## Table of Contents

## DOCUMENTS RELATED TO THE CREATION, DELIVERY, AND ACCOUNTING OF MWD'S INTENTIONALLY CREATED SURPLUS

- 1. MWD's Extraordinary Conservation ICS Plan of Creation for Calendar Year 2015 dated June 30, 2014.
- 2. Reclamation's letter to MWD dated September 25, 2014, approving MWD's Extraordinary Conservation ICS Plan of Creation for Calendar Year 2015.
- 3. Calendar Year 2015 Fallowed Land Verification Report PVID/MWD Forbearance and Fallowing Program, dated April 28, 2016.



THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

June 30, 2014

Mr. Steve Hvinden Area Manager Boulder Canyon Operations Office U.S. Bureau of Reclamation P.O. Box 61470 Boulder City, NV 89006-1470

Dear Mr. Hvinden:

Metropolitan's 2015 Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus

In accordance with Section 3.B.1. of the Interim Guidelines for the Operation of Lake Powell and Lake Mead, enclosed is The Metropolitan Water District of Southern California's (Metropolitan) Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus During Calendar Year 2015 (Plan). We are seeking approval to create 200,000 acre-feet of Extraordinary Conservation Intentionally Created Surplus during 2015. Metropolitan's Plan demonstrates how all requirements of the Guidelines will be met in the creation of Extraordinary Conservation Intentionally Created Surplus.

Metropolitan looks forward to the Secretary of the Interior's review and approval of the Plan in consultation with the Lower Division States. Should you have any questions regarding our Plan, please contact Jan Matusak of Metropolitan's staff at (213) 217-6772.

Very truly yours,

Bill Harmange

William Hasencamp Manager of Colorado River Resources

JPM:tt

Enclosure

## The Metropolitan Water District of Southern California

Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus During Calendar Year 2015

#### Introduction

This plan for the creation of Extraordinary Conservation Intentionally Created Surplus (ICS) has been prepared pursuant to the specifications outlined in Section 3.B.1 on page 40 of the *Record of Decision: Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead* signed by the Secretary of the Interior (Secretary) on December 13, 2007.

Four separate activities are described in this plan, each of which are incorporated as an exhibit to the December 13, 2007, *Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement* among the Arizona Department of Water Resources, the Palo Verde Irrigation District, the Imperial Irrigation District, the City of Needles, the Coachella Valley Water District, the Metropolitan Water District of Southern California (Metropolitan), the Southern Nevada Water Authority, and the Colorado River Commission of Nevada.

The projected yields of these extraordinary conservation activities for calendar year 2015 are as follows:

|             |   | (acre-feet) |
|-------------|---|-------------|
| Activity 1: | Metropolitan Funded Palo Verde Irrigation District Forbearance<br>and Fallowing Program | 86,650*     |
| Activity 2: | Metropolitan Funded Imperial Irrigation District Water<br>Conservation Program          | 105,000**   |
| Activity 3: | Metropolitan Funded Water Supply from Desalination                                      | 67,402      |
| Activity 4: | Metropolitan Funded Water Supply from Lower Colorado Water<br>Supply Project            | 8,150       |
|             | Total   | 267,202     |

\*Amount may be reduced depending upon Metropolitan's fallowing call for the period beginning August 1, 2015. \*\*Amount may be reduced depending upon Coachella Valley Water District's use of up to 20,000 acre-feet.

From the yields of these extraordinary conservation activities, Metropolitan plans to create a total of 200,000 acre-feet of Extraordinary Conservation ICS during 2015.

Documentation that the ICS Plan of Creation is in Conformance with any State or Agency Agreements regarding ICS

The amount of Extraordinary Conservation ICS that Metropolitan plans to create is within the limits of Extraordinary Conservation ICS that can be created and accumulated in Lake Mead by Metropolitan under the December 13, 2007, *California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus*. Absent the creation of Extraordinary Conservation ICS, this water would otherwise be beneficially used by Metropolitan through diversion into the Colorado River Aqueduct. The amount of Extraordinary Conservation ICS that Metropolitan may create is limited to the amount of Colorado River water that, if added to its consumptive use, would not result in an inadvertent overrun pursuant to the Bureau of Reclamation's (Reclamation) October 10, 2003, Inadvertent Overrun and Payback Policy. Reclamation has previously received a copy of the December 13, 2007, Agreement which documents the terms and conditions for the creation and delivery of Extraordinary Conservation ICS by the California water agencies which are parties to the Agreement.

#### Activity 1: Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program

## **Project Description**

Under the August 18, 2004, *Forbearance and Fallowing Program Agreement* with the Palo Verde Irrigation District (PVID) and landowner agreements for fallowing in PVID, Metropolitan pays landowners within the Palo Verde Valley to annually fallow a portion of their land, foregoing the planting and irrigation of crops, allowing PVID to forbear use of water on lands that historically were and otherwise would be irrigated, increasing the amount of water available to Metropolitan.

The volume of water that becomes available to Metropolitan is governed by the October 10, 2003, *Quantification Settlement Agreement*<sup>1</sup> (QSA) and the October 10, 2003, *Colorado River Water Delivery Agreement*.<sup>2</sup> Under these agreements:

- Metropolitan must reduce its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2<sup>3</sup> that is greater than 420,000 acre-feet in a calendar year, or
- Metropolitan may increase its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is less than 420,000 acre-feet in a calendar year.

In both cases, each acre-foot of reduced consumptive use by PVID is an additional acre-foot that becomes available to Metropolitan.

Palo Verde Valley landowners voluntarily decided in 2004 whether to participate in the 35-year program, with those participants agreeing to stop irrigating from 9 to 35 percent of their land in any year at Metropolitan's request. Upon one-year notice, Metropolitan has the option to change the percentage of land fallowed, with an increase in the percentage effective for a two-year period. The land taken out of agricultural production is maintained and rotated once every one to five years. The maximum amount of farmland taken out of production at any one time is 25,947 acres; however, fallowing in excess of 23,508 acres is limited to a total of ten years under the 35-year program. The landowner is responsible for payment of taxes, PVID water tolls, vegetation abatement, dust control and all other costs related to the fallowed lands. Parcels to be fallowed must be at least 5 acres. Through May 2014, Metropolitan has paid a total of \$191.1 million in Program costs and anticipates paying another \$9.6 million in Program costs in 2014.

<sup>&</sup>lt;sup>1</sup> The parties to the Quantification Settlement Agreement are Imperial Irrigation District, Coachella Valley Water District, and Metropolitan.

<sup>&</sup>lt;sup>2</sup> The parties to the Colorado River Water Delivery Agreement are the United States, Imperial Irrigation District, Coachella Valley Water District, Metropolitan, and the San Diego County Water Authority.

<sup>&</sup>lt;sup>3</sup> The Yuma Project Reservation Division holds California's Priority 2.

## Term of the Activity

The Forbearance and Fallowing Program Agreement with PVID terminates on July 31, 2040. Metropolitan has issued a Fallowing Call for 13,263 acres for the period commencing August 1, 2014. It is assumed that Metropolitan will issue a Fallowing Call for the maximum number of acres to be fallowed for the period commencing August 1, 2015 through July 31, 2016.

## Estimate of the Amount of Water that Will be Conserved and Description of How it is Estimated

The volume of projected savings during calendar year 2015 is 86,650 acre-feet based on the amount of water used for irrigation in the Palo Verde Valley in 2013. The monthly tabulation of this projected savings is as follows:

|           | Monthly       | Number of Acres | Reduced         |
|-----------|---------------|-----------------|-----------------|
| Month     | Irrigation    | to be           | Consumptive Use |
|           | Use Fraction* | Fallowed        | (acre-feet)**   |
| January   | 0.051250      | 13,263          | 680             |
| February  | 0.238012      | 13,263          | 3,157           |
| March     | 0.464130      | 13,263          | 6,156           |
| April     | 0.519004      | 13,263          | 6,884           |
| May       | 0.768284      | 13,263          | 10,190          |
| June      | 0.787559      | 13,263          | 10,445          |
| July      | 0.658416      | 13,263          | 8,733           |
| August    | 0.688489      | 25,947***       | 17,864 ***      |
| September | 0.450369      | 25,947***       | 11,686 ***      |
| October   | 0.303192      | 25,947***       | 7,867 ***       |
| November  | -0.000277     | 25,947***       | (7)***          |
| December  | 0.115442      | 25,947***       | 2,995***        |
| Total     |               |                 | 86,650***       |

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon designation of fallowed acreage, a Metropolitan representative visits the field on the date when fallowing is to commence and verifies that fallowing conditions have been met. The same procedure is followed when program participants make changes in the area or location of fallowed lands.

In addition to field verification by Metropolitan, Reclamation staff plan to conduct an independent verification during the spring and fall of 2015. Similar to past years' practice, Reclamation staff plans to select 5 percent of the acreage fallowed for inspection. On-site inspection would be made of all selected fields to observe fallowing conditions and take

photographs. A report would be prepared that confirms extraordinary conservation implementation, and includes field observations and relevant photographs of fallowing conditions in PVID.

A calendar year 2015 Fallowed Land Verification Report will be prepared jointly by PVID, Metropolitan, and Reclamation. The Report will determine the actual amount of water saved in 2015 by the Program.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to the provisions of the California Environmental Quality Act (CEQA), PVID, certified the "Final Environmental Impact Report for the Proposed Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program" and adopted its Findings of Fact on September 18, 2002. Because no significant impacts would result with Program implementation, as determined by PVID, no statement of overriding considerations and no mitigation monitoring or reporting program were required. Metropolitan certified that it reviewed and considered the information in the certified 2002 Final EIR and adopted PVID's findings on October 22, 2002.

Documentation that the Intentionally Created Surplus Is in Addition to Conservation Implemented to Meet Other Obligations

Metropolitan is the beneficiary of the conserved water through the August 18, 2004, *Forbearance and Fallowing Program Agreement* with PVID and landowner agreements for fallowing in PVID. Metropolitan would not transfer the conserved water to another agency, nor would Metropolitan conserve the water for another agency, nor would Metropolitan pay back an Inadvertent Overrun and Payback Policy obligation in 2015 as Metropolitan does not have existing obligations to do so. Reclamation has previously received a copy of the August 18, 2004 Agreement, including its Exhibit A, the form of the *Landowner Agreement for Fallowing in the Palo Verde Irrigation District*, which documents the terms and conditions of the Program.

#### Total Volume of Water to be Conserved and/or the Time Period for the Conservation Project

The total volume of water to be conserved by the Program is estimated to range from 1.87 million acre-feet to 3.75 million acre-feet over the period January 1, 2005 to July 31, 2040, the date on which the Agreement terminates.

## Capital Investment Required to Implement the Project

Metropolitan invested \$73.5 million in sign-up payments paid to Palo Verde landowners, \$6 million in funding for community improvement programs paid to the Palo Verde Valley Community Improvement Fund, and expended \$3.3 million in Program setup costs.

#### Annual Operation, Maintenance, and Replacement Costs

Annual payments to landowners, Metropolitan tenants, and for administrative costs to PVID through 2012 have been as follows:

| Year | Annual Payı    | nents to:    |
|------|----------------|--------------|
|      | Landowners and |              |
|      | Metropolitan   | PVID         |
|      | Tenants        | (million \$) |
|      | (million \$)   |              |
| 2005 | 21.0           | 1.0          |
| 2006 | 8.5            | 0.5          |
| 2007 | 8.7            | 0.3          |
| 2008 | 15.6           | 0.1          |
| 2009 | 16.2           | 0.2          |
| 2010 | 16.6           | 0.2          |
| 2011 | 16.2           | 0.2          |
| 2012 | 4.1            | 0.2          |
| 2013 | 4.2            | 0.2          |

Amount of Water Conserved by the Program to Date and Utilization of the Conserved Water to Date to Meet Specific Conservation Requirements Including ICS Creation

Water saved by the Program has assisted in meeting the 2006, 2009, and 2012 benchmarks, and the 2005, 2007, 2008, 2010, and 2013 targets specified in Exhibit B of the October 10, 2003, *Colorado River Water Delivery Agreement*<sup>4</sup>.

<sup>&</sup>lt;sup>4</sup> All consumptive use of priorities 1 through 3 excluding overruns plus 14,500 acre-feet of miscellaneous and Indian reservations present perfected rights' use plus payback of overruns must be within 25,000 acre-feet of the amount stated in Exhibit B.

|                  | Amount of Conserved Water   | Amount of ICS Created              |
|------------------|---|------------------------------------|
| Year             | Generated   | (acre-feet)                        |
|                  | (acre-feet)   |                                    |
| 2005             | 108,666   |                                    |
| 2006             | 102,039*  | 50,000                             |
| 2007             | 65,310**  | 2,382                              |
| 2008             | 94,303  | 0                                  |
| 2009             | 120,247***  | 55,836                             |
| 2010             | 116,310****   | 100,864                            |
| 2011             | 122,216   | 120,000                            |
| 2012             | 73,662  | 73,662                             |
| 2013             | 32,750  | 0                                  |
| xcludes 7,000 ac | e-feet of water saved which was provided to Rec<br>re-feet of water saved which was provided to Re<br>acre-feet of water saved by the Emergency Fallo | clamation for system conservation, |

The amount of water saved by the Program to date and the amount of ICS created have been as follows:

Time Remaining for the Program and/or the Volume of Water that Remains to be Conserved

The Program is scheduled to end on July 31, 2040. The volume of water that remains to be conserved ranges from a minimum of 1.02 million acre-feet to a maximum of 2.90 million acre-feet over the period January 1, 2015 to July 31, 2040.

## Activity 2: Metropolitan Funded Imperial Irrigation District Water Conservation Program

## Project Description

Under the December 22, 1988, Agreement for the Implementation of a Water Conservation Program and Use of Conserved Water (1988 Conservation Agreement) as amended and the December 19, 1989, Approval Agreement (1989 Approval Agreement) as amended, Metropolitan has funded water efficiency improvements within the Imperial Irrigation District's (IID) service area in return for IID's agreement to not use 105,000 acre-feet of water annually.

The program implemented structural and non-structural measures—extraordinary measures to conserve water—including,

- concrete lining of 13 miles of existing main canals and 200 miles of lateral canals,
- construction of two local reservoirs and three spill-interceptor canals with four reservoirs,
- installation of 14 non-leak gates,
- automation of the distribution system,
- delivery of water to farmers on a 12-hour basis,
- improvements in on-farm water management through the installation of drip irrigation systems, and
- installation of tailwater pumpback systems.

Through May 2014, Metropolitan has paid IID a total of \$287.7 million for program costs.

## Term of the Activity

The term of the 1988 Conservation Agreement as amended and the 1989 Approval Agreement as amended, extends through at least December 31, 2041, or 270 days beyond the termination of the October 10, 2003, *Quantification Settlement Agreement*, whichever is later, with extensions to this term as specified in the agreements.

## Estimate of the Amount of Water that Will be Conserved

As specified in the May 14, 2007, second amendment to the 1988 Conservation Agreement, it is anticipated that 105,000 acre-feet of water will be made available by the program during calendar year 2015. Of this volume, pursuant to the 1989 Approval Agreement, Metropolitan would reduce its use of this water by up to 20,000 acre-feet to allow Coachella Valley Water District (CVWD) to use this water should CVWD need this water. Exhibit H to the *Lower Colorado River Basin ICS Forbearance Agreement* provides that:

"The amount of EC ICS that can be created during any Year is limited to the amount of water resulting from the program that Metropolitan does not consumptively use, up to 105,000 acre-feet, plus any reduction in calculated IID conveyance losses as a result of IID conveying less water through its conveyance and distribution system due to the conservation of water from this program. The volume of water conserved annually pursuant to this program to be devoted to the creation of EC ICS credits is further limited to the quantities set forth in the following...:

## Limitations on Creation of EC 1CS

•••

c) The amount of EC ICS created pursuant to this Exhibit is limited to the IID reduction shown in column 4 of Exhibit B to the October 10, 2003 Colorado River Water Delivery Agreement, less any portion of that reduction that results in delivery of water to Coachella Valley Water District."

## Proposed Methodology for Verification of the Amount of Water Conserved

IID's reduction in net diversions at Imperial Dam permits the Secretary to deliver water made available for Metropolitan absent the creation of Extraordinary Conservation ICS.

Through 2006, the Conservation Verification Consultants prepared and presented to the Water Conservation Measurement Committee an annual report on the estimated amount of water conserved by the program and each project thereof. A Systemwide Monitoring Program was developed to identify and explain trends in IID system performance as a function of the operational environment within which the IID/Metropolitan conservation projects operated. The Systemwide Monitoring Program was designed to function over the life of the IID/Metropolitan program to:

- Identify changes in on-farm irrigation practices.
- Identify changes in main and lateral canal operations and zanjero accounting procedures.
- Provide data support for the five-year verification updates.
- Provide a basis for separating water savings associated with IID/Metropolitan-sponsored conservation projects from water savings associated with measures implemented by others. In this case, the Systemwide Monitoring Program provides valuable baseline data for separating the effects of a new program from those attributable to the IID/Metropolitan program.
- Fulfill the requirement for overall verification specified in the 1989 Approval Agreement.

Forty sites were selected and developed to provide data required for systemwide monitoring.

In order to collect and process the flow data needed in support of the water conservation verification activities for the 1988 Conservation Agreement projects, an automated data collection, quality control, processing and retrieval system was developed under the IID/Metropolitan program. The system was designed to include many of the control sites for the

various projects as well as the sites needed for systemwide monitoring. In December 1995, data processing procedures developed by the Conservation Verification Consultants were institutionalized and incorporated into IID's Water Information System.

Beginning January 1, 1996, conservation verification data were processed and stored using Water Information System applications and capabilities. IID data collected prior to January 1, 1996, which were processed by the Conservation Verification Consultants for use in determining annual projected water conservation savings over the life of the program, were also stored in the Water Information System. The Water Information System management system was developed to generate daily, monthly, calendar year, and water year tables, summary tables and bar charts that have been presented in an annual Processed Flow Data document and an annual Projected Water Conservation Savings report.

The last published Projected Water Conservation Savings report will be made available to Reclamation upon its request.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Metropolitan's Board of Directors certified on December 22, 1988, that it reviewed and considered the environmental information contained in the final program Environmental Impact Report prepared by IID entitled "Proposed Water Conservation Program and Initial Water Transfer". Reclamation complied with the National Environmental Policy Act through execution of Categorical Exclusion No. LC-89-2 on January 6, 1989, for the "Water Conservation Program, Imperial Irrigation District, Imperial County, California".

Project specific documents completed by IID pursuant to the California Environmental Quality Act are described in the table on the following page.

| Project Name   | California Environmental Quality Act Documentation  |
|--|---|
| Trifolium Reservoir Project  | Negative Declaration filed on August 20, 1986   |
| South Alamo Canal Lining Phase I Project                                     | Categorical Exemption filed on September 11, 1987   |
| South Alamo Canal Lining Phase II Project                                    | Categorical Exemption filed on September 6, 1989  |
| "Z" Reservoir  | Initial Environmental Study published in May 1989; Negative<br>Declaration published on September 6, 1989; Addendum to the<br>Negative Declaration filed on November 22, 1989   |
| Lateral Concrete Lining Project, 265 Miles                                   | Environmental Assessment and Initial Study published in January 1990; Categorical Exemption filed on January 26, 1990   |
| Rositas Supply Canal Concrete Lining<br>Project                              | Environmental Assessment and Initial Study published in June 1990; Categorical Exemption filed on August 15, 1990   |
| Vail Supply Canal Lining Project   | Categorical Exemption filed on August 15, 1990  |
| Lateral Interceptor Pilot Project  | Initial Environmental Study published in April 1990; Negative<br>Declaration published on May 23, 1990; and an Addendum to the<br>Negative Declaration filed on August 15, 1990   |
| Westside Main Canal Concrete Lining<br>Project                               | Initial Environmental Study published in June 1990; Negative Declaration filed on October 5, 1990   |
| System Automation Project  | Categorical Exemption published in July 1990; Categorical Exemption filed on September 11, 1990   |
| Westside Main Canal Concrete Lining<br>Project                               | Initial Environmental Study published in June 1990; Negative Declaration filed on October 5, 1990   |
| Non-Leak Gates Project   | Categorical Exemption published in August 1990 and filed on September 6, 1990   |
| 12-Hour Delivery Project   | Categorical Exemption filed on December 21, 1990  |
| Irrigation Water Management Project  | IID determined Project to be exempt from the California<br>Environmental Quality Act on August 23, 1991   |
| Modified East Lowline and Trifolium<br>Interceptors, and Completion Projects | Final Environmental Impact Report published in May 1994; on June<br>8, 1994, IID certified the Final Environmental Impact Report, made<br>a Statement of Findings and adopted a Statement of Overriding<br>Considerations |

Documentation that the Intentionally Created Surplus Is in Addition to Conservation Implemented to Meet Other Obligations

Metropolitan is the beneficiary of the water being conserved through the 1988 Conservation Agreement and the 1989 Approval Agreement. While Metropolitan would not transfer the conserved water to another agency, nor would Metropolitan pay back an Inadvertent Overrun and Payback Policy obligation in 2015 as Metropolitan does not have existing obligations to do so, Metropolitan may be requested to reduce its use of the conserved water by up to 20,000 acre-feet in 2015 by CVWD. Reclamation has previously received a copy of the 1988 Conservation Agreement, 1989 Approval Agreement, and amendments which document the terms and conditions of the Program.

## Total Volume of Water to be Conserved and/or the Time Period for the Conservation Project

The total volume of water to be conserved by the Program is estimated to range from 5.08 million acre-feet over the period January 1, 1990 to December 31, 2041 to 8.94 million acre-feet over the period January 1, 1990 to September 27, 2078—which would be 270 days after the termination of the QSA, provided that the QSA does not terminate until December 31, 2077. The agreement could extend beyond September 27, 2078 pursuant to Section 3.5 of the 1988 Conservation Agreement, and would continue thereafter until terminated as specified in Section 7.2 or in Article V of the 1988 Conservation Agreement.

## Capital Investment Required to Implement the Project

Metropolitan invested \$112.5 million in capital and \$23 million in indirect payments paid to IID.

## Annual Operation, Maintenance, and Replacement Costs

Annual direct payments to IID through May 2014 have been as follows:

| Year             | (million \$) |
|------------------|--------------|
| 1990             | 0.6          |
| 1991             | 1.1          |
| 1992             | 2.3          |
| 1993             | 2.8          |
| 1994             | 1.9          |
| 1995             | 2.8          |
| 1996             | 1.8          |
| 1997             | 6.5          |
| 1998             | 4.8          |
| 1999             | 5.5          |
| 2000             | 5.5          |
| 2001             | 4.4          |
| 2002             | 5.8          |
| 2003             | 6.8          |
| 2004             | 7.9          |
| 2005             | 8.1          |
| 2006             | 8.8          |
| 2007             | 9.0          |
| 2008             | 9.8          |
| 2009             | 8.7          |
| 2010             | 10.1         |
| 2011             | 10.0         |
| 2012             | 9.6          |
| 2013             | 11.9         |
| 2014 through May | 5.6          |

Amount of Water Conserved by the Program to Date and Utilization of the Conserved Water to Date to Meet Specific Conservation Requirements Including ICS Creation

Water saved by the Program has assisted in meeting the 2003, 2006, 2009, and 2012 benchmarks, and the 2004, 2005, 2007, 2008, 2010 and 2013 targets specified in Exhibit B of the October 10, 2003, *Colorado River Water Delivery Agreement*<sup>1</sup>. The amount of water saved by the Program to date and the amount of ICS created have been as follows:

| Year | Amount of<br>Conserved Water<br>Generated<br>(acre-feet) | Amount of<br>ICS Created<br>(acre-feet) |  |
|------|--|---|--|
| 1990 | 6,110  |   |  |
| 1991 | 26,700   |   |  |
| 1992 | 33,929   |   |  |
| 1993 | 54,830   |   |  |
| 1994 | 72,870   |   |  |
| 1995 | 74,570   |   |  |
| 1996 | 90,880   |   |  |
| 1997 | 97,740   |   |  |
| 1998 | 107,160  |   |  |
| 1999 | 108,500  |   |  |
| 2000 | 109,460  |   |  |
| 2001 | 106,880  |   |  |
| 2002 | 104,940  |   |  |
| 2003 | 105,130  |   |  |
| 2004 | 101,900  |   |  |
| 2005 | 101,940  |   |  |
| 2006 | 101,160  |   |  |
| 2007 | 105,000  | 0                                       |  |
| 2008 | 105,000  | 0                                       |  |
| 2009 | 105,000  | 0                                       |  |
| 2010 | 105,000  | 0                                       |  |
| 2011 | 103,940  | 65,704                                  |  |
| 2012 | 104,140  | 93,677                                  |  |
| 2013 | 105,000  | 0                                       |  |

## Time Remaining for the Program and/or the Volume of Water that Remains to be Conserved

The total volume of water to be conserved by the Program is estimated to range from 2.84 million acre-feet over the period January 1, 2015 to December 31, 2041 to 6.69 million acre-feet over the period January 1, 2015 to September 27, 2078—which would be 270 days after the termination of the QSA, provided that the QSA does not terminate until December 31, 2077. The agreement could extend beyond September 27, 2078 pursuant to

<sup>&</sup>lt;sup>1</sup> All consumptive use of priorities 1 through 3 excluding overruns plus 14,500 acre-feet of miscellaneous and Indian reservations present perfected rights' use plus paybacks of overruns must be within 25,000 acre-feet of the amount stated in Exhibit B.

Section 3.5 of the 1988 Conservation Agreement, and would continue thereafter until terminated as specified in Section 7.2 or in Article V of the 1988 Conservation Agreement.

## Activity 3: Metropolitan Funded Water Supply from Desalination

Metropolitan provides financial support to its member agencies to implement groundwater desalination projects in its service area that are described below. Metropolitan enters into agreements to pay for water produced by each individual project for multi-year terms. Metropolitan contributions are based on a sliding scale up to \$250 per acre-foot.

In order to determine the appropriate Metropolitan contribution, agencies are required to submit to Metropolitan annual project costs and production data at the conclusion of each fiscal year of operation. Metropolitan verifies the amount of desalted water production and associated project unit cost through an annual reconciliation process. In addition, Metropolitan periodically conducts an audit of agencies' records pertaining to desalted water production and costs.

The projected yield of these groundwater desalination projects for calendar year 2015 is as follows:

| Project                                      | Projected<br>2015 Yield<br>(acre-feet) |
|--|--|
| Beverly Hills Desalter                       | 1,283                                  |
| Capistrano Beach Desalter                    | 911                                    |
| Chino Basin Desalination Program             | 24,600                                 |
| Irvine Desalter                              | 4,768                                  |
| Irvine Ranch Water District Wells 21 and 22  | 5,500                                  |
| Lower Sweetwater Desalter                    | 3,200                                  |
| Madrona Desalination Facility                | 1,596                                  |
| Menifee Desalter                             | 2,900                                  |
| Oceanside Desalter (Mission Basin Expansion) | 4,650                                  |
| San Juan Basin Desalter                      | 5,450                                  |
| Tapo Canyon Desalter                         | 324                                    |
| Temescal Basin Desalter                      | 10,000                                 |
| Tustin Desalter                              | 2,220                                  |
| Total  | 67,402                                 |

## **Beverly Hills Desalter**

## Project Description

The Beverly Hills Desalter includes a treatment plant, extraction wells, a collection pipeline, a booster pump, a product water pipeline to connect to Beverly Hills' water distribution system, and a concentrate waste disposal pipeline. The project pumps and treats brackish groundwater from the Hollywood Basin. Concentrate is discharged to the sanitary sewer system through which it is conveyed to the City of Los Angeles' Hyperion Wastewater Treatment Plant.

## Term of the Activity

The 20-year agreement between Metropolitan and the City of Beverly Hills terminates at the end of April 2023.

## Estimate of the Amount of Water that Will be Conserved

The Beverly Hills Desalter is projected to produce 1,283 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Beverly Hills Desalter.

#### Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, Beverly Hills prepared and approved a Mitigated Negative Declaration for the Beverly Hills Desalter. Beverly Hills filed a Notice of Determination for the project on August 19, 1998. Metropolitan's Board of Directors certified that it reviewed and considered the information provided in the Mitigated Negative Declaration for the Beverly Hills Desalter and adopted Beverly Hills' findings related to the project on September 15, 1998.

#### **Capistrano Beach Desalter**

#### Project Description

The Capistrano Beach Desalter includes a treatment plant, extraction wells, a collection pipeline, a booster pump, a product water pipeline to connect to South Coast Water District's water distribution system, and a concentrate waste disposal pipeline. The project pumps and treats brackish groundwater from the San Juan Basin. Concentrate is discharged to the Chiquita Ocean Outfall.

## Term of the Activity

The 20-year agreement between Metropolitan, Municipal Water District of Orange County and the South Coast Water District will terminate on June 30, 2026.

## Estimate of the Amount of Water that Will be Conserved

The Capistrano Beach Desalter is projected to produce 911 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Capistrano Beach Desalter.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, South Coast Water District approved a Program EIR for the San Juan Capistrano Property and the Project in December 2002. An additional Mitigated Negative Declaration for the project was adopted in 2003.

## **Chino Basin Desalination Program**

#### Project Description

The Chino Basin Desalter No. 1 treats groundwater containing high concentrations of total dissolved solids, nitrates and volatile organic compounds, and conveys product water to the cities of Chino, Chino Hills, and Norco and Jurupa Community Services District. Groundwater is pumped from 14 wells throughout the Chino Basin area to the Desalter, where reverse osmosis, ion exchange and air stripping processes are utilized. The project includes a pipeline and structures connecting existing Jurupa and City of Ontario water systems, a three-million gallon reservoir, and two booster pumping stations. Brine is transported by a regional brine line and subsequently discharged to the ocean. The Chino Basin Desalter No. 1 design capacity is 14.2 million gallons per day.

The Chino Basin Desalter No. 2 serves water to Jurupa, Ontario, Norco and the Santa Ana River Water Company. Groundwater from eight wells near the City of Eastvale is treated by reverse osmosis (six million gallons per day) and ion exchange (four million gallons per day) treatment systems. The project includes raw water pipelines to convey groundwater to the desalting facilities, pipelines to convey treated water to the existing potable systems, a three-million gallon clearwell, a five-million gallon storage reservoir, and three booster pumping stations. The Chino Basin Desalter No. 2 is currently being expanded to a design capacity of 20.5 million gallons per day through construction of additional extraction wells, raw water pipelines, treatment facilities and product water delivery facilities.

Once the expansion project is complete, the Chino Desalters will have the capability to produce up to 35,200 acre-feet of product water annually.

## Term of the Activity

In 2011, Metropolitan entered into a consolidated agreement under the Local Resources Program with the Inland Empire Utilities Agency, Western Municipal Water District, and Chino Basin Desalter Authority for the Chino Basin Desalination Program over a 20-year term, terminating in June 2031.

## Estimate of the Amount of Water that Will be Conserved

The Chino Basin Desalination Program is projected to produce 24,600 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for Chino Basin Desalter No. 1 and Chino Basin Desalter No. 2.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Santa Ana Watershed Project Authority (SAWPA) prepared three Negative Declarations for the Chino Basin Desalter No. 1. SAWPA signed Notices of Determination for the project on September 16, 1991 (Chino Basin Desalter No. 1), December 30, 1991 (Chino West Desalter), and June 12, 1992 (Chino Basin Desalination System). Mitigation measures were adopted by SAWPA. Metropolitan's Board of Directors certified that it reviewed and considered the Negative Declarations for the project on May 10, 1994.

Metropolitan's Board of Directors determined that the proposed actions, including authorizing the General Manager to execute the Chino Basin Desalter No. 2 agreement, were exempt from CEQA pursuant to Sections 15306 and 15378(b)(4) of the State CEQA Guidelines on June 12, 2007.

Metropolitan's Board of Directors reviewed and considered information provided in the 2011 Mitigated Negative Declaration and Mitigation Monitoring Reporting Plan prepared and adopted by the Chino Basin Desalter Authority, and determined that the proposed Phase 3 Expansion was not subject to CEQA pursuant to Sections 15378(b)(2) and 15378(b)(4) of the State CEQA Guidelines.

## Irvine Desalter

#### Project Description

The Irvine Desalter includes a seven million gallon per day reverse osmosis desalination system, nine wells, yard piping, and brine disposal piping. Treatment facilities consist of threshold inhibitor and acid injection systems, cartridge filters, booster pumps, reverse osmosis membrane units, decarbonation facilities, chlorine disinfection, and an on-site storage reservoir. Brackish water is pumped from the Orange County Basin. Product water is delivered to the Irvine Ranch Water District's service area. Brine is discharged at the County Sanitation Districts of Orange County (CSDOC) facility in Fountain Valley.

## Term of the Activity

The 20-year agreement between Metropolitan, Municipal Water District of Orange County, Orange County Water District (OCWD) and the Irvine Ranch Water District will terminate at the end of August 2027.

## Estimate of the Amount of Water that Will be Conserved

The Irvine Desalter is projected to produce 4,768 acre-feet of water during calendar year 2015.

#### Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Irvine Desalter.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, OCWD filed a Notice of Preparation of an Environmental Impact Report (EIR) on October 27, 1989. The final EIR was adopted in 1990.

## IRWD Wells 21 and 22 Desalter

#### Project Description

The Irvine Ranch Water District's (IRWD) Wells 21 and 22 Desalter includes rehabilitation of a treatment plant, brine disposal and pipelines. The treatment plant employs reverse osmosis and cartridge filters to remove total dissolved solids and nitrates. Product water is delivered to IRWD's existing 42-inch diameter pipeline. The brine concentrate is conveyed to the Orange County Sanitation District's existing sewer system.

## Term of the Activity

The 25-year agreement between Metropolitan and Irvine Ranch Water District terminates at the end of June 2037.

## Estimate of the Amount of Water that Will be Conserved

The IRWD Wells 21 and 22 Desalter is projected to produce 5,500 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the IRWD Wells 21 and 22 Desalter.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Irvine Ranch Water District prepared the Wells 21 and 22 and Tustin Legacy Well 1 Project Mitigated Negative Declaration (MND). Mitigation measures were made a condition of approval of the project. Metropolitan's Board of Directors certified that it reviewed and considered the information provided in the Mitigated Negative Declaration for the plan prior to reaching a decision on the project and adopted Irvine Ranch Water District's findings related to the project on January 11, 2011.

#### Lower Sweetwater Desalter

#### **Project Description**

The Lower Sweetwater Desalter includes wells, replenishment facilities, a treatment plant, neutralization plant, brine disposal, and pipelines. The treatment plant employs reverse osmosis and blending to desalt brackish water. Product water is pumped to the Sweetwater Authority's distribution system for use by National City and South Bay Irrigation District. Concentrate is discharged to San Diego Bay through the Upper Paradise Creek flood control channel.

#### Term of the Activity

The 20-year agreement between Metropolitan and the San Diego County Water Authority terminates at the end of January 2020.

#### Estimate of the Amount of Water that Will be Conserved

The Lower Sweetwater Desalter is projected to produce 3,200 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Lower Sweetwater Desalter.

#### Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Sweetwater Authority prepared and certified an EIR for the Lower Sweetwater Desalter. Mitigation measures were made a condition of approval of the project by the Sweetwater Authority. A Notice of Determination for the project was filed on May 23, 1996. Metropolitan's Board of Directors certified that it reviewed and considered the EIR for the project on July 9, 1996.

#### Madrona Desalination Facility

## Project Description

The Madrona Desalination Facility includes two wells and treatment of water from the West Coast Basin by reverse osmosis. Product water is conveyed to the City of Torrance's distribution system by booster pump. Concentrate is discharged to the ocean.

#### Term of the Activity

The 20-year agreement between Metropolitan and the City of Torrance terminates at the end of June 2022.

#### Estimate of the Amount of Water that Will be Conserved

The Madrona Desalination Facility is projected to produce 1,596 acre-feet of water during calendar year 2015.

#### Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Madrona Desalination Facility.

#### Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Water Replenishment District of Southern California (WRD) prepared and approved a Mitigated Negative Declaration for the Madrona Desalination Facility. Metropolitan's Board of Directors certified that it reviewed and considered the Initial Findings and Mitigated Negative Declaration for the project and adopted the WRD finding related to the project on October 13, 1998.

## Menifee Desalter

## Project Description

The Menifee Desalter treats brackish water from five wells in the Perris and Menifee Subbasins through reverse osmosis. Product water is pumped into Eastern Municipal Water District's potable distribution system. Concentrate is disposed through the Temescal Valley and Santa Ana regional interceptors to the ocean.

## Term of the Activity

The 20-year agreement between Metropolitan and Eastern Municipal Water District terminates at the end of November 2021.

## Estimate of the Amount of Water that Will be Conserved

The Menifee Desalter is projected to produce 2,900 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Menifee Desalter.

#### Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Eastern Municipal Water District prepared an EIR for the Menifee Desalter. On February 9, 1993, Metropolitan's Board of Directors certified that it considered the environmental effects of the Menifee Basin Desalter as shown in the EIR prior to making a decision on the project and found that the mitigation measures for the project were within the responsibility and jurisdiction of other public agencies and have been or can and should be adopted by those agencies.

#### **Oceanside Desalter (Mission Basin Expansion)**

#### **Project Description**

The Oceanside Desalter (Mission Basin Expansion) includes three wells, a cartridge filtration facility, and water conveyance facilities. Brackish water is pumped from the Mission Basin. Product water is delivered to the City of Oceanside. Concentrate is disposed into the ocean.

#### Term of the Activity

The current 20-year agreement between Metropolitan and the San Diego County Water Authority terminates at the end of July 2023.

## Estimate of the Amount of Water that Will be Conserved

The Oceanside Desalter (Mission Basin Expansion) is projected to produce 4,650 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Oceanside Desalter (Mission Basin Expansion).

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the City of Oceanside prepared and approved a Negative Declaration and Notice of Exemption for the Oceanside Desalter (Mission Basin Expansion). Mitigation measures were made a condition of approval of the project by Oceanside. A Notice of Exemption for the project was filed on February 11, 1998 and a Notice of Determination for the project was filed on July 22, 1998. Metropolitan's Board of Directors certified that it reviewed and considered the Negative Declaration and Notice of Exemption for the project and adopted Oceanside's finding related to the project on August 18, 1998.

