Revised 2013 Inadvertent Overrun Payback Certification Report

April 2, 2014

Purpose

The Bureau of Reclamation's *Colorado River Accounting and Water Use Report – Arizona, California, and Nevada – Calendar Year 2011*[1] and *Colorado River Accounting and Water Use Report – Arizona, California, and Nevada – Calendar Year 2012*[2] (Decree Accounting Reports) document that Imperial Irrigation District (IID) incurred an inadvertent overrun in calendar years 2011 and 2012, requiring payback of 82,662 acre-feet and 134,076 acre-feet respectively.

In accordance with the Inadvertent Overrun and Payback Policy (IOPP), IID is required to submit a Certification Report to describe how IID met its calendar year 2013 payback obligation, for calendar year 2011, of 62,000[3] ac-ft and 37,347 ac-ft of additional early payback for IID's 2014 calendar year payback obligation, described in IID's IOPP Payback Plan, Attachment A. Each source of payback water and its scheduled use is described below.

Intentionally Created Surplus

Reclamation's 2011 Decree Accounting Report indicated that IID's 2011 ICS end-of-year balance was 5,842 ac-ft. In 2012 Reclamation approved IID's request to apply this Extraordinary Conservation ICS toward its 2011 overrun as early 2013 payback as noted in Reclamations approval letter in Attachment B.

IOPP Supplementation Measures

Per the *Agreement for Storage of Groundwater by and between Coachella Valley Water District and Imperial Irrigation District*[4] executed October 10, 2003, IID delivered 525 ac-ft of Colorado River water to Coachella Valley Water District (CVWD) in 2010 for groundwater storage. "Delivery Loss" and "Storage Loss" are incurred per the agreement and IID confirmed that 448 ac-ft of stored water was available in IID's "Storage Account" December 2012, see Attachment C. The agreement indicates that "Return of Stored Water" may be requested by IID and requires that CVWD reduce its consumptive use of Colorado River water in a volume equal to that requested by IID within certain provisions. Thus an equal volume of water was made

[1] http://www.usbr.gov/lc/region/g4000/4200Rpts/DecreeRpt/2011/2011.pdf
[2] http://www.usbr.gov/lc/region/g4000/4200Rpts/DecreeRpt/2012/2012.pdf
[3] IID's 2013 payback obligation was reduced to 55,710 ac-ft by applying 6,290 ac-ft of early payback in 2012; 5,842 ac-ft ICS credits and 448 ac-ft of CVWD Colorado River water forbearance and recovery of an equivalent amount of IID groundwater previously stored under an IID/CVWD groundwater storage program.
[4] http://www.iid.com/Modules/ShowDocument.aspx?documentid=871

available to IID by exchange at Imperial Dam, applied as early 2013 payback toward its 2011 overrun as noted in Reclamations approval letter in Attachment B.

IOPP Conservation Measures

IID implemented the following types of IOPP conservation measures:

- Main Canal Seepage Interception
- Fallowing Program

IID's primary objectives in implementing the measures listed above were the satisfaction of its conservation, transfer, and mitigation obligations under the 2003 Quantification Settlement Agreement and Related Agreements (QSA), although implementation schedules and conservation targets were accelerated and increased to meet IOPP obligations. Water conserved through these measures was first applied to meet QSA obligations. Remaining volumes were applied to IOPP obligations.

Conservation Measure Descriptions, Volumes, and Verification

Accounting for the consumptive use reduction associated with the following IOPP Conservation Measures is performed relative to IID's diversion at Imperial Dam. The Main Canal Seepage Interception System determines AAC losses using a site specific approach, approximately 1.8% in 2013. The Fallowing Program uses the loss factors previously agreed upon by IID and Reclamation, see Attachment D, approximately 3.6% in 2013. Station 60 accuracy is assumed comparable to All-American Canal accuracy at Pilot Knob. Uncertainty of annual volume for the All-American Canal at Pilot Knob has been demonstrated to have 2.0% accuracy with 95% confidence.[5]

Main Canal Seepage Interception System

The Main Canal Seepage Interception System conserved 30,776 ac-ft in calendar year 2013, from which 28,724 ac-ft was transferred to CVWD and SDCWA pursuant to the QSA. All of the remaining 2,052 ac-ft is applied as early payback for 2014 IOPP payback obligations, see Attachment A for IID's 2014 IOPP Payback Plan. Total metered conservation volume for 2013 is summarized in Table 1, and main canal losses increased this volume by 554 ac-ft.

Table 1. 2013 Verified Conserved Water by Seepage Recovery Station in Ac-Ft

Station	Metered Volume	AAC Losses	Total Conservation
Verde	1,821		
Verde 4	1,852		
Verde 2	702		
Township	642		
Pampas	1,284		
Orita	1,875		
Orita 1	1,100		
Mulberry	860		
Moss	559		
Malva 2	136		
Malva 1	576		
Mesa	99		
Magnolia	316		
Holtville	3,140		
Holtville 7	3,768		
Holtville 6	2,302		
Holtville 2	1,427		
Holtville 1	6,651		
East Highline 14	783		
Warren 2	125		
Dixie 2	70		
Dixie 4	135		
Total	30,222	554	30,776

IID's Main Canal Seepage Interception System was the first efficiency conservation program to be implemented to meet IID's water transfer obligations under the QSA and other related agreements. This project consists of the installation and operation of pump stations, collection sumps, and appurtenant structures in

[5] Clemmens, A. and Wahlin, B. (2006). "Accuracy of Annual Volume from Current-Meter-Based Stage Discharges." *J. Hydrol. Eng.*, 11(5), 489–501.

open drains that run parallel to certain reaches of main canals located in areas of highly permeable soils. These open drains were constructed along main canals decades ago to intercept and carry seepage to the Salton Sea to relieve adjacent agricultural lands of high water tables associated with canal seepage. The Main Canal Seepage Interception System is estimated to have the capacity to collect 30,000-40,000 ac-ft of seepage water from existing interceptor drains and pump these flows back into the main canals to supply downstream water users and reduce IID's delivery at Imperial Dam. In total, 22 pumping stations were constructed at the lower ends of interceptor drains and are operated to maintain drain water levels within six inches of historical levels to prevent interference with normal drainage and induction of additional seepage from the main canals. The locations of the 22 pump stations are shown in Figure 1.

Each pump station is equipped with an electromagnetic flow meter and a programmable logic controller with data logging and telemetry capabilities. Data is transmitted via radio to IID's servers for daily quality control, summary, and archival.

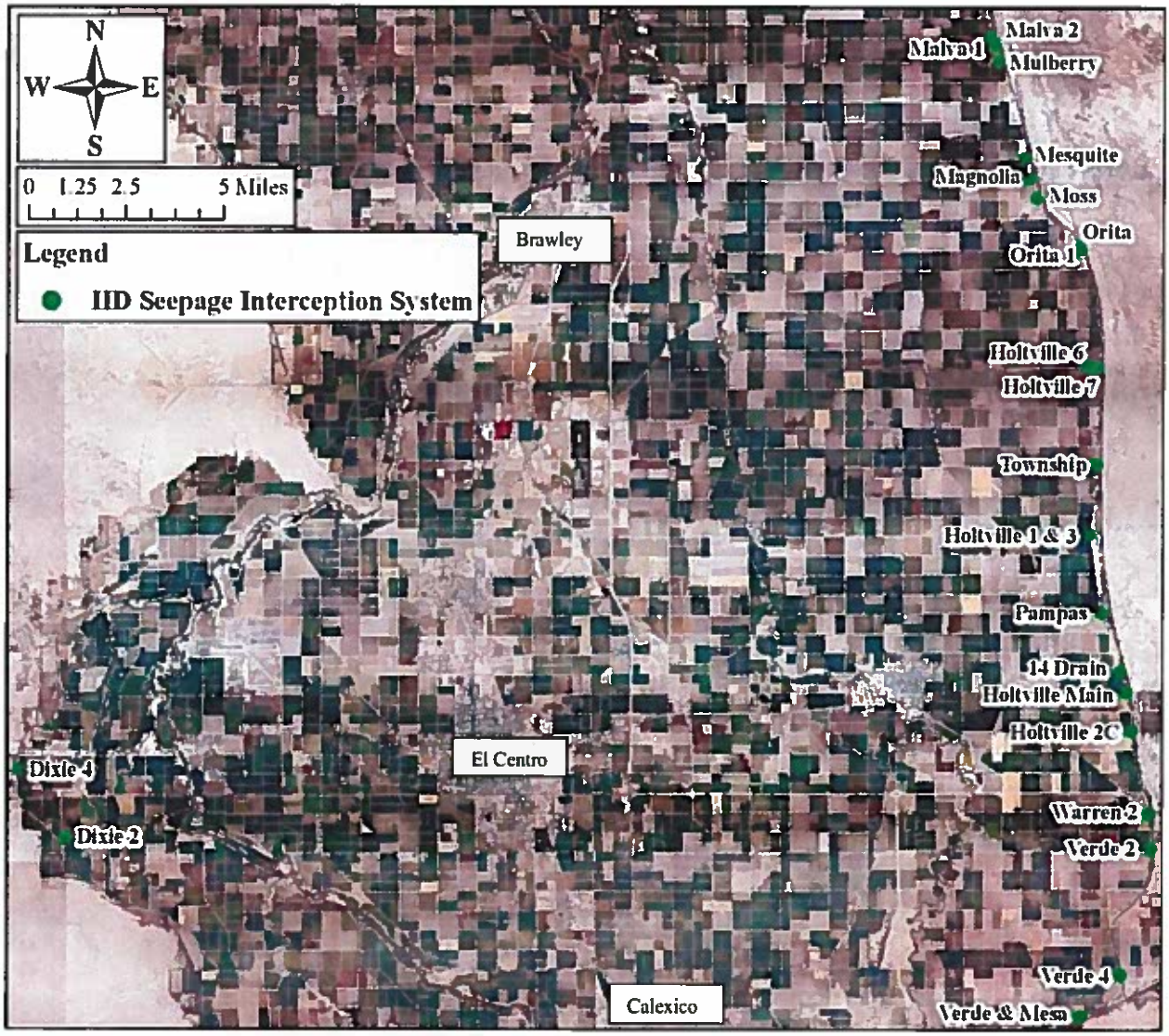

Figure 1. Location of 22 Main Canal Seepage Interception Stations

Reclamation continues to perform semiannual verification inspections (see Attachment E) of five percent of the Main Canal Seepage Interception sites and flow data and volume summaries for selected sites were made available to Reclamation. IID also provides Reclamation with quarterly summaries of volumes pumped at each site.

Fallowing Program

IID implemented eight concurrent or overlapping fallowing programs conserving 242,403 ac-ft in calendar year 2013, from which 151,398 ac-ft were applied to the SDCWA Transfer and Salton Sea Mitigation requirements pursuant to the QSA. The 91,005 ac-ft balance of fallowing conservation was applied to IID's 2013 IOPP obligations and to early payback for IID's 2014 IOPP payback obligations. Main canal losses increased the at-field conservation volume by 8,822 ac-ft. The eight fallowing programs in effect during the 2013 calendar year are detailed below:

Table 2. Fallowing Program Conservation Yield In Acre-Feet

Program	At-Farm Conservation	Acreage	AAC Losses	Total Conservation[6]	Program Details
2012-2013 9 Month FP	8,977	2,024			http://www.iid.com/index.aspx?page=501
2012-2013 Western Farm Land FP	17,786	3,201			
2012-2013 FP	161,603	28,659			
2013 Temporary Land Conversion FP	30,230	6,808			http://www.iid.com/index.aspx?page=638
2013 CY Western Farm Land FP	5,079	536			http://www.iid.com/index.aspx?page=552
2013 CY FP	9,442	1,291			
2013-2014 Western Farm Land FP	958	424			http://www.iid.com/index.aspx?page=578
2013-2014 FP	194,148	34,008			
Total	**233,581**	**76,951**	**8,822**	**242,403**	

IID's Fallowing Program is a voluntary program that allows willing landowners and/or lessees to contract with IID to receive payment for forgoing all delivery of irrigation water throughout the term of the agreement. The water that otherwise would have been used for irrigation is conserved and becomes available for IID to use for other purposes such as transfer or mitigation under the QSA, overrun payback under the IOPP, or Extraordinary Conservation ICS.

Initial program parameters were established in the Phase I On-Farm Fallowing Program Plan[7] dated March 18, 2004. This document was revised in 2006[8] and will be updated if significant

[6] At Imperial Dam

[7] http://www.iid.com/Modules/ShowDocument.aspx?documentid=630

[8] http://www.iid.com/Modules/ShowDocument.aspx?documentid=611

program changes are made. Minor program modifications have been incorporated into IID's contractual participant template on an annual basis as needed. Links to annual fallowing program summary information, including the annual participant agreement templates, can be accessed from IID's fallowing webpage[9].

Estimated conservation for each fallowed field is determined from a field-specific baseline calculated from its historical water use. The baseline utilizes a 10-year running average, less the high and low years, with certain downward adjustments based on a trending analysis of recent water use. Individual fields, within a minimum field size of ten irrigated acres, are allowed to participate in IID's fallowing programs for up to three out of every five years. Proposed fields are screened for these and other eligibility criteria, including a recent three-year water use history (excluding years participating in any IID-sponsored fallowing program), with final field participation approval subject to administrative and environmental considerations. In the event of an oversubscription, eligible fields are prioritized utilizing a random selection process within major geographic areas to ensure broad field distribution.

IID monitors fields enrolled in the Fallowing Program to ensure that no irrigation water is applied to the fields during the term of the contracts. Where possible, farm turnout gates are locked to prevent water delivery to fields participating in the Fallowing Program. When a single gate supplies multiple fields and not all fields are fallowing participants, physical obstructions such as berms or secondary gates are used to ensure no water is delivered to the participating fallowed field. Additionally, IID's water order entry and delivery tracking software is coded to identify the participating fallowed fields and lock their accounts to prevent water orders from being placed. This also provides a verifiable record that no irrigation water was delivered to fields in the Fallowing Program.

Reclamation continues to perform semiannual verification inspections (see Attachment E) of five percent of the total acreage enrolled in the Fallowing Program. IID provided a list of enrolled fields and acreages from which Reclamation randomly selected a sample of fields representing five percent of the Fallowing Program's total acreage. Datasets detailing baselines and conservation yields for selected fields were made available for Reclamation's review during the site visits.

Conservation/Supplementation Measure Yield Summary

Table 3. Summary of 2013 IID IOPP Payback Conservation & Supplemental Measure Yield (in Acre-Feet)

Conservation/Supplementation Measure	Total	2013 QSA Obligation	2013 IOPP Payback	Early 2014 IOPP Payback
Intentionally Created Surplus Credits (2012)	5,842	0	5,842	0
CVWD Colorado River Forbearance of Recovered IID Groundwater (2012)	448	0	448	0
2013 Main Canal Seepage Interception	30,776	28,724	0	2,052
2013 Fallowing Program	242,403	151,398	55,710	35,295
Total			62,000	37,347

[9] http://www.iid.com/index.aspx?page=190

Attachment A

IID 2013 Inadvertent Overrun Payback Plan

Revised 2013 Inadvertent Overrun Payback Plan

August 5, 2013

Purpose

Bureau of Reclamation's *Colorado River Accounting and Water Use Report – Arizona, California, and Nevada – Calendar Year 2011*[1] documents that Imperial Irrigation District (IID) incurred an inadvertent overrun in calendar year 2011, for which payback in the amount of 82,662 acre-feet is required. This inadvertent overrun was caused by increased irrigation demand due to record demand for agricultural commodities and by subnormal precipitation.

In accordance with the Inadvertent Overrun and Payback Policy (IOPP), IID is required to submit this payback plan to describe how IID will meet its calendar year 2013 payback obligation of 62,000 ac-ft. IID intends to use Intentionally Created Surplus (ICS), IOPP Supplementation Measures, and IOPP Conservation Measures in 2012 as early payback and in 2013 as scheduled payback. Each source of payback water and its scheduled use is described below.

