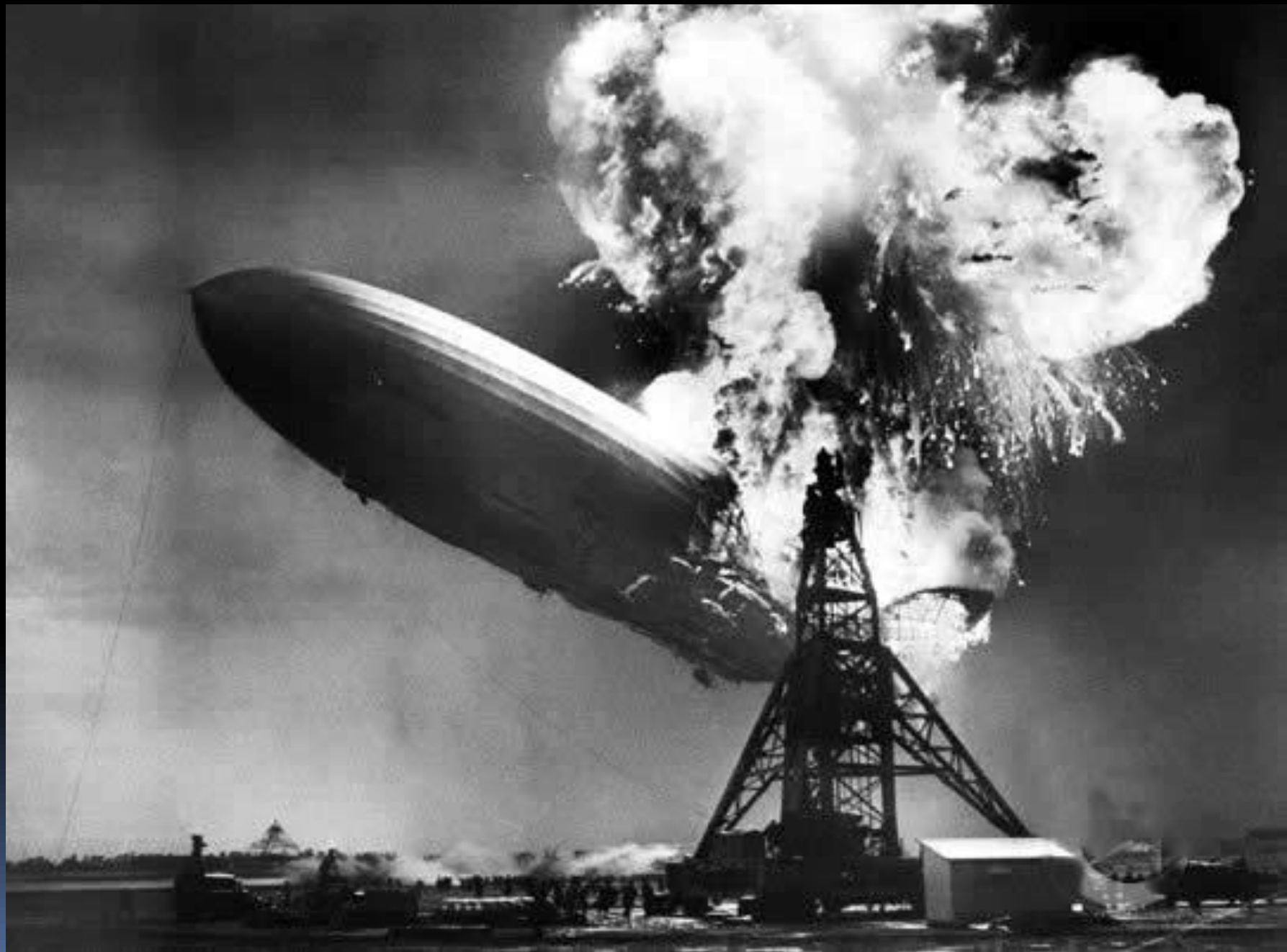


A scenic sunset over a body of water, with a glowing lamp post in the foreground. The sky is filled with soft, colorful clouds in shades of orange, yellow, and blue. The water reflects the colors of the sunset. In the foreground, a concrete path leads towards the water, and a glowing lamp post stands on the left side. The overall atmosphere is peaceful and serene.

Water Education Foundation
Bay-Delta Tour
June 25, 2015

John Herrick, Counsel & Manager
South Delta Water Agency

**WE WILL NOT
DISCUSS BDCP!**



How Not To Handle A Drought

The Bureau and DWR operate the Central Valley Project and the State Water Project. Those operations are based on permits granted by the State Water Resources Control Board.

Every few years the SWRCB determines what is needed to protect beneficial uses and adopts water quality objectives to protect those uses.

In a separate follow-on process, the SWRCB then assigns responsibility for meeting those objectives. The current Water Right Decision D-1641 assigns many/most Delta related objectives to the USBR and DWR.