#### San Juan Basin Desalter

## Project Description

The San Juan Basin Desalter consists of five wells, a four million gallon per day reverse osmosis treatment plant, pretreatment to remove iron and manganese, a pump station, a product water pipeline, and a concentrate disposal pipeline. Brackish water is pumped from the Lower San Juan Basin. Product water is delivered to the Capistrano Valley Water District. Concentrate is conveyed to the ocean through the Chiquita Land Outfall and the Serra Ocean Outfall.

#### Term of the Activity

The 20-year agreement between Metropolitan and the Municipal Water District of Orange County terminates at the end of December 2024.

#### Estimate of the Amount of Water that Will be Conserved

The San Juan Basin Desalter is projected to produce 5,450 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the San Juan Basin Desalter.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the San Juan Basin Authority prepared and approved a Mitigated Negative Declaration for the San Juan Basin Groundwater Management and Facility Plan that addressed the San Juan Basin Desalter. Metropolitan's Board of Directors certified that it reviewed and considered the information provided in the Mitigated Negative Declaration for the Plan prior to reaching a decision on the project and adopted the San Juan Basin Authority's findings related to the project on August 18, 1998.

## Tapo Canyon Desalter

## Project Description

The Tapo Canyon Desalter includes wells, a two million gallon per day reverse osmosis desalination plant, storage tanks, and pipeline. Brackish water is pumped from the Simi Valley Groundwater Basin. Product water is delivered to the City of Simi Valley. Brine is conveyed to the existing sewer system.

## Term of the Activity

The 25-year agreement between Metropolitan and the Calleguas Municipal Water District terminates at the end of August 2031.

## Estimate of the Amount of Water that Will be Conserved

The Tapo Canyon Desalter is projected to produce 324 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Tapo Canyon Desalter.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the project qualified under a Class 2 Categorical Exemption because the project included rehabilitation and replacement of existing equipment where older components are replaced by new components with the same purpose and capacity. On April 12, 2005,

Metropolitan's Board of Directors determined that pursuant to CEQA, the proposed action qualifies under a Categorical Exemption (Section 15302 of the State CEQA Guidelines).

#### Temescal Basin Desalter

#### Project Description

The Temescal Basin Desalter includes wells, reverse osmosis treatment, transmission, product water, and brine disposal pipelines. Brackish water is pumped from the Temescal Subbasin. Product water is delivered to the City of Corona. Brine is discharged to the ocean through the Santa Ana Regional Interceptor.

#### Term of the Activity

The 25-year agreement between Metropolitan and Western Municipal Water District terminates at the end of June 2025.

#### Estimate of the Amount of Water that Will be Conserved

The Temescal Basin Desalter is projected to produce 10,000 acre-feet of water during calendar year 2015.

#### Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Temescal Basin Desalter.

#### Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, Corona prepared and approved a Mitigated Negative Declaration for the Temescal Basin Desalter. Mitigation measures were made a condition of approval of the project. Metropolitan's Board of Directors certified that it reviewed and considered the information provided in the Mitigated Negative Declaration for the Temescal Basin Desalter and adopted Corona's findings related to the project on February 9, 1999.

## **Tustin Desalter**

#### Project Description

The Tustin Desalter includes wells, a two million gallon per day reverse osmosis desalination plant, and pipeline. Brackish water is pumped from the Orange County Basin. Product water is delivered to the City of Tustin. Brine is conveyed to the County Sanitation Districts of Orange County wastewater treatment facilities via a sewer.

## Term of the Activity

The 20-year agreement between Metropolitan and the Municipal Water District of Orange County terminates at the end of August 2016.

## Estimate of the Amount of Water that Will be Conserved

The Tustin Desalter is projected to produce 2,220 acre-feet of water during calendar year 2015.

## Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Tustin Desalter.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, Orange County Water District prepared an Initial Study and Negative Declaration for the Tustin Desalter. Mitigation measures were made a condition of approval of the project. A Notice of Determination for the project was filed on July 18, 1991. Metropolitan's Board of Directors certified that it reviewed and considered the information contained in the Initial Study and Negative Declaration and found that any changes and alterations were within the responsibility of another agency on December 10, 1991.

## Documentation that the Intentionally Created Surplus Is in Addition to Conservation Implemented to Meet Other Obligations

Metropolitan is the beneficiary of the water being desalted through each of the 13 projects. Metropolitan would not transfer the desalted water to another agency, nor would Metropolitan desalt the water for another agency, nor would Metropolitan pay back an Inadvertent Overrun and Payback Policy obligation in 2015 as Metropolitan does not have existing obligations to do so. A copy of the agreements which Metropolitan has executed to provide financial support to implement the desalination projects is available upon Reclamation's request.

Total Volume of Water to be Conserved and/or the Time Period for the Conservation Project

The total volume of water to be conserved and the time period for each desalting project is as follows:

| Project                                      | Time Period<br>for<br>Metropolitan<br>Financial<br>Support | Total Volume of<br>Water to be<br>Conserved<br>(acre-feet) |
|--|--|--|
| Beverly Hills Desalter                       | 2003-2023  | 32,000   |
| Capistrano Beach Desalter                    | 2007-2027  | 19,000   |
| Chino Basin Desalination Program             | 2000-2031  | 660,000  |
| Irvine Desalter                              | 2007-2027  | 95,000   |
| IRWD Wells 21 and 22 Desalter                | 2012-2037  | 128,000  |
| Lower Sweetwater Desalter                    | 2000-2020  | 63,000   |
| Madrona Desalination Facility                | 2002-2022  | 34,000   |
| Menifee Desalter                             | 2002-2021  | 52,000   |
| Oceanside Desalter (Mission Basin Expansion) | 1993-2023  | 88,000   |
| San Juan Basin Desalter                      | 2004-2024  | 63,000   |
| Tapo Canyon Desalter                         | 2010-2031  | 18,000   |
| Temescal Basin Desalter                      | 2001-2025  | 232,000  |
| Tustin Desalter                              | 1996-2016  | 40,000   |
| Total  |  | 1,524,000  |

# Capital Investment Required to Implement the Project and Annual Operation, Maintenance, and Replacement Costs

Metropolitan's payments for water desalted by each of the projects is as follows:

|  | Total          |
|--|----------------|
|  | Payments       |
| Project                                      | through Fiscal |
|  | Year 2013-14   |
|  | (million \$)   |
| Beverly Hills Desalter                       | 3.1            |
| Capistrano Beach Desalter                    | 1.2            |
| Chino Basin Desalination Program             | 38.2           |
| Irvine Desalter                              | 5.0            |
| IRWD Wells 21 and 22 Desalter                | 0.3            |
| Lower Sweetwater Desalter                    | 7.0            |
| Madrona Desalination Facility                | 4.5            |
| Menifee Desalter                             | 4.7            |
| Oceanside Desalter (Mission Basin Expansion) | 6.6            |
| San Juan Basin Desalter                      | 6.6            |
| Tapo Canyon Desalter                         | 0.02           |
| Temescal Basin Desalter                      | 11.7           |
| Tustin Desalter                              | 3.3            |
| Total  | 92.22          |

Amount of Water Conserved by the Program to Date and Utilization of the Conserved Water to Date to Meet Specific Conservation Requirements Including ICS Creation

The amount of desalted water conserved by the program to date and the amount of ICS created have been as follows:

|  | Amount of<br>Water |  |
|--|--------------------|--|
| Droject                                      | Conserved by       |  |
| Project                                      | the Program to     |  |
|  | Date               |  |
|  | (acre-feet)        |  |
| Beverly Hills Desalter                       | 12,525             |  |
| Capistrano Beach Desalter                    | 4,908              |  |
| Chino Basin Desalination Program             | 172,233            |  |
| Irvine Desalter                              | 19,871             |  |
| IRWD Wells 21 and 22 Desalter                | 1,482              |  |
| Lower Sweetwater Desalter                    | 43,437             |  |
| Madrona Desalination Facility                | 18,132             |  |
| Menifee Desalter                             | 25,492             |  |
| Oceanside Desalter (Mission Basin Expansion) | 47,946             |  |
| San Juan Basin Desalter                      | 26,412             |  |
| Tapo Canyon Desalter                         | 235                |  |
| Temescal Basin Desalter                      | 117,098            |  |
| Tustin Desalter                              | 32,399             |  |
| Total  | 522,170            |  |

| Year | Amount of ICS Created<br>(acre-feet) |
|------|--------------------------------------|
| 2007 | 0                                    |
| 2008 | 0                                    |
| 2009 | 0                                    |
| 2010 | 0                                    |
| 2011 | 0                                    |
| 2012 | 12,338                               |
| 2013 | 0                                    |

Time Remaining for the Program and/or the Volume of Water that Remains to be Conserved

The amount of time remaining for each desalting project and the volume of water for which Metropolitan financial support is anticipated are:

| Project                                      | Remaining<br>Time Period<br>for<br>Metropolitan<br>Financial<br>Support | Estimate of<br>Total Volume of<br>Water to be<br>Conserved<br>(acre-feet) |
|--|---|---|
| Beverly Hills Desalter                       | 2014-2023   | 19,475  |
| Capistrano Beach Desalter                    | 2014-2027   | 14,092  |
| Chino Basin Desalination Program             | 2014-2031   | 457,767   |
| Irvine Desalter                              | 2014-2027   | 75,129  |
| IRWD Wells 21 and 22 Desalter                | 2014-2037   | 126,518   |
| Lower Sweetwater Desalter                    | 2014-2020   | 19,563  |
| Madrona Desalination Facility                | 2014-2022   | 15,868  |
| Menifee Desalter                             | 2014-2022   | 26,508  |
| Oceanside Desalter (Mission Basin Expansion) | 2014-2023   | 40,054  |
| San Juan Basin Desalter                      | 2014-2024   | 36,588  |
| Tapo Canyon Desalter                         | 2014-2031   | 17,765  |
| Temescal Basin Desalter                      | 2014-2021   | 114,902   |
| Tustin Desalter                              | 2014-2016   | 7,601   |
| Total  |   | 971,830   |

## Activity 4: Metropolitan Funded Water Supply from the Lower Colorado Water Supply Project

## Project Description

In 1986, Public Law 99-655, the Lower Colorado Water Supply Act, authorized the Secretary, through Reclamation, to construct, operate, and maintain the Lower Colorado Water Supply Project (Project). The Project is comprised of a well field that pumps groundwater from the Sand Hills area of California into the All-American Canal. The purpose of the Project at the time of its authorization was to provide an alternative water supply for parties using Colorado River water without rights or with insufficient rights. These parties pay the Project costs for producing water and exchange that water with IID. The Project is authorized to supply up to 10,000 acre-feet of water annually. Under a contract with Reclamation, the City of Needles assumed the administrative responsibility for non-federal Project beneficiaries within San Bernardino, Riverside, and Imperial Counties. Stage 1 of the Project was completed in 1996.

In 2005, Public Law 109-103 amended the Act to authorize the Secretary to contract with certain additional entities for the use of Project water under such terms as the Secretary determined would benefit the interest of Project users along the Colorado River. Through 2006, contracting parties used about 1,000 acre-feet of water from the Project annually with the primary user of the Project being Needles. There was a concern that over time, the groundwater pumped by the Project will become too saline for use leaving the Project beneficiaries without an available water supply. On March 26, 2007, Reclamation, Needles, and Metropolitan entered into a contract allowing Metropolitan to access the unused capacity of the Project. The contract ensures no interference with the Secretary's management of Colorado River system reservoirs and regulatory structures.

## Term of the Activity

The Project contract with the United States and the City of Needles terminates on December 31, 2045. If Needles elects to exercise its option under a separate contract with Reclamation to renew that contract for an additional term of 50 years ending on December 31, 2095, Metropolitan has the option to renew its Project contract for an additional term of 50 years. Unused Project capacity is projected to be available to Metropolitan through 2059.

## Estimate of the Amount of Water that Will be Conserved

The Project is projected to conserve 9,720 acre-feet of water during calendar year 2015, assuming construction of a third and fourth well will be completed in July and October 2015, respectively and then placed into operation. Of this amount, 8,150 acre-feet is expected to be made available to Metropolitan.

## Proposed Methodology for Verification of the Amount of Water Conserved

Project water will be measured at point(s) designated by Reclamation. The measuring and controlling devices remain at all times under the control of Reclamation. Authorized representatives of Reclamation have access to the measuring and controlling devices at all times. IID reports the amount of Project water discharged into the All-American Canal on a monthly basis to Reclamation. Reclamation's "Colorado River Accounting and Water Use Report, Arizona, California, and Nevada, Calendar Year 2015" will report the amount of Project water available to Metropolitan.

## Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Metropolitan's Board of Directors adopted the CEQA determination on February 13, 2007, that the proposed action qualifies under a Categorical Exemption (Class 1, Section 15301 of the State CEQA Guidelines). Reclamation complied with the National Environmental Policy Act through publication of the "Lower Colorado Water Supply Study, California, Planning Report/Environmental Assessment, July 1986" and the preparation of a Finding of No Significant Impact.

Documentation that the Intentionally Created Surplus Is in Addition to Conservation Implemented to Meet Other Obligations

Metropolitan is the beneficiary of the Project water made available as a result of unused capacity through the March 26, 2007 Project *Contract among the United States, the City of Needles, and The Metropolitan Water District of Southern California* as amended. Metropolitan would not transfer the Project water to another agency, nor would the water be conserved for another agency, nor would Metropolitan pay back an Inadvertent Overrun and Payback Policy obligation in 2015 as Metropolitan does not have existing obligations to do so. Reclamation has a duplicate original of the March 26, 2007 Contract, and the May 3, 2010 Contract Amendment No. 1, which document the terms and conditions of the availability of Project water to Metropolitan.

## Total Volume of Water to be Conserved and/or the Time Period for the Conservation Project

The total volume of water to be conserved by the Project is estimated to total about 360,000 acre-feet over the period January 1, 2003 to December 31, 2045, the date on which the Agreement terminates, assuming the third and fourth wells are placed into operation in 2015. Of this amount, nearly 226,000 acre-feet is estimated to be unused capacity available to Metropolitan. An estimated additional 500,000 acre-feet would be conserved over the period January 1, 2046 to December 31, 2095 if Needles elects to exercise its option under a separate contract with Reclamation.

## Capital Investment Required to Implement the Project

Through May 2014, Metropolitan has invested \$3.8 million in a Water Quality Maintenance Trust Fund administered by Needles. Withdrawals may be made from the Trust Fund for: costs of constructing Stage II of the Project; reimbursement for the remaining Stage I capital costs that Needles has paid for capacity in excess of 800 acre-feet which has not been paid by other Project beneficiaries; studies; reducing the total dissolved solids concentration of Project water; and costs of acquisition of an alternative supply. Reclamation constructed Stage I of the Project, at a cost of nearly \$1.1 million, which was repaid with interest by holders of Project capacity by October 1, 2012.

#### Annual Operation, Maintenance, and Replacement Costs

Annual payments by Metropolitan for operation, maintenance, replacement, and administrative costs through May 2014 have been as follows:

| Year             | Annual Payments<br>(million \$) |  |
|------------------|---------------------------------|--|
| 2007             | 0.2                             |  |
| 2008             | 0.3                             |  |
| 2009             | 0.2                             |  |
| 2010             | 0.2                             |  |
| 2011             | 0.3                             |  |
| 2012             | 0.2                             |  |
| 2013             | 0.6                             |  |
| 2014 through May | 0.2                             |  |

Amount of Water Conserved by the Program to Date and Utilization of the Conserved Water to Date to Meet Specific Conservation Requirements Including ICS Creation

Water conserved by the Project has assisted in meeting the 2006, 2009, and 2012 benchmarks, and the 2005, 2007, 2008, 2010 and 2013 targets specified in Exhibit B of the October 10, 2003, *Colorado River Water Delivery Agreement*<sup>1</sup>. The amount of the water conserved by the Program to date, the amount of water made available to Metropolitan, and the amount of ICS created have been as follows:

<sup>&</sup>lt;sup>1</sup> All consumptive use of priorities 1 through 3 excluding overruns plus 14,500 acre-feet of miscellaneous and Indian reservations present perfected rights' use plus payback of overruns must be within 25,000 acre-feet of the amount stated in Exhibit B.

| Year | Amount of Water<br>Conserved<br>(acre-feet) | Amount of Water Made<br>Available to Metropolitan<br>(acre-feet) | Amount of ICS Created<br>(acre-feet) |
|------|---|--|--------------------------------------|
| 2003 | 1,249                                       |  |                                      |
| 2004 | 1,259                                       |  |                                      |
| 2005 | 1,036                                       |  |                                      |
| 2006 | 1,412                                       |  |                                      |
| 2007 | 5,989                                       | 5,011  | 0                                    |
| 2008 | 7,350                                       | 6,300  | 0                                    |
| 2009 | 3,684                                       | 2,349  | 0                                    |
| 2010 | 5,104                                       | 3,872  | 0                                    |
| 2011 | 4,460                                       | 3,611  | 0                                    |
| 2012 | 4,616                                       | 3,253  | 0                                    |
| 2013 | 5,510                                       | 4,208  | 0                                    |

Time Remaining for the Program and/or the Volume of Water that Remains to be Conserved

The total volume of water to be conserved by the Project is estimated to be 310,000 acre-feet over the period January 1, 2015 to December 31, 2045 to 810,000 acre-feet over the period January 1, 2015 to December 31, 2095, if the Project contract is renewed and assuming that the third and fourth wells are operational in 2015.



IN REPLY REFER TO: LC-4220 WTR-4.03 United States Department of the Interior

BUREAU OF RECLAMATION Lower Colorado Regional Office P.O. Box 61470 Boulder City, NV 89006-1470

SEP 2 5 2014

**CERTIFIED - RETURN RECEIPT REQUESTED** 

Mr. Roger K. Patterson Assistant General Manager Metropolitan Water District of Southern California P.O. Box 54153 Los Angeles, CA 90054-0153

#### Subject: Approval of the Metropolitan Water District of Southern California's (MWD) 2015 Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus (ICS)

Dear Mr. Patterson:

MWD submitted its 2015 Plan for the Creation of Extraordinary Conservation ICS (ICS Plan) by letter dated June 30, 2014. MWD's ICS Plan describes four separate projects from which MWD intends to create Extraordinary Conservation ICS, including the Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program, the Metropolitan Funded Imperial Irrigation District Water Conservation Program, the Metropolitan Funded Water Supply from Desalination, and the Metropolitan Funded Water Supply from the Lower Colorado Water Supply Project. From the yields of these extraordinary conservation projects, MWD plans to create up to 200,000 acre-feet (af) of ICS during calendar year 2015.

The Bureau of Reclamation has reviewed MWD's ICS Plan and confirms it contains all necessary information required by Section 3.B of the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (Interim Guidelines). Reclamation has also verified that the amount of ICS MWD plans to create during 2015 is within the limits established in the California Agreement for the Creation and Delivery of Extraordinary Conservation ICS. In accordance with Section 7.B.5 of the Interim Guidelines, Reclamation has consulted with the Basin States regarding MWD's ICS Plan.

Based upon Reclamation's review of MWD's ICS Plan and the completion of the consultation process, I approve MWD's 2015 ICS Plan for the creation of up to 200,000 af of Extraordinary Conservation ICS as provided in the table on the following page.

| Metropolitan Funded Palo Verde Irrigation District Forbearance<br>and Fallowing Program | up to 86,650 af          |
|---|--------------------------|
| Metropolitan Funded Imperial Irrigation District Water<br>Conservation Program          | up to 105,000 af         |
| Metropolitan Funded Water Supply from Desalination                                      | up to 67,402 af          |
| Metropolitan Funded Water Supply from the Lower Colorado<br>Water Supply Project        | up to 8,150 af           |
| Total Extraordinary Conservation ICS for Calendar Year 2015                             | Not to Exceed 200,000 af |

Section 3.B.1 of the Interim Guidelines provides that, subject to approval by Reclamation, a contractor may modify its approved ICS plan during the year of creation. Section 3.D.1 of the Interim Guidelines requires a contractor to submit a Certification Report to the Regional Director demonstrating the amount of ICS created and that the method of creation was consistent with the approved ICS plan, a Forbearance Agreement, and a Delivery Agreement.

If you have questions, please contact Mr. Paul Matuska, Water Accounting and Verification Group Manager, at 702-293-8164 or pmatuska@usbr.gov.

Sincerely,

Terrance J. Fulp, Ph.D. Regional Director

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WRB:NEverett:toberembt:08/13/2014:702-293-8417 http://ibr3lcrsp001/sites/4000/Admin/BCOODocument/2015/4200/2015 ICS Plan of Creation and Approvals/MWD/2015 MWD ICS Plan of Creation Approval 2014-08-07.docx

# CALENDAR YEAR 2015 FALLOWED LAND VERIFICATION REPORT

**PVID/MWD** Forbearance and Fallowing Program

Palo Verde Irrigation District, The Metropolitan Water District of Southern California, and U.S. Bureau of Reclamation

> Final April 28, 2016

# CALENDAR YEAR 2015 FALLOWED LAND VERIFICATION REPORT PVID/MWD Forbearance and Fallowing Program

#### **Executive Summary**

On January 1, 2005, the Palo Verde Irrigation District (PVID) and The Metropolitan Water District of Southern California (MWD) initiated a 35-year "Forbearance and Fallowing Program" (Program) with landowners within PVID. A total of 25,947 acres were enrolled. Participating landowners started fallowing on behalf of the Program on January 1, 2005. The Program is termed to end on July 31, 2040. Water that would have been used to grow crops on the fallowed land is made available to MWD.

In July 2013, Metropolitan issued a fallowing call for Contract Years 2014/15 and 2015/16 (August 1, 2014 through July 31, 2016) at 50% of the landowners' maximum commitments.

In July 2014, Metropolitan issued a fallowing call for Contract Years 2015/16 and 2016/17 (August 1, 2015 through July 31, 2017) at 50% of the landowner's maximum commitments.

Therefore, for calendar year 2015, from January 1, 2015 through July 31, 2015, participating landowners fallowed their land at 50% of their maximum commitments. From August 1, 2015 (start of Contract Year 2015/16) through December 31, 2015, participating landowners increased fallowed acreages to 100% of their maximum commitment; this is a result of the overlapping of the two fallowing calls issued in 2013 and 2014. In both calls, the fallowing call percentages were issued at the 50% level. The two 50% calls are <u>additive</u>, hence the 100% level for Contract Year 2015/2016.

At the 50% level, 12,975 acres were fallowed from January 1, 2015 through July 31, 2015. As previously noted in the 2014 Fallowed Land Verification Report, 22 acres did not participate in the Program due to the land's ineligibility to participate in Contract Year 2014/15, otherwise 12,997 acres would have been fallowed at the 50% level. During the period August 1, 2015 through December 31, 2015, the acreage of fallowed land increased from the 50% to the 100% level, resulting in the total acreage fallowed increasing to 25,947 acres.

Through the act of fallowing, water use within PVID is reduced and hence water is saved. However, the actual amount of water saved is difficult to quantify. The types and acreage of crops that would have been grown on the fallowed lands, absent the Program's existence, cannot be definitively known; hence estimating the actual amount of water savings created through the Program's fallowing must use an alternate approach.

Two methods were used to estimate the water savings. Under the first method (Historical Use Method), three periods of past years deemed representative of historical conditions in PVID were selected and irrigation water use rates during each period were calculated and used to estimate water savings from the fallowed lands for calendar year 2015. Under the second method (Actual Use Method), irrigation water use rates on irrigated lands during calendar year 2015 were calculated and used to estimate water savings from the fallowed to estimate savings from the fallowed fields. The resulting estimates of saved water by each method are shown in Table E-1.

| Method                                 | Saved Water (acre-feet) |  |  |
|--|-------------------------|--|--|
| 12-Year Average (1988-2002)*           | 77,143                  |  |  |
| 5- Year Average (1998-2002)            | 81,000                  |  |  |
| 3- Year Average (2000-2002)            | 85,255                  |  |  |
| Actual Use Method – Calendar Year 2015 | 94,477                  |  |  |

 Table E-1:
 Estimates of Saved Water by Method – Calendar Year 2015

\*1992, 1993 and 1994 data were not included in the analysis. From 1992 through 1994, the PVID-MWD Test Fallowing Program was conducted.

Estimates of water saved by the Program in calendar year 2015 ranged from 77,143 acre-feet to 94,477 acre-feet. The Actual Use Method is deemed the method most reflective of the agronomic, weather, and market conditions prevailing in the Palo Verde Valley during calendar year 2015. As such, the best estimate of the amount of water saved during calendar year 2015 is 94,477 acre-feet.

# CALENDAR YEAR 2015 FALLOWED LAND VERIFICATION REPORT PVID/MWD Forbearance and Fallowing Program

# **Table of Contents**

|       |  | Pag |
|-------|--|-----|
| Exec  | utive Summary  | 2   |
| Table | e of Contents  | 4   |
| 1.0   | Program Description                                    | 5   |
| 2.0   | Palo Verde Irrigation District                         | 5   |
| 3.0   | The Metropolitan Water District of Southern California | 7   |
| 4.0   | Program Implementation                                 | 7   |
| 5.0   | Saved Water  | 8   |
| 6.0   | Historical Use Method                                  | 9   |
|       | 6.1 12-Year Average: 1988-2002 (Excluding 1992-94)     | 9   |
|       | 6.2 5-Year Average: 1998-2002                          | 1   |
|       | 6.3 3-Year Average: 2000-2002                          | 1   |
| 7.0   | Actual Use Method – Calendar Year 2015                 | 1   |
| 8.0   | Conclusions  | 1   |

#### List of Tables

| Table E-1  | Estimates of Saved Water by Method – Calendar Year 2015            | 3  |
|------------|--|----|
| Table 1    | Climatic Data, Palo Verde Valley, California – 1988-2015           | 6  |
| Table 2    | Fallowed Valley Lands – Calendar Year 2015                         | 8  |
| Table 3    | Estimated Irrigation Water Use on Valley Lands – 1988-2002         | 10 |
| Table 4    | Farmed Acreage in Valley Portion of PVID – 1988-1991 & 1995-2002   | 10 |
| Table 5    | Estimated Irrigation Water Use Factors on Valley Lands – 1988-2002 | 11 |
| Table 6    | Estimated Saved Water Using the 12-Year Average Method –           |    |
|            | Calendar Year 2015.  | 12 |
| Table 7    | Estimated Irrigation Water Use Factors on Valley Lands – Calendar  |    |
|            | Year 2015  | 13 |
| Table 8    | Estimated Saved Water Using the Actual Use Method – Calendar       |    |
|            | Year 2015  | 14 |
| Table 9    | Estimates of Saved Water by Method – Calendar Year 2015            | 14 |
|            |  |    |
| List of At | tachments  |    |
|            |  |    |

| Attachment 1 Fallowed Fields under the Program on 1/1/2015   | 15 |
|--|----|
| Attachment 2 Fallowed Fields under the Program on 12/31/2015 | 16 |

### Appendix A

| Bureau of Reclamation's Calendar Year 2015 Verification |    |
|---|----|
| Reports   | 17 |

# CALENDAR YEAR 2015 FALLOWED LAND VERIFICATION REPORT PVID/MWD Forbearance and Fallowing Program

#### **1.0** Program Description

On January 1, 2005, the Palo Verde Irrigation District (PVID) and The Metropolitan Water District of Southern California (MWD) initiated a 35-year "Forbearance and Fallowing Program" (Program) with landowners within PVID that would extend through July 31, 2040. Participation in the Program is voluntary but requires participating landowners to sign a 35-year participation contract. A total of 25,947 acres are enrolled in the Program. MWD paid participating landowners a one-time signup payment for enrolling their lands in the Program and fallowing lands in response to MWD's annual fallowing calls. In addition, MWD compensates participating landowners with annual payments for fallowing land within PVID that is served with Priority 1 Colorado River water delivered by PVID. In return for the payments, the water that would have been used to grow crops on the fallowed lands is made available to MWD.

#### 2.0 Palo Verde Irrigation District

The Palo Verde Irrigation District Act was passed by the California Legislature in 1923. PVID was then organized and began functioning in 1925. Governance is provided by a 7-member Board of Trustees. Administration is provided through a General Manager and a staff of 65, currently, not counting Board members. PVID presently covers about 189 square miles in Riverside and Imperial Counties of California. The principal city in PVID's service area is Blythe, which with its urban fringe, has a population of about 21,800 people. Currently, PVID contains approximately 131,285 acres with 104,485 acres located in the Palo Verde Valley (Valley) portion of PVID and 26,800 acres located on the adjacent Palo Verde Mesa (Mesa). PVID diverts water from the Colorado River, which is regulated by the U.S. Bureau of Reclamation).

The Valley's long, hot growing season is ideal for agriculture. Crops include vegetables, forage, grains and fibers. Mild winters, with a minimum of frost, permit the growing and harvesting of crops throughout the year.

Climatic data for temperature, precipitation, and evapotranspiration  $(ET_o)$  in the Valley for the period 1988-2015 are shown in Table 1. The highest maximum annual average temperature was 93.03° Fahrenheit (F) in 2003; and the lowest minimum annual average temperature was 48.26° F in 2015. Annual rainfall ranged between a low of 0.72 inches in 2000 to a high of 6.49 inches in 1998<sup>1</sup>. Annual ET<sub>o</sub> varied between a low of 62.17 inches in 2015 at Palo Verde to a high of 79.32 inches in 1994 at Palo Verde.

<sup>&</sup>lt;sup>1</sup> California Irrigation Management Information System (CIMIS) stations #151, Ripley, and #175, Palo Verde II, rain gauges have been off-line in 2014 and 2015, respectively.

| Year    | Maximum<br>Annual<br>Average<br>Temperature <sup>1</sup> | Minimum<br>Annual<br>Average<br>Temperature <sup>1</sup> | Annual<br>Rainfall <sup>2</sup> | $ET_{o}$<br>Palo Verde <sup>3</sup> | ${ m ET_o}$<br>Blythe NE <sup>4</sup> | ET <sub>o</sub><br>Ripley <sup>5</sup> |
|---------|--|--|---------------------------------|-------------------------------------|---------------------------------------|--|
|         | (Fahrenheit)   | (Fahrenheit)   | (inches)                        | (inches)                            | (inches)                              | (inches)                               |
| 1988    | 88.5   | 57.1   | 3.53                            | 72.3                                |                                       |  |
| 1989    | 90.1   | 54.9   | 1.26                            | 68.99                               |                                       |  |
| 1990    | 88.2   | 56.3   | 1.66                            | 73.04                               |                                       |  |
| 1991    | 86.5   | 55.8   | 4.32                            | 68.75                               |                                       |  |
| 1992    | 87.5   | 58.6   | 6.21                            | 70.47                               |                                       |  |
| 1993    | 88.7   | 57.2   | 5.05                            | 77.15                               |                                       |  |
| 1994    | 88.5   | 57.4   | 3.4                             | 79.32                               |                                       |  |
| 1995    | 89.2   | 58.3   | 2.53                            | 73.55                               |                                       |  |
| 1996    | 90.1   | 59.6   | 2.34                            | 73.53                               |                                       |  |
| 1997    | 88.4   | 58.3   | 5.79                            | 68.2                                | 69.03                                 |  |
| 1998    | 86.5   | 56.8   | 6.49                            | 68.42                               | 66.71                                 |  |
| 1999    | 88.5   | 56.3   | 3.2                             | 70.58                               | 72.52                                 | 69.67                                  |
| 2000    | 89.4   | 58.6   | 0.72                            | 68.81                               | 69.13                                 | 67.22                                  |
| 2001    | 89.5   | 56.1   | 4.78                            | 69.11                               | 67.5                                  | 68.81                                  |
| 2002    | 89.2   | 57.2   | 0.76                            | 71.09                               | 72.41                                 | 69.34                                  |
| 2003    | 93.03  | 60.32  | 2.68                            | 67.26                               | 68.46                                 | 67.15                                  |
| 2004    | 91.9   | 59.55  | 2.57                            | 66.78                               | 66.64                                 | 67.69                                  |
| 2005    | 87.11  | 55.77  | 6.39                            | 65.66                               | 67.11                                 | 65.13                                  |
| 2006    | 90.5   | 57.9   | 1.57                            | 69.6                                | 75.5                                  | 67.9                                   |
| 2007    | 88.57  | 59.89  | 1.93                            | 69.85                               | 73.38                                 | 68.27                                  |
| 2008    | 89.65  | 57.48  | 2.41                            | 71.47                               | 73.69                                 | 68.18                                  |
| 2009    | 85.39  | 52.83  | 1.31                            | 68.05                               | 70.77                                 | 71.42                                  |
| 2010    | 84.58  | 54.08  | 2.56                            | 64.72                               | 72.42                                 | 67.02                                  |
| 2011    | 84.7   | 52.81  | 2.41                            | 72.69                               | 68.41                                 | 69.51                                  |
| 2012    | 86.39  | 54.11  | 3.36                            | 66.70                               | 67.60                                 | 65.05                                  |
| 2013    | 85.71  | 53.49  | 2.32                            | 66.33                               | 70.20                                 | 66.94                                  |
| 2014    | 86.95  | 54.63  | 3.31 <sup>6</sup>               | 67.57                               | 71.70                                 | 69.51                                  |
| 2015    | 73.60  | 48.26  | 1.01 6 & 7                      | 62.17                               | 62.93                                 | 68.97                                  |
| Average | 87.75  | 56.42  | 3.07                            | 69.72                               | 69.8                                  | 68.09                                  |

Table 1: Climatic Data, Palo Verde Valley, California – 1988-2015

<sup>1</sup> National Oceanic and Atmospheric Administration (NOAA) data from Blythe Station except for October 1997; August, September, and November 1999; January and December 2000; December 2001; and October 2006 when NOAA values from Blythe Airport Station were used because of missing data. Starting 2009, data are averages of the three CIMIS stations at Palo Verde, Blythe, and Ripley.

<sup>2</sup> Data through 2008 from NOAA Blythe Station, and starting in 2009, data are averaged from the three CIMIS stations at Palo Verde, Blythe, and Ripley.

<sup>3</sup> Data from Palo Verde CIMIS station #72 for 1988-2000; and from Palo Verde II CIMIS station #175 for 2001 onward.

<sup>4</sup> Data from Blythe Northeast CIMIS station #135. <sup>5</sup> Data from Ripley CIMIS station #151.

 $6^{\&7}$  The CIMIS station #175 (in Palo Verde) rainfall gauge was off-line in 2014. The CIMIS station # 151 (in Ripley) rainfall gauge was off-line in 2015.

### 3.0 The Metropolitan Water District of Southern California

MWD was incorporated in 1928 and currently has 26 member agencies. Governance is provided by a 38-member Board of Directors with each member agency entitled to be represented by one director with representation by additional directors being based on assessed valuation. Administration is provided through a General Manager and a staff of currently 1,818 employees.

MWD provides supplemental water supplies to its service area from two sources: 1) MWD's Colorado River Aqueduct and 2) the Department of Water Resources' State Water Project/California Aqueduct. Water is provided to approximately 18.7 million people in a service area of approximately 5,200 square miles, consisting of portions of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura counties of California. MWD has increased its ability to supply water, particularly in dry years, through the implementation of storage, conservation, and transfer programs.

On October 10, 2003, the United States, Imperial Irrigation District, Coachella Valley Water District, MWD, and San Diego County Water Authority executed the "Colorado River Water Delivery Agreement: Federal Quantification Settlement Agreement for purposes of Section 5(B) of the Interim Surplus Guidelines" (Delivery Agreement). Under the Delivery Agreement, MWD agreed that if consumptive use of Colorado River water in accordance with Priorities 1 and 2 of the contracts for delivery of Colorado River water in California, together with the use of Colorado River water on PVID Mesa lands in accordance with Priority 3(b), exceeds 420,000 acre-feet in a calendar year, the Secretary of the Interior (Secretary) will reduce the amount of water otherwise available to MWD, by the amount that such use exceeds 420,000 acre-feet. To the extent that the amount of water used in accordance with Priorities 1, 2, and 3(b) is less than 420,000 acre-feet in a year, the Secretary will deliver to MWD the difference. For the purposes of the Delivery Agreement, "consumptive use" means diversions from the Colorado River less such measured and unmeasured return flow thereto as are available for consumptive use in the United States or in satisfaction of the Mexican Treaty obligation.

#### 4.0 **Program Implementation**

Under the Program, MWD issues a yearly fallowing call to participating landowners a year in advance of the fallowing start date of August 1. Each fallowing call is for a two-year period and once issued, may not be rescinded or diminished.

In July 2013, Metropolitan issued a fallowing call for Contract Years 2014/15 and 2015/16 (August 1, 2014 through July 31, 2016) at 50% of the landowners' maximum commitments.

In July 2014, Metropolitan issued a fallowing call for Contract Years 2015/16 and 2016/17 (August 1, 2015 through July 31, 2017) at 50% of the landowner's maximum commitments.

Therefore, for calendar year 2015 from January 1, 2015 through July 31, 2015, participating landowners fallowed their land at 50% of their maximum commitments. From August 1, 2015 (start of Contract Year 2015/16) through December 31, 2015, participating landowners increased fallowed acreages to 100% of their maximum commitment; this is a result of the overlapping of the two fallowing calls issued in 2013 and 2014. In both calls, the fallowing call percentages were issued at the 50% level. The two 50% calls are <u>additive</u>, hence the 100% level for Contract Year 2015/2016.

At the 50% level, 12,975 acres were fallowed from January 1, 2015 through July 31, 2015. As previously noted in the 2014 Fallowed Land Verification Report, 22 acres did not participate in

the Program due to the land's ineligibility to participate in Contract Year 2014/15, otherwise 12,997 acres would have been fallowed at the 50% level. During the period August 1, 2015 through December 31, 2015, the acreage of fallowed land increased from the 50% to the 100% level, resulting in the total acreage fallowed increasing to 25,947 acres.