Intentionally Created Surplus

Reclamation's 2011 Decree Accounting Report indicates that IID's 2011 ICS end-of-year balance was 5,842 ac-ft. IID hereby requests that these 5,842 ac-ft of Extraordinary Conservation ICS be deducted in 2012 and applied as early payback toward its 2011 overrun. Upon approval of this payback plan, IID will revise its 2012 water order to include this ICS deduction.

IOPP Supplementation Measures

Per the *Agreement for Storage of Groundwater by and between Coachella Valley Water District and Imperial Irrigation District*[2] executed October 10, 2003, IID delivered 525 ac-ft of Colorado River water to Coachella Valley Water District (CVWD) in 2010 for groundwater storage. "Delivery Loss" and "Storage Loss" are incurred per the agreement and IID estimates that 445 ac-ft of stored water will be available in IID's "Storage Account" on January 1, 2013. The agreement indicates that "Return of Stored Water" may be requested by IID and requires that CVWD reduce its consumptive use of Colorado River water in a volume equal to that requested by IID within certain provisions. Thus an equal volume of water is made available to IID by exchange at Imperial Dam. IID intends to forbear delivery of these 445 ac-ft in 2013 as an IOPP Supplementation Measure to be applied toward its payback obligation.

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[1] Hereafter referred to as *2011 Decree Accounting Report*. http://www.usbr.gov/lc/region/g4000/4200Rpts/DecreeRpt/2011/2011.pdf

[2] http://www.iid.com/Modules/ShowDocument.aspx?documentid=871

IID may request that CVWD return the stored groundwater in 2012 if such an arrangement is deemed beneficial to both parties. In such case, IID would forebear delivery of 451 ac-ft as an early payback of its scheduled 2013 payback obligation. IID will provide updates to Reclamation including letters exchanged with CVWD detailing the exact dates and volumes of supplementation as final documents become available.

IOPP Conservation Measures

IID plans to implement the following types of IOPP conservation measures:

- Delivery System Improvements
- Main Canal Seepage Interception
- Fallowing Program
- On-Farm Conservation in the following categories:
  - Irrigation Scheduling and Event Management
  - Pressurized Irrigation
  - Tailwater Reuse
  - Surface Irrigation Optimization

IID's primary objective in implementing the measures listed above is to satisfy its conservation, transfer, and mitigation obligations under the 2003 Quantification Settlement Agreement and Related Agreements (QSA), although implementation schedules and conservation targets have been accelerated to meet IOPP obligations. Water conserved through these measures will first be applied to meet QSA obligations. Remaining volumes will be applied to IOPP obligations and then, in the unlikely event that excess conservation occurs, to ICS storage where approved.

Main Canal Seepage Interception and Fallowing Programs are identified as conservation measures in IID's *2013 Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus*. IID acknowledges that Extraordinary Conservation ICS cannot be created during a calendar year when IID incurs an overrun. Thus should IID incur an overrun in 2013, any volume conserved through Main Canal Seepage Interception and Fallowing Programs in excess of the volumes required for transfer and payback would first be applied to eliminate the 2013 overrun before being considered for storage as ICS.

Conservation Measure Descriptions, Estimated Volumes, and Proposed Verification

Accounting for the consumptive use reduction associated with the following IOPP Conservation Measures is performed relative to IID's diversion at Imperial Dam using the loss factors previously agreed upon by IID and Reclamation. Station 60 accuracy is assumed comparable to All-American Canal accuracy at Pilot Knob. Uncertainty of annual volume for the All-American Canal at Pilot Knob has been demonstrated to have 2.0% accuracy with 95% confidence.[3] The volume estimates given below for the various conservation measures are estimated at-site yields and do not include conveyance loss corrections.

[3] Clemmens, A. and Wahlin, B. (2006). "Accuracy of Annual Volume from Current-Meter-Based Stage Discharges." *J. Hydrol. Eng.*, 11(5), 489–501.

Delivery System Improvements

In 2013, IID will begin implementing its System Conservation Program (SCP) consisting of delivery system improvements designed to conserve water through targeted spill reductions and improvements to water delivery operations. Components of the SCP include automated headings of main canals and laterals, continuous measurement and monitoring of lateral spill sites and customer delivery gates, and eventually construction of inline lateral reservoirs. Water level and flow information will be provided to operations personnel in near-real-time to facilitate quicker responses to system fluctuations. These projects will require significant upgrades to IID's current SCADA system, development of custom decision-support software, and deployment of technology aids such as portable computers for zanjeros.

The SCP is expected to yield up to 8,000 ac-ft of conserved water in 2013. Depending on the performance of other planned conservation measures, some or all of this water may be needed to help meet transfer requirements of the QSA. Thus, up to 8,000 ac-ft may be available for overrun payback. IID will provide updates to Reclamation as conservation measure performance projections are refined in 2013.

IID will make available site locations and specific conservation yields as they become available. Reclamation may randomly select five percent of the sites for on-site verification, whereupon IID will provide baseline data and estimated conservation volumes. The implementation schedule for this project is such that the customary spring verification visit may not be feasible – Reclamation should plan to perform a minimum of one verification inspection in fall 2013.

Main Canal Seepage Interception System

IID's Main Canal Seepage Interception System is the first efficiency conservation program to be implemented to meet IID's water transfer obligations under the QSA and other related agreements. This project consists of the installation and operation of pump stations, collection sumps, and appurtenant structures in open drains that run parallel to certain reaches of main canals located in areas of highly permeable soils. These open drains were constructed along main canals decades ago to intercept and carry seepage to the Salton Sea to relieve adjacent agricultural lands of high water tables associated with canal seepage. The Main Canal Seepage Interception System is estimated to have the capacity to collect 30,000-40,000 ac-ft of water from existing interceptor drains and pump seepage back into the main canals to supply downstream water users and reduce IID's delivery at Imperial Dam. In total, 22 pumping stations were constructed at the lower ends of interceptor drains and are operated to maintain drain water levels within six inches of historical levels to prevent interference with normal drainage and induction of additional seepage from the main canals. The locations of the 22 pump stations are shown in Figure 1.

Each pump station is equipped with an electromagnetic flow meter and a programmable logic controller with data logging and telemetry capabilities. Data is transmitted via radio to IID's servers for daily quality control, summary, and archival.

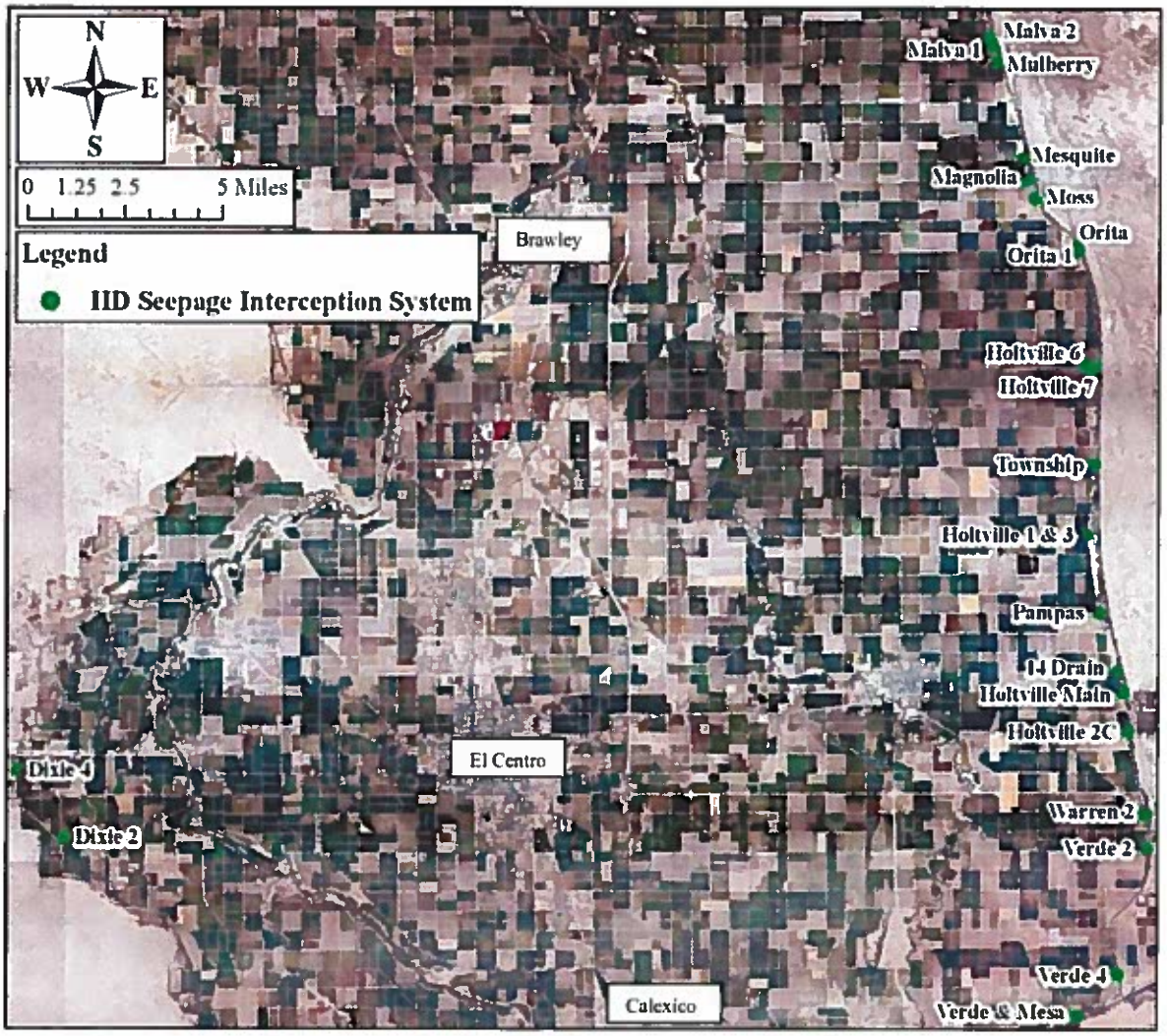


Figure 1. Map depicting locations of 22 Main Canal Seepage Interception stations

This seepage recovery project was designed to provide conserved water for transfer under the QSA; however, because the construction schedule for this project outpaced the conserved water delivery schedule required by the QSA, this extraordinary conservation project may produce conserved water in excess of the transfer requirements through at least 2015. As such, the excess conserved water is available for use by IID for other purposes including overrun payback and ICS until such time that the full conservation yield of this seepage recovery project is transferred under the QSA. IID estimates that the Main Canal Seepage Interception System will conserve 14,000 to 36,000 ac-ft in calendar year 2013. Some or all of this volume may be applied to transfer obligations under the QSA, potentially leaving up to 22,000 ac-ft available to satisfy scheduled IOPP obligations in 2013 and, at IID's election, early payback of 2014 IOPP obligations. In the unlikely event that excess conserved water remains after 2013 payback obligations are fully met through this and other measures, IID would request that any remaining water conserved by Main Canal Seepage Interception be stored as ICS.

IID will continue to cooperate with Reclamation in coordinating semiannual verification inspections of five percent of the Main Canal Seepage Interception sites. Flow data and volume summaries for selected sites will be made available to Reclamation. IID will also continue to provide Reclamation with quarterly summaries of volume pumped at each site.

Fallowing Program

IID's Fallowing Program is a voluntary program that allows willing landowners and/or lessees to contract with IID to receive payment for forgoing all delivery of irrigation water throughout the term of the agreement, usually one to two years. The water that otherwise would have been used for irrigation is conserved and becomes available for IID to use for other purposes such as transfer or mitigation under the QSA, overrun payback under the IOPP, or Extraordinary Conservation ICS.

Initial program parameters were established in the Phase I On-Farm Fallowing Program Plan[4] dated March 18, 2004. This document was revised in 2006[5] and is anticipated to be updated again in 2013. Additional minor program changes have been incorporated into IID's template agreement with participants on an annual basis as necessary. Links to annual fallowing program summary information, which includes agreement templates, can be accessed from IID's fallowing webpage[6].

Estimated conservation for fallowed fields is evaluated relative to field-specific baseline water use consisting of 10-year running average water delivery history with certain corrections. Individual fields may participate in fallowing programs two out of every four years and must comprise a minimum of ten irrigated acres. Proposed fields are screened for these and other eligibility criteria with consideration given to environmental impacts and administrative costs. In the event of oversubscription, eligible fields are selected utilizing a random selection process within major geographic areas to ensure adequate distribution.

Since 2003, IID has conducted ten separate fallowing programs yielding over 730,000 acre-feet of conserved water by paying participants a total of over $42 million to fallow approximately 117,000 acres of agricultural lands. IID recently extended the enrollment period for its eleventh fallowing program, FP 2012-13, which offers nine to 18-month terms with beginning and end dates ranging from January 1, 2012 to June 30, 2013. IID recently initiated solicitation for its first calendar year program, FP 2013, and is accepting applications for early enrollment with start dates ranging from July 1, 2012 to January 1, 2013 and end dates of December 31, 2013. A concurrent fallowing program, FP 2013-14, is anticipated to offer 12-month terms starting July 1, 2013.

Depending on final contract volumes, total projected Fallowing Program yield for calendar year 2013 is 183,707 to 251,375 ac-ft, of which 150,000 ac-ft is required to meet QSA obligations for transfer and environmental mitigation. Conditional on the yield of other conservation measures, 33,707 to 76,375 ac-ft of the 2013 fallowing yield may be applied to scheduled or early payback

[4] http://www.iid.com/Modules/ShowDocument.aspx?documentid=630
[5] http://www.iid.com/Modules/ShowDocument.aspx?documentid=611
[6] http://www.iid.com/index.aspx?page=190

of 2013 or 2014 IOPP obligations, respectively, with any balance being credited as ICS. IID will update Reclamation with final contracted volumes as they become available.

IID monitors fields enrolled in the Fallowing Program to ensure that no irrigation water is delivered during the term of the contracts. Where possible, delivery gates are locked to prevent water delivery to fields participating in the Fallowing Program. Where the same gate supplies a participating field and other water uses, physical obstructions such as berms or secondary gates are employed. Additionally, IID's water order entry and delivery tracking software is programmed to prevent the placement of water orders on participating fields and to provide a verifiable record that irrigation water has not been delivered to those fields.

IID will continue to cooperate with Reclamation in coordinating semiannual verification inspections of five percent of the total acreage enrolled in the Fallowing Program. One month prior to Reclamation's inspection visit or when Reclamation schedules the visit with IID, whichever is later, IID will provide a list of enrolled fields and acreages from which Reclamation may randomly select a sample of fields representing five percent of total enrolled acreage. Datasets detailing baselines and conservation volumes for selected fields will be made available for Reclamation inspection during the semiannual visits.

On-Farm Efficiency Conservation Program

IID is finalizing its On-Farm Efficiency Conservation Program which is anticipated to be implemented throughout the IID service area beginning October 2012 ongoing through 2047. The program's 2013 conservation goal of 2,000 to 24,000 ac-ft will be achieved by contracting with agricultural water customers to implement on-farm water use efficiency improvement measures. IID will offer to pay participants to reduce their seasonal delivery volumes through the use of approved conservation measures. Payments will be made per unit volume of delivery reduction. Interested customers are expected to propose a conservation measure and an anticipated delivery reduction volume. IID will then evaluate all proposals for certain eligibility criteria and randomly select for contracting those proposals needed to meet conservation goals. Contracts will specify a field- and crop-specific baseline delivery volume based on delivery records from the previous 10 years against which delivery reduction will be evaluated, after correction for actual weather conditions and season lengths. Please refer to the Appendix for a detailed description of baseline estimation methods. Participants will agree to accept a firm delivery limit equal to the baseline delivery volume less the contracted delivery reduction. It is anticipated that many of the conservation measures implemented will fall into the following categories: irrigation scheduling and event management, pressurized irrigation systems, tailwater reuse, and surface irrigation optimization. A brief description of each category follows.

