

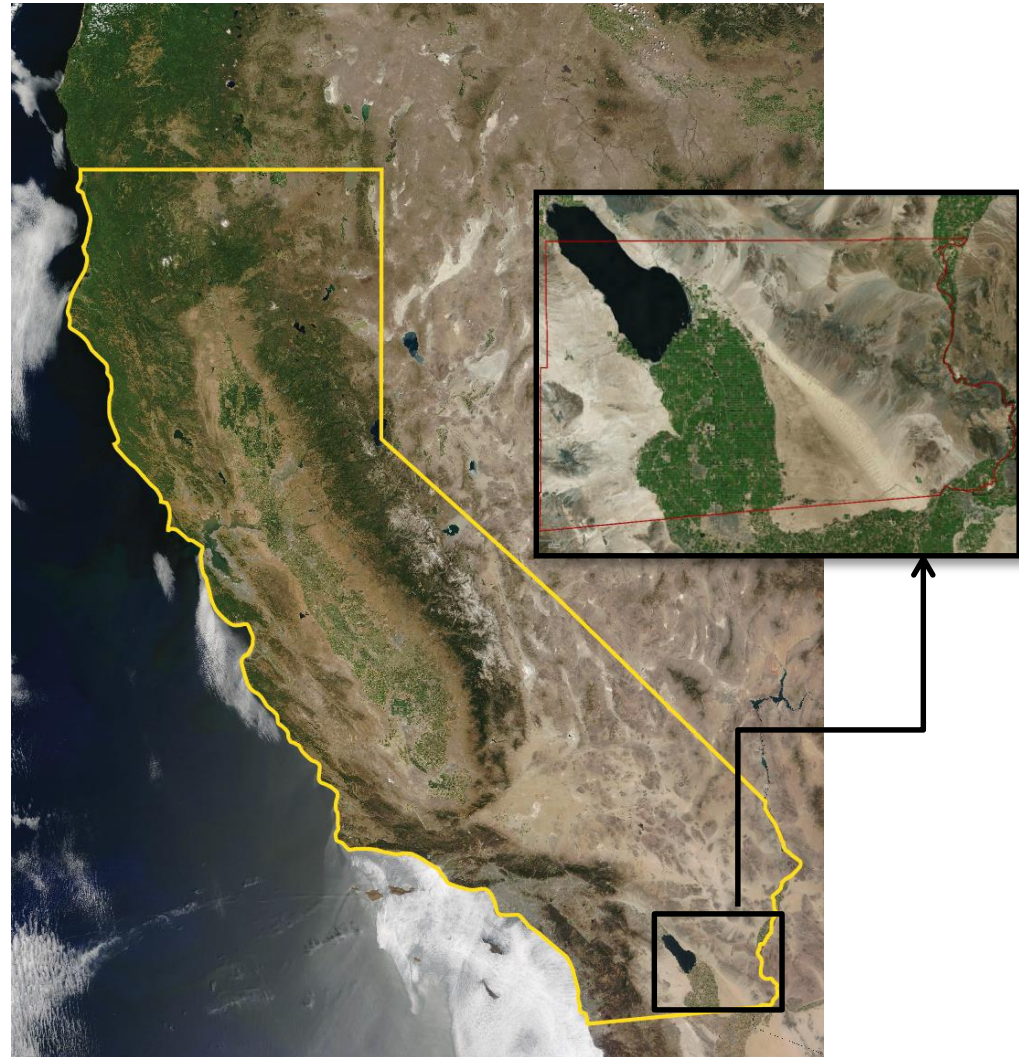
The Salton Sea Challenge: Consequences of Agricultural-to- Urban Water Conservation Transfers