Table 2 shows the fallowed acreage per month. Attachment 1 shows the fallowed fields on January 1, 2015 and Attachment 2 shows the fallowed fields on December 31, 2015. All of the fallowed acres designated by the participants were qualified by PVID for fallowing eligibility, i.e., entitled to receive Priority 1 water and had been irrigated and a crop had been harvested at least once during the past five years. Following the designation of fallowed acreage, a MWD representative visited the field before the date fallowing was to commence, verified fallowing conditions had been met and took photographs as needed to document the fallow status of fields. The same procedure was followed when participants would make changes in the acreage and/or location of fallowed lands at various points in time during the year thus ensuring that only qualified land is being fallowed. In addition, Reclamation staff conducted semi-annual field inspections, in April and October 2015, to verify the status of fallowed fields under the Program. In each field inspection, approximately 5 percent of the total fallowed acreage was randomly selected and inspected, and the fallow status documented. Results of Reclamation's field verification inspections are included in Appendix A.

| Month          | At Start<br>of Month | Average for<br>Month |
|----------------|----------------------|----------------------|
| Jan            | 12,975               | 12,975               |
| Feb            | 12,975               | 12,975               |
| Mar            | 12,975               | 12,975               |
| Apr            | 12,975               | 12,975               |
| May            | 12,975               | 12,975               |
| Jun            | 12,975               | 12,975               |
| Jul            | 12,975               | 12,975               |
| Aug            | 25,947               | 25,947               |
| Sep            | 25,947               | 25,947               |
| Oct            | 25,947               | 25,947               |
| Nov            | 25,947               | 25,947               |
| Dec            | 25,947               | 25,947               |
|                |                      |                      |
| Yearly Average | 18,380               | 18,380               |

 Table 2: Fallowed Valley Lands – Calendar Year 2015

#### 5.0 Saved Water

The purpose of the Program is to save water that would have been otherwise used for agricultural production in PVID. In order to estimate the amount of water saved, it is necessary to estimate the amount of water that would have been consumed on the fallowed lands had crops been produced. Through the act of fallowing, water use within PVID is reduced and hence water is saved. However, the actual amount of water saved is difficult to quantify. The types and acreage of crops that would have been grown on the fallowed lands, absent the Program's

existence, cannot be definitively known; hence estimating the actual amount of water savings created through the Program's fallowing must use an alternate approach. Therefore, it was necessary to develop acceptable procedures to estimate the amount of saved water to the degree of accuracy allowed by available data.

Two methods were used to estimate the amount of water saved during calendar year 2015. Under the first method (Historical Use Method), three periods of past years deemed representative of conditions in PVID were selected and estimated irrigation water use rates during each period were calculated and used to estimate water savings from the fallowed lands during calendar year 2015. Under the second method (Actual Use Method), estimated irrigation water use rates on irrigated lands during calendar year 2015 were calculated and used to estimate water savings from the fallowed fields during calendar year 2015.

#### 6.0 Historical Use Method

Three historical periods were selected that were deemed representative of typical conditions in PVID when cropping practices were not influenced by outside factors such as an impending fallowing program or a return to irrigation following a fallowing program. The periods selected were: 12 years, 5 years, and 3 years; and three separate analyses were conducted.

### 6.1 12-Year Average: 1988-2002 (Excluding 1992-94)

The first period extended from 1988 through 2002, but excluded 1992, 1993, and 1994 because the August 1992-July 1994 PVID/MWD Test Fallowing Program affected water use and the amount of cropped acreage during those three years. This adjustment left 12 years of data for the analysis. Diversions at the Palo Verde Diversion Dam were tabulated by month for each year in the analysis. The 12 data values for each month were averaged, and the resulting averages for each month were summed to determine the average annual diversion.

Similarly, water deliveries to the PVID Mesa were tabulated by month. Diversions at the Palo Verde Diversion Dam were then reduced by measured returns, unmeasured returns, and deliveries to the Mesa; the resulting net diversions were used to estimate the amount of irrigation water used by the Valley lands of PVID. PVID's unmeasured returns are an estimated value, calculated as 5.6% of PVID's total diversions. Since water diverted by PVID is delivered to farmland only for irrigation purposes, it is assumed the estimated amount of irrigation water used by the Valley lands. Diversions and cropped acreage for lands upstream of the Palo Verde Diversion Dam were not included in the analysis. Table 3 shows the tabulation for each month, which when summed, results in an estimated average annual crop water use of 400,512 acre-feet.

| Month          | Gross<br>Diversions | Measured &<br>Unmeasured<br>Return Flows <sup>2</sup> | Deliveries<br>to Mesa | Estimated Irrigation<br>Water Use on<br>Valley Lands |
|----------------|---------------------|---|-----------------------|--|
|                |                     |   | (acre-feet)           |  |
| Jan            | 31,460              | 30,191  | 210                   | 1,059  |
| Feb            | 52,419              | 32,927  | 403                   | 19,089   |
| Mar            | 71,357              | 38,837  | 639                   | 31,881   |
| Apr            | 87,610              | 41,522  | 948                   | 45,140   |
| May            | 102,507             | 46,644  | 1,169                 | 54,694   |
| Jun            | 109,957             | 48,197  | 1,273                 | 60,487   |
| Jul            | 116,762             | 50,094  | 1,371                 | 65,297   |
| Aug            | 108,093             | 52,536  | 1,385                 | 54,172   |
| Sep            | 79,391              | 48,362  | 987                   | 30,042   |
| Oct            | 65,820              | 45,938  | 787                   | 19,095   |
| Nov            | 49,483              | 40,725  | 528                   | 8,230  |
| Dec            | 51,782              | 39,908  | 548                   | 11,326   |
| Yearly Average | 926,641             | 515,881   | 10,248                | 400,512  |

 Table 3: Estimated Irrigation Water Use on Valley Lands – 1988–2002<sup>1</sup>

<sup>1</sup> 1992, 1993 and 1994 data were not included due to the 1992-94 PVID-MWD Test Fallowing Program. This reduced the data series to 12 years.

<sup>2</sup> Source of Gross Diversions, Measured and Unmeasured Return Flows data is Reclamation records. Source of Deliveries to Mesa data is PVID records.

Over the same 12-year period of data, the irrigated acreage on Valley lands averaged 88,053 water toll acres (Table 4). Dividing the estimated average annual irrigation water use of 400,512 acre-feet by 88,053 water toll acres resulted in an estimated average annual irrigation water use of 4.55 acre-feet per water toll acre. The next step is to extrapolate the irrigation water use per acre estimate to the fallowed lands in calendar year 2015.

Table 4: Farmed Acreage in Valley Portion of PVID – 1988-1991 and 1995-2002<sup>1</sup>

|      | Cropped Land (water |      | Cropped Land (water |         | Cropped Land (water |
|------|---------------------|------|---------------------|---------|---------------------|
| Year | toll acres)         | Year | toll acres)         | Year    | toll acres)         |
| 1988 | 87,086              | 1995 | 88,243              | 1999    | 88,910              |
| 1989 | 86,701              | 1996 | 88,721              | 2000    | 88,709              |
| 1990 | 86,561              | 1997 | 88,645              | 2001    | 88,901              |
| 1991 | 86,601              | 1998 | 88,921              | 2002    | 88,633              |
|      |                     |      |                     |         |                     |
|      |                     |      |                     | Average | 88,053              |

<sup>1</sup> 1992, 1993, and 1994 farmed acreages are not included due to the 1992-94 PVID-MWD Test Fallowing Program; 2003 farmed acreage is not included due to the Coachella Valley Water District Fallowing Program; and 2004-2015?? farmed acreages are not included due to the current PVID-MWD Fallowing Program. Source: PVID records.

The estimated values of monthly irrigation water use on Valley lands shown in Table 3 were converted to percentages of the yearly total as shown in Table 5. Applying the resulting monthly percentages to the average annual irrigation use estimate of 4.55 acre-feet per water toll acre resulted in an estimate of the monthly irrigation water use factors on Valley lands. These

estimated monthly irrigation water use factors on Valley lands were used to provide a reasonable estimate of saved water by fallowed fields in PVID during calendar year 2015.

| Month         | Estimated<br>Irrigation Water<br>Use on Valley<br>Lands (acre-feet) | Percent of<br>Yearly Total<br>(%) | Estimated Irrigation<br>Water Use Factors on<br>Valley Lands<br>(acre-feet/acre) |
|---------------|---|-----------------------------------|--|
| Jan           | 1,059   | 0.264412                          | 0.012031   |
| Feb           | 19,089  | 4.766149                          | 0.216860   |
| Mar           | 31,881  | 7.960061                          | 0.362183   |
| Apr           | 45,140  | 11.270574                         | 0.512811   |
| May           | 54,694  | 13.656020                         | 0.621349   |
| Jun           | 60,487  | 15.102419                         | 0.687160   |
| Jul           | 65,297  | 16.303382                         | 0.741804   |
| Aug           | 54,172  | 13.525687                         | 0.615419   |
| Sep           | 30,042  | 7.500899                          | 0.341291   |
| Oct           | 19,095  | 4.767647                          | 0.216928   |
| Nov           | 8,230   | 2.054870                          | 0.093497   |
| Dec           | Dec 11,326  |                                   | 0.128669   |
|               |   |                                   |  |
| Total 400,512 |   | 100 4.55                          |  |

 Table 5: Estimated Irrigation Water Use Factors on Valley Lands – 1988-2002<sup>1</sup>

<sup>1</sup> Data for 1992, 1993 and 1994 were not included. From 1992 through 1994, the PVID-MWD Test Fallowing Program was conducted. This reduced the data series to 12 years.

Landowners provided PVID/MWD with the location of the fields they were going to fallow and the date when fallowing would begin. PVID/MWD recorded the information from each landowner into a database, located the fallowed land on maps, and inspected the land to verify the land was fallow on the date indicated by the landowner. This procedure assured appropriate accounting for and verification of the number of fallowed acres.

The number of fallowed acres during each month in calendar year 2015 was determined from the database, resulting in 12 separate time periods during the year (Table 6). The monthly factors, as discussed above, were multiplied by the number of average monthly fallowed acres during the corresponding time period to estimate the corresponding amount of saved water.

| Month            | Estimated<br>Irrigation Water<br>Use Factors on<br>Valley Lands<br>(acre-feet/acre) | Monthly<br>Average of<br>Fallowed Lands<br>(water toll acres) | Saved Water<br>Cumulative<br>(acre-feet) |
|------------------|---|---|--|
| Jan              | 0.012031  | 12,975  | 156                                      |
| Feb              | 0.216860  | 12,975  | 2,970                                    |
| Mar              | 0.362183  | 12,975  | 7,669                                    |
| Apr              | 0.512811  | 12,975  | 14,323                                   |
| May              | 0.621349  | 12,975  | 22,385                                   |
| Jun              | 0.687160  | 12,975  | 31,301                                   |
| Jul              | 0.741804  | 12,975  | 40,926                                   |
| Aug              | 0.615419  | 25,947  | 56,894                                   |
| Sep              | 0.341291  | 25,947  | 65,749                                   |
| Oct              | 0.216928  | 25,947  | 71,378                                   |
| Nov              | 0.093497  | 25,947  | 73,378                                   |
| Dec              | 0.128669  | 25,947  | 77,143                                   |
| Average for Year |   | 18,380  |  |
| Total for Year   | 4.55  |   | 77,143                                   |

 Table 6: Estimated Saved Water Using the 12-Year Average Method – Calendar Year 2015

For example, for the month of January, the average of 12,975 water toll acres was verified to be fallowed under the Program. Based on the 12 years of historical data, 0.264412% of the total annual irrigation water use on Valley lands occurred in January. Multiplying 0.00264412 by 4.55 acre-feet/acre resulted in 0.012031 acre-feet/acre, the average quantity of irrigation water used by each water toll acre during January. Multiplying the average quantity of irrigation water used by each water toll acre in January by the 12,975 water toll acres of fallowed land in January resulted in an estimated water savings for January of 156 acre-feet. This same procedure was applied to the fallowed acreage for all 12 months during calendar year 2015 and resulted in an estimated 77,143 acre-feet of saved water.

#### 6.2 5-Year Average: 1998-2002

The 5-year historical use was based on PVID data for the period 1998 through 2002. The procedure used to calculate the estimated water saved from fallowing Valley lands during calendar year 2015 was the same as that applied in computing the 12-year historical use estimates. The 5-year historical use method yielded an estimated irrigation water use of 4.75 acre-feet/acre and 81,000 acre-feet of saved water during calendar year 2015.

#### 6.3 3-Year Average: 2000-2002

The 3-year historical use method was based on PVID data for the period 2000 through 2002. Following the same procedure as used for the other historical use methods, computations based on the 3-year historical use resulted in an estimated irrigation water use of 5.03 acre-feet/acre and 85,255 acre-feet of saved water during calendar year 2015.

#### 7.0 Actual Use Method – Calendar Year 2015

Under the actual use method, irrigation water use and acreage data from PVID and Reclamation records for calendar year 2015 were used to estimate the amount of saved water. Diversions at the Palo Verde Diversion Dam were reduced by measured returns, unmeasured returns, and deliveries to the Mesa and were used to estimate the amount of irrigation water used by the Valley lands. Based on information provided by PVID, there were a total of 90,679 water toll acres in the Valley portion of PVID that could have received water. Estimated monthly irrigation water use on Valley lands were divided by the average number of water toll acres in production for each month and summed for the 12 months, resulting in an estimated annual irrigation use of 5.29 acre-feet per acre (Table 7).

| Month          | Diversions<br>Less<br>Measured<br>and<br>Unmeasured<br>Returns<br>(acre-feet) | Deliveries<br>to<br>Mesa<br>(acre-feet) | Estimated<br>Irrigation Water<br>Use on Valley<br>Lands<br>(acre-feet) | Irrigated<br>Valley Lands<br>(water toll acres) | Estimated<br>Irrigation Water<br>Use Factors on<br>Valley Lands<br>(acre-feet/acre) |
|----------------|---|---|--|---|---|
| Jan            | 3,236   | 536                                     | 2,700  | 77,704  | 0.034747  |
| Feb            | 20,962  | 874                                     | 20,088   | 77,704  | 0.258520  |
| Mar            | 31,930  | 1,089                                   | 30,841   | 77,704  | 0.396904  |
| Apr            | 52,312  | 1,255                                   | 51,057   | 77,704  | 0.657070  |
| May            | 46,457  | 1,088                                   | 45,369   | 77,704  | 0.583870  |
| Jun            | 54,203  | 1,245                                   | 52,958   | 77,704  | 0.681535  |
| Jul            | 55,124  | 1,366                                   | 53,758   | 77,704  | 0.691831  |
| Aug            | 52,560  | 1,444                                   | 51,116   | 64,732  | 0.789656  |
| Sep            | 36,980  | 1,342                                   | 35,638   | 64,732  | 0.550547  |
| Oct            | 21,537  | 1,199                                   | 20,338   | 64,732  | 0.314188  |
| Nov            | 13,624  | 945                                     | 12,689   | 64,732  | 0.195869  |
| Dec            | 10,106  | 1,142                                   | 8,984  | 64,732  | 0.138479  |
|                |   |   |  |   |   |
| Total for Year | 399,031   | 13,525                                  | 385,546  |   | 5.293216  |
| Yearly Average |   |   |  | 72,299  |   |

| Table 7: Estimated Irrigation | n Water Use Factors on | Valley Lands – Calendar Y | ear 2015 |
|-------------------------------|------------------------|---------------------------|----------|
|-------------------------------|------------------------|---------------------------|----------|

Source: PVID and Reclamation records.

The same procedure used in Table 6 was followed to develop Table 8. Estimated monthly irrigation water use factors were multiplied by the fallowed acres for each month to estimate the monthly water savings resulting in a total of 94,477 acre-feet of water saved during calendar year 2015.

| Month            | Estimated<br>Irrigation Water<br>Use Factors on<br>Valley Lands<br>(acre-feet/acre) | Monthly<br>Average<br>of Fallowed<br>Lands<br>(water toll<br>acres) | Monthly<br>Saved<br>Water<br>(acre-feet) |
|------------------|---|---|--|
| Jan              | 0.034747  | 12,975  | 451                                      |
| Feb              | 0.258520  | 12,975  | 3,354                                    |
| Mar              | 0.396904  | 12,975  | 5,150                                    |
| Apr              | 0.657070  | 12,975  | 8,525                                    |
| May              | 0.583870  | 12,975  | 7,576                                    |
| Jun              | 0.681535  | 12,975  | 8,843                                    |
| Jul              | 0.691831  | 12,975  | 8,977                                    |
| Aug              | 0.789656  | 25,947  | 20,489                                   |
| Sep              | 0.550547  | 25,947  | 14,285                                   |
| Oct              | 0.314188  | 25,947  | 8,152                                    |
| Nov              | 0.195869  | 25,947  | 5,082                                    |
| Dec              | 0.138479  | 25,947  | 3,593                                    |
| Average for year |   | 18,380  |  |
| Total for Year   | 5.293216  |   | 94,477                                   |

 Table 8: Estimated Saved Water Using the Actual Use Method – Calendar Year 2015

#### 8.0 Conclusions

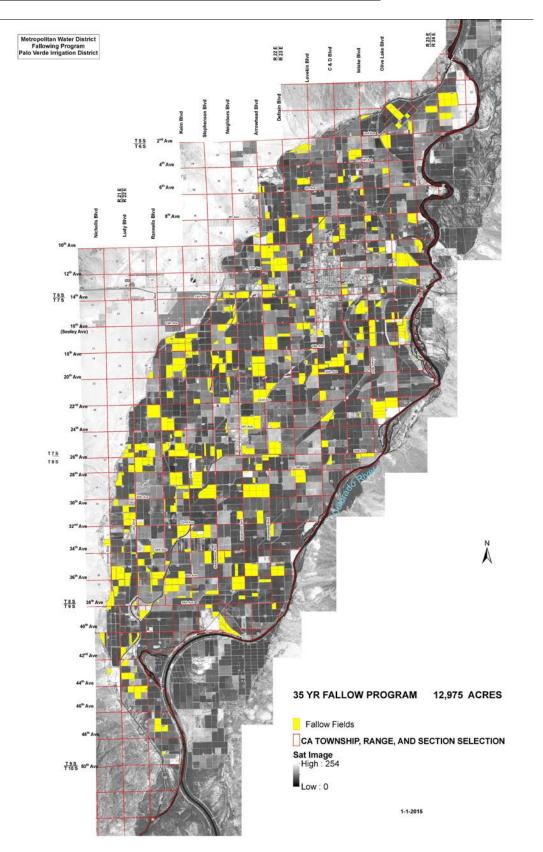
Two methods were used to estimate the amount of saved water during calendar year 2015: a historical use method and an actual use method. Three historical periods were used covering 12-year, 5-year and 3-year periods. The 12-year historical use method estimated a yearly irrigation water use of 4.55 acre-feet/acre, the 5-year historical use method estimated a yearly irrigation water use of 4.75 acre-feet/acre, and the 3-year historical use method estimated a yearly irrigation water use of 5.03 acre-feet/acre. Compilation of crop and irrigation water use data for calendar year 2015 in PVID resulted in an estimated irrigation use of 5.29 acre-feet/acre. Estimates of saved water for calendar year 2015 are shown in Table 9 and ranged from 77,143 acre-feet to 94,477 acre-feet.

| Table 9: | Estimates of | Saved Wate | r by Method - | - Calendar Y | Zear 2015 |
|----------|--------------|------------|---------------|--------------|-----------|
|          |              |            | - ~           |              |           |

| Method                       | Saved Water (acre-feet) |
|------------------------------|-------------------------|
| 12-Year Average (1988-2002)* | 77,143                  |
| 5- Year Average (1998-2002)  | 81,000                  |
| 3- Year Average (2000-2002)  | 85,255                  |
| Actual Use Method - CY 2015  | 94,477                  |

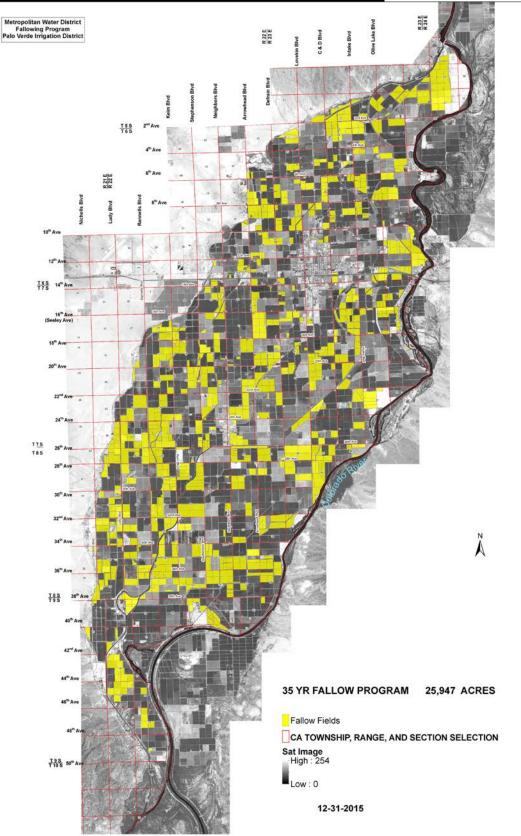
\*1992, 1993 and 1994 data were not included in the analysis. From 1992 through 1994, the PVID-MWD Test Fallowing Program was conducted.