Irrigation Scheduling and Event Management

Irrigation scheduling uses weather models and soil moisture measurements to estimate crop water requirements and optimize the timing and amounts of irrigation applications, considering such cultural constraints as harvest schedules and water and labor availability. Irrigation event management seeks to optimize such irrigation parameters as flow rate, event duration, application rate, and cut-off time to match crop water needs, soil

characteristics, and water availability. These two management-based measures are often combined with other hardware-based measures, but have also been proven to reduce irrigation delivery requirements as stand-alone measures. IID staff, customers, and irrigation consultants implemented a successful demonstration Irrigation Scheduling and Event Management Program in 2008-2009, yielding over 700 ac-ft for inadvertent overrun payback and ICS storage.

Pressurized Irrigation

Pressurized irrigation systems convey irrigation water to the location in the field of infiltration into the root zone rather than allowing water to run across the soil by gravity to reach the crop. Pressurized irrigation systems can be designed, maintained, and operated to apply water with good uniformity and to avoid runoff while minimizing deep percolation and evaporation losses, all of which serve to reduce the amount of irrigation delivery required. This category includes many variations of sprinkle irrigation, such as center pivots, wheel lines, solid sets, and micro sprinklers; and drip/trickle irrigation methods, including surface and subsurface drip systems.

Tailwater Reuse

Tailwater reuse systems capture tailwater (runoff) from surface-irrigated fields and convey it to a point where it can be reused for irrigation either on the same field or nearby fields. Examples include tailwater return systems, whereby tailwater is collected at the lower end of a field or group of fields and pumped back to the head ditch of one or more originating fields, and tailwater cascading structures, which collect tailwater and direct it to the head ditch of a nearby lower-lying field. Both systems have been shown to supplement and reduce the volume of fresh water delivered to participating fields.

Surface Irrigation Optimization

This category includes many innovative measures to improve existing gravity-flow, surface irrigation systems, reducing inefficiencies and irrigation delivery requirements. Examples include major land leveling to optimize field slope or construct level basins and terraces, multiple head ditches to shorten run length, impermeable head ditch liners, gated pipe, surge flow, limited tillage programs to improve infiltration, optimized border width, and the use of surface irrigation modeling software.

Some or all of the estimated 2,000 to 24,000 ac-ft conserved through the 2013 On-Farm Efficiency Conservation Program will be used to satisfy QSA requirements and any remaining volume will be applied to overrun payback. Total contracted delivery reduction volumes will be made available after contracting is complete. Actual delivery reductions will be computed for each participating field after each crop season and/or following each calendar year. The volume *projected* to be applied to 2013 payback obligations may range up to 22,000 ac-ft, however the final verified volume will not be known until early 2014. IID will provide updates to Reclamation to narrow these estimated ranges as contracts are executed in 2012 and 2013.

In addition to performing field visits to enrolled fields during construction and operation activities, IID will track water deliveries to each enrolled field through the term of the contracts, limiting seasonal delivered water to the delivery baseline less the agreed upon delivery reduction. Reclamation is invited to make semiannual verification visits to randomly selected fields representing five percent of enrolled acreage. During field visits, IID and participating customers may demonstrate the effectiveness of implemented efficiency conservation measures. IID will also make available blind datasets detailing computed baselines, contracted delivery reductions, and year-to-date delivery volumes for the randomly selected fields. IID will also review with Reclamation inspectors the baseline calculation procedures for two of the selected fields.

Conservation/Supplementation Measure Yield Summary

Table 1. Summary of estimated yield ranges for IOPP Conservation/Supplementation measures

Conservation/Supplementation Measure	Estimated 2013 Conservation/Supplementation Volume in ac-ft			
	Total Potential	QSA Obligations	Overrun Payback	Intentionally Created Surplus
Intentionally Created Surplus Deduction	5,842	0	5,842	0
Exchange of Stored Groundwater	445-451	0	445-451	0
Delivery System Improvements	0-8,000	0-8,000	0-8,000	0
Main Canal Seepage Interception	14,000-36,000	14,000-36,000	0-22,000	0-12,000
On-Farm Improvements	2,000-24,000	2,000-24,000	0-22,000	0
Land Fallowing Program	183,707-251,375	150,000	33,707-76,375	0-25,000
Total	258,000-303,662	196,000	62,000-82,662	0-25,000

Additional Information

For more information see www.iid.com or visit IID's Water Conservation Implementation web link at www.iid.com/index.aspx?page=382 or the Fallowing Program web link at www.iid.com/index.aspx?page=190.

Appendix

IID On-Farm Efficiency Conservation Program

Summary of Conservation Baseline Computation Procedures

Solicitation, Contracting, and Verification Overview

The On-farm Efficiency Conservation Program solicits proposals from IID's agricultural water users who wish to implement efficiency improvement measures on their fields. Proposals indicate the desired term of agreement, describe the proposed conservation measure, and list the field location and cropping plan. The cropping plan contains the crops that may be grown during the term and their anticipated plant and harvest dates.

IID uses the proposal information along with historical water delivery, weather, and cropping records to project a water delivery baseline for the proposed crops. Applicants are notified of the projected baselines and asked whether they wish to enter agreements to implement conservation measures based on the projections, consult with IID regarding baseline determination, or abandon their proposals.

Throughout the term of each agreement, IID representatives inspect and track deliveries to enrolled fields to ensure conservation goals are met. Upon completion of each crop season, IID computes a verification baseline using actual season lengths and weather conditions and pays participants for verified conserved water according to the agreements.

Baseline Estimation

Crop Seasons Database

IID maintains a database of historical water deliveries to each of its delivery gates. The crop and acres irrigated are recorded as attributes to each delivery record. This allows total water deliveries, DW, for individual crop seasons to be summed and analyzed as the foundation for crop- and field-specific, historical water use baselines. A crop season is defined here to begin immediately following the harvest of one crop and end with the harvest of the next. Thus all water delivered to a gate in preparation for and during the production of a given crop on a given acreage is summed as the historical crop season delivery. In the case of perennial crops, intermediate crop seasons end with each calendar year prior to final harvest.

Actual crop evapotranspiration, ET_a, is also calculated for each historical crop season using estimates of reference evapotranspiration reported for CIMIS[1] weather stations located throughout the Imperial Valley combined with crop coefficient estimates derived for the area. Effective precipitation, P_e, for each crop season is estimated using data from the same weather station network and the NRCS TR-21 method[2].

An important metric computed for each crop season is the consumptive use fraction, CUF, defined as the fraction of delivered water needed to satisfy crop consumptive use, as given below:

[1] California Irrigation Management Information Systems; www.cimis.water.ca.gov
[2] NRCS National Engineering Handbook, part 623, chapter 2

Equation 1. $$CUF = \frac{CU}{DW}$$

Equation 2. $$CU = ET_a - P_e$$

where CU is consumptive use of delivered water or net evapotranspiration as defined by Equation 2 and DW is Delivered Water as recorded by IID.

Although the IID's delivery records are suitable for their intended purpose of volumetric billing, in some cases the accuracy of secondary attributes such as crops and irrigated acreage is not sufficient for detailed analysis. Computed crop seasons are checked for accuracy using quality control procedures developed to identify crop seasons where computed values fall outside expected ranges. These ranges are defined for individual crops, grouped by soil type in certain cases, utilizing acceptance parameters related to evapotranspiration, delivered water, and season timing. Figure 1 illustrates the data sources used in estimating baselines.

Baseline Estimation Methods

Depending on the availability and reliability of crop season records for a proposed crop and field, one of three baseline estimation procedures is used to compute projected and verification baselines.

Delivered Water History Method

In cases where the proposed crop has been grown on the field during the baseline period (the 10 years prior to the year of enrollment) and the resulting crop seasons pass quality control checks, baselines are estimated directly using historical crop season data. Estimated baselines for pre-season projection and post-season verification are calculated according to Equations 3 and 4.

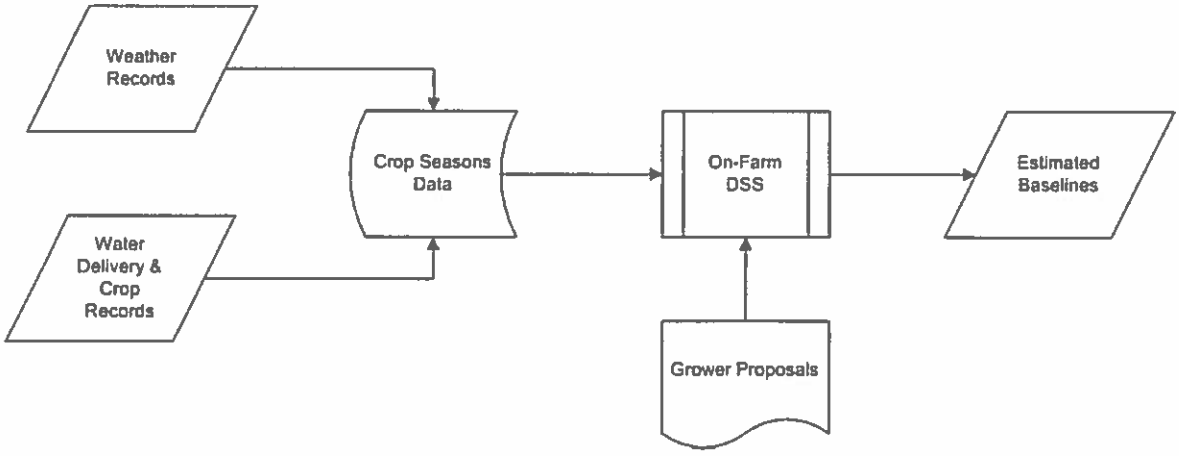


Figure 1. Basic data requirements for baseline calculation

Equation 3. $$BL_{prj} = DW_{hst}\left(\frac{CU_{prj}}{CU_{hst}}\right) = \frac{CU_{prj}}{CUF_{hst}}$$

Equation 4. $$BL_{vrf} = DW_{hst}\left(\frac{CU_{act}}{CU_{hst}}\right) = \frac{CU_{act}}{CUF_{hst}}$$

where BL_{prj} and BL_{vrf} are projected and verification baselines, respectively, DW_{hst} is average DW recorded for historical seasons at a given field matching a proposed crop, CU_{prj} is CU of delivered water projected for the proposed crop season based on CU computed for similar historical seasons district-wide, CU_{hist} is average CU computed for those historical crop seasons used to compute DW_{hst}, and CU_{act} is actual CU for the enrolled crop computed after season completion.

Performance Rank Method

Performance Rank – In cases where quality-controlled records are not available for the proposed crop and field, but qualifying records are available for other crops grown on the field during the baseline period, estimates are based on the rank of qualifying historical seasons relative to other historical seasons district-wide. This method uses CUF as a performance index to rank crop seasons on a given field against other seasons district-wide with the same crop and soil type. It assumes that a field's average CUF rank is similar for any crop season and can be used to estimate a CUF for a proposed crop. The estimated CUF is then used to compute BL_{prj} and BL_{vrf} after Equations 3 and 4.

Representative district-wide CUF distributions are developed based on historical crop seasons passing the quality control checks described previously. Sample distributions for alfalfa and carrots grown on three soil types are shown in Figures 2 and 3.

District-Wide Average Method

In cases where no reliable data is available for any crop on the field, district-wide averages of CUF by crop and soil type are used to estimate baselines for proposed crops after Equations 3 and 4.

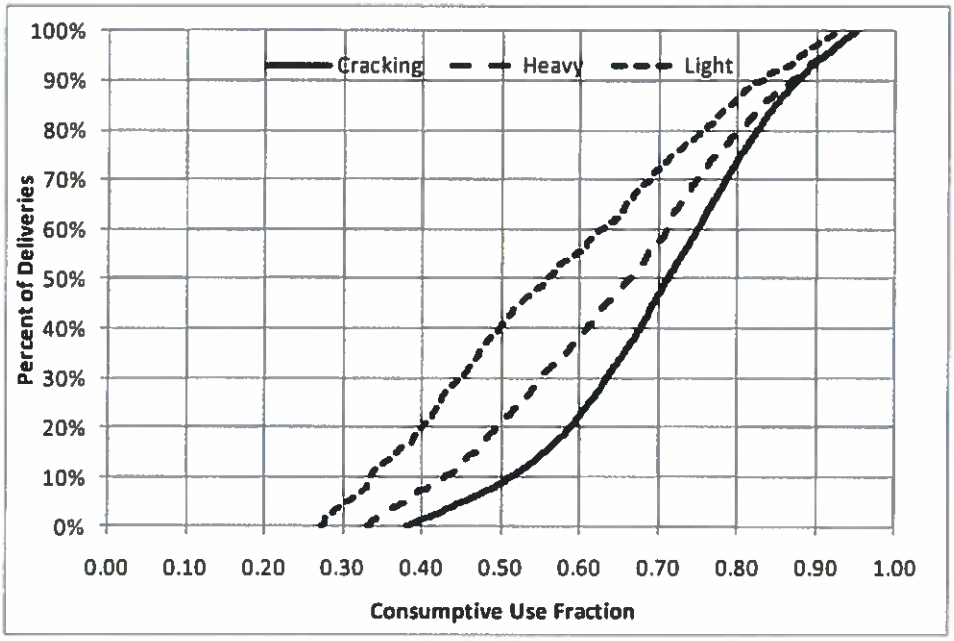


Figure 2. Sample CUF distributions for alfalfa grown on different soil types

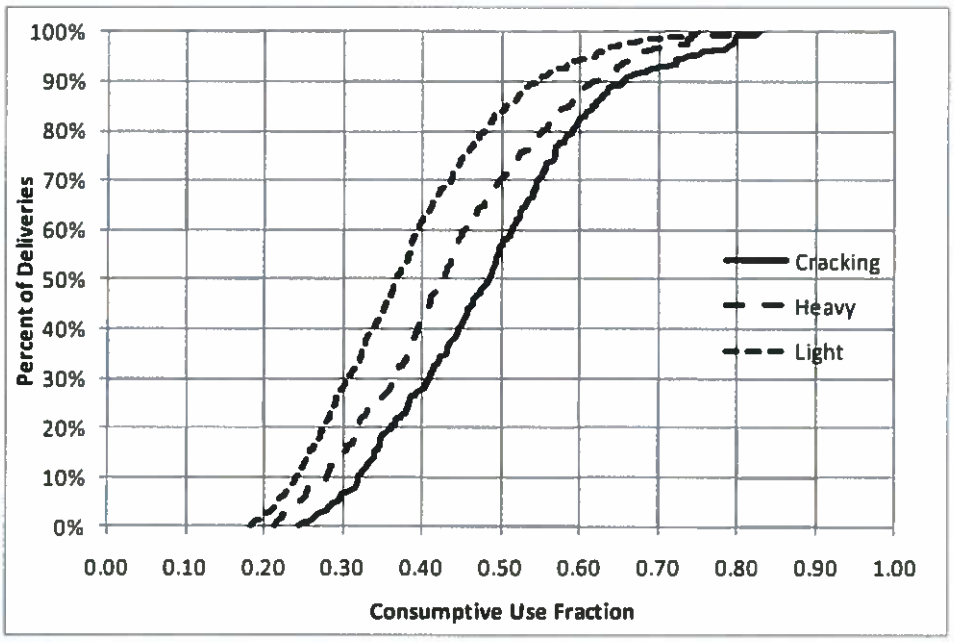


Figure 3. Sample CUF distributions for carrots grown on different soil types

Additional Information

Further details regarding baseline estimation and program management are available at:

www.iid.com/onfarmconservation

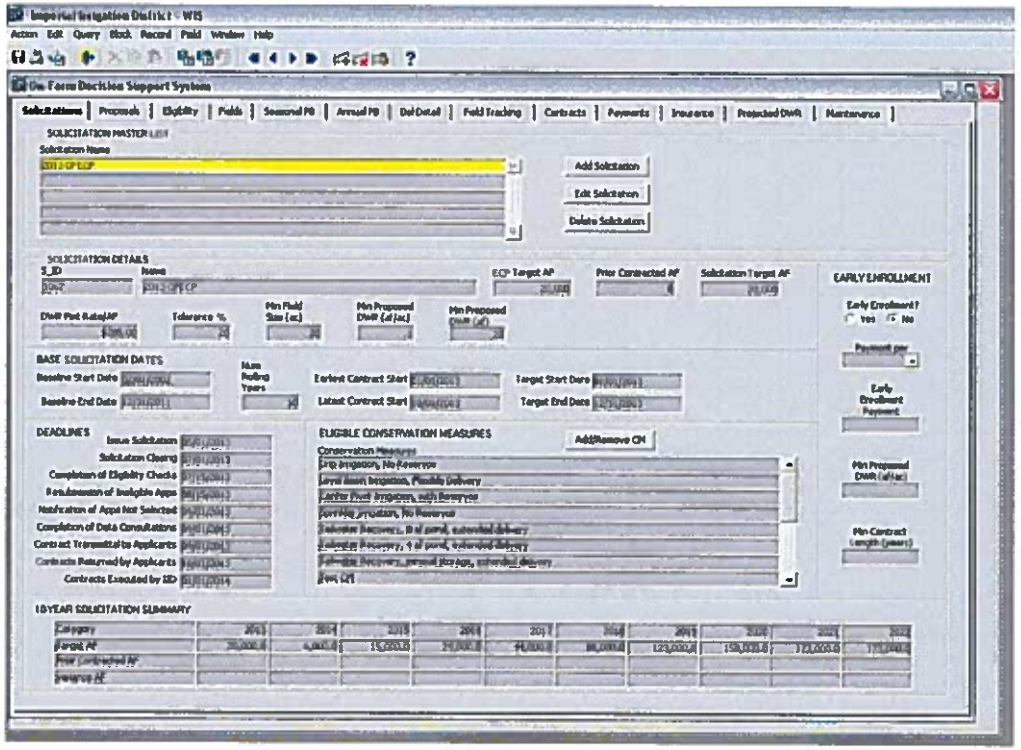
On-Farm Efficiency Conservation Program: Baselines and Decision Support System