Once a Water Right Order obligates you to meet a water quality standard you must comply with such order unless you get temporary or permanent relief.

A water right holder may petition the SWRCB for a change to its permits. The normal process involves public notice and participation and an evidentiary hearing.

An “Urgency” process exists for emergencies. It involves no public notice and no hearing.

California Water Code Section 1425. Conditional, temporary permit; findings; definition; issuance

(c) “Urgent need,” for the purposes of this chapter, means the existence of circumstances from which the board may in its judgment conclude that the proposed temporary diversion and use is necessary to further the constitutional policy that the water resources of the state be put to beneficial use to the fullest extent of which they are capable and that waste of water be prevented; except that the board shall not find an applicant’s need to be urgent if the board in its judgment concludes, if applicable, that the applicant has not exercised due diligence either (1) in making application for a permit pursuant to provisions of this division other than this chapter, or (2) in pursuing that application to permit.

2007-2008 Drought years.

2009 thought to be third drought year.

CVP notified Exchange Contractors they may not be able to supply them with export water.

DWR and USBR Petition SWRCB for relief from permit condition to meet outflow.

Exports rose from 2,000 cfs to 4,000 cfs while outflow was 7,000 cfs instead of required 11,400 cfs

2012 A below normal year.

2013 First six months are one of the driest six month period on record.

Spring of 2013 DWR and USBR ask SWRCB (via letter) to be partially relieved from obligation to meet Western Delta Agriculture Standard and ask for cold water obligation on Sacramento River to be cut; due to insufficient storage.

SWRCB responded with letter that “okayed” the changes stating it would not prosecute any lack of compliance.

2014 DWR and USBR have no drought contingency plans

After 12+ months of drought, DWR and USBR
Petition the SWRCB for relief from outflow
requirement under “Urgency” process.

Eight times the projects asked for relaxation of their
permit conditions. These conditions include the
minimum fishery flows for critical years.

Urgency process allows no public, notice or
input. Urgency Order granted, then changed
7 additional times, also without public
notice or comment.

2015

After the fishery agencies and the SWRCB agreed to a change in the Sacramento River cold water standard it turned out the Bureau's thermometer was giving faulty readings and the "approved" change was revoked.

A new "deal" is being worked out and the 3rd request for "urgency" changes is pending before the Board.

Those Damn Illegal
Diverters in the Delta!

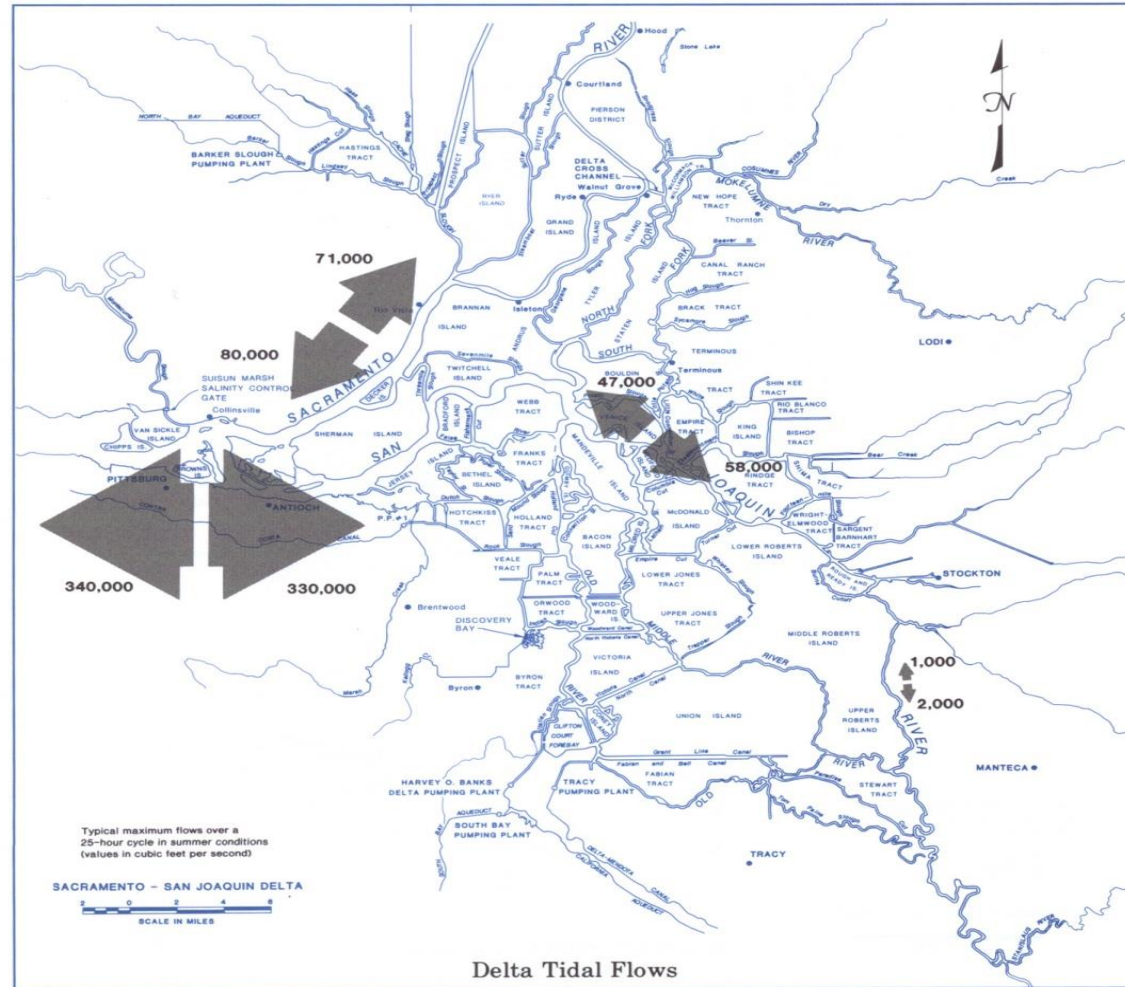
Is there water in the Delta to supply riparians and pre-1914 right holders?