The Actual Use Method is deemed the method most reflective of the agronomic, weather, and market conditions prevailing in the Palo Verde Valley during calendar year 2015. As such, the best estimate of the amount of water saved during calendar year 2015 by the Program is 94,493 acre-feet.



#### Attachment 1 – Fallowed Fields under the Program on 1/1/2015

Page 15 of 17



#### Attachment 2 – Fallowed Fields under the Program on 12/31/2015

## Appendix A: Bureau of Reclamation's Calender Year 2015 Verification Reports

# Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program Spring 2015 Verification Report

In accordance with its approved plan for the creation of Extraordinary Conservation Intentionally Created Surplus (ICS), the Metropolitan Water District of Southern California (MWD) is funding a Forbearance and Fallowing Program (Program) with the Palo Verde Irrigation District (PVID) to create Extraordinary Conservation ICS during calendar year 2015. In accordance with MWD's approved ICS Plan, and to ensure the Program is being appropriately implemented, the Bureau of Reclamation conducts semi-annual verification inspections on randomly selected fields amounting to five (5) percent of the total acreage enrolled in the Program. The first of these inspections for calendar year 2015 occurred on April 9, 2015. The findings of that inspection are documented in this verification report.

# **A:** Forbearance and Fallowing Program Verification

Five percent of the 12,975 acres in the PVID Program in 2015 were visited during the field verification inspection. Twenty-three (23) fields totaling 652 acres were inspected as follows.

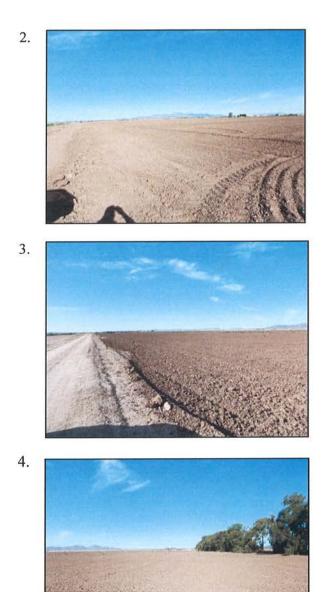
Observation: Trace vegetation was viewed on some fields, which was attributed to district wide localized rainfall. PVID staff indicated that Program participants, in accordance with environmental mitigation requirements for potential air quality impacts, were required to implement dust control Best Management Practices (BMPs) when necessary. These BMPs include (but are not limited to) leaving vegetation residue on the field or seeding a cover crop prior to the fallowing start date.





Fallowing Program Field No. 65370-005. PVID Parcel No. 801015. Reclamation Field No. 4898 (West ¼) Canal & Gate No. D05-15S. Acres: 9.0. Start Date: August 1, 2014.

Comments: Photo No. 1. Bare soil.



5.

Fallowing Program Field No. 65370-005. PVID Parcel No. 801015 Reclamation Field No. 4898 (West ¼). Canal & Gate No. D05-15S. Acres: 9.0. Start Date: August 1, 2014.

Comments: Photo No. 2. Bare soil.

Fallowing Program Field No. 63907-230. PVID Parcel No. 810019. Reclamation Field No. 5041. Canal & Gate No. C03-51S. Acres: 50.0. Start Date: August 1, 2013.

Comments: Photo No. 3. Bare soil.

Fallowing Program Field No. 63907-230. PVID Parcel No. 810019. Reclamation Field No. 5041. Canal & Gate No. C03-51S. Acres: 50.0. Start Date: August 1, 2013.

Comments: Photo No. 4. Bare soil.

Fallowing Program Field No. 65034-014. PVID Parcel No. 435020. Reclamation Field No. 4831. Canal & Gate No. C03-32W. Acres: 46.0. Start Date: August 1, 2014.

Comments: Photo No. 5. Bare soil.





Fallowing Program Field No. 65034-014. PVID Parcel No. 435020. Reclamation Field No. 4831. Canal & Gate No. C03-32W. Acres: 46.0. Start Date: August 1, 2014.

Comments: Photo No. 6. Bare soil.

Fallowing Program Field No. 63946-10. PVID Parcel No. 436028. Reclamation Field No. 4800 (North ½). Canal & Gate No. C05-7-1S, C53 12W. Acres: 18.0. Start Date: August 1, 2014

Comments: Photo No. 7. Bare soil.



Fallowing Program Field No. 63946-10. PVID Parcel No. 436028. Reclamation Field No. 4800 (North ½). Canal & Gate No. C05-7-1S, C53 12W. Acres: 18.0. Start Date: August 1, 2014.

Comments: Photo No. 8. Bare soil.

Fallowing Program Field No. 63907-269. PVID Parcel No. 425012. Reclamation Field No. 20192 (East ½). Canal & Gate No. C-10-9S. Acres: 12.0. Start Date: August 1, 2013.

Comments: Photo No. 9. Fallow, dry weeds.

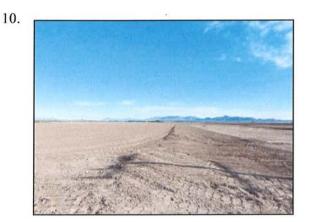


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8.

7.





Fallowing Program Field No. 63907-269. PVID Parcel No. 425012. Reclamation Field No. 20192 (East ½). Canal & Gate No. C-10-9S. Acres: 12.0. Start Date: August 1, 2013.

Comments: Photo No. 10. Fallow, dry weeds.

Fallowing Program Field No. 63894-006. PVID Parcel No. 507007 Reclamation Field No. 6615. Canal & Gate No. C24-8W. Acres: 39.0. Start Date: August 1, 2014.

Comments: Photo No. 11. Some weeds along end of field.

Fallowing Program Field No. 63894-006. PVID Parcel No. 507007 Reclamation Field No. 6615. Canal & Gate No. C24-8W. Acres: 39.0. Start Date: August 1, 2014.

Comments: Photo No. 12. Some weeds along end of field.

Fallowing Program Field No. 63913-007. PVID Parcel No. 721005. Reclamation Field No. 4101. Canal & Gate No. G-1S. Acres: 21.0. Start Date: September 30, 2010.

Spring 2015 Verification Report

Comments: Photo No. 13. Bare soil.



4

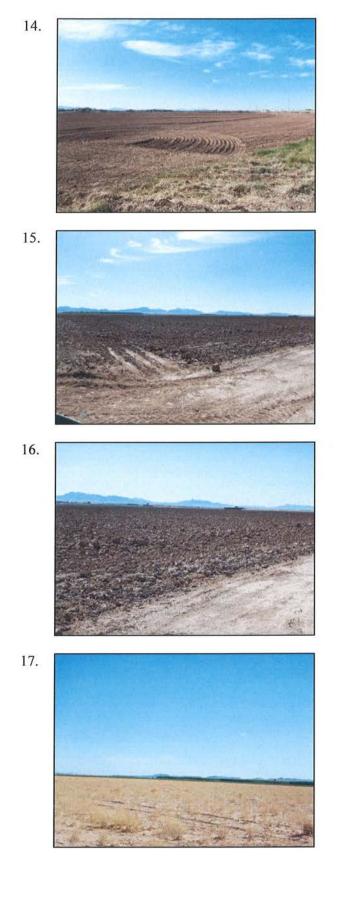
11.



12.



13.



Fallowing Program Field No. 63913-007. PVID Parcel No. 721005. Reclamation Field No. 4101. Canal & Gate No. G-1S. Acres: 21.0. Start Date: September 30, 2010.

Comments: Photo No. 14. Bare soil.

Fallowing Program Field No. 63907-295. PVID Parcel No. 503016. Reclamation Field No. 4165 (West ½). Canal & Gate No. K03-7S. Acres: 58.0. Start Date: February 1, 2014.

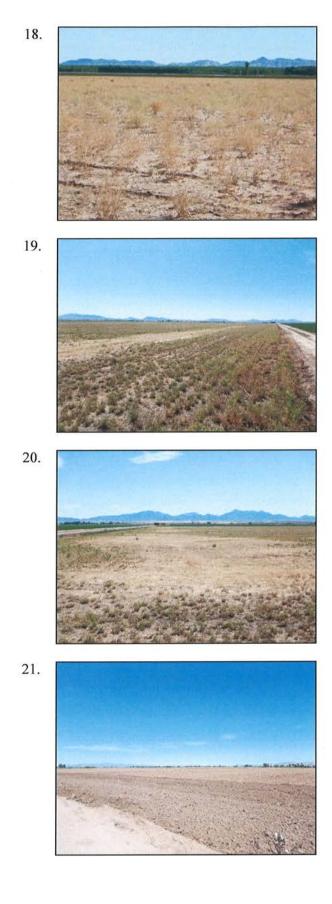
Comments: Photo No. 15. Bare soil.

Fallowing Program Field No. 63907-295. PVID Parcel No. 503016. Reclamation Field No. 4165 (West ½). Canal & Gate No. K03-7S. Acres: 58.0. Start Date: February 1, 2014.

Comments: Photo No. 16. Bare soil.

Fallowing Program Field No. 63907-302. PVID Parcel No. 731001. Reclamation Field No. 4097 (West ½). Canal & Gate No. K02-4E. Acres: 38.0. Start Date: February 1, 2013.

Comments: Photo No. 17. Sporadic desiccated weed cover.



Fallowing Program Field No. 63907-302. PVID Parcel No. 731001. Reclamation Field No. 4097 (West ½). Canal & Gate No. K02-4E. Acres: 38.0. Start Date: February 1, 2013.

Comments: Photo No. 18. Sporadic desiccated weed cover.

Fallowing Program Field No. 63939-016. PVID Parcel No. 603016. Reclamation Field No. 20057. Canal & Gate No. D-10-13-36W. Acres: 20.0. Start Date: March 30, 2015.

Comments: Photo No. 19. Some volunteer alfalfa that is drying out.

Fallowing Program Field No. 63939-016. PVID Parcel No. 603016. Reclamation Field No. 20057. Canal & Gate No. D-10-13-36W. Acres: 20.0. Start Date: March 30, 2015

Comments: Photo No. 20. Some volunteer alfalfa that is drying out.

Fallowing Program Field No. 63922-005. PVID Parcel No. 604002. Reclamation Field No. 4921 (West ¼). Canal & Gate No. D10-7-4S. Acres: 40.0. Start Date: August 1, 2014.

Comments: Photo No. 21. Bare soil.

6



Fallowing Program Field No. 63922-005. PVID Parcel No. 604002. Reclamation Field No. 4921 (West ¼). Canal & Gate No. D10-7-4S. Acres: 40.0. Start Date: August 1, 2014.

Comments: Photo No. 22. Bare soil.

Fallowing Program Field No. 63929-001. PVID Parcel No. 609018. Reclamation Field No. 5116. Canal & Gate No. D-P82S. Acres: 15.0. Start Date: August 1, 2014.

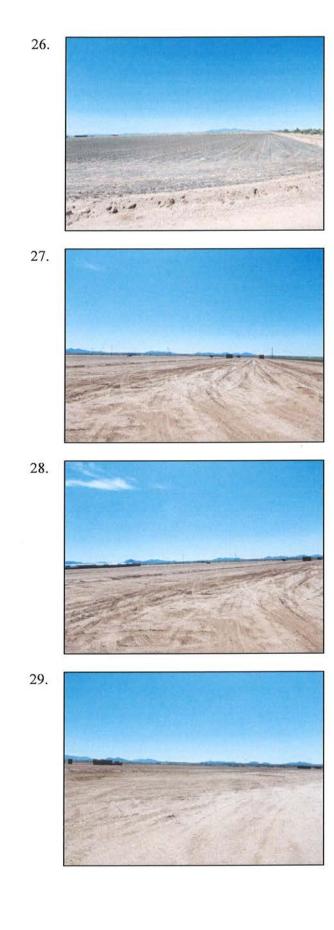
Comments: Photo No. 23. Bare soil.

Fallowing Program Field No. 63929-001. PVID Parcel No. 609018. Reclamation Field No. 5116. Canal & Gate No. D-P82S. Acres: 15.0. Start Date: August 1, 2014.

Comments: Photo No. 24. Bare soil.

Fallowing Program Field No. 63898-048. PVID Parcel No. 617004. Reclamation Field No. 5218. Canal & Gate No. D21-2W. Acres: 11.0. Start Date: August 1, 2014.

Comments: Photo No. 25. Bare soil.



Fallowing Program Field No. 63898-048. PVID Parcel No. 617004. Reclamation Field No. 5218. Canal & Gate No. D21-2W. Acres: 11.0. Start Date: August 1, 2014.

Comments: Photo No. 26. Bare soil.

Fallowing Program Field No. 63898-052. PVID Parcel No. 628003. Reclamation Field No. 5408 (East ¼). Canal & Gate No. D10-11-31E. Acres: 10.0. Start Date: August 1, 2014.

Comments: Photo No. 27. Bare soil.

Fallowing Program Field No. 63898-052. PVID Parcel No. 628003. Reclamation Field No. 5408 (East ¼). Canal & Gate No. D10-11-31E. Acres: 10.0. Start Date: August 1, 2014.

Comments: Photo No. 28. Bare soil.

Fallowing Program Field No. 63940-056. PVID Parcel No. 907002. Reclamation Field No. 5787 (East ½). Canal & Gate No. D23-33W. Acres: 10.0. Start Date: August 1, 2012.

Comments: Photo No. 29. Bare soil.



Fallowing Program Field No. 63940-056. PVID Parcel No. 907002. Reclamation Field No. 5787 (East ½). Canal & Gate No. D23-33W. Acres: 10.0. Start Date: August 1, 2012.

Comments: Photo No. 30. Bare soil.

Fallowing Program Field No. 63947-009. PVID Parcel No. 011003. Reclamation Field No. 5792 (SW corner). Canal & Gate No. C16-9N. Acres: 14.0. Start Date: May 21, 2014.

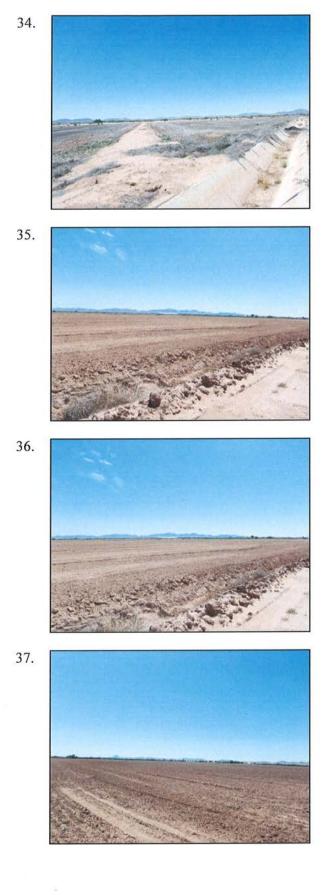
Comments: Photo No. 31. Bare soil.

Fallowing Program Field No. 63947-009. PVID Parcel No. 011003. Reclamation Field No. 5792 (SW corner). Canal & Gate No. C16-9N. Acres: 14.0. Start Date: May 21, 2014.

Comments: Photo No. 32. Bare soil.

Fallowing Program Field No. 65382-969. PVID Parcel No. 317002. Reclamation Field No. 6257 (portion). Canal & Gate No. D23-1-65W. Acres: 9.0. Start Date: August 1, 2014.

Comments: Photo No. 33. Bare soil.



Fallowing Program Field No. 65382-969. PVID Parcel No. 317002. Reclamation Field No. 6257 (portion). Canal & Gate No. D23-1-65W. Acres: 9.0. Start Date: August 1, 2014.

Comments: Photo No. 34. Bare soil.

Fallowing Program Field No. MET-166. PVID Parcel No. 302002. Canal & Gate No. C25-8W. Reclamation Field No. 6205 (South ½). Acres: 34.0. Start Date: August 1, 2013.

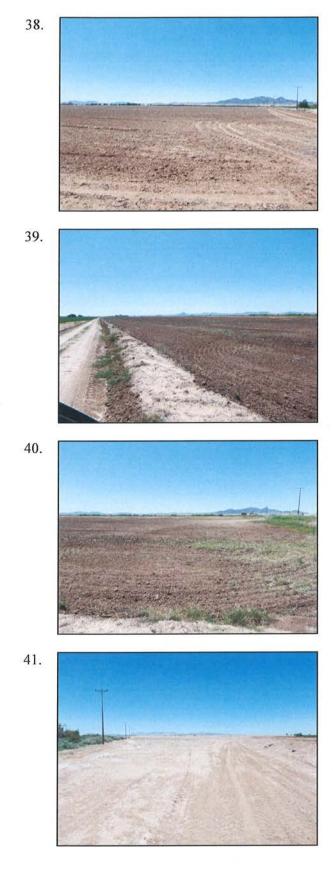
Comments: Photo No. 35. Bare soil.

Fallowing Program Field No. MET-166. PVID Parcel No. 302002. Reclamation Field No. 6205 (South ½). Canal & Gate No. C25-8W. Acres: 34.0. Start Date: August 1, 2013.

Comments: Photo No. 36. Bare soil.

Fallowing Program Field No. 63945-001. PVID Parcel No. 832011. Reclamation Field No. 5635. Canal & Gate No. C03-11-29W. Acres: 34.0. Start Date: August 1, 2014.

Comments: Photo No. 37. Bare soil.



present. Fallowing Program Field No. 63945-033. PVID Parcel No. 833010.

Photo No. 39. Disked with some alfalfa residue still

Reclamation Field No. 5627. Canal & Gate No. C03-23-0S. Acres: 19.0. Start Date: August 1, 2013.

