A scenic landscape photograph of a river flowing through a valley. The river is in the foreground, with dark blue water and white rapids. The banks are covered in green grass and tall reeds. In the background, there are brown, rocky mountains under a blue sky with white clouds.

# **Owens Valley Annual Operations Plan 2021-22 Runoff Year**

**Los Angeles Department of Water and Power**



# Water Agreement Process

- According to Inyo/LA **Water Agreement** procedure, LADWP submits a draft Operations Plan to the ICWD by April 20<sup>th</sup> of each year.
- Inyo County provides comments on the Plan within 10 days.
- LADWP finalizes the Plan within 10 days of discussing the comments with ICWD staff at a Technical Group meeting.



# To prepare the annual pumping plans, LADWP considers:

- Forecasted Owens River Basin Runoff
- ON/OFF status of vegetation monitoring sites
- Water demands
- Vegetation conditions
- Groundwater levels





# **Annual Plan for 2021-22 Runoff Year**

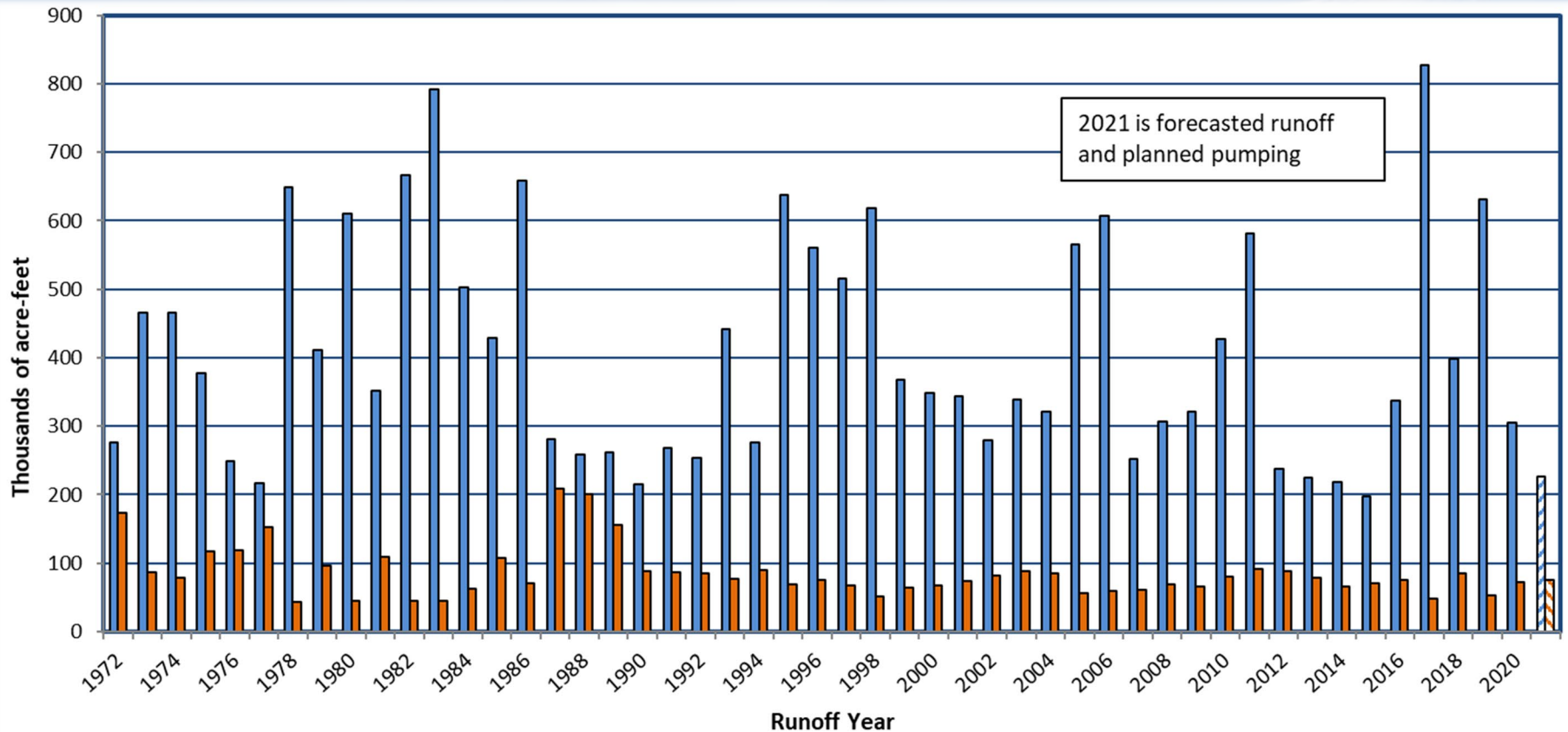


# Snow Survey Results (April 1, 2021)

Owens River Basin Snowpack Areas	Percent of Normal April 1
Mammoth Area (27% of overall snowpack)	54%
Rock Creek Area (16% of overall snowpack)	53%
Bishop Area (19% of overall snowpack)	46%
Big Pine Area (13% of overall snowpack)	44%
Cottonwood Area (25% of overall snowpack)	22%
<b>Overall Owens River Basin Snowpack</b>	<b>46%</b>

*See Table 2.5 in Annual Operations Plan*

# Forecasted 2021-22 Owens River Basin Runoff is 55% of Long-Term Average



■ Owens River Basin Runoff

■ Owens Valley Pumping

See Figure 1.1 in Annual Operations Plan



# ON/OFF Status of Vegetation Monitoring Sites (April 2021)

Vegetation Monitoring Site	April 2021 ON/OFF Status	Vegetation Monitoring Site	April 2021 ON/OFF Status
LW1	ON	TS1	OFF
LW2	ON	TS2	ON
LW3	ON	TS3	ON
BP1	ON	TS4	ON
BP2	OFF	IO1	OFF
BP3	ON	IO2	OFF
BP4	ON	SS1	OFF
TA3	OFF	SS2	OFF
TA4	ON	SS3	ON
TA5	ON	SS4	OFF
TA6	ON	BG2	ON

*See Table 1.2 in Annual Operations Plan*

**Based on Available Soil Moