



# **WATER & QSA IMPLEMENTATION REPORT**

## **2017-2018**

**IMPERIAL IRRIGATION DISTRICT**



**IID**

*A century of service.*

# TABLE OF CONTENTS

## ANNUAL WATER REPORT 2017-2018

LETTER FROM THE WATER MANAGERS

2

IMPERIAL UNIT CANAL NETWORK

4

WATER OPERATIONS

6

WATER DEPARTMENT HISTORY

10

WATER RIGHTS

18

WATER POLICY

22

WATER CONSERVATION

26

GRANTS, PROJECTS AND MAINTENANCE PROGRAMS

36

WATER FACTS & FIGURES

46

## QSA IMPLEMENTATION REPORT 2017-2018

WATER TRANSFER & ACCOUNTING

62

IID ENVIRONMENTAL PAYBACK OBLIGATION

70

2017 WATER TRANSFER REVENUE & EXPENDITURE

71

2018 WATER TRANSFER REVENUE & EXPENDITURE

72

The image shows a concrete dam or spillway at sunset. The sun is low on the horizon, creating a bright orange and yellow glow that reflects on the water. The sky is a mix of orange, yellow, and light blue. In the foreground, there is a concrete structure with a curved spillway. A white horizontal beam is attached to the structure, with the word "EUCALYPTUS" written on it in black capital letters. A vertical pole is also visible, extending from the beam down into the water. The overall scene is a serene landscape of a water control structure during the golden hour.

# ANNUAL WATER REPORT 2017-2018

EUCALYPTUS

# LETTER FROM THE WATER MANAGERS



**Tina Shields**  
Water Manager

Imperial Irrigation District's Water Department continues to strive for an unsurpassed level of service to our water customers. Our IID Board and management team are steadfast in this commitment despite the many challenges and uncertainties facing the district. Some external issues faced by the Water Department during 2017 and 2018 include 1) the continuing defense of IID's water rights; 2) the conversion from fallowing to efficiency-based conservation measures and the ramp-up of water transfer obligations; 3) compliance with state and federal water quality programs; 4) future hydrologic water supply conditions and federal operational guidelines; and 5) responding to continued and evolving regulatory compliance and reporting requirements. In addition to these challenges, IID continues to seek a credible and enforceable roadmap for California's implementation of its environmental and restoration responsibilities in support of a smaller but sustainable Salton Sea.



**Mike Pacheco**  
Water Manager

The IID Water Department staff continues to implement water conservation programs, both with system and on-farm efficiency objectives, and related environmental mitigation and monitoring requirements. These programs have proven to be successful, enabling the district to meet its commitments under the nation's largest agriculture-to-urban water conservation and transfer agreement (the Quantification Settlement Agreement), and to do so without adverse impacts on the historic levels of agricultural production for the Imperial Valley. By constructing system-wide capital improvements and offering incentives for a broad variety of voluntary on-farm efficiency conservation measures, IID and its agricultural water users continue to create approximately 500,000 acre-feet per year of conserved water for use by its QSA funding partners and for IID storage purposes.

IID continues to have active participation and open dialogue with stakeholders from throughout the Colorado River basin, however our focus is firm on the continued protection of Imperial Valley's water rights, which are held in trust for uses within the district. We remain committed to providing the highest level of customer service to our water users, with reliable, efficient, and affordably priced water delivery services.

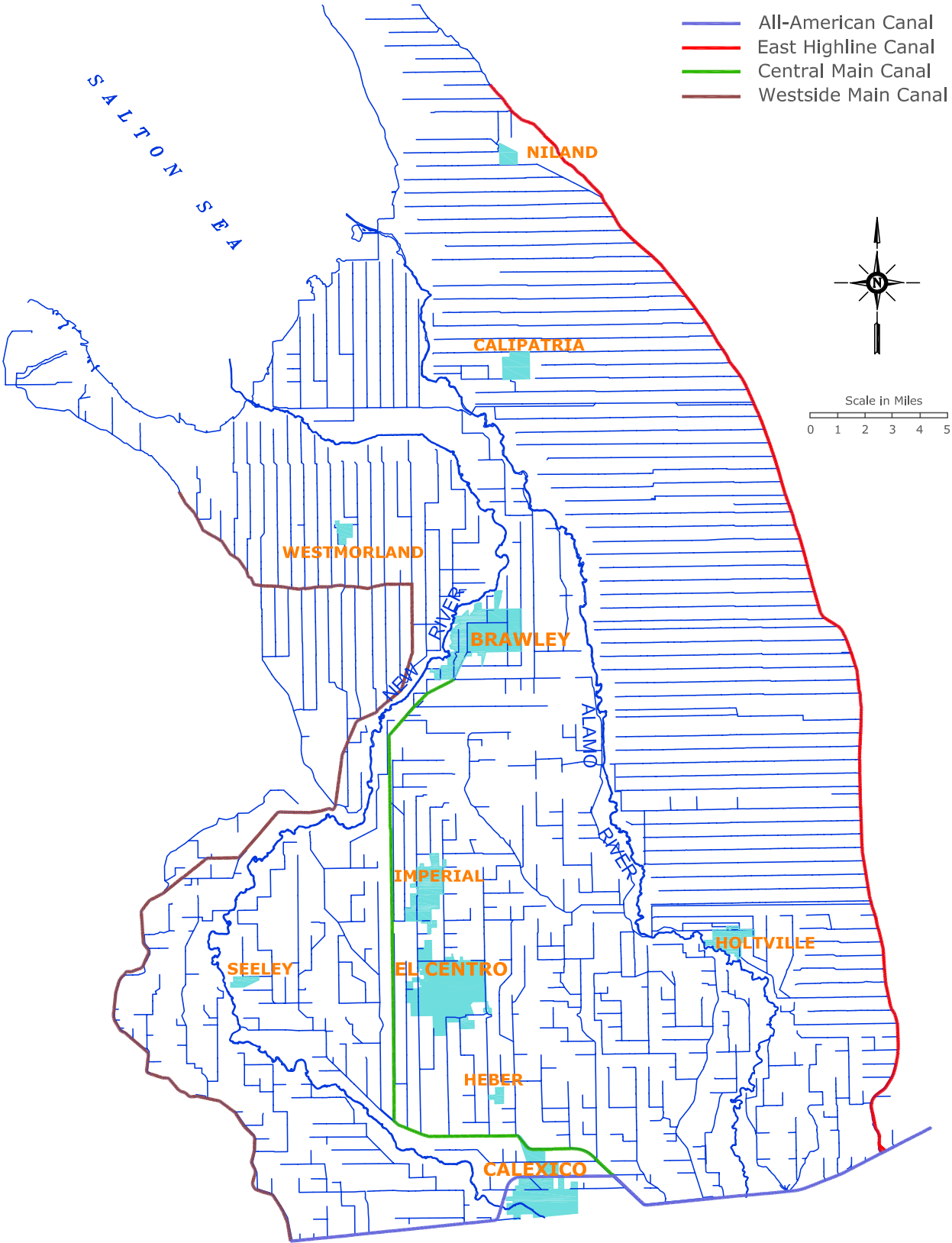


**TAMARACK**

# IMPERIAL UNIT CANAL NETWORK

## LEGEND

- All-American Canal
- East Highline Canal
- Central Main Canal
- Westside Main Canal





# WATER OPERATIONS

All water services and facilities are managed through the IID Water Department, under which there are two primary functions: support services and operations and maintenance. The department contains an administrative section and eight operational sections to carry out these functions. Five sections provide support services: Engineering Services, Water Resources & Grant Management, Environmental Mitigation, Farm Unit Programs and the System Control, Monitoring & Data Management sections. Operations and maintenance is carried out by the AAC/Dam O&M Section, Operational Reporting Section and by Northend and Southend Divisions.

## WATER ADMINISTRATION SECTION

The Water Administration section is responsible for the oversight of all operations, maintenance, engineering services, budgetary processes and accountability for the department. This section interfaces with the IID Board of Directors, the general manager and the public to insure effective communication and proper administration of policies and procedures. The Water Administration also insures that the sections and units within the Water Department are meeting goals and objectives established by, and for, the department in the IID Strategic Plan.

## ENGINEERING SERVICES SECTION

The Water Engineering Services Section is responsible for three primary functions:

1. Provide engineering services: management and administration, planning and preliminary engineering, design and drafting, survey investigations, inspection, project management, construction support (staking, engineering input, etc.) and construction. Services are provided to the department, other agencies, developers, special fund, miscellaneous power (primarily surveying investigations and drafting) and other capital maintenance and planning projects.
2. Manage the Capital Improvement Program, including the System Conservation Program, for the department. The section coordinate with other departments within IID, sections/units within the Water Department and with other agencies to develop and to manage the department's Capital Improvement Program.
3. Serve as a liaison for the district, providing protection of district interests through planning and commenting on technical and legal documents and/or issues involving policies, procedures, legal, real estate, engineering, financial, operation and maintenance, construction, water resources, etc.

## WATER RESOURCES & GRANT MANAGEMENT SECTION

This section is comprised of an Ag Water Management Unit, a Resource Planning and Management Unit and a Water Quality Unit. This section is responsible for activities involved in planning and managing water resource programs of interest to the district, directing activities involved in performing professional work and implementing special projects related to the district water resource, planning and grant management. This section provides standards and guidelines for diverse water resources and servers as a key liaison between agricultural water users and district programs that relate to water limitations, irrigation standards, water quality issues and regional water use coordination. Water Resources and Grant Management is responsible for compliance of several state water quality mandates including the Safe Drinking Water Program, total maximum daily load (TMDL) agricultural water runoff target, and represents the district in regional water use coordination efforts, including coordination with state integrated regional water resource plans.

## ENVIRONMENTAL MITIGATION SECTION

This section is comprised of Environmental Mitigation and Biological Control units and is responsible for carrying out the district's duties related to the implementation of environmental mitigation measures for the Quantification Settlement Agreement and water transfers. It performs wildlife species monitoring and conservation activities, managed marsh complex construction, operation and maintenance, desert pupfish refugium construction and Salton Sea air quality mitigation. This section is responsible for compliance with QSA EIR/EIS, biological opinion, ITP 2081 and other environmental permits for various projects. Environmental Mitigation is also responsible for the biological control of invasive species within the IID canal system by use of grown and raised grass carp.



## FARM UNIT PROGRAMS SECTION

The Farm Unit Programs Section incorporates all water conservation programs and is responsible for long-term implementation of water conservation and transfer programs between IID and other agencies. Areas of responsibility include: the following, apportionment, agricultural water clearinghouse and on-farm conservation programs. Staff sets program objectives, develops budgets, provides short and long term planning and implements the work developed for each individual program. Staff provides regular program updates to the IID Board of Directors as well as stakeholder agencies regarding budget, expenditures and program schedules and objectives.

## SYSTEM CONTROL, MONITORING & DATA MANAGEMENT SECTION

The System Control, Monitoring and Data Management Section maintains the automated control and monitoring sites distributed throughout the irrigation system. This takes approximately 80 percent of the section's budget resource. The remaining 20 percent of the budget is used to conduct flow measurement and carry out data management tasks using the SCADA, WIS, Truepoint, GIS and Decision Support systems.

## ALL-AMERICAN CANAL/DAM OPERATION & MAINTENANCE SECTION

The Water Department AAC/Dam Operations and Maintenance Section transports irrigation, industrial and municipal water through the main canals for scheduled delivery. This section also plans, organizes, directs, prioritizes, and implements comprehensive strategies and programs for the construction, maintenance, and repair of Senator Wash, Imperial Dam and related structures.

## WATER DISPATCH SECTION

The Water Dispatch Section estimates and orders Colorado River water for Imperial Valley irrigation distribution. The section makes the irrigation water available to the water divisions for delivery to farmland and cities by routing the available irrigation water through the main canal system using IID's SCADA system. The section does quality control of water data and creates water analysis reports as requested. The section does final All-American Canal water accounting from AAC Station 1117 to AAC Station 4242, which becomes part of USBR Colorado River accounting.

## NORTHEND & SOUTHEND DIVISIONS SECTIONS

These sections are primarily responsible for delivering irrigation water to customers in the most economical and efficient manner. The sections are also responsible for the district's irrigation and drainage systems, including the maintenance of open channel concrete/earthen canals, pipeline canals, water deliveries and open channel drains. The offices interface with water customers involving water orders, water card processes, service pipes and small acreage accounts.



### Administration

5,425+ Farm accounts  
2,500,000+ AFY of water used on average in Imperial Valley  
500,000 AFY of water conserved on average



### Operation & Maintenance

425,000+ Annual irrigated acres  
1,668 Miles of canals  
1,456 Miles of Drains



### Support Services

\$12 Million in Local Entity mitigation funds disbursed  
1,000 Acres of Dust Control Pilot Projects at the Salton Sea



# WATER DEPARTMENT HISTORY

## DISTRICT FORMATION & OPERATION

IID was formed in 1911, under the California Irrigation District Act, and subsequently acquired properties of the bankrupt California Development Company and its Mexican subsidiary to import and distribute raw Colorado River water via the binational water channel consisting of the Alamo Canal and the Alamo River. Irrigated acreage in the Imperial Valley was approximately 220,000 acres in 1911. By 1922, IID had acquired 13 mutual water companies, which had developed and operated distribution canals in the Imperial Valley and by the mid-1920s, IID was delivering water to nearly 500,000 acres. The All-American Canal was constructed in 1942 to divert water at Imperial Dam on the Colorado River through an alternative route without a Mexico footprint. IID ended its 50-year operation in Mexico by selling its holdings to the Mexican government in 1961.

IID was delivering water to 520,307 acres in the Imperial Valley in 2018. Approximately 96 percent of water deliveries were used for agriculture purposes and 4 percent were delivered to six cities and two special districts and a private water company that treat the raw water to safe drinking water standards prior to selling it to their residential and commercial clients. As a public entity, IID does not make a profit from the sale of water. All benefits stay in the local area in the form of lower rates and progressive services to meet local needs. As such, IID has a special commitment to innovation and the wise use of its resources.

## WATER USE EFFICIENCY & CONSERVATION

Improving water use efficiency in close collaboration with the agricultural industry has been an important goal for IID and Imperial Valley farming community. IID and Imperial Valley growers have worked aggressively to implement system-wide and on-farm water conservation measures since the 1940s. During the 1980s, new water conservation projects and programs were initiated, including tailwater return, system automation and irrigation management programs that continue to the present. Subsequent statewide water conservation efforts have also resulted in collaborative, regional and local water conservation initiatives.

The 1988 agreement between the IID and the Metropolitan Water District identified a 15-Point Water Conservation Program to satisfy the MWD transfer amount (fixed at 105,000 AFY) as agreed under the terms of the Second Amendment to the approved agreement among IID, MWD, Palo Verde Irrigation District and Coachella Valley Water District. In 1998, IID and the San Diego County Water Authority also entered into a long-term conservation and water transfer agreement, which benefits all Californians. In December 2002, the State Water Resources Control Board approved the transfer. Collectively, the 2003 QSA water conservation efforts specified 487,200 AFY of water would need to be conserved by the IID, by 2026. IID continues to successfully meet its water transfer commitments.

While many conservation projects have evolved over the years, some have been satisfactorily completed and others have resulted in some project/program elimination due to low conservation yields. IID water conservation commitments are being satisfied through both, on-farm and system conservation. The following projects and programs were in place in 2017 and 2018:

- *On-Farm conservation program (incentives for on-farm efficiencies)*
- *All-American Canal Seepage Recovery Projects*
- *East Highline Seepage Recovery Projects*
- *Concrete Lining of Key Canals and Laterals (complete)*
- *Irrigation Scheduling and 12-Hour Water Delivery Program*
- *Tailwater Education Program*
- *Irrigation Water Management Evaluation Program*
- *Systemwide Conservation Monitoring and Verification Program*
- *System Interceptor Projects*
- *Operational Reservoirs*
- *System Discharge Reduction Program (communication/automation)*
- *Lateral Intertie Projects*
- *Main Canal Seepage Recovery Program*



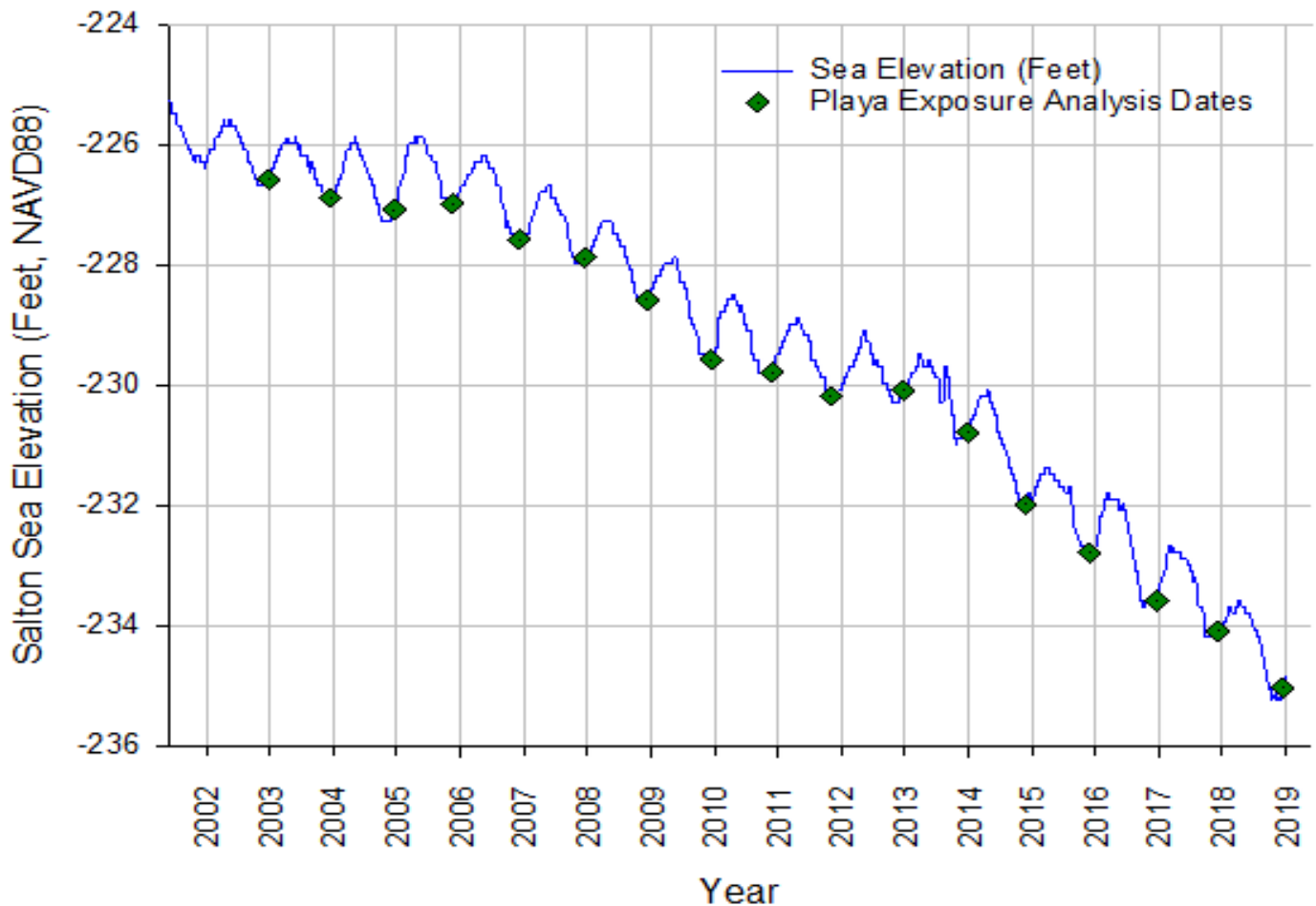
## SALTON SEA FORMATION & PRESENT DAY CHALLENGES

The Salton Sink is a closed interior basin whose lowest point is about 278 feet below mean sea level that has long existed within the Salton Trough in the Coachella and Imperial Valleys. The prehistoric Lake Cahuilla existed in the basin from about 20,500 to 3,000 years ago when the Colorado River flow headed northwest into the Salton Sink instead of south into the Gulf of California. Archaeological records indicate that the Colorado River actually headed northwest into the Salton Sink, or Salton Trough, more often than it headed south into the Gulf of California.

Lake Cahuilla dried up some 300 years ago. The present day Salton Sea was formed in 1905, when Colorado River water flowed through a break in an irrigation diversion structure that had been constructed along the US/Mexican border to divert the river's flow to the Alamo Canal for irrigation of agricultural lands in the Imperial Valley. Until that break was repaired in 1907, the uncontrolled diversion of river water drained into the Salton Sink, creating the Salton Sea.

Today, IID operates and maintains an agricultural drainage system consisting of more than 1,450 miles of surface drains that ultimately flow into the Salton Sea. Highly contaminated waters from Mexico (five-year average of 150,000 acre-feet annually) also enter the Imperial Valley via the New River, and ultimately discharge into the Salton Sea. In the 1980s and 1990s inflows to the Salton Sea were approximately 1.2 to 1.3 million acre-feet annually. As farmers become more efficient with the use of irrigation water, coupled with the water transfers, the inflows to the Sea have decreased. Current hydrologic projections suggest that after 2020, the lake will receive approximately 700,000 and 800,000 acre-feet of inflow annually and devastate the Sea. In response, IID has implemented a number of programs to address discharge quality, mitigation of exposed playa and ecosystem preservation.

