

PORGANS-4 CARRIAGE WATER REQUIREMENTS

North Delta Water Agency Contract Assures Water Quality Protection to Sherman Island:

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The North Delta Water Agency represents agricultural water users in northern and western portions of the Delta. [Note: Please refer to Figure 19.] In January 1981, the Department and the Agency signed a contract that provided a dependable water supply of adequate quality to the Agency. The contract sets water quality standards to be met by the State Water Project and requires the Agency pay for benefits arising from project operations. (The Bureau of Reclamation is not a party to this contract.) The standards are parallel to Decision 1485 standards, but at times are more stringent. The extra outflow required to meet these more stringent standards could reduce the critical period yield of the State Water Project by more than 100,000 acre-feet per year. The contract also provides 'the State may provide diversion and overland facilities to supply and distribute water to Sherman Island', and that 'after the facilities are constructed and operating, the water quality criteria ... shall apply at the intake of the facilities.'

The North Delta Water Agency contract is binding on the Department of Water Resources regardless of future changes in Decision 1485 standards. However, due to the differences between water quality standards in Decision 1485 and the North Delta Water Agency contract, it is appropriate to consider Sherman Island separately from other western Delta islands.⁴³ [Note: Please refer to Appendix 34, pp. 178-179.]

Excerpts From North Delta Water Agency Contract:

NDWA Contract Provisions:

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 Pollution Control Federation, 13th Edition, 1971, including such revisions thereof as may be made in writing by the State and Agency.
- (e) 'Federal Central Valley Project' (FCVP) shall mean the Central Valley Project of the United States.
- (f) 'Four-River Basin Index [renamed Sacramento River Index (SRI)] 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.
- (h) 'SWRCB' shall mean the State Water Resources Control Board.
- (i) 'Water year' shall mean the period October 1 of any year through September 30 of the following year.

Amount of Outflow / Water Required to Meet NDWA Contract Criteria:

During the negotiations leading to the North Delta Water Agency Contract the Department agreed to certain quality criteria outside the periods required by D-1485. Depending on base assumptions the water supplies impact is between 100,000 and 400,000 acre-feet per year. Since the USBR is not a part to the agreement this burden totally falls on the SWP. Since signing the Contract these criteria have not been a problem to the SWP because of the adequate water supplies that have existed in the fall and winter of each year. The North Delta agreement allows the moving of the criteria upstream to the intake of the overland supply system if the State provides such a system (excerpt attached). The cost of such a system was estimated to be about \$8 million (in 1978 dollars).

In order to relieve the Project of such increased responsibility I [Gerald Cox, Planning Branch] recommend that the author be authorized to contact representatives of the North Delta Water Agency to implement the process to construct an overland system. I further recommend that the Department offers to allow the Agency to obtain necessary approvals to design and construct with Department review and reimbursement.⁴⁵ [Note: Please refer to Appendix 37, p. 201.]

Per your request [Jerry Cox], two nine-year operation studies were conducted and are summarized in the attached tables. Aside from the assumptions common in our 1990 level operation studies such as 1990-USCE-18, the following three features are specially designed for the NDWA contract outflow computations.

Government Completes Study in 1984 to Activate Relaxation of Outflow / Water Requirements:

1. In October, November and December, use previous water year's Four Basin Index [Note:SRI] for table look-up (upper-left graph in Attachment A, NDWA Contract).
2. Raise D-1485 minimum fish flow requirements from 2,500 cfs to 3,000 cfs.
3. **Activate the outflow relaxation during December and January if Oroville storage in the beginning of each month becomes less than 2.0 MAF. In our previous runs, imposition of deficiencies activated the outflow relaxation.**

As in our previous runs, 3.0 MAF of SWP normal annual delivery is used for the base. For documentation purpose, the two studies are named as follows:

<u>Study I. D.</u>	<u>Description</u>
27A	With NDWA Contract Outflow
28B	Without NDWA Contract Outflow

Table B shows the water year deliveries for the nine-year period. This delivery pattern is used in both studies causing the differences in the October 1935 storage presented in Table C. Due to the additional outflow