

Interim Agricultural Water Program Reduction Guidelines

Summary

Over the past several years, the southwest has experienced continued dry conditions and demands for imported water are near all-time record highs. In addition, the Metropolitan Water District's (Metropolitan) Colorado River supply is at about half of the recent historical supply as agricultural to urban Colorado River water transfers are being ramped-up. In 2007, Metropolitan has exercised a number of additional actions within its broad portfolio of resources, such as withdrawals from Central Valley storage programs and the reduction and suspension of groundwater replenishment deliveries, to maintain reliable deliveries of "firm" supply. The 2003/04 water year began as a dry year and Metropolitan and its member agencies began preparing a plan to reduce Interim Agricultural Water Program (IAWP) deliveries in the coming year in the event that a reduction became necessary. Even though Southern California experienced record rainfall at the beginning of the 2004/05 water year, it was prudent to complete the plan and procedures for such a curtailment. As the 2006/07 water year has proven to be Southern California's driest year of record since 1877 and a recent Federal ruling on State Water Project (SWP) operations may result in a significant reduction in Southern California's SWP deliveries in 2008 and beyond, it makes sense to revisit and update this plan and Reduction Guidelines to account for these latest conditions.

This paper provides an outline of how a reduction in IAWP deliveries could be developed, initiated, implemented, and validated. It is based on experiences from the last reduction in agricultural water deliveries in 1991, workshops and informal discussions with member agency and retail agency staff, and discussions with agricultural water users and their representatives. The goal is to use this information as the framework for detailed guidelines and implementation procedures to be developed by the member agencies as IAWP reduction plans. The request for updated IAWP reduction plans from the member agencies was made in June 2007 to obtain more detailed information on how each agency would implement, administer and measure the cutback in IAWP deliveries to meet the objectives of the IAWP reduction.

Background on the Interim Agricultural Water Program

The potential water management benefits of interrupting agricultural water deliveries prior to urban deliveries was recognized in the "Interruptible Program" established by Metropolitan in 1981. On the heels of the 1992 drought, Metropolitan converted the "Interruptible Program" into a more rigorous IAWP in May 1994. The IAWP provides for the delivery of surplus water for agricultural purposes at a discounted rate. Under the IAWP, water is delivered at a discounted rate in exchange for up to a 30 percent reduction in demand by participating agricultural water users at Metropolitan's call during periods of shortage. This reduction enables Metropolitan to better conserve limited supplies during such shortages.

The IAWP was initially set up as a demonstration program with a sunset/renewal period of three years. In exchange for the IAWP water discount, Metropolitan can reduce IAWP water deliveries up to 30 percent prior to implementing any mandatory allocations under its drought management plan. The three-year demonstration period ended June 1997, after which time Metropolitan continued the IAWP for an additional five years. A bundled rate for treated and untreated agricultural water was incorporated into Metropolitan's rate structure in January 2003. IAWP parameters set forth in Section 4106 and Chapter 9 of Metropolitan's Administrative Code, and administrative procedures developed under the program's demonstration period and refined under the five-year extension, now continue.

Program Features

Metropolitan's Administrative Code generally defines agricultural purposes under the IAWP as water used for growing or raising agricultural, horticultural or floricultural products for the purposes of commerce, trade, or industry, or for use by educational or correctional institutions, on parcels where greater than one acre is used exclusively for the aforementioned purposes. It applies to both the growing of crops and raising of livestock and

fowl for human consumption or market. It also applies to the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or market.

The IAWP limits the maximum amount of discounted agricultural water available to a member agency on an annual basis each fiscal year. These limits, based on the agency's average annual agricultural water use for the four-year period preceding the program's 1994 implementation, are still in place, and are as follows:

Agency	Maximum Annual IAWP (AF)
Anaheim	115
Calleguas MWD	7,164
Inland Empire Utilities Agency	122
Eastern MWD	6,761
Fullerton	60
Las Virgenes MWD	207
MWDOC	7,657
SDCWA	100,459
Three Valleys MWD	106
Torrance	22
West Basin MWD	170
Western MWD	32,347
Total	155,190

In order to receive the IAWP discount, member agencies must certify to Metropolitan the amount of agricultural water used within their service area on a monthly basis. Such use is actually determined through certifications provided by the retail agency supplying agricultural water to the end user. Metropolitan, in turn, issues a discount for the amount of water certified to the member agency. Member agencies are required to pass the discount on to the retail agency, which then transfers the discount to the end user.

