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# The Colorado River: A Regional Resource and Lifeblood of the Imperial Valley

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## Colorado River Geography & Overview

- Named after its muddy, red color
- 1,450 miles long from Colorado to the Mexican border; encompassing seven states, two countries and 246,000 square mile watershed basin
- Lee's Ferry divides system into 2 basins (Upper and Lower)
  - *Upper Basin = Colorado, New Mexico, Utah, and Wyoming*
  - *Lower Basin = Arizona, California, and Nevada*
  - *Republic of Mexico*



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## Colorado River Water Users and Uses

- 4 million acres of farmland
- Serves nearly 30 million people
- 10 American Indian Tribes
- Environmental uses (including 4 endangered fish species)
- Hydropower facilities generate more than 12 billion kWh of low-cost power for 3 million people



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## Colorado River System Storage

- Lake Powell = 27 MAF
- Lake Mead = 28.5 MAF (4 years of storage)
- Total reservoir storage = 60 MAF

Annual yield was originally estimated at 17.5 MAF, then 15 MAF and is now thought to be closer to 12-14 MAF. The Colorado River has reached its delta only five times since 1983 and is considered one of the most regulated, and litigated, rivers.



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## Law of the River

*The Colorado River is managed and operated under numerous compacts, federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River." This collection of documents apportions the water and regulates the use and management of the Colorado River among the seven basin states and Mexico.*

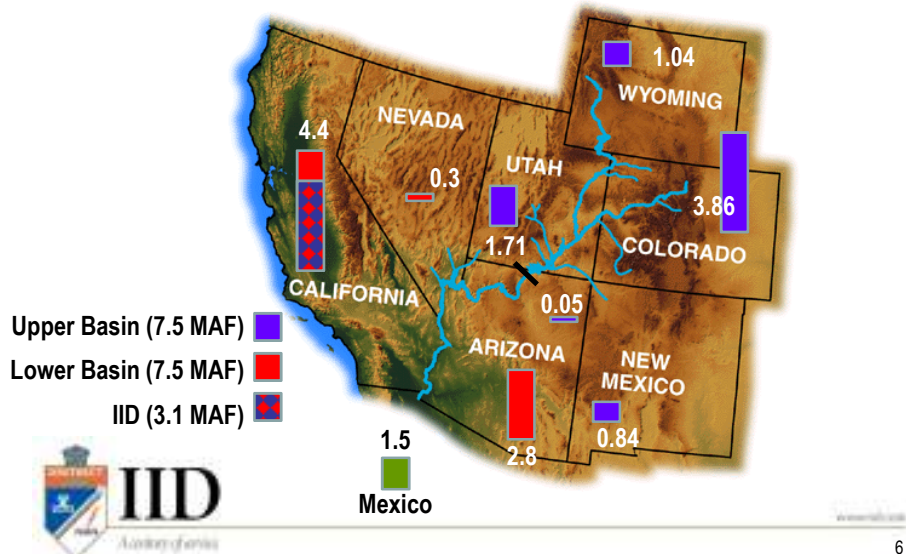
- Colorado River Compact of 1922
- Boulder Canyon Project Act of 1928
- Seven-Party Agreement of 1931
- Mexican Water Treaty of 1944
- Upper Colorado River Basin Compact of 1948
- Colorado River Storage Project Act of 1956
- Arizona v. California US Supreme court Decree (1964)
- Colorado River Basin Project Act (1968-CAP)
- Minute 242, IBWC
- Colorado River Basin Salinity Control Forum



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## Colorado River Basin State Entitlements



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## Priorities for California's 4.4 MAF Apportionment

1. PVID	}	3,850,000 AF
2. Yuma Project		
3. IID and CVWD		
4. MWD.....		550,000 AF
<b>= 4.4 MAF (California's apportionment)</b>		
5a. MWD.....		550,000 AF
5b. San Diego city, county (given to MWD).....		112,000 AF



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## Water Fact

1 acre-foot (AF) of water is the amount necessary to supply 1-2 households for one year

Equivalent to 326,000 gallons or a football field covered with one foot of water



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**“GET YOUR FACTS FIRST,  
AND THEN YOU CAN  
DISTORT THEM AS MUCH  
AS YOU PLEASE.”**

-MARK TWAIN



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## IID's Colorado River History

- **1901** – California Development Company diverts water to irrigate 100,000 acres in Imperial Valley
- **1905-07** – Gila River floods causing Colorado River to break and flow through Imperial Valley creating the Salton Sea
- **1911-1922** – IID formed to acquire properties of the bankrupt CDC and its Mexican subsidiary; expanded to include 13 mutual water companies that had developed and operated the distribution canals irrigation nearly 500,000 acres
- **1922** – Colorado River Compact signed; each Basin apportioned 7.5 MAF
- **1925** – MWD created



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## IID's Colorado River History

- **1928** – Boulder Canyon Project Act passed authorizing Hoover Dam and All-American Canal construction
- **1929** – California Limitation Act passes limiting California to 4.4 MAF
- **1931** – California Seven-Party Agreement signed; IID federal water delivery contract executed/Hoover Dam construction begins
- **1942** – All-American Canal completed, water diverted
- **1941** – MWD completes 242-mile long CR Aqueduct
- **1944** – US and Mexico sign treaty giving Mexico 1.5 MAF
- **1964** – Arizona v. California Supreme Court decree establishes IID's 2.6 MAF of present-perfected rights (PPR)

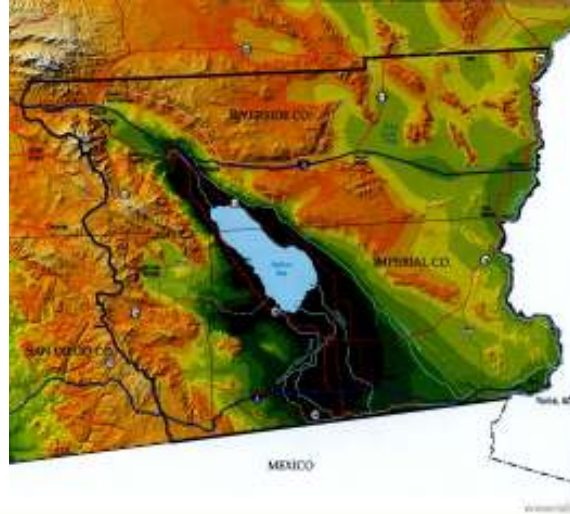


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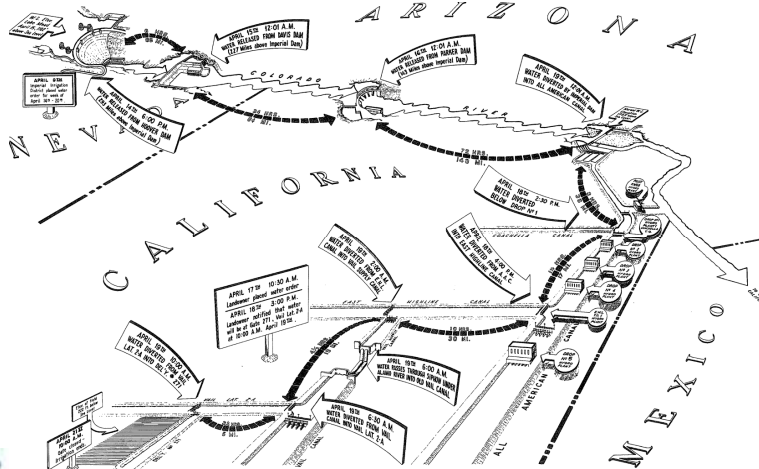
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# Imperial Valley, California



# Water Transportation - Hoover Dam to IID



## IID Colorado River Operations



- Imperial Dam facility operation
- AAC and Gila Canal Headings
- Senator Wash Reservoir
- Desilting Basins
- Mexico diversions



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## All-American Canal



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## SWRCB Water Appropriation Permit Locations



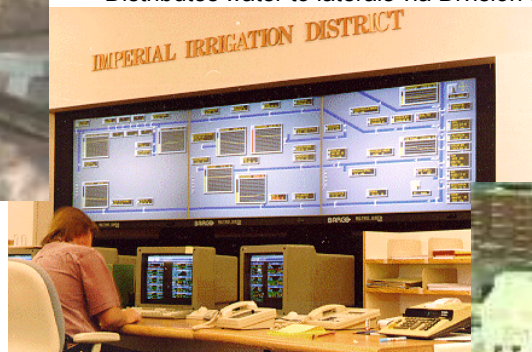
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## IID Main Canal Operations



- Water Control Center coordinates River operations with Imperial Valley operations
- Operates AAC and main canal systems
- Distributes water to laterals via Division offices



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## IID Irrigation and Drainage System

- 1,442 miles of laterals
- 148 miles of main canals
- 1,457 miles of surface drains



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## IID Service Area (2012)

- 1,061,637 gross acres within boundaries
- 520,307 total acreage receiving water
- 473,311 total farmable acreage
- 537,098 total acreage in crop (includes multiple cropped area)



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## Economic Impact of Imperial Valley Agriculture (2011)

•	Vegetable and Melon Crops	\$903,959,000
•	Field Crops	\$518,257,000
•	Livestock	\$403,880,000
•	Fruit and Nut Crops	\$64,237,000
•	Seed and Nursery Crops	\$68,877,000
•	Apiary (Honey, Wax, Pollination)	\$4,877,000
<b>Imperial Valley Commodity Total 2011</b>		<b>\$1,964,087,000</b>
<b>Imperial Valley Commodity Total 2010</b>		<b>\$1,598,534,000</b>



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## 2012 Top 13 Crops (Acres)



Alfalfa	155,355	28.9%
Wheat	89,866	16.7%
Sudangrass	64,457	12.0%
Bermuda Grass	52,114	9.7%
Lettuce	31,028	5.8%
Sugar Beets	25,222	4.7%
Kleingrass	14,778	2.8%
Broccoli	12,532	2.3%
Carrots	12,230	2.3%
Duck Ponds	10,364	1.9%
Onions	8,400	1.6%
Citrus	7,810	1.5%
Corn	7,629	1.4%
<b>Top 13 Crops Total Acres</b>	<b>491,785</b>	<b>91.6%</b>
<b>Total Acreage of Crops at IID</b>	<b>537,098</b>	<b>100.0%</b>



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## Permanent Crops

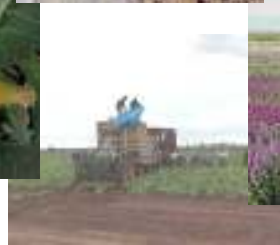
- Permanent crops make up less than 4% of the total acreage.
- Feedlots, Sheep, Asparagus, Citrus, Aviary (Bees), Duck Ponds



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## Garden Crops

- Garden Crops account for nearly 19% of total acreage.
- Carrots, Lettuce, Melons, Cauliflower, Onions, Flowers



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# Field Crops

- Field Crops account for over 77% of total acreage.
- Alfalfa, Bermuda Grass, Sudan Grass, Sugar Beets, Wheat, Oilseed (Canola), Sugar Cane



# Field Crops

- Field Crops account for nearly 77% of total acreage.
- Wheat, Oilseed (Canola), Sugar Cane



## Water Department Issues

- Water Conservation and Transfer Programs
  - *Fallowing vs Efficiency Conservation*
  - *Temporary Land Conversion Fallowing Policy*  
<http://www.iid.com/Modules/ShowDocument.aspx?documentid=5646>
- Environmental & Mitigation
- Equitable Distribution/Apportionment
- Urbanization and Industrial Growth
  - *Interim Water Supply Policy (IWSP)* <http://www.iid.com/index.aspx?page=141>
  - *Integrated Water Resources Management Plan (IID Plan)* <http://www.iid.com/index.aspx?page=120>
  - *Imperial Integrated Regional Water Management Plan (Regional Plan)* <http://imperialirwmp.org/>



## Priorities for California's 4.4 MAF Apportionment

- |   |   |                |   |              |
|---|---|----------------|---|--------------|
| 1. PVID   | } | (420,000 MAF*) | } | 3,850,000 AF |
| 2. Yuma Project                                   |   |                |   |              |
| 3. IID (3,100,000 MAF*) and CVWD (330,000 AF*)    |   |                |   |              |
| 4. MWD.....                                       |   |                |   | 550,000 AF   |
| <b>= 4.4 MAF (California's apportionment)</b>     |   |                |   |              |
| 5a. MWD.....                                      |   |                |   | 550,000 AF   |
| 5b. San Diego city, county<br>(given to MWD)..... |   |                |   | 112,000 AF   |



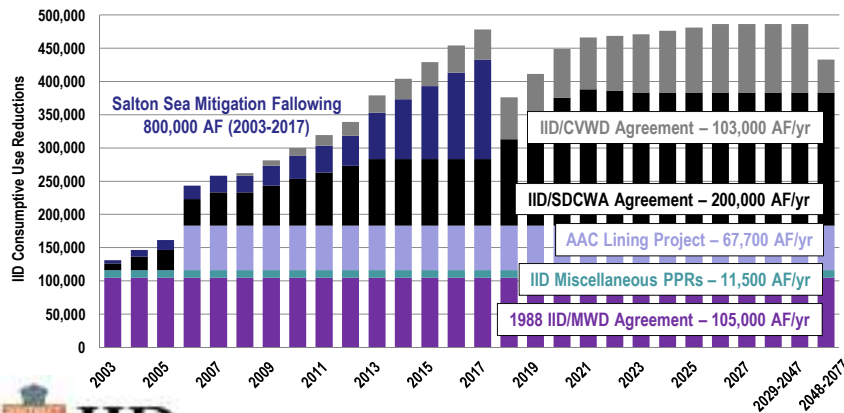
\* Agricultural water agency entitlements under the QSA; MWD is responsible for the PVID/Yuma Project over/under as PVID/YPRD is not a party to the QSA.

## The California Problem (pre-Quantification Settlement Agreement)

- California's basic annual apportionment is 4.4 maf, but it had been using 5.2 maf.
- The excess water used by California was legally diverted by MWD from Arizona and Nevada's unused apportionments, but there were concerns about California's dependence on these unused flows and how it might affect other states' future growth.
- In 1996 Arizona created the Arizona Water Banking Authority to fully use its apportionment. In 2001 Nevada signed an intra-state water storage agreement with Arizona.



## The California Solution: QSA Water Conservation & Transfer Programs



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## QSA/Water Transfer

- Resolution of issues regarding the reasonable and beneficial use of Colorado River water
- Quantification of IID's annual consumptive use at 3,100,000 af
- Authorize water conservation and transfer programs (200 kaf for SDCWA/103 kaf for CVWD) and All-American Canal Lining Project (67.7 kaf)
- Funding of environmental mitigation requirements, including a cap on IID costs and long-term environmental liability/risk associated with Salton Sea restoration
- Enactment of federal policies including the Interim Surplus Guidelines (ISG) and Inadvertent Overrun & Payback Policy (IOPP) and eventually Intentionally Created Surplus (ICS) and Interim Shortage and Coordinated Operations Guidelines



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## QSA Litigation

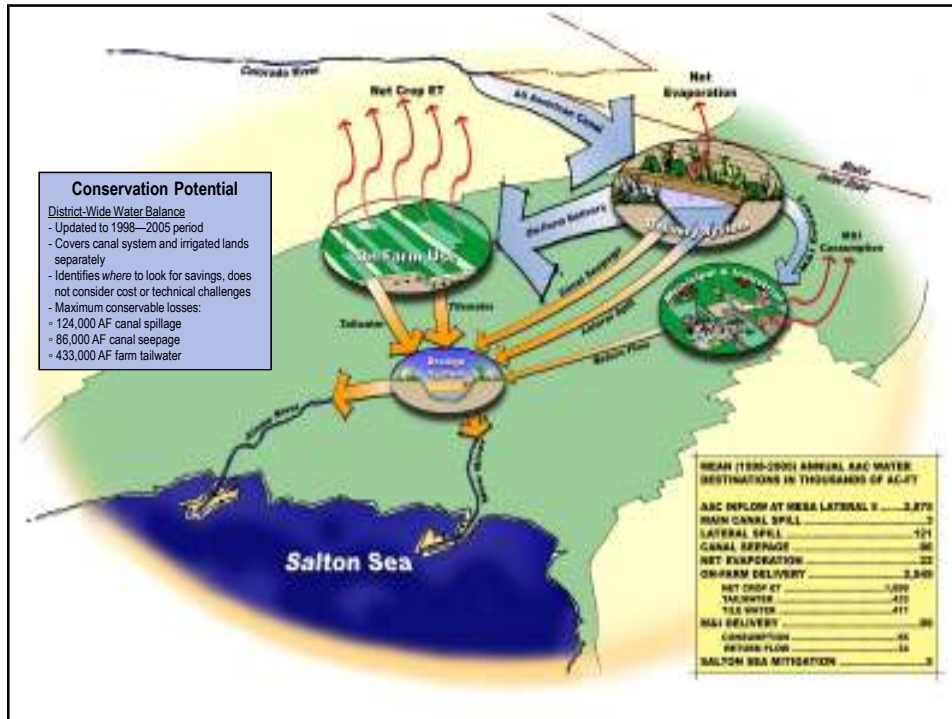
- Since 2003, eleven separate cases and a number of related cross-actions filed in various superior courts coordinated before a single judge in the Sacramento Superior Court
- In early 2010 the Court ruled the QSA JPA agreement, and 11 other QSA Agreements, were invalid due to one issue - the State's commitment to fund excess environmental mitigation costs was inconsistent with an appropriation under the California Constitution.
- In December, 2011, after a stay of the judgment was granted by the Court of Appeal, the Appellate Court reversed the judgment of invalidation and found the trial court erred in finding the QSA JPA Agreement unconstitutional and rejected all other grounds argued by the parties to affirm the trial court's judgment. The California Supreme Court denied review. The cases were then sent back to trial court on remand.
- The trial court heard all arguments in November, 2012.
- In June 2013 the Sacramento Superior Court validated the 12 QSA Agreements and rejected all other contested matters including allegations of CEQA inadequacy. The matter was promptly appealed by Imperial County, IC Air Pollution Control District and other parties.



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**Conservation Potential**  
**District-Wide Water Balance**  
 - Updated to 1998–2005 period  
 - Covers canal system and irrigated lands separately  
 - Identifies where to look for savings, does not consider cost or technical challenges  
 - Maximum conservable losses:  
 + 124,000 AF canal spillage  
 + 86,000 AF canal seepage  
 + 433,000 AF farm tailwater

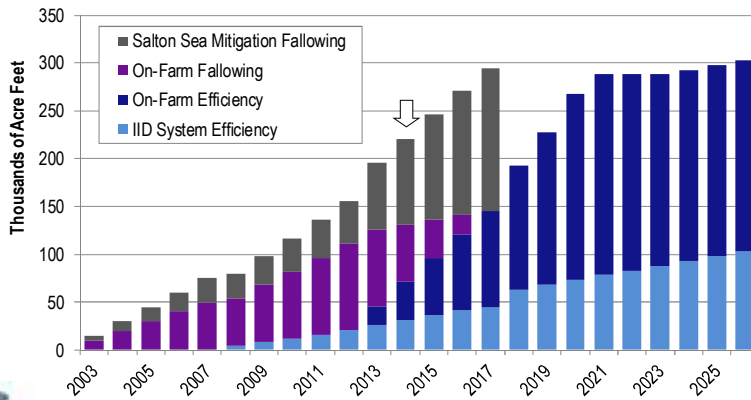
## Salton Sea

- Repository for agricultural drainage
- Heavily used by migratory waterfowl, including endangered species
- Salinity increasing every year
  - Has gone from fresh water to 30% saltier than the ocean
  - Without transfers, estimated to turn hypersaline in 7 – 22 years
  - With transfers, estimated to turn hypersaline 1 – 9 years earlier
  - Without human intervention, sea will eventually become “hypersaline,” and unable to support fish and therefore waterfowl



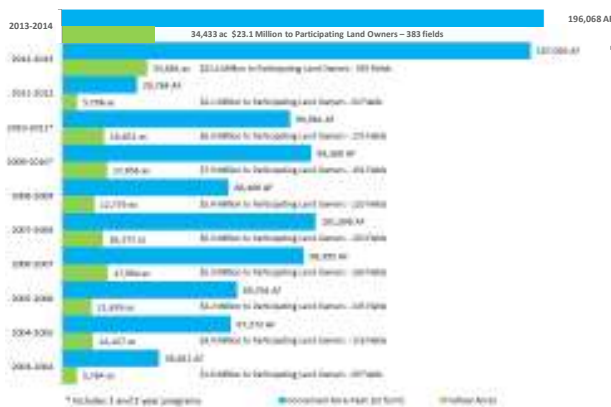
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# Conservation Methodology & Schedule



# IID Following Program Summary

(provisional data, subject to change and true-up)



## 19 Following Programs (12/1/03 – 12/31/13)

- \$86 million paid
- 1,937 contracted fields
- 195,992 followed acres
- 1,084,695 AF water conservation yield (at-farm)
- 1,125,086 AF water conservation yield (at-river)



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## Land Conversion and Fallowing

*Water Code Section § 1013 is QSA legislation that provides for a specific definition of fallowing for the duration of the QSA*

"[L]and fallowing conservation measures "means the generation of water to be made available for transfer or for environmental mitigation purposes by fallowing land or removing land from agricultural production regardless of whether the fallowing or removal from agricultural production is temporary or long-term, and regardless of whether it occurs in the course of normal and customary agricultural production . . . ."



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## IID's Temporary Land Conversion (aka "Solar") Fallowing Policy

- Adopted in May 2012, the TLCFP requires the participation of certain non-agricultural projects with lower water demands as deemed appropriate by IID as a condition of an IID water supply agreement.
- The conserved water use is legislatively limited to transfer and environmental purposes, however IID can offset this new source of conserved water with reduced agricultural fallowing in a like amount.
- No payment, however participation will preserve the landowner's future right to agricultural water service when the land is put back into crop production.