SALTON SEA ELEVATION AND PLAYA EXPOSURE SATELLITE IMAGERY ANALYSIS DATA



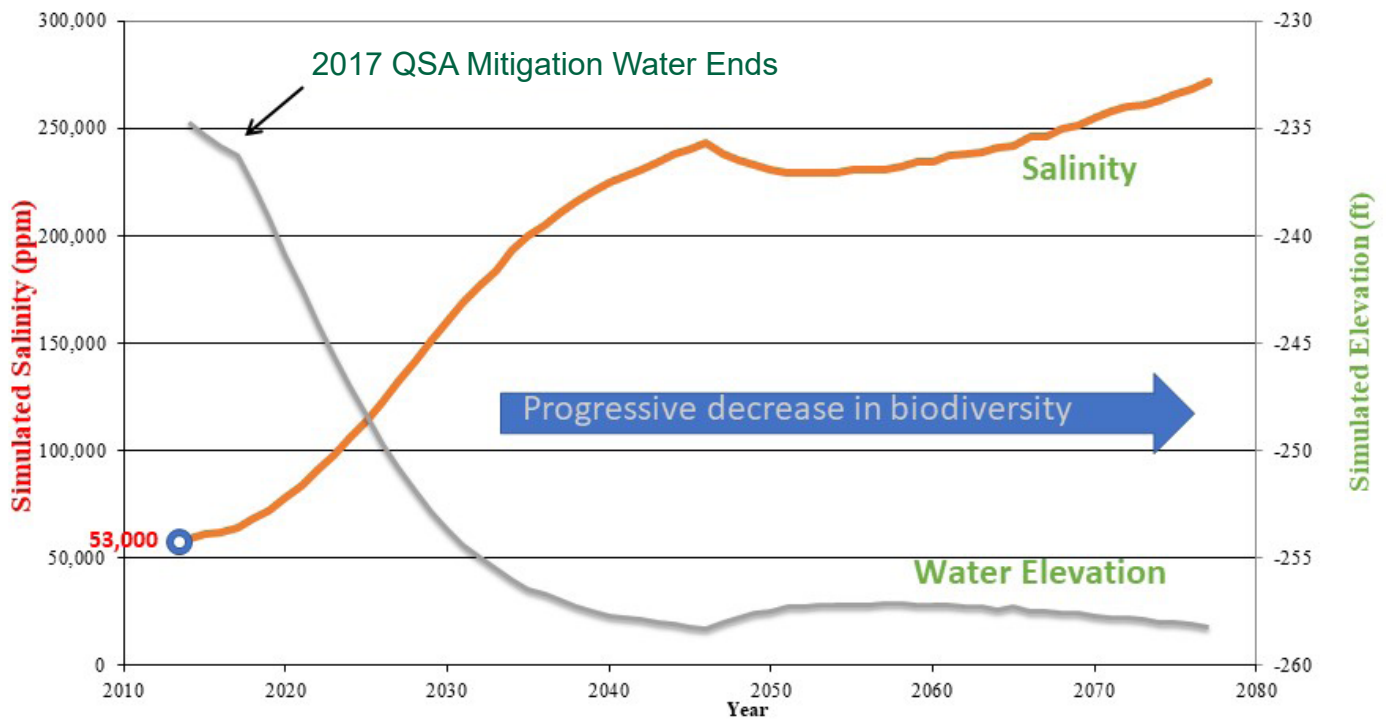


## IID ENVIRONMENTAL MITIGATION & PROGRAMS

In June 2002, IID published the Final Environmental Impact Report/Environmental Impact Statement and a draft Habitat Conservation Plan required for the IID/SDCWA water conservation and transfer program. The Salton Sea Habitat Conservation Strategy, as described in the final EIR requires IID to create conserved water by following and to deliver the additional water to the Salton Sea on a specified annual schedule for a 15-year period to mitigate salinity impacts related to the water transfer. In 2017, the last year of the mitigation water delivery requirement, IID conserved the final 105,311 acre-feet of Colorado River water and delivered 105,155 acre-feet of it to the Salton Sea. In 2018, an additional 149 acre-feet of 2017 conservation was delivered to the Salton Sea, with the 7 acre-feet balance scheduled for delivery in 2019.

The level of salinity in the sea is more of a concern to maintaining its wildlife ecosystem. As a terminal waterbody, the Salton Sea has no outlet to purge accumulated salts and nutrients. Over time, the water has become increasingly saline. Present day salinity concentrations are significantly higher than ocean water. Over the years, Imperial Valley farmers have installed tile drain lines under nearly all agricultural lands to leach accumulated salts brought in with the water supply. To date, these efforts have yet to achieve district-wide salt equilibrium, which when coupled with reduced agricultural return flows concentrates salinity levels in drain water flowing into the Salton Sea. In 2017, the Salton Sea salinity was approximately 61 parts per thousand (ppt) based on the average measurements at several sampling sites within the Sea area. The salinity levels jumped to 69.2 ppt in 2018 and is expected to continue rising.

### SALTON SEA ELEVATION AND PLAYA EXPOSURE SATELLITE IMAGERY ANALYSIS DATA



Based on Cohen Pacific Institute, May 2006.

With ramped-up agricultural-to-urban water conservation and transfer programs further reducing future inflows, the Sea's salinity concentration will continue to increase, accelerating significant changes to the sea's ecosystem and potentially impacting air quality. The receding shoreline exposes the playa and requires monitoring and mitigation on emissive lands. Implementation began in earnest in 2016 with the development of three main mitigation components: 1) an Annual Emissions Monitoring Program (to estimate emissions and identify high priority areas); 2) an Annual Proactive Dust Control Plan with recommendations and design for site-specific dust control measures; and 3) implementation of dust control measures to prevent potential PM10. Other environmental impacts are associated with declining habitat value at the Salton Sea. IID has provided staff and financial support for



the Red Hill Bay Project, the Salton Seawater Marine Habitat Pilot Project and the IID Backbone Infrastructure Projects associated with habitat restoration. The Water Department further managed the following water transfer environmental mitigation and monitoring programs and projects during 2017 and 2018:

- *Burrowing Owl Mitigation Program*
- *Managed Marsh Complex*
- *Desert Pupfish Mitigation*
- *Wildlife and Habitat Monitoring*
- *Selenium Monitoring*
- *Environmental Outreach and Education*

## SALTON SEA MANAGEMENT PLAN

The State Water Resources Control Board held a public workshop in March of 2019 at North Shores to present the first update regarding the status of Phase 1 of the Salton Sea Management Plan for 2018. Under the SWRCB's revised order adopted in November 2017, the Secretary of the California Natural Resources Agency was to meet established annual restoration milestones to address public health and environmental concerns during Phase 1 of the Salton Sea Management Plan.

CNRA was to have constructed habitat and dust-suppression projects totaling 500 acres on exposed playa at the Salton Sea by December 31, 2018. No less than 50 percent of the required acreage is intended to provide habitat benefits for fish and wildlife that depend on the Salton Sea ecosystem. The established annual milestones are cumulative and if they are not achieved, or are exceeded in any given year, the amount of the shortfall, or excess, in that year will carry over to the following year. If an annual milestone shortfall exceeds 20 percent of a year's annual obligation, the CNRA report must further include a plan to cure the deficiency within 12 months. The first project, the Species Conservation Habitat, has been long-delayed but is now proceeding through a design-build process managed by the California Department of Water Resources. At full build-out, the project is proposed to consist of more than 3,700 acres of primarily wetland habitat (for fish eating birds such as pelicans, cormorants and ospreys).

CNRA presented the annual status report related to the 2018 milestones at the workshop. The 2018 target of 500 acres of restoration, to address public health and environmental concerns, had not been met by CNRA. The report prepared by the CNRA noted that environmental conditions worsened in 2018, with a total of 2,260 acres of additional exposed playa. Air quality remains a priority issue for residents in nearby communities and habitat declines continue to be a concern.

The increasing salinity in the Salton Sea has resulted in a decline of the Tilapia populations (with the 2018 population estimate at historic lows) and the eventual displacement of the desert pupfish. The decrease in fish populations is believed to be contributing to a reduction in fish eating birds. The 2017/2018 CDFW surveys showed the American white pelican sightings at only ten percent of their historic average (2008-2018). Brown pelicans surveyed in the same year were at only three percent and double-crested cormorants were below two percent of their previously surveyed average.

The state's design-build process for the SCH project anticipates a contractor will be selected in mid-2020 with project complete in 2023. The state report did not identify a concrete plan to cure the deficiency, but did note it would be working with the Department of Water Resources, the California Department of Fish and Wildlife, the State Water Board and the California Environmental Agency to "thoroughly assess barriers to project implementation and create a roadmap for moving forward with the SSMP." IID has worked diligently to assist the state in obtaining access to the project site in furtherance of all aspects of the design-build process, including the issuance of an easement to the state for use of the IID-owned property that the SCH is located on.

---

<sup>2</sup> IID 2017 Annual Mitigation Implementation Report to the United States Fish and Wildlife Services and the California Department of Fish and Wildlife.

<sup>3</sup> Particulate Matter less than 10 microns in aerodynamic diameter.



# WATER RIGHTS

## CALIFORNIA LAW

IID has a longstanding right to divert Colorado River water, and holds legal title to all its water and water rights in trust for landowners within the district (California Water Code §20529 and §22437; *Bryant v. Yellen*, 447 U.S. 352, 371 (1980), fn.23.). Beginning in 1885, a number of individuals, as well as the California Development Company, made a series of appropriations of Colorado River water under the stipulations of California law for use in the Imperial Valley. The rights to these appropriations were among the properties acquired by IID from the California Development Company and are now held in title and trust for landowners within the district.

## LAW OF THE RIVER

The right to water from the Colorado River is governed by numerous compacts, state and federal laws, court decisions and decrees, contracts and regulatory guidelines collectively known as the “Law of the River.” Together, these documents form the basis for allocation of the water, regulation of land use and management of the Colorado River water supply among the seven basin states and Mexico. Of all regulatory literature that governs Colorado River water rights, the following are the specifics that impact IID:

**The Colorado River Compact (1922)** - In 1921, representatives from the seven Colorado River basin states, with the authorization of their legislatures and at the urging of the federal government, began negotiations regarding the distribution of water from the Colorado River. In November of 1922, the representatives from the upper (Colorado, New Mexico, Utah and Wyoming) and lower (Arizona, California and Nevada) basin states signed the Colorado River Compact, an interstate agreement giving the lower basin perpetual rights to annual apportionments of 7.5 million acre-feet of Colorado River water (75 MAF over 10 years). The upper basin was to receive the remainder, which, based on the available hydrological record, was also expected to be 7.5 MAF annually, with enough left over to provide 1.5 MAF annually to Mexico.

**The Boulder Canyon Project Act (1928)** - The 1922 Compact was made effective by provisions in the 1928 Boulder Canyon Project Act (45 Statute 1056), which authorized the construction of Hoover Dam and the All-American Canal and served as the United States’ consent to accept the Compact. Officially enacted on June 25, 1929, through a presidential proclamation, this act resulted in the ratification of the Compact by six of the basin states and also required California to limit its annual consumptive use to 4.4 MAF of the lower basin’s apportionment, plus not less than half of any excess or surplus water unapportioned by the Compact. Arizona refused to sign and subsequently filed a lawsuit. California abided by this federal mandate through the implementation of its 1929 Limitation Act. The Boulder Canyon Project Act further authorized the Secretary to “contract for the storage of water...and for the delivery thereof...for irrigation and domestic uses,” and further defined the lower basin’s apportionment split with an annual allocation of 0.3 MAF to Nevada, 2.8 MAF to Arizona, and 4.4 MAF to California. While the three states never formally accepted or agreed to these terms, a 1964 Supreme Court decision (*Arizona vs. California*, 373 U.S. 546) declared their consent to be inconsequential since the Boulder Canyon Project Act was authorized by the Secretary.

**California Seven-Party Agreement (1931)** - Following implementation of the Boulder Canyon Project Act, the Secretary requested that California make recommendations regarding distribution of its allocation of Colorado River water. In August of 1931, under the chairmanship of the state engineer, the California Seven-Party Agreement was developed and authorized by the affected parties to prioritize California water rights. The Secretary accepted this agreement and established these priorities through general regulations issued in September of 1931. The first four priority allocations account for California’s annual apportionment of 4.4 MAF, with agricultural entities using 3.85 MAF of that total. The remaining priorities are defined for years in which the Secretary declares that excess waters are available.

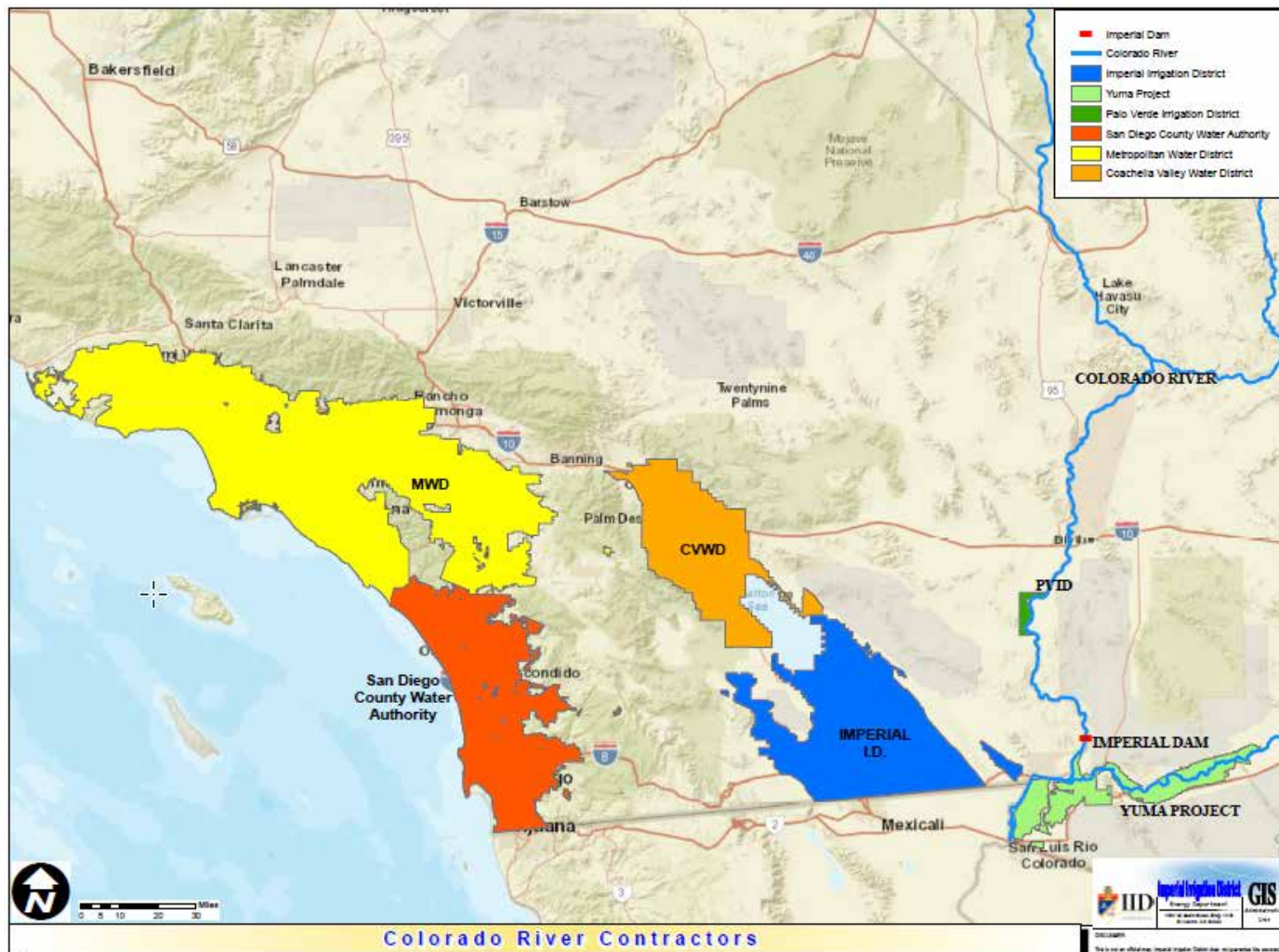
Priority Order	Description	Annual Apportionment (Acre-feet)	Annual Present Perfected Rights (PPRs) (Acre-feet)
1	<b>Palo Verde Irrigation District</b> – for use exclusively on a gross area of 104,500 acres of land within and adjoining the district	3,850,000	<b>219,790</b> <i>(or consumptive use for 33,604 acres)</i>
2	<b>Yuma Project (Reservation District)</b> – for use on California Division, not exceeding 25,000 acres of land		<b>38,270</b> <i>(or consumptive use for 6,294 acres)</i>
3(a)	<b>Imperial Irrigation District</b> - for use on lands served by All-American Canal in Imperial and Coachella Valleys (Coachella Valley Water District*)		<b>2,600,000</b> <i>(or consumptive use for 424,145 acres) - (IID only)</i>
3(b)	<b>Palo Verde Irrigation District</b> – for use exclusively on an additional 16,000 acres of mesa lands		
4	<b>Metropolitan Water District</b> – for use by themselves and/or others on Southern California coastal plain	550,000	
<b>Subtotal of California Limit (not including surplus waters)</b>		<b>4,400,000</b>	
5(a)	<b>Metropolitan Water District</b> - for use by themselves and/or others on Southern California coastal plain	550,000	
5(b)	<b>City and County of San Diego</b> – through Metropolitan Water District	112,000	
6(a)	<b>Imperial Irrigation District</b> - lands served by the All-American Canal (AAC) in Imperial and Coachella Valleys	300,000	
6(b)	<b>Palo Verde Irrigation District</b> – for exclusive use on 16,000 acres of mesa lands		
		<b>Total</b>	<b>5,362,000</b>
7	<b>California Agricultural Use</b> - Colorado River Basin lands in California	All remaining available water	

\* Subordinated right.

**Arizona v. California US Supreme Court Decision (1964, 1979)** - In 1963, the Supreme Court issued a decision settling a 25-year old dispute between Arizona and California, which stemmed from Arizona's desire to build the Central Arizona Project to enable use of its full apportionment. California argued that Arizona's use of water from the Gila River, a Colorado River tributary, constituted use of its Colorado River apportionment and that California had developed a historical use of some of Arizona's apportionment, which, under the doctrine of prior appropriation, precluded Arizona from developing the project. The Supreme Court rejected California's arguments, enjoined the Secretary from delivering water outside the framework of apportionments defined by the law, and mandated the preparation of annual reports documenting the consumptive use of water in the three lower basin states. In 1979, the Supreme Court issued a Supplemental Decree which addressed present perfected rights (PPRs) referred to in the Colorado River Compact and in the Boulder Canyon Project Act. These rights are entitlements essentially established under state law, and have priority over later contract entitlements. On March 27, 2006, the Supreme Court issued a Consolidated Decree to provide a single reference to the provisions of the original 1964 decrees and several subsequent decrees (1966, 1979, 1984, and 2000) that stemmed from the original ruling. This decree also reflects the settlements of the federal reserved water rights claim for the Fort Yuma Indian Reservation.

**Colorado River Basin Project Act (1968)** - In 1968, Congress authorized construction of a number of water development projects in both the upper and lower basins, including the Central Arizona Project. The act made the priority of Arizona's CAP water supply subordinate to California's apportionment in times of shortage, and directed the Secretary of the Interior to prepare, in consultation with the Colorado River Basin states, long-range operating criteria for the Colorado River reservoir system.

## COLORADO RIVER CONTRACTORS OF LOWER BASIN



**1988 IID/MWD Agreement** - In 1988, IID entered into an agreement with Metropolitan Water District of Southern California to implement a water conservation program. Under the agreement, MWD agreed to pay capital and indirect costs for conserved water projects. IID also entered into an approval agreement with MWD, CVWD, and PVID that created a conservation measurement committee to determine the annual amounts of water conserved under the program. Originally designed to conserve 106,110 acre-feet annually, the program constructed projects over an 11-year period averaging 105,000 acre-feet per year. In 2007, the transfer was fixed at 101,500 AF annually, plus up to 3,500 acre-feet of tailwater recovery conservation, subsequently disbanding the conservation measurement committee. In 2014, the agreement was amended to substitute conservation projects to maintain a fixed 105,000 AF transfer.

**Quantification Settlement Agreement (2003)** - With substantial completion of the CAP infrastructure in 1994, creation of the Arizona Water Banking Authority in 1965, and growth of Las Vegas in the 1990s and 2000s, California experienced increasing pressure to live within its rights under the Law of the River. On October 10, 2003, after years of negotiation among Colorado River Compact States and affected California water delivery agencies, the Quantification Settlement Agreement and related agreements and documents were signed by the Secretary of the Interior, IID, CVWD, MWD, and SDCWA and/or other affected parties.

The QSA quantifies California's Priority 3a apportionment for a period of 35 to 75 years (2003 through 2037, or 2077) between IID and CVWD, with provisions for transfer of water involving IID, CVWD, MWD and SDCWA. In general, the terms of the QSA defines allocations for consumptive use of Colorado River water by IID, CVWD and MWD that will enable California to stay within its basic annual apportionment, of 4.4 MAF plus not less than half of any declared surplus. As such, the QSA lays out Colorado River use water budgets for IID, CVWD and MWD. As specified in the agreements, IID will transfer nearly 415,000 AF annually over a 35-year period (or longer).



# WATER POLICY

Consistent with Water Code Section 100, the IID exercises its responsibility so that the available water resources are put to beneficial use to the fullest extent possible, preventing any waste or unreasonable use, or unreasonable method of use, of water. The IID Board has adopted the following policies and programs to address how to accommodate water demands, especially those under the terms of the QSA/transfers agreements, and minimize potential negative impacts on agricultural water uses. For a complete description of IID’s Water Rules and Regulations, please refer to Regulation No. 3 Application for Service.

## INTERIM WATER SUPPLY POLICY FOR NON-AGRICULTURAL PROJECTS

IID provides raw (untreated) Colorado River water to municipal, industrial and commercial customers. The IID Board adopted the Interim Water Supply Policy for Non-Agricultural Projects on September 29, 2009 to ensure sufficient water will be available for new non-agricultural development within the IID service area. The policy designates up to 25,000 acre-feet of IID’s annual Colorado River water supply for new projects, provides a mechanism and process to develop a water supply contract/agreement for any appropriately permitted project, and establishes the framework to meet demands without any adverse impacts to current users while establishing fees to ensure funding for water conservation or augmentation projects.

The policy and its fees are applicable when:

- *The water demand for the municipal use project is in excess of the project’s estimated population multiplied by the district-wide per capita usage.*
- *A project will require water for an industrial use in an unincorporated area of the County of Imperial; or,*
- *The project is a mixed use project.*

Industrial water users may be required to sign a contract, which sets a cap on water availability to their specific project and limits the amount of water discharged into IID drains. Projects may also be required to maintain a water-metering device or install water-holding facilities required for the industry. Each project contract will have a term and be subject to the annual water supply development fee. A project is subject to a reservation fee (for approved contracts during construction) and a development fee for all projects during operation which are calculated by AF demand. The calculation is based on a tiered fee schedule. For more details, go to: <https://www.iid.com/water/municipal-industrial-and-commercial-customers>.

2018 Interim Water Supply Policy Fee Schedule		
Annual Demand (AF)	Reservation Fee*	Development Fee*
0-500	\$71.41	\$285.64
501-1000	\$100.54	\$402.18
1001-2500	\$126.25	\$505.91
2501-5000	\$155.96	\$623.84

*\*To be adjusted annually in accordance with the Consumer Price Index (CPI).*





## TEMPORARY LAND CONVERSION FALLOWING POLICY

The IID Board adopted the Temporary Land Conversion Fallowing Policy on May 8, 2012. Revised on March 29, 2016, it provides a framework for a temporary, long-term fallowing program to work in concert with the Interim Water Supply Policy and IID's coordinated land use/water supply strategy. The practice of fallowing is the temporary taking of active farmland out of production. Water, which under normal circumstances would have gone to the land to produce crops, is considered conserved under the fallowing program. Water demands for certain non-agricultural projects, such as solar facilities, are typically less than that required for agricultural production. This reduced water demand allows additional water to be made available for other users under IID's annual consumptive use cap. While conserved water generated from the Temporary Land Conversion Fallowing Policy is limited by law for use for water transfer or environmental purposes, by satisfying multiple district objectives the policy serves to reduce efficiency conservation and water use reduction demands on IID water users, thus providing district-wide benefits. Over 10,000 acres participated in the program in 2017 with a documented conservation yield of 48,040 AF. Participation increased to over 12,000 acres having a conservation yield of 66,034 AF for 2018.

## EQUITABLE DISTRIBUTION PLAN

The IID board finalized and adopted the Equitable Distribution Plan on October 28, 2013, to provide a mechanism for IID to administer apportionment of the district's quantified annual supply of Colorado River water. The EDP included a hybrid method of apportionment that had a historical use component and a straight-line component. Although the plan strictly prohibits individual landowners or water users from transferring water and/or water rights outside the IID service area, it does allow for an intra-district clearinghouse for the movement of agricultural water between IID agricultural water users and farm units. Under the EDP, the district apportions the available water supply annually using the following criteria:

- a. **Municipal Users** – Base amount of 2006 usage, plus current district wide average use per capita, multiplied by the increase in population since 2006.
- b. **Industrial Users (Commercial)** – Estimate based on past use, not to exceed contract amount for existing contracts; or estimate based on anticipated use, not to exceed contract amount and terms.
- c. **Feed Lots, Dairies and Fish Farms** – Estimate based upon past use, and consideration of future changes.
- d. **Environmental Resources Water** – Estimate based upon the amount of reasonably necessary quantity to achieve the purposes of the district's commitments, taking past use into account.
- e. **Agricultural Lands** – Based on remainder, after subtracting demand for categories a-d from available water supply, under a straight line apportionment applied to the total number of eligible agricultural acres. Eligible agricultural acres includes cropland greater than five acres used for crop production, duck ponds or algae farming, with current water availability charges (water bills) and connected to the district's water distribution system.

Municipal, commercial, and industrial uses (MCI) have water supply priority; however, fees consistent would be imposed should any MCI exceed the apportioned amount. The fee for the excess amount of water would be the water user's standard rate plus the adopted conserved water rate which is adjusted annual in accordance with the consumer price index (CPI). The conserved water rate was calculated at \$526.72/AF and \$541.44 for 2017 and 2018, respectively.

The EDP was halted in August 2017 due to a local court ruling. IID has filed an appeal. In the absence of the EDP, all water users will continue to be subject to the requirement of reasonable and beneficial use standards.

---

<sup>1</sup> For details of how water conservation yield attributable to land removed from agricultural production and temporarily fallowed is computed, see TLCFP for Water Conservation Yield.



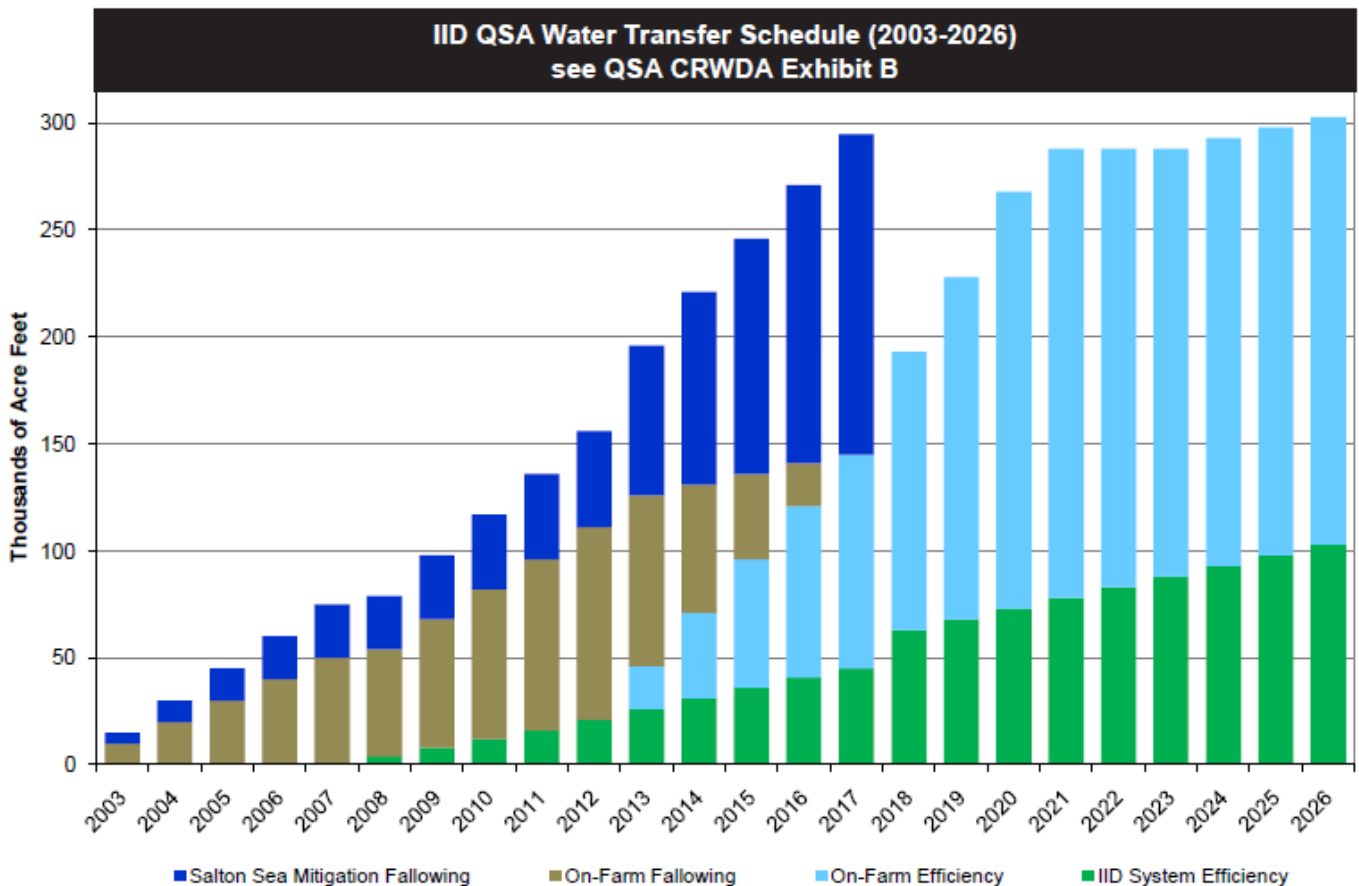
# WATER CONSERVATION

Many recent water related laws, contracts and agreements affect the dynamic of IID’s strategic water resource planning efforts, which are further complicated by the integration of new water demands and land use changes, the annual 3.1 million acre-feet cap on IID’s Colorado River water supply, the uncertainty associated with varying agricultural water demands and ongoing drought conditions. In doing its part to help California live within the state’s basic 4.4 million acre-foot apportionment of Colorado River water, IID has entered into water conservation and transfer agreements, adopted water conservation plans and implemented numerous efficiency conservation programs and projects. Presented herein are some examples of collaborative efforts and water conservation practices in effect during 2017 and 2018.

## QUANTIFICATION SETTLEMENT AGREEMENT

District-wide conservation efforts have enabled IID to successfully implement the nation’s largest agriculture-to-urban water conservation and transfer agreement. Agreements among IID, SDCWA, CVWD, MWD and the federal government are formalized by the Quantification Settlement Agreement (QSA) and over 40 related agreements and amendments. These contracts identify conserved water volumes, transfer schedules, and price and payment terms.

To enable IID to meet its water transfer obligations under the QSA, IID and its agricultural water users will develop a total of 303,000 acre-feet of conserved water per year through an integrated program of on-farm and delivery system conservation projects. Water for transfer from the IID was required, according to terms of the QSA and related agreements, to be generated largely from following programs for the first fifteen years (2003-2017), while converting to efficiency conservation generated from improvements to IID’s delivery system and on-farm irrigation practices. IID has successfully met all of its QSA conservation commitments through the aggressive implementation of programs and projects described herein.





## SYSTEM CONSERVATION PROJECTS

The district is achieving contractual obligations for conserved water under the QSA in part from a suite of new infrastructure projects and structural upgrades. These projects consist of main canal seepage interception pump systems, interties between delivery laterals and main canals, technology upgrades to improve the operational management of the conveyance system, and main canal offline and mid-lateral reservoir projects. Much of the plan for the System Conservation Program (SCP) was developed in 2009 and revamped in subsequent years, at the direction of the IID Board of Directors, as the District started ramping up implementation efforts. As these projects began to develop, consultations with operational staff and local stakeholders highlighted operational trends and a need for integration with other IID water management programs and conservation projects that reprioritized the construction of certain near-term projects while still meeting the conservation requirements identified in the transfer schedule.

- **Main Canal Seepage Recovery**- *Main canal seepage recovery provides a cost effective water conservation strategy for the capture and reuse of water that is being lost through the earthen sections of the district's main delivery canals. These projects can be constructed with either buried perforated pipe or open, cut-off drains. A total of 28 seepage recovery projects had been completed by the end of 2018 and the total conserved water yield from all the projects is approximately 37,000-acre feet in 2018 with an average production cost of approximately \$34.00/AF. Twenty-five of the seepage recovery projects are situated on the East Highline Canal, one on the All-American Canal, and two on the Westside Main Canal. These projects also provide additional operational flexibility to IID resulting in improved customer service and reliability.*
- **Lateral to Main Canal Interties** - *Lateral to Main Canal Interties are another targeted water conservation strategy that utilize underground pipelines to capture operational discharge from delivery laterals and reuse it by diverting it through a metered discharge back into the main canal systems. These projects were prioritized because they showed a potential for immediate water conservation, had minimal impacts to the water delivery systems and/or water users, were not overly complex and they were the most economical in terms the cost of conserved water per acre-foot produced. As of 2017, there were 8 delivery lateral to main canal interties projects in place. The number of intertie projects grew to 11 by the end of 2018 with a conserved water yield of approximately 7,000 acre-feet with an average cost of approximately \$70.00 /AF. There are seven more lateral to main canal intertie projects that are being developed to be constructed in 2019 and 2020.*
- **Discharge Reduction Program** - *The discharge reduction program is another water conservation strategy that provides the Zanjero with tools to remotely adjust each of the lateral headings they manage to minimize operational discharge. This program is one of the more complex projects and, at full build out, will provide each Zanjero with real time data in his/her vehicle that enables them to make immediate adjustments to the laterals as the excess flows develop. This program requires that each of the lateral headings have an automated gate installed in addition to the discharge site being remotely monitored. In most cases this requires a new structure and radio equipment to be installed at each site. The transmission of all the data and system controls is possible due to major upgrades to the communication back haul systems. The project required the installation of six additional antennas at key locations in the service area, and upgrades to office and vehicle computer systems, databases, networks, server licenses, SCADA and VPN services. As of 2018, 46 laterals had been completely improved with all the required equipment. IID reported approximately 17,000 acre-feet of conserved water through the Discharge Reduction Program.*
- **Mid Lateral Reservoirs** - *Mid lateral and off line reservoirs are being developed as an integral part of the System Conservation Program. The first mid lateral reservoir to be constructed was completed in 2017 and the conservation verification is still being developed. Feasibility studies for the East Highline Lateral 1 and the E Lateral reservoirs have been completed with design scheduled to be completed in 2019.*
- **12-Hour Deliveries** - *IID water delivery was historically based on 24-hour water orders. This practice was replaced by the 12-hour delivery schedule to provide additional flexibility to growers to match crop requirements and conserve water. The 12-hour delivery allows growers to take AM or PM orders to coincide with normal AM turn times. The 12-hour orders are limited to a maximum of 7 cfs for an AM run and no limit on the PM run. Flow reduction on the last 12 hours of a 24-hour delivery are not to exceed 5 cfs or half of the ordered delivery rate.*

## ON-FARM EFFICIENCY CONSERVATION PROGRAM

The On-Farm Efficiency Conservation Program is being implemented to further IID's commitment to efficient water use by contracting with water customers to achieve efficiency conservation goals and meet QSA water transfer requirements as well as any IID overrun payback obligations. The price for on-farm efficiency conservation is set by the IID Board of Directors (\$285/AF in 2017), and staff implements an open solicitation where landowners and tenants voluntarily propose conservation measures, delivery reduction volume, contract duration and a cropping plan for IID consideration.

On-Farm Efficiency Conservation Program Historic Yields		
Year	Participating Acres	Documented Conservation Yield
2013	26,955	17,276 AF
2014	54,345	44,371 AF
2015	115,173	87,721 AF
2016	189,823	138,585 AF
2017	250,022	151,750 AF
2018	318,193	190,969 AF

*NOTE: Participating Acres includes all acres enrolled in the program for the applicable year the crop was harvested including acres without water savings. Volumes in acre-feet at Imperial Dam.*



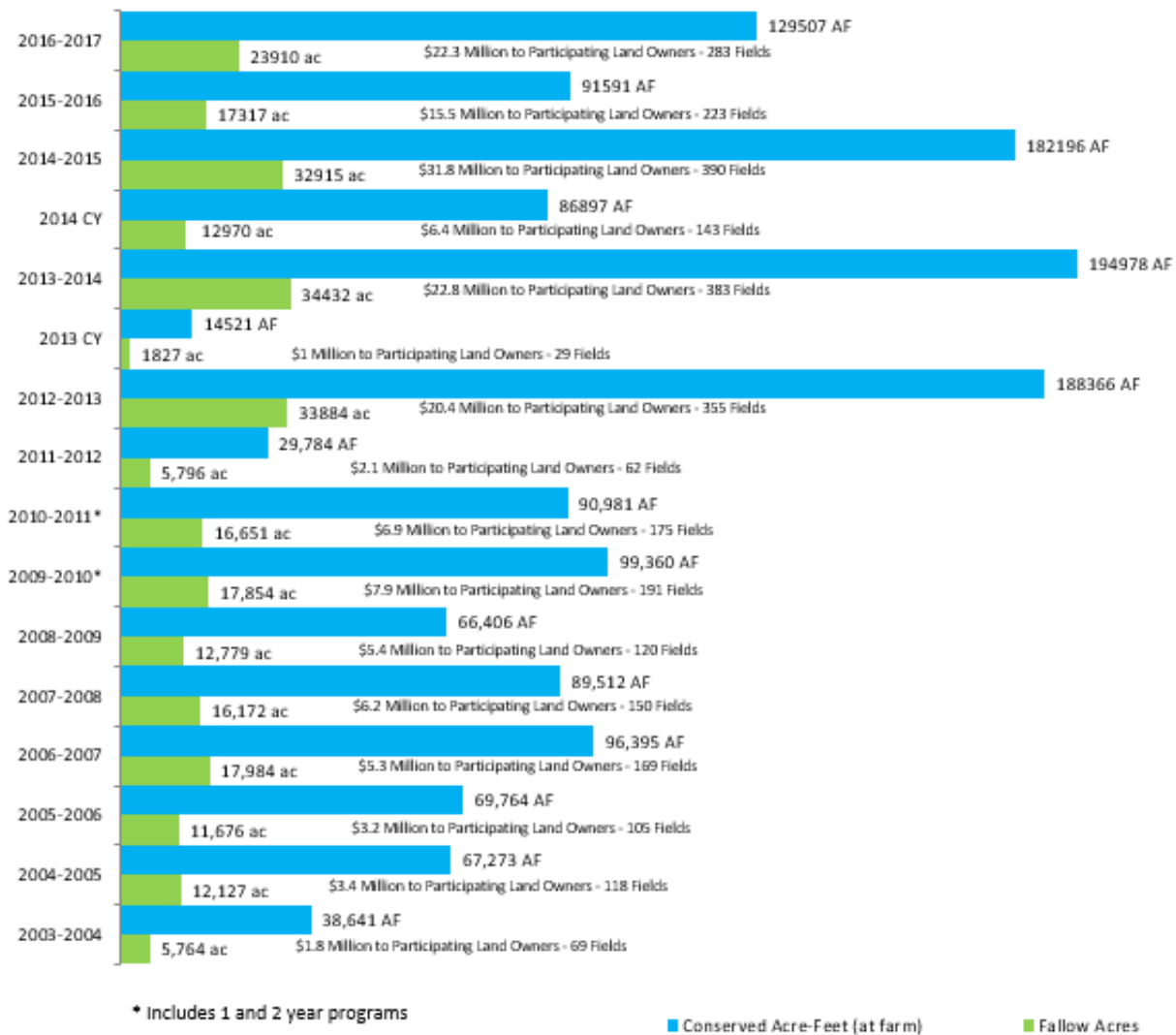
## FALLOWING PROGRAMS

Fallowing is the practice of temporarily taking active farmland out of production. Water, which under normal circumstances would have gone to the land to produce crops, is considered conserved under the fallowing program. Conserved water from fallowing is transferred to the San Diego County Water Authority, used for delivery to the Salton Sea (through 2017) to mitigate the environmental impacts of these transfers, and for payback or storage purposes.

IID contracts with willing land owners and/or lessees to fallow fields and the price for fallowed water is set by the IID Board of Directors each year. Each field's participation in the fallowing program is limited to three out of every five years. During the program, no water can be delivered to the contracted field and the delivery gate is locked physically and in IID's computer system to prevent accidental water orders.

The water transfer schedules ramped up, ultimately calling the district to generate 150,000 acre-feet per year through fallowing. IID completed its transfer and mitigation fallowing obligations in 2017 and the program was not renewed.

### IID Fallowing Program Details



## TEMPORARY LAND CONVERSION FOLLOWING PROGRAM

In addition to the established following program, IID determined it needed to develop a water supply policy that tiered off of local land use decisions, and adapt to the conditions in place, in order to facilitate new development and economic diversity in Imperial County. IID concluded that certain lower water use projects could still provide benefits to local water users; however the benefits may not be to the same categories of use but to the district as a whole. Under the terms of the legislation adopted to facilitate the QSA and enacted in California Water Code 1013, the IID Temporary Land Conversion Following Policy (TLCFP) was adopted by the IID Board of Directors on May 8, 2012 and revised on March 29, 2016. This policy developed a framework for a temporary, long-term following program to work in concert with the IWSP, and in line with the coordinated land use/ water supply strategy. While the conserved water generated from the TLCFP is limited by law for use towards transfer or environmental purposes, by satisfying multiple district objectives the TLCFP also serves to reduce the conservation and water use demands on other IID water users and thus provides district-wide benefits.

Solar TLCFP Historic Conservation Yields		
Year	Participating Acres	Documented Conservation Yield
2012	1,386	5,545 AF
2013	6,859	31,372 AF
2014	6,912	36,265 AF
2015	7,104	37,320 AF
2016	7,864	38,717 AF
2017	10,146	48,040 AF
2018	12,354	66,034 AF

Source: Provisional Past Following Conservation Reports at IID TLCFP. Volumes in acre-feet at Imperial Dam.



## INADVERTENT OVERRUN PAYBACK POLICY & INTENTIONALLY CREATED SURPLUS (ICS)

In addition to its water transfer obligations, IID may use water conserved through certain approved conservation measures to satisfy the requirements of the federal Inadvertent Overrun and Payback Policy or to create conserved water for storage purposes as Intentionally Created Surplus.

An inadvertent overrun is defined as Colorado River water that is diverted, pumped, or received by an entitlement holder of the Lower Basin water contractors that is in excess of the water users' entitlement for the year. Conservation measures that can be used to pay back an IID overrun are land fallowing, seepage recovery, system improvements and on-farm efficiency conservation.

ICS water is defined as water from the Colorado River System that has been conserved through an authorized extraordinary conservation measure that would be otherwise used within that district. The ICS policy encourages the efficient use and management of Colorado River water by enhancing conservation opportunities and operational flexibility in the Lower Basin through the retention of conserved water in Lake Mead by certain Colorado River contractors.

ICS water is available for use under the terms and conditions of water delivery agreement and related agreement enacted under the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations of Lake Powell and Lake Mead, adopted by the Secretary of the Interior to encourage efficient use and management of Colorado River water, manage shortage conditions in the Lower Basin, and integrate the operations of Lake Mead and Lake Powell. The total amount of Efficiency Conservation Intentionally Created Surplus that IID may store in any year is limited to a 25,000 AF annual cap and a cumulative 50,000 AF total. IID is engaged in collaborative efforts to further increase ICS conservation opportunities and California water storage partnerships.

## BINATIONAL INTENTIONALLY CREATED SURPLUS DELIVERY AGREEMENT

IID and three other Lower Basin water contractors partnered in 2017 to provide \$3.75 million each (over 9 years) for infrastructure upgrades in Mexico under a Binational Intentionally Created Surplus Delivery Agreement. Through the authorization of Minute 323 to the 1944 treaty with Mexico, the water agencies agreed to provide funding for Mexico to further invest in its water conveyance infrastructure. This opportunity was an expansion of a Minute 319 program implemented to help Mexico rebuild its water system after the 2010 Easter earthquake, with Mexico providing conserved water storage credits to the funding entities.

Under this program, IID joins the Metropolitan Water District of Southern California, Southern Nevada Water Authority and Central Arizona Project to help fund improvements to Mexico's damaged water system. In exchange, the U.S. agencies will receive 95,000 acre-feet of binational ICS in Lake Mead for future use. Metropolitan and IID will each receive one-fourth of the total program's conservation credits equaling 23,750 acre-foot of conservation generated by Mexico. IID can divert its share of the binational ICS for in-valley municipal or industrial purposes or to avoid or pay back a future overrun on the Colorado River. The Binational ICS Delivery Agreement further lends itself to the potential for a larger drought response partnership.





## WATER CONSERVATION PLANS

### IID WATER CONSERVATION PLAN (2016)

As the Imperial Valley grows and as its economy diversifies, so to do the functions and role of IID's Water Department. By implementing extraordinary conservation projects, developing innovative efficiency measures and utilizing progressive water management tools, the Water Department is working to ensure both the long-term viability of agriculture and the continued protection of water resources within its service area, which includes seven jurisdictions and three water districts that treat IID raw water for potable use by their customers. In this vein, IID prepares a Water Conservation Plan, consistent with Federal legislation (PL 97-293 Reclamation Reform Act of 1982 Section 210 (a), (b) and (c) and Reclamation Manual Directives and Standards; and Regulations 43-CFR-427). The Water Conservation Plan is updated every five years and was last approved by IID's board in September 2018. The Plan addresses Water Management Challenges, Opportunities and Conservation Goals. It is a comprehensive compilation of the water conservation measures implemented by the IID, including new initiatives and projected results, supported by four fundamental water conservation measures adopted by the IID:

To view IID's Water Conservation Plan, visit [www.iid.com/water/water-supply/water-plans/water-conservation-plan](http://www.iid.com/water/water-supply/water-plans/water-conservation-plan).

### IMPERIAL INTEGRATED REGIONAL WATER MANAGEMENT PLAN

The Imperial Integrated Regional Water Management Plan (IRWMP) is the result of Imperial Valley stakeholders and the Imperial Water Forum, representing a wide array of interests, working together to formulate and support implementation of long-term water management solutions. The mission of the Forum is to preserve and enhance the economic and environmental health and well-being of the Imperial Region through the regional stewardship and comprehensive management of water resources in a practical, cost effective and responsible manner. The IID is an active participant with a management role in the Water Forum and the IRWMP.

For more information, please visit <http://imperialirwmp.org>.





# GRANTS, PROJECTS AND MAINTENANCE PROGRAMS

## LOCAL ENTITY FUNDING ENDS IN 2017

The Local Entity was created by the Revised Fourth Amendment to the water transfer agreement with the San Diego County Water Authority to quantify third-party socio-economic impacts of land fallowing. A total of \$50 million was made available to mitigate the direct and indirect impacts of the mandated fallowing within the IID water service area (\$30 million provided by SDCWA and \$20 million by IID). After taking land out of production for 15 years to meet the requirements of the QSA, IID concluded its land fallowing program in mid-2017. Through 2013, the IID Board of Directors, acting as the Local Entity, disbursed over \$19 million in mitigation funding to farm service providers whose businesses were affected by fields contracted for fallowing by IID in support of the water transfer and mitigation programs. IID disbursed approximately \$12 million more in Local Entity mitigation funds to affected farm service providers in the final non-competitive disbursement for the 2014-2017 fallowing period. Eligible farm service providers and tenant growers received the non-competitive funds in August 2017 to offset their economic losses from not being able to provide agricultural sector services to farms being fallowed.

The Local Entity has also funded nearly \$11 million to community business endeavors to support the creation and retention of local jobs. Over \$6 million of additional funding was also provided to assist in the reopening of a beef processing plant in Brawley, the development of a processing plant (and related sugarcane crop economy) and the Imperial Valley Food Bank. IID also made a final \$5 million in Local Entity funds available to 31 community-based organizations and 11 businesses in a competitive disbursement to fund job training programs and upgrades and expansion projects to support job creation and training. The final solicitation period proposal opportunity concluded at the end of February 2017.

## WATER INFORMATION SYSTEM UPGRADES DURING 2017 AND 2018

The district's water information system, (WIS) developed by IID, has provided a comprehensive time-series software solution for managing IID water data. The system was developed internally 25 years ago. The district has initiated the implementation of a commercial off-the-shelf tool, WISKI, that is being used to replace the current system. WISKI is an acronym for Water Information System; the vendor is Kisters.

The primary function of the water information system is to validate, correct, display, summarize and store time-series water flow data. The primary area of focus it supports is asset optimization – the asset being optimized is the water IID delivers. It does this by supporting data quality control for five primary submodules:

- *Main Canal Decision Support System*
- *On-Farm Decision Support System*
- *Water Balance*
- *IID/MWD Water Conservation Projections*
- *Quantification Settlement Agreement Water Accounting System*

## IMPERIAL DAM ELECTRICAL UPGRADES FINALIZED

The Imperial Dam overlaps the California-Arizona border. The dam is operated and maintained by IID with costs shared by the Bureau of Reclamation and the California and Arizona water agencies that are served by it. IID is responsible for directing water to Arizona and Mexico as per the contract with the Bureau. IID led work on a \$20 million electrical upgrade project at the Imperial Dam that was completed in 2017 to strengthen that facility's internal infrastructure and modernize the aging diversion structure. The upgrade replaced electrical infrastructure that had been in operation since 1938 and included miles of new electrical lines, transformers and a substation. Control room breakers and switches from the 1930s that had operated the dam's gates were also replaced with a fully automated system that includes an electronic map that identifies elevations above and below the dam. Old switchgears, gauges and apparatuses were replaced with microprocessor equipment to enhance the reliability of the system and support operations. The work included the refurbishment of four roller gates, replacement of more than 500 valves in the desilting basin and concrete repair work at Laguna Dam – the first concrete work at the facility in more than a century. Towards the end of 2018, IID had also initiated work on the Gila Headworks. The Headworks project involved the fabrication and installation of upper and lower stoplogs for the replacement of the unused radial gates.

## ONGOING CANAL MAINTENANCE & CONSTRUCTION PROJECTS

The Water Department is continually conducting maintenance on its water delivery system—both preventative and reactive. The Maintenance Unit keeps the Colorado River water flowing with procedures like disking, chaining, cleaning, concrete lining repair, and bank, gate, pipe and road maintenance. The Construction Unit is responsible for new canal lining projects, adding pipelines, and all other major repair and additions to IID’s water system included implementation of the Water Department’s annual capital improvement plan (CIP) and private developer driven projects.

Canal Maintenance & Infrastructure Projects		
Category	2017	2018
Operation & Maintenance	\$66.0 million	\$69.7 million
Water Capital Projects	\$12.3 million	\$21.5 million
Support Service Capital Projects	\$12.4 million	\$9.0 million
<b>TOTAL</b>	<b>\$90.7 million</b>	<b>\$100.2 million</b>

Source: 2018 & 2019 Adopted Budget.

Water Capital Project’s budget includes projects driven from private developers or municipalities. IID open irrigation channels are designed to supply raw water to agricultural operations throughout the Imperial Valley. As municipalities grow and encroach into rural areas and farmland, there is an increasing need to underground and pipeline the canals and laterals for safety, aesthetics, maximum use of right-of-way and land value enhancement. Associated costs are borne to the developer or land use authority issuing the development permits. IID designs and constructs all IID owned facilities. During the 2017 and 2018 calendar years, IID coordinated with the City of Holtville for the pipelining of the 9th Street Lateral developed over five phases.



## RESERVOIR SEDIMENT REMOVAL PROJECTS

The water IID gets from the Colorado River has one of the highest percentages of silt contents of any river in the world. Sediment levels are a result of the natural erosion on the Colorado Plateau and can result in serious operation and maintenance challenges in irrigation systems. The construction of dams along the Colorado River collect sediment independently, throughout the entire basin, thus river sections between dams have had their sediment loads reduced. In 1925, the total annual sediment arriving at Yuma, Arizona was 196,673,400 tons. According to a study published in 1990, there were 44,400,000 tons of sediment arriving into Lake Powell reservoir on an annual basis. In one year, it would require 2.018 million truckloads (carrying a street legal capacity of 22 tons each) to remove the annual Lake Powell sediment load. IID must budget proactively to remove silt and maintain low sediment levels in its water system reservoirs. Altogether, the district removed over 338,000 tons (228,696 cubic yards) of sediment from four reservoirs, with a total cost of \$2,343,405, for an average unit cost of \$6.90 per ton. The sediment removed was taking 9 percent of the capacity of the reservoirs that had accumulated over a 25- to 40-year period from when the reservoirs were first constructed.

Sediment Removal in IID Reservoirs		
Year	Reservoir	Tons of Sediment
2015	Fudge Reservoir	68,500 Tons
2016	Carter Reservoir	61,089 Tons
2017	Sheldon Reservoir	116,381 Tons
2018	Sperber Reservoir	92,500 Tons

NOTE: Tons were calculated from recorded cubic yards of sediment removed ( $1 \text{ yd}^3 = 1.48 \text{ tons}$  per soils report). Total does not match exactly due to rounding.

<sup>1</sup> E.C. LaRue 1925, USGS of the Colorado River and Grand Canyon.



## IID DRAIN WATER QUALITY, TMDL, AG WAIVER PROGRAM

The district has a Drain Water Quality Improvement Plan that was prepared in 1994 and updated in 2016 to address Total Maximum Daily Loads per the Federal Clean Water Act in order to improve the water quality of impaired surface waters (i.e. streams, rivers, lakes, etc.) that do not meet water quality objectives. TMDLs are the amount of a particular material that a water body can absorb while remaining safe for people and wildlife. Since IID drains ultimately discharge into the Salton Sea (an impaired waterbody), IID implements a proactive TMDL program. A conditional waiver of the discharge requirements was issued in 2015 by the Regional Water Quality Control Board for agricultural dischargers and drain maintenance operators in the Imperial Valley; however, the waiver requires IID to implement a water quality monitoring program to satisfy the additional requirements under the waiver. Although minimal TMDLs are enforced at this time, it is anticipated that additional pollutant goals for various constituents will be established by the Regional Board by 2019 for enforcement by 2020. The final sediment TMDL numeric target is 200 mg/L.

IID Drain Monitoring Practices		
Drain Water Location <sup>1</sup>	Practice	Frequency
Alamo River Outlet at Salton Sea New River Outlet at Salton Sea	TDS, pH, Ca+, Mg, Na+K, CO <sub>3</sub> , HCO <sub>3</sub> , SO <sub>4</sub> , Cl, Temp	Monthly
TMDL Drain Water Location <sup>2</sup>	Practice	Frequency
<b>7 major drains:</b> 5 to Alamo River 2 to New River	DO, EC, pH, selenium, TSS, NH <sub>3</sub> -, NO <sub>2</sub> -, NO <sub>3</sub> , Kjeldahl-N, Total N, To- tal P, Total Hardness, Ca+, Mg, Total Alkalinity, HCO <sub>3</sub> +CO <sub>3</sub> , Cl-, SO <sub>4</sub> , E. Coli, BOD, TDS	Monthly
<b>9 river locations:</b> 6 in Alamo River 3 in New River		

<sup>1</sup>Collected by IID; analysis by outside laboratory; Alamo River at US/Mexico Border was discontinued Jan 2008 due to low flow.

IID also completed a work plan and quality assurance project plan for selenium monitoring in 2017 for drains within the IID service area to address eight recommendations from a 2010 selenium study. Final approvals from the Colorado River Basin Regional Water Quality Control Board were received in 2018. The work plans outlines the actions that IID will take to help monitor and improve the understanding of selenium and quality of water within the Imperial Valley watersheds in an attempt to protect the beneficial uses of waterbodies that receive agricultural drainage flows.

<sup>2</sup>In January 2015, the Regional Water Quality Control Board adopted Order R7-2015-0008, a "Conditional Waiver of Waste Discharge Requirements for Agricultural Wastewater Discharges and Discharges of Wastes from Drain Operation and Maintenance Activities within the Imperial Valley, Imperial County, California". The waiver is good for five years; however, being conditional, means that the water board can revoke the waiver at any time.



The 2017 annual monitoring report for total suspended solids (TSS) levels showed that eight of 16 drain sites achieved the target goals. Five of the seven monitored main drains discharging into the New or Alamo Rivers achieved the 200 mg/l goal. The exceptions were the Rose Drain, which averaged 237.5 mg/l, and South Central Drain, which averaged 287.5 mg/l. Monitored sites within the Alamo River achieved the final 200 mg/l goal in two of six locations. Of the three monitored sites within the New River, only one achieved the final 200 mg/l goal. The 2018 annual monitoring report for TSS levels documented that only six of the 16 drainage sites achieved the target goals. Only three of the seven monitored main drains discharging into the New or Alamo Rivers achieved the 200 mg/l sedimentation/siltation TMDL goal. Only one of six locations within the Alamo River and two of the three locations within the New River achieved the goal.

### VEGETATION MANAGEMENT PROGRAM

The Vegetation Management Program's primary objective is to maintain an effective and efficient water distribution and drainage system while instituting sound principles of vegetation control practices. This must be accomplished while maintaining water quality and preventing contaminants from entering into the drainage system. The Vegetation Management Program is responsible for identifying desirable/beneficial plant species and controlling unwanted/noxious weeds by coordinating mechanical and chemical control, as well as other Integrated Pest Management techniques. Beneficial plant species such as Bermuda grass and salt grass are left undisturbed on drain banks in order to help prevent erosion and to shade out unwanted weeds. Undesirable vegetation is treated with herbicides when the chemicals will be effective and economical for the district. In other instances, unwanted weeds may be removed mechanically.

The district's spray contractor for 2017 and 2018 was Eynon Management, Inc. Eight designated spray trucks work year-round to apply various types of herbicides to control weeds along the district's canals, drains, reservoirs and other right-of-ways. A total of 6,187 miles were sprayed in the 2017 and 5,447 miles in 2018.



### SAFE DRINKING WATER PROGRAM

Due to the federal and state Safe Drinking Water Acts, IID water users who receive service canal water at their homes or businesses must have an alternate source of water for drinking and cooking purposes. Any service canal customer not receiving water from one of the State Water Resources Control Board - Division of Drinking Water Approved Providers, a municipal (city) water system, or a private permitted water system (not a point-of-entry filtration system), must arrange to have water delivered to their home or business by an approved provider.

Through much effort and customer participation, IID has achieved the goals outlined in its compliance agreement with the California Department of Public Health to satisfy state and federal Safe Drinking Water Act regulations. IID monitors all service pipe connections to ensure compliance with the alternative water delivery service requirement, and reports on its efforts annually to the state. A total of 2,802 service accounts were monitored in 2017 for compliance. The number of accounts monitored dropped to 2,740 by 2018, either because they permanently connected to a municipal system or units were not occupied.

The district also offers assistance, helping to pay for the monthly costs of water delivery service to customers' homes when they are unable to afford the service for bulk or potable water. This is done in order to avoid water disconnect and to ensure IID maintains compliance with Environmental Health Services requirements, as administered through the California Department of Public Health<sup>3</sup>. To qualify, customers need to meet household income guidelines.

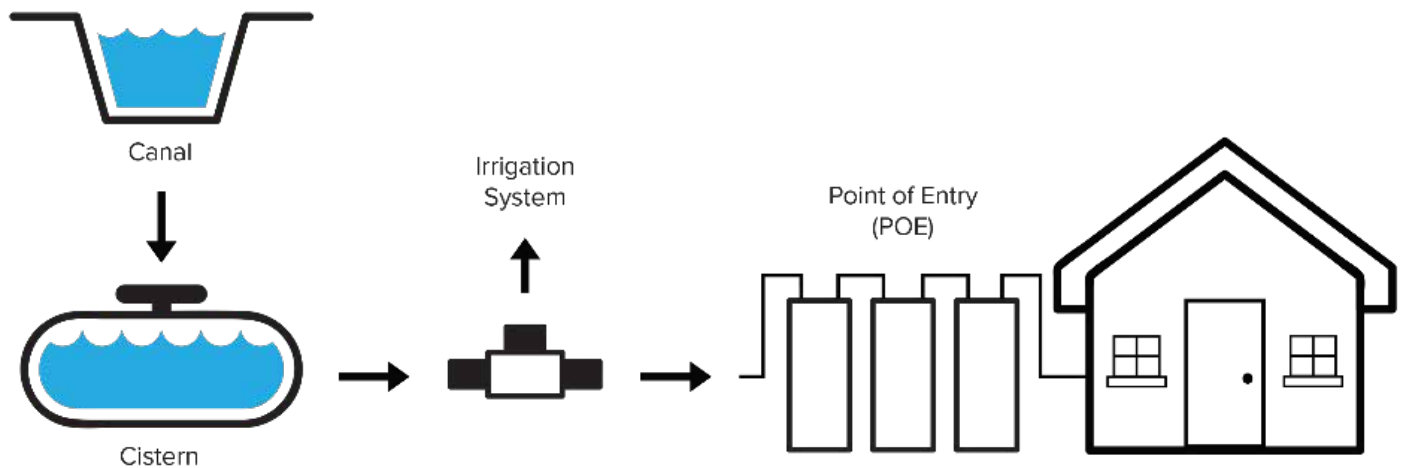
### WATER FILTRATION SYSTEM POINT OF ENTRY PILOT PROGRAM KICKS OFF

The district, in partnership with Imperial County agreed in 2017 to implement a two-year pilot program that will help rural home-sites obtain a Point of Entry water filtration system to provide additional protection for the use of non-potable water in the household. The filtration systems are designed to remove impurities such as microbial contaminants and particulates including sand, rust and salt that may be contained in the canal water.

The system would be installed on the main water line between the canal water and the home for general use such as bathing and cleaning, ensuring that safe water standards are achieved. While a Point of Entry filtration system serves as an added safety measure, it is not certified by the state for drinking water purposes, so water delivery service from an approved provider is still required. State and federal regulations require that all homes or businesses receiving untreated canal water have an alternative source of water delivery service for drinking and cooking purposes from an approved provider.

Up to \$200,000 per agency was committed in 2018 in addition to staff time for the implementation of the two-year period. During the two-year pilot program, it is anticipated that as many as 200 households may receive assistance. IID and County of Imperial water users that are income-qualified may be provided with financial assistance for the purchase, installation, maintenance and water quality monitoring expenses. Households enrolled under the districts Alternative Water Delivery Assistance Program are prequalified to participate in the Pilot Program (with landowner approval if property is tenant occupied). Households interested in participating in the program are encouraged to contact Carrie Cruz with the IID's Safe Drinking Water Program, at **(760) 339-9191**.

### COMMON POINT OF ENTRY SETUP

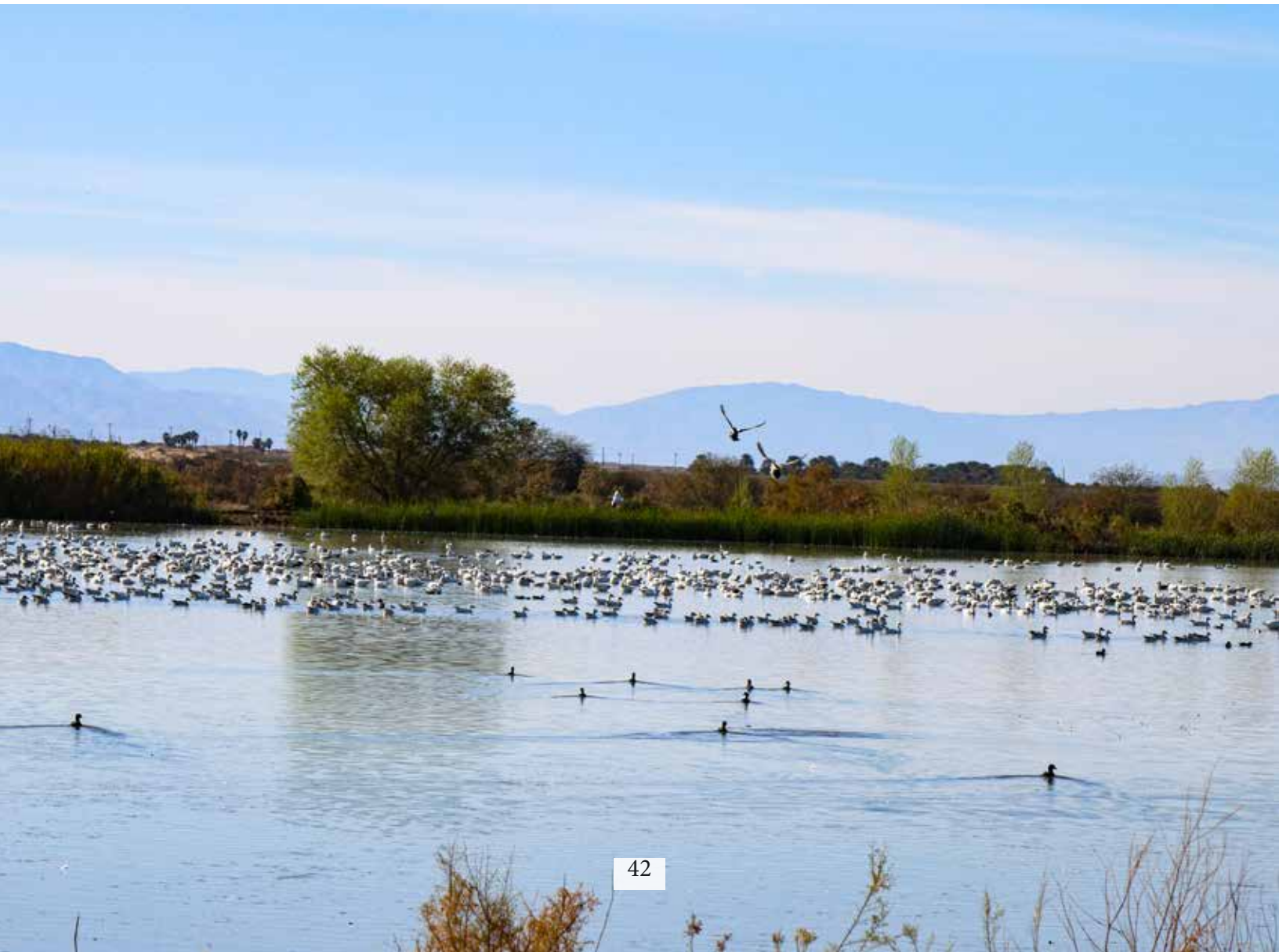


<sup>3</sup> To avoid penalties that could exceed \$25,000 a day, IID strictly enforces enrollment with an alternative potable water service purveyor. IID maintains a compliance database and provides an annual update to CDPH.

## ENVIRONMENTAL MITIGATION PROJECTS & PROGRAMS

The Habitat Conservation Plan Implementation Team, USFWS, CDFW and IID, with attendance from CVWD and SDCWA met quarterly within 2017 to discuss mitigation activities and the implementation of various environmental projects to help offset impacts from the water transfers. While many of the programs are associated with monitoring and mitigation, the ultimate objective is to implement environmental restoration projects such as the ones noted below.

- **Salton Seawater Marine Habitat Pilot Project** - IID collaborated with Sephton Water Technology on a pilot project that would evaluate the potential to develop solar gradient ponds in select areas around the Salton Sea. The project was designed and permitted in 2017, and was still pending construction at the end of 2018.
- **Red Hill Bay Project** - The Red Hill Bay project is a 420 acre restoration project in partnership with the Sonny Bono Salton Sea National Wildlife Refuge. The purpose of the Red Hill Bay Restoration project is to restore and improve the quality of wetland habitat to conditions similar to the Salton Sea shoreline from decades ago. Project costs are estimated at \$3.5 million. The project initiated construction in 2017 and is expected to be completed sometime in 2019.
- **Species Conservation Habitat** - This project is a state sponsored project with IID participation. At build-out, the project is proposed to consist of 3,770 acres of wetland habitat (for fish eating birds such as pelicans, cormorants and ospreys). The project is anticipated to cost \$27 million with IID constructing the power line to support the water pumping and mixing of pond water from the New River and the Salton Sea. In 2017, IID assisted the SCH project by constructing a power line that will support the water pumping and mixing of pond water from the New River and the Salton Sea. IID worked diligently throughout 2018 to assist the state in obtaining access to the project site in furtherance of all aspects of the design-build process.





IID had a number of ongoing environmental mitigation habitat monitoring programs during 2017 and 2018.

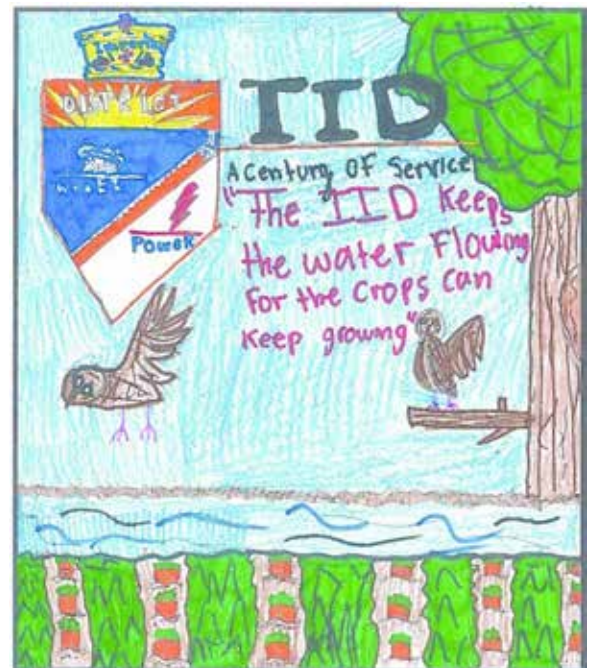
- **Managed Marsh Complex Wildlife Monitoring** - The Managed Marsh Complex was constructed as part of the mitigation requirements in the draft Habitat Conservation Plan and Proposed Natural Community Conservation Plan for QSA mitigation. Over 735 acres of managed marsh is monitored by IID staff. A habitat assessment of 360 acres was completed in 2017, with final reporting concluding in 2018. Monthly wildlife monitoring was conducted during early mornings which concluded that a large variety of bird species frequents the marsh, as well as small mammals and reptiles. Annual water and sediment sampling in the full project was also conducted to monitor total selenium.
- **Desert Pupfish Mitigation** - The desert pupfish is a rare species of fish that is a federally listed endangered species in the U.S. Presently, the only remaining natural populations of the desert pupfish are located at a few sites in the Salton Sea drainage area in California and the Colorado River Delta in Baja California and Sonora Mexico. IID constructed a small refugium facility in 2016, located at IID's fish hatchery complex for desert pupfish. Over 1,000 pupfish were captured during monitoring efforts in 2017 and by 2018, the numbers had doubled.
- **Burrowing Owl Mitigation Program** - Burrowing owls are protected under the Migratory Bird Treaty Act in Canada, the U.S. and Mexico. IID continues to conduct burrowing owl pre-inspection surveys for all construction activities and scheduled maintenance activities. In 2017, at least 80 construction sites were evaluated for presence of burrowing owls or other covered species. Their monitored and operation and maintenance continued through 2018.
- **Southwestern Willow Flycatcher** - The southwestern willow flycatcher is a federally endangered bird that breeds in dense riparian vegetation near surface water or saturated soils in the American Southwest. Its habitat is surveyed annually by IID staff for suitability and continued presence of the species, at various locations around the Imperial Valley.

More information regarding environmental mitigation programs can be found in IID's Water Conservation and Transfer Project 2017 and 2018 Annual Mitigation Implementation Report for In-Valley Permits under each respective year. The QSA Joint Powers Authority provides funding for environmental mitigation activities.

## IID AND KID WISE AT IMPERIAL VALLEY ALIVE! MAGAZINE

IID engages in numerous public outreach activities designed for the betterment of our communities. IID professionals participate in a "Speakers Bureau" within the district that go out to schools, colleges, libraries, museums, professional and technical organizations and similar community groups to speak on a number of topics. Areas of interest include the history of water, restoration of the Salton Sea, water safety, energy efficiency, on-farm efficiency and similar subjects that are important to IID and the communities we serve. The highest interest comes from our local elementary schools and in the area of environmental mitigation and conservation which ramped up during 2017 and 2018. The Environmental Mitigation Section under the Water Department implements all environmental presentations.

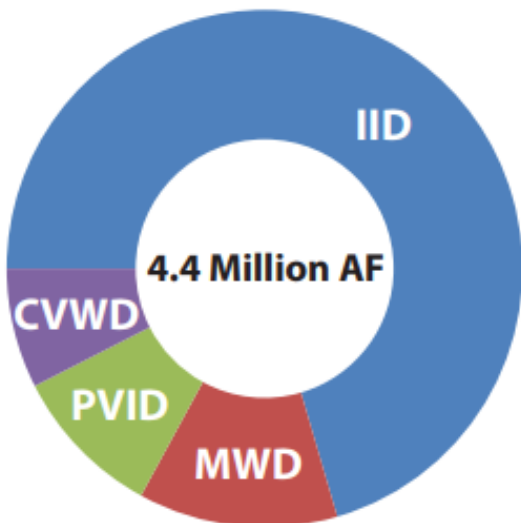
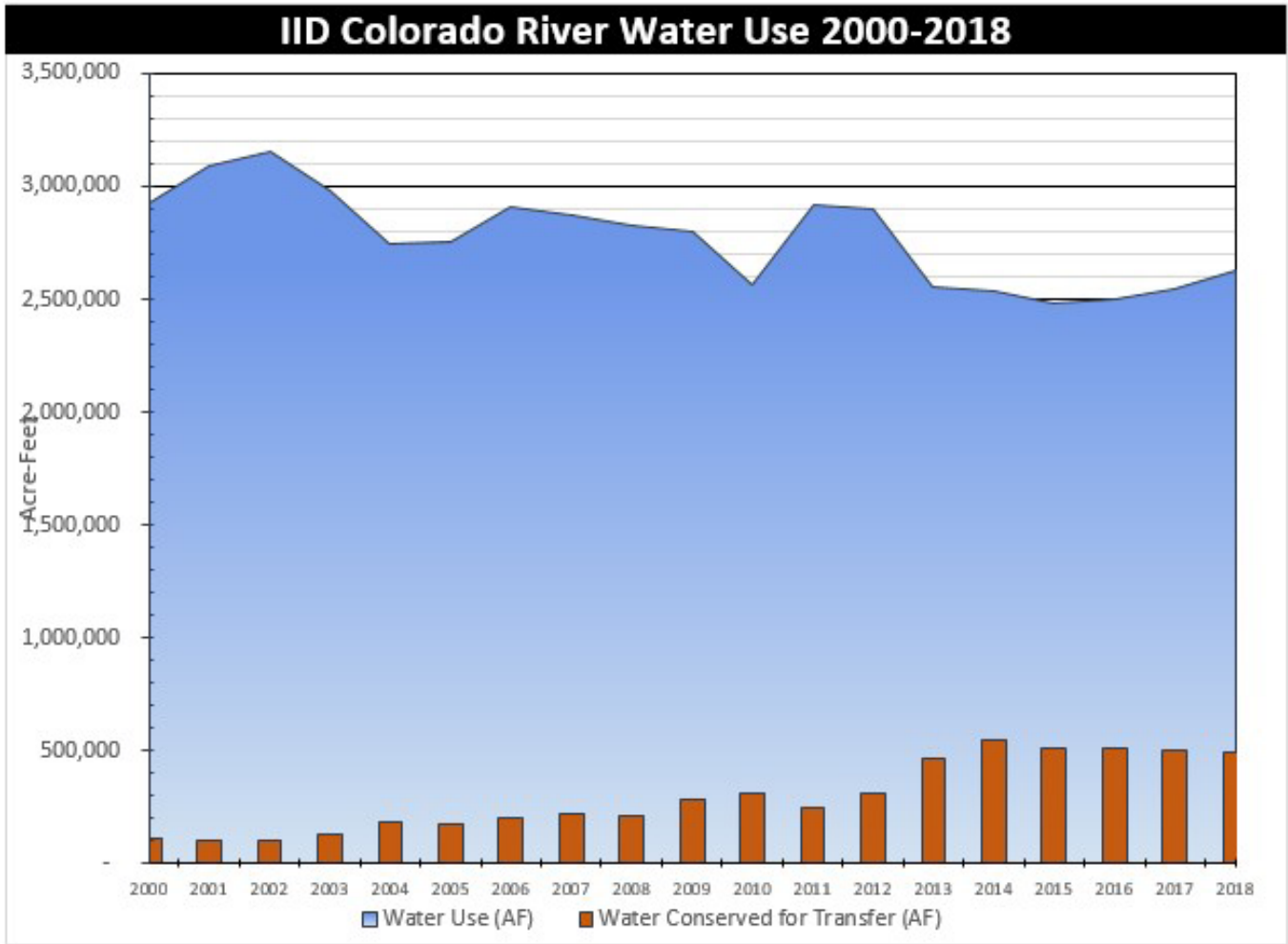
The Environmental Mitigation Section enhanced their outreach program in 2018 by encouraging school kids to create art around the topic of discussion. The artwork must incorporate the IID logo for an opportunity to be published as a promotional ad for IID. Water Department staff reviews the submissions and selects the key messages captured by the kids. The selected artwork is then published in the Imperial Valley Alive! Magazine. Imperial Valley Alive! Magazine is a quarterly magazine that highlights numerous events from community festivals to cultural and recreational activities in the region. The magazine dedicates a Kid Wise page for IID to showcase the top four winners. To learn more about this free service please visit the IID website at [www.iid.com/about-iid/community/speakers-bureau](http://www.iid.com/about-iid/community/speakers-bureau).



<sup>4</sup> Minckley 1973, U.S. Fish and Wildlife Service [USDI, FWS] 1993.



# WATER FACTS & FIGURES

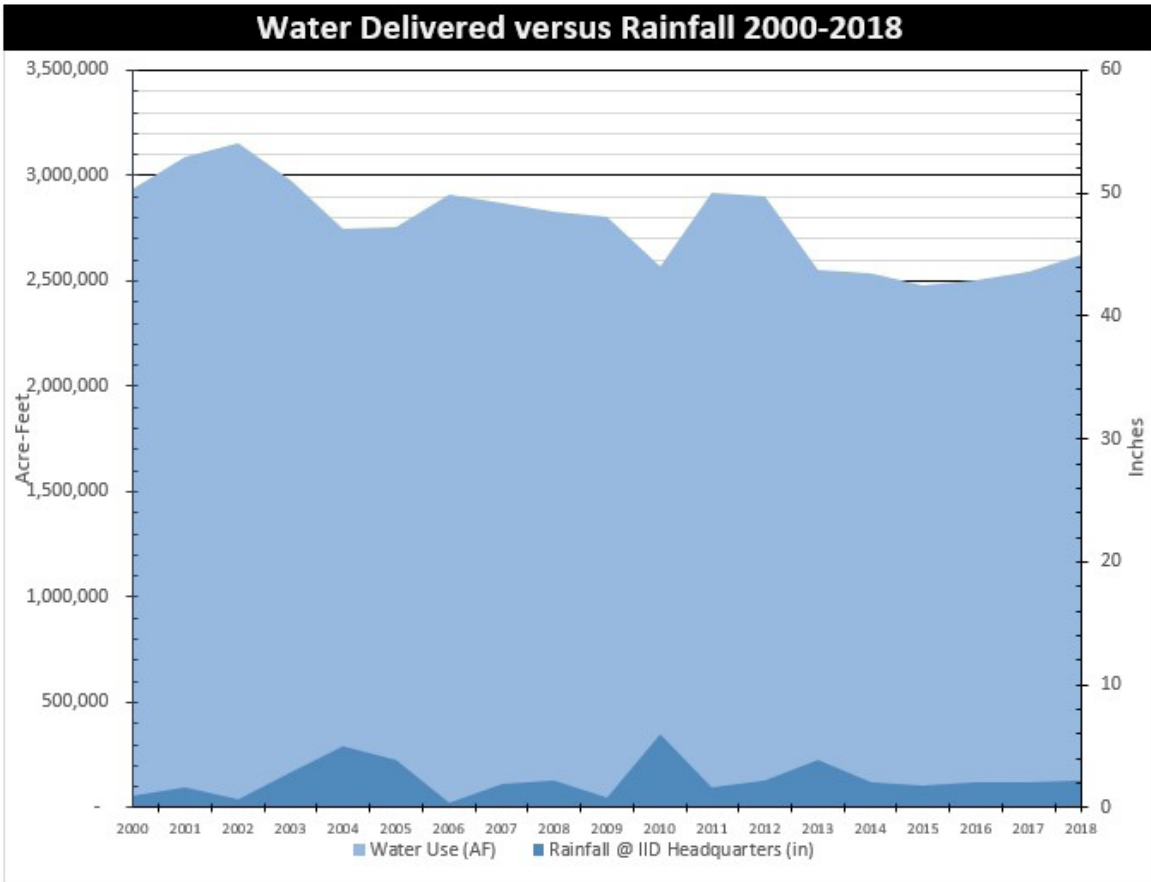
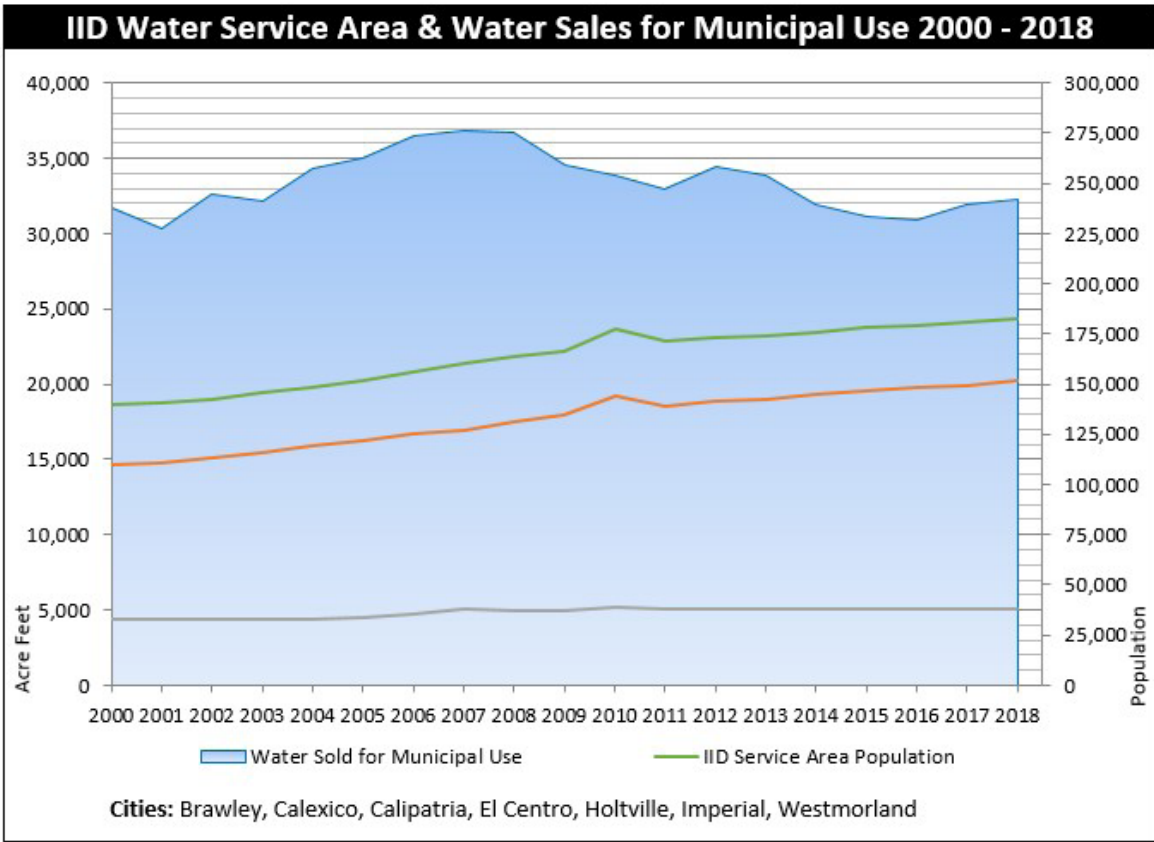


### QSA Colorado River Use Annual Apportionment Cap for Ag Consumptive Use (Excluding Transfers and Exchanges)

User	Apportionment (AF)
Imperial Irrigation District	3,100,000
Metropolitan Water District*	550,000
Palo Verde Irrigation District & Yuma Project*	420,000
Coachella Valley Water District	330,000

NOTE: Excludes Transfers and Exchanges.

\* Palo Verde Irrigation District & Yuma Project Reservation Division are not signatories to the QSA and did not agree to a cap; value represents a contractual obligation by MWD to assume responsibility for any overages or have access to any unused water below this value.



## 2017 & 2018 WATER OVERVIEW

Description	2017	2018
Total Customers (Farm Accounts)	5,057	5,059
Owner Operated	1,826 (36%)	1,824 (36%)
Tenant Operated	3,231 (64%)	3,235 (64%)
Schedule 1 General Agriculture Water Rate	\$20/AF	\$20/AF
Gross Area	1,061,637 AC	1,061,637 AC
Farmable Area	471,273 AC	471,682 AC
Net Irrigated Area (includes leached areas)	425,006 AC	444,682 AC
IID Fallowing Program (QSA & IID/SDCWA Transfer)	46,267 AC	27,584 AC
Water Received for IID Use (AAC Station 60)	2,548,171 AF	2,625,422 AF
Miles of Canals (AAC, Mains, Laterals)	1,668	1,668
Miles of Drains (AAC, Divisions, Drainage)	1,456	1,456

## IID WATER DELIVERED IN ACRE-FEET

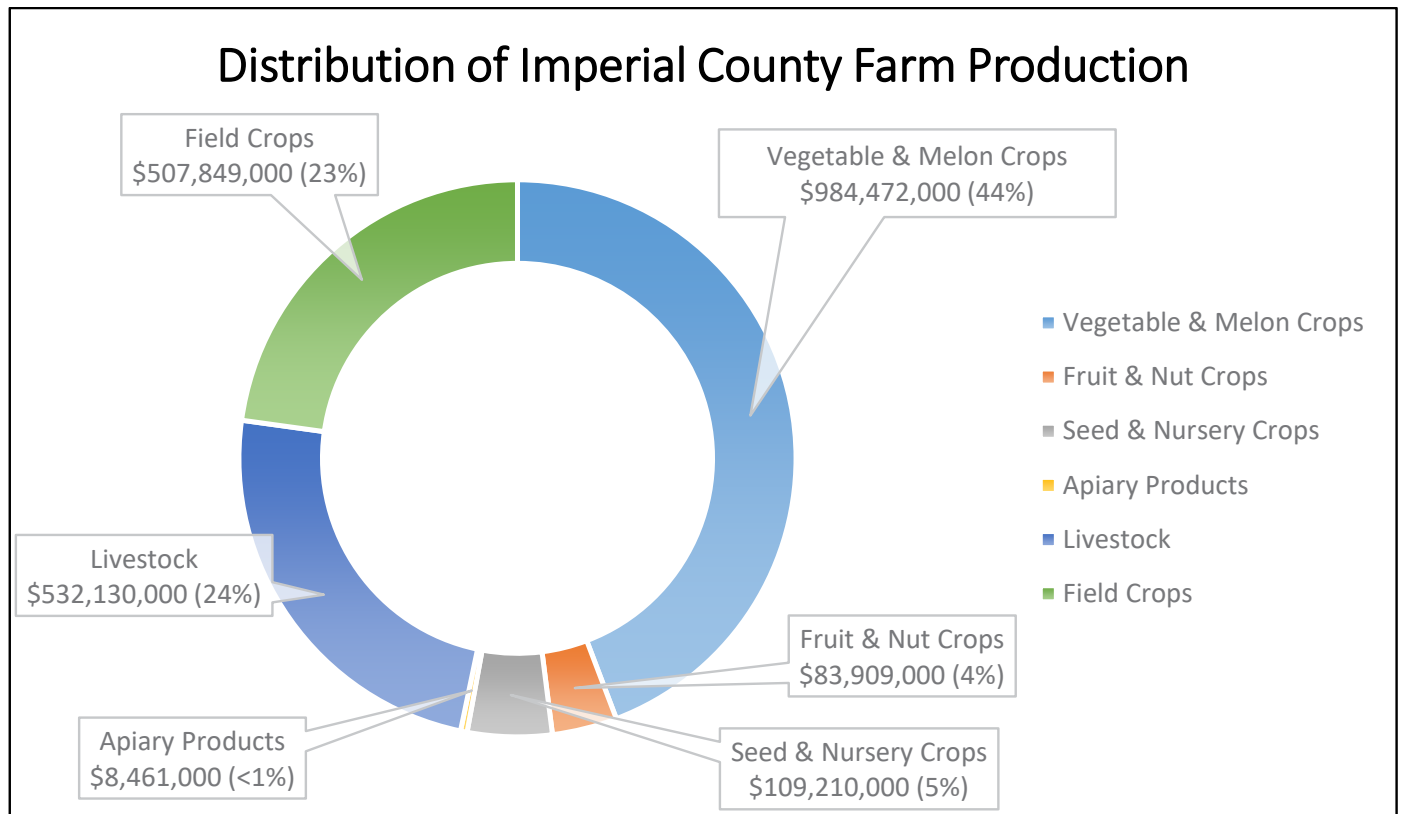
Year	Acre-Feet
2014	2,349,050 AF
2015	2,328,636 AF
2016	2,311,265 AF
2017	2,371,327 AF
<b>2018</b>	<b>2,503,504 AF</b>

Source: Annual Delivered to Users Report.



## 2018 IID WATER RATE SCHEDULE

Description	Rate
Agricultural Water (Schedule No. 1- General Agriculture)	Calendar year 2017 - \$20/AF
	Calendar year 2018 - \$20/AF
	January 1, 2019 - \$20/AF
Municipal Water (Schedule No. 14) – Municipal and Miscellaneous Services	\$20/AF
Pipe Service (Schedule No. 3 – Pipe and Small Parcel Service)	Tier 1 - \$250/yr
	Tier 2 - \$100/ac/yr
Conserved Water (Schedule No. 13 – Water delivered outside IID Boundary, inside Imperial County)	Calendar year 2017 - \$526.72/AF
	Calendar year 2018 - \$541.44/AF
Annual Water Availability Charge	\$4 gross acre



Source: 2018 Imperial County Agricultural Crop & Livestock Report.

## 2018 IID TOP TEN CROPS BY ACRES

2018 Rank	2017 Rank	Crop Description	Acres
1	1	Alfalfa (All)	138,453
2	2	Bermudagrass (All)	55,587
3	3	Sudangrass (All)	48,692
4	4	Lettuce (All)	29,631
5	5	Sugarbeets	25,632
6	6	Wheat	22,181
7	8	Kleingrass	17,932
8	7	Carrots (All)	15,897
9	9	Onions (All)	12,912
10	10	Broccoli (All)	12,282



## 2017 & 2018 PRODUCTION SUMMARY

Category	Harvested Acres		Changes in Harvested Acres	Gross Value (000's)		Changes in Gross Value
	2017	2018		2017	2018	
Livestock				\$452,708	<b>\$532,130</b>	17.54%
Field Crops	326,667	<b>341,229</b>	4.46%	\$365,819	<b>\$507,849</b>	48.83%
Vegetable & Melon Crops	128,769	<b>132,604</b>	2.98%	\$1,018,764	<b>\$984,472</b>	-3.37%
Fruit & Nut Crops	10,209	<b>10,328</b>	1.17%	\$85,186	<b>\$83,909</b>	-1.50%
Seed & Nursery Crops	73,627	<b>53,031</b>	-27.97%	\$137,286	<b>\$109,210</b>	-20.45%
Apiary Products				\$5,837	<b>\$8,461</b>	44.95%
<b>Total</b>	<b>539,272</b>	<b>537,192</b>	<b>-0.39%</b>	<b>\$2,065,600</b>	<b>\$2,226,031</b>	<b>7.77%</b>

Source: 2018 Imperial County Agricultural Crop & Livestock Report.

