

Our mission is to provide a safe and reliable supply of high-quality water to the communities we serve.



OCEAN WATER DESALINATION PROGRAM OVERVIEW

June 14, 2016

EXPERIENCE IN LOCAL SUPPLY DELIVERY



IRRIGATION



COOLING
TOWERS



LOW-
PRESSURE
BOILERS



HIGH-
PRESSURE
BOILERS

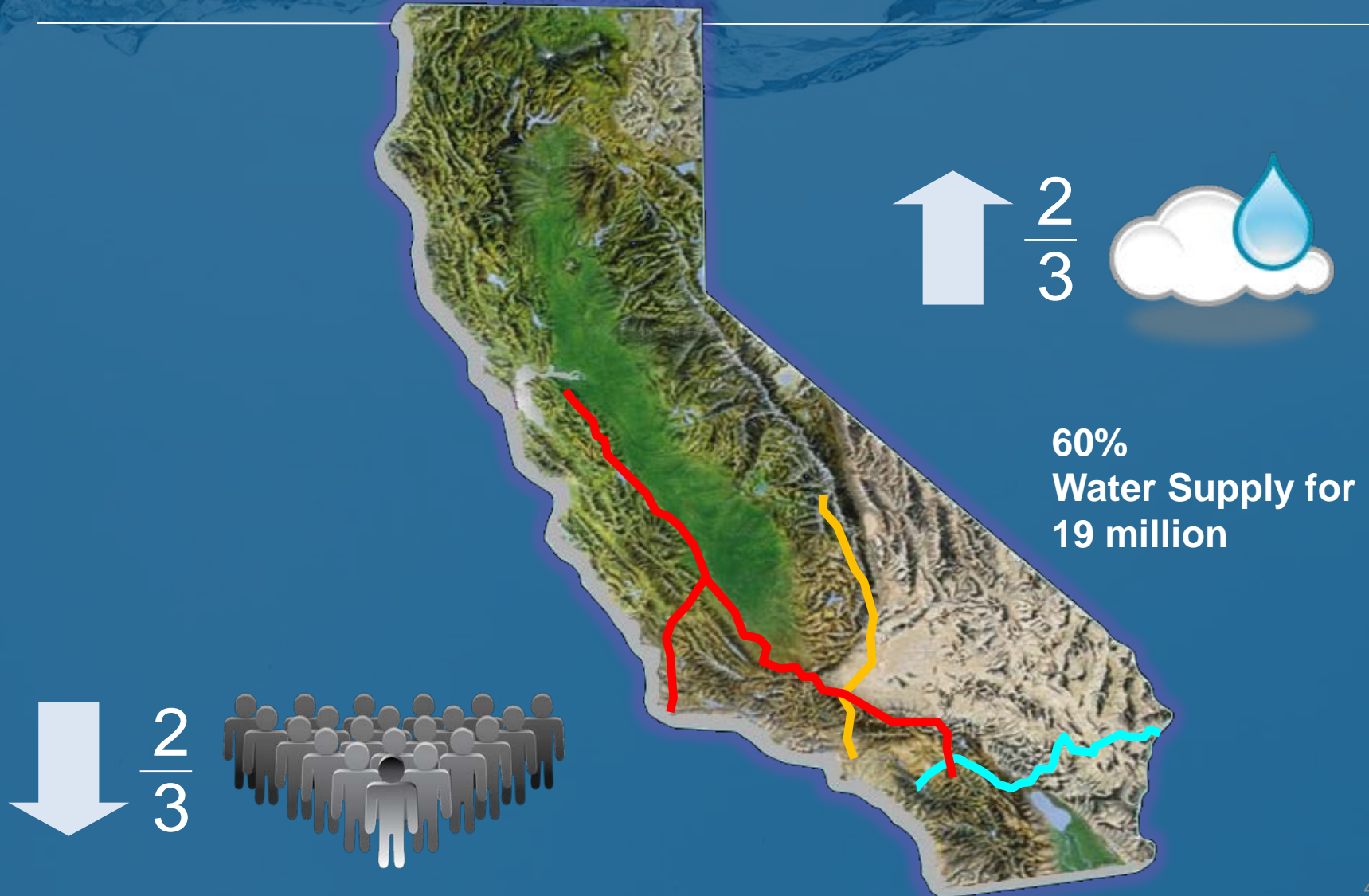


GROUNDWATER
REPLENISHMENT

6TH Water Coming Soon

175 Billion Gallons Since 1995

WHERE DOES OUR WATER COME FROM?



NEW EXECUTIVE ORDER!

