North Delta Water Agency

Established 1974

"The general purposes of the agency shall be to negotiate, enter into, execute amend administer, perform and enforce one or more agreements with the United States and with the State of California, or with either, which have for their general purposes the following:

(a) To protect the water supply of the lands within the agency against intrusion of ocean salinity; and
(b) To assure the lands within the agency a dependable supply of water of suitable quality sufficient to meet present and future needs."

Article 4, Sec. 4.1 of the North Delta Water Agency Act (Chapter 283 of the Statutes of 1973)

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ORGANIZATION AND FUNCTION

The North Delta Water Agency was formed by a special act of the legislature adopted in 1973. Its boundaries encompass approximately 300,000 acres which includes all of that portion of the Sacramento San Joaquin Delta, as defined in Water Code Section 12220 which is situated within Sacramento, Yolo and Solano Counties. It also includes a small portion of the northeastern part of San Joaquin County comprising New Hope Tract, Canal Ranch and Staten Island.

The purpose of the Agency is to negotiate, enter into, administer, and enforce an agreement or agreements with the United States and the State of California, or either of them, to (a) protect the water supply of the lands within the Agency against intrusion of ocean salinity and (b) assure the lands within the Agency of a dependable supply of water of suitable quality sufficient to meet present and future needs.

The Agency is managed by a board of directors consisting of five members, each of whom is elected from one of the five divisions defined in the act forming the Agency. Divisions 1 and 2 are located within the Sacramento and San Joaquin County portions of the Agency. Division 3 is within the southern part of the Solano County area. Division 4 is within the northerly part of the Yolo County area. Division 5 is within the southerly part of the Yolo County and northerly part of the Solano County areas.

The directors are elected by the landowners based upon one vote for each acre or fraction thereof owned within the Agency. The directors serve for staggered four-year terms with a portion of the board becoming eligible for election each two years. Elections are held in even numbered years with the opportunity for nominations to be made for the position of director. If the nominations do not exceed the number of positions to be filled, then the Board of Supervisors of Sacramento County (the County with the largest acreage) appoints those nominated, and no election is required.

As directed by the act forming the Agency, it entered into negotiations with the State of California and the United States for appropriate contracts to assure adequate water quality and quantity for the water users within the Agency. In the process of those negotiations, the US Bureau of Reclamation, on behalf of the United States, withdrew from the negotiations which were then pursued with the State of California.

These negotiations resulted in a contract between the State of California and the North Delta Water Agency, entered into on January 28, 1981, which provides for the assurances as to quality and quantity directed by the act forming the Agency.

The contract between the State of California and the Agency provides for a payment to be made annually to the State of California, in two installments, to compensate for the water required from the State Water Project to accomplish the water quality and quantity commitments contained in the contract. The amount paid by the Agency to the State of California acknowledges the riparian and other water rights available to the lands within the Agency. It compensates the State only to the extent of water from the State project which may be required in addition to those assumed water rights in order to provide the quality and quantity necessary for the uses within the Agency.

The Agency board has successfully administered and enforced the contract since its execution in 1981 to assure that the required quality of water is maintained, and the right of water users within the Agency to utilize that water for agricultural, municipal and industrial purposes on lands within the Agency is acknowledged.

HISTORY OF NDWA

NDWA is an outgrowth of the Delta Water Agency which, in turn, is an outgrowth of the negotiations and settlement between the Sacramento River Settlement Contractors and the U.S. Bureau of Reclamation (USBR) during the 1950s and 1960s. Completion of the Shasta Dam on the Sacramento River raised questions regarding the respective rights of water users and the USBR, as project operator, to water flowing down the river and into the Delta. Water users along the Sacramento River and Delta asserted their prior rights which essentially had allowed development of most of the valley and of the entire Delta for agriculture before the Federal Central Valley Project (CVP) with its large dam at Shasta was commenced. Negotiations extended over a period from the late 1940s to the mid 1960s in an attempt to resolve the nature of the rights of the Project and those of the prior appropriators of water from the Sacramento River and Delta.

These negotiations led to the development of the 1956 Cooperative Studies which were prepared jointly by agreement between DWR, the

USBR and the Sacramento River and Delta Water Association (SRDWA). SRDWA included most of the major water users on the Sacramento River, including those in the northerly portion of the Delta. The studies were intended to show the uses by the various water users and the average natural flow which would be available in the river in absence of the CVP operation.