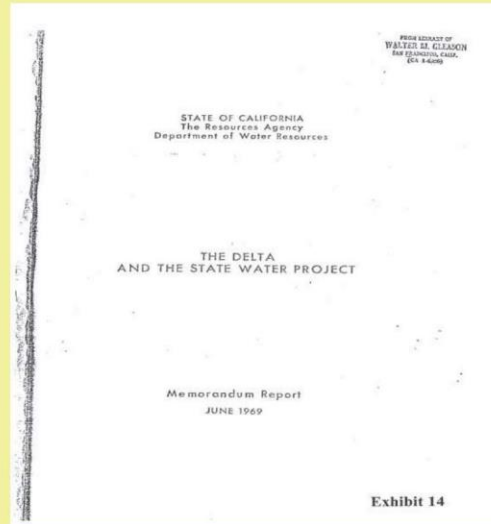
DUH!

Delta Tidal Flows and Levels

The Sacramento-San Joaquin Delta is at sea level. Water levels vary greatly during each tidal cycle, from less than a foot on the San Joaquin River near Interstate 5 to more than five feet near Pittsburg. During the tidal cycle, flows can also vary in direction and amount. For example and as shown on the map below, the

flow near Pittsburg during a typical summer tidal cycle can vary from 330,000 cfs upstream to 340,000 cfs downstream. The "net" summer Delta outflow is a very small amount of the total water movement, generally 5,000 to 10,000 cfs.





During the 1950's the Department of Water Resources cooperated with the Bureau of Reclamation and the local Delta water users in studies to identify individual entitlements to the waters of the Sacramento River and the Delta. These studies, using the classical approach to solution of water rights problems, considered priority of rights to quantity of water rather than quality. No resolution was reached in the Delta using this approach. Actually, in the Delta, the question of quantity is of little concern, since the Delta is never short of water. If flow from the tributary streams were insufficient to meet Delta use, water from the Pacific Ocean would flow through the San Francisco Bay system and fill the Delta channels.

**CONTRACT BETWEEN THE STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES
AND THE NORTH DELTA WATER AGENCY
FOR THE ASSURANCE OF A DEPENDABLE WATER SUPPLY OF SUITABLE QUALITY**

THIS CONTRACT, made this 28th day of Jan, 1981, between the STATE OF CALIFORNIA, acting by and through its DEPARTMENT OF WATER RESOURCES (State), and the NORTH DELTA WATER AGENCY (Agency), a political subdivision of the State of California, duly organized and existing pursuant to the laws thereof, with its principal place of business in Sacramento, California.

RECITALS

(a) The purpose of this contract is to assure that the State will maintain within the Agency a dependable water supply of adequate quantity and quality for agricultural uses and, consistent with the water quality standards of Attachment A, for municipal and industrial uses, that the State will recognize the right to the use of water for agricultural, municipal, and industrial uses within the Agency, and that the Agency will pay compensation for any reimbursable benefits allocated to water users within the Agency resulting from the Federal Central Valley Project and the State Water Project, and offset by any detriments caused thereby.

(b) The United States, acting through its Department of the Interior, has under construction and is operating the Federal Central Valley Project (FCVP).

(c) The State has under construction and is operating the State Water Project (SWP).