Los Angeles Times

Gov. Brown issues executive order permanently banning wasteful water practices



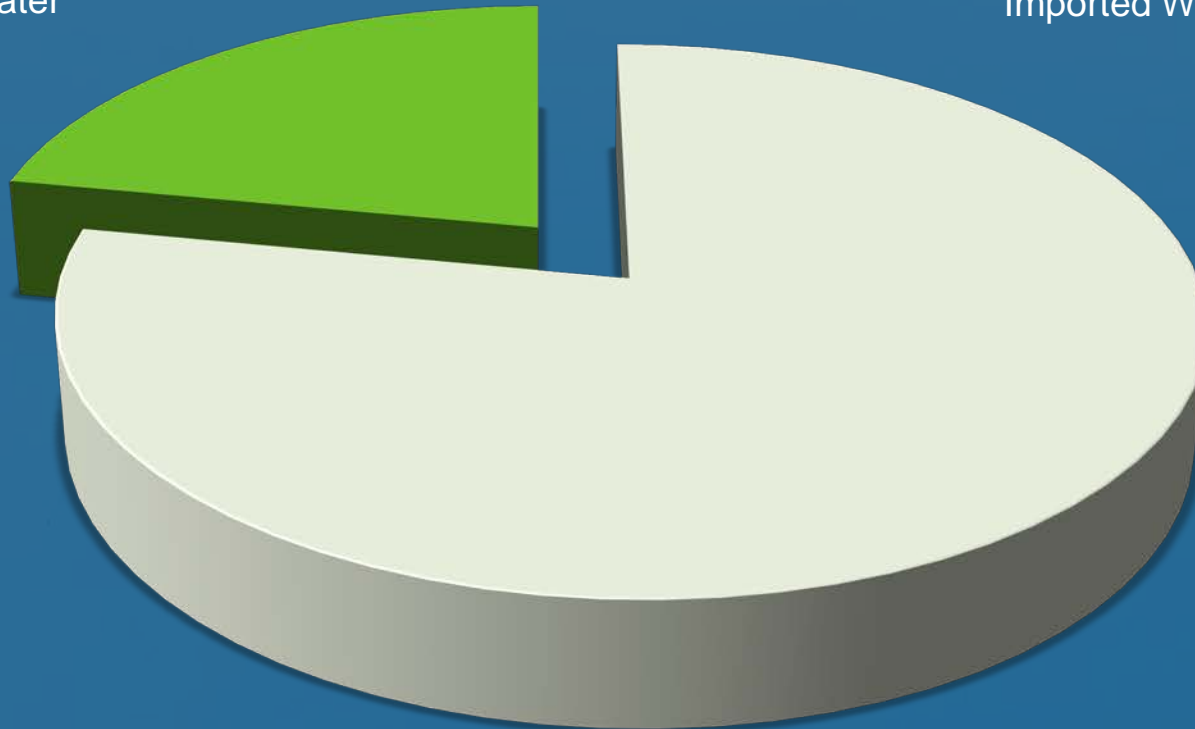
- *In the 5th consecutive year of drought, Californians must make conservation a permanent way of life.*
- *New emergency regulations will replace state-mandated conservation with a more regionally specific conservation program.*