Imperial Irrigation District
29 May 2013

Presented to Reclamation by IID via web conference

On-Farm Decision Support System (OFDSS)

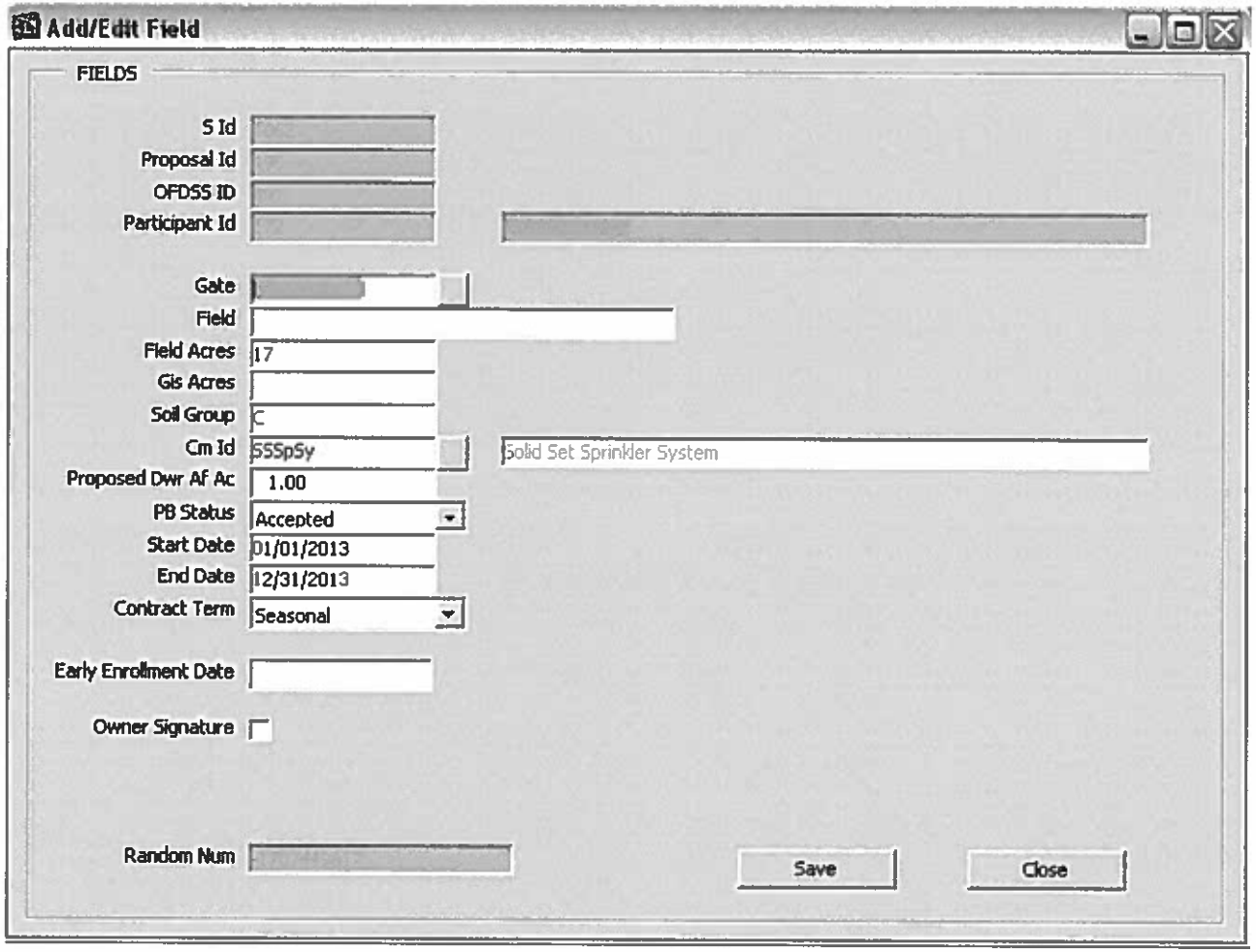
- Create Solicitation
- Enter Cropping Plan
- Determine Baseline
- Track Water Usage
- Document Visits
- Verify Conservation
- Determine Payment



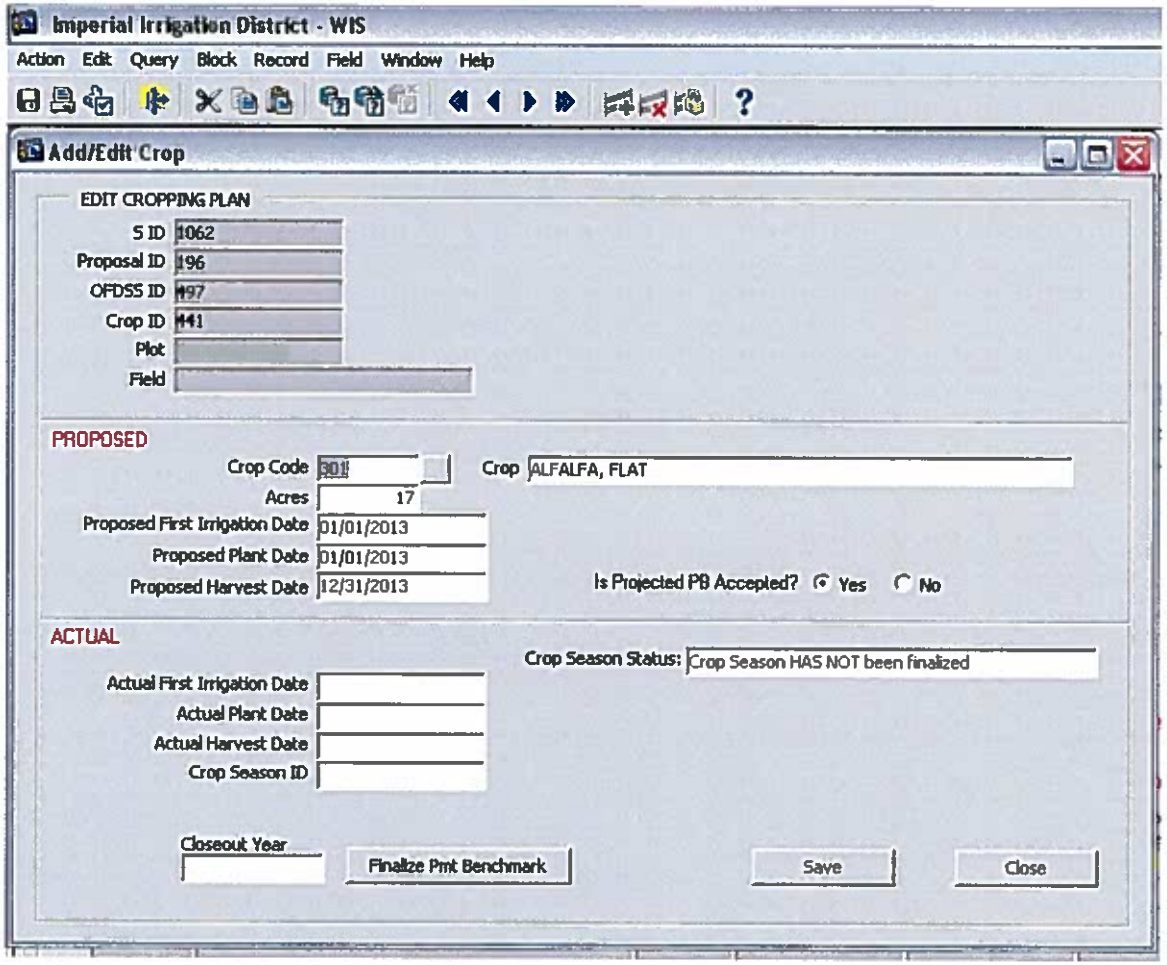
Steps to Enter Proposal/Determine Baseline

- Enter Proposal
  - Field & Conservation Measure
  - Cropping Plan
- Review/Accept Baseline
  - Delivered Water History
  - CUF Rank
  - Delivered Water Average

Enter Proposal



Enter Cropping Plan



Baseline Goals

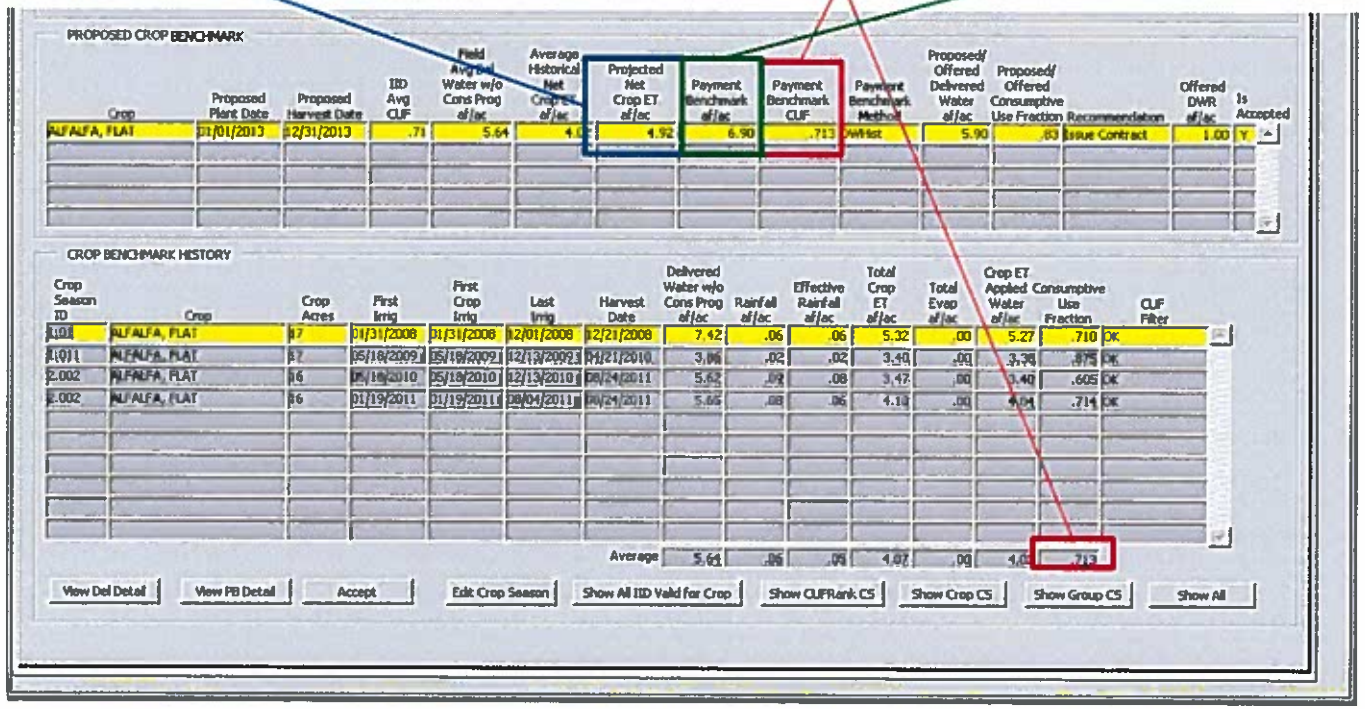
- Determine field- and crop-specific water conservation baseline
- Account for variations in season length and weather

Background Information
Crop Seasons

- Delivery Records assigned to crop season
  - Jan-Dec for perennial crops
  - Pre-irrigation to harvest for annual crops
- Calculations
  - Delivered water per acre
  - Crop water use (CU)
  - CUF (Consumptive Use Fraction)
- Verification
  - Quality Control Procedures

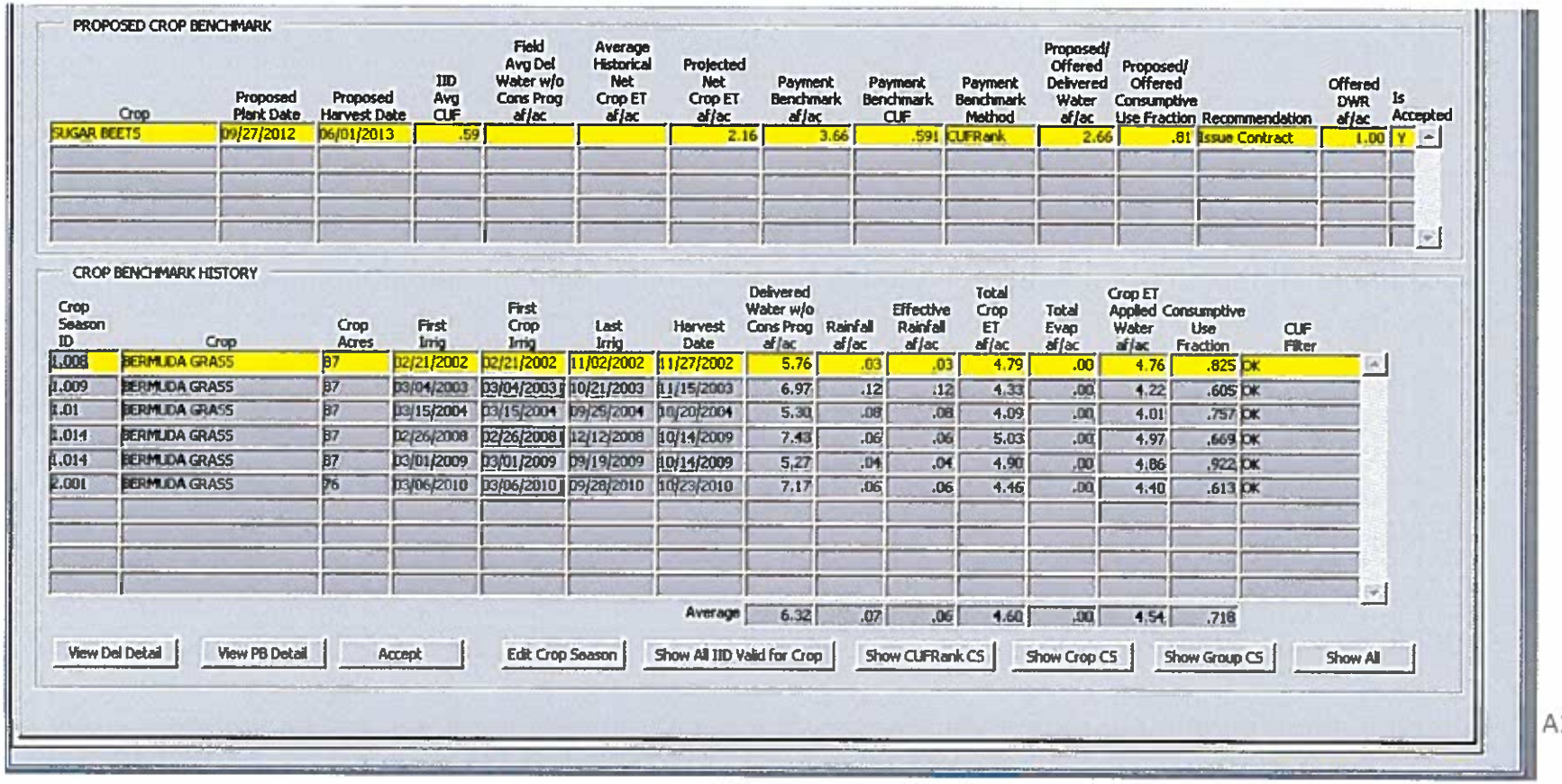
Delivered Water History Baseline Example