In the early 1960s the USBR, acting at the direction of the Department of Interior, concluded that it would be difficult to resolve the issues of the respective water rights on the Sacramento River and those within the Delta in the same negotiation since the Delta involved a complex question of water quality as well as an issue of water supply. Accordingly, the USBR proceeded with negotiations leading to settlement contracts with the Sacramento River diverters above Sacramento and set aside the negotiations with the Delta water users for later consideration.

In order to press forward with a possible settlement of the Delta water quality and quantity issues, the legislature formed a Delta Water Agency comprised of the entire Delta as defined in Water Code Section 12220. The Delta Water Agency was formed in 1968 with the purpose of attempting to obtain a contract with the USBR as well as DWR, since the State Water Project (SWP) had begun operation from its reservoir at Oroville on the Feather River.

The Delta Water Agency found it impossible to resolve issues regarding a proposed contract. The difficulty appeared to arise from the differences in concerns and problems in various parts of the Delta which made it difficult to treat the Delta as a single party to such a negotiation. The Delta Water Agency had a five-year "sunset clause." Before it expired, the representatives in the northern part of the Delta expressed the desire to form a separate agency and to allow the overall Delta Water Agency to expire. Accordingly, the North Delta Water Agency was formed by an act of the California Legislature on January 1, 1974. Following that lead, the Central Delta Water Agency and South Delta Water Agencies were subsequently formed by the State Legislature.

HISTORY OF NEGOTIATIONS

Despite the significant prior rights of the North Delta area under the riparian and appropriative rights, critical years can occur in which the

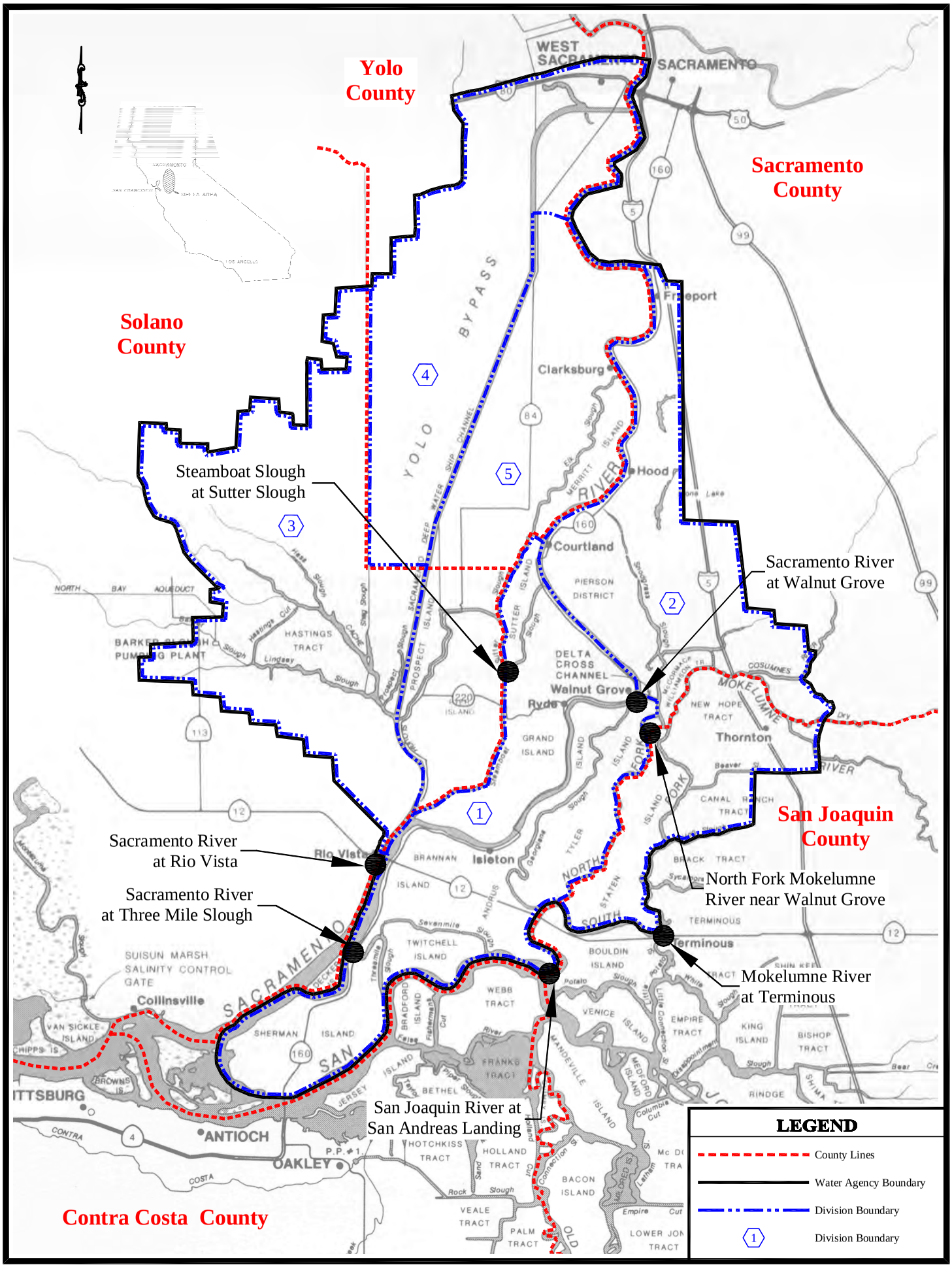
natural flow of the tributaries to the Delta would not supply an adequate flow to sustain the necessary water quality for uses within the entire North Delta area for the entire year. Following its creation and organization, NDWA entered into negotiations with the USBR and DWR to develop a three-party agreement regarding water rights and water quality. These negotiations continued for five years (1974 through 1978). In March 1979, NDWA was informed that the Secretary of Interior had decided to work with the State of California to resolve Delta water quality issues. As a result of the Secretary's decision, NDWA was advised by USBR representatives that it would be inappropriate to contract with individual Delta agencies to assure that the CVP would meet any particular water quality standards including those set forth in State Water Resources Control Board (SWRCB) Decision 1485 (D-1485).

Following the withdrawal of the USBR from the negotiations, discussions were initiated for an agreement between DWR and NDWA. These discussions were a continuation of the original three-party negotiations. Agreement on a proposed contract was reached on January 17, 1980. The contract was overwhelmingly approved by a vote of the landowners within NDWA. The contract titled "Contract Between State of California Department of Water Resources and North Delta Water Agency for the Assurance of a Dependable Water Supply of Suitable Quality" (1981 Contract) was executed on January 28, 1981.

Water Rights

Between 1974 and 1979 various work took place by the parties to understand the water rights within NDWA, outflow required to meet Delta agricultural water quality standards, allocation of water right deficiencies and the Delta channel storage concept.

The Delta Lowlands are those lands which lie at elevations of five feet or less above sea level and are largely irrigated by gravity through siphons. The Delta Uplands are peripheral lands within the Delta as defined in Water Code Section 12220 that are higher than five feet above sea level and are irrigated by pumping from the channels and sloughs. Within NDWA there are 205,820 acres of Lowlands and 96,000 acres of Uplands. In the 1956 Cooperative Study, all of the Lowlands were classified as riparian, and in addition, 12,000 acres of the Uplands were classified as riparian. About 47,000 acres of the


Yolo County
Sacramento County
Solano County
Contra Costa County
San Joaquin County
Steamboat Slough at Sutter Slough
Sacramento River at Walnut Grove
Sacramento River at Rio Vista
Sacramento River at Three Mile Slough
North Fork Mokelumne River near Walnut Grove
Mokelumne River at Terminous
San Joaquin River at San Andreas Landing
WEST SACRAMENTO
SACRAMENTO
Freeport
Clarksburg
Hood
Courtland
Walnut Grove
Ryde
Thornton
Isleton
Rio Vista
Collinsville
ANTIOCH
OAKLEY
Terminous
YOLO BYPASS
DELTA CROSS CHANNEL
SUISUN MARSH SALINITY CONTROL GATE
LEGEND
County Lines
Water Agency Boundary
Division Boundary
Division Boundary

Uplands have appropriative water rights, about 17,000 acres use groundwater, and an additional 20,000 acres are non-irrigable. A portion of the Delta Lowlands also have appropriative water rights. These appropriative water rights were filed for as insurance to the riparian classification.

Water Quality Standards

The water quality standards used during this period (1974 to 1979) were the agricultural standards set forth in SWRCB Decision 1379 (D-1379). These standards together with the estimated outflows required to meet these standards were based on pre-project conditions (i.e., with no exports from the Delta) and are as follows:

		Period	
Station	**Type of Year**	**April thru July**	**August thru December**
Blind Point	Non-Critical	350 ppm. Cl.	1,000 ppm. Cl
		2,800 cfs.	1,600 cfs.
	Critical	1,000 ppm. Cl.	1,000 ppm. Cl.
		1,600 cfs.	1,600 cfs.
Jersey Island & Emmaton	Normal and Below Normal	10 consecutive days between April 1 and May 31, 200 ppm. Cl. 3,100 cfs.	

Negotiations with DWR

By the time the USBR withdrew from the negotiations, most of the preliminary work had been completed. One significant change was the revised water quality requirements as a result of D-1485 which was issued in August 1978. This criteria did not change the basic agriculture requirements contained in D-1379 but utilized different control points and limited the season to April 1 to August 15. Therefore, to cover the entire year, the NDWA Board of Directors adopted the water quality criteria set forth in Table A, attached, as the minimum standards for contract negotiations. Table A was presented to the NDWA Directors in a 1979 memorandum by the Agency's engineer. Later this criteria was altered to the graphs which are the water quality criteria in Attachment A of the Contract. The graphs,

which identify criteria based on the Four-Basin Index rather than year type, were adopted to eliminate pressure in making the water supply forecasts and to eliminate large and abrupt water quality changes based on the forecast.

The water supply available to meet the riparian and appropriative water rights and the water quality standards was determined in the 1956 Cooperative Studies prepared by DWR, the USBR and the SRDWA (which included many NDWA districts and landowners as members). This water supply was used by NDWA to determine the water supply deficiencies for the period 1924 through 1954 which should be allocated to the water users within the Delta. The analysis gave credit to the "Delta Storage" concept.

The Delta Storage concept recognizes that, historically, the Delta operated not as a flowing stream but as a storage reservoir which filled up during the high flows of winter and sustained a quality for a large part of the Delta until quite late in the season, often after the irrigation season had been completed. The SWP and CVP have changed the effect of the Delta storage by withholding much of the high flows in the winter which developed the high Delta quality. This combined with the effect of the pumping plants located at the southerly end of the Delta pulling water across the Delta channels, changed what had previously been a storage of high winter flows of good quality into a condition more like a flowing stream. As a result of the change created by the State and Federal projects, through the upstream dams and downstream export pumps, much of the water released and exported could be considered as a replacement of the usable water supply, which nature provided in natural Delta storage prior to the projects.

DWR did not take a water right approach but determined deficiencies required to meet quantity and quality demands within the Delta based on studies it performed for the Delta with and without the CVP and the SWP. NDWA accepted the DWR figure in developing the contract payment. The original contract payment was $170,000. The initial payment for the guarantees in quantity and quality which the contract contained, is subject to periodic escalation as set forth in the contract. The 1981 Contract thus represented a Water Right Settlement Agreement between the State of California and NDWA on behalf of its land owners recognizing the water rights of the lands

within the North Delta area and also the extent of the Project rights, which although junior, are needed on an average to supply the flows which nature periodically fails to provide.

The payment of the contract by NDWA was based on the assumed needs of the benefitted acreage within the NDWA comprising approximately 250,000 acres. These acres support the NDWA through annual assessments. Since the date of the contract, however, considerable acreage within the NDWA has been and is being acquired by State or Federal agencies. The NDWA has received no contribution from these lands for the benefits provided by the contract. The NDWA is attempting to resolve this issue in order to avoid what would otherwise be a substantial additional burden on the remaining landowners within the NDWA. That is, bearing the cost attributable to benefits provided by the 1981 contract to State and Federal lands within the NDWA from which no revenue has yet been received.

SUMMARY OF CONTRACT PROVISIONS

Although the language of the 1981 Contract must govern both NDWA and DWR actions, the following comments are intended as a guide relative to the Contract provisions.

Contract Criteria

The water quality is provided by the criteria set forth in Article 2 and Attachment A of the 1981 Contract. This criteria provides for agricultural water quality year round and is not limited to the major growing season as defined in D-1485 of April 1 to August 15. Under the 1981 Contract, the water quality criteria at the interior stations assures that an adequate water quality gradient will be present in the lower Delta channels.

Overland Facilities

Article 5 of the 1981 Contract specifically provides for the construction of facilities to serve water overland to Sherman Island. These facilities are described in the report entitled "Overland Agricultural Water Facilities Sherman Island," dated January 1980. When these facilities are in place, the Emmaton criteria in the 1981 Contract can move to the intake near the northwest end of Three-Mile Slough. Quality within the remainder of NDWA is protected by the

standards at the upstream interior stations and steep gradient resulting from these standards.

DWR acquired the majority of the lands on Sherman Island through a land acquisition program. This land acquisition program was pursued by DWR in lieu of the overland facility described in Article 5 of the 1981 Contract. In December 1996, NDWA Board of Directors adopted Resolution 96-2 which approved an amendment to the 1981 Contract allowing Emmaton criteria to move upstream to the northwest end of Three-Mile Slough as provided in the 1981 Contract. This was supported by an agreement with DWR, as owner of a majority of the land, that no better quality would be required downstream of Three-Mile Slough.

Water Use

Article 7 limits use of water to the area within the boundaries of NDWA without prior approval of DWR. Article 8 (a) (ii) provides that water users within NDWA may divert water for reasonable and beneficial uses for agricultural, municipal and industrial purposes. Article 8 (a) (ii) also provides that DWR shall furnish such water as may be required within the Agency to the extent not otherwise available under the water rights of water users. These articles provide for all diversions from the Delta channels for beneficial use on lands within NDWA boundaries without restriction. The provisions of these articles are supported by a May 26, 1998 Memorandum of Understanding (MOU) between NDWA and DWR. The MOU identifies, as the joint position of NDWA and DWR, that any obligation imposed upon the use of water within NDWA to assist in achieving the objectives of the 1995 Water Quality Control Plan is within the scope of the 1981 Contract. This is further supported by Water Right Decision 1641 (D-1641), adopted unanimously by the SWRCB on December 29, 1999 and revised March 15, 2000 in accordance with Order WR 2000-02, which implements the water quality objectives for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. This decision assigns responsibility for any obligation within NDWA to DWR so long as the 1981 Contract and 1998 MOU remain in effect.

AGRICULTURAL WATER QUALITY STANDARDS*

Maximum 14-day Running Average of Mean Daily EC in mmhos

Period	Type of Year[1] Wet	Above	Below	Dry	Critical
Sacramento River at Emmaton					
Feb. 1 to Apr. 1[1]	0.5	0.5	0.6	3.0	3.6
Apr. 1 to June 1	0.45	0.45	0.45	0.45	2.78
June 1 to July 1	0.45	0.45	–	–	2.78
July 1 to Aug 15	0.45	0.63	–	–	2.78
June 1 to June 20	–	–	0.45	–	–
June 20 to Aug 15	–	–	1.14	–	–
June 1 to June 15	–	–	–	0.45	–
June 15 to Aug. 15	–	–	–	1.67	–
Aug 15 to Dec 1	1.5	1.8	2.0	2.4	2.8
Dec 1 to Jan 1[2]	0.7	0.7	0.7	0.7	0.7
Jan 1 to Feb 1[3]	0.9	0.9	0.9	0.9	0.9
San Joaquin River at San Andreas Landing					
Feb 1 to Apr 1	0.45	0.45	0.45	0.45	0.6
Apr 1 to Aug 15	0.45	0.45	0.45	–	0.87
Apr 1 to June 25	–	–	–	0.45	–
June 25 to Aug 15	–	–	–	0.58	–
Aug 15 to Feb 1	0.6	0.6	0.7	1.0	1.2
Mokelumne River at Terminous					
Feb 1 to Apr 1	0.45	0.45	0.45	0.45	0.6
Apr 1 to Aug 15	0.45	0.45	0.45	0.45	0.5
Aug 15 to Feb 1	0.45	0.45	0.45	1.0	1.1
North Fork Mokelumne River near Walnut Grove					
Feb 1 to Apr 1	0.45	0.45	0.45	0.45	0.5
Apr 1 to Aug 15	0.45	0.45	0.45	0.45	0.54
Aug 15 to Feb 1	0.45	0.45	0.45	0.5	0.6

[1] Type of year determined by the forecast of unimpaired runoff as published in DWR Bulletin 120 assuming normal precipitation to follow except for February and March at Emmaton (see footnote 2).

[2] Type of year determined by the forecast of unimpaired runoff using lower value of the 80% probability range from DWR Bulletin 120.

[3] If SWP deliveries are to be less than full entitlement in forthcoming year, the criteria becomes:

	Wet	Above Normal	Below Normal	Dry	Critical
Dec 1 to Jan 1	1.5	1.8	2.0	2.4	2.8
Jan 1 to Feb 1	3.6	3.6	3.6	3.6	3.6