Bringing Water into the Coachella Valley

MARK KRAUSE, GENERAL MANAGER
DESERT WATER AGENCY
FEBRUARY 12, 2019

Water COUNTS ACADEMY

DESERT WATER

Streams

- Chino Creek, Falls Creek, Snow Creek

- About 5% of DWA supply

- Less than 1% of supply valley wide

Aquifer

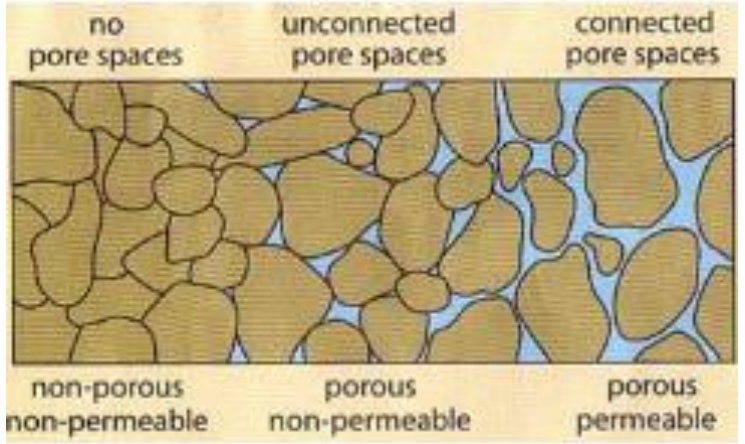
- >34.8 million acre feet stored (MAF) in first 1000 ft

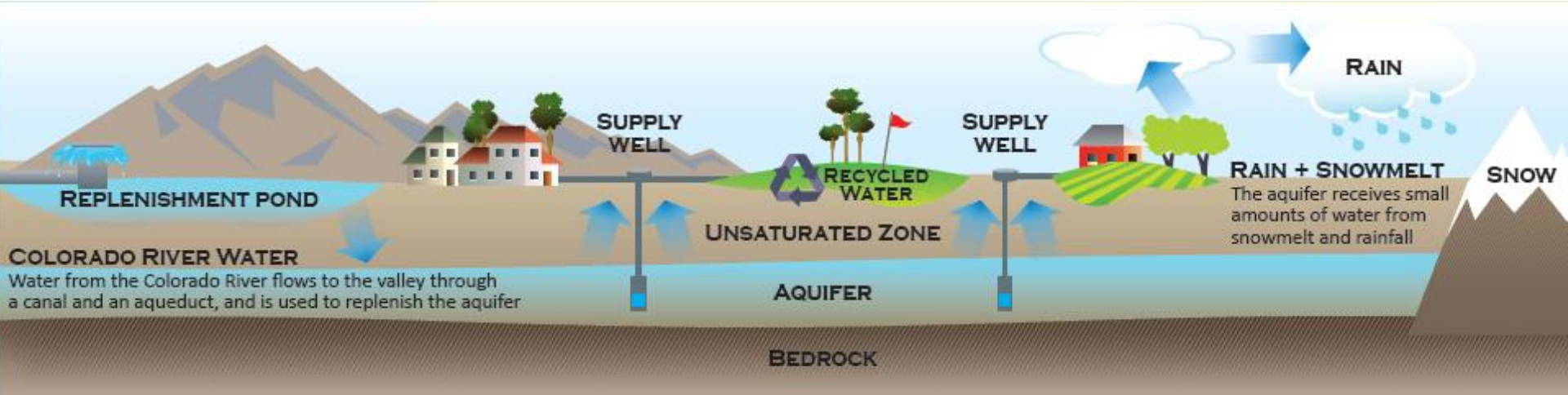
- 39.9 MAF storage capacity in first 1000 ft

- Each year valley uses about .3 MAF of groundwater

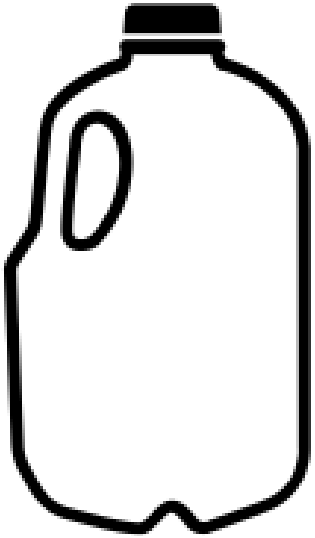
- About 130 years worth of water

-Depth to water varies

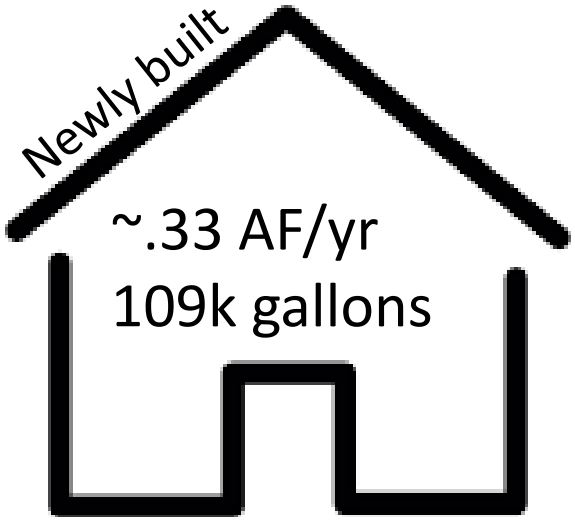




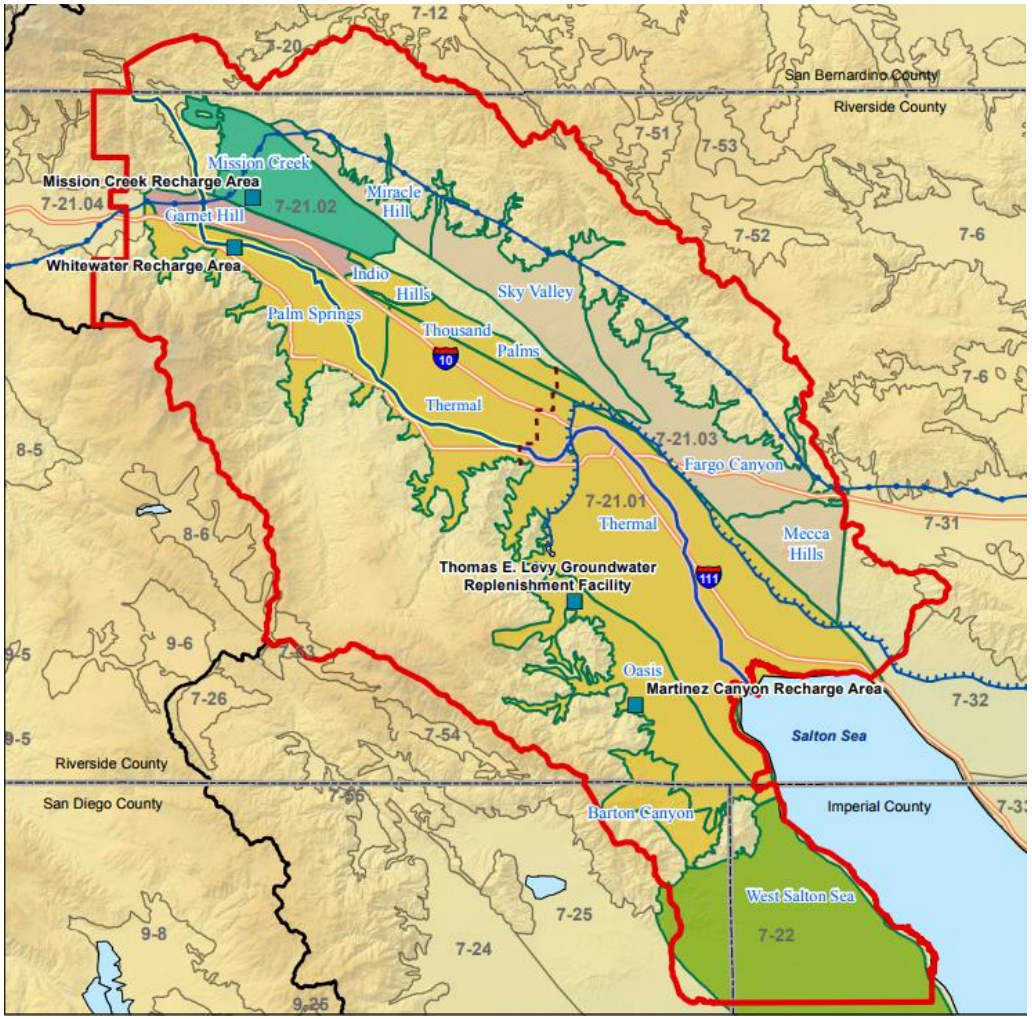
Acre foot



325,851 gallons



Basin map



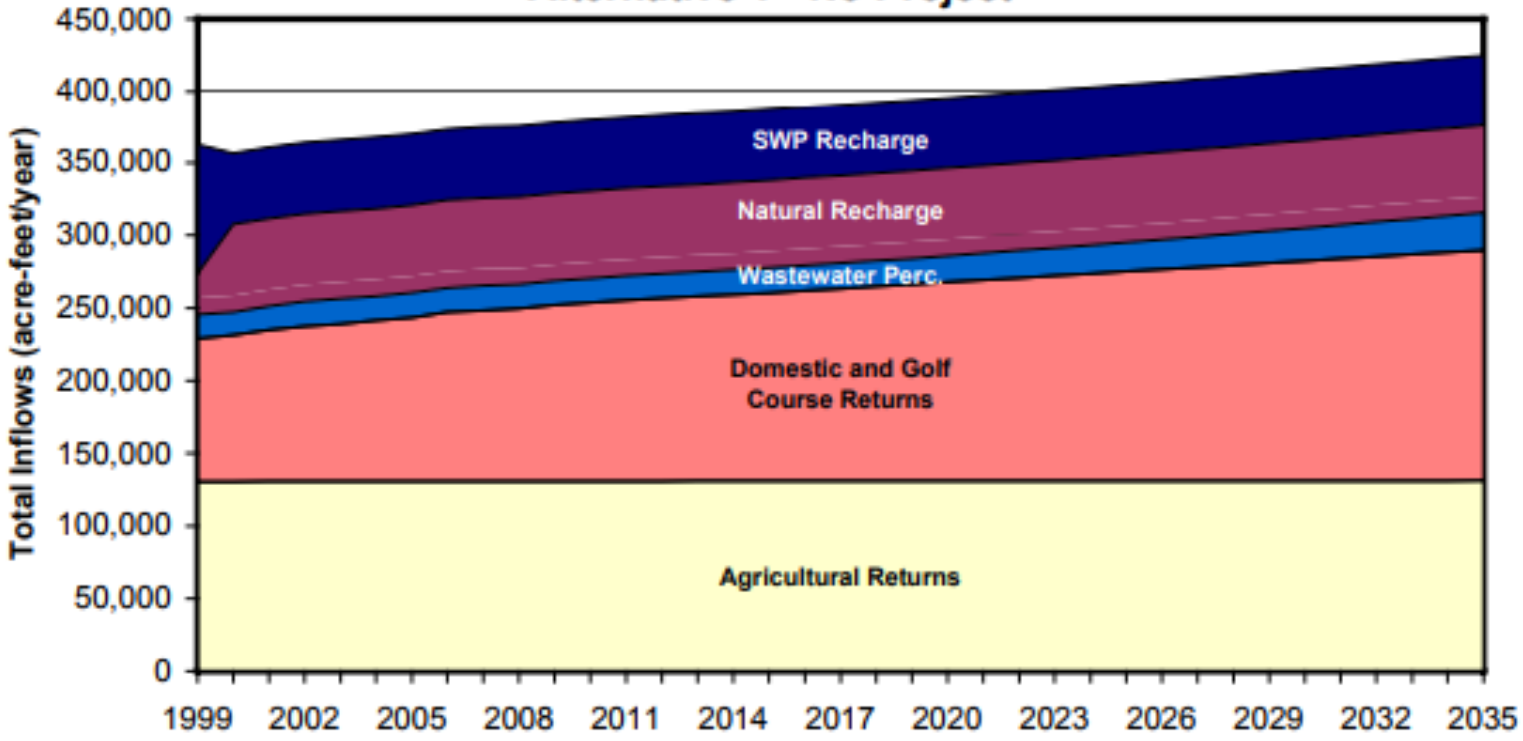
Groundwater Basins in Coachella Valley

Desert Hot Springs	2.5 MAF
Garnet Hill	1 MAF
Indio/Whitewater River	28.8 MAF
Mission Creek	2.5 MAF

DESERT WATER

Inflows

Figure 4-E
Summary of Projected Inflows by Source (1999-2035)
Alternative 1 - No Project



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Balance

DESERT WATER

State Water Contractor

- Two of 29 in the state
- That's why DWA was formed back in 1961
- Work with DWR to maintain statewide system
- Pay to import water

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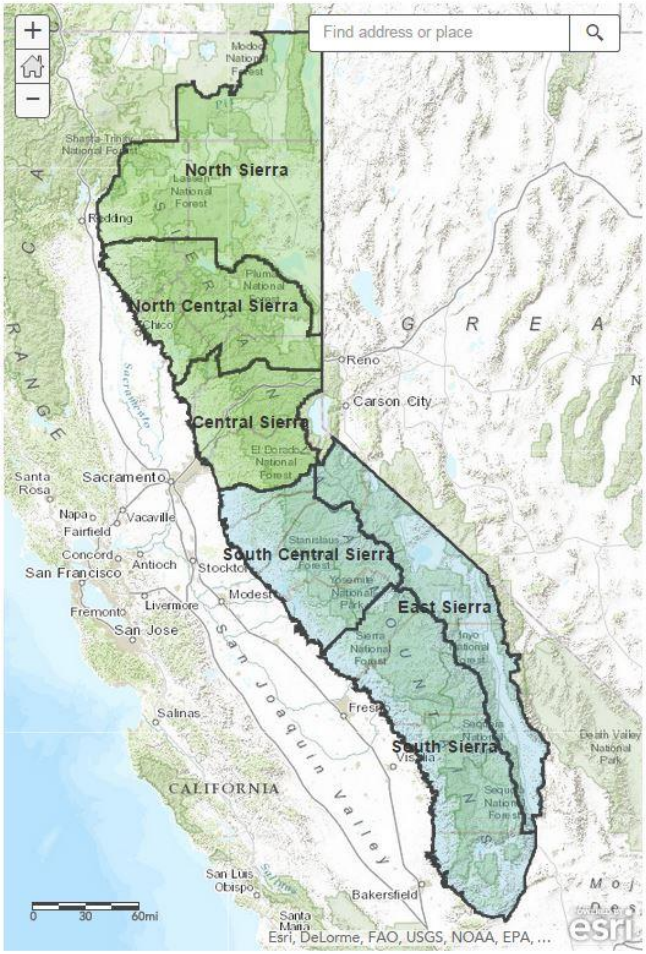
Sierra Nevada



Jan, 28 2017

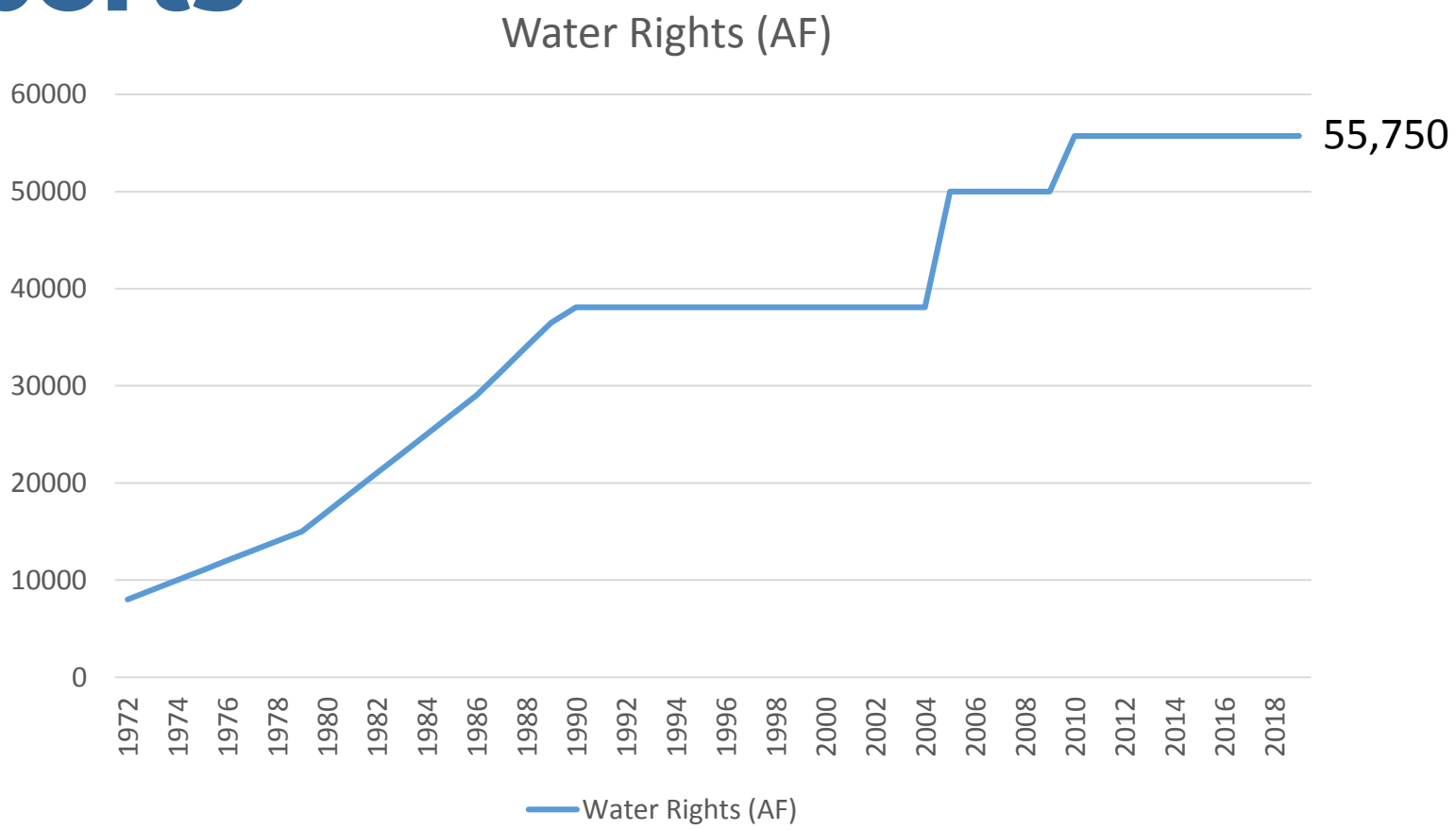
Feb 8, 2018

DESERT WATER

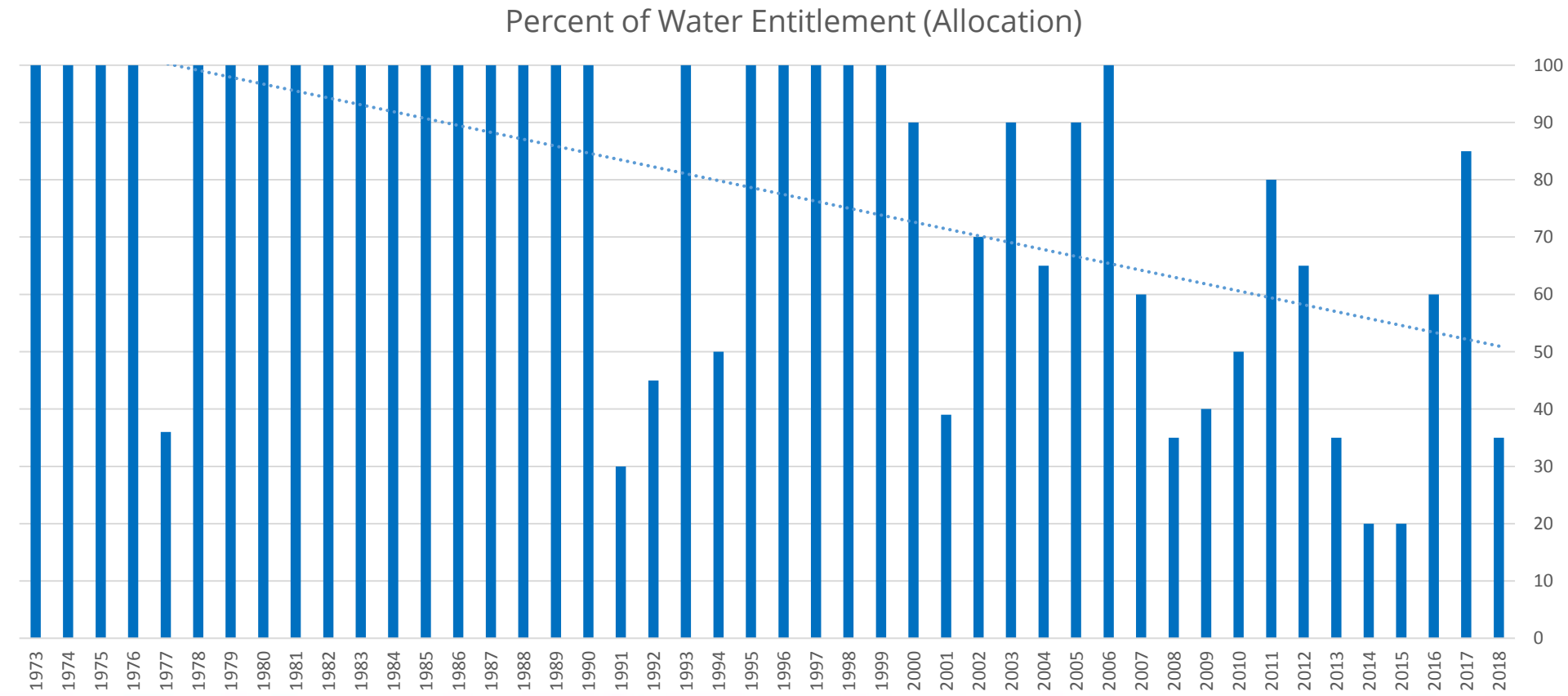
The Delta

- More than 30 million acre feet flow through each year
- About half the total river flow in the state passes through this region
- Supplies an estimated 7 million acre feet of water per year to approximately 23 million people