Fallowing Program Field No. 63945-001.

Fallowing Program Field No. 63945-033.

PVID Parcel No. 832011. Reclamation Field No. 5635. Canal & Gate No. C03-11-29W.

Start Date: August 1, 2014.

Photo No. 38. Bare soil.

PVID Parcel No. 833010. Reclamation Field No. 5627. Canal & Gate No. C03-23-0S.

Start Date: August 1, 2013.

Acres: 34.0.

Comments:

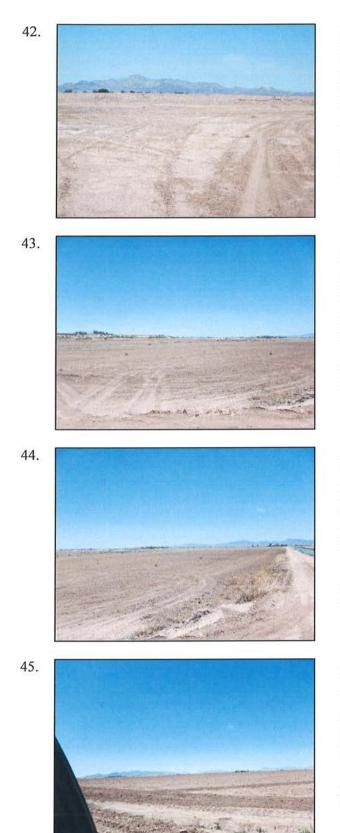
Acres: 19.0.

Comments:

Comments: Photo No. 40. Disked with some alfalfa residue still present.

Fallowing Program Field No. 63940-233. PVID Parcel No. 815022. Reclamation Field No. 20065. Canal & Gate No. WC-26S. Acres: 11.0. Start Date: May 31, 2013.

Comments: Photo No. 41. Bare soil.



Fallowing Program Field No. 63940-233. PVID Parcel No. 815022. Reclamation Field No. 20065. Canal & Gate No. WC-26S. Acres: 11.0. Start Date: May 31, 2013.

Comments: Photo No. 42. Bare soil.

Fallowing Program Field No. 63909-002. PVID Parcel No. 808008. Reclamation Field Nos. 5125 (N) & 20281 (S). Canal & Gate No. C03-16-6N. Acres: 44.0. Start Date: August 1, 2014.

Comments: Photo No. 43. Bare soil.

Fallowing Program Field No. 63909-002. PVID Parcel No. 808008. Reclamation Field Nos. 5125 (N) & 20281 (S). Canal & Gate No. C03-16-6N. Acres: 44.0. Start Date: August 1, 2014.

Comments: Photo No. 44. Bare soil.

Fallowing Program Field No. 63907-079. PVID Parcel No. 812004. Reclamation Field No. 5091 (SE ¼). Canal & Gate No. C07-8W. Acres: 39.0. Start Date: August 1, 2013.

Comments: Photo No. 45. Bare soil.



Fallowing Program Field No. 63907-079. PVID Parcel No. 812004. Reclamation Field No. 5091 (SE ¼). Canal & Gate No. C07-8W. Acres: 39.0. Start Date: August 1, 2013.

Comments: Photo No. 46. Bare soil.

Total acres inspected and verified as fallow during this field verification inspection visit: 652.0 acres within 23 parcels.

Based on the observations made and the information collected during the field verification inspection, the implementation of the extraordinary conservation measures noted above is:

□Unconfirmed ⊠Confirmed 6/17/2015 Date Inspector Group Manager

# Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program Fall 2015 Verification Report

In accordance with its approved plan for the creation of Extraordinary Conservation Intentionally Created Surplus (ICS), the Metropolitan Water District of Southern California (MWD) is funding a Forbearance and Fallowing Program (Program) with the Palo Verde Irrigation District (PVID) to create Extraordinary Conservation ICS during calendar year 2015. In accordance with MWD's approved ICS Plan, and to ensure the Program is being appropriately implemented, the Bureau of Reclamation conducts semi-annual verification inspections on randomly selected fields amounting to five (5) percent of the total acreage enrolled in the Program. The second of these inspections for calendar year 2015 occurred on October 28<sup>th</sup> and 29<sup>th</sup>, 2015. The findings of that inspection are documented in this verification report.

# **Forbearance and Fallowing Program Verification**

Five percent of the 25,947 acres in the PVID Program as of August 2015 were visited during the field verification inspection. Forty-four (44) fields totaling 1,299 acres were inspected as follows.

Observation: Trace vegetation was viewed on some fields, which was attributed to district-wide localized rainfall. PVID staff indicated that Program participants, in accordance with environmental mitigation requirements for potential air quality impacts, were required to implement dust control Best Management Practices (BMPs) when necessary. These BMPs include (but are not limited to) leaving vegetation residue on the field or seeding a cover crop prior to the fallowing start date.



Fallowing Program Field No. 63907-240. PVID Parcel No. 424011. Reclamation Field No. 6636. Canal & Gate No. B-25W. Acres: 37.0. Start Date: August 1, 2011.

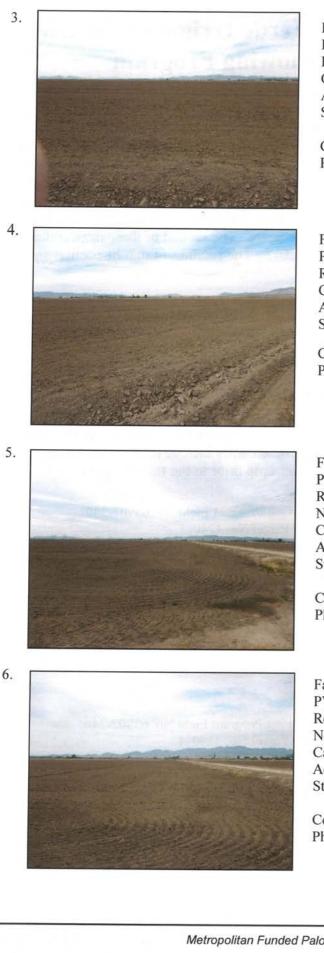
Comments: Photo No. 309. Bare soil.

2.



Fallowing Program Field No. 63907-240. PVID Parcel No. 424011. Reclamation Field No. 6636. Canal & Gate No. B-25W. Acres: 37.0. Start Date: August 1, 2011.

Comments: Photo No. 310. Bare soil. Weeds in irrigation ditch.



Fallowing Program Field No. 63923-008. PVID Parcel No. 517016. Reclamation Field No. 4405 (North ½). Canal & Gate No. C-0S. Acres: 18.0. Start Date: August 31, 2015.

Comments: Photo No. 311. Bare soil.

Fallowing Program Field No. 63923-008. PVID Parcel No. 517016. Reclamation Field No. 4405 (North ½). Canal & Gate No. C-0S. Acres: 18.0. Start Date: August 31, 2015.

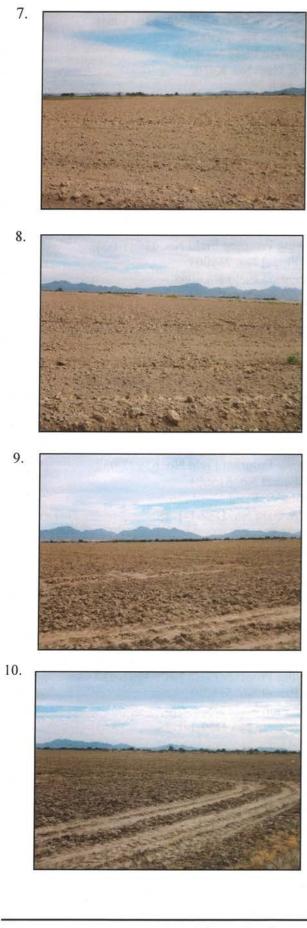
Comments: Photo No. 312. Bare soil.

Fallowing Program Field No. 63923-008. PVID Parcel No. 517016. Reclamation Field No. 4405. (2 acres along extreme North edge of field) Canal & Gate No. C-0S. Acres: 2.0. Start Date: August 31, 2015.

Comments: Photo No. 313. Bare soil.

Fallowing Program Field No. 63923-008. PVID Parcel No. 517016. Reclamation Field No. 4405. (2 acres along extreme North edge of field) Canal & Gate No. C-0S. Acres: 2.0. Start Date: August 31, 2015.

Comments: Photo No. 314. Bare soil.



Fallowing Program Field No. 65359-011. PVID Parcel No. 508006. Reclamation Field No.4267. Canal & Gate No. UC-28W. Acres: 17.0. Start Date: August 1, 2015.

Comments: Photo No. 316. Bare soil.

Fallowing Program Field No. 65359-011. PVID Parcel No. 508006. Reclamation Field No.4267. Canal & Gate No. UC-28W. Acres: 17.0. Start Date: August 1, 2015.

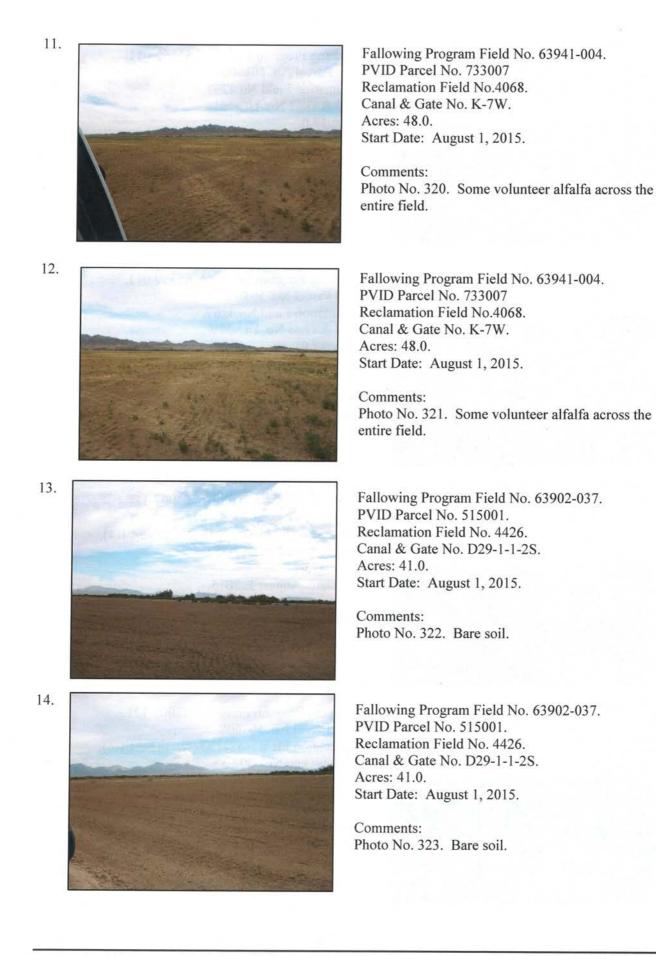
Comments: Photo No. 317. Bare soil.

Fallowing Program Field No. 63907-121. PVID Parcel No. 503008. Reclamation Field No. 4172 (Northwest 1/4). Canal & Gate No. D02-3S. Acres: 41.0. Start Date: August 1, 2015.

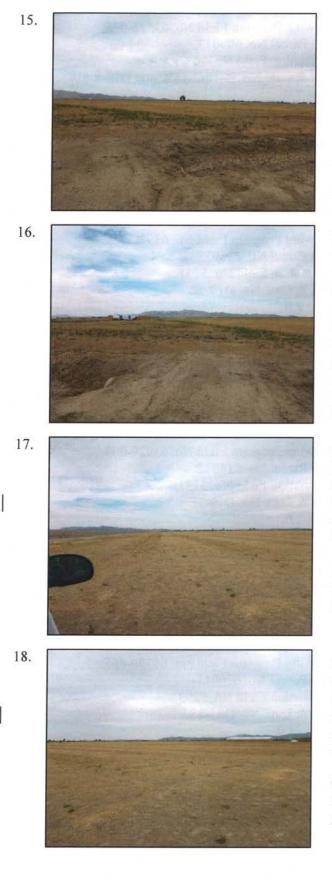
Comments: Photo No. 318. Bare soil.

Fallowing Program Field No. 63907-121. PVID Parcel No. 503008. Reclamation Field No. 4172 (Northwest 1/4). Canal & Gate No. D02-3S. Acres: 41.0. Start Date: August 1, 2015.

Comments: Photo No. 319. Bare soil.



Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program Fall 2015 Verification Report



Fallowing Program Field No. 65358-980. PVID Parcel No. 514004. Reclamation Field No. 4446. Canal & Gate No. D29-26W. Acres: 35.0. Start Date: August 1, 2015. Comments: Photo No. 324. Some volunteer alfalfa

across the entire field. See follow-up photograph at end of this report (Photo 85), taken by PVID's Paula Hayden on 11/3/2015, to see the vegetation "kill" that previously applied herbicide had on this field.

Fallowing Program Field No. 65358-980. PVID Parcel No. 514004. Reclamation Field No. 4446. Canal & Gate No. D29-26W. Acres: 35.0. Start Date: August 1, 2015. Comments: Photo No. 325. Some volunte

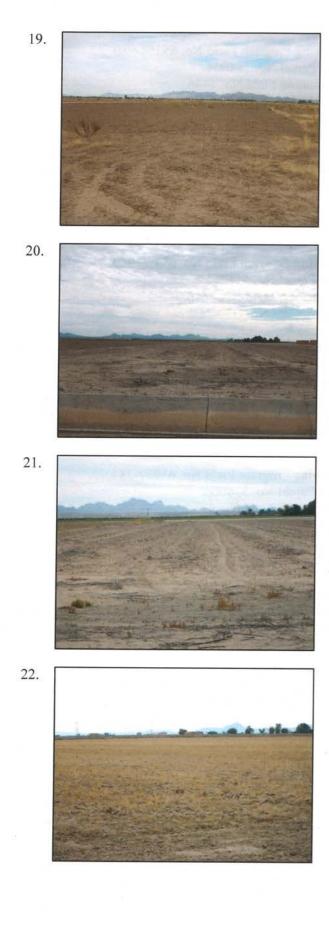
Comments: Photo No. 325. Some volunteer alfalfa across the entire field. See follow-up photograph at end of this report, taken by PVID's Paula Hayden on 11/3/2015, to see (Photo 85) the vegetation "kill" that previously applied herbicide had on this field.

Fallowing Program Field No. 63907-284. PVID Parcel No. 536006. Reclamation Field No. 4755. Canal & Gate No.\_D10-13-25E. Acres: 38.0. Start Date: August 1, 2015.

Comments: Photo No. 326. Desiccated alfalfa stand with a few green alfalfa plants interspersed across the field.

Fallowing Program Field No. 63907-284. PVID Parcel No. 536006. Reclamation Field No. 4755. Canal & Gate No. D10-13-25E. Acres: 38.0. Start Date: August 1, 2015.

Comments: Photo No. 327. Desiccated alfalfa stand with a few green alfalfa plants interspersed across the field.



Fallowing Program Field No. 63571-006. PVID Parcel No. 609013. Reclamation Field No. 5077. Canal & Gate No. D-10-7-15W and D10-8-6W. Acres: 7.0. Start Date: August 1, 2014.

Comments: Photo No. 328. Some volunteer alfalfa that is drying out.

Fallowing Program Field No. 63929-005. PVID Parcel No. 616022. Reclamation Field No. 5151. Canal & Gate No. D19-2E. Acres: 2.0. Start Date: October 31, 2012.

Comments: Photo No. 329. Nearly all bare soil with a few weeds showing.

Fallowing Program Field No. 63929-005. PVID Parcel No. 616022. Reclamation Field No. 5151. Canal & Gate No. D19-2E. Acres: 2.0. Start Date: October 31, 2012.

Comments: Photo No. 330. Bare soil.

Fallowing Program Field No. 65380-005. PVID Parcel No. 620011. Reclamation Field No. 5293. Canal & Gate No. D21-2S. Acres: 24.0. Start Date: August 1, 2015.

Comments: Photo No. 331. Wheat stubble that has been disked.



Fallowing Program Field No. 65380-005. PVID Parcel No. 620011. Reclamation Field No. 5293. Canal & Gate No. D21-2S. Acres: 24.0. Start Date: August 1, 2015.

Comments: Photo No. 332. Wheat stubble that has been disked.

Fallowing Program Field No. 65382-026. PVID Parcel No. 607037. Reclamation Field No. 5135. Canal & Gate No. C-54W. Acres: 10.0. Start Date: August 1, 2015.

Comments: Photo No. 333. Bare soil.

Fallowing Program Field No. 65382-026. PVID Parcel No. 607037. Reclamation Field No. 5135. Canal & Gate No. C-54W. Acres: 10.0. Start Date: August 1, 2015.

Comments: Photo No. 334. Bare soil.

Fallowing Program Field No. 63907-078. PVID Parcel No. 812003. Reclamation Field No. 5091. Canal & Gate No. C07-8W. Acres: 39.0. Start Date: August 1, 2013.

Comments: Photo No. 335. Bare soil.



Fallowing Program Field No. 63907-078. PVID Parcel No. 812003. Reclamation Field No. 5091. Canal & Gate No. C07-8W. Acres: 39.0. Start Date: August 1, 2013.

Comments: Photo No. 336. Bare soil.

Fallowing Program Field No. 63913-015. PVID Parcel No. 812009. Reclamation Field No. 5026. Canal & Gate No. C05-28E. Acres: 34.0. Start Date: August 1, 2015.

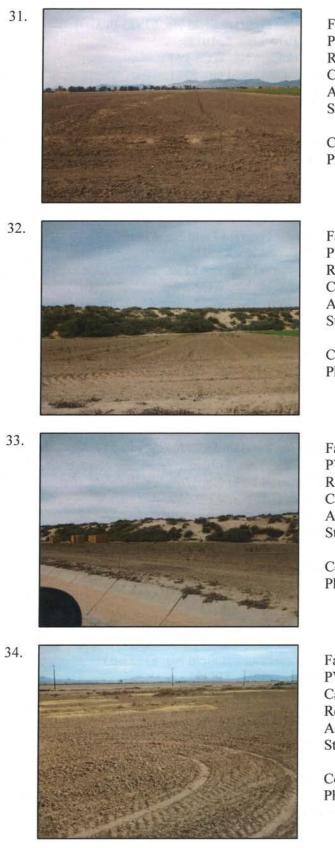
Comments: Photo No. 337. Wheat stubble.

Fallowing Program Field No. 63913-015. PVID Parcel No. 812009. Reclamation Field No. 5026. Canal & Gate No. C05-28E. Acres: 34.0. Start Date: August 1, 2015.

Comments: Photo No. 338. Wheat stubble.

Fallowing Program Field No. 63940-175. PVID Parcel No. 810003. Reclamation Field No. 5130. Canal & Gate No. C05-3-16S. Acres: 36.0. Start Date: August 1. 2015.

Comments: Photo No. 339. Bare soil.



Fallowing Program Field No. 63940-175. PVID Parcel No. 810003. Reclamation Field No. 5130. Canal & Gate No. C05-3-16S. Acres: 36.0. Start Date: August 1. 2015.

Comments: Photo No. 340. Bare soil.