- DWHIST – Preferred Baseline method
  - Display valid crop seasons for proposed crop
  - Project Crop ET for Proposed Season
  - Projected ET / Payment Benchmark CUF = Payment Benchmark



CUF Rank Baseline Example

- Sugar Beets proposed on field with valid Bermuda history
- Payment Benchmark CUF translated to Sugar Beet history
- Assumes average field for crop A will be average for crop B



PROPOSED CROP BENCHMARK

Crop	Proposed Plant Date	Proposed Harvest Date	IID Avg CUF	Field Avg Del Water w/o Cons Prog af/ac	Average Historical Net Crop ET af/ac	Projected Net Crop ET af/ac	Payment Benchmark af/ac	Payment Benchmark CUF	Payment Benchmark Method	Proposed/ Offered Delivered Water af/ac	Proposed/ Offered Consumptive Use Fraction	Recommendation	Offered DWR af/ac	Is Accepted
SUGAR BEETS	09/27/2012	06/01/2013	.59			2.16	3.66	.591	CUFRank	2.66	.81	Issue Contract	1.00	Y

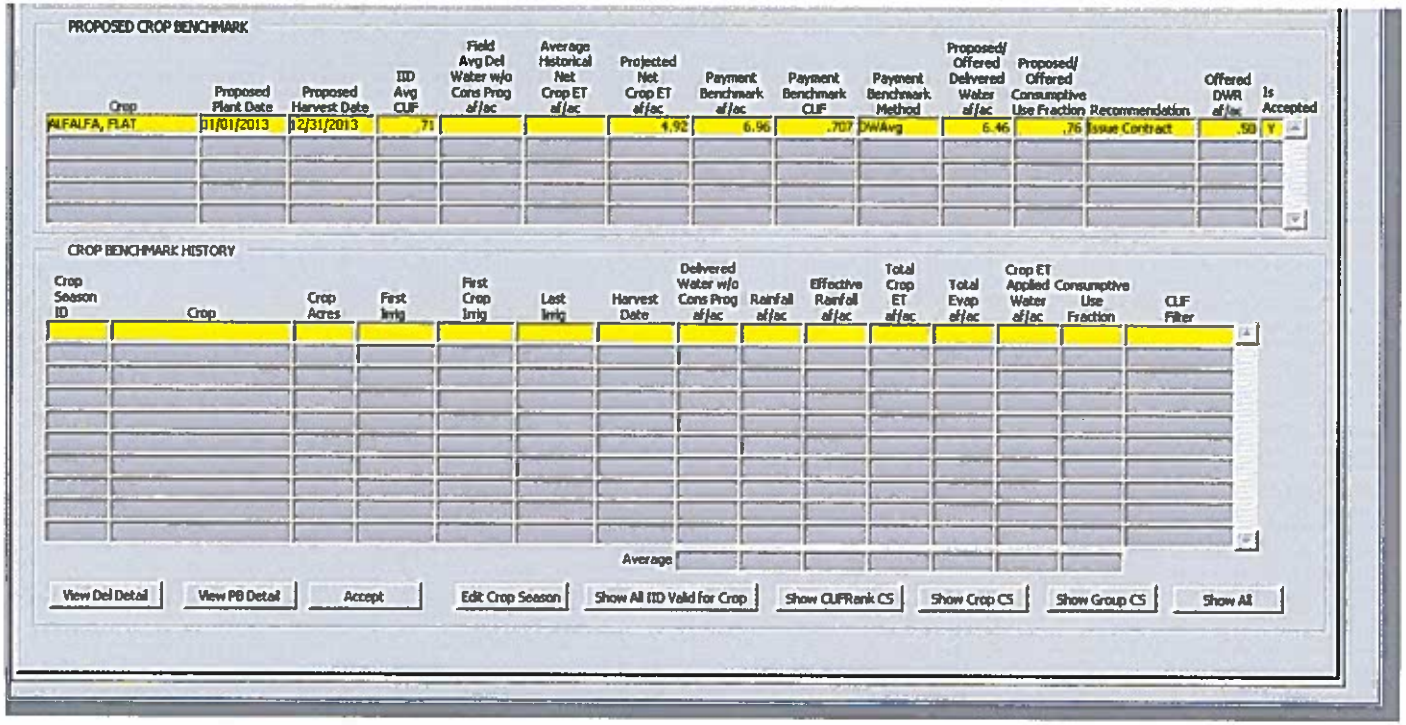
CROP BENCHMARK HISTORY

Crop Season ID	Crop	Crop Acres	First Irrig	First Crop Irrig	Last Irrig	Harvest Date	Delivered Water w/o Cons Prog af/ac	Rainfall af/ac	Effective Rainfall af/ac	Total Crop ET af/ac	Total Evap af/ac	Crop ET Applied Water af/ac	Consumptive Use Fraction	CUF Filter
1.008	BERMUDA GRASS	87	02/21/2002	02/21/2002	11/02/2002	11/27/2002	5.76	.03	.03	4.79	.00	4.76	.825	OK
1.009	BERMUDA GRASS	87	03/04/2003	03/04/2003	10/21/2003	11/15/2003	6.97	.12	.12	4.33	.00	4.22	.605	OK
1.01	BERMUDA GRASS	87	03/15/2004	03/15/2004	09/25/2004	10/20/2004	5.30	.08	.08	4.09	.00	4.01	.757	OK
1.014	BERMUDA GRASS	87	02/26/2008	02/26/2008	12/12/2008	10/14/2009	7.43	.06	.06	5.03	.00	4.97	.669	OK
1.014	BERMUDA GRASS	87	03/01/2009	03/01/2009	09/19/2009	10/14/2009	5.27	.04	.04	4.90	.00	4.86	.922	OK
2.001	BERMUDA GRASS	76	03/06/2010	03/06/2010	09/28/2010	10/23/2010	7.17	.06	.06	4.46	.00	4.40	.613	OK
						Average	6.32	.07	.06	4.60	.00	4.54	.718	

View Del Detail | View PB Detail | Accept | Edit Crop Season | Show All IID Valid for Crop | Show CUFRank CS | Show Crop CS | Show Group CS | Show All

Delivered Water Average

- If no valid history exists, a field will be assigned the average consumptive use fraction for the crop and soil type.



Baseline Statistics

235	Baselines accepted as of Feb 28, 2013		
	166	71%	Baselines Determined by Program
		103	44%	Delivered Water History
		56	24%	CUF Rank
		7	3%	Delivered Water Average
	69	29%	Baselines over-ridden by staff
		x		Delivered Water History
		7	3%	Group Delivered Water History
		1	0%	CUF Rank
		61	26%	Delivered Water Average

OFDSS Functions

- Track Field Visits
- Calculate Final Baseline (Actual CU)
- Verify Conservation Volume
  - At Field
  - District Wide
- Initiate Payment Process

Attachment B

May 14, 2013 USBR Letter Approving IID's 2013 Inadvertent Overrun Payback Plan

United States Department of the Interior

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

IN REPLY REFER TO:
LC-4220
WTR-4.03

MAY 14 2013

CERTIFIED – RETURN RECEIPT REQUESTED

Mr. Kevin Kelley
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial, CA 92251-0937

Subject: Approval of Calendar Year 2013 Inadvertent Overrun and Payback Policy (IOPP) Payback Plan for the Imperial Irrigation District (IID)

Dear Mr. Kelley:

Effective January 1, 2004, the IOPP established requirements for payback of inadvertent overuse of Colorado River water by users in the Lower Division States. By letter dated June 20, 2012, the Bureau of Reclamation notified IID that based on Reclamation's final water accounting records for calendar year 2011, IID incurred an overrun of 82,662 acre-feet (af) in 2011. In accordance with the IOPP, IID is required to begin payback of its 2011 overrun in calendar year 2013 and to pay back a minimum amount of 62,000 af.

By letter dated September 20, 2012, IID submitted its Final 2013 Inadvertent Overrun Payback Plan (Plan). As outlined in IID's Plan, IID proposed to implement six extraordinary conservation measures to meet its calendar year 2013 payback obligation of 62,000 af. These measures include: use of IID's existing Extraordinary Conservation Intentionally Created Surplus (ICS) credits; exchange of Colorado River water with the Coachella Valley Water District (CVWD) for water banked off-stream and forbearance of consumptive use of an equivalent amount of Colorado River water; delivery system improvements; seepage interception and recovery; fallowing; and on-farm efficiency conservation measures.

In its Plan, IID requested that the balance of its Extraordinary Conservation ICS credits (5,842 af) be deducted in 2012 and applied as early payback toward its 2013 payback obligation. In its Plan, IID also notified Reclamation of the possibility that it would request CVWD to return stored groundwater to IID in 2012, which IID would leave in Lake Mead and apply as early payback toward its 2013 payback obligation, if such an arrangement was deemed beneficial to both parties. By letter dated December 21, 2012, CVWD documented that it returned 448 acre-feet of stored groundwater to IID in 2012 via a reduction in CVWD's consumptive use at Imperial Dam.

IID staff presented IID's draft payback plan to the Inadvertent Overrun and Payback Technical Committee (IOPTC) in a meeting held on September 11, 2012, in Boulder City, Nevada. The IOPTC, comprised of Reclamation representatives and one representative from each of the Lower Division States, serves to assist Reclamation in performing a technical review of, and providing a recommendation and/or comments on, a contractor's payback plan regarding the adequacy of the plan in meeting the requirements of the IOPP. Collectively, the IOPTC provided technical comments on IID's draft plan, which IID later incorporated into its final Plan. No formal recommendation regarding IID's Plan was provided to Reclamation by the individual state representatives.

Reclamation notes that, in addition to IID's 2013 payback obligation, IID is required to conserve 196,000 acre-feet in 2013 to meet its transfer obligations set forth in Columns 5, 7, and 8 of Exhibit B to the Colorado River Water Delivery Agreement (CRWDA). Reclamation further notes that, in accordance with Section 2.4 of the IOPP, conservation measures implemented to meet an IOPP payback obligation must be in addition to those being implemented to meet any existing transfer or conservation agreement. As stated in the Plan, IID's primary objective in implementing the delivery system improvements, seepage interception and recovery, fallowing and on-farm efficiency conservation measures "is to satisfy its conservation, transfer, and mitigation obligations...although implementation schedules and conservation targets have been accelerated to meet IOPP obligations." Reclamation appreciates IID's effort to accelerate implementation schedules and conservation targets to ensure it successfully meets both its aforementioned CRWDA transfers and its 2013 IOPP payback obligation.

Based upon Reclamation's review of IID's Plan, I approve IID to use and/or implement four of the six proposed payback measures to meet IID's calendar year 2013 payback obligation: IID's existing ICS credits; forbearance of Colorado River water exchanged with CVWD; IID's fallowing program; and IID's seepage interception and recovery system. Moreover, I approve IID's request that Reclamation apply the balance of IID's Extraordinary Conservation ICS credits (5,842 af) and the balance of IID's stored groundwater returned by CVWD (448 acre-feet) as early payback toward IID's 2013 payback obligation. Applying these credits reduces IID's 2013 payback obligation to 55,710 af. Reclamation appreciates IID's effort to provide payback in advance of its established payback schedule.

With respect to the delivery system improvements and on-farm efficiency conservation measures, at this time I am withholding approval on use of these two measures for implementation to meet IID's calendar year 2013 payback obligation pending additional consultation with IID. Reclamation recognizes that IID is developing these programs and appreciates the significant effort being undertaken to ensure these programs are successful. Reclamation will continue to consult with IID as IID responds to requests to provide additional information demonstrating how the estimate of conservation yields from these measures will be derived, as well as information describing how Reclamation will be able to monitor implementation and perform verification of these measures. After further review of such supplemental information, Reclamation will further consider the approval of these two proposed extraordinary conservation measures for implementation to meet IID's 2013 payback obligation.

Unless and until Reclamation approves the use of delivery system improvements and on-farm efficiency conservation measures, IID is approved to repay the balance of its 2013 payback obligation only through fallowing and/or through seepage interception and recovery.

The IOPP requires that Reclamation monitor implementation of the extraordinary conservation measures outlined in approved payback plans. Reclamation will work closely with IID staff to arrange and conduct semi-annual field verification inspections in 2013 on 5 percent of the enrolled acreage in IID's fallowing program and on 5 percent of the seepage interception and recovery systems. Should Reclamation approve additional measures under IID's delivery system improvements and/or on-farm efficiency programs, Reclamation will work with IID staff to identify and conduct the appropriate verification inspections of these measures as well. To ensure IID is on target to meet its 2013 payback obligation, Reclamation requests that IID provide quarterly updates regarding IID's progress in implementing the approved extraordinary conservation measures.

Reclamation's administration of the IOPP requires that IID submit a report certifying the amount of Colorado River water conserved by implementation of the extraordinary conservation measures in the previous calendar year as defined in the approved Plan. This report must contain appropriate data that demonstrates the conservation yields achieved by each approved measure. Please submit this report, certifying the amount of conservation achieved in calendar year 2013, to Reclamation no later than February 28, 2014.

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

Sincerely,

Terrance J. Fulp, Ph.D.
Regional Director

cc: Ms. Tanya M. Trujillo
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203-1035

Ms. Jayne Harkins, P.E.
Executive Director
Colorado River Commission of Nevada
555 East Washington Avenue, Suite 3100
Las Vegas, NV 89101-1065

Ms. Sandra Fabritz-Whitney
Director
Arizona Department of Water Resources
3550 North Central Avenue
Phoenix, AZ 85012-2105

Attachment C

October 3, 2012 CVWD Letter Returning IID Groundwater Storage Water

Established in 1918 as a public agency

Coachella Valley Water District

Directors:
Peter Nelson, President - Div. 4
John P. Powell, Jr., Vice President - Div. 3
Patricia A. Larsan - Div. 2
Debi Livesay - Div. 5
Franz W. De Klotz - Div. 1

Officers:
Steven B. Robbins, General Manager-Chief Engineer
Julia Fernandez, Board Secretary

Redwine and Sherrill, Attorneys

October 3, 2012

File: 0043.1
00645.61

Kevin Kelley
General Manager
Imperial Irrigation District
Post Office Box 937
Imperial, CA 92251

Dear Mr. Kelley:

Subject: Return of IID Groundwater Storage Water

This serves to respond to your letter dated September 25, 2012 whereby the Imperial Irrigation District (IID) requests the return of groundwater storage water (IID water) within the Coachella Valley groundwater basin (CV Basin) in accordance with the Agreement for Storage of Groundwater (Agreement) dated October 10, 2003.

On May 25, 2010 (letter attached), IID requested the Coachella Valley Water District (CVWD) to store 500 acre-feet of IID water within the CV Basin in 2010. Although this request did not meet the timeline requirements of Article 2.2 (a) of the Agreement, CVWD agreed to receive and store 500 acre-feet of IID water in October 2010. Attached is our letter of February 22, 2011 memorializing this transaction and the current IID Groundwater Storage Account Summary.

Article 7.1 of the Agreement requires IID to request return of IID water by October 1 of the preceding year. Accordingly, CVWD will return 446 acre-feet in January 2013. CVWD will return the IID water through a reduction in consumptive use at Imperial Dam.

CVWD is willing to return the IID water in 2012 during the month of December. The exact amount to be returned shall be equal to the IID Storage Account Balance on January 1, 2012 minus the pro-rated Storage Loss per Article 6.3 of the Agreement.