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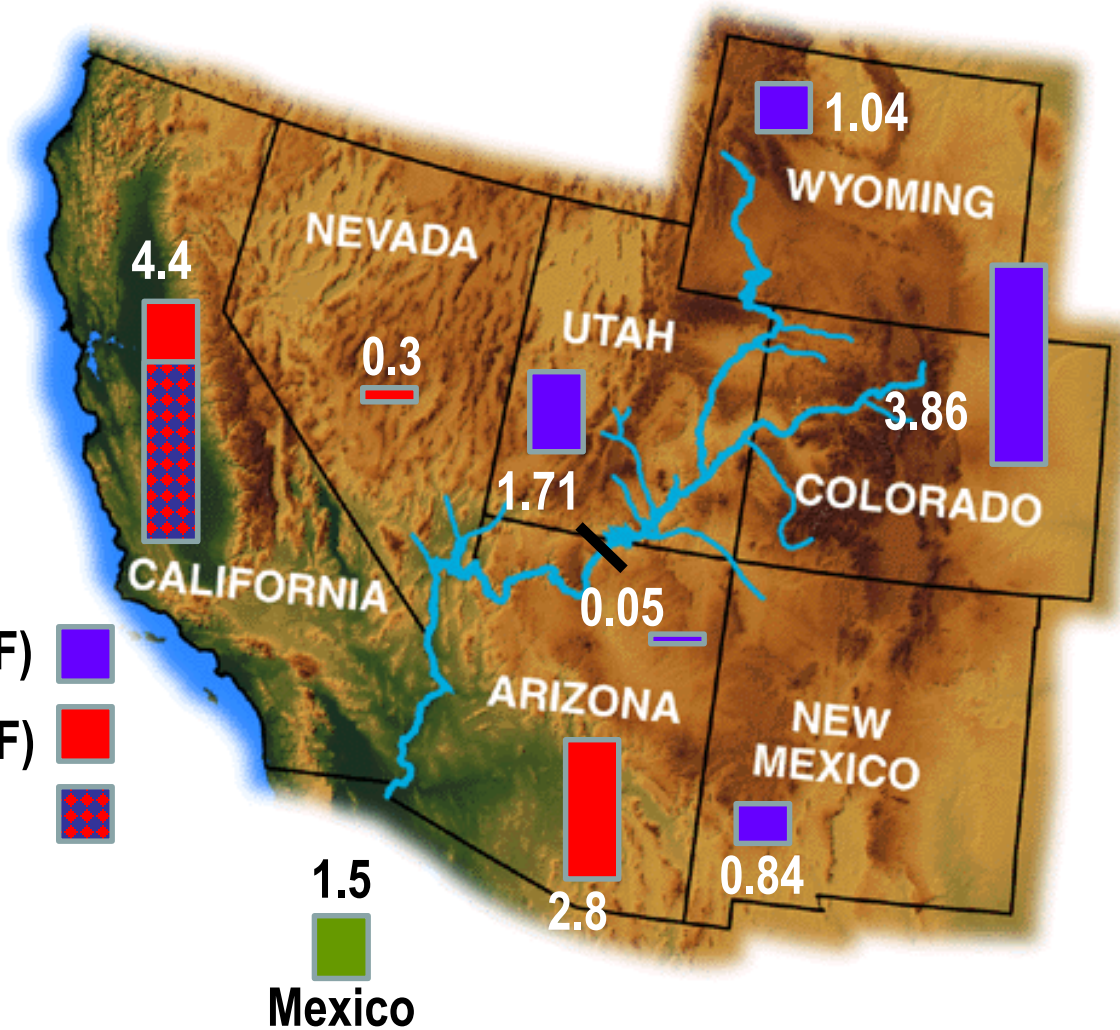


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Colorado River Basin State Entitlements



Upper Basin (7.5 MAF)

Lower Basin (7.5 MAF)

IID (3.1 MAF)



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IID's Water Supply & Service Area

3,100,000 acre-feet annual Colorado River consumptive use entitlement

1,061,637 gross acres within boundaries

520,307 total acreage receiving water

471,682 total farmable acreage

452,976 total acreage in crop (includes multiple cropped area)



2018 data



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2018 Top 14 Crops (Acres)



Alfalfa	138,453	30.6%
Bermuda Grass	55,587	12.3%
Sudan Grass	48,692	10.7%
Lettuce	32,069	6.5%
Sugar Beets	25,632	5.7%
Wheat	22,181	4.9%
Klein Grass	17,932	4.0%
Carrots	15,897	3.5%
Onions	12,912	2.9%
Broccoli	12,282	2.7%
Duck Ponds	9,664	2.1%
Sweet Corn	8,569	1.9%
Spinach	8,237	1.8%
Citrus	7,013	1.5%
Top 14 Crops Total Acres	412,682	91.1%
Total Acreage of Crops at IID	452,976	100.0%



The California Problem

(pre-Quantification Settlement Agreement)