(d) The construction and operation of the FCVP and SWP at times have changed and will further change the regimen of rivers tributary to the Sacramento-San Joaquin Delta (Delta) and the regimen of the Delta channels from unregulated flow to regulated flow. This regulation at times improves the quality of water in the Delta and at times diminishes the quality from that which would exist in the absence of the FCVP and SWP. The regulation at times ~~also alters the elevation of water in some Delta channels.~~

(e) Water problems within the Delta are unique within the State of California. As a result of the geographical location of the lands of the Delta and tidal influences, there is no physical shortage of water. Intrusion of saline ocean water and municipal, industrial and agricultural discharges and return flows, tend, however, to deteriorate the quality.

(f) The general welfare, as well as the rights and requirements of the water users in the Delta, require that there be maintained in the Delta an adequate supply of good quality water for agricultural, municipal and industrial uses.

(g) The law of the State of California requires protection of the areas within which water originates and the watersheds in which water is developed. The Delta is such an area and within such a watershed. Part 4.5 of Division 6 of the California Water Code affords a first priority to provision of salinity control and maintenance of an adequate water supply in the Delta for reasonable and beneficial uses of water and relegates to lesser priority all exports of water from the Delta to other areas for any purpose.

(h) The Agency asserts that water users within the Agency have the right to divert, are diverting, and will continue to divert, for reasonable beneficial use, water from the Delta that would have been available therein if the FCVP and SWP were not in existence, together with the right to enjoy or acquire such benefits to which the water users may be entitled as a result of the FCVP and SWP.

(i) Section 4.4 of the North Delta Water Agency Act, Chapter 283, Statutes of 1973, as amended, provides that the Agency has no authority or power to affect, bind, prejudice, impair, restrict, or limit vested water rights within the Agency.

(j) The State asserts that it has the right to divert, is diverting, and will continue to divert water from the Delta in connection with the operation of the SWP.

(k) Operation of SWP to provide the water quality and quantity described in this contract constitutes a reasonable and beneficial use of water.

(l) The Delta has an existing gradient or relationship in quality between the westerly portion most seriously affected by ocean salinity intrusion and the interior portions of the Delta where the effect of ocean salinity intrusion is diminished. The water quality criteria set forth in this contract establishes minimum water qualities at various monitoring locations. Although the water quality criteria at upstream locations is shown as equal in some periods of some years to the water quality at the downstream locations, a better quality will in fact exist at the upstream locations at almost all times. Similarly, a better water quality than that shown for any given monitoring location will also exist at interior points upstream from that location at almost all times.

(m) It is not the intention of the State to acquire by purchase or by proceeding in eminent domain or by any other manner the water rights of water users within the Agency, including rights acquired under this contract.

(n) The parties desire that the United States become an additional party to this contract.

AGREEMENTS

1. **Definitions.** When used herein, the term:

(a) "Agency" shall mean the North Delta Water Agency and shall include all of the lands within the boundaries at the time the contract is executed as described in Section 9.1 of the North Delta Water Agency Act, Chapter 283, Statutes of 1973, as amended.

(b) "Calendar year" shall mean the period January 1 through December 31.

(c) "Delta" shall mean the Sacramento-San Joaquin Delta as defined in Section 12220 of the California Water Code as of the date of the execution of the contract.

(d) "Electrical Conductivity" (EC) shall mean the electrical conductivity of a water sample measured in millimhos per centimeter per square centimeter corrected to a standard temperature of 25° Celsius determined in accordance with procedures set forth in the publication entitled "Standard Methods of Examination of Water and Waste Water", published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation, 13th Edition, 1971, including such revisions thereof as may be made subsequent to the date of this contract which are approved in writing by the State and the Agency.

(e) "Federal Central Valley Project" (FCVP) shall mean the Central Valley Project of the United States.

(f) "Four-River Basin Index" shall mean the most current forecast of Sacramento Valley unimpaired runoff as presently published in the California Department of Water Resources Bulletin 120 for the sum of the flows of the following: Sacramento River above Bend Bridge near Red Bluff; Feather River, total inflow to Oroville Reservoir; Yuba River at Smartville; American River, total inflow to Folsom Reservoir. The May 1 forecast shall continue in effect until the February 1 forecast of the next succeeding year.

(g) "State Water Project" (SWP) shall mean the State Water Resources Development System as defined in Section 12931 of the Water Code of the State of California.

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“Well, there may be water, but the projects release stored into the Delta and Delta folk have no right to that stored water!”

“§ 7075. Reclamation of water

Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished. (Stats. 1943, c. 368, p. 1669, § 7075.)”

In Butte Canal & Ditch Co. v. Vaughn, 11 Cal. 143, the California Supreme Court made it clear that in cases of the commingling of water where it is difficult to determine with exactness the quantity of water which parties are entitled to divert:

“The burden of proof rests with the party causing the mixture. He must show clearly to what portion he is entitled. He can claim only such portion as is established by decisive proof. The enforcement of his right must leave the opposite party in the use of the full quantity to which he was originally entitled.”

§ 12201. Necessity of maintenance of water supply

. . . the maintenance of an adequate water supply in the Delta sufficient to maintain and expand agriculture, industry, urban, and recreational development . . . to provide a common source of fresh water . . . is necessary . . .

§ 12202. Salinity control and adequate water supply

Among the functions . . . by the State . . . in coordination with the . . . United States in providing salinity control for the Delta through operation of the Federal Central Valley Project, shall be the provision of salinity control and an adequate water supply for the users of water in the Sacramento-San Joaquin Delta. . . .

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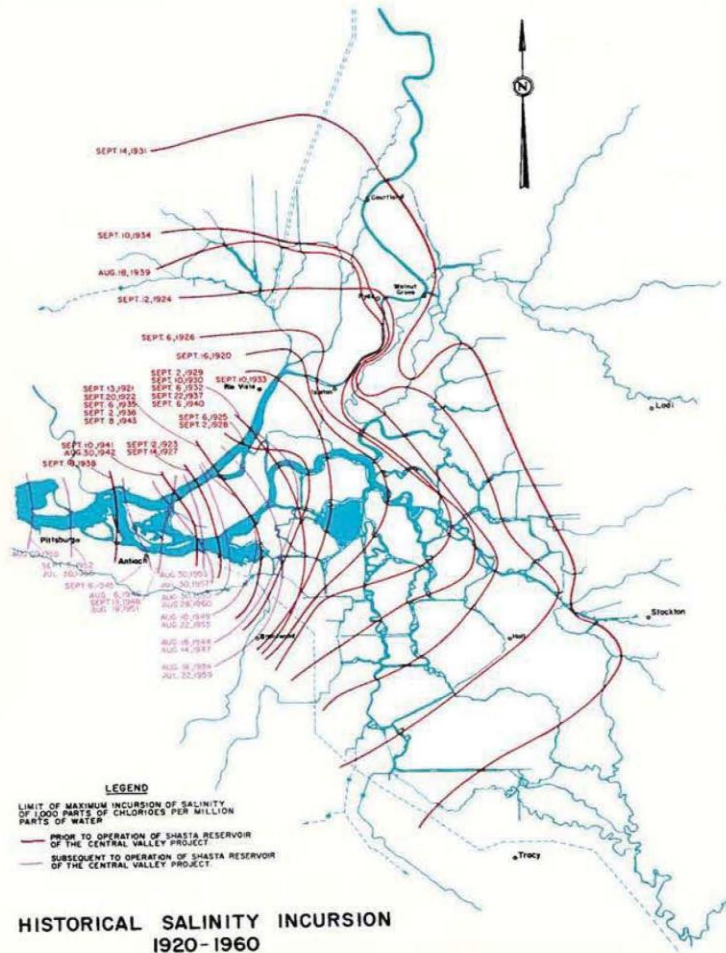
United States vs. State Water Resources Control Board 182 Cal.App.3d82(1986)
at page 139 provides:

“In 1959, when the SWP was authorized, the Legislature enacted the Delta Protection Act. (§§ 12200-12220.) The Legislature recognized the unique water problems in the Delta, particularly ‘salinity intrusion,’ which mandates the need for such special legislation ‘for the protection, conservation, development, control and use of the waters in the Delta for the public good.’ (§ 12200.) The act prohibits project exports from the Delta of water necessary to provide water to which the Delta users are ‘entitled’ and water which is needed for salinity control and an adequate supply for Delta users. (§§ 12202, 12203, 12204.)

But the crucial question left unanswered by the protective legislation is exactly *what* level of salinity control the projects must provide...”

“Well, when the Delta gets salty you couldn’t divert so why should you be able to take advantage of the projects’ freshening of the Delta?”

Delta Problems — salinity incursion and water supplies



Salinity incursion into the Delta results from the flooding and ebbing of ocean tides through the San Francisco Bay and Delta system during periods when the fresh water outflow from the Delta is insufficient to repel the saline water. The natural fresh water outflow from the Central Valley was historically inadequate to repel salinity during summer months of some years. The first known record of salinity encroachment into the Delta was reported by Cmdr. Ringgold, U. S. Navy, in August 1841, whose party found the water at the site of the present city of Antioch very brackish and unfit for drinking. Since that time, and particularly after the turn of the century, with expanding upstream water use salinity incursion has become an increasingly greater problem in Delta water supplies. The maximum recorded extent of salinity incursion happened in 1931, when ocean salts reached Stockton. Since 1944 extensive incursion has been repulsed much of the time by fresh water releases from Central Valley Project storage in Shasta and Folsom Reservoirs. Without such releases, saline water would have spread through about 90 percent of the Delta channels in 1955 and 1959. Although upstream uses might not have reached present levels in the absence of the Central Valley Project, salinity problems would still have been very serious during most years.

Further increase in water use in areas tributary to the Delta will worsen the salinity incursion problem and complicate the already complex water rights situation. To maintain and expand the economy of the Delta, it will be necessary to provide an adequate supply of good quality water and protect the lands from the effects of salinity incursion. In 1959 the State Legislature directed that water shall not be diverted from the Delta for use elsewhere unless adequate supplies for the Delta are first provided.

M. Mullaly

ESTATE OF ELIZABETH AUGUSTA BINLER, deceased.

Stockton, California
February 14, 1939.

TO WHOM IT MAY CONCERN:

Mr. Herbert W. Brskine, as Administrator with the Will Annexed of the Estate of ELIZABETH AUGUSTA BINLER, deceased, has listed for sale, a tract of land comprising 2129.01 acres, more or less, located in Reclamation District No. 1, on Union Island, San Joaquin County, California.

SALE PRICE:

\$175 per acre.

TERMS OF SALE:

Cash. Seller reserves all mineral rights. Offers to purchase may be tendered either to the Administrator or the Trust Department, Bank of America National Trust and Savings Association, Stockton Main Office, Stockton, California.

MAPS:

A plat showing the tract of land, cultivation units, irrigation and drainage ditches, is attached. The tract is bounded on the south by the Grant Line Canal, and on the north, by the County Road.

GENERAL:

Traces of peat are in evidence on various points over most of the area excepting the eastern portion of Reclamation District No. 1, where brown loam and silt loam of the Hanford type is present, capping the primary formation. Soil depth averages eight to nine feet, varying from two to fifteen feet and is controlled with drainage to a depth of five feet at the lowest point. The substructure is probably a clay or water-packed substance; the profile in the peat shows alternating strata of well decomposed peat and dark gray loam through the upper five feet of the soil column. There are sand pockets apparently of nominal extent through the soil column coming to the surface in occasional blowouts of nominal area and infrequent. The sand is sharp in places and micaceous in

GENERAL. continued

others. The soil of this property is of loam and is mapped by the U. S. Geological Survey as "Sacramento Series." Farming operations of this tract of land have been, in the main, satisfactory and conform in general to a better than average standard of excellence, for the several types. It is said that this land, when levelled, is well adapted to the production of asparagus. 127 acres bordering the Grant Line Canal have already been levelled and planted to alfalfa.

DRAINAGE:

Drainage of the tract has been limited to the seepage ditch along the south line near the toe of the Grant Line Canal levee and a seepage and drainage ditch to the north, and set back from the levee, a 10 HP pump with capacity of 2500 GPM. Drainage ditches at the present total $1 \frac{2}{3}$ miles in length.

IRRIGATION:

Water for irrigation is obtained from the Grant Line Canal both by flood gates and by pumping. The pumping plant consists of 125 HP GE motor driving a 28" Krogh Cent. pump by belt with tightener. The plant includes a Cent. priming pump, DC 5HP GE motor. This plant and the flood gates supply water for the property distributed through a system of canals and ditches reaching practically all of this unit; said ditches total seven miles in length. The pumping unit is rated 19,000 GPM. The irrigation water being derived from the Delta water courses, the question naturally arises about its contamination by salt water. In a general sense, this area is free from such menace. The year of record drouth, 1931, readings of the State Reclamation Board show that there was an injurious concentration of chlorine at Clifton Court Ferry, six miles down stream along the Grant Line Canal, for a period September 15 to October 18. At Mossdale Bridge, a few miles upstream, concentration never did reach even a dangerous concentration.

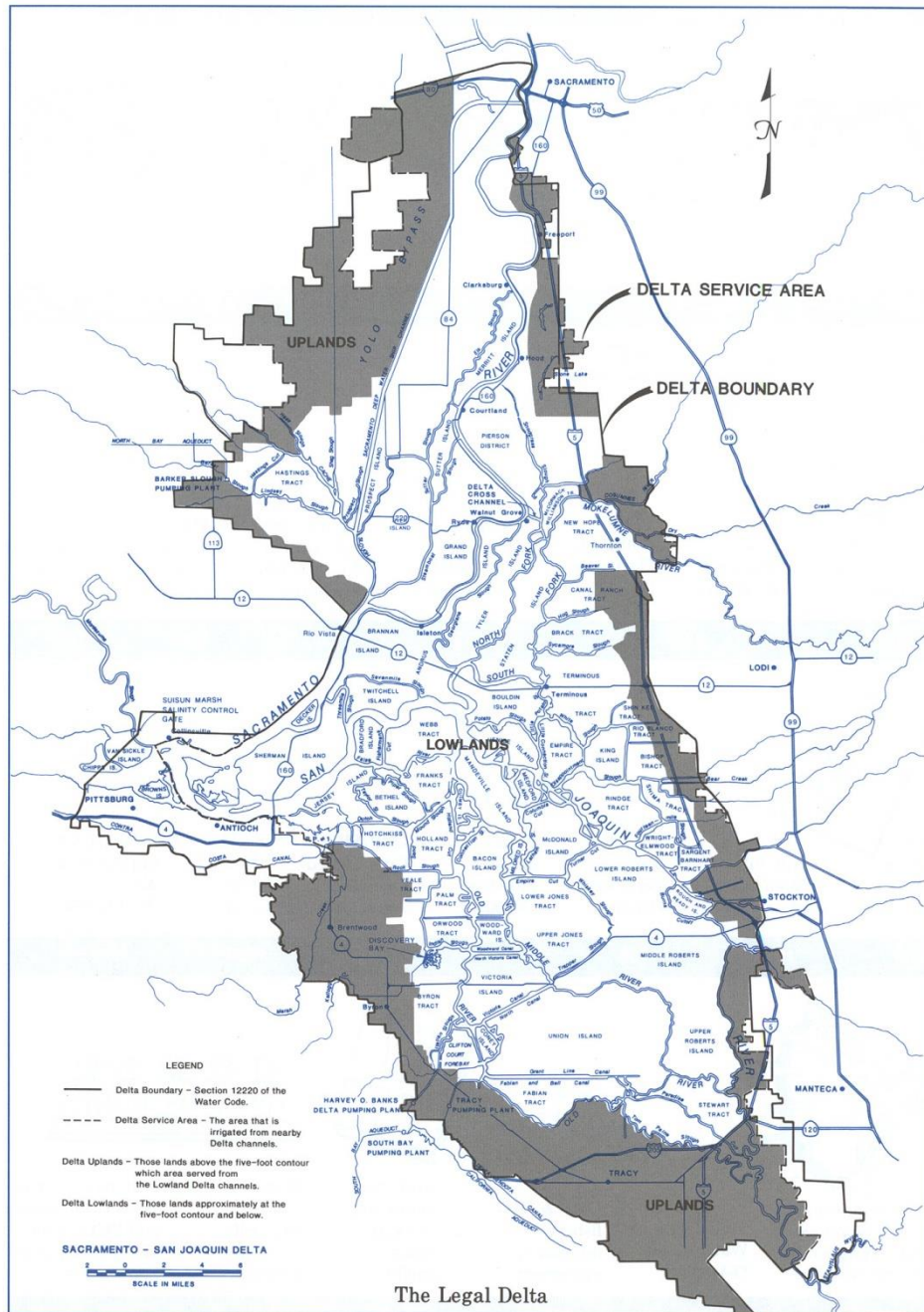
SOIL ALKALI:

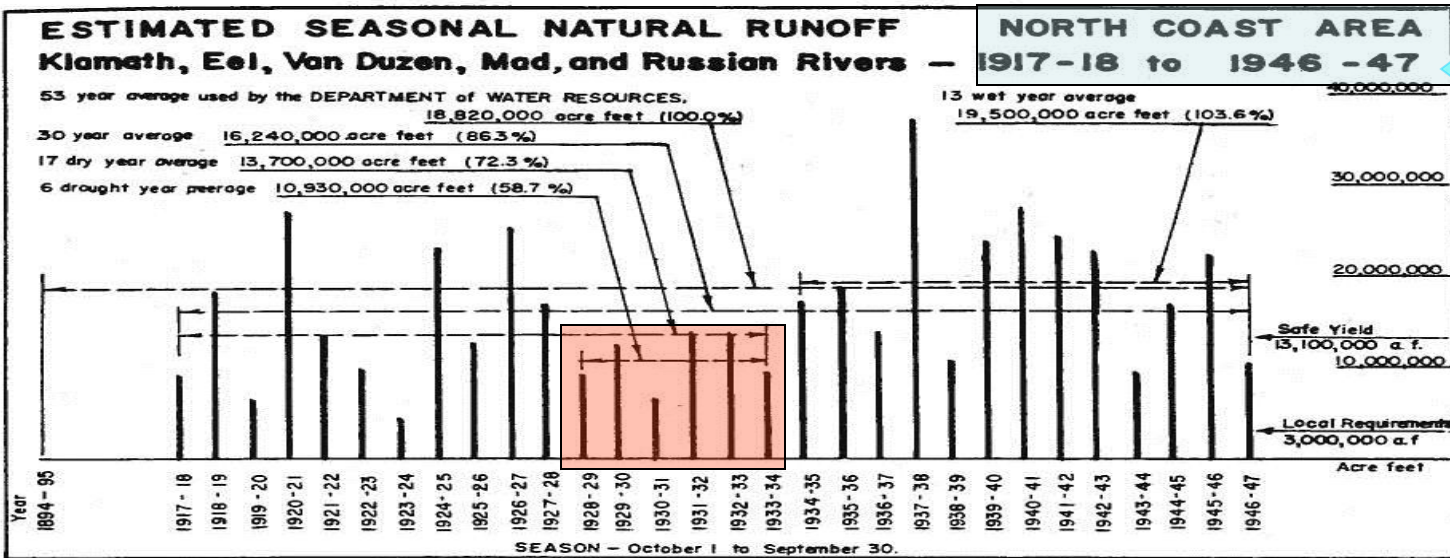
In common with all reclaimed land, the soil in this property may be considered to contain from a trace to a mild concentration of alkali. These salts are usually the soluble varieties, Glauber and common salt, comprising the white alkalis. They are readily leached out and controlled where pure water and adequate drainage are available. No areas of any consequence have been noticed where the effects of alkali were serious. Any comments herein made, however, as to the character or condition of the soil, salt water contamination, or alkali concentration, are to be construed as comments only and not, in any sense, as a warranty as to actual conditions.

IMPROVEMENTS:

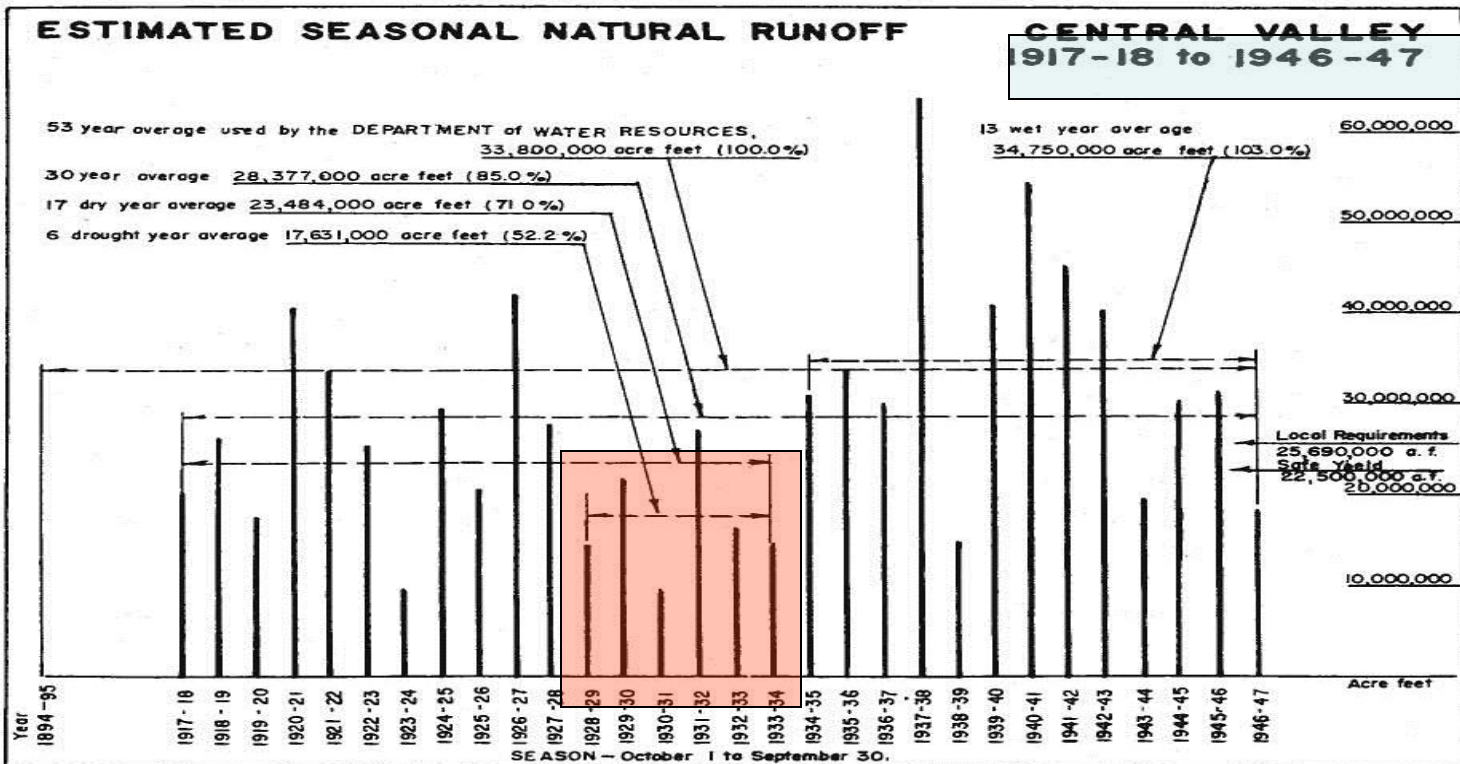
The improvements on the various tracts shown on the plat are as follows:

MEASURE MEASURE
MEASURE MEASURE
MEASURE MEASURE
MEASURE MEASURE
MEASURE MEASURE





Surplus
7,930,000 AF/YR



SHORTAGE
8,049,000 AF/YR

To address this 8 million acre foot shortage, the State Water Project planned to take 5 million acre feet of North Coast river flow and add it to the Sacramento River system.