This issue has been discussed with Vince Brooke (IID staff) but please let us know of your decision to have the IID water returned in 2012 or 2013 by November 1, 2012.

If you have any questions or require additional information, please contact Dan Charlton, Engineering Manager, at Extension 2316.

Yours very truly,

J.M. Barrett
Acting General Manager

MAILED
OCT 4 2012
CVWD

Enclosures/2/as

DC:ch/eng/irr/12/Oct/Return of IID Groundwater Storage Water

IID

A century of service.

www.iid.com

e/or DCharlton
JBarrett
MJohnson
IReyburn
SBigley

REC'D SEP 26 2012 CVWD

September 25, 2012

File 0043.1
0645.61
0643.5212 - TEL

Mr. Jim M. Barrett
Acting General Manager
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

Dear Mr. Barrett:

Subject: 2012–2013 Groundwater Storage Return Water Notice

In accordance with Section 7.1 of the October 10, 2003 *Agreement for Storage of Groundwater By and Between Coachella Valley Water District and the Imperial Irrigation District*, IID formally requests the 2013 withdrawal of the balance of the water delivered in 2010 to the Thomas Levy Recharge site for storage purposes. In addition, should capacity exist this year and pending approval of its inadvertent overrun and payback plan, IID may be interested in accelerating this withdrawal to 2012.

In 2010, IID delivered 525 acre-feet of its entitlement water to CVWD to cause 500 acre-feet of Colorado River water to be stored in its groundwater basins. According to the accounting methods defined in the agreement and CVWD's October 14, 2010 memo describing the IID groundwater storage charges, delivery loss (5 percent, one-time) and storage losses (5 percent annually), there should be a balance of 451 acre-feet of water available for return to IID in 2013. If the 2012 option is mutually agreeable, the stored water balance to be returned to IID prior to the end of the year would be 475 acre-feet.

As outlined in the agreement, IID anticipates the return of this water to be accomplished through a reduction in CVWD's consumptive use and exchange at the Imperial Dam diversion facilities.

We look forward to working out the operational details of this request with your staff. If you have any questions, please contact Vince Brooke at (760) 339-9277.

Sincerely,

Kevin E. Kelley
General Manager

IMPERIAL IRRIGATION DISTRICT
333 E. BARIONI BLVD. • P.O. BOX 937 • IMPERIAL, CA 92251
TELEPHONE (760) 339-9477 • FAX (760) 339-9392

Enclosure 1

COACHELLA VALLEY WATER DISTRICT

IID Groundwater Storage Account Summary

Date	Amount of IID Water Delivered to CVWD MP 0.2 Turnout (AF)	Canal Conveyance Losses (AF)	Net IID Water Stored in Basin as of October 1, 2010 (AF)	Cost of Water Stored in Basin ($)	Calendar Year 2010 Storage Losses (AF)*	Net IID Water Stored as of January 1, 2011 (AF)	Calendar Year 2011 Storage Losses (AF)	Net IID Water Stored as of January 1, 2012 (AF)	Calendar Year 2012 Storage Losses (AF)	Net IID Water Stored as of January 1, 2013 (AF)	Cumulative total IID Water in Basin
10/1/2010	525	25	500	$147,550.00							
1/1/2011					6	494					
1/1/2012							25	469			
1/1/2013									23	446	446
* Per Article 6.3 of the Agreement for Storage of Groundwater dated October 10, 2003											

Attachment D

December 3, 2007 USBR Letter re Transportation Loss Accounting for IID Fallowing Programs

United States Department of the Interior
BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

TAKE PRIDE IN AMERICA

BCOO-4230
WTR 4.03

DEC 0 3 2007

CERTIFIED – RETURN RECEIPT REQUESTED

Mr. Mike Campbell
Acting General Manager
Imperial Irrigation District
P.O. Box 937
Imperial, CA 92251-0937

Subject: Transportation Loss Accounting for Imperial Irrigation District (IID) Fallowing Programs

Dear Mr. Campbell:

The Colorado River Water Delivery Agreement (CRWDA), dated October 10, 2003, commits IID to a program of conservation designed to reduce IID's consumptive use of Colorado River water to allow for certain water transfers identified in Exhibit B to the CRWDA and to allow for payback of overruns occurring in 2001 and 2002 identified in Exhibit C to the CRWDA. IID implemented fallowing programs that began in 2003 to conserve water to satisfy IID's obligations under Exhibits B and C to the CRWDA.

Implementation of the IID fallowing programs has given rise to the question of an appropriate accounting methodology to determine the amount of Colorado River water conserved by these programs. Water not applied to the development of crops on fallowed lands is clearly water that is conserved and is therefore available to satisfy an Exhibit B transfer or to reduce an Exhibit C payback obligation. The method used to quantify the amount of water conserved at the field by the land fallowing programs has not been in dispute.

Because IID's fallowing programs result in reduced diversions at Imperial Dam, there are also reductions in transportation losses relating to the fallowed lands. Water not lost in transport from Imperial Dam to the farmers' headgates due to the fallowing programs is clearly water that is also conserved. Developing an appropriate methodology to account for the amount of water conserved by a reduction in transportation losses has been the subject of considerable study.

Since the fall of 2004, the Bureau of Reclamation and IID have engaged in a series of technical discussions related to the development of an accounting methodology to quantify the percentage

of reduction in transportation loss due to IID's fallowing programs. The accounting methodology Reclamation is adopting may be stated as follows:

Total Diversion to Field Loss Percentage (*TDFLP*) = Total loss from Field to River [Sta. 60 (*STA60'*) minus Delivered to Users (*DTU'*)] minus 137,120 acre-feet divided by Sta. 60 (*STA60'*)

$$TDFLP^{t} = (STA60^{t} - DTU^{t} - 137{,}120)/STA60^{t}$$

Where: *STA60'* is Sta. 60 (Column 4 on All American Canal (AAC) Accounting Sheet)
DTU' is Delivered To Users (Column 18 on AAC Accounting Sheet)
137,120 = Constant
t is the current Year

Conservation Amount at Colorado River (CA'_{river}) = Sum of Conserved amount at Fields ($\sum CA'_{field}$) divided by 1 minus last year's Total Diversion to Field Loss Percentage ($TDFLP^{t-1}$)

$$CA'_{river} = \sum CA'_{field}/(1 - TDFLP^{t-1})$$

The use of this methodology and these parameters to calculate the reductions in transportation losses will be reviewed by Reclamation and IID when significant new information arises that might affect transportation losses. For example, such new information might include physical changes to the canals, changes in operations, or changes in water flow measurement. Revisions to the methodology or parameters may be necessary to ensure a reliable scientific basis for computation of IID's transportation losses. Reclamation anticipates such revisions will occur infrequently and will be accomplished in consultation with IID.

The methodology Reclamation is now adopting to determine the quantity of water conserved as a result of reduced transportation losses will be used to determine the quantity of conserved water available for delivery to other users in accordance with CRWDA's Exhibit B or for payback to the Colorado River system in accordance with CRWDA's Exhibit C. This methodology will also increase the accuracy of the data compiled in the annual Colorado River Accounting and Water Use Reports (Accounting Reports) filed in *Arizona* v. *California*.

Reclamation will apply this methodology and these parameters to determine and report the quantity of water conserved by the use of land fallowing to meet the requirements of Exhibit B and Exhibit C to the CRWDA beginning in 2007. It is not Reclamation's usual practice to apply a change in accounting methodology retroactively. In this circumstance, however, Reclamation has indicated in recent Accounting Reports that the methodology was under review and that the values reported for Exhibit C might be changed accordingly. Reclamation will therefore also apply the revised accounting methodology to Exhibit C paybacks for the years 2004 through 2006.

Questions concerning Reclamation's transportation loss methodology for IID's fallowing programs should be addressed to Ms. Ruth Thayer at 702-293-8426

Sincerely,

Lorri Gray
Regional Director

cc: Mr. Gerald Zimmerman
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203-1035

Mr. George M. Caan
Director
Colorado River Commission of Nevada
555 E. Washington Avenue, Suite 3100
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Attachment E

IID Fallowing Program/Main Canal Seepage Interception System 2013 Spring Verification Report

Imperial Irrigation District
On-Farm Fallowing Program/
Main Canal Seepage Interception System

Spring 2013 Verification Report

In accordance with its approved plan for the creation of Extraordinary Conservation Intentionally Created Surplus (ICS), and its approved Inadvertent Overrun and Payback Policy (IOPP) payback plan, the Imperial Irrigation District (IID) is implementing two extraordinary conservation measures during calendar year 2012 to create Extraordinary Conservation ICS and to conserve water to meet its 2013 IOPP payback obligation: an On-Farm Fallowing Program (Fallowing Program) and a Main Canal Seepage Interception System (MCSIS). In accordance with IID's approved ICS and IOPP payback plans, and to ensure the conservation measures are being implemented, the Bureau of Reclamation conducts semi-annual verification inspections on randomly selected fields accounting for five percent of the total acreage enrolled in the Fallowing Program, and on five percent of the project pumps that are operated as part of the MCSIS. The first of these inspections occurred on May 7, 2013; the findings are documented in this verification report.

A: On-Farm Fallowing Program Verification

At the time of Reclamation's inspection, IID was implementing three different Fallowing Programs:

1) 2012-2013 Fallowing Program running from July 1, 2012 through June 30, 2013 with 31,859.5 acres enrolled;

2) 9 Month Fallowing Program running from October 1, 2012 through June 30, 2013 with 2,024.3 acres enrolled; and

3) Calendar Year 2013 Fallowing Program running from January 1, 2013 through December 31, 2013 with 2,679.8 acres enrolled.

Five percent of the total 36,563.6 acres participating in IID's Fallowing Programs was checked during the site verification inspection. Fourteen fields totaling 1,919.5 acres were inspected (see Attachment #1).

Observation: Green growth was viewed on some fields, which was attributed to localized rainfall, and in some cases may have been a result of the fallow start date occurring in the fall of 2012. This is particularly true for the fields enrolled in the Calendar Year and 9 Month Fallowing Programs. IID staff indicated that Fallowing 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.

1.

IID Field No. 203.
Reclamation Field Nos. 10640 & 10641.
Acres: 296.6.
Canal: North Date. Gate No. 61.

Participating in the 2012-2013 Fallowing Program.
Start Date: 07/01/2012
End Date: 06/30/2013

2.

Comments:
Photo No. 1- Pin lock through gate cap.
Photo No. 2- Field in the distance observed to be fallow.
Photo No. 3- Dead standing sudan.

Calendar year 2013 water use to date verified from IID records.

3.

4.

IID Field No. 272.
Reclamation Field No. 10420.
Acres: 116.8.
Canal: Rubber. Gate No. 19.

Participating in the 2012-2013 Fallowing Program.
Start Date: 01/01/2012
End Date: 06/30/2013

Comments:
Photo No. 4- Dirt tap to keep water from being delivered from alternate gate.
Photo No. 5- Bermuda ground cover
Photo No. 6- Pin lock through gate cap.

Calendar year 2013 water use to date verified from IID records.

5.

6.

7.

IID Field No. 51.
Reclamation Field Nos. 12687, 12743, 12736, 12737, 12814 & 12823.
Acres: 398.2.
Canal: East Highline. Gate No. 2.

Participating in the 2012-2013 Fallowing Program.
Start Date: 07/01/2012
End Date: 06/30/2013

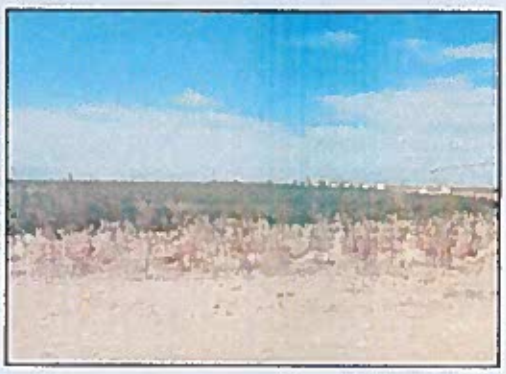
8.

Comments:
Photo No. 7- Locks on the pumps electrical panel.
Photo No. 8- Pumps and locked electrical panel.
Photo No. 9- Non-irrigated sudan.
Photo No. 10- Non-irrigated alfalfa.

Calendar year 2013 water use to date verified from IID records.

9.

10.



11.

IID Field No. 19.
Reclamation Field No. 11742.
Acres: 76.2.
Canal: Ash Lateral 5. Gate No. 163.

Participating in the 2012-2013 Fallowing Program.
Start Date: 06/01/2012
End Date: 06/30/2013

Comments:
Photo No. 11- No lock on gate, used to irrigate other fields.
Photo No. 12- Dirt tap to stop water flowing to specific field.
Photo No. 13- Fallow field.

Calendar year 2013 water use to date verified from IID records.

12.

13.

14.

IID Field No. 5.
Reclamation Field Nos. 12422 & 12482.
Acres: 139.4.
Canal: Dogwood Lateral 2. Gate No. 17.

Participating in the Calendar Year 2013 Fallowing Program.
Start Date: 11/01/2012
End Date: 12/31/2013

15.

Comments:
Photo No. 14- Pin lock through gate cap seen on right.
Photo No. 15- Pin lock through gate cap.
Photo No. 16- Non-irrigated bermuda fields.

Calendar year 2013 water use to date verified from IID records.

16.

17.

IID Field No. 12.
Reclamation Field No. 12197.
Acres: 66.7.
Canal: Foxglove. Gate No. 10.

Participating in the 9 Month Fallowing Program.
Start Date: 10/01/2012
End Date: 06/30/2013

Comments:
Photo No. 17- Pin lock through gate cap.
Photo No. 18- Non-irrigated alfalfa.

Calendar year 2013 water use to date verified from IID records.

18.

19.

IID Field No. 102.
Reclamation Field No. 10277 & 10337.
Acres: 168.4.
Canal: Fillaree. Gate No. 25.

Participating in the 2012-2013 Fallowing Program.
Start Date: 06/01/2012
End Date: 06/30/2013

20.

Comments:
Photo No. 19- Pin lock through gate cap.
Photo No. 20- Pin lock through gate cap.
Photo No. 21- Fallow field in distance.

Calendar year 2013 water use to date verified from IID records.

21.

22.

IID Field No. 29.
Reclamation Field No. 9608, 9609, 9658, 9661 & 9684.
Acres: 314.1.
Canal: Central Main. Gate No. 15.

Participating in the 2012-2013 Fallowing Program.
Start Date: 07/01/2012
End Date: 06/30/2013

23.

Comments:
Photo No. 22- Fallowed field behind concrete blocks.
Photo No. 23- Pin lock through gate cap.

Calendar year 2013 water use to date verified from IID records.

24.

IID Field No. 279.
Reclamation Field Nos. 8556, 8581 & 14730.
Acres: 143.3.
Canal: Spruce 4. Gate No. 90.

Participating in the 2012-2013 Fallowing Program
Start date: 07/01/2013
End date: 06/30/2013

25.

Comments:
Photo No. 24- Dirt bank pushed against the field turnouts.
Photo No. 25- Fallow field.

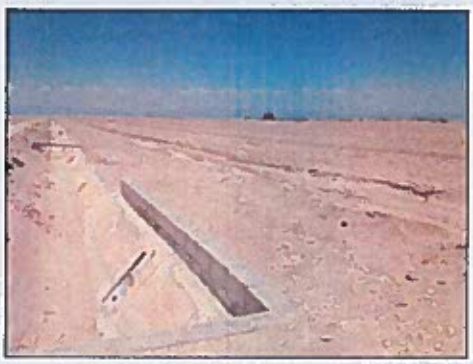
Calendar year 2013 water use to date verified from IID records.

26.

IID Field No. 288.
Reclamation Field No. 13751.
Acres: 28.1.
Canal: Trifolium Extension. Gate No. 39.

Participating in the 2012-2013 Fallowing Program
Start Date: 07/01/2012
End Date: 06/30/2013

27.



Comments:
Photo No. 26- Not an official dirt tap but the canal was full of sand.
Photo No. 27- Dirt bank pushed against field turnouts. Field furrowed.