WATER RELIABILITY THROUGH SUPPLY DIVERSIFICATION

1990

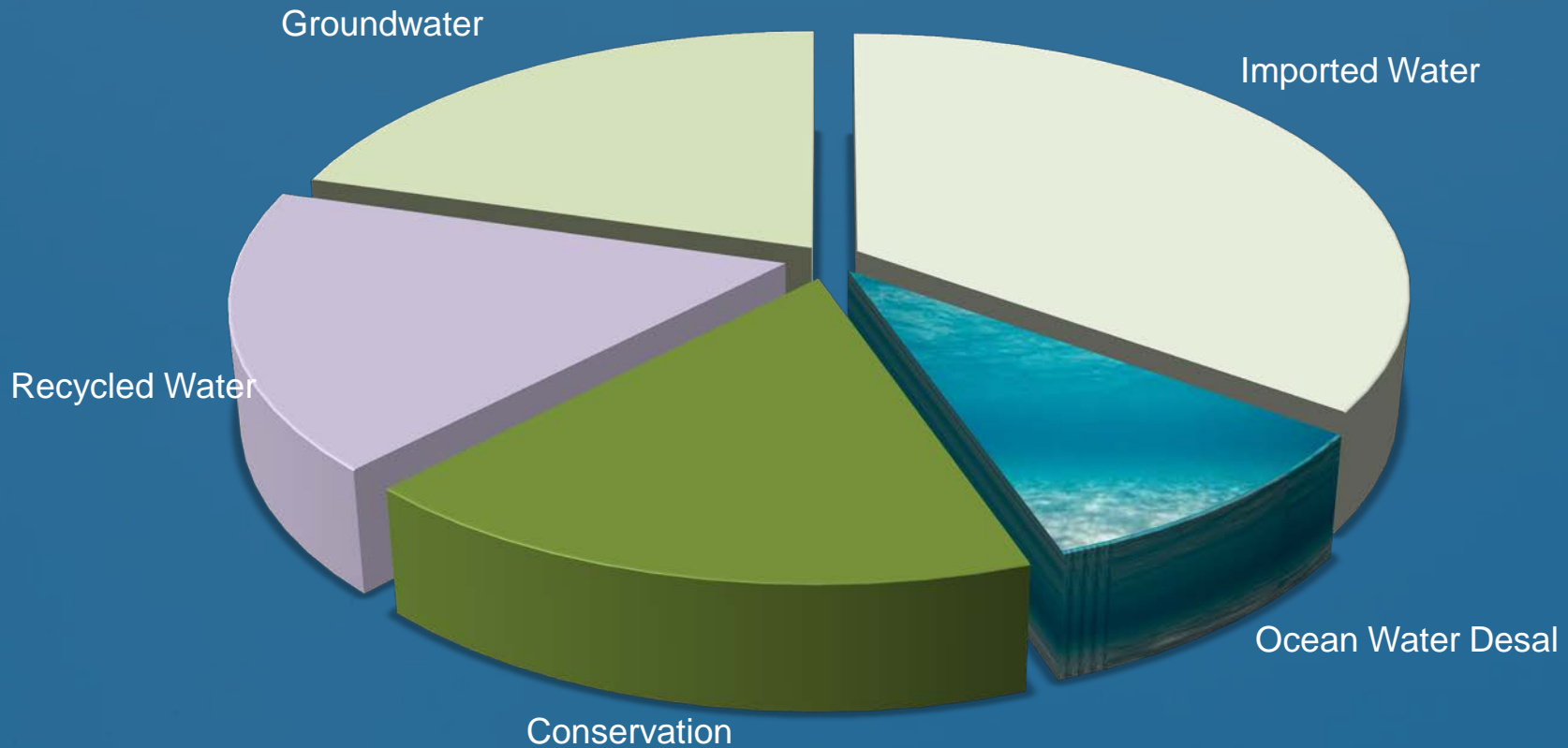
Groundwater

Imported Water



WATER RELIABILITY THROUGH SUPPLY DIVERSIFICATION

2025



2015 PUBLIC OPINION & SUPPORT

In a September 2015 poll, the drought was seen as the most serious problem in the State:

	Extremely/very serious
1. Current droughts in California	87%
2. Water shortages/more frequent droughts	79%
3. The number of families in poverty	79%
4. Traffic congestion	71%
5. Climate change	64%
6. Education quality in California	62%
7. Jobs and the economy	61%

2015 PUBLIC OPINION & SUPPORT

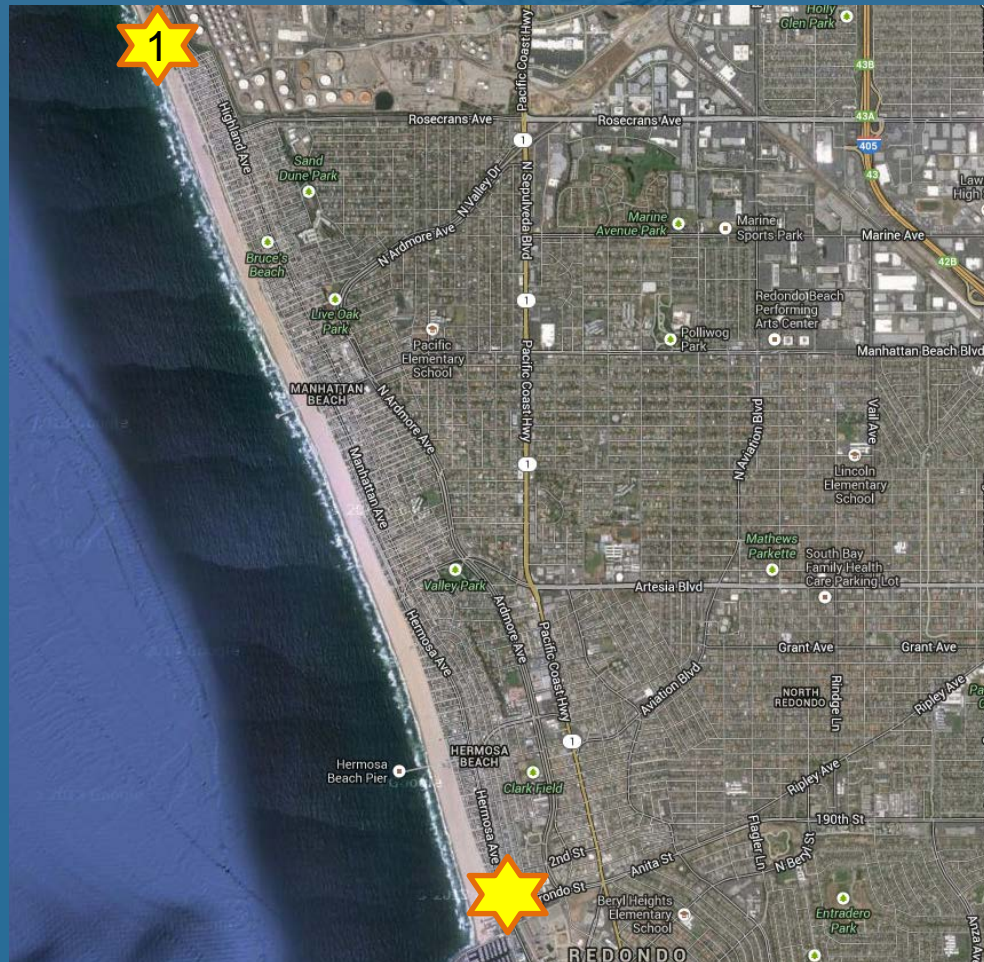
Voters see ocean desalination as among the most *effective solutions* for addressing the state's water supply problem, as of September 2015 polling:

	FAVOR
1. Stormwater Capture	88%
2. Recycled Water	82%
3. Voluntary Conservation	78%
4. OCEAN WATER DESALINATION	74%
5. Build new dams	64%
6. Increase imported water	63%
7. Mandatory conservation	62%
8. Increase the price of water	50%

If West Basin were to establish an energy efficient and environmentally-friendly ocean water desalination facility, overall support increased to 84%

Overall support from beach cities increased to 83%

PROPOSED PROJECT SITE



PROGRAM HISTORY



Pilot Facility
El Segundo, Calif.
2002-2009

- 5 Research Studies Completed
- ~\$3.3M



Demonstration Facility
Redondo Beach, Calif.
2010-2014

- 15 Research Studies
- ~\$25M

COMMON QUESTIONS

- How do you protect **marine life**?
- How much **energy** is required?
- How much does it **cost**?

REGULATORY OVERSIGHT & MARINE ENVIRONMENT PROTECTION



New State Regulations:

- Intake
- Discharge
- Mitigation
- Most environmentally protective in the world

SAFE INTAKE OF OCEAN WATER

- West Basin has tested Wedge Wire Screens 2010-2014
- First to test three sizes – 0.5mm, 1.0mm, 2.0mm



Current passive wedge wire screens proven to protect 100% of adult and juvenile marine life and most, if not all, mature larvae

SAFE DISCHARGE OF OCEAN WATER

West Basin will design a diffuser to be protective of marine life through rapid mixing and minimizing high salinity zones in the ocean.



ENERGY

6,815 kWh



4,453 kWh



3,000 kWh



Requires about
the same
amount of
energy as
refrigerator &
freezer,
per average
household