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



Priorities for California's 4.4 MAF Apportionment with the QSA

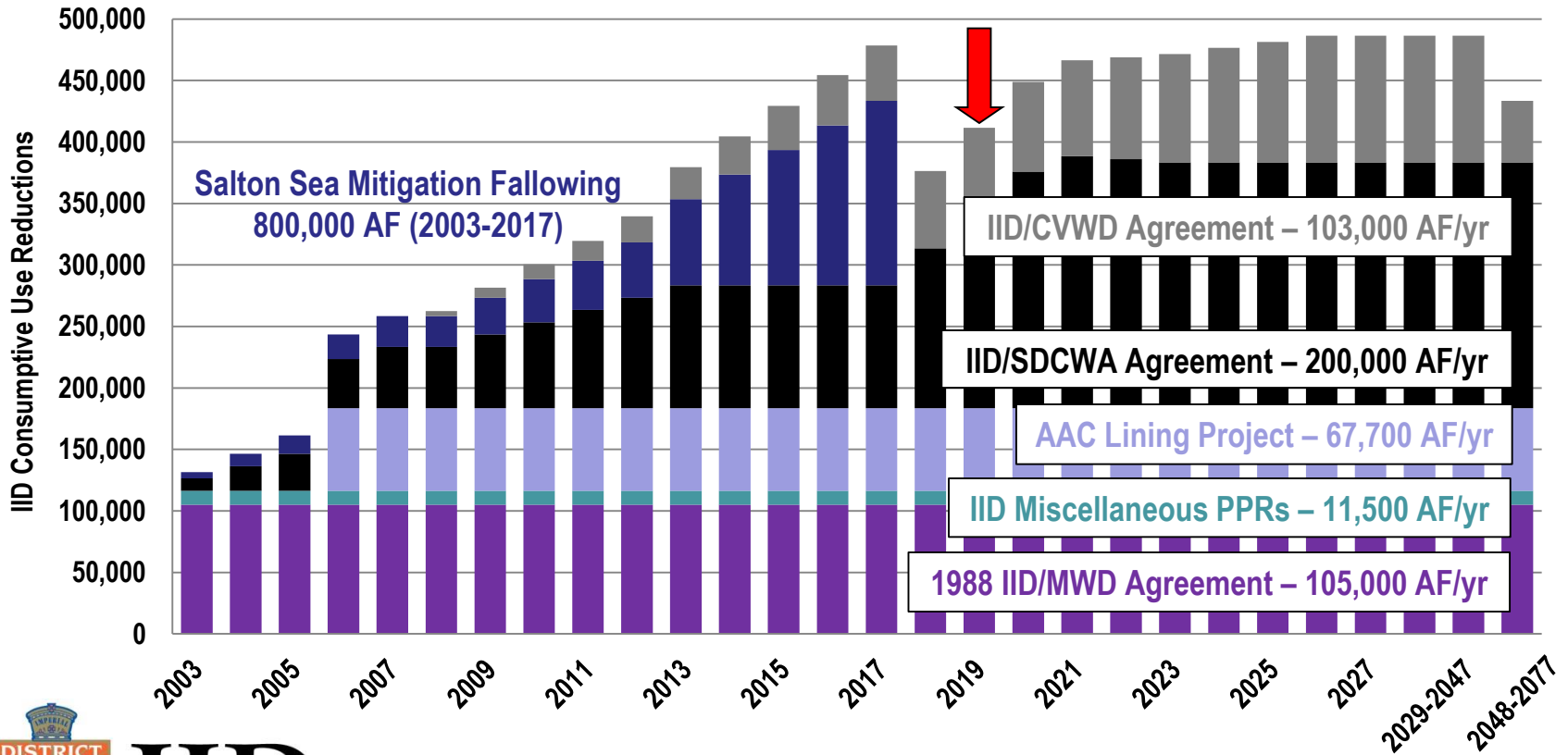
- 1. PVID
 - 2. Yuma Project
 - 3. IID and CVWD (and CVWD) and CVWD (330,000 AF*)
 - 4. MWD.....550,000 AF
- } 3,850,000 AF
- = 4.4 MAF (California's apportionment)**

- 5a. MWD.....550,000 AF
- 5b. San Diego city, county
(given to MWD).....112,000 AF



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

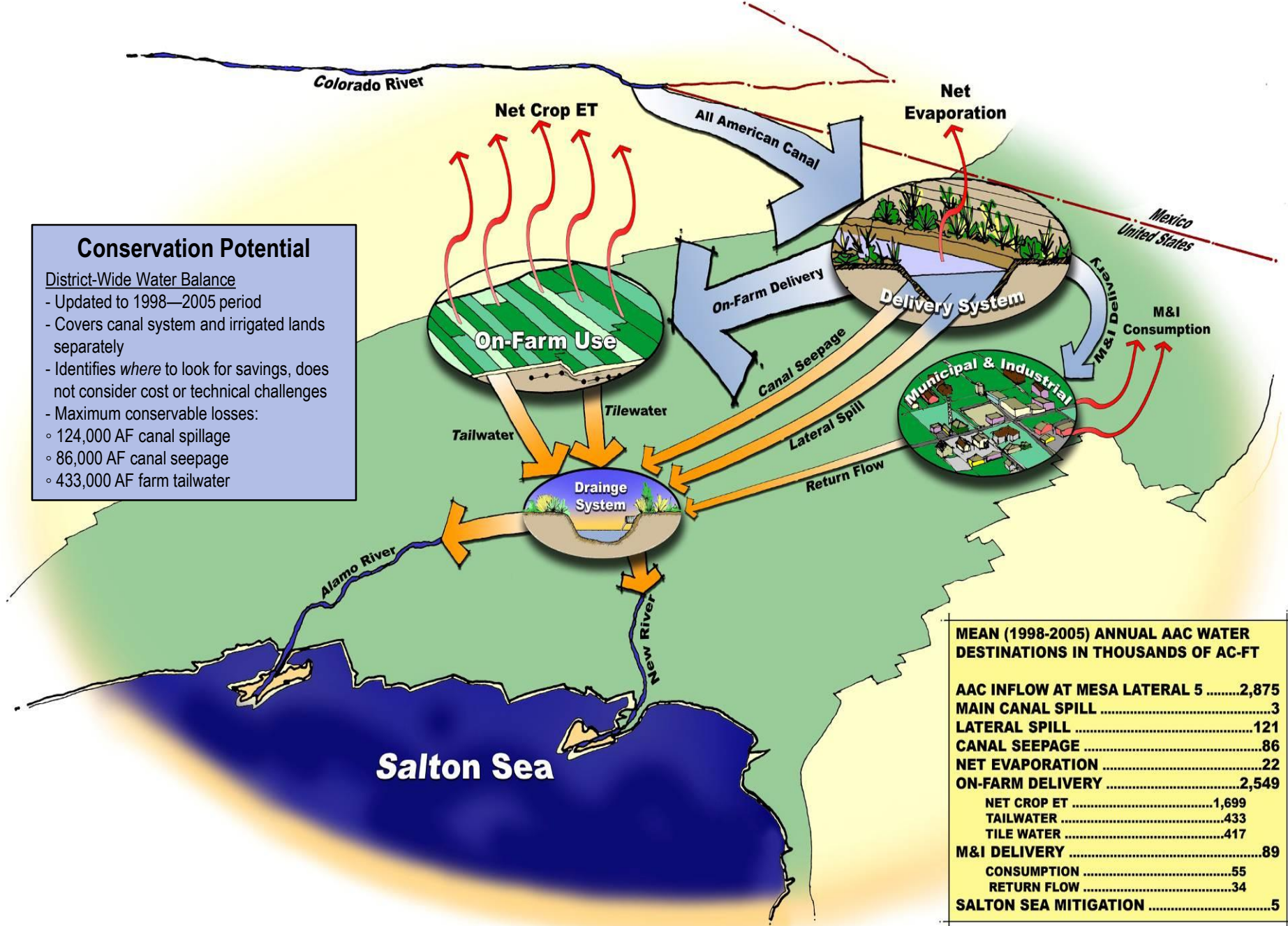
The California Solution: QSA/Water Conservation & Transfer Programs



Conservation Potential

District-Wide Water Balance

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



MEAN (1998-2005) ANNUAL AAC WATER DESTINATIONS IN THOUSANDS OF AC-FT	
AAC INFLOW AT MESA LATERAL 5	2,875
MAIN CANAL SPILL	3
LATERAL SPILL	121
CANAL SEEPAGE	86
NET EVAPORATION	22
ON-FARM DELIVERY	2,549
NET CROP ET	1,699
TAILWATER	433
TILE WATER	417
M&I DELIVERY	89
CONSUMPTION	55
RETURN FLOW	34
SALTON SEA MITIGATION	5

QSA Chronology

- **1982 – 1984:** State Water Resources Control Board issues Decision 1600, finding that IID’s operational practices result in the “misuse of water” and contribute to Salton Sea flooding. IID is ordered to implement measures to conserve water.
- **1988:** IID is ordered to implement additional water conservation measures or execute conservation/transfer agreements with a funding partner. IID and the Metropolitan Water District of Southern California develop an agreement for MWD to invest in system improvements in exchange for the long-term use of the conserved water.
- **1995:** IID and the San Diego County Water Authority sign an MOU to pursue additional conservation/transfer opportunities and enter into an agreement in **1998**.
- **1998 – 1999:** Pressure mounts on California to live within its 4.4 MAF Colorado River entitlement as Arizona and Nevada begin to take their full entitlements and drought conditions worsen. Intra-California disputes increase between MWD, IID and the Coachella Valley Water District regarding their respective water rights.



QSA Chronology

- **October 2002:** IID, MWD, CVWD and the state of California issue “key terms” for a proposed QSA and begin negotiations
- **December 9, 2002:** IID Board does not approve draft QSA, which imposed extensive mitigation costs over and above what IID had agreed to and did not address Salton Sea concerns.
- **December 27, 2002:** Department of Interior issues a **December 31, 2002** deadline for IID to agree to the QSA or face a 300,000 AF water order cut.
- **December 31, 2002:** IID approves a modified QSA, not the version authorized by the other agencies. Interior reduces IID’s 2003 water order.
- **January, 2003:** IID files a lawsuit against the United States; an injunction is granted in March, 2003 restoring IID’s water order; USBR initiates another review of IID’s water use in order to reduce IID’s order.



California Salton Sea Commitments

- SB 277 (Ducheny 2003), part of legislation authorized to facilitate approval of the QSA, established California's intent to restore the Salton Sea and initiated a process to develop a Salton Sea restoration and financing plan.
- California was also a signatory to the QSA JPA, the entity created to fund mitigation measures, and committed contractually to fund mitigation expenses after the \$133 million (2003 nominal dollars) of water agency contributions are exhausted.
- A 2007 study identified a \$8.9 billion preferred restoration alternative which was promptly shelved (and became the impetus for IID's current "smaller but sustainable" advocacy position).



Fallowing and Salton Sea Mitigation Water Requirements (2003 – 2017)

- The SWRCB imposed a 15-year mitigation delivery requirement that was intended to maintain salinity levels for a long enough period of time for the state to study Salton Sea restoration feasibility, develop a plan, find funding and begin implementation. IID conserved and delivered nearly 800,000 AF of mitigation water during this 15-year restoration planning period.
- IID was required to delay efficiency-based conservation measures in favor of fallowing, contrary to IID's opposition to this conservation methodology due to its third-party socioeconomic impacts on the community and farm service providers. Nearly 300,000 acres were fallowed in order to minimize impacts to the Salton Sea and create mitigation water during the 15-years.



The Salton Sea

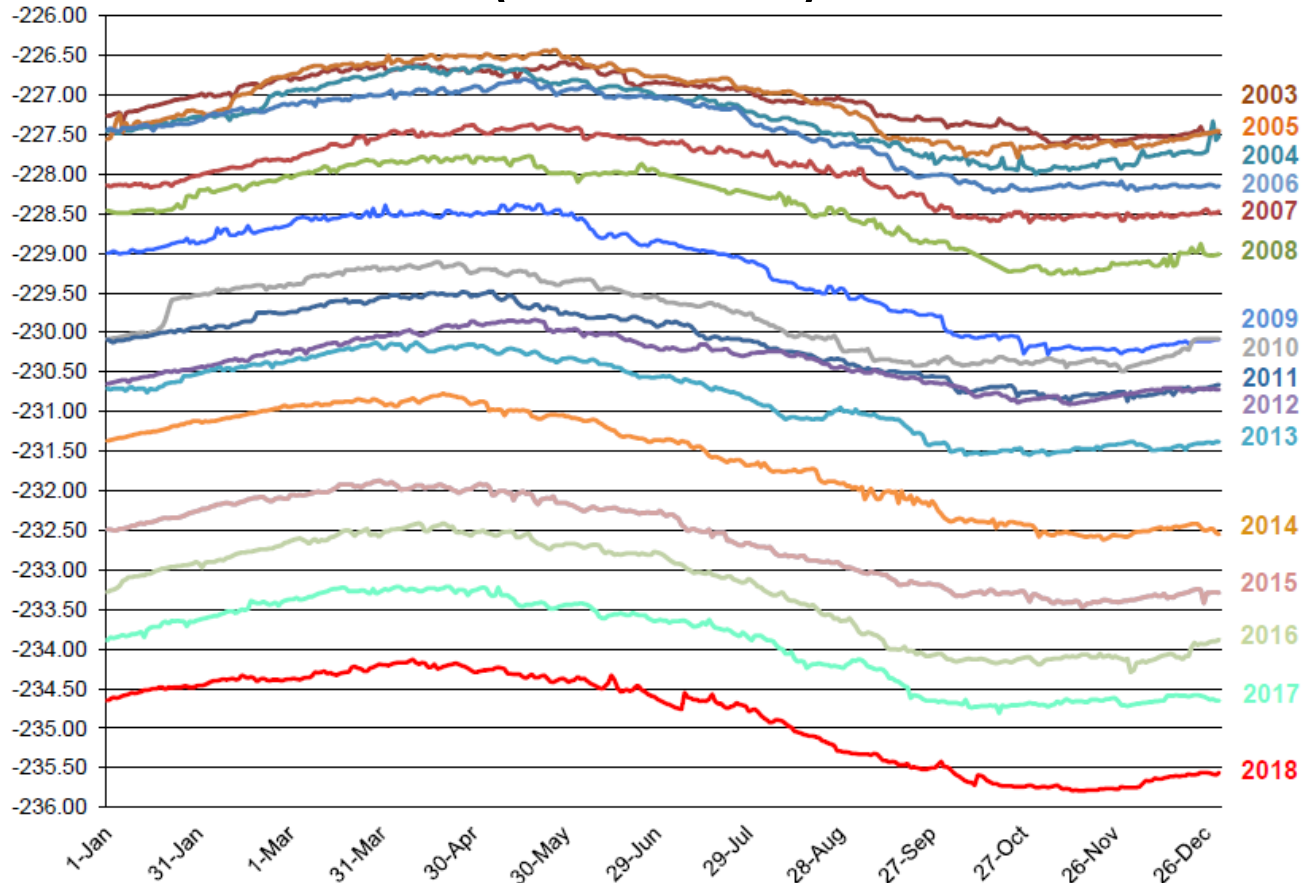


- 360 square miles, up to 52' deep
- Congressionally designated agricultural sump for IID/CVWD
- Volume of 7.5 MAF with annual inflow of up to 1.3 MAF, no outflow
- Nearly 50% saltier than the ocean
- Repository for agricultural drainage
- Heavily used by migratory waterfowl including endangered species
- > 7' elevation decline since 2003; despite the replacement of conserved water reductions through the delivery of mitigation water
- Without transfers, Sea was estimated to turn hypersaline between 2010 and 2025
- With transfers, Sea is estimated to turn hypersaline 1-9 years earlier

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Salton Sea Elevation @ Fig Tree John (2003 – 2018)



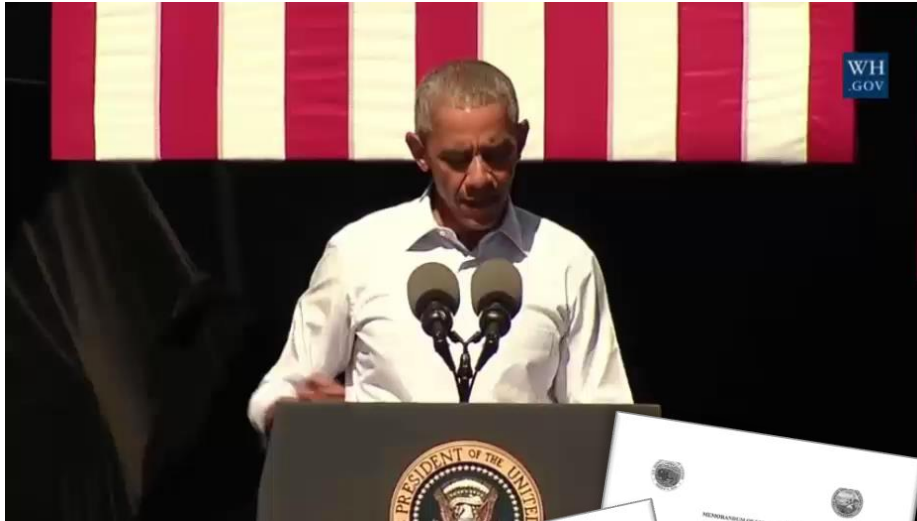
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A Call to Action: IID's SWRCB Petition

- On November 18, 2014 IID submitted a petition to the California State Water Resources Control Board to exercise its continuing authority over the nation's largest agricultural-to-urban water transfer.
 - *The 15-year mitigation flow requirement, intended to serve as a bridge to a state restoration obligation legislated in 2002 to facilitate approval of the QSA, concludes in 2017 and no habitat projects have been built nor has the state clearly defined its restoration plans.*
 - *The petition called on the SWRCB to commence a facilitated dialog to identify the most realistic, smaller but sustainable, Salton Sea restoration alternative and a durable funding mechanism, and then condition the water transfers on the state satisfying its unmet restoration obligation.*
- On March 4, 2017, more than two years later and with less than ten months of mitigation flows remaining, IID filed a request for a SWRCB evidentiary hearing to ensure the long-term viability of the QSA water transfers and provide for the implementation of a smaller but sustainable restoration plan that includes:
 - *Annual acreage milestones and performance standards, an adaptive management implementation plan, funding alternatives, permit streamlining options, a five-year reconsultation process to initiate Phase II planning efforts, and an affirmative state restoration commitment with SWRCB oversight.*



CA Salton Sea Task Force Agency Actions & Federal Memorandum of Understanding



- Released **October 17, 2015**, and called for the immediate development and implementation of a Salton Sea management plan
 - *Habitat creation goals of 9,000 – 12,000 acres (short-term) and 18,000 – 25,000 acres (mid-term)*
 - *Accelerated project implementation and increased public outreach*
 - *Evaluation of renewables and transmission at Salton Sea*
- **August 31, 2016:** US Department of Interior and California Natural Resources Agency sign MOU to coordinate Salton Sea management activities in support of water supply reliability.
- **January 18, 2017:** DOI and CNRA sign MOU Addendum that includes the coordination of renewable energy and economic development opportunities at the Sea and other measures.
- **March 16, 2017:** CNRA releases draft 10-Year Phase I Salton Sea Management Plan

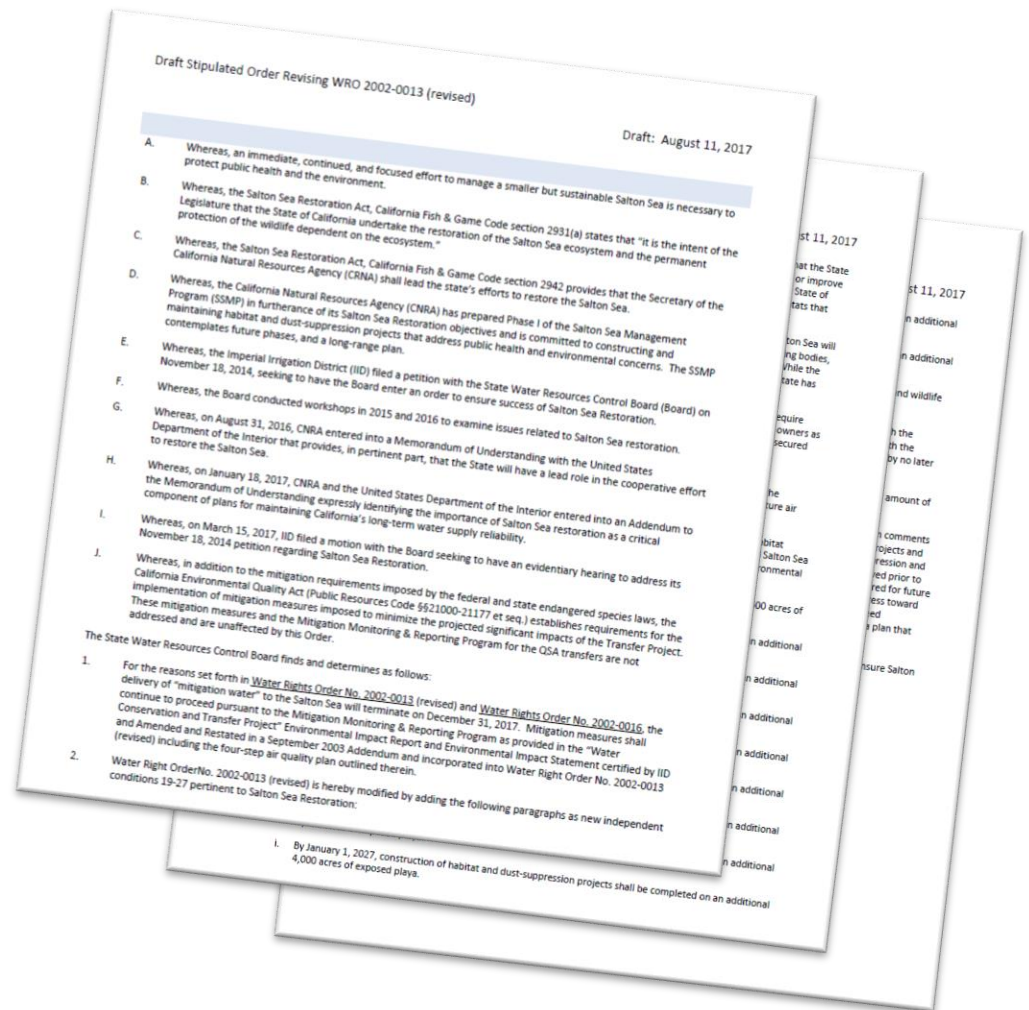


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SWRCB Stipulated Order

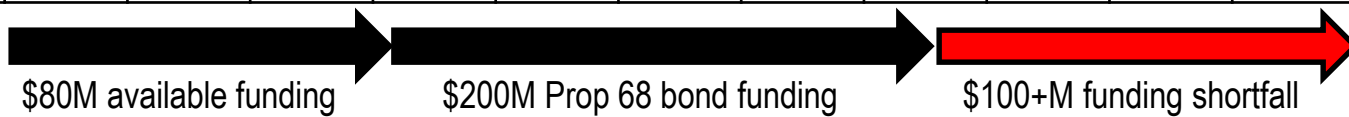
On September 7, 2017, the SWRCB held a public workshop regarding the Salton Sea Management Plan and a draft stipulated order developed by the state, IID, Imperial County and the San Diego County Water Authority, in consultation with the NGOs. This stipulated order was adopted on November 7, 2017 with minor modifications to improve public outreach and local coordination.





California's Phase I Salton Sea Management Plan

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Projected Salton Sea Exposed Playa Acreage	18,625	22,172	26,381	31,427	37,011	42,540	47,863	52,752	57,067	60,905	64,200	66,948
Annual Projected Increase in Exposed Playa Acreage		3,547	4,209	5,046	5,584	5,529	5,323	4,889	4,315	3,838	3,295	2,748
Cumulative Projected Increase in Exposed Playa Acreage		3,547	7,756	12,802	18,386	23,915	29,238	34,127	38,442	42,280	45,575	48,323
Annual Playa Acreage Coverage Milestones		500	1,300	1,700	3,500	1,750	2,750	2,700	3,400	4,000	4,000	4,200
Cumulative Playa Acreage Coverage Milestones		500	1,800	3,500	7,000	8,750	11,500	14,200	17,600	21,600	25,600	29,800
Projected SSMP Cost		\$10M	\$27M	\$35.5M	\$43.5M	\$33.5M	\$35.5M	\$34M	\$42.5M	\$47.5M	\$37.5M	\$36.5M





Uncontrolled Playa

Edge of Field Scale Pilot Study

Why restoration?



ch2m



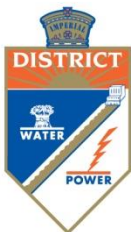
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What about the Drought Contingency Plan?

- IID's negotiating position from the beginning included the caveat that its participation was conditioned upon resolution of outstanding Salton Sea issues.
 - **November 2017** SWRCB stipulated order and the rollout of the Salton Sea Management Plan supported IID's DCP participation, as did a reduced IID implementation role within California's agreements.
 - **By late 2018**, it became apparent that California would fail to meet its first SSMP acreage milestone, was not on track to make sufficient progress to implement any 2019 projects and had failed to appropriate any additional funding for the Salton Sea.
 - **November 2018** California voters failed to approve a bond that would have fully funded Phase I of the SSMP.



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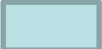


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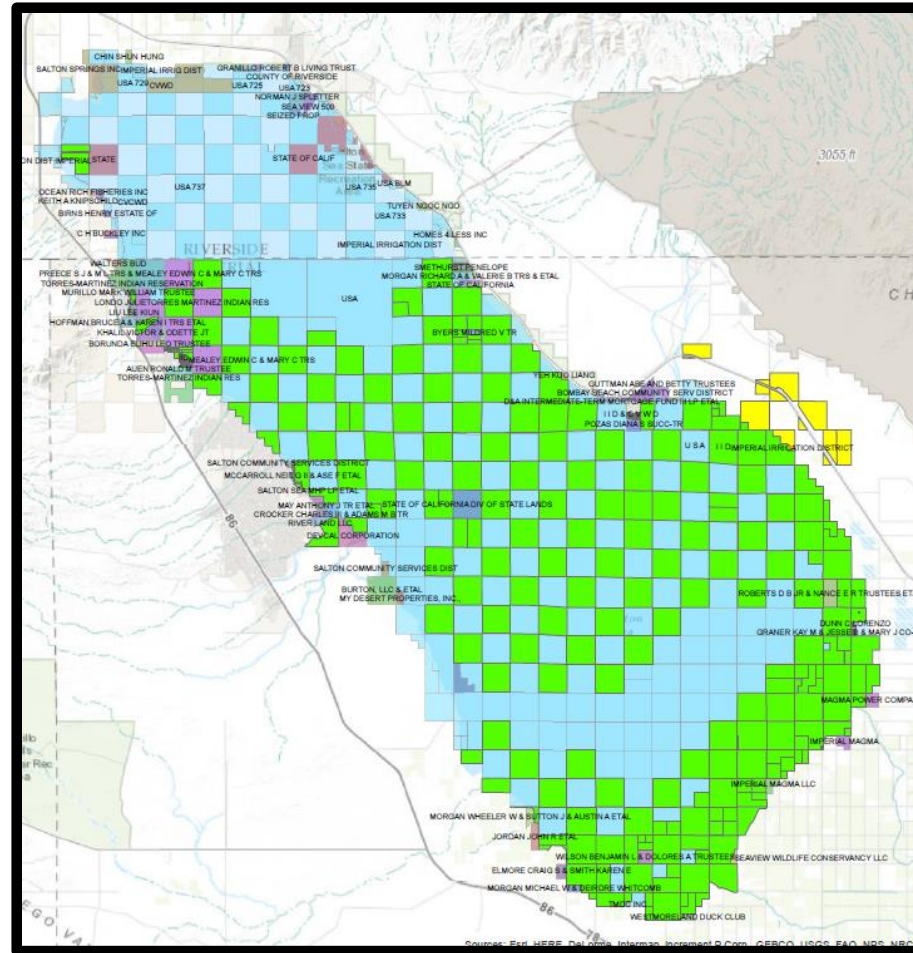
What about the Drought Contingency Plan?