Metropolitan reviews IAWP performance on an annual basis. This review includes verifying water usage on a retail agency basis to ensure that IAWP certifications submitted during the year preceding the review are accurate, verifying that the IAWP discount is being transferred to end-users, and spot-checking agricultural parcels to ensure participation according to Metropolitan's agricultural purposes definition. Based on this review, Metropolitan may adjust IAWP credits issued to an agency during the previous year.

The Metropolitan Water District Act allows Metropolitan to deliver or sell surplus water for any beneficial use that is not needed for domestic or municipal uses. Metropolitan has the right to discontinue surplus water service, in whole or in part, upon one year's written notice to the purchasers or users of the water. Following such notification, Metropolitan's General Manager has the discretion to reduce IAWP deliveries up to 30 percent prior to imposing any mandatory urban water allocation under the Water Surplus and Drought Management (WSDM) Plan during the year for which notification is given. Metropolitan's Administrative Code requires the General Manager to give written notice of Metropolitan's intent to reduce or interrupt IAWP delivery as soon as practicable after such determination is made.

As part of the demonstration program, member agencies were required to submit a plan indicating how a 30 percent reduction would be met in their service areas. Metropolitan was to have received these plans by November 1994. In June 2007, Metropolitan requested that these member agency reduction plans be revised or updated to reflect prevailing conditions and current IAWP participation. These member agency reduction plans will be used to formulate methodologies and procedures for initiating, implementing and validating IAWP reductions.

Guidelines for Program Implementation

Notification and Timing of the Reduction

The timing for implementation of an IAWP reduction, based on a dry-year supply need, is described below. It should be emphasized that an IAWP reduction can be requested for reasons other than dry year supply, such as in the event of an emergency. In the case of an emergency or other unanticipated issue that can occur at any point of the year, Metropolitan will strive to provide as much notice as practical. However, due to the uncertain nature of certain emergencies (e.g., loss of a source of imported supply due to natural disaster or other factors), a request for an IAWP reduction may occur on very short notice.

One of the most important aspects of the reduction in IAWP deliveries, as a dry-year supply measure, is the timing of the reduction. Colorado River and SWP supplies are determined on a calendar year basis. The SWP allocation is typically not final until early May, and is often very uncertain until that point. However, because of the conditions leading into calendar year 2008, including supply uncertainty due to a record-dry 2007 and significant reductions in 2008 SWP supplies as a result of a Federal regulatory ruling to protect the threatened Delta smelt, an implementation timeline of January 1, 2008 is appropriate. Additionally, a lead-time between the time that Metropolitan issues a notice of a reduction in agricultural deliveries under the IAWP and when the reductions begin is necessary for the member agencies to communicate and implement plans with their retail agencies and/or IAWP participants. As a result, Metropolitan’s notification protocol includes a 60-day period between the time when Metropolitan notifies agencies of the January 1, 2008 reduction and when the reduction actually occurs.

These factors are shown in the timeline below:

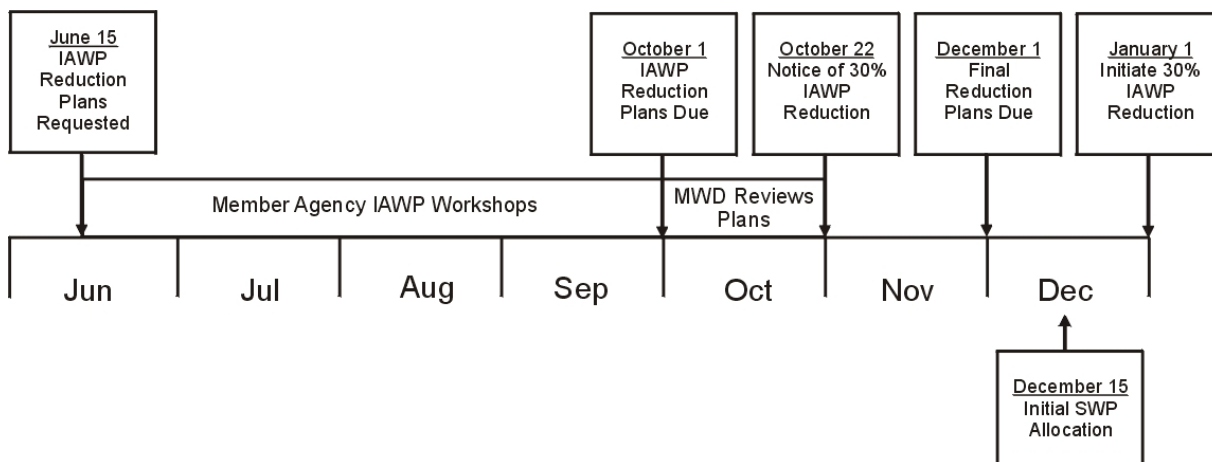


Figure 1: Timeline for IAWP Reduction Implementation

In addition to the timeline shown above, staff provides monthly water supply reports to Metropolitan’s Board of Directors between January and May. These reports inform the Board on changes in the outlook for imported supplies and provide timely updates on the water supply outlook to Metropolitan’s member agencies.

Establishing a Baseline

Since a reduction in IAWP deliveries would typically be called after an extended dry period, a dry year usage pattern for determining monthly IAWP usage targets for the upcoming reduction period should be based on IAWP water usage in a prior dry year. After discussion with the member agencies, Metropolitan has established fiscal year 2003/04 IAWP water deliveries as a Baseline for the planned reduction period. This Baseline will remain in place for the period in which the IAWP reduction is in effect, and for droughts continuing into successive years.

Member agency monthly IAWP usage targets will be set at 70 percent of the corresponding monthly Baseline use. Metropolitan will monitor reduction performance on a monthly basis, but assess penalties at six-month intervals. At the end of each six-month period, Metropolitan will assess financial penalties for IAWP water over-use (debits) or issue credits for IAWP water under-use. Member Agencies demonstrating IAWP use below their usage targets during the first six months (under-use) of the reduction period will be able to carry forward the under-use amount as a credit into the second six-month period. Should the agency incur a debit in the second six-month period, its over-use would be reduced by credits carried forward from the first six months. However, should the IAWP reduction continue into calendar year 2009, credits would revert to zero on January 1, 2009.

Should a call be made for an IAWP reduction due to an emergency, the six-month period would begin on the starting date for IAWP reduction, to be determined at the time of the emergency.

The following tables illustrate the member agency Baselines and the monthly usage target, which is 70 percent of the monthly Baseline.

Monthly IAWP Baselines and Usage Targets by Agency, acre-feet

Agency		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SDCWA	Baseline	5,547.5	3,130.7	5,644.0	7,031.8	11,789.4	9,940.0	11,353.7	12,307.4	11,128.1	11,075.1	5,912.9	5,590.0	100,450.6
	Usage Target	3,883.3	2,191.5	3,950.8	4,922.3	8,252.6	6,958.0	7,947.6	8,615.2	7,789.7	7,752.6	4,139.0	3,913.0	70,315.6
Western	Baseline	2,148.9	1,184.4	1,906.6	1,921.0	3,350.3	3,209.6	4,305.8	4,007.7	3,876.3	3,450.2	1,446.4	1,539.8	32,347.0
	Usage Target	1,504.2	829.1	1,334.6	1,344.7	2,345.2	2,246.7	3,014.1	2,805.4	2,713.4	2,415.1	1,012.5	1,077.9	22,642.9
Calleguas	Baseline	161.0	268.7	357.3	672.9	1,119.2	889.5	798.0	796.7	603.4	675.4	458.5	355.7	7,156.3
	Usage Target	112.7	188.1	250.1	471.0	783.4	622.7	558.6	557.7	422.4	472.8	321.0	249.0	5,009.5
Eastern	Baseline	266.3	120.8	159.2	401.9	720.1	918.4	1,288.3	1,515.5	644.2	306.5	195.1	224.7	6,761.0
	Usage Target	186.4	84.6	111.4	281.3	504.1	642.9	901.8	1,060.9	450.9	214.6	136.6	157.3	4,732.8
MWDOC	Baseline	80.6	83.2	889.7	3,780.8	123.6	96.1	64.6	108.7	130.0	173.9	154.4	99.0	5,784.6
	Usage Target	56.4	58.2	622.8	2,646.6	86.5	67.3	45.2	76.1	91.0	121.7	108.1	69.3	4,049.2
Las Virgenes	Baseline	3.8	5.3	10.6	13.8	19.0	18.2	16.4	21.3	19.0	37.1	6.0	8.6	179.1
	Usage Target	2.7	3.7	7.4	9.7	13.3	12.7	11.5	14.9	13.3	26.0	4.2	6.0	125.4
Three Valleys	Baseline	3.8	2.4	5.9	6.2	8.4	9.4	9.3	9.3	11.3	8.5	3.7	4.6	82.8
	Usage Target	2.7	1.7	4.1	4.3	5.9	6.6	6.5	6.5	7.9	6.0	2.6	3.2	58.0
IEUA	Baseline	0.4	0.1	1.4	0.1	5.6	6.0	10.8	5.3	12.7	3.4	0.7	2.8	49.3
	Usage Target	0.3	0.1	1.0	0.1	3.9	4.2	7.6	3.7	8.9	2.4	0.5	2.0	34.7
Fullerton	Baseline	0.1	0.1	0.5	0.3	1.7	0.8	1.4	0.6	1.5	0.4	0.5	0.2	8.1
	Usage Target	0.1	0.1	0.4	0.2	1.2	0.6	1.0	0.4	1.1	0.3	0.4	0.1	5.9
													Total	152,818.8
													70%	106,974.0

It should be noted that Baselines for Anaheim, Torrance and West Basin MWD are not shown, as these agencies are not currently certifying water use under the IAWP and were not doing so in fiscal year 2003/04.

The following graphs, based on examples of IAWP water use in 2008 for the San Diego County Water Authority and the Western Municipal Water District, Metropolitan’s two largest IAWP water users, illustrate the accumulation of debits and credits during a reduction period. In the first example graph, a net debit accumulated by SDCWA in the first half of the year can be offset by an IAWP credit accumulating later in the year. In the second example graph, credits accumulated by Western at the beginning of the year offset debits occurring later in the year, which could result in a net carryover credit to the second half of the year.

IAWP Monthly Usage Target Example San Diego CWA

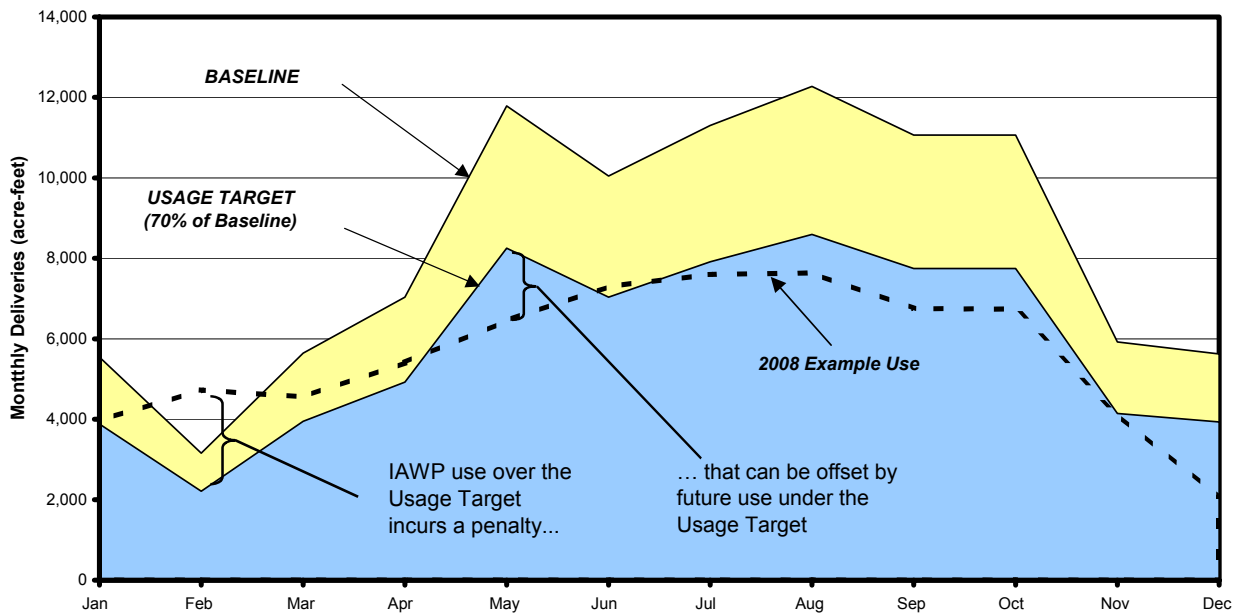


Figure 2: SDCWA Monthly IAWP Usage Targets, With an Example 2008 Use Pattern Shown

IAWP Monthly Usage Target Example Western MWD

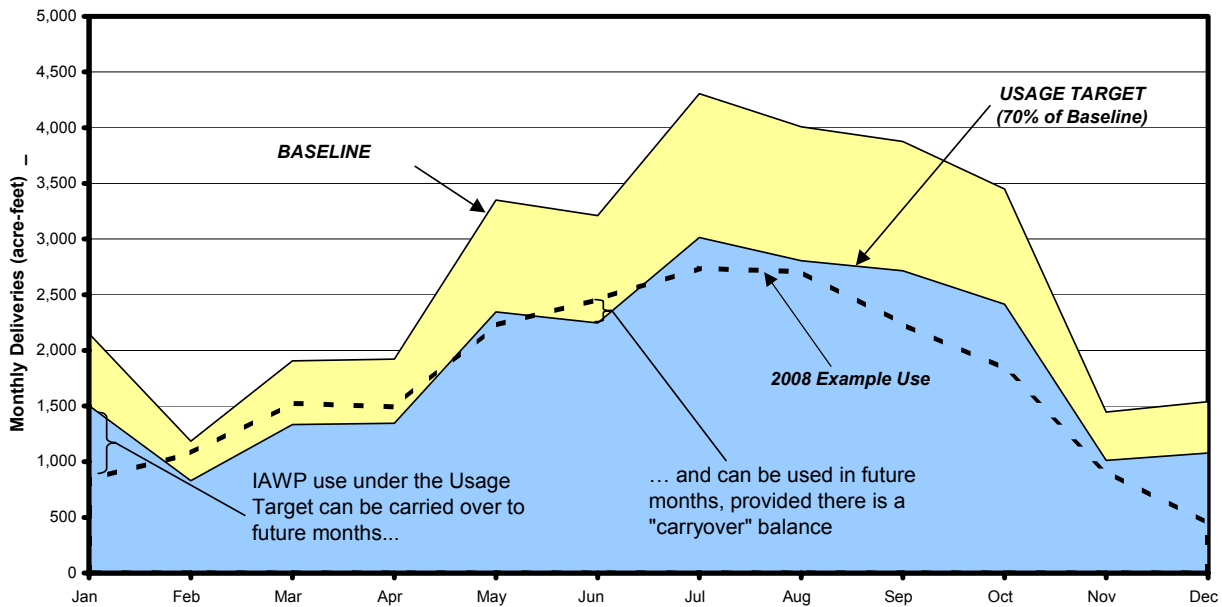


Figure 3: Western MWD Monthly IAWP Usage Targets, With an Example 2008 Use Pattern Shown

Implementing the Program

The cornerstone of implementing the IAWP reduction is the development of detailed IAWP reduction plans by the participating Member Agencies. The reduction plans, requested by Metropolitan in a letter dated June 15, 2007, will provide specific methodologies for implementing, monitoring and verifying IAWP water reductions that reflect agency operations and administrative procedures. It is anticipated that these reduction plans will fulfill several purposes:

- Provide detailed information about each agency's water resources, agricultural water use and demand patterns
- Define specific strategies that will be employed by the member agency, retail agencies and IAWP participants to implement a 30 percent IAWP reduction, in accordance with these guidelines and other documentation resulting from workshops with participating member agencies, and retail agencies (e.g., a list of Frequently Asked Questions)
- Assist Metropolitan staff in administering the IAWP reduction

The expected yield of the 2008 IAWP reduction, using fiscal year 2003/04 as a baseline for IAWP use, is about 46 thousand acre-feet (TAF), which is 30 percent of the 153 TAF that was certified for that fiscal year, should IAWP demand be similar to what was experienced in fiscal year 2003/04.