<http://www.iid.com/Modules/ShowDocument.aspx?documentid=5646>

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## System Conservation

- Constructed main canal seepage interception project
- Began installation of 22 automated lateral heading gates
- Initiating radio communication system (SCADA) upgrade
- Purchased spill monitoring equipment for 2014 installation
- Installing 195 farm turnout meters on four zanjero runs
- Re-evaluating the original conservation plan to prioritize the conservation potential of main canal lining, supplemental seepage recovery sites and additional spill interceptors



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## Efficiency Conservation

- **Near Term Actions**
  - Recommended by the Efficiency Conservation Definite Plan
  - Two MWAs approved by the Board of Directors on May 29, 2007 and August 21, 2007
  - System Conservation Program MWA approved by Board of Directors in 2011
- **Purpose**
  - Meet early efficiency conservation requirements
  - Prepare conservation programs for long term ramp-up schedule
- **Projects**
  - Main Canals Seepage Interception Project
  - On-Farm Efficiency Conservation
  - System Conservation – Integrated Information Management
  - Improved Measurement



## System Efficiency Conservation

### \$300 million System Conservation Plan

- Delivery system improvements
  - Upgrade 7 spill structures
  - Upgrade 2 main canal reservoirs (Sheldon and Singh)
  - 3 new main canal reservoirs
  - 35 mid-lateral reservoirs
  - 7 Lateral interties
  - 100 Non-leak gates
- Integrated Information Management
  - All lateral headings and spills measurement
  - Farm turn-out measurement upgrade (5,500+)
  - Zanjero computers in vehicle with real-time information and decision support



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## Main Canals Seepage Interception Program

- First component of IID's System Efficiency Conservation Program
- Estimated to conserve nearly 40,000 AF/yr when fully implemented
- Decades ago, surface drains were constructed parallel to IID's main canals to intercept seepage flow.
- The Main Canals Seepage Interception Project captures seepage water from the East Highline canal in the parallel surface drain and pumps it back to main canals.



Seepage water pumped from the EHL 14 Drain flows into the East Highline Canal



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## Project Overview

- IID budgeted \$7.7 million for the main canals seepage interceptor project
- Construction of 22 interception systems along three main canals completed in 2009.
- 2009 conservation yield = 21,561 AF



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## System Efficiency Conservation 2008-2009 Pilot Program

- Test zanjero use of computers in vehicles (2 runs)
  - Several runs recommend by zanjeros and operations staff
  - Two runs selected for pilot program (Holt and Orchid )
- Lateral headings, spills and farm turnouts measured on the two zanjero runs
  - Measurement devices (portable with transmitter) selected for farm turnouts
  - Three new heading gates and one spill gate selected and installation designed
  - SCADA and radio system additions designed for real-time reporting to zanjero computer
- Permanent on-farm turnout measurement devices on one lateral
  - Orange Lateral selected
  - All farm turnouts equipped with new measurement devices



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## On-Farm Conservation Program

- 2013-2014 pilot program implementation
- Incentivizes landowners and tenants to reduce water deliveries by improving on-farm water use efficiencies
- Conservation is measured relative to a ten-year historical baseline specific to proposed crop and field
- Payment of \$285 per acre-foot up to 4 acre-feet per acre
- Tenants can enter contracts with owners' consent



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## QSA Environmental Permits/Authorizations

- 2081 (CESA Incidental Take Permit)
- State Water Resources Control Board (SWRCB)
- Draft Habitat Conservation Plan (HCP)
- EIR/EIS – Mitigation Monitoring and Reporting Program (MMRP)
- Biological Opinion (BO)
- Natural Community Conservation Plan (NCCP) in progress



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## QSA Water Transfer Mitigation Activities

### Completed Projects

- *Drain and riparian vegetation analysis*
- *Desert vegetation analysis*
- *Baseline survey protocols*
- *Pupfish sampling protocols*
- *Selenium study protocols*
- *Burrowing owl pilot and population/distribution field study*
- *Phase I managed marsh*
- *Installed six Salton Sea air quality monitoring stations*

### In Progress/On-Going

- Salton Sea mitigation flows (2003-2017)
- Phase II managed marsh
- Water quality studies
- Pupfish refugium
- Selenium transport evaluation and toxicity study
- Salton Sea air quality pilot projects
- Covered species baseline surveys



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## Managed Marsh Complex

- Constructed and managed aquatic habitat intended to mitigate IID Drain O&M impacts to HCP-covered species.
- Primary benefit of the managed marsh is a secure long-term assurance in a changing regulatory environment.
- Intended to benefit many of 96 proposed covered species.
- HCP, EIR/EIS, State Board Order, CDFG 2081 permit.
- Mitigation commitment is three phases up to 959 acres: Phase I completed in 2009
  - ~ 618 ac open-water/fresh emergent marsh
  - ~ 341 ac riparian woodland/scrub



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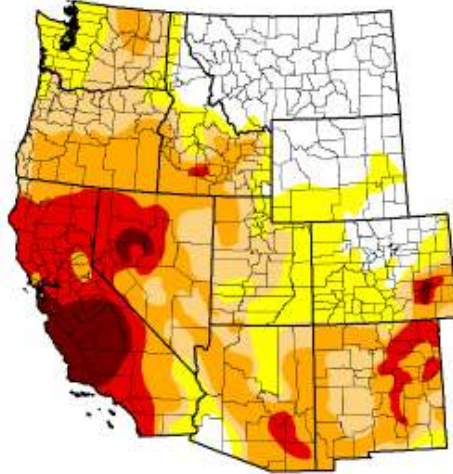
## US Drought Monitor (West) – February 25, 2014

Week	Date	Drought Condition (Percent area)					
		Normal	D0-D4	D1-D4	D2-D4	D3-D4	
Current	25/2/2014	22.41	77.59	89.67	48.54	19.67	4.72
Last Week	21/2/2014	21.76	78.24	59.88	40.17	14.89	3.38
3 Weeks Ago	14/2/2014	20.00	79.00	40.58	30.80	7.38	0.00
Start of Calendar Year	1/1/2014	22.38	77.62	51.44	31.11	7.70	0.00
Start of Water Year	1/7/2013	25.29	74.71	69.96	34.30	9.97	0.00
One Year Ago	25/2/2013	21.03	78.97	64.32	42.23	19.82	5.47

[View More Statistics](#)

Intensity:

- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought



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## Colorado River Basin Storage (as of February 24, 2014)

Current Storage	Percent Full	MAF	Elevation
Lake Powell	39%	9.607	3,576.07
Lake Mead	48%	12.485	1,108.25
Total System Storage*	48%	28.798	N/A

\*Total system storage was 32,537 maf or 55% this time last year.