Calendar year 2013 water use to date verified from IID records.

28.

IID Field No. 2.
Reclamation Field No. 7800.
Acres: 31.7.
Canal: C West. Gate No. 41.

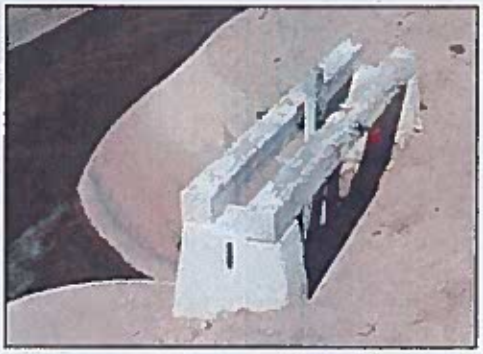
Participating in the Calendar Year 2013 Fallowing Program.
Start Date: 10/01/2012
End Date: 12/31/2013

29.

Comments:
Photo No. 28- Pin lock through gate cap.
Photo No. 29- Non-irrigated bermuda.

Calendar year 2013 water use to date verified from IID records.

30.



IID Field No. 18.
Reclamation Field No. 8502.
Acres: 35.2.
Canal: Malva 2. Gate No. 1.

Participating in the Calendar Year 2013 Fallowing Program.
Start Date: 10/01/2012
End Date: 12/31/2013

Comments:
Photo No. 30- Pin lock through gate cap.
Photo No. 31- Non-irrigated sudan.

Calendar year 2013 water use to date verified from IID records.

31.

32.

IID Field No. 173.
Reclamation Field No. 14979.
Acres: 62.
Canal: Moss. Gate No. 1.

Participating in the 2012-2013 Fallowing Program.
Start Date: 05/01/2012
End Date: 06/30/2013

Comments:
Photo No. 32- Fallow field
Photo No. 33- Pin lock through gate cap.

Calendar year 2013 water use to date verified from IID records.

33.

34.

IID Field No. 22.
Reclamation Field No. 9222.
Acres: 42.8.
Canal: Osage. Gate No. 8.

Participating in the 9 Month Fallowing Program.
Start Date: 10/01/2012
End Date: 06/30/2013

Comments:
Photo No. 34- Lock on jack gate.
Photo No. 35- Fallow field.

Calendar year 2013 water use to date verified from IID records

35.

Based on the information collected during the field verification inspection and documented in this report, it is determined that extraordinary conservation implementation for this period is:

X confirmed _____ unconfirmed

Inspector — Date: 7-31-13

Group Manager — Date: 7-31-13

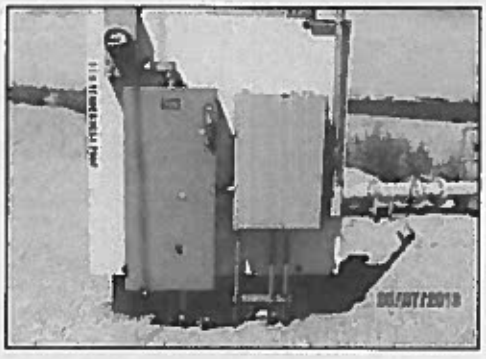
B: Main Canal Seepage Interception System Verification

IID's MCSIS project consists of 22 pump stations and appurtenant structures that, collectively, have a total recovery capacity of approximately 40,000 acre-feet annually. For each of the systems, intercepted seepage water pumped to the main canal is continuously metered to estimate the conserved water yield. Consumptive use reduction accounting occurs at IID's Imperial Dam diversion point (Station 60) to account for total losses from each pump system to Imperial Dam.

In 2013, the MCSIS is expected to pump approximately 30,000-35,000 acre-feet of seepage water. Of the 22 MCSIS pump stations in operation, two were randomly selected for inspection during the Spring 2013 verification inspection: the Verde & Mesa (VER) Seepage Interception System and the Moss (MOS) Seepage Interception System. Provisional data indicate that, for the period January 1, 2013 through March 31, 2013: 598 acre-feet of water were pumped from the two inspected seepage interception systems; and, collectively, approximately 6,776 acre-feet of water were pumped from the entire MCSIS (see Attachment #2).

Observation: Both of the Seepage Interception Systems were in operation during field inspection.

1.



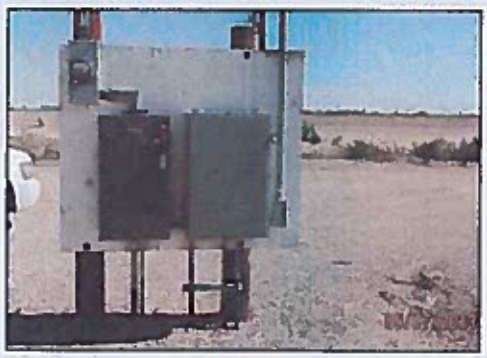
IID Location: All American Canal – Verde & Mesa.
Avg. flow rate per day: 5.7 acre-feet/day
Outlet pipe dia.: 16".

Photo No. 1. Pump Electrical Panel.
Photo No. 2. Seepage intercept pump.
Photo No. 3. Outlet pipe.

2.

3.

4.



IID Location: East Highline Canal – Moss.
Avg. flow rate per day: 1.8 acre-feet/day
Outlet pipe dia.: 10".

Photo No. 4. Pump electrical panel.
Photo No. 5. Seepage intercept pump.
Photo No. 6. Name plate on back of pump electrical panel.
Photo No. 7. Outlet pipe.

5.

6.

7.

Based on the information collected during the field verification inspection and documented in this report, it is determined that extraordinary conservation implementation for this period is:

X confirmed _____ unconfirmed

Inspector — 7-31-13 Date

Group Manager — 7-31-13 Date

Attachment 1

Imperial Irrigation District
2012-2013 Fallowing Program
Participant Summary

	Canal	Gate	FSA Acreage	Start Date	End Date
1	Acacia	27	36.2	07/01/12	06/30/13
2	Acacia	29	149.2	07/01/12	06/30/13
3	Acacia	81	48.6	07/01/12	06/30/13
4	Acacia	91	68.8	07/01/12	06/30/13
5	Acacia	91A	74.2	07/01/12	06/30/13
6	Alamitos	53	139.3	07/01/12	06/30/13
7	Alder	8	73.0	07/01/12	06/30/13
8	Alder	8A	72.9	07/01/12	06/30/13
9	Alder	22	108.3	07/01/12	06/30/13
10	Alder	89A	35.7	06/01/12	06/30/13
11	All American	30	131.7	07/01/12	06/30/13
12	Ash	39	140.6	02/01/12	06/30/13
13	Ash	61A	147.2	07/01/12	06/30/13
14	Ash	65	121.5	07/01/12	06/30/13
15	Ash	91	73.5	06/01/12	06/30/13
16	Ash Lateral 3	172	140.0	05/01/12	06/30/13
17	Ash Lateral 3	204	82.9	07/01/12	06/30/13
18	Ash Lateral 5	128	70.5	07/01/12	06/30/13
19	Ash Lateral 5	163	76.2	06/01/12	06/30/13
20	B	1	135.4	07/01/12	06/30/13
21	B	11	131.7	04/01/12	06/30/13
22	B	40	35.3	07/01/12	06/30/13
23	Birch	1	100.6	07/01/12	06/30/13
24	Birch	1A	137.8	07/01/12	06/30/13
25	Best	47	141.6	07/01/12	06/30/13
26	Best	106	37.1	07/01/12	06/30/13
27	C	5	144.8	05/01/12	06/30/13
28	C	29	140.5	05/01/12	06/30/13
29	Central Main	15	314.1	07/01/12	06/30/13
30	Central Main	16	127.3	07/01/12	06/30/13
31	Dahlia	10	72.7	06/01/12	06/30/13
32	Dahlia	21	56.3	07/01/12	06/30/13
33	Dahlia	23	21.7	06/01/12	06/30/13
34	Dahlia	79	67.2	04/01/12	06/30/13
35	Dandelion	7	84.8	05/01/12	06/30/13
36	Dogwood	F	142.6	07/01/12	06/30/13
37	Dogwood	34	69.3	07/01/12	06/30/13
38	Dogwood	56	72.4	07/01/12	06/30/13
39	Dogwood	57	35.8	06/01/12	06/30/13
40	Dogwood	60	74.2	06/01/12	06/30/13
41	Dogwood	60A	68.2	05/01/12	06/30/13
42	Dogwood	80	25.2	06/01/12	06/30/13
43	D West	38	35.6	07/01/12	06/30/13
44	D West	39	42.0	07/01/12	06/30/13
45	E	14	109.1	07/01/12	06/30/13
46	E	22	36.5	07/01/12	06/30/13

	Canal	Gate	FSA Acreage	Start Date	End Date
111	Foxglove	41	80.6	05/01/12	06/30/13
112	G	26	149.9	11/01/12	10/31/13
113	G	36	150.3	07/01/12	06/30/13
114	H	30	146.5	04/01/12	06/30/13
115	H	36	103.5	11/01/12	10/31/13
116	H	37	104.2	11/01/12	10/31/13
117	Hemlock	67	34.3	05/01/12	06/30/13
118	I	2	74.2	06/01/12	06/30/13
119	I	2	72.6	07/01/12	06/30/13
120	I	12	149.4	09/01/12	08/31/13
121	I	31A	141.1	05/01/12	06/30/13
122	I	32	71.9	07/01/12	06/30/13
123	I	33	71.6	07/01/12	06/30/13
124	I	34	148.9	07/01/12	06/30/13
125	I	36	149.7	04/01/12	06/30/13
126	J	4	138.5	07/01/12	06/30/13
127	J	6	70.7	07/01/12	06/30/13
128	J	7	75.2	07/01/12	06/30/13
129	J	12	146.4	03/01/12	06/30/13
130	J	14	149.9	05/01/12	06/30/13
131	J	34	163.3	05/01/12	06/30/13
132	J	37	135.3	05/01/12	06/30/13
133	K	24	144.8	07/01/12	06/30/13
134	K	28	71.9	07/01/12	06/30/13
135	L	6	145.7	06/01/12	06/30/13
136	L	8	71.2	06/01/12	06/30/13
137	L	11	73.4	07/01/12	06/30/13
138	L	12	88.7	04/01/12	06/30/13
139	L	19	146.6	05/01/12	06/30/13
140	L	27	146.1	11/01/12	10/31/13
141	L	31	72.7	07/01/12	06/30/13
142	L	32	141.3	07/01/12	06/30/13
143	Lavender	12	286.4	07/01/12	06/30/13
144	Lavender	14	92.8	07/01/12	06/30/13
145	Lilac	2	73.3	07/01/12	06/30/13
146	M	19	72.7	07/01/12	06/30/13
147	Magnolia	16A	80.4	07/01/12	06/30/13
148	Magnolia	21	147.6	07/01/12	06/30/13
149	Maple	B	78.6	05/01/12	06/30/13
150	Maple	22	144.2	06/01/12	06/30/13
151	Malva 1	0	41.1	07/01/12	06/30/13
152	Malva 1	3A	52.7	07/01/12	06/30/13
153	Malva 2	9	138.4	07/01/12	06/30/13
154	Malva 2	10	143.9	07/01/12	06/30/13
155	Malva 2	19	211.5	09/01/12	08/31/13
156	Marigold	7	133.9	07/01/12	06/30/13

	Canal	Gate	FSA Acreage	Start Date	End Date
221	Orient	1A	74.2	07/01/12	06/30/13
222	Orient	28	72.4	07/01/12	06/30/13
223	Orient	29	75.4	07/01/12	06/30/13
224	Orita	4	156.9	07/01/12	06/30/13
225	Osage	6	157.1	05/01/12	06/30/13
226	Oxalis	31	156.3	07/01/12	06/30/13
227	P	28	65.4	01/01/12	06/30/13
228	Palm	24	75.4	01/01/12	06/30/13
229	Palm	25	72.8	07/01/12	06/30/13
230	Palm	25A	74.9	07/01/12	06/30/13
231	Pampas	32	76.7	07/01/12	06/30/13
232	Pampas	33	73.6	07/01/12	06/30/13
233	Peach	26	77.0	06/01/12	06/30/13
234	Pear	25	145.6	07/01/12	06/30/13
235	Pear	42A	72.8	06/01/12	06/30/13
236	Pear	89	139.5	07/01/12	06/30/13
237	Pepper	28	149.5	01/01/12	06/30/13
238	Pepper	36	132.4	04/01/12	06/30/13
239	Pine	24	32.8	01/01/12	06/30/13
240	Pomelo	22	68.5	01/01/12	06/30/13
241	Pomelo	33	73.9	07/01/12	06/30/13
242	Q	6	73.1	11/01/12	10/31/13
243	Q	15	87.2	05/01/12	06/30/13
244	Redwood	36	169.8	07/01/12	06/30/13
245	Redwood	41	361.8	07/01/12	06/30/13
246	Redwood	65	301.4	06/01/12	06/30/13
247	Redwood	86	79.3	07/01/12	06/30/13
248	Redwood	94	89.9	06/01/12	06/30/13
249	Rockwood	30	98.1	07/01/12	06/30/13
250	Rockwood	39	142.8	07/01/12	06/30/13
251	Rockwood	40	151.8	07/01/12	06/30/13
252	Rockwood	41C	139.3	07/01/12	06/30/13
253	Rockwood	121	157.6	07/01/12	06/30/13
254	Rockwood	122	155.7	07/01/12	06/30/13
255	Rockwood	123	151.1	06/01/12	06/30/13
256	Rockwood	124	150.1	06/01/12	06/30/13
257	Rockwood	133A	76.0	07/01/12	06/30/13
258	Rockwood	135	75.1	07/01/12	06/30/13
259	Rockwood	137	71.4	07/01/12	06/30/13
260	Rockwood	150	65.3	07/01/12	06/30/13
261	Rockwood	151	111.3	07/01/12	06/30/13
262	Rockwood	154	68.4	07/01/12	06/30/13
263	Rockwood	166B	114.6	05/01/12	06/30/13
264	Rockwood	167	153.6	05/01/12	06/30/13
265	Rockwood	168	296.2	06/01/12	06/30/13
266	Rose	37A	68.6	01/01/12	06/30/13

Attachment 1

Imperial Irrigation District

2012-2013 Fallowing Program

Participant Summary

	Canal	Gate	FSA Acreage	Start Date	End Date
47	E	22A	109.1	07/01/12	06/30/13
48	E	33	142.6	10/01/12	09/30/13
49	E	41	148.0	05/01/12	06/30/13
50	E	43	147.6	05/01/12	06/30/13
51	East Highline	2	398.2	07/01/12	06/30/13
52	East Highline	12	70.3	06/01/12	06/30/13
53	East Highline	22	61.0	07/01/12	06/30/13
54	East Highline	22A	73.7	07/01/12	06/30/13
55	East Highline	46A	34.8	01/01/12	06/30/13
56	East Highline	46B	31.4	01/01/12	06/30/13
57	East Highline	46D	44.8	01/01/12	06/30/13
58	Ebony	5	65.9	07/01/12	06/30/13
59	Elder	54	36.0	06/01/12	06/30/13
60	Elder	63	127.2	08/01/12	06/30/13
61	Elder	71	123.0	07/01/12	06/30/13
62	Elder	105	90.3	07/01/12	06/30/13
63	Elder	125	102.8	07/01/12	06/30/13
64	Elm	1	32.1	07/01/12	06/30/13
65	Elm	38	74.2	07/01/12	06/30/13
66	Elm	49	144.4	06/01/12	06/30/13
67	Elm	54	75.0	07/01/12	06/30/13
68	Eucalyptus	73	41.5	06/01/12	06/30/13
69	Eucalyptus	122	137.9	06/01/12	06/30/13
70	Eucalyptus	125A	46.3	07/01/12	06/30/13
71	Eucalyptus	132	117.7	06/01/12	06/30/13
72	Eucalyptus	140	71.1	07/01/12	06/30/13
73	Eucalyptus	140A	72.3	07/01/12	06/30/13
74	Evergreen	14	33.0	06/01/12	06/30/13
75	F	30	72.7	06/01/12	06/30/13
76	F	35	107.6	07/01/12	06/30/13
77	F	37	108.8	07/01/12	06/30/13
78	Fern	49	107.4	05/01/12	06/30/13
79	Fern	62	52.0	05/01/12	06/30/13
80	Fern	71	27.3	07/01/12	06/30/13
81	Fern	78	99.8	07/01/12	06/30/13
82	Fern	79	96.1	07/01/12	06/30/13
83	Fern	86	90.3	06/01/12	06/30/13
84	Fern	89	102.1	06/01/12	06/30/13
85	Fig	10	105.4	07/01/12	06/30/13
86	Fig	34	72.8	05/01/12	06/30/13
87	Fig	35	104.6	05/01/12	06/30/13
88	Fillaree	3	21.7	06/01/12	06/30/13
89	Fillaree	3A	26.3	06/01/12	06/30/13
90	Fillaree	3B	23.9	06/01/12	06/30/13
91	Fillaree	3C	22.6	06/01/12	06/30/13