Verification of Usage

The IAWP provides a discount to participants to maintain the ability of Metropolitan to reduce usage as a water management action, if necessary. The goal of a water use reduction will be compromised if "firm" water is used to offset the reduction in discounted IAWP water. The need for verifying reductions in usage must be balanced by a verification strategy that is not administratively complex and provides for the development of methodologies by each member agency and its participants. With this in mind, a methodology to verify the reduction of usage by IAWP water users will include the following:

1. Monitor a reduction in usage through limits placed on the amount of water that can be certified at a discount under the IAWP.
2. Review proposed reduction plans of participating member agencies that outline how reductions in use by IAWP participants will be implemented, monitored and verified. A committee of Metropolitan staff and member agency representatives will review proposals.
3. Reduce the deadline for member agencies to submit IAWP certifications from the current six months to three months during the reduction period. This will allow Metropolitan and the member agencies to improve performance monitoring, as well as establish credits and penalties, as applicable.
4. Conduct spot checks to verify that proposed actions are actually being implemented.

Based on past discussions regarding the IAWP, participants have an interest in proving that actual reductions in usage have occurred, because a financial benefit has been derived over the years due to this program. By demonstrating their ability to reduce usage, participants in the program can demonstrate the value of the IAWP as a water management program that provides regional benefit.

Penalties for Noncompliance

In order to help ensure performance and participation by IAWP participants, Metropolitan will impose financial penalties and restrict usage for member agencies that do not reduce their use of water below usage targets established for that agency. Deliveries exceeding IAWP usage targets for the six-month period will be subject to a fee equal to twice the bundled Tier 2 Full Service rate less the applicable IAWP rate. In other words, the unit cost of IAWP deliveries exceeding usage targets will be twice Metropolitan's applicable Tier 2 water rate. Furthermore, the maximum annual amount of IAWP water a member agency can purchase will be permanently decreased by the extent to which usage targets are not met.

Financial Impact

The following water rates and fees apply to IAWP water for the calendar year beginning January 1, 2008.

	IAWP Rate	Tier 2 Full Service Rate	IAWP Penalty Fee	Total IAWP Overuse Cost
Untreated Water	\$261/AF	\$449/AF	\$637/AF = ((2 x \$449/AF) - \$261/AF)	\$898/AF = (\$261/AF + \$637/AF)
Treated Water	\$394/AF	\$606/AF	\$818/AF = ((2 x \$606/AF) - \$394/AF)	\$1212/AF = (\$394/AF+\$818/AF)

As shown above, an agency that used more water than the monthly usage targets for the six-month period will pay \$898/AF for untreated water, and \$1,212/AF for treated water, for every acre-foot used over the monthly usage targets.

Conclusion and Recommendation

The development of procedures to implement curtailments of IAWP deliveries as a dry-year supply measure or for emergency purposes is important in order to prepare for January 1, 2008 reductions due to record dry conditions in 2007 and imminent reductions in 2008 SWP supplies. The current reduction process includes notification by October 22, 2007 of a January 1, 2008 IAWP reduction for dry-year needs. Additionally, there are circumstances that could dictate an immediate call for an IAWP reduction, such as a loss of a source of imported supply due to natural disaster, further regulatory restrictions on imported supplies, or other factors. In preparation of 2008 IAWP reductions, Metropolitan staff will continue to work with its member agencies to develop and review IAWP reduction plans that provide detailed information describing how IAWP water use will be curtailed during the reduction period. These reduction plans, requested to be submitted to Metropolitan by October 1, 2007, will continue to be developed and finalized with the member agencies, retail agencies and agricultural customers prior to the IAWP reduction period to ensure that the objectives of the IAWP can be achieved.