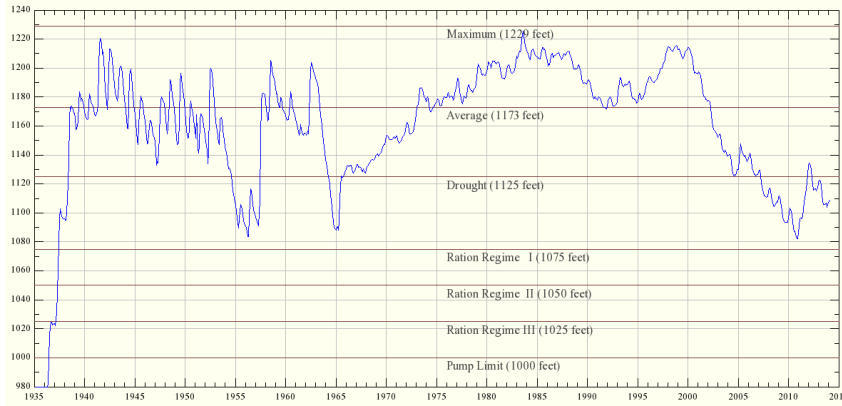


<http://www.usbr.gov/lc/region/g4000/weekly.pdf>

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# Lake Mead Water Levels (1935-present)

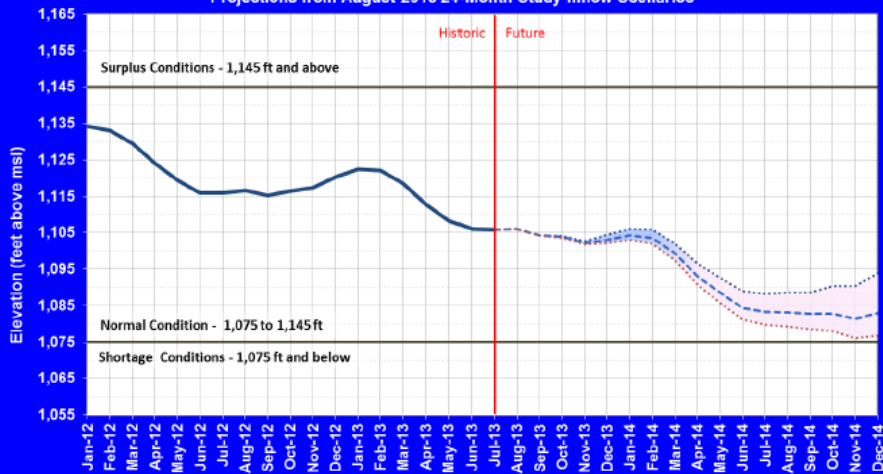


<http://www.usbr.gov/lc/region/g4000/hourly/mead-elv.html>

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## Lake Mead End of Month Elevations

Projections from August 2013 24-Month Study Inflow Scenarios



..... August 2013 Probable Maximum Inflow with Lake Powell Release of 7.48 maf Water Year 2014 and 11.86 maf in Water Year 2015  
 - - - August 2013 Most Probable Inflow with Lake Powell Release of 7.48 maf in Water Years 2014 and 2015  
 ..... August 2013 Probable Minimum Inflow with Lake Powell Release of 7.48 maf in Water Years 2014 and 2015  
 ——— Historical Elevations

RECLAMATION

## Lower Basin & Mexico Shortage Triggers

### Lower Division States & Mexico Shortage Triggers and Apportionment Volume Reductions (in acre-feet)

Lake Mead Elevation	CA	AZ	NV	Mexico*
1075'-1050'	0	320,000	13,000	50,000
1050'-1025'	0	400,000	17,000	70,000
Below 1025'	0	480,000	20,000	125,000



\* Mexico reductions are a result of Minute 319 and in effect for 2013-2017

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## 2007 Interim Guidelines Lake Mead Key Operational Elevations

FLOOD CONTROL OR QUANTIFIED SURPLUS ("70R"); no diversion limits	1220' (95% of capacity)
DOMESTIC SURPLUS; MWD=250 KAF, SNWA=100 KAF CAP=100 KAF	1200' (88% of capacity)
NORMAL OPERATIONS	1145' (61% of capacity)
400 KAF SHORTAGE; U.S. = 333 KAF; Arizona = 320 KAF, Nevada = 13 KAF	1075' (36% of capacity)
500 KAF SHORTAGE; U.S. = 417 KAF; Arizona = 400 KAF, Nevada = 17 KAF	1050' (29% of capacity)
600 KAF SHORTAGE U.S. = 500 KAF; Arizona = 480 KAF, Nevada = 20 KAF	1025' (23% of capacity)
RECONSULTATION (No agreement on additional shortages)	1000' (17% of capacity)
Minimum Mead	915' (0% of capacity)
Top of Dead Storage	895' (0% of capacity)



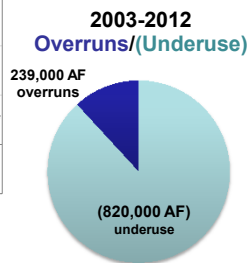
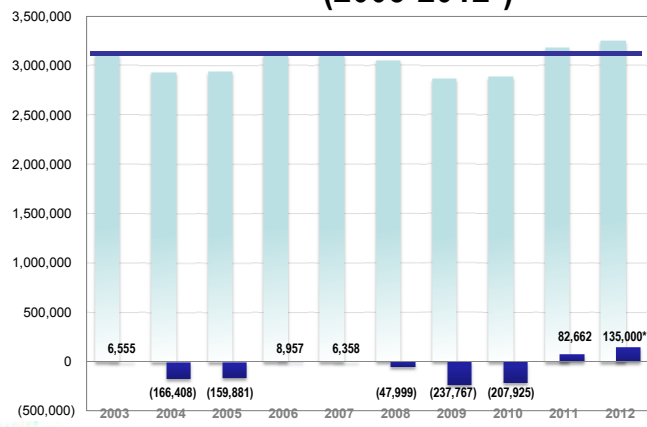
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## IID Shortage Impacts