## 2018 TOP COMMODITIES

2018 Rank	2017 Rank	Commodity	2018 Gross Value
<b>1</b>	1	Cattle	\$469,832,000
<b>2</b>	3	Alfafa	\$218,422,000
<b>3</b>	2	Leaf Lettuce	\$122,627,000
<b>4</b>	4	Head Lettuce	\$115,162,000
<b>5</b>	5	Broccoli	\$100,982,000
<b>6</b>	7	Onion	\$98,644,000
<b>7</b>	11	Bermuda Grass	\$95,489,000
<b>8</b>	6	Spinach	\$84,291,000
<b>9</b>	8	Alfalfa Seed	\$68,459,000
<b>10</b>	9	Carrots	\$61,296,000

Source: 2018 Imperial County Agricultural Crop & Livestock Report.

LIVESTOCK							
Item	Year	Head	Unit Gain	Total Gain	Unit	Value Per Unit	Gross Value
Cattle (Feedlot)	2018	379,129	10.27	3,894,412	Cwt	\$120.64	\$469,832,000
	2017	344,937	10.05	3,467,192	Cwt	\$111.67	\$387,170,000
Sheep (Feedlot)	2018	*	*	*	Cwt	*	*
	2017	60,000	0.53	31,620	Cwt	\$136.05	\$4,302,000
Sheep (Wool)	2018	**	**	**	Lbs.	**	**
	2017	60,000	4.60	276,000	Lbs.	\$1.26	\$347,000
Aquatic Products (Fish & Algae)	2018						\$10,244,000
	2017						\$10,494,000
Misc. Livestock	2018						\$52,054,000
	2017						\$50,395,000
<b>Total 2018</b>						<b>Value</b>	<b>\$532,130,000</b>
Total 2017						Value	\$452,708,000

Source: Imperial County Agricultural Commissioner 2018 Annual Crop and Livestock Report

Misc. Livestock may include calves, replacement cattle, dairy animals, milk, manure/compost, California Mid-Winter Fair & Fiesta show Animals.

\* 2018 Sheep (Feeders) is now included in Misc. Livestock

\*\* 2018 Sheep (Wool) is now included in Misc. Livestock

Cwt= 100 pounds



## APIARY PRODUCTS

Crop	Year	Hives	Yield Per Hive	Total Units	Unit	Value Per Unit	Gross Value
Honey	2018	36,659	10.66	390,624	Lbs	\$1.78	\$694,000
	2017	26,176	10.18	266,404	Lbs	\$1.88	\$500,000
Wax	2018	11,594	1.09	12,583	Lbs	\$2.74	\$35,000
	2017	8,200	0.76	6,259	Lbs	\$3.55	\$22,000
Pollination	2018	107,812			Colony	\$71.72	\$7,732,000
	2017	86,520			Colony	\$61.43	\$5,315,000
<b>Total 2018</b>						<b>Value</b>	<b>\$8,461,000</b>
Total 2017						Value	\$5,837,000

Source: 2018 Imperial County Agricultural Crop & Livestock Report.



FIELD CROPS							
Crop	Year	Harvested Acres	Yield Per Acre	Total	Unit	Value Per Unit	Gross Value
Alfalfa Hay	2018	155,171	7.54	1,169,723	Ton	\$186.76	\$218,455,000
	2017	151,620	6.06	918,768	Ton	\$162.04	\$148,879,000
Bermuda Grass Hay	2018	55,638	10.22	568,757	Ton	\$167.89	\$95,489,000
	2017	52,101	6.50	338,825	Ton	\$149.43	\$50,632,000
Cotton (Lint) <sup>1/</sup>	2018	3,075	3.45	10,614	Bale	\$432.38	\$4,589,000
	2017	3,109	4.32	13,432	Bale	\$397.75	\$5,343,000
Cotton (Seed)	2018			4,130	Ton	\$150.00	\$619,000
	2017			4,653	Ton	\$181.20	\$843,000
Klein Grass Hay	2018	17,932	13.03	233,564	Ton	\$175.80	\$41,061,000
	2017	14,510	8.45	122,624	Ton	\$169.00	\$20,723,000
Pastured Crops <sup>2/</sup>	2018	43,371			Acre	\$39.39	\$1,708,000
	2017	38,509			Acre	\$34.12	\$1,314,000
Straw (Baled)	2018			128,499	Ton	\$37.23	\$4,785,000
	2017			140,151	Ton	\$36.65	\$5,136,000
Sudan Grass Hay	2018	53,562	6.41	343,094	Ton	\$153.63	\$52,708,000
	2017	48,331	5.62	271,637	Ton	\$175.88	\$47,776,000
Sugar Beets	2018	24,417	47.73	1,165,423	Ton	\$47.08	\$54,868,000
	2017	24,929	45.07	1,123,667	Ton	\$47.70	\$53,599,000
Wheat	2018	24,932	3.43	85,530	Ton	\$157.50	\$13,471,000
	2017	23,441	3.21	75,324	Ton	\$223.90	\$16,865,000
Misc. Field Crops	2018	6,502					\$20,096,000
	2017	8,626					\$14,709,000
<b>Total 2018</b>	<b>Acres</b>	<b>341,229</b>				<b>Value</b>	<b>\$507,849,000</b>
Total 2017	Acres	326,667				Value	\$365,819,000

Source: 2018 Imperial County Agricultural Crop & Livestock Report.

Misc. Field Crops may include: Barley, Field Corn, Flax, Mixed Grasses, Oat, Ryegrass, Safflower, Sesbania, Sorghum Grain, Sorghum Silage, Sugar Beet Pulp, Sugar Beet Molasses, Sugarcane, Triticale.

<sup>1/</sup>Cotton Bales = 500 Pounds.

<sup>2/</sup>Pastured Crops are pastured once and the acreage is not included in the total and may include: Alfalfa, Bermuda Grass, Permanent Pasture.



VEGETABLE & MELON CROPS							
Crop	Year	Harvested Acres	Yield Per Acre	Total Units	Unit	Value Per Unit	Gross Value
Broccoli (Market)	2018	13,726	460.22	6,316,932	26 Lbs	\$15.99	\$100,982,000
	2017	13,785	442.11	6,094,475	26 Lbs	\$15.56	\$94,806,000
Cabbage (Market)	2018	2,044	777.25	1,588,700	45 Lbs	\$13.71	\$21,777,000
	2017	1,949	642.11	1,252,524	45 Lbs	\$21.62	\$27,079,000
Carrots Market	2018	4,764	932.29	4,441,707	50 Lbs	\$3.15	\$13,977,000
	2017	4,940	975.76	4,820,247	50 Lbs	\$2.75	\$13,264,000
Processing & Other	2018	11,117	26.41	293,541	Ton	\$161.20	\$47,319,000
	2017	11,525	31.64	364,677	Ton	\$114.53	\$41,765,000
Total Carrots	2018	15,881					\$61,296,000
	2017	16,465					\$55,029,000
Cauliflower (Market)	2018	5,091	640.00	3,283,695	23 Lbs	\$12.12	\$39,794,000
	2017	4,794	740.75	3,551,135	23 Lbs	\$12.91	\$45,858,000
Head Lettuce Naked Pack	2018			2,274,594	50 Lbs	\$9.27	\$21,076,000
	2017			2,221,335	50 Lbs	\$9.71	\$21,558,000
Wrap Pack	2018			5,686,485	40 Lbs	\$9.13	\$51,934,000
	2017			5,553,338	40 Lbs	\$9.35	\$51,938,000
Bulk	2018			4,549,188	50 Lbs	\$9.27	\$42,152,000
	2017			4,442,671	50 Lbs	\$9.71	\$43,116,000
Total Head Lettuce	2018	16,241		12,510,267	Ctn	\$9.21	\$115,162,000
	2017	17,115		12,217,344	Ctn	\$9.54	\$116,612,000
Leaf Lettuce	2018	13,953	404.21	5,639,991	35 Lbs	\$21.74	\$122,627,000
	2017	15,440	645.33	9,963,947	35 Lbs	\$21.85	\$217,717,000
Spring Mix	2018	2,996	9,354.00	28,027,390	Lbs	\$0.58	\$16,256,000
	2017	2,557	11,912.67	30,460,689	Lbs	\$0.56	\$17,004,000

Source: 2018 Imperial County Agricultural Crop & Livestock Report.

Spring Mix may include: Green, Red and Baby Leaf Lettuce, Mizuna, Mustard

## CONTINUED VEGETABLE & MELON CROPS

Crop	Year	Harvested Acres	Yield Per Acre	Total Units	Unit	Value Per Unit	Gross Value
Onions Market	<b>2018</b>	<b>4,708</b>	<b>2,377.35</b>	<b>11,192,554</b>	<b>50 Lbs</b>	<b>\$6.60</b>	<b>\$73,834,000</b>
	2017	4,153	1,668.75	6,930,319	50 Lbs	\$7.77	\$53,829,000
Processor	<b>2018</b>	<b>7,852</b>	<b>19.15</b>	<b>153,161</b>	<b>Ton</b>	<b>\$161.98</b>	<b>\$24,810,000</b>
	2017	8,934	18.53	165,547	Ton	\$152.46	\$25,240,000
Total Onions	<b>2018</b>	<b>12,560</b>					<b>\$98,644,000</b>
	2017	13,087					\$79,069,000
Potatoes	<b>2018</b>	<b>2,087</b>	<b>250.95</b>	<b>523,733</b>	<b>Cwt</b>	<b>\$34.93</b>	<b>\$18,294,000</b>
	2017	1,589	491.33	780,721	Cwt	\$17.99	\$14,044,000
Spinach	<b>2018</b>	<b>8,585</b>	<b>11,431.54</b>	<b>98,139,768</b>	<b>Lbs</b>	<b>\$0.86</b>	<b>\$84,291,000</b>
	2017	9,619	11,160.38	107,351,678	Lbs	\$0.79	\$84,450,000
Sweet Corn	<b>2018</b>	<b>8,569</b>	<b>358.00</b>	<b>3,067,702</b>	<b>50 Lbs</b>	<b>\$13.22</b>	<b>\$40,540,000</b>
	2017	7,300	331.52	2,420,096	50 Lbs	\$16.01	\$38,754,000
Romaine Lettuce	<b>2018</b>	<b>7,787</b>	<b>750.75</b>	<b>5,846,099</b>	<b>35 Lbs</b>	<b>\$9.47</b>	<b>\$55,371,000</b>
	2017	7,867	419.73	3,301,985	35 Lbs	\$14.68	\$48,480,000
Misc. Vegetables	<b>2018</b>	<b>16,098</b>					<b>\$156,688,000</b>
	2017	10,349					\$134,702,000
Cantaloupes	<b>2018</b>	<b>4,330</b>	<b>635.09</b>	<b>2,749,956</b>	<b>40 Lbs</b>	<b>\$8.90</b>	<b>\$24,481,000</b>
	2017	4,790	536.12	2,568,015	40 Lbs	\$9.25	\$23,762,000
Honeydew & Misc. Melons	<b>2018</b>	<b>1,241</b>	<b>692.13</b>	<b>858,927</b>	<b>40 Lbs</b>	<b>\$11.95</b>	<b>\$10,261,000</b>
	2017	1,035	691.49	715,694	40 Lbs	\$13.93	\$9,972,000
Watermelons	<b>2018</b>	<b>1,415</b>	<b>31.92</b>	<b>45,170</b>	<b>Ton</b>	<b>\$398.68</b>	<b>\$18,008,000</b>
	2017	1,028	29.25	30,069	Ton	\$380.68	\$11,426,000
<b>Total 2018</b>	<b>Acres</b>	<b>132,604</b>				<b>Value</b>	<b>\$984,472,000</b>
Total 2017	Acres	128,769				Value	\$1,018,764,000

Source: 2018 Imperial County Agricultural Crop & Livestock Report.

Misc. Vegetables may include: Artichoke, Arugula, Asparagus, Bok Choy, Celery, Cilantro, Collards, Dill, Eggplant, Endive, Fennel, Gai Lon, Garbanzo Beans, Herbs, Kale, Mint, Mizuna, Mustard, Napa Cabbage, Okra, Oregano, Parsley, Peas, Pepper, Radish, Rapini, Red Beets, Rosemary, Squash, Sweet Basil, Swiss Chard, Tat Soi.

FRUIT & NUT CROPS							
Crop	Year	Harvested Acres	Yield Per Acre	Total	Unit	Value Per Unit	Gross Value
Dates	2018	2,825	3.30	9,321	Ton	\$2,598.83	\$24,224,000
	2017	2,629	3.45	9,080	Ton	\$2,831.33	\$25,712,000
Grapefruit	2018	692	12.08	8,362	Ton	\$486.93	\$4,072,000
	2017	770	10.64	8,190	Ton	\$560.42	\$4,590,000
Lemons	2018	4,612	12.66	58,383	Ton	\$749.27	\$43,745,000
	2017	4,419	11.42	50,444	Ton	\$865.00	\$43,634,000
Tangelos	2018	532	4.76	2,532	Ton	\$553.83	\$1,402,000
	2017	579	4.63	2,680	Ton	\$498.00	\$1,335,000
Tangerines	2018	570	7.50	4,275	Ton	\$754.67	\$3,226,000
	2017	563	5.67	3,190	Ton	\$938.25	\$2,993,000
Misc. Citrus, Fruit & Nut Crops	2018	930					\$6,335,000
	2017	1,249					\$5,941,000
Citrus By-Products	2018						\$905,000
	2017						\$981,000
<b>Total 2018</b>	<b>Acres</b>	<b>10,329</b>				<b>Value</b>	<b>\$83,909,000</b>
Total 2017	Acres	10,209				Value	\$85,186,000

Source: 2018 Imperial County Agricultural Crop & Livestock Report.

Misc. Fruit & Nut Crops may include: Orange, Grape, Lime, Mango, Olives, Pecans, Kumquat, Jujube.



# CROP SURVEY

## 2018 Inventory of Areas Receiving Water

GARDEN CROPS	ACRES			FIELD CROPS	ACRES		
	2018	2017	2016		2018	2017	2016
ALOE VERA	72	41	38	ALFALFA, FLAT	79,835	76,997	80,636
ARTICHOKE	91	64	40	ALFALFA, ROW	35,702	27,013	28,597
ARTICHOKE (SEED)	11	20	13	ALFALFA (SEED)	22,916	44,387	39,409
BEANS	0	0	111	BAMBOO	1	1	1
BROCCOLI	10,735	10,663	11,316	BARLEY	4	153	10
BROCCOLI (SEED)	1,547	2,353	829	BERMUDAGRASS	46,701	31,230	29,893
BRUSSELS SPROUTS	0	54	26	BERMUDAGRASS (SEED)	8,886	20,820	19,929
CABBAGE	2,014	1,933	1,623	CORN, FIELD	2,250	4,123	3,723
CABBAGE, CHINESE	249	140	4	CORN, SILAGE	0	0	40
CARROTS	15,881	16,465	15,472	FLAX	35	0	0
CARROTS (SEED)	16	10	118	GRASS, MIXED	817	611	573
CAULIFLOWER	3,957	3,699	3,129	KLEINGRASS	17,932	14,510	14,590
CELERY	834	1,030	750	OATS	823	904	935
CELERY (SEED)	126	249	0	QUINOA	0	74	12
CILANTRO	569	1,126	1,565	RAPESEED	6	79	10
COLLARDS	0	70	12	RED BEETS	118	230	369
CORIANDE SEED	280	428	0	RYEGRASS	1,188	1,221	1,710
CORN, SWEET	8,569	7,300	7,407	RYEGRASS (SEED)	0	0	35
CUCUMBERS	0	30	54	SAFFLOWER	13	15	75
DILL	15	0	11	SESBANIA	518	294	76
EGGPLANT	17	0	0	SORGHUM GRAIN	40	38	115
FENNEL	0	63	142	SORGHUM SILAGE	33	139	423
FLOWERS	215	296	278	SPIRULINA ALGAE	85	85	87
FLOWER (SEED)	71	0	0	SUDANGRASS	48,576	43,219	38,379
GARBANZO BEANS	58	0	324	SUDANGRASS (SEED)	116	615	0
HERBS, MIXED	85	33	28	SUGARBEETS	25,632	26,498	25,756
KALE	269	286	255	SUGARCANE	419	472	316
LETTUCE	7,720	8,687	8,717	TRITICALE GRAIN	64	122	62
LETTUCE (SEED)	22	0	0	WHEAT	22,181	16,988	27,308
LETTUCE, BUTTER	74	0	80	<b>TOTAL FIELD CROPS</b>	<b>314,891</b>	<b>310,838</b>	<b>313,069</b>
LETTUCE, CHINESE	0	0	47	<b>PERMANENT CROPS</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>
LETTUCE, GREEN	0	0	74	ASPARAGUS	39	20	23
LETTUCE, MIXED	13,953	15,440	14,310	CITRUS			
LETTUCE, RED	75	75	32	GRAPEFRUIT	520	362	312
LETTUCE, ROMAINE	7,787	7,867	8,122	LEMONS	3,551	2,482	2,159
MELONS				LIMES	89	26	9
CANTALOUPE, FALL	297	3	0	MIXED	1,764	3,630	4,520
CANTALOUPE, SPRING	3,961	4,715	4,996	ORANGES	519	338	277
HONEYDEW, SPRING	92	24	24	TANGERINES	570	376	346
MIXED, FALL	136	0	0	DATES	1,394	1,174	995
MIXED, SPRING	1,013	1,011	1,142	DUCK PONDS	9,664	9,546	10,114
WATERMELONS	1,183	1,028	773	EUCALYPTUS	7	7	8
WATERMELONS (SEED)	41	0	0	FIGS	0	0	150
MUSTARD	296	180	561	FISH FARMS	485	480	482
MUSTARD (SEED)	2	11	27	FRUIT, MIXED	1	3	7
OKRA	615	379	347	JUJUBE	77	57	57
ONIONS (DEHY)	7,321	8,344	9,255	MANGOS	139	39	20
ONIONS (MARKET)	4,708	4,153	3,924	NURSERY	141	156	240
ONIONS (SEED)	883	697	684	OLIVES	604	607	693
PARSLEY	275	94	112	ORNAMENTAL TREES	65	47	43
PARSLEY (SEED)	0	75	0	PALMS	402	459	280
PARSNIPS	0	50	0	PASTURE, PERMANENT	364	414	407
PEAS	0	0	52	PECANS	4	4	2
PEPPERS, BELL	0	8	18	POMEGRANATES	0	0	0
PEPPERS, HOT	100	0	14	<b>TOTAL PERMANENT CROPS</b>	<b>20,399</b>	<b>20,227</b>	<b>21,144</b>
POTATOES	1,930	1,589	1,877	<b>TOTAL ACRES OF CROPS</b>	<b>452,976</b>	<b>449,336</b>	<b>451,015</b>
RADISHES	99	33	56				
RAPINI	1,529	1,539	1,558				
ROCKETT	98	25	0				
RUTABAGAS	0	0	13				
SPINACH	8,237	8,775	9,495				
SQUASH	0	88	33				
SUNFLOWERS (SEED)	2,665	1,441	436				
SWEET BASIL	310	211	72				
SWISS CHARD	51	221	116				
SWISS CHARD (SEED)	0	32	0				
TOMATOES, SPRING	0	0	20				
VEGETABLES, MIXED	6,532	5,123	6,270				
<b>TOTAL GARDEN CROPS</b>	<b>117,686</b>	<b>118,271</b>	<b>116,802</b>				

## 2018 Inventory of Areas Receiving Water

# ACCOUNT SUMMARY

	2018	2017	2016
Number of Farm Accounts	5,316	5,427	5,477
Number of Owner-Operated Farm Accounts	2,213 41.6%	2,419 44.6%	2,494 45.5%
Number of Tenant-Operated Farm Accounts	3,103 58.4%	3,008 55.4%	2,983 54.5%
Average Acreage of Farm Account	88.73	86.84	86.33

### SUMMARY OF AREA SERVED

	2018	2017	2016
Field Crops	314,891	310,838	313,069
Garden Crops	117,686	118,271	116,802
Permanent Crops	20,399	20,227	21,144
<b>TOTAL ACRES OF CROPS</b>	<b>452,976</b>	<b>449,336</b>	<b>451,015</b>
Total Multiple Cropped Acres	24,298	40,142	18,443
<b>TOTAL NET ACRES IN CROPS</b>	<b>428,678</b>	<b>409,194</b>	<b>432,572</b>
Area Being Reclaimed: Leached	15,420	15,812	225
<b>NET AREA IRRIGATED</b>	<b>444,098</b>	<b>425,006</b>	<b>432,797</b>
IID Following Program (Avg. of two mid-year periods)	0	23,718	20,163
Temporary Land Conversion Following Program (12 Month Avg)	12,354	8,824	7,404
Area Farmable But Not Farmed During Year (Fallowed land)	15,230	13,725	12,454
<b>TOTAL AREA FARMABLE</b>	<b>471,682</b>	<b>471,273</b>	<b>472,818</b>
Area Of Farms In Homes, Feed Lots, Corrals, Crop Processing Facilities, Experimental Farms, and Industrial Areas	16,411	17,342	16,122
Area In Cities, Towns, Airports, Cemeteries, Fairgrounds, Golf Courses, Recreational, Parks, Lakes, and Rural Schools	32,214	31,692	31,367
<b>TOTAL AREA RECEIVING WATER</b>	<b>520,307</b>	<b>520,307</b>	<b>520,307</b>
Area In Drains, Canals, Reservoirs, Rivers, Railroads, and Roads	74,742	74,742	74,742
Area Below -230 Salton Sea Reserve Boundary & Area Covered By Salton Sea, Less Area Receiving Water	40,150	40,150	40,150
Area in Imperial Unit Not Entitled to Water	63,893	63,893	63,893
Undeveloped Area of Imperial, West Mesa, East Mesa, and Pilot Knob Units	277,629	277,629	277,629
<b>TOTAL ACREAGE INCLUDED - ALL UNITS</b>	<b>976,721</b>	<b>976,721</b>	<b>976,721</b>
Acreage within District Boundaries That Is Not Included in District Water Right	84,916	84,916	84,916
<b>TOTAL GROSS ACREAGE WITHIN DISTRICT BOUNDARIES</b>	<b>1,061,637</b>	<b>1,061,637</b>	<b>1,061,637</b>