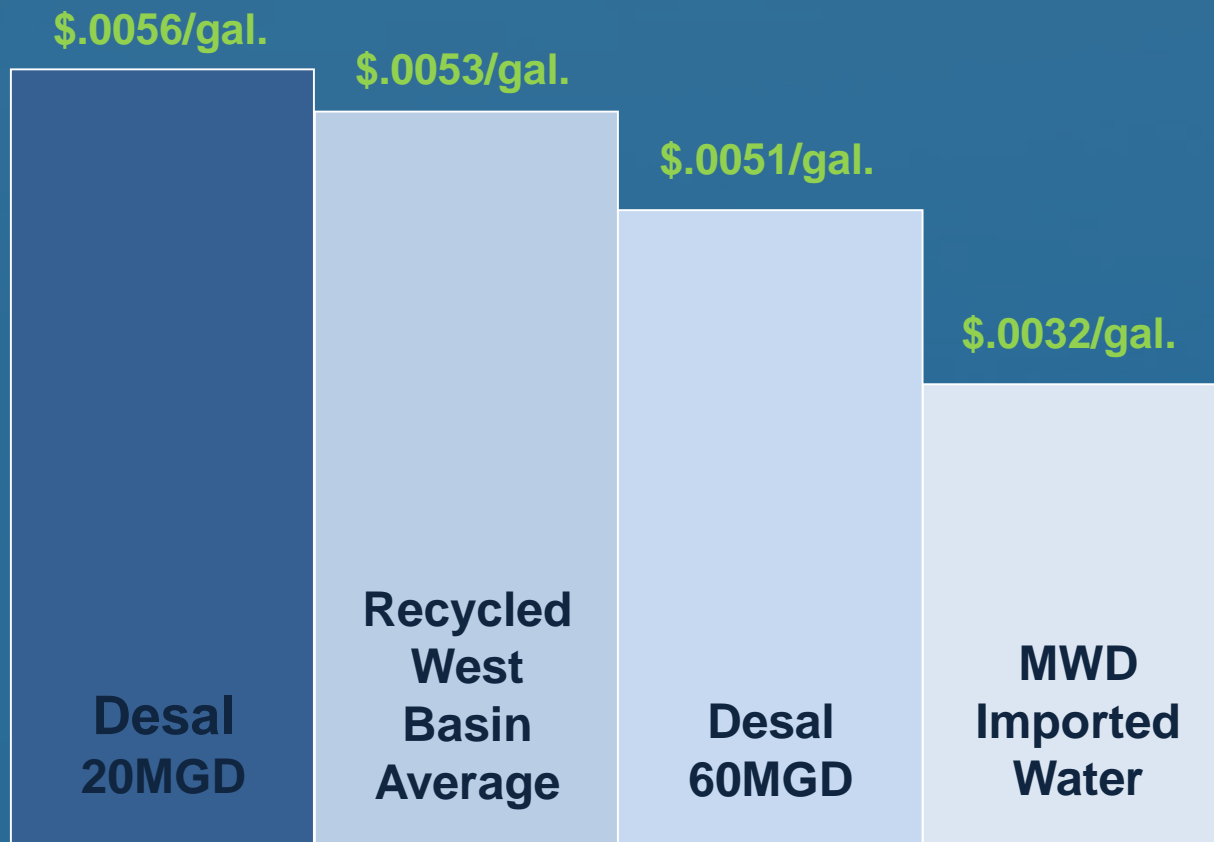


Pursuing a Carbon Neutral
Facility & Renewable
Energy Sources

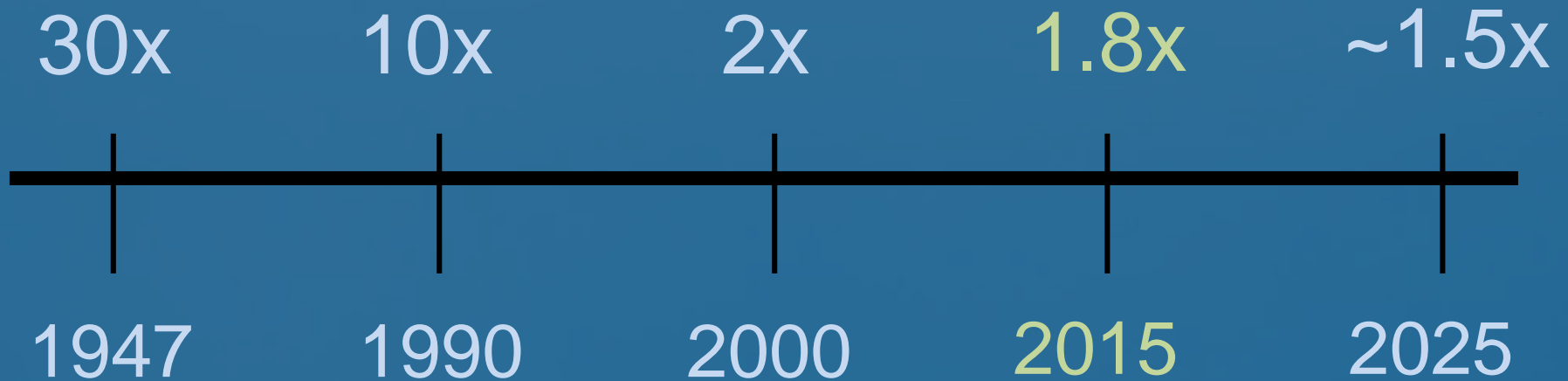
COST OF OCEAN DESAL

*Estimated impact on your
monthly water bill
as of 2015:*

\$3-5 a month



DESAL v. IMPORTED WATER COSTS



ENVIRONMENTAL IMPACT REPORT PROCESS



PROPOSED PROJECT TIMELINE

1.
EIR
2015-2017

2.
PERMITS
2017-2018

3.
DESIGN
2018-2020

4.
BUILD
2020-2023

5.
**WATER
DELIVERY**
2023