- Existing operational guidelines do not provide for any shortage reductions to California or IID.
- The 1968 Colorado River Basin Project Act limits the amount of water Arizona can divert for CAP during a drought. In the even of a reduction of Colorado River supplies, California cannot be reduced before CAP as the most junior priority user.
- IID has senior water rights within California as well as 2.6 maf of present perfected rights (PPR).
- Suspension of inadvertent overrun policy (IOPP).



## IID Annual Water Use and Overruns/Underuse (2003-2012\*)



\*estimated

## IID Provisional Estimated Consumptive Uses (Acre-Feet)

	<u>2013</u>	<u>2014</u>
Priority 3 QSA Cap	3,100,000	3,100,000
Miscellaneous PPR's	(11,500)	(11,500)
1988 IID/MWD Efficiency Conservation Transfer	(105,000)	(105,000)
IID/SDCWA Conservation Transfer	(100,000)	(100,000)
Salton Sea Mitigation	(70,000)	(90,000)
All-American Canal Lining	(67,700)	(67,700)
IID/CVWD Efficiency Conservation Transfer	(26,000)	(31,000)
IOPP Payback	(62,000)	(170,000)
<i>Total IID Provisional Consumptive Use Estimates</i>	2,657,800	2,524,800



## IMPERIAL IRRIGATION DISTRICT WATER CONSERVATION COMMITTEE RESOLUTION

### Annual System of Water Apportionment

**NOW THEREFORE BE IT RESOLVED** that the Water Conservation Committee, appointed by the Imperial Irrigation District Board of Directors, recommends IID modify its existing Equitable Distribution Plan to convert it into a system of apportionment to more effectively manage its Colorado River supply each year. Moreover, this Committee requests the IID Board of Directors implement a 2013 apportionment as soon as possible, and direct staff to immediately communicate this intent to all IID water users while this Committee continues its efforts to develop implementing procedures and rules for the board's near-term consideration.

**PASSED AND ADOPTED** this 6<sup>th</sup> day of February, 2013.



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## 2013 Apportionment Implementation

- The Water Conservation Committee, facilitated by Mr. Dumars and Mr. Redmond, have recommended a May 1<sup>st</sup> start date and are finalizing revisions to the Equitable Distribution policy to incorporate the concepts outlined in the Farm Bureau's plan. These will be taken to the IID Board of Directors for action in April, 2013.
- There will likely be a proration of the provisional 2013 apportionment based on the January 1 – April 30 actual consumptive uses; each farmed acre will have the same apportionment for the balance of the calendar year (May 1 – December 31, 2013).
- 1<sup>st</sup> quarter deliveries are historically about 30% of IID's annual water use; that would leave a tentative balance of 70% from May 1<sup>st</sup> through the end of 2013.
- Apportionments will be managed at a Farm Unit level, and there will be an Agricultural Water Clearinghouse to move water from low water use fields to higher demand areas.
- IID is considering a mandatory fallowing component, for payback purposes, that would overlay onto the apportionment program and include a financial incentive.



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## Water Distribution Management Policy

Originally adopted in 2007, IID's Equitable Distribution Plan apportions water to various categories of use within IID including municipal, industrial, environmental, and agriculture. The EDP is designed as a water management policy to ensure IID does not exceed its annual consumptive use cap, but it also provides a planning tool for growers to maximize the agricultural potential associated with their annual apportionments.

- *In 2013, IID implemented a straight-line agricultural apportionment of 5.45 af/acre, prorated to 3.7 af/ac with a May 1<sup>st</sup> mid-year start date.*
- *In 2014, IID is implementing a hybrid agricultural apportionment ranging from 2.86 to 7.86 af/acre, calculated from a combination of historical use and straight-line methodologies.*



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## IID's QSA Scheduled Conservation Requirements (in Acre-Feet)

	2011	2012	2013	2014	2015	2016	2017	2018
IID/SDCWA Transfer	(80,000)	(90,000)	(100,000)	(100,000)	(100,000)	(100,000)	(100,000)	(130,000)
Salton Sea Mitigation	0 <sup>1</sup>	(15,182 <sup>1</sup> )	(70,000)	(90,000 <sup>2</sup> )	(110,000 <sup>2</sup> )	(130,000 <sup>2</sup> )	(150,000 <sup>2</sup> )	0
IID/CVWD Transfer	(16,000)	(21,000)	(26,000)	(31,000)	(36,000)	(41,000)	(45,000)	(63,000)
Payback			(62,000)	(156,000 <sup>3</sup> )	-	-	-	-
<b>Total IID Annual Conservation Obligation</b>	<b>(96,000)</b>	<b>(126,182)</b>	<b>(258,000)</b>	<b>(377,000)</b>	<b>(246,000)</b>	<b>(271,000)</b>	<b>(295,000)</b>	<b>(193,000)</b>