DWA State Water Project imports



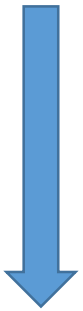
State Water Project reliability



DESERT WATER

Earthquakes

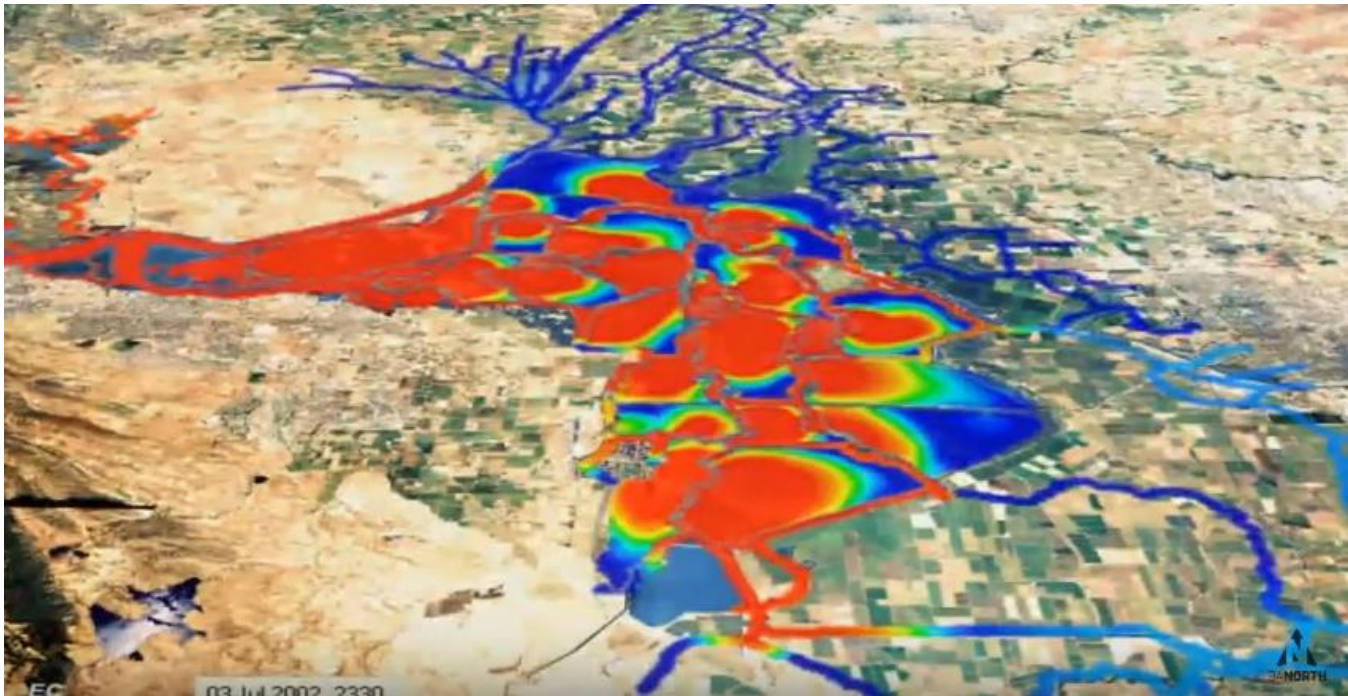
Typical water flow
snowmelt/
reservoir releases



Earthquake
ocean

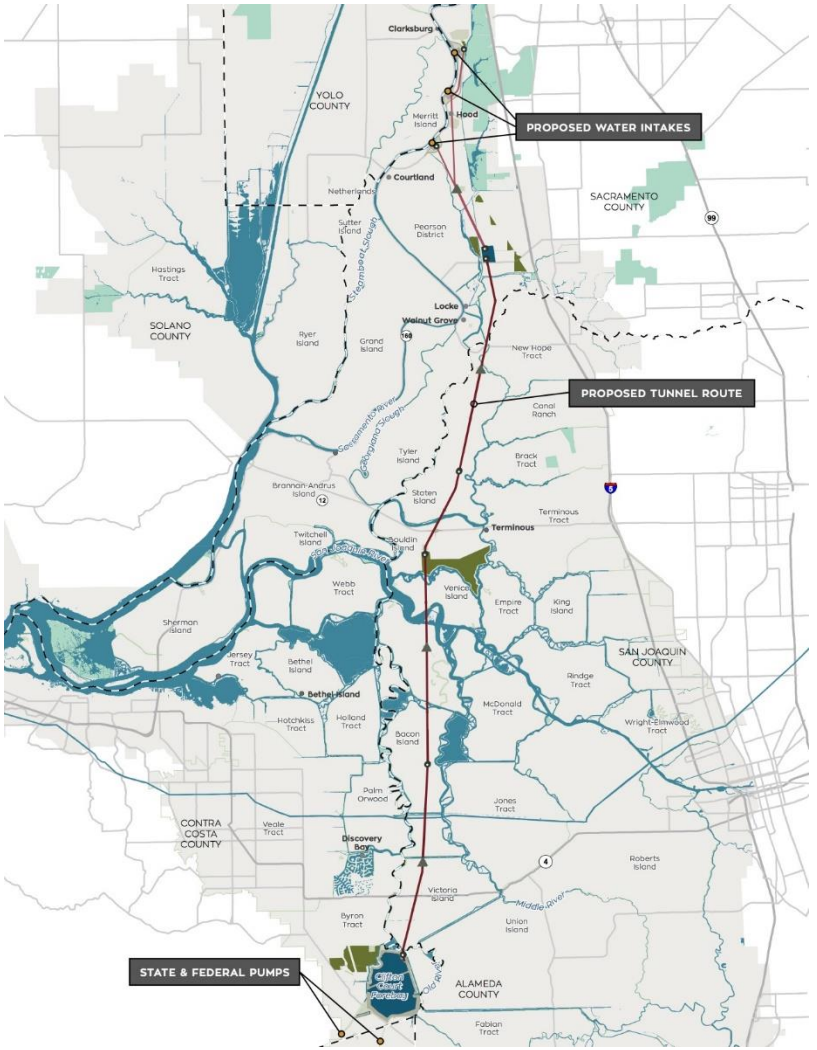
Before

After



CA WaterFix

- Twin tunnels
- Increase reliability and deliveries
- Less vulnerable to quakes
- Won't be completed for decades
- Still pending – new administration is an unknown



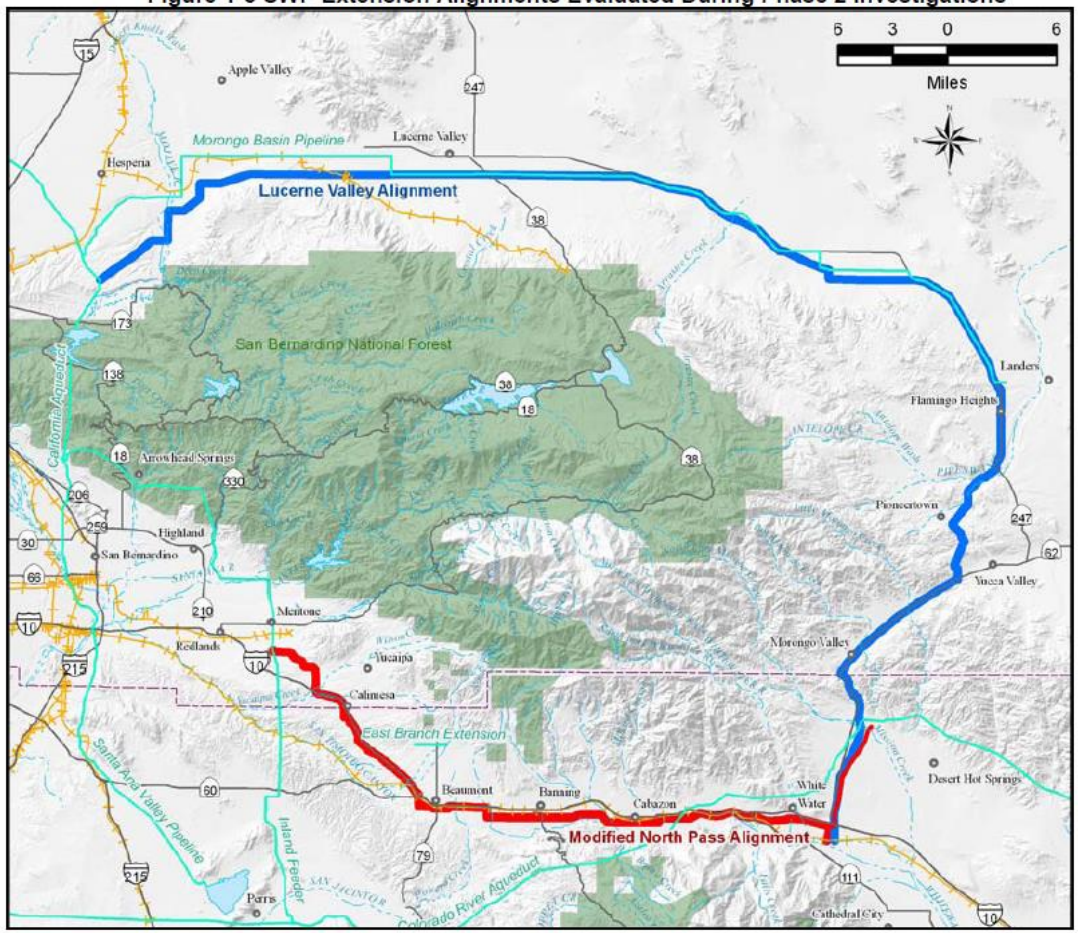
DESERT WATER

SoCal end point

- Ends at Lake Perris
- Furthest east extension in Beaumont

Possible routes to valley

Figure 1-3 SWP Extension Alignments Evaluated During Phase 2 Investigations



- Two routes
  - Lucerne Valley
    - 88 miles
  - San Gorgonio Pass
    - 38 miles
- Would cost about $1.6B

MWD exchange

- Trade Colorado River water for State water
- Avoid building +$1.6B pipeline
- Saves ratepayer money
- Guaranteed delivery
- Get advanced deliveries to help groundwater levels

Colorado River

Trade Colorado River water for State water
Avoid building +$1.6B pipeline
Saves ratepayer money
Get advanced deliveries to help groundwater levels

DESERT WATER

Water replenishment

- Two west valley facilities for SWP
- One mid-valley location
- One east valley location

DESERT WATER

Water replenishment

DESERT WATER

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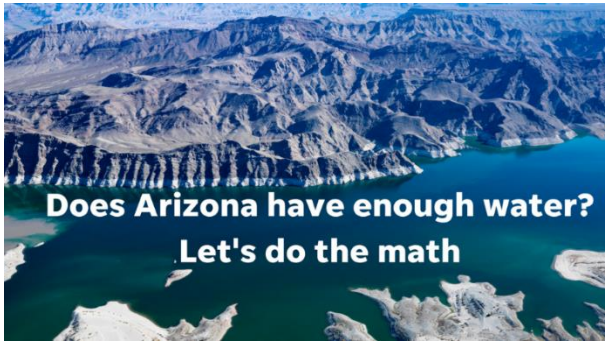
DESERT WATER

Colorado River
Strengths, weaknesses, opportunities & threats

Robert C. Cheng
Coachella Valley Water District

Water COUNTS ACADEMY

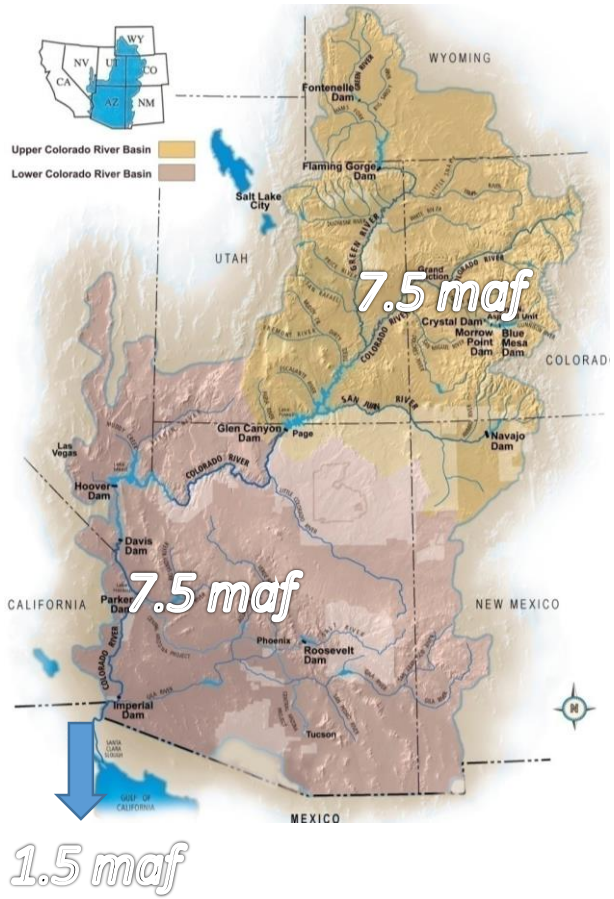
Colorado River issues



SWOT ANALYSIS

	Helpful to achieving the objective	Harmful to achieving the objective
Internal origin (attributes of the organization)	Strengths	Weaknesses
External origin (attributes of the environment)	Opportunities	Threats

Background

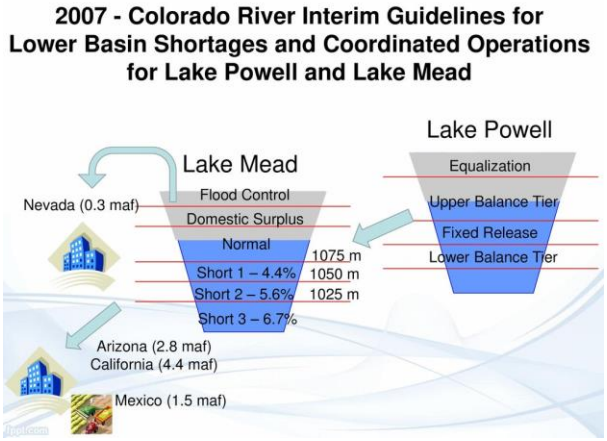


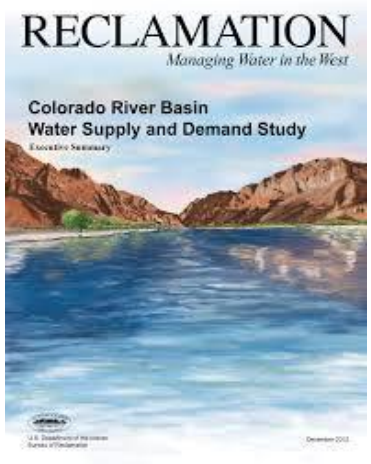
- Named the "hardest working river in the West"
- Supplies 40 million users in 7 states and Mexico
- 15 million af (maf) within U.S. + 1.5 maf to Mexico
- Has been in drought conditions since 2000
- Reservoir storage has dropped by 50% since start of drought
- CVWD formed in 1918 to obtain federal Colorado River water supply

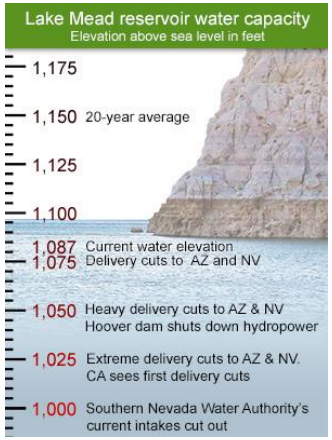
Strengths

- 80% of CVWD's imported water supply
  - ✓ *federal contracted supply of 330,000 af (taf)*
  - ✓ *added 123 taf through various negotiations*
  - ✓ *resulted in 453 taf (gross)*
  - ✓ *more than NV's annual supply*
- Among the highest priorities on the river
  - ✓ *reliable*
  - ✓ *takes Act of Congress to change rules*
- Good working relations with others on the river

Weaknesses/Threats







- Poor hydrology exerting pressure on other States
- Supply & demand not in balance
  - ✓ *15 maf allocated to 7 states*
  - ✓ *long term imbalance of 3.2 maf (USBR study)*
- Certainty of agreements
  - ✓ *2007 Interim Guidelines*

Opportunities

- Colorado River issues resolved collaboratively through stakeholders
  - ✓ *includes Federal government*
- CVWD has history of working cooperatively with other parties
  - ✓ *2003 Quantification Settlement Agreement*
  - ✓ *Drought Contingency Plan*
  - ✓ *Renegotiations of 2007 Interim Guidelines*

California

Basin States

Delivery of water to Mexico (Minute 32x)

Questions?

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Agricultural Water Use in the Coachella Valley

CV Water Counts
Water Academy

By: Peter Nelson, CVWD Board Director

An Agricultural Economy

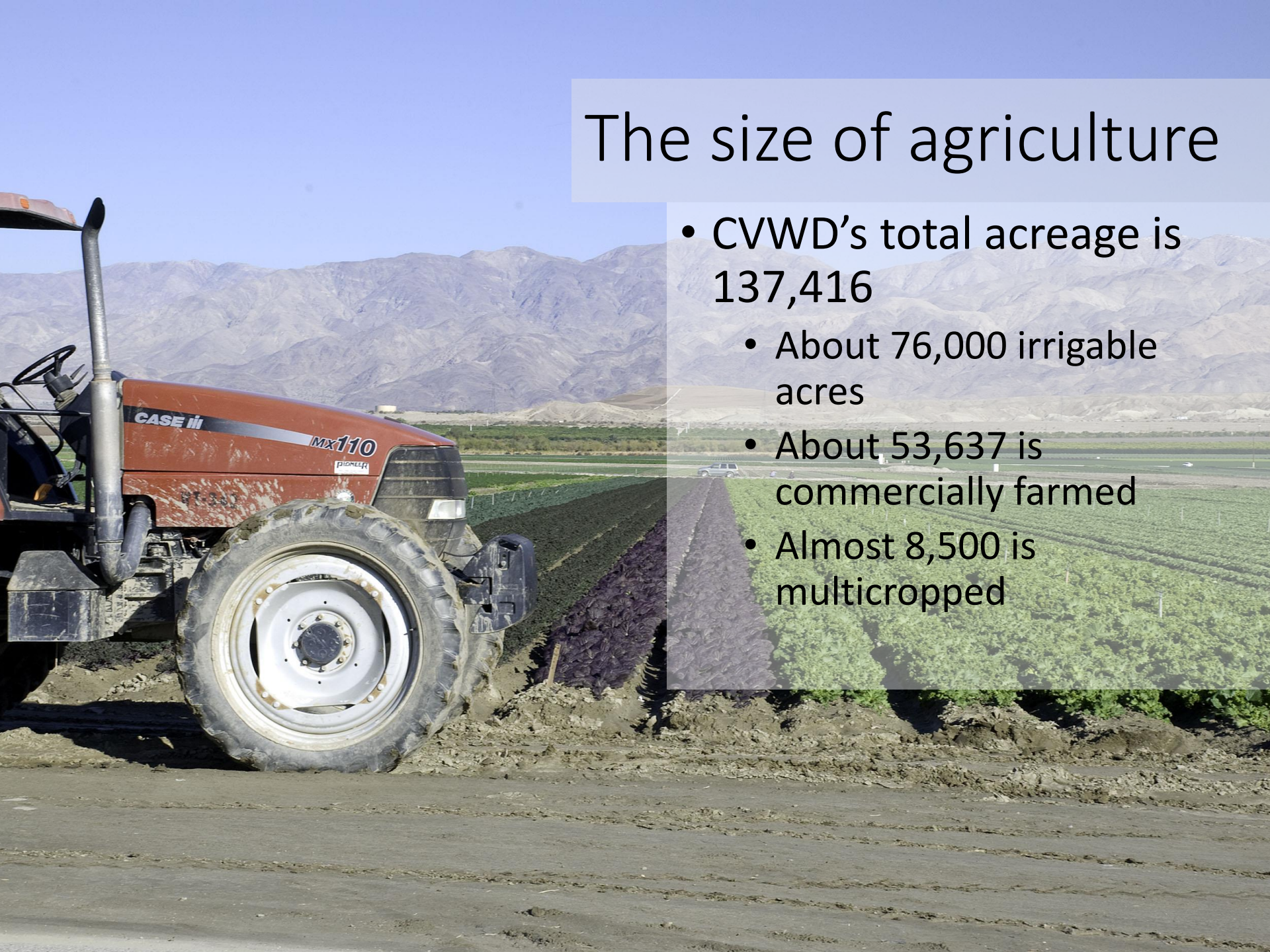
- Coachella Valley's agricultural industry is the second largest contributor to the local economy.
- It employs approximately 12,000 people and produces nearly a billion dollars in agricultural products each year.

Top producing crops

- Dates
- Bell Pepper
- Lettuce
- Grapes
- Artichokes
- Broccoli
- Watermelon
- Citrus
- Carrots

The size of agriculture

- CVWD's total acreage is 137,416
  - About 76,000 irrigable acres
  - About 53,637 is commercially farmed
  - Almost 8,500 is multicropped



Coachella Canal

- Farmers use either groundwater or surface water from the Coachella Canal
  - Delivers about 250,000 acre feet of water a year
  - About 2/3 of local farmland is irrigated with canal water

Coachella Canal

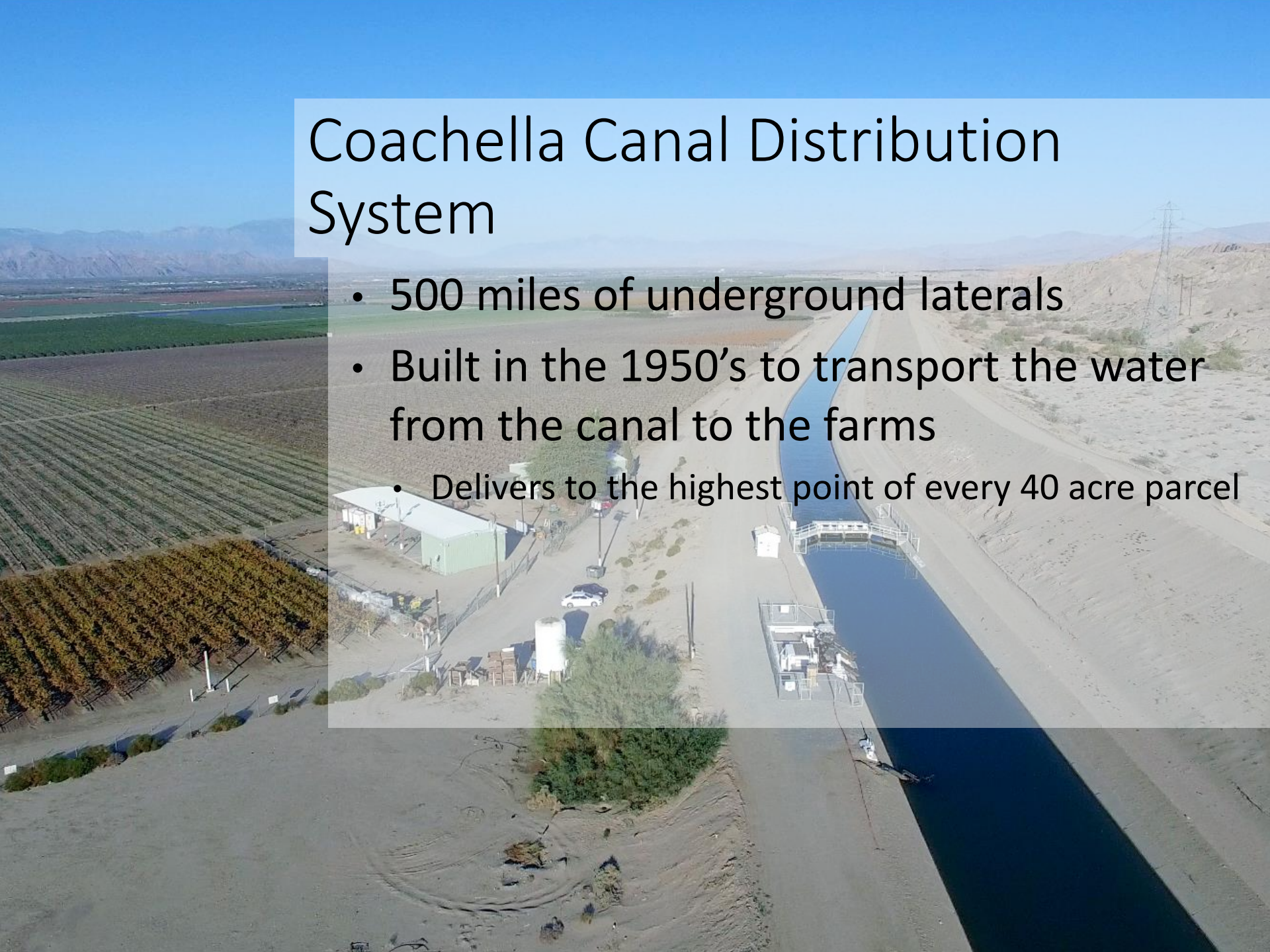
- Begins at Colorado River
- Brach of the All-American Canal
  - Diverted at the Imperial Dam (north of Yuma)
- 123 miles long
- Construction began in 1930's and was interrupted by WWII
  - Work resumed in 1948
  - Completed in 1949