	Canal	Gate	FSA Acreage	Start Date	End Date
157	Marigold	8	65.6	06/01/12	06/30/13
158	Marigold	9	129.7	06/01/12	06/30/13
159	Marigold	9A	68.6	06/01/12	06/30/13
160	Marigold	15	173.2	07/01/12	06/30/13
161	Mayflower	4	35.1	07/01/12	06/30/13
162	Mayflower	6	35.7	07/01/12	06/30/13
163	Mayflower	9	76.3	07/01/12	06/30/13
164	Mayflower	10	149.2	07/01/12	06/30/13
165	Mayflower	13	78.6	08/01/12	06/30/13
166	Mesa Lateral 3	82	68.8	06/01/12	06/30/13
167	Mesquite	20	136.6	07/01/12	06/30/13
168	Mesquite	21	71.8	06/01/12	06/30/13
169	Moorhead	176	146.8	07/01/12	06/30/13
170	Moorhead	191	71.1	07/01/12	06/30/13
171	Moorhead	191C	140.1	06/01/12	06/30/13
172	Moorhead	195	74.7	07/01/12	06/30/13
173	Moss	1	62.0	05/01/12	06/30/13
174	Moss	2	70.1	07/01/12	06/30/13
175	Moss	10	146.9	07/01/12	06/30/13
176	Mulberry	3	106.4	07/01/12	06/30/13
177	Mulberry	5	68.1	07/01/12	06/30/13
178	Mulberry	16	64.3	06/01/12	06/30/13
179	Mullen	1	74.7	07/01/12	06/30/13
180	Mullen	8A	30.7	07/01/12	06/30/13
181	Mullen	21	146.3	07/01/12	06/30/13
182	Munyon	2	127.8	07/01/12	06/30/13
183	Munyon	3	37.1	07/01/12	06/30/13
184	Munyon	4A	39.9	07/01/12	06/30/13
185	Munyon	5	39.3	07/01/12	06/30/13
186	Myrtle	1A	14.8	08/01/12	06/30/13
187	Myrtle	23	134.7	07/01/12	06/30/13
188	N	7	115.2	09/01/12	08/31/13
189	N	8	72.3	06/01/12	06/30/13
190	N	14	141.5	04/01/12	06/30/13
191	N	20	87.3	08/01/12	06/30/13
192	N	29	73.9	07/01/12	06/30/13
193	Narcissus	1	73.4	07/01/12	06/30/13
194	Narcissus	6	73.2	06/01/12	06/30/13
195	Nettle	3	147.3	07/01/12	06/30/13
196	Nettle	4	149.7	06/01/12	06/30/13
197	Nettle	6	141.6	05/01/12	06/30/13
198	Newside	26	61.0	07/01/12	06/30/13
199	Newside	26A	16.3	06/01/12	06/30/13
200	Newside	29	49.2	06/01/12	06/30/13
201	Niland Lateral 1	106	141.2	09/01/12	08/31/13

	Canal	Gate	FSA Acreage	Start Date	End Date
267	Rose	70	55.8	01/01/12	06/30/13
268	Rose	79	63.2	07/01/12	06/30/13
269	Rubber	A	135.6	07/01/12	06/30/13
270	Rubber	8	150.3	08/01/12	06/30/13
271	Rubber	12	215.3	07/01/12	06/30/13
272	Rubber	19	116.8	01/01/12	06/30/13
273	Rubber	22A	71.6	07/01/12	06/30/13
274	Rubber	26	147.1	01/01/12	06/30/13
275	S	6	33.2	07/01/12	06/30/13
276	South Alamo	113	42.0	05/01/12	06/30/13
277	South Date	3	75.5	07/01/12	06/30/13
278	South Date	16	21.0	07/01/12	06/30/13
279	Spruce 4	90	143.3	07/01/12	06/30/13
280	Spruce 4	95	37.3	07/01/12	06/30/13
281	Standard	6	77.6	06/01/12	06/30/13
282	Standard	18 & 18A	216.0	07/01/12	06/30/13
283	T	1	77.1	01/01/12	06/30/13
284	Thistle Main	40	75.2	06/01/12	06/30/13
285	Thistle 5	21	35.1	05/01/12	06/30/13
286	Thistle 5	21A	36.0	05/01/12	06/30/13
287	Township	1	85.9	07/01/12	06/30/13
288	Trifolium Ext	39	28.1	07/01/12	06/30/13
289	Trifolium 5	87	71.0	07/01/12	06/30/13
290	Trifolium 5	87A	69.0	07/01/12	06/30/13
291	Trifolium 6	103A	72.3	07/01/12	06/30/13
292	Trifolium 6	106A	68.8	07/01/12	06/30/13
293	Trifolium 6	109	144.5	06/01/12	06/30/13
294	Trifolium 6	113	73.7	06/01/12	06/30/13
295	Trifolium 9	166	35.2	05/01/12	06/30/13
296	Trifolium 9	171	69.4	07/01/12	06/30/13
297	Trifolium 9	172	14.8	06/01/12	06/30/13
298	Trifolium 10	186	17.1	07/01/12	06/30/13
299	Trifolium 10	188	68.4	07/01/12	06/30/13
300	Trifolium 12	228A	70.6	06/01/12	06/30/13
301	Trifolium 12	230	67.2	07/01/12	06/30/13
302	Trifolium 12	231	69.9	01/01/12	06/30/13
303	Tuberose	140	73.8	07/01/12	06/30/13
304	Vail Lateral 2A	270	70.0	01/01/12	06/30/13
305	Vail Lateral 4	415A	34.2	06/01/12	06/30/13
306	W	3	72.7	01/01/12	06/30/13
307	West Sidemain	2A	36.1	01/01/12	06/30/13
308	West Sidemain	13	160.0	07/01/12	06/30/13
309	Wisteria	8	76.0	05/01/12	06/30/13
310	Wisteria	9	76.7	05/01/12	06/30/13
311	Wisteria	63	58.6	05/01/12	06/30/13

Attachment 1

Imperial Irrigation District
2012-2013 Fallowing Program
Participant Summary

	Canal	Gate	FSA Acreage	Start Date	End Date
92	Fillaree	3D	115.6	06/01/12	06/30/13
93	Fillaree	9A	92.5	06/01/12	06/30/13
94	Fillaree	10	90.4	06/01/12	06/30/13
95	Fillaree	10A	126.1	06/01/12	06/30/13
96	Fillaree	10C	18.1	06/01/12	06/30/13
97	Fillaree	10D	22.0	06/01/12	06/30/13
98	Fillaree	10E	188.4	07/01/12	06/30/13
99	Fillaree	10F	19.0	06/01/12	06/30/13
100	Fillaree	11	19.0	06/01/12	06/30/13
101	Fillaree	13A	128.3	06/01/12	06/30/13
102	Fillaree	25	168.4	06/01/12	06/30/13
103	Flax	5	44.9	05/01/12	06/30/13
104	Flax	8	114.6	06/01/12	06/30/13
105	Flax	10	70.1	06/01/12	06/30/13
106	Flax	11	67.3	05/01/12	06/30/13
107	Flax	20	40.6	07/01/12	06/30/13
108	Flax	22	25.3	05/01/12	06/30/13
109	Flax	24	15.7	07/01/12	06/30/13
110	Flax	26	221.3	07/01/12	06/30/13

	Canal	Gate	FSA Acreage	Start Date	End Date
202	Niland Lateral 1	112	61.5	04/01/12	06/30/13
203	North Date	61	296.6	07/01/12	06/30/13
204	North Date	74	47.9	07/01/12	06/30/13
205	Nutmeg	10A	151.2	06/01/12	06/30/13
206	Nutmeg	14	138.9	05/01/12	06/30/13
207	Nutmeg	17A	139.0	07/01/12	06/30/13
208	O	10	143.0	06/01/12	06/30/13
209	O	13 & 13A	72.1	06/01/12	06/30/13
210	O	16	101.4	06/01/12	06/30/13
211	Oak	9	149.4	07/01/12	06/30/13
212	Oak	23	145.3	07/01/12	06/30/13
213	Oak	24	145.9	07/01/12	06/30/13
214	Oat	4	133.4	04/01/12	06/30/13
215	Occident	2	147.4	07/01/12	06/30/13
216	Oleander	22	141.6	07/01/12	06/30/13
217	Oleander	23	133.2	07/01/12	06/30/13
218	Oleander Sidemain	2A	75.3	07/01/12	06/30/13
219	Orange	10	135.7	04/01/12	06/30/13
220	Orchid	36	69.3	07/01/12	06/30/13

	Canal	Gate	FSA Acreage	Start Date	End Date
312	Wisteria	68C	73.9	07/01/12	06/30/13
313	Wisteria	68D	52.5	07/01/12	06/30/13
314	Wisteria	73	77.4	06/01/12	06/30/13
315	Woodbine	41	79.9	05/01/12	06/30/13
316	Woodbine	42	78.7	05/01/12	06/30/13
317	Woodbine	45A	48.0	05/01/12	06/30/13
318	Woodbine 2	3	121.2	07/01/12	06/30/13
319	Woodbine 2	4	93.1	07/01/12	06/30/13
320	Woodbine 2	5A	73.0	07/01/12	06/30/13
321	Woodbine 2	5B	42.3	07/01/12	06/30/13
322	Woodbine 2	5C	68.9	05/01/12	06/30/13
323	Woodbine 2	5E	40.7	07/01/12	06/30/13
324	Woodbine 3	11	74.0	05/01/12	06/30/13
325	Woodbine 3	11A	78.1	05/01/12	06/30/13
326	Wormwood	11A	77.2	05/01/12	06/30/13
327	Wormwood	13	67.2	09/01/12	08/31/13
328	Wormwood	14	69.8	09/01/12	08/31/13
329	Wormwood	37	73.3	09/01/12	08/31/13
330	Wormwood	52	57.0	07/01/12	06/30/13
331	Wormwood	53	56.1	07/01/12	06/30/13

2012 -2013 Fallowing Program Total Acreage = 31,859.5
2012-2013 Fallowing Program Provisional Water Yield at-Farm (AF) = 178,079.5
2012-2013 Fallowing Program Provisional Water Yield at-River (AF) = 185,594.5
2012-2013 Fallowing Program Contracts Expense = $21,399,815

Attachment 1

Imperial Irrigation District
2013 Calendar Year Fallowing Program
Participant Summary

	Canal	Gate	FSA Acreage	Start Date	End Date
1	B	44	93.4	12/01/12	12/31/13
2	C West	41	31.7	10/01/12	12/31/13
3	Dogwood	14	67.3	11/01/12	12/31/13
4	Dogwood	15	96.2	11/01/12	12/31/13
5	Dogwood	17	139.4	11/01/12	12/31/13
6	Dogwood	43A	20.6	11/01/12	12/31/13
7	Elder	89	25.1	11/01/12	12/31/13
8	Eucalyptus	111	137.2	09/01/12	12/31/13
9	F	20	147.1	09/01/12	12/31/13
10	G	20	149.3	09/01/12	12/31/13
11	G	22	141.6	10/01/12	12/31/13
12	East Highline	1	78.7	09/01/12	12/31/13
13	J	8	144.8	07/01/12	12/31/13
14	J	10	154.8	07/01/12	12/31/13
15	K	8	71.6	10/01/12	12/31/13
16	Lavender	5B	142.3	09/01/12	12/31/13
17	Mayflower	18	144.5	07/01/12	12/31/13
18	Malva 2	1	35.2	10/01/12	12/31/13
19	Narcissus	15	74.3	09/01/12	12/31/13
20	Narcissus	15A	73.4	10/01/12	12/31/13
21	Narcissus	16	76.0	10/01/12	12/31/13
22	Narcissus	16A	69.3	09/01/12	12/31/13
23	Orient	4	149.9	10/01/12	12/31/13
24	Pine	28	72.3	07/01/12	12/31/13
25	Rockwood	173A	110.6	10/01/12	12/31/13
26	South Date	11	68.3	01/01/13	12/31/13
27	Standard	17	69.8	07/01/12	12/31/13
28	Standard	17A	71.9	07/01/12	12/31/13
29	Westside Main	60	23.2	10/01/12	12/31/13

2013 CY Fallowing Program Total Acreage = 2,679.8
2013 CY Fallowing Program Provisional Water Yield at-Farm (AF) = 17,494.6
2013 CY Fallowing Program Provisional Water Yield at-River (AF) = 18,122.7
2013 CY Fallowing Program Contracts Expense = $2,108,882

Attachment 1

Imperial Irrigation District
2012-2013 (9-Month) Fallowing Program
Participant Summary

	Canal	Gate	FSA Acreage	Start Date	End Date
1	Acacia	5	69.0	10/01/12	06/30/13
2	Acacia	6A	73.4	10/01/12	06/30/13
3	Acacia	8	72.5	10/01/12	06/30/13
4	Acacia	10	143.9	10/01/12	06/30/13
5	Alamitos	33	145.8	10/01/12	06/30/13
6	Alamitos	35	147.3	10/01/12	06/30/13
7	Best	116	48.0	10/01/12	06/30/13
8	Best	117	44.9	10/01/12	06/30/13
9	Eucalyptus	99	143.7	10/01/12	06/30/13
10	Eucalyptus	110	141.3	10/01/12	06/30/13
11	Forgetmenot	7	70.5	10/01/12	06/30/13
12	Foxglove	10	66.7	10/01/12	06/30/13
13	Foxglove	13	69.6	10/01/12	06/30/13
14	Foxglove	14	71.8	10/01/12	06/30/13
15	Foxglove	17	33.3	10/01/12	06/30/13
16	Foxglove	19	36.4	10/01/12	06/30/13
17	Foxglove	20	83.3	10/01/12	06/30/13
18	Foxglove	21	48.3	10/01/12	06/30/13
19	Magnolia	10	141.8	10/01/12	06/30/13
20	Malva 2	16	71.7	10/01/12	06/30/13
21	Mulberry	17	143.0	10/01/12	06/30/13
22	Osage	8	42.8	10/01/12	06/30/13
23	Pansy	2	80.9	10/01/12	06/30/13
24	Rubber	4	34.4	10/01/12	06/30/13

2012-2013 9 month Fallowing Program Total Acreage = 2,024.3
2012-2013 9-Month Fallowing Program Provisional Water Yield at-Farm (AF) = 8,976.8
2012-2013 9-Month Fallowing Program Provisional Water Yield at-River (AF) = 9,299.1
2012-2013 9-Month Fallowing Program Contracts Expense = $1,027,678

Imperial Irrigation District

Main Canal Seepage Interception Project

Quarterly Report of Volume Pumped - Q1 2013

PROVISIONAL DATA - SUBJECT TO CORRECTION

Volume pumped* (AF) as of 31 MAR 2013	
Site Code	Q1 2013
DIX2	16
DIX4	9
EHL14	154
HOL1	1,469
HOL2C	296
HOL6	625
HOL7	812
HOL	671
MAG	79
MES	26
ML1	136
ML2	41
MOS	149
MUL	164
OR1	166
OR	375
PAM	286
TOW	169
VER2	217
VER4	434
VER	449
WAR2	34
Total:	6,776

*All volumes are reported as measured at site and do not include conveyance losses.