- **December 2018:** IID approved the DCP Intra-state agreements with conditions to protect the Salton Sea including legislative changes to remove environmental waiver provisions and a federal funding cost-share based on changes made to the 2018 Farm Bill that created USDA funding opportunities developed to facilitate SSMP funding.
- **March 2019:** MWD and the Basin States authorize DCP agreements excluding IID, the single-largest Colorado River contractor, in order to meet a federally imposed deadline despite improved 2019 hydrology that pushes off a shortage operating condition.

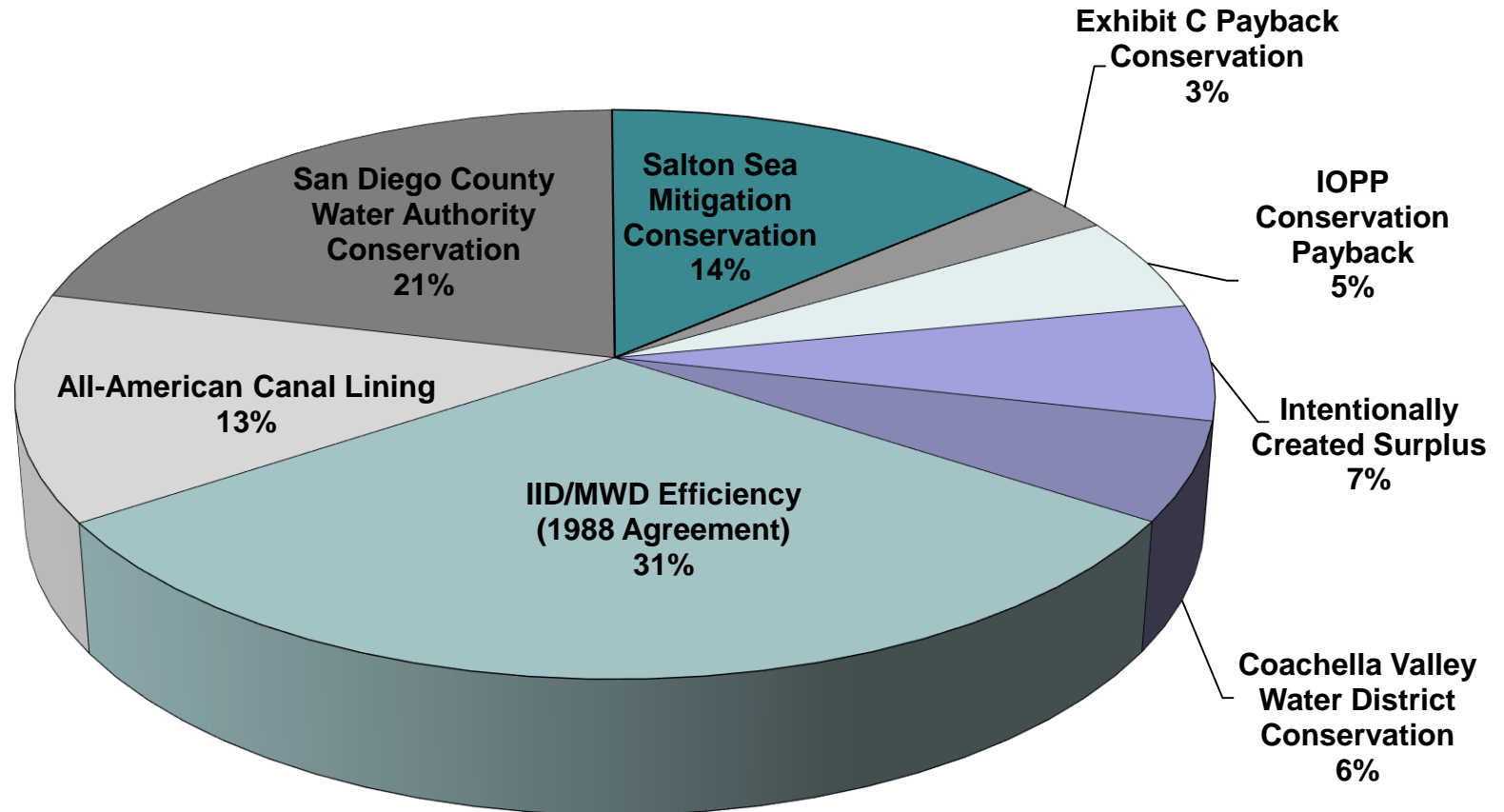


Colorado River and Salton Sea Nexus: Federal Land Ownership

-  Federal
-  IID
-  Tribal



Colorado River and Salton Sea Nexus: IID's Water Conservation Potential



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2003-2018 Total = 5,288,696 AF

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