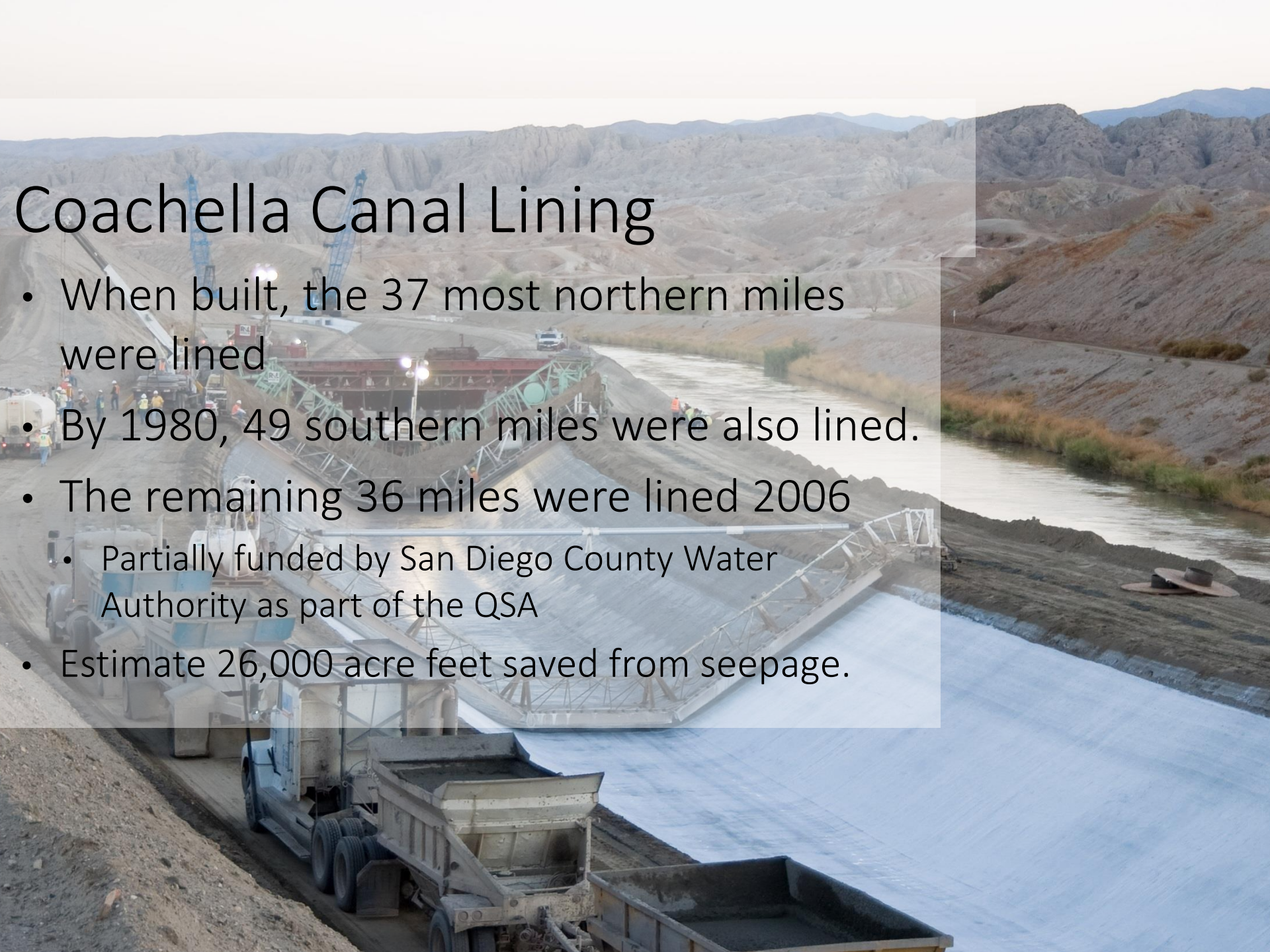
Coachella Canal

- Has capacity for up the 1,300 cubic feet per second
  - Allows for 2,600 acre feet every 24 hours
  - Delivers about 250,000 acre feet of water a year

Coachella Canal Distribution System

- 500 miles of underground laterals
- Built in the 1950's to transport the water from the canal to the farms
  - Delivers to the highest point of every 40 acre parcel



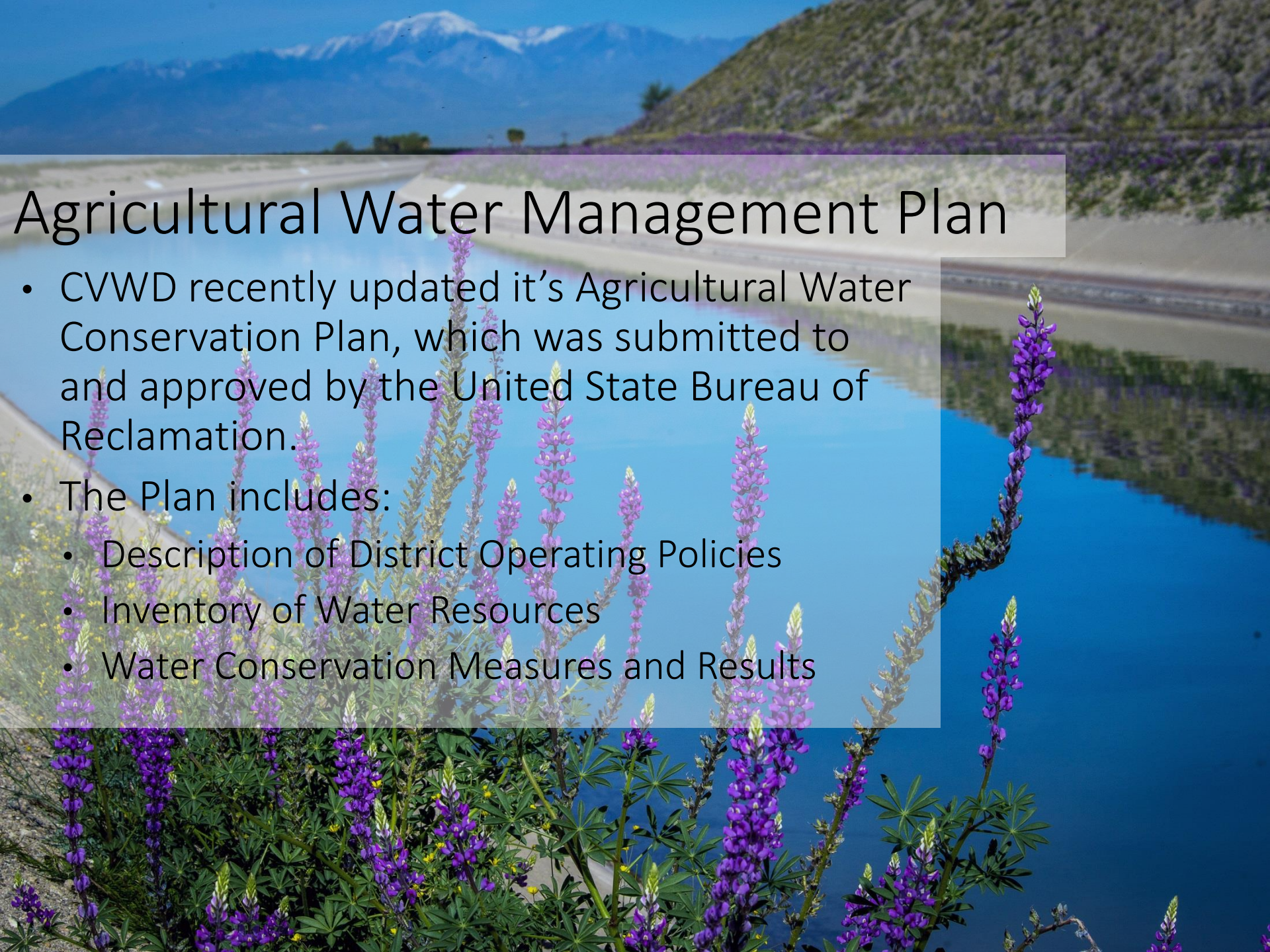


Coachella Canal Lining

- When built, the 37 most northern miles were lined
- By 1980, 49 southern miles were also lined.
- The remaining 36 miles were lined 2006
  - Partially funded by San Diego County Water Authority as part of the QSA
- Estimate 26,000 acre feet saved from seepage.

Lake Cahuilla

- Greater control over the flow
  - Storage capacity to capture surpluses
  - Holds about 1,300 acre feet
- Riverside County operates the recreation uses
  - Fishing
  - Camping
  - Day use



Agricultural Water Management Plan

- CVWD recently updated it's Agricultural Water Conservation Plan, which was submitted to and approved by the United State Bureau of Reclamation.
- The Plan includes:
  - Description of District Operating Policies
  - Inventory of Water Resources
  - Water Conservation Measures and Results

CV Water Management Plan

- Conservation goals for agriculture:
  - 2002 Coachella Valley Water Management Plan set a goal of 7% savings based on average water use per acre in 2000 to 2020 period.
  - As of 2010, use had declined 9.9%
  - 2010 CVWMP set a new goal of 14% savings by 2020, using a phased approach.
    - Expected savings would be 39,500 acre feet per year.

How have we done it?

- More than 60% of area farms use drip or other micro-irrigation.
- Area farms are among the most efficient agricultural water users in the state.

How have we done it?

- Lake Cahuilla
- Canal Telemetry Control
- Canal Lining
- Direct Metering of Agricultural Deliveries
- Support of California Irrigation Management Information System (CIMIS) Network
- Public Education
- Agricultural Water Advisory Group
- Certified Crop Advisor and Certified Agricultural Water Manager on staff

Questions?