**QSA IMPLEMENTATION REPORT  
2017-2018**



# WATER TRANSFER & ACCOUNTING

## ANNUAL WATER ACCOUNTING SUMMARY

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Misc PPRs	Conserved Water								Total Conservation
		IID/MWD Efficiency (1988 Agreement)	All-American Canal Lining	San Diego County Water Authority Conservation	Salton Sea Mitigation Conservation	Exhibit C Payback Conservation	IOPP Conservation Payback	ICS Conservation	Coachella Valley Water District Conservation	
2003	11,500	105,130	--	3,445	0	0	--	--	0	108,575
2004	11,500	101,900	--	20,000	15,000	48,149	0	--	0	185,049
2005	11,500	101,940	--	30,000	15,000	31,266	0	--	0	178,206
2006	11,500	101,160	--	40,000	20,000	37,154	0	1,000	0	199,314
2007	11,500	105,000	--	50,000	25,021	34,831	1,263	0	0	216,115
2008	11,500	105,000	8,898	50,000	26,085	0	16,197	0	4,000	210,180
2009	11,126	105,000	65,577	60,000	30,133	0	0	13,797	8,000	282,507
2010	11,500	105,000	67,700	70,000	33,761	0	0	0	6,809	283,270
2011	11,500	103,940	67,700	63,278	0	0	0	10,528	16,000	261,446
2012	11,500	104,140	67,700	106,722	15,182	0	14,299	0	21,000	329,043
2013	11,500	105,000	67,700	100,000	71,398	0	93,057	0	26,000	463,155
2014	11,500	104,100	67,700	100,000	89,168	0	117,391	37,735	31,000	547,094
2015	11,500	107,820	67,700	100,000	153,327	0	0	45,477	36,000	510,324
2016	11,500	105,000	67,700	100,000	130,796	0	0	70,077	41,000	514,573
2017	9,913	105,000	67,700	100,000	105,311	0	0	80,937	45,000	503,948
2018	9,705	105,000	67,700	130,000	0	0	0	130,197	63,000	495,897
<b>Total</b>	<b>180,244</b>	<b>1,670,130</b>	<b>683,775</b>	<b>1,123,445</b>	<b>730,182</b>	<b>151,400</b>	<b>242,207</b>	<b>389,748</b>	<b>297,809</b>	<b>5,288,696</b>



## 2018 IID WATER ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

	Consumptive Use	Fallowing	Efficiency	Salton Sea Delivery	Storage at Lake Mead	Storage at MWD
Miscellaneous Present Perfected Rights	9,705					
1988 IID/MWD Transfer	105,000		105,000			
SDCWA Transfer	130,000		130,000			
CVWD Transfer	63,000	25,010	37,990			
San Diego Transfer - Salton Sea Mitigation <sup>1</sup>	0			149		
Inadvertent Overrun Payback	0					
Intentionally Created Surplus <sup>2</sup>	130,197	41,024	89,173		1,579	87,594
AAC Lining Project Transfer	67,700		67,700			
IID Water Users <sup>3</sup>	2,625,422					
LCWSP Wellfield Pumpage <sup>4</sup>	10,000					
<b>Total</b>	<b>3,141,024</b>	<b>66,034</b>	<b>429,863</b>	<b>149</b>	<b>1,579</b>	<b>87,594</b>
IID QSA Entitlement	3,100,000					
Amount Exceeding Approved Water Order	41,024					
IID Conserved Water for Immediate Payback	41,024	41,024				
EOY Inadvertent Overrun Reported by USBR	0					
Underrun	--					

Notes:

- 1) In 2017, IID conserved 105,311 AF of Colorado River water for Salton Sea mitigation purposes, but delivered 105,155 AF to the Sea. In 2018, IID delivered 149 AF of conserved water, coming within 7 AF of its obligation.
- 2) 41,024 AF created for ICS and transfer purposes, but due to policy limitations in overrun years, was used instead to reduce current year's overrun.
- 3) USBR Decree Accounting published 5/21/2019.
- 4) Included as part of IID's CU in lieu of an equivalent diversion.

## 2017 IID WATER ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

	Consumptive Use	Fallowing	Efficiency	Salton Sea Delivery	Storage at Lake Mead	Storage at MWD
Miscellaneous Present Perfected Rights	9,913					
1988 IID/MWD Transfer	105,000		105,000			
SDCWA Transfer	100,000		100,000			
CVWD Transfer	45,000		45,000			
San Diego Transfer - Salton Sea Mitigation <sup>1</sup>	105,311	90,286		105,155		
Inadvertent Overrun Payback	0					
Intentionally Created Surplus	80,937	25,000	55,937		21,983	58,954
AAC Lining Project Transfer	67,700		67,700			
IID Water Users <sup>2</sup>	2,548,171					
LCWSP Wellfield Pumpage <sup>3</sup>	7,377					
<b>Total</b>	<b>3,069,409</b>	<b>115,286</b>	<b>388,662</b>	<b>105,155</b>	<b>21,983</b>	<b>58,954</b>
IID QSA Entitlement	3,100,000					
Inadvertent Overrun Reported by USBR	--					
Underrun	-30,591					

Notes:

- 1) 2017 obligation adjusted for excess conservation and pre-delivery of 44,689 AF in 2016 (150,000-44,689=105,311 AF). In 2017, IID conserved 105,311 AF of Colorado River water for Salton Sea mitigation purposes, but delivered 105,155 AF to the Sea. This resulted in a 156 AF under-delivery. See Salton Sea Mitigation Accounting for details.
- 2) USBR Decree Accounting published 5/15/2018.
- 3) Included as part of IID's CU in lieu of an equivalent diversion.

## SDCWA TRANSFER ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Obligation	Fallowing	Efficiency	Total Volume	Annual Over/Under Obligation
2003 <sup>1</sup>	10,000	3,445	0	3,445	-6,555
2004	20,000	20,000	0	20,000	0
2005	30,000	30,000	0	30,000	0
2006	40,000	40,000	0	40,000	0
2007	50,000	50,000	0	50,000	0
2008	50,000	50,000	0	50,000	0
2009	60,000	60,000	0	60,000	0
2010	70,000	70,000	0	70,000	0
2011 <sup>2</sup>	80,000	63,278	0	63,278	-16,722
2012 <sup>2</sup>	90,000	106,722	0	106,722	16,722
2013	100,000	80,000	20,000	100,000	0
2014	100,000	60,000	40,000	100,000	0
2015	100,000	40,000	60,000	100,000	0
2016	100,000	20,000	80,000	100,000	0
2017	100,000	0	100,000	100,000	0
2018	130,000	0	130,000	130,000	0
<b>Total</b>	<b>1,130,000</b>	<b>693,445</b>	<b>430,000</b>	<b>1,123,445</b>	

Notes:

- 1) Since the QSA was executed in October of 2003, IID was only able to fallow 3,445 AF and therefore had an inadvertent overrun of 6,555 AF which was used to satisfy IID's 10,000 AF obligation to SDCWA. The USBR waived payback for 2003 overruns for all Lower Basin entities.
- 2) Due to the risk associated with QSA litigation, IID was able to create only 63,278 AF of the required 80,000 AF by fallowing in calendar year 2011. The balance of 16,722 AF of fallowed water, while under contract in the 2011-2012 Fallowing Program, was conserved in calendar year 2012. While IID considers the 16,722 AF to have been transferred by utilization of IID's IOPP right in calendar year 2011, to satisfy accounting deadlines, IID agreed to transfer 106,722 AF of conserved water instead of 90,000 AF in calendar year 2012; however IID reserves its position regarding the utilization of its IOPP right for transfer shortfalls.

## CVWD TRANSFER ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Obligation	Fallowing	Efficiency	Total Volume	Annual Over/Under Obligation
2003	0	0	0	0	0
2004	0	0	0	0	0
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	0	0	0	0	0
2008	4,000	0	4,000	4,000	0
2009	8,000	0	8,000	8,000	0
2010	12,000	0	12,000 <sup>1</sup>	12,000	0
2011	16,000	0	16,000	16,000	0
2012	21,000	0	21,000	21,000	0
2013	26,000	0	26,000	26,000	0
2014	31,000	0	31,000	31,000	0
2015	36,000	8,983	27,017	36,000	0
2016	41,000	0	41,000	41,000	0
2017	45,000	0	45,000	45,000	0
2018	63,000	25,010	37,990	63,000	0
<b>Total</b>	<b>303,000</b>	<b>33,993</b>	<b>269,007</b>	<b>303,000</b>	

Notes:

- 1) 6,809 AF created by Main Canal Seepage Recovery Project and 5,191 AF delivered from IID's ICS account - See ICS Accounting.

## SALTON SEA MITIGATION ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Obligation			Delivery to Sea				Inflow/Outflow	
	Fallow	Fallow (revised)	Entitlement	Delivery to Sea	CR Rereg Conservation & Storage	Total Volume	Remaining Obligation Balance	Annual Over/Under Obligation	Running Balance in Salton Sea
2003 <sup>1</sup>	5,000			0	0	0	725,182	-5,000	-5,000
2004	10,000			14,359	15,880	30,239	715,182	20,239	15,239
2005	15,000			0	21,476	21,476	700,182	6,476	21,715
2006	20,000			0	0	0	680,182	-20,000	1,715
2007	25,000			23,306	0	23,306	655,182	-1,694	21
2008	25,000			26,085	0	26,085	630,182	1,085	1,106
2009	30,000			30,158	0	30,158	600,182	158	1,264
2010 <sup>2</sup>	35,000			80,282	0	80,282	565,182	45,282	46,546
2011 <sup>3</sup>	40,000	0	26,667	0	0	0	565,182	-26,667	19,879
2012 <sup>4</sup>	45,000	15,182	19,879	15,110	0	15,110	550,000	-19,951	-72
2013	70,000			71,470	0	71,470	480,000	1,470	1,398
2014	90,000			89,168	0	89,168	390,000	-832	566
2015	110,000			153,327	0	153,327	280,000	43,327	43,893
2016	130,000			130,796	0	130,796	150,000	796	44,689
2017	150,000			105,155	0	105,155	0	-44,845	-156
2018 <sup>6</sup>	0			149	0	149	0	149	-7
<b>Total<sup>5</sup></b>	<b>730,182</b>		<b>46,546</b>	<b>739,365</b>	<b>37,356</b>	<b>776,721</b>			

Notes:

- 1) Since the QSA was executed in October of 2003, SWRCB approved the 2003 obligation being satisfied in 2004.
- 2) 46,521 AF of IID's entitlement water was delivered to the Salton Sea for storage as early mitigation water in 2010 for the scheduled obligations of 2011 and half of 2012.
- 3) IID delivered entitlement water to the Salton Sea in 2010 for storage to be used for future mitigation. When entitlement water is used to mitigate transferred water created by fallowing, the transferred volume is multiplied by 1/3 to determine the entitlement water mitigation volume (i.e., 80,000 AF x .33 = 26,667 AF).
- 4) 19,879 AF of entitlement water (see footnote 3) accounted for 66.3% of the 2012 Salton Sea obligation. The remaining 33.7% of the 2012 Salton Sea obligation totaled 15,182 AF from fallowing.
- 5) Due to use of entitlement water, adjustments have been made to the total obligation.
- 6) In 2017, IID conserved 105,311 AF of Colorado River water for Salton Sea mitigation purposes, but delivered 105,155 AF to the Sea. In 2018, IID delivered 149 AF of conserved water, coming within 7 AF of its obligation.

## CRWDA EXHIBIT C ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Obligation	Payback					Exhibit C Delivery Difference (Early Payback)		Adjusted Exhibit C Obligation
		Fallowing	Adjustment for USBR/IID 2007 Canal Loss Compromise Agreement	CR Rereg Conservation & Storage <sup>1</sup>	Total Volume	Remaining Balance	Annual Over/Under Obligation	Running Balance	
2003	0	0		0	0	151,400	0	0	0
2004	18,900	44,781	-602	3,970	48,149	103,251	29,249	29,249	0
2005	18,900	26,205	-308	5,369	31,266	71,985	12,366	41,615	0
2006	18,900	37,619	-465	0	37,154	34,831	18,254	59,869	0
2007	18,900	34,831	0	0	34,831	0 <sup>2</sup>	15,931	75,800	0
2008	18,900	0	0	0	0	0			0
2009	18,900	0	0	0	0	0			0
2010	19,000	0	0	0	0	0			0
2011	19,000	0	0	0	0	0			0
<b>Total</b>	<b>151,400</b>	<b>143,436</b>	<b>-1,375</b>	<b>9,339</b>	<b>151,400</b>	<b>0</b>			

Notes:

- 1) Per Agreement, IID is credited with 25% of Colo. River reregulation water stored in Salton Sea as a reduction to Exhibit C payback.
- 2) Total obligation of 151,400 AF completed four years early in 2007.

## IID'S CVWD GROUNDWATER STORAGE ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	IID Water Delivered to CVWD MP 0.2 Turnout	5% Canal Conveyance Losses	5% Storage Losses	Amount Withdrawn	Net IID Water Stored as of Jan 1 following year
2003	0	0	0	0	0
2004	0	0	0	0	0
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	0	0	0	0	0
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	525	25	6	0	494
2011	0	0	25	0	469
2012	0	0	21	448	0
2013	0	0	0	0	0
2014	0	0	0	0	0
2015	0	0	0	0	0
2016	0	0	0	0	0
2017	0	0	0	0	0
2018	0	0	0	0	0
<b>Total</b>	<b>525</b>	<b>25</b>	<b>52</b>	<b>448</b>	

## IID'S INADVERTENT OVERRUN PAYBACK ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Inadvertent Overrun	Other Applied to IOP	ICS Applied to IOP	Fallowed Amount Applied to IOP	Efficiency Applied to IOP	Cumulative Remaining Inadvertent Overrun Balance
2003	--	--	--	--	--	--
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	18,914	8,957 <sup>1</sup>	1,000	0	0	8,957
2007	6,358	0	0	1,263	0	14,052
2008	0	0	0	11,965	4,232	0 <sup>2</sup>
2009	0	0	0	0	0	0
2010	5,191 <sup>3</sup>	0	5,191	0	0	0
2011 <sup>4</sup>	82,662	0	0	0	0	82,662
2012 <sup>5</sup>	134,076	448	5,842	0	0	210,448
2013	0	0	0	91,005	2,052	117,391
2014	0	0	0	111,789	5,602	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
<b>Total</b>	<b>247,201</b>	<b>9,405</b>	<b>12,033</b>	<b>216,022</b>	<b>11,886</b>	

Notes:

- 1) II B (6) Applied to IOP
- 2) MWD diverted 2,145 AF of IID early payback per settlement agreement dated 08/10/2009.
- 3) IID was able to create only 6,809 AF of the required 12,000 AF by efficiency conservation due to Main Canal Seepage Recovery Project pump outage problems; balance was delivered from IID's ICS account.
- 4) USBR reported overrun as 82,662 AF, which does not include the conservation shortfall of 16,722 AF that was delivered using the IOPP - See SDCWA Transfer Accounting for details.
- 5) 5,842 AF from ICS and 448 AF from CVWD groundwater storage (See 2010 IID Water Use footnote 4) applied as 2011 overrun early payback, reducing the balance to 76,372 AF (See IID's letter to USBR dated 12/27/2012).

# IID'S INTENTIONALLY CRATED SURPLUS ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Fallowed	Seepage Interception	Other Qualified Efficiency	Total	Lake Mead ICS Storage				MWD ICS Storage							Total Year End Storage Balance	
					2007 Interim Guidelines				2007 California ICS Agreement			Amendment 1 and 2 <sup>9</sup>					
					Delivered to Storage	Introduction Loss (5%)	Delivered from Storage	Annual Carry Over Loss (3%)	Year End Storage Balance	Delivered to Storage	Introduction Loss (10%)	Delivered from Storage	Year End Storage Balance	Delivered to Storage	Introduction Loss (5%)		Delivered from Storage
2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2006 <sup>1</sup>	1,000	0	0	1,000	1,000	0 <sup>1</sup>	1,000	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	13,797 <sup>2</sup>	0	12,000	12,000	600	0	0	11,400	0	0	0	0	--	--	--	0
2010	0	0	0	0	0	0	5,191 <sup>3</sup>	186	6,023	0	0	0	0	--	--	--	0
2011 <sup>4</sup>	0	10,528	0	0	0	0	0	181	5,842	0	0	0	0	--	--	--	0
2012 <sup>5</sup>	0	14,299	0	0	0	0	5,842 <sup>6</sup>	0	0	0	0	0	0	--	--	--	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	--	0
2014	37,735	0	0	37,735	18,867	943	0	0	17,924	18,868	1,887	0	16,981	--	--	--	16,981
2015 <sup>7</sup>	0	12,000	33,477	45,477	0	0	0	538	17,386	25,000	2,500	0	39,481	20,477	1,024	0	58,934
2016 <sup>8</sup>	1,845	12,000	56,232	70,077	13,845	692	0	522	30,017	11,688	1,169	0	50,000	44,544	2,227	0	111,770
2017	25,000	12,000	43,937	80,937	21,983	1,099	0	901	50,000	0	0	0	50,000	58,954	2,948	0	167,776
2018	41,024	16,164	73,009	130,197	1,579	79	0	1,500	50,000	0	0	0	50,000	87,594	4,380	0	250,990
<b>Total</b>	<b>106,604</b>	<b>90,788</b>	<b>206,655</b>	<b>377,423</b>	<b>69,274</b>	<b>3,413</b>	<b>12,033</b>	<b>3,828</b>	<b>65,656</b>	<b>5,556</b>	<b>0</b>	<b>206,462</b>	<b>211,569</b>	<b>10,579</b>	<b>0</b>	<b>0</b>	<b>349,905</b>

- Notes:
- 2006 ICS was created for the Demonstration ICS Program but used for early payback of Inadvertent Overrun. ICS Policy was adopted in December of 2007.
  - According to ICS policy, IID is limited to 12,000 AF per year from seepage interception pumps-1,797 AF created by seepage interception unused and left in Colorado River system.
  - IID was able to create only 6,809 AF of the required 12,000 AF by efficiency conservation due to Main Canal Seepage Recovery pump outage problems; 5,191 AF delivered from IID's ICS account.
  - 10,528 AF created for ICS purposes but due to policy limitations in overrun years was used instead to reduce current year's overrun.
  - 14,299 AF created for ICS purposes but due to policy limitations in overrun years was used instead to reduce current year's overrun.
  - Early IOPP payback for 2011 overrun - See IOPP Accounting.
  - The first 25,000 AF of storage delivered under the 2007 California ICS Agreement created using 12,315 AF tailwater return systems, 12,000 AF seepage interception, and 685 AF 12-hour delivery system conservation.
  - ICS volume revised from 38,313 AF to 45,477 AF in 2017 Decree Accounting to correct an error in loss calculations.
  - 11,688 AF of tailwater return system conservation used to meet the 50,000 AF cumulative storage volume authorized by the 2007 California ICS Agreement.
  - ICS Amendment 2 authorized by IID Board of Directors on December 10, 2018.

# IID'S LAKE MEAD ACCOUNTING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	IOPP			ICS				Salton Sea Mitigation		CR Rereg Conservation & Storage				Total Balance
	Inadvertent Overrun	Payback	Balance	Created	Delivered	Losses	Balance	Remaining in Lake Mead	Balance	Payback	Diverted To SS	Over/Under	Balance	Annual
2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	641	641	0	15,880	-15,880	-15,880	-15,239
2005	0	0	0	0	0	0	0	0	641	15,000	21,476	-6,476	-22,356	-21,715
2006	18,914	9,957 <sup>1</sup>	-8,950	1,000	1,000	0	0	0	641	20,000	0	20,000	-2,356	-10,665
2007	6,358	1,263	-14,045	0	0	0	0	-641	0	2,356	0	2,356	0	-14,045
2008	0	16,197	2,145 <sup>2</sup>	0	0	0	0	0	0	0	0	0	0	0
2009	0	0	1,797 <sup>3</sup>	12,000	0	600	11,400	-25	-25	0	0	0	0	11,375
2010	5,191	5,191 <sup>4</sup>	0	0	5,191	186	6,023	25	0	0	0	0	0	6,023
2011 <sup>5</sup>	82,662	0	-82,662	0 <sup>6</sup>	0	181	5,842	0	0	0	0	0	0	-76,820
2012	134,076	6,290	-210,448	0 <sup>7</sup>	5,842	0	0	72	72	0	0	0	0	-210,376
2013	0	93,057	-117,391	0	0	0	0	-72	0	0	0	0	0	-117,391
2014	0	117,391	0	18,867	0	943	17,924	0	0	0	0	0	0	17,924
2015	0	0	0	0	0	538	17,386	0	0	0	0	0	0	17,386
2016	0	0	0	13,845	0	1,214	30,017	0	0	0	0	0	0	30,017
2017	0	0	0	21,983	0	2,000	50,000	156	156	0	0	0	0	50,156
2018 <sup>8</sup>	0	0	0	1,579	0	1,579	50,000	-149	7	0	0	0	0	50,007
<b>Total</b>	<b>247,201</b>	<b>131,955</b>	<b>0</b>	<b>69,274</b>	<b>12,033</b>	<b>7,241</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>37,356</b>	<b>37,356</b>	<b>0</b>	<b>0</b>	<b>0</b>

- Notes:
- Includes 1,000 AF from ICS and 8,957 AF from II (B) 6.
  - MWD diverted 2,145 AF of IID early payback per settlement agreement dated 08/10/2009.
  - Additional water created by efficiency conservation left in Colo. River System as early payback and lost to IID.
  - IID was able to create only 6,809 AF of the required 12,000 AF by efficiency conservation due to Main Canal Seepage Recovery pump outage problems; 5,191 AF delivered from IID's ICS account - See ICS Accounting.
  - USBR reported overrun as 82,662 AF. A conservation shortfall of 16,722 AF was included in this value.
  - 10,528 AF created for ICS purposes but due to policy limitations in overrun years was used instead to reduce current year's overrun.
  - 14,299 AF created for ICS purposes but due to policy limitations in overrun years was used instead to reduce current year's overrun.
  - In 2017, IID conserved 105,311 AF of Colorado River water for Salton Sea mitigation purposes, but delivered 105,155 AF to the Sea. In 2018, IID delivered 149 AF of conserved water, coming within 7 AF of its obligation.