Fallowing Program Field No. 65370k-007. PVID Parcel No. 808005. Reclamation Field No. 20314. Canal & Gate No. C03-15-10W. Acres: 9.0. Start Date: August 1, 2014.

Comments: Photo No. 341. Bare soil.

Fallowing Program Field No. 65370k-007. PVID Parcel No. 808005. Reclamation Field No. 20314. Canal & Gate No. C03-15-10W. Acres: 9.0. Start Date: August 1, 2014.

Comments: Photo No. 342. Bare soil.

Fallowing Program Field No. 63933-008. PVID Parcel No. 821012. Canal & Gate No. WC6-P6E. Reclamation Field No. 5311. Acres: 16.0. Start Date: May 1, 2014.

Comments: Photo No. 343. Bare soil.



Fallowing Program Field No. 63933-008. PVID Parcel No. 821012. Canal & Gate No. WC6-P6E. Reclamation Field No. 5311. Acres: 16.0. Start Date: May 1, 2014.

Comments: Photo No. 344. Bare soil.

Fallowing Program Field No. 63940-219. PVID Parcel No. 814015. Reclamation Field No. 5269. Canal & Gate No. WC2-2W. Acres: 35.0. Start Date: August 1, 2014.

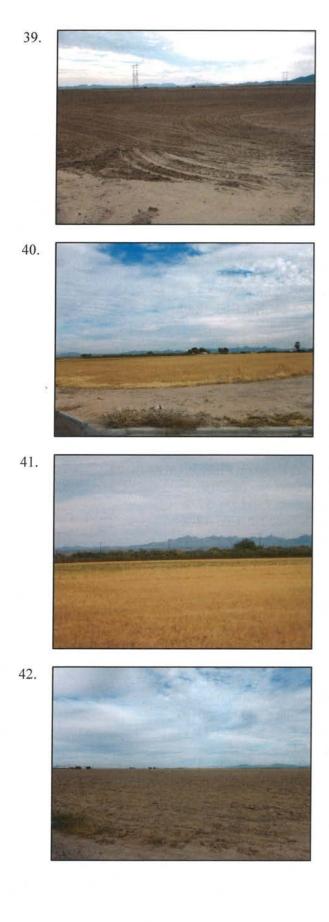
Comments: Photo No. 345. Bare soil.

Fallowing Program Field No. 63940-219. PVID Parcel No. 814015. Reclamation Field No. 5269. Canal & Gate No. WC2-2W. Acres: 35.0. Start Date: August 1, 2014.

Comments: Photo No. 346. Bare soil.

Fallowing Program Field No. 63953-031. PVID Parcel No. 830003. Reclamation Field No. 5438. Canal & Gate No. C03-11-4-16S, C03-11-4-12S. Acres: 149.0 total. Start Date: August 1, 2014.

Comments: Photo No. 347. Disked with some alfalfa residue still present.



Fallowing Program Field No. 63953-031. PVID Parcel No. 830003. Reclamation Field No. 5464. Canal & Gate No. C03-11-4-16S, C03-11-4-12S. Acres: 149.0 total. Start Date: August 1, 2014.

Comments: Photo No. 349. Disked with some alfalfa residue still present.

Fallowing Program Field No. 63945-003. PVID Parcel No. 832013. Reclamation Field No. 5603. Canal & Gate No. C03-11-29W. Acres: 9.0. Start Date: August 1, 2015.

Comments: Photo No. 351. Senescent alfalfa. PVID will require the grower to spray again due to green patch in field.

Fallowing Program Field No. 63945-003. PVID Parcel No. 832013. Reclamation Field No. 5603. Canal & Gate No. C03-11-29W. Acres: 9.0. Start Date: August 1, 2015.

Comments:

Photo No. 352. Senescent alfalfa. PVID will require the grower to spray again due to green patch in field.

Fallowing Program Field No. 63907-164. PVID Parcel No. 832003. Reclamation Field Nos. 5665. Canal & Gate No. C03-99W. Acres: 36.0. Start Date: August 1, 2014.

Comments: Photo No. 353. Bare soil.



Fallowing Program Field No. 63907-164. PVID Parcel No. 832003. Reclamation Field No. 5665. Canal & Gate No. C03-99W. Acres: 36.0. Start Date: August 1, 2014.

Comments: Photo No. 354. Bare soil.

Fallowing Program Field No. 63940-123. PVID Parcel No. 009019. Reclamation Field No. 5772. Canal & Gate No. C03-18-9S. Acres: 28.0. Start Date: May 31, 2013.

Comments: Photo No. 355. Bare soil.

Fallowing Program Field No. 63940-123. PVID Parcel No. 009019. Reclamation Field No. 5772. Canal & Gate No. C03-18-9S. Acres: 28.0. Start Date: May 31, 2013.

Comments: Photo No. 356. Bare soil.

Fallowing Program Field No. 63947-971. PVID Parcel No. 006004. Reclamation Field No. 20123. Canal & Gate No. C03-11-43S. Acres: 8.0. Start Date: June 10, 2013.

Comments: Photo No. 357. Bare ground with some volunteer alfalfa plants interspersed in field.



Fallowing Program Field No. 63947-971. PVID Parcel No. 006004. Reclamation Field No. 20123. Canal & Gate No. C03-11-43S. Acres: 8.0. Start Date: June 10, 2013.

Comments: Photo No. 358. Bare ground with some volunteer alfalfa plants interspersed in field.

Fallowing Program Field No. MET-061. PVID Parcel No. 007008. Reclamation Field No. 5820. Canal & Gate No. C03-9-4W. Acres: 13.0. Start Date: August 1, 2015.

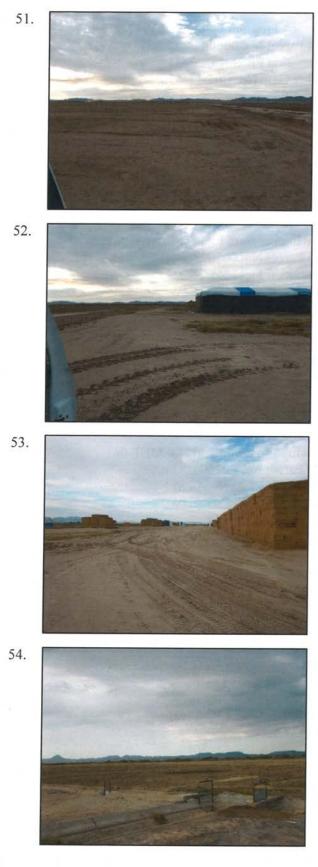
Comments: Photo No. 359. Bare soil.

Fallowing Program Field No. MET-061. PVID Parcel No. 007008. Reclamation Field No. 5820. Canal & Gate No. C03-9-4W. Acres: 13.0. Start Date: August 1, 2015.

Comments: Photo No. 360. Bare soil.

Fallowing Program Field No. MET-050. PVID Parcel No. 913016. Reclamation Field No. 5929. Canal & Gate No. C03-138E. Acres: 37.0. Start Date: August 1, 2014.

Comments: Photo No. 361. Bare soil.



Fallowing Program Field No. MET-050. PVID Parcel No. 913016. Reclamation Field No. 5929. Canal & Gate No. C03-138E. Acres: 37.0. Start Date: August 1, 2014.

Comments: Photo No. 362. Bare soil.

Fallowing Program Field No. MET-077. PVID Parcel No. 017010. Reclamation Field No. 5865. Canal & Gate No. C03-120E. Acres: 10.0. Start Date: April 1, 2012.

Comments: Photo No. 363. Bare soil and haystack yard currently.

Fallowing Program Field No. MET-077. PVID Parcel No. 017010. Reclamation Field No. 5865. Canal & Gate No. C03-120E. Acres: 10.0. Start Date: April 1, 2012.

Comments: Photo No. 364. Bare soil and haystack yard currently.

Fallowing Program Field No. MET-100. PVID Parcel No. 020011. Reclamation Field No. 5999. Canal & Gate No. C23-12W. Acres: 35.0. Start Date: August 1, 2015.

Comments: Photo No. 368. Disked with klein grass residue in field.



Fallowing Program Field No. MET-100. PVID Parcel No. 020011. Reclamation Field No. 5999. Canal & Gate No. C23-12W. Acres: 35.0. Start Date: August 1, 2015.

Comments: Photo No. 369. Disked with Klein grass residue in field.

Fallowing Program Field No. 63903-024. PVID Parcel No. 022012. Reclamation Field No. 6008. Canal & Gate No. C-134W. Acres: 5.0. Start Date: August 1, 2015.

Comments: Photo No. 370. Bare soil with some weeds interspersed in the fallowed area.

Fallowing Program Field No. 65375-002. PVID Parcel No. 027013. Reclamation Field No. 6054. Canal & Gate No. C-140S. Acres: 9.0. Start Date: August 1, 2015.

Comments: Photo No. 371. Bare soil.

Fallowing Program Field No. 63903-036. PVID Parcel No. 014004. Reclamation Field No. 5900. Canal & Gate No. C17-1-4S-18-9S. Acres: 40.0. Start Date: August 1, 2014.

Comments: Photo No. 372. Bare soil.



Fallowing Program Field No. 63903-036. PVID Parcel No. 014004. Reclamation Field No. 5900. Canal & Gate No. C17-1-4S-18-9S. Acres: 40.0. Start Date: August 1, 2014.

Comments: Photo No. 373. Bare soil.

Fallowing Program Field No. 63940-054. PVID Parcel No. 906002. Reclamation Field No. 5680. Canal & Gate No. D23-26W & D23-28W. Acres: 87.0. Start Date: August 1, 2015.

Comments: Photo No. 366. Bare soil.

Fallowing Program Field No. 63940-054. PVID Parcel No. 906002. Reclamation Field No. 5680. Canal & Gate No. D23-26W & D23-28W. Acres: 87.0. Start Date: August 1, 2015.

Comments: Photo No. 367. Bare soil.

Fallowing Program Field No. 63900-022. PVID Parcel No. 036010. Reclamation Field No. 6092. Canal & Gate No. D23-1-42E. Acres: 47.0. Start Date: August 1, 2015.

Comments: Photo No. 376. Bare soil.



Fallowing Program Field No. 63900-022. PVID Parcel No. 036010. Reclamation Field No. 6092. Canal & Gate No. D23-1-42E. Acres: 47.0. Start Date: August 1, 2015.

Comments: Photo No. 377. Bare soil.

Fallowing Program Field No. 65382-965. PVID Parcel No. 321004. Reclamation Field No. 6258. Canal & Gate No. D23-1-65W. Acres: 22.0. Start Date: August 1, 2014.

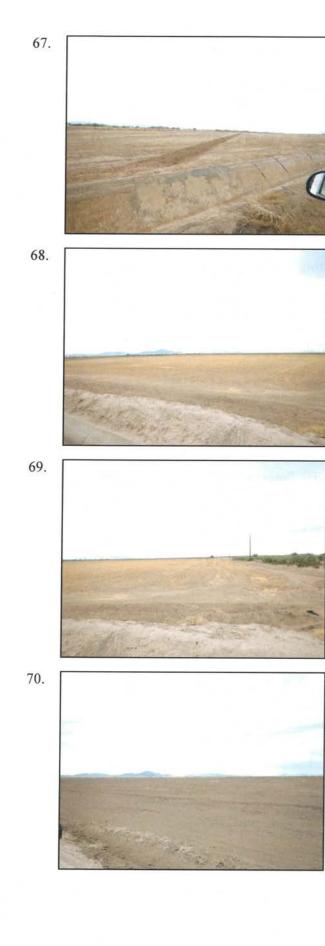
Comments: Photo No. 378. Wheat stubble.

Fallowing Program Field No. 65382-965. PVID Parcel No. 321004. Reclamation Field No. 6258. Canal & Gate No. D23-1-65W. Acres: 22.0. Start Date: August 1, 2014.

Comments: Photo No. 379. Wheat stubble.

Fallowing Program Field No. 65382-965. PVID Parcel No. 321004. Reclamation Field No. 6257. Canal & Gate No. D23-1-65W. Acres: 8.0. Start Date: August 1, 2014.

Comments: Photo No. 380. Wheat stubble.



Fallowing Program Field No. 65382-965. PVID Parcel No. 321004. Reclamation Field No. 6257. Canal & Gate No. D23-1-65W. Acres: 8.0. Start Date: August 1, 2014.

Comments: Photo No. 381. Wheat stubble.

Fallowing Program Field No. 65382-010. PVID Parcel No. 317010. Reclamation Field No. 6200. Canal & Gate No. C28-15S. Acres: 33.0. Start Date: August 1, 2015.

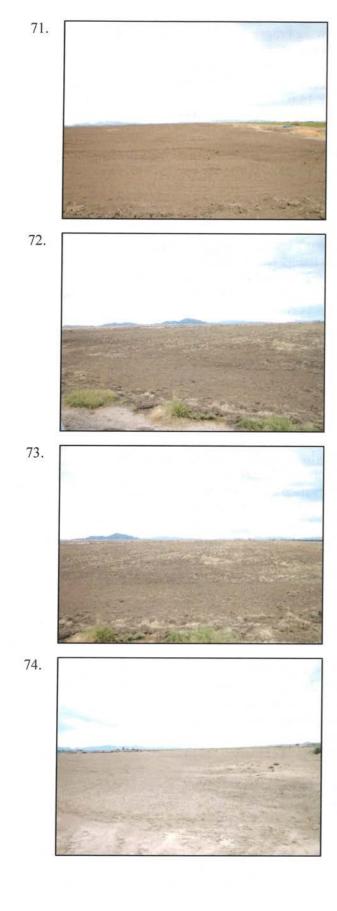
Comments: Photo No. 382. Senescent alfalfa.

Fallowing Program Field No. 65382-010. PVID Parcel No. 317010. Reclamation Field No. 6200. Canal & Gate No. C28-15S. Acres: 33.0. Start Date: August 1, 2015.

Comments: Photo No. 383. Senescent alfalfa.

Fallowing Program Field No. MET-146. PVID Parcel No. 032005. Reclamation Field No. 6083. Canal & Gate No. C24-8W. Acres: 40.0. Start Date: August 1, 2014.

Comments: Photo No. 384. Bare soil.



Fallowing Program Field No. MET-146. PVID Parcel No. 032005. Reclamation Field No. 6083. Canal & Gate No. C24-8W. Acres: 40.0. Start Date: August 1, 2014.

Comments: Photo No. 385. Bare soil.

Fallowing Program Field No. 65363-993. PVID Parcel No. 936010. Reclamation Field No. 6108. Canal & Gate No. C03-156E. Acres: 28.0. Start Date: August 1, 2014.

Comments: Photo No. 386. Disked field with Bermuda grass residue.

Fallowing Program Field No. 65363-993. PVID Parcel No. 936010. Reclamation Field No. 6108. Canal & Gate No. C03-156E. Acres: 28.0. Start Date: August 1, 2014.

Comments: Photo No. 387. Disked field with Bermuda grass residue.

Fallowing Program Field No. 65386-018. PVID Parcel No. 303003. Reclamation Field No. 20166. Canal & Gate No. C03-171W. Acres: 15.0. Start Date: February 24, 2011.

Comments: Photo No. 388. Bare soil.



Fallowing Program Field No. 65386-018. PVID Parcel No. 303003. Reclamation Field No. 20166. Canal & Gate No. C03-171W. Acres: 15.0. Start Date: February 24, 2011.

Comments: Photo No. 389. Bare soil.

Fallowing Program Field No. MET-170. PVID Parcel No. 307004. Reclamation Field Nos. 6469 and 6709. Canal & Gate No. C28-55W+. Acres: 35.0. Start Date: August 1, 2015.

Comments: Photo No. 390. Wheat stubble.

Fallowing Program Field No. MET-170. PVID Parcel No. 307004. Reclamation Field Nos. 6469 and 6709. Canal & Gate No. C28-55W+. Acres: 35.0. Start Date: August 1, 2015.

Comments: Photo No. 391. Wheat stubble.

Fallowing Program Field No. MET-174. PVID Parcel No. 310002. Reclamation Field No. 6470. Canal & Gate No. C28-57W. Acres: 40.0. Start Date: February 7, 2014.

Comments: Photo No. 392. Bare soil.



Fallowing Program Field No. MET-174. PVID Parcel No. 310002. Reclamation Field No. 6470. Canal & Gate No. C28-57W. Acres: 40.0. Start Date: February 7, 2014.

Comments: Photo No. 393. Bare soil.

Fallowing Program Field No. MET-169. PVID Parcel No. 307003. Reclamation Field No. 6452. Canal & Gate No. C28-55W+. Acres: 3.0. Start Date: August 1, 2013.

Comments: Photo No. 394. Bare soil.

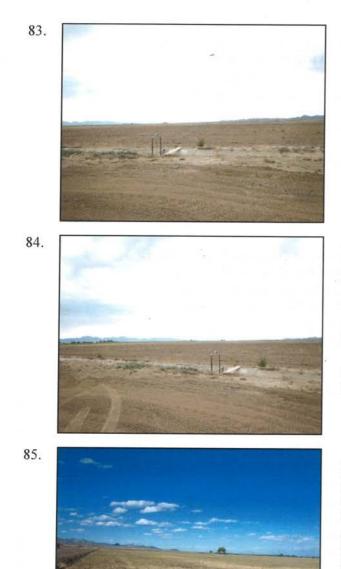
Fallowing Program Field No. MET-185. PVID Parcel No. 310011. Reclamation Field No. 6491. Canal & Gate No. C28-57W. Acres: 39.0. Start Date: December 1, 2011.

Comments: Photo No. 395. Bare soil.

Fallowing Program Field No. MET-185. PVID Parcel No. 310011. Reclamation Field No. 6491 Canal & Gate No. C28-57W. Acres: 39.0. Start Date: December 1, 2011.

Comments: Photo No. 396. Bare soil,

Acres: 39.0. Start Date: December 1, 2011. Comments:



Fallowing Program Field No. MET-171. PVID Parcel No. 307005. Reclamation Field No.6409. Canal & Gate No. C28-50W+. Acres: 34.0. Start Date: August 1, 2015.

Comments: Photo No. 397. Bare soil.

Fallowing Program Field No. MET-171. PVID Parcel No. 307005. Reclamation Field No.6409. Canal & Gate No. C28-50W+. Acres: 34.0. Start Date: August 1, 2015.

Comments: Photo No. 398. Bare soil.

Fallowing Program Field No. MET-171. PVID Parcel No. 307005. Reclamation Field No.6409. Canal & Gate No. C28-50W+. Acres: 34.0. Start Date: August 1, 2015. Comments: Photo No. 85. FOLLOW-UP PHOTO taken by Paula Hayden of the Palo Verde Irrigation District on November 3, 2015 showing that the previous herbicide application killed more of the alfalfa in this field than in prior photo nos. 324 and 325 taken on October 28, 2015.

Total acres inspected and verified as fallow during this field verification inspection visit: 1,299.0 acres within 44 parcels.

| Based on the observations made and the information collected during the field verification inspection, the implementation of the extraordinary conservation measures noted above is: |                        |
|--|------------------------|
| Confirmed Unconfirmed  |                        |
| John W. Shippds  | 1/15/2016<br>Date      |
| Inspector  | Date                   |
| CMU ALLA<br>Group Manager  | <u>1-15-16</u><br>Date |

Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program Fall 2015 Verification Report