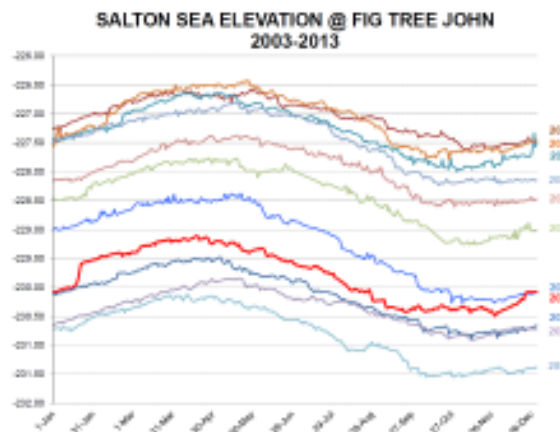
<sup>1</sup> reduced due to 2010 early mitigation delivery  
<sup>2</sup> subject to change if SWRCB petition is approved/adopted  
<sup>3</sup> estimated



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## The Salton Sea

- Repository for agricultural drainage
- Volume of 7.5 million acre-feet with annual inflow of 1.3 maf (including 4.5 million tons of salt)
- 30% saltier than the ocean and increasing
- ≈ 3¼' elevation decline since 2003, however this decline is not yet QSA related as IID is providing 15-years of replacement mitigation water



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## Regional Water Management Planning

In 2008 the IID Board of Directors adopted a Strategic Plan that included the development of an *Integrated Water Resources Management Plan*. In particular, the *IID Plan* was anticipating water demands related to renewable energy development and sought to ensure sufficient reliable water supplies were available to maintain current levels of service. The plan also aimed to address increased water demands by identifying additional water supply augmentation opportunities, demand management strategies and potential policies aimed at prioritizing water uses among the various types of water user.

<http://www.iid.com/index.aspx?page=120>



[www.iid.com](http://www.iid.com)

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## Imperial Region - Integrated Regional Water Management Plan

A draft *IID Plan* was completed in late 2009, after which the IID moved to further develop its plan into an *Integrated Regional Water Management Plan*. An *IRWMP* is a broader collaborative effort that involves all issues with a water nexus and meets California Department of Water Resources standards. The *IRWMP* was completed in early 2013 and adopted by multiple stakeholders: this allows prioritized projects to qualify for state grant funding opportunities.

[www.imperialirwmp.org](http://www.imperialirwmp.org)



[www.iid.com](http://www.iid.com)

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## IID Interim Water Supply Policy for New Non-Agricultural Projects (IWSP)

- In September 2009, the IID Board of Directors adopted an IWSP to satisfy current and near-term development water supply demands.
- The IWSP currently designates 25,000 acre-feet of water for new non-agricultural projects within IID's water service area.
- To date, only 1,809 acre-feet of IWSP water has been contracted for leaving a balance of over 23,000 acre-feet available for new projects.

<http://www.iid.com/Modules/ShowDocument.aspx?documentid=5395>



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## IID Interim Water Supply Policy

IWSP requirements include, in part, a data submittal outlining project water demands and relevant project information such as that required by a Water Supply Verification/Assessment, appropriate water use efficiency BMPs, and CEQA compliance.

The IWSP establishes two fees to fund projects identified in the IID IWRMP or other supplemental water supply projects:

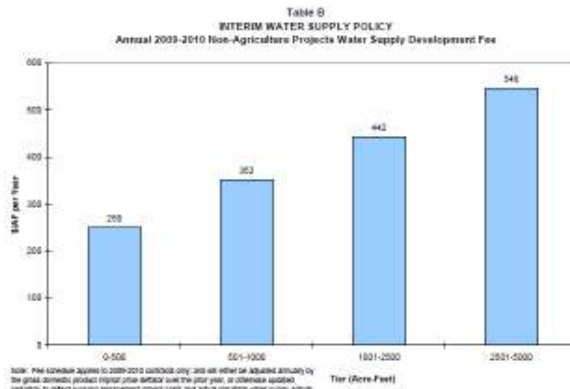
- 1) **Reservation Fee** – This provides for a 2-year “hold” (renewable twice for a total of up to six years) on the IWSP water supply for a project; billed upon completion and approval of the project's IWSP water supply agreement.
- 2) **Water Supply Development Fee** – Annual tiered pricing fee based on a project's contracted maximum use water supply; billed annually once operational water delivery has commenced.



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## IWSP for Non-Agricultural Projects



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## Non-Agricultural Water Supply

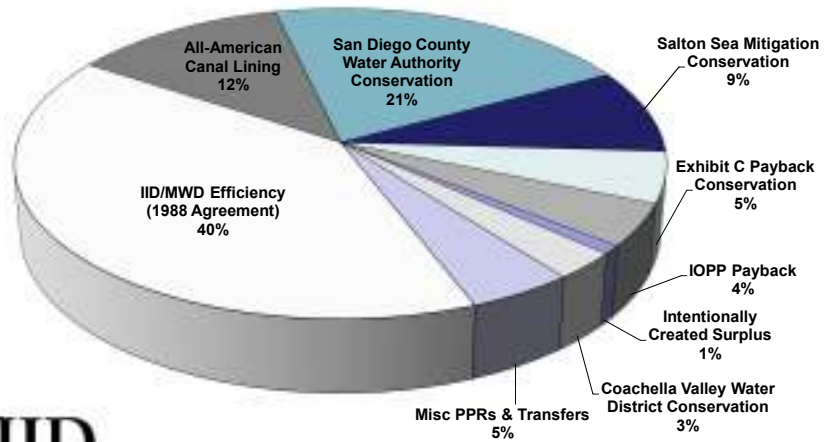
- IID Integrated Water Resources Management Plan (IID Plan)
  - <http://www.iid.com/index.aspx?page=120>
- Interim Water Supply Policy (IWSP)
  - <http://www.iid.com/Modules/ShowDocument.aspx?documentid=269>
- Imperial Integrated *Regional* Water Management Plan (Regional Plan)
  - <http://imperialirwmp.org>



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## IID's QSA Water Conservation & Transfer Summary (2003-2013; Total Conservation = 2,717,356 AF)



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