## IID'S TOTAL FOLLOWING

All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Annual Volume	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	3,445	0	0	0	0	0	0	0	0	0	0	0	3,445
2004	79,781	3,445	3,445	3,445	3,445	3,445	3,445	13,925	11,316	11,458	9,976	6,678	5,758
2005	71,205	3,040	3,197	7,815	8,350	8,865	8,262	10,085	9,218	6,873	2,911	1,860	729
2006	98,619	1,132	1,294	10,673	12,028	12,899	11,047	13,815	10,705	10,725	6,480	4,469	3,352
2007	111,115	2,620	6,004	8,693	13,504	16,266	13,428	13,629	12,317	9,235	6,427	3,913	5,079
2008	88,050	5,287	6,278	11,930	12,041	8,361	6,652	11,033	9,158	6,585	5,460	2,295	2,970
2009	90,133	2,479	4,286	8,124	9,323	7,206	4,720	14,050	11,900	10,065	7,613	5,713	4,654
2010	103,761	4,906	4,745	12,528	14,170	9,790	7,536	12,856	9,946	7,430	9,140	5,809	4,905
2011	63,278	2,008	3,996	7,924	12,783	10,901	9,679	3,971	3,405	3,885	1,538	1,925	1,263
2012	125,315	10,426	10,426	10,426	11,216	11,354	11,354	9,449	9,449	9,449	10,589	10,589	10,589
2013	242,403	19,328	19,437	19,438	19,461	19,807	20,734	20,436	20,928	20,740	20,739	20,678	20,677
2014	298,692	25,281	25,281	25,292	25,292	25,292	25,292	24,512	24,512	24,512	24,512	24,512	24,402
2015	202,310	22,541	22,541	22,541	22,541	22,541	22,541	11,127	11,188	11,188	11,187	11,187	11,187
2016	152,641	10,900	10,900	10,901	10,901	10,901	10,901	14,307	14,586	14,586	14,586	14,586	14,586
2017	115,286	3,636	3,636	3,636	3,636	3,636	3,636	15,045	15,667	15,667	15,697	15,697	15,697
2018	66,034	5,503	5,503	5,503	5,503	5,503	5,503	5,502	5,502	5,503	5,503	5,503	5,503
<b>Total</b>	<b>1,912,068</b>												

Notes:

Each year the monthly breakdown of the annual fallowed volume of water will be refined as time and resources permit.

2003-2004 monthly distribution was assumed to be equally distributed over 13 months (December 2003 through December 2004).

2005-2011 Monthly distribution computed using the previous 12 months (Jul-Dec and Jan-Jun) delivery history for the participating gates in each of the following programs.

2012-2018 Monthly conservation determined by programmatic monthly proration.

## IID'S TOTAL EFFICIENCY CONSERVATION

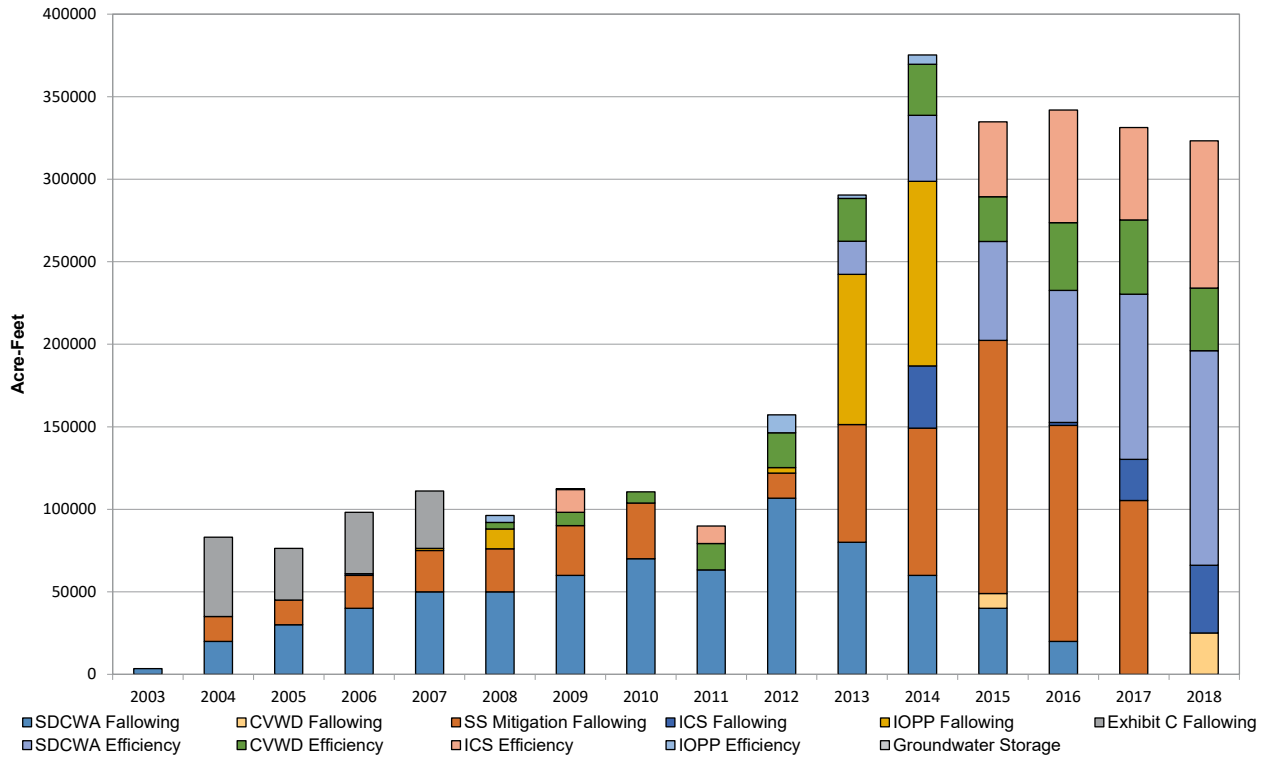
All values are provisional consumptive use volume in acre-feet at Imperial Dam

Year	Annual Volume <sup>1</sup>	System Efficiency	On-Farm Efficiency	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	8,232	7,651	581	0	141	524	697	811	805	906	868	856	1,022	854	748
2009	21,797	21,561	236	719	628	725	888	1,612	2,386	2,199	2,295	2,620	2,879	2,506	2,340
2010	6,809	6,809	0	2,021	671	0	0	0	0	0	0	0	33	1,709	2,375
2011	26,528	26,528	0	2,115	1,980	2,414	2,573	2,494	2,458	2,491	2,296	1,121	2,043	2,159	2,384
2012	31,888	31,888	0	2,363	2,172	2,645	2,752	2,718	2,852	2,931	2,940	2,563	2,860	2,777	2,315
2013	48,052	30,776	17,276	2,649	2,762	3,779	4,058	4,223	4,188	4,540	5,141	4,929	4,724	3,742	3,317
2014	76,602	32,231	44,371	5,598	6,880	10,129	8,836	7,378	5,938	6,984	6,225	5,698	5,232	4,201	3,503
2015	132,494	44,773	87,721	6,093	8,349	11,618	12,741	11,528	11,564	13,559	13,366	12,536	12,744	10,603	7,792
2016	189,232	50,647	138,585	15,219	15,123	15,108	15,658	15,710	15,680	16,066	16,052	16,137	16,127	16,190	16,162
2017	215,962	64,212	151,750	17,402	17,458	17,400	18,114	18,189	18,164	18,350	18,290	18,275	18,017	17,813	17,948
2018	257,163	66,194	190,969	21,084	20,753	21,149	21,147	21,681	21,592	21,575	21,960	21,628	21,902	21,577	21,115
<b>Total</b>	<b>1,014,759</b>	<b>383,270</b>	<b>631,489</b>												

Notes:

1) Annual Volume does not include 1988 IID/MWD Transfer or All-American Canal Lining Project Transfer volumes.

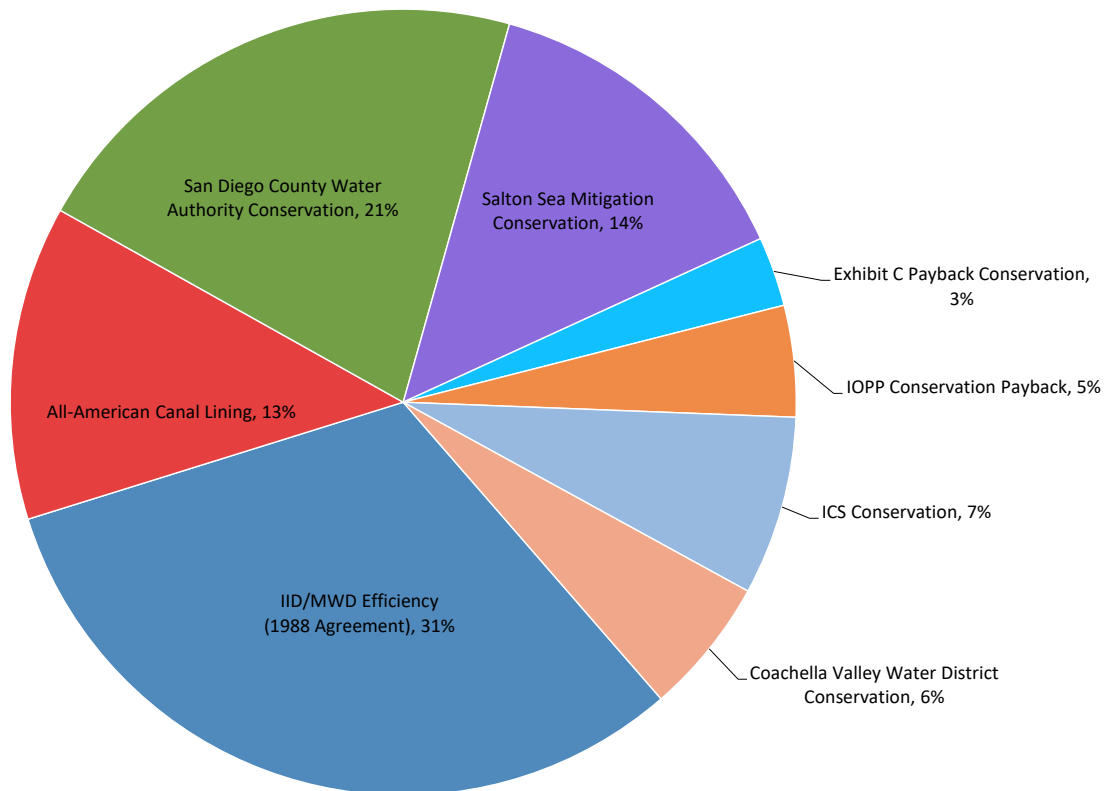
## IID QSA ANNUAL CONSERVED WATER SUMMARY



Notes:  
 • 2004, 2005 and 2006 Exhibit C Following include 9,339 AF of Colorado River Reregulation Conservation and storage and 1,375 AF reduction for loss agreement.  
 • 2009 IOPP Efficiency includes 1,797 AF of unused fallowed water left in Colorado River System.  
 • In 2011 and 2012, water created for ICS or IOPP purposes was used to reduce that years' overrun.

## IID QSA CONSERVATION SUMMARY

2003-2018 Total Conservation=5,288,696 AF



# IID ENVIRONMENTAL PAYBACK OBLIGATIONS

Year	QSA /JPA Payments	Salton Sea Restoration Payments	Total Environmental
2003	\$131,395	\$29,638	\$161,033
2004	\$270,674	\$61,054	\$331,728
2005	\$418,191	\$94,329	\$512,520
2006	\$574,316	\$129,545	\$703,861
2007	\$2,398,382	\$166,789	\$2,565,171
2008	\$1,638,487	\$171,793	\$1,810,280
2009	\$941,356	\$212,336	\$1,153,692
2010	\$1,131,196	\$255,157	\$1,386,353
2011	\$1,331,579	\$300,356	\$1,631,935
2012	\$1,542,967	\$348,038	\$1,891,005
2013	\$1,765,841	\$398,310	\$2,164,151
2014	\$1,818,816	\$410,259	\$2,229,075
2015	\$8,373,380*	\$422,567	\$8,795,947
2016	\$7,054,582	\$435,244	\$7,489,826
<b>2017</b>	<b>\$6,237,469</b>	<b>\$448,301</b>	<b>\$6,685,770</b>
<b>2018</b>	<b>\$5,761,221</b>	<b>\$600,275</b>	<b>\$6,361,496</b>
2019	\$5,273,610	\$760,965	\$6,034,575
2020	\$4,551,346	\$930,755	\$5,482,101
2021	\$4,385,115	\$1,009,134	\$5,394,249
2022	\$3,309,240	\$1,039,408	\$4,348,648
2023	\$4,746,284	\$1,070,590	\$5,816,874
2024	\$4,888,673	\$1,102,708	\$5,991,381
2025	\$5,035,333	\$1,135,789	\$6,171,122

Year	QSA /JPA Payments	Salton Sea Restoration Payments	Total Environmental
2026	\$5,186,393	\$1,169,863	\$6,356,256
2027	\$5,341,985	\$1,204,959	\$6,546,944
2028	\$5,502,244	\$1,241,108	\$6,743,352
2029	\$5,130,911	\$1,278,341	\$6,409,252
2030	\$5,308,589	\$1,316,691	\$6,625,280
2031	\$5,322,392	\$1,356,192	\$6,678,584
2032	\$4,556,924	\$1,396,878	\$5,953,802
2033	\$6,005,020	\$1,438,784	\$7,443,804
2034	\$5,643,731	\$1,481,947	\$7,125,678
2035	\$5,143,974	\$1,526,406	\$6,670,380
2036		\$1,572,198	\$1,572,198
2037		\$1,619,364	\$1,619,364
2038		\$1,667,945	\$1,667,945
2039		\$1,717,983	\$1,717,983
2040		\$1,769,523	\$1,769,523
2041		\$1,822,608	\$1,822,608
2042		\$1,877,287	\$1,877,287
2043		\$1,933,605	\$1,933,605
2044		\$1,991,613	\$1,991,613
2045		\$2,051,362	\$2,051,362
2046		\$2,112,903	\$2,112,903
2047		\$2,176,290	\$2,176,290
<b>Total</b>	<b>\$126,721,616</b>	<b>\$47,257,190</b>	<b>\$173,978,806</b>

# WATER TRANSFER REVENUE & EXPENDITURES

2017 BUDGET & ACTUAL

IID/SDCWA	2017 Budget	2017 Actual
<b>Revenue &amp; Funding</b>		
Water Sales to SDCWA	\$66,883,400	\$67,044,000
Water Sales to CVWD	3,349,000	3,399,550
QSA/JPA Environmental Mitigation	14,596,800	4,943,812
JPA Salton Sea Mitigation Reimbursement	19,927,000	19,897,022
Other Income - Grant Mitigation (non JPA)	1,677,000	275,646
Interest Income	-	753,521
Capital Settlement Payment (SDCWA)	13,019,600	8,466,649
Capital Funding from Grants	1,300,000	-
<b>Total Revenue and Funding</b>	<b>120,752,800</b>	<b>104,780,199</b>
<b>Expenditures</b>		
Environmental Mitigation (JPA)	14,296,800	4,925,396
Environmental Obligation Payments	6,685,800	6,688,053
Mitigation - Misc. Projects	1,982,000	229,517
Fallowing Program	23,326,300	11,190,341
System Conservation O&M	7,216,000	5,932,604
On-Farm Payments	34,200,000	46,781,599
Administration/Program Management	2,326,700	1,354,264
General and Administrative Expense (Legal)	2,166,300	558,334
Capital Projects (SCP)	16,019,600	11,466,649
Capital (Mitigation)	1,600,000	23,013
Lost Water Sales	5,000,000	5,000,000
<b>Total Expenditures</b>	<b>114,819,500</b>	<b>94,149,770</b>
<b>Transfer out to Water Department</b>	<b>(5,933,300)</b>	<b>(10,595,190)</b>
<b>Total IID/SDCWA</b>	<b>\$ -</b>	<b>\$35,239</b>

<b>Western Farm Lands</b>		
Revenue and Funding	1,500,000	1,691,215
Expenditures	929,100	568,857
<b>Total Western Farm Lands</b>	<b>\$570,900</b>	<b>\$1,122,358</b>

<b>Local Entity</b>		
Revenue and Funding	16,491,200	13,484,959
Expenditures	16,491,200	13,484,959
<b>Total Local Entity</b>	<b>\$ -</b>	<b>\$ -</b>

<b>Total Water Conservation Programs</b>	<b>\$570,900</b>	<b>\$1,157,597</b>
--	------------------	--------------------

Note to readers: The information contained in this report is based on data available at the time of publication for budget only. Please refer to Imperial Irrigation District's audited financial reports for the District's official financial records.

# WATER TRANSFER REVENUE & EXPENDITURES

2018 BUDGET & ACTUAL

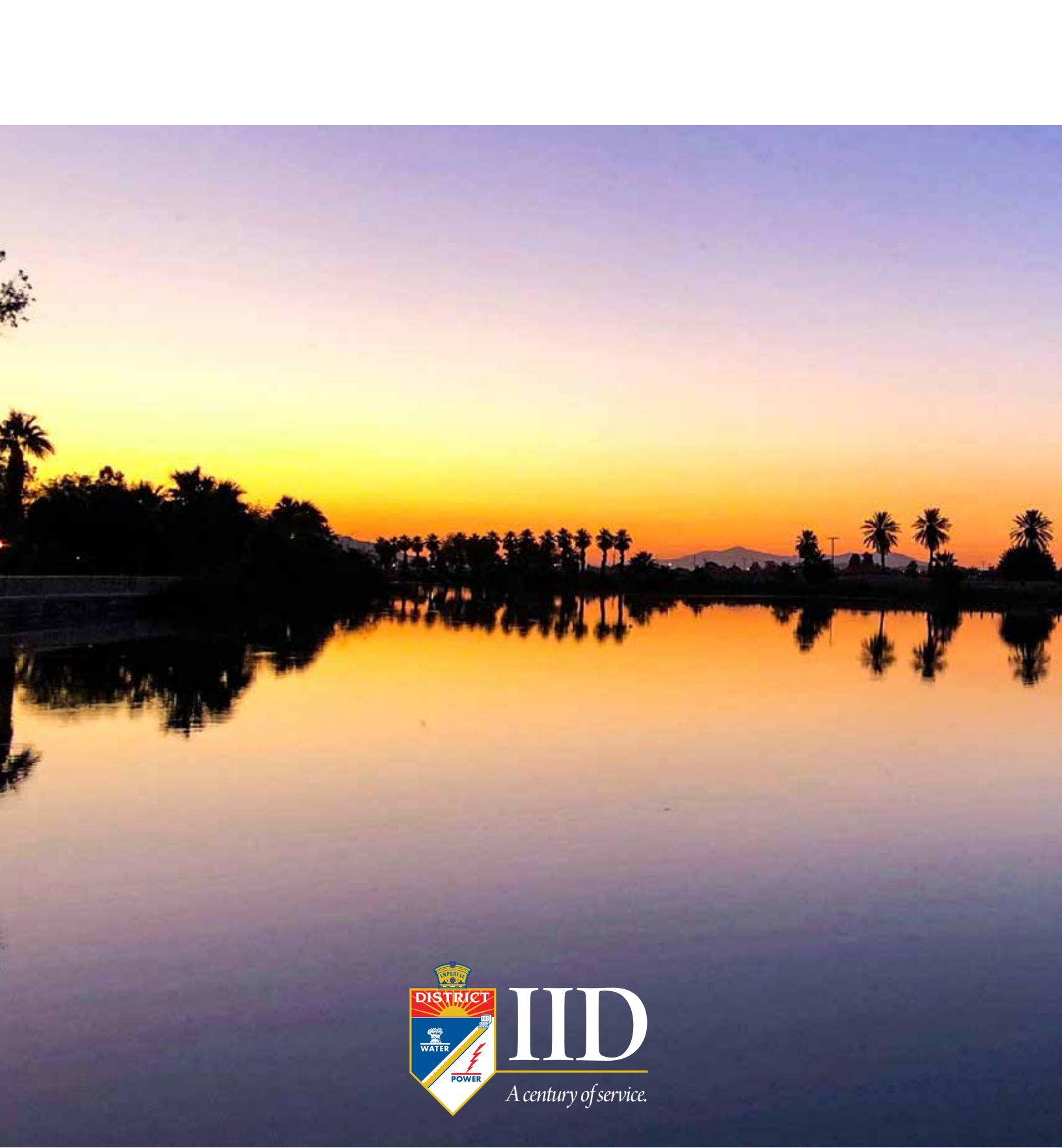
IID/SDCWA	2018 Budget	2018 Actual
<b>Revenue &amp; Funding</b>		
Water Sales to SDCWA	\$85,408,300	\$85,899,100
Water Sales to CVWD	6,312,100	6,442,970
QSA/JPA Environmental Mitigation	16,927,800	5,012,818
Other Income - Grant Mitigation (non JPA)	3,711,900	149,732
Interest Income	-	575,271
Capital Settlement Payment (SDCWA)	10,400,000	2,694,552
Capital Funding from Grants	2,193,000	-
WT CP/COP	31,743,100	-
<b>Total Revenue and Funding</b>	<b>156,696,200</b>	<b>100,774,444</b>
<b>Expenditures</b>		
Environmental Mitigation (JPA)	15,757,600	5,008,225
Environmental Obligation Payments	6,361,500	6,361,496
Mitigation - Misc. Projects	4,294,800	126,825
System Conservation O&M	8,294,400	6,587,309
On-Farm Payments	37,050,000	33,511,301
Administration/Program Management	1,793,300	1,525,223
General and Administrative Expense (Legal)	1,411,300	54,362
Capital Projects (SCP)	43,143,100	3,694,552
Capital (Mitigation)	3,203,300	106,940
Debt Service	3,675,700	-
Lost Water Sales	2,600,000	2,600,000
<b>Total Expenditures</b>	<b>127,585,000</b>	<b>59,576,233</b>
<b>Transfer out to Water Department</b>	<b>(29,111,200)</b>	<b>(16,535,499)</b>
<b>Total IID/SDCWA</b>	<b>\$ -</b>	<b>\$24,662,711</b>

<b>Western Farm Lands</b>		
Revenue and Funding	1,500,000	1,782,671
Expenditures	960,900	320,435
<b>Total Western Farm Lands</b>	<b>\$539,100</b>	<b>\$1,462,236</b>

<b>Local Entity</b>		
Revenue and Funding	3,067,100	1,644,121
Expenditures	3,067,100	1,644,121
<b>Total Local Entity</b>	<b>\$ -</b>	<b>\$ -</b>

<b>Total Water Conservation Programs</b>	<b>\$539,100</b>	<b>\$26,124,947</b>
--	------------------	---------------------

Note to readers: The information contained in this report is based on data available at the time of publication for budget only. Please refer to Imperial Irrigation District's audited financial reports for the District's official financial records.



**IMPERIAL IRRIGATION DISTRICT • 333 EAST BARIONI BLVD. • IMPERIAL, CA 92251**  
**1.800.303.7756 • [www.iid.com](http://www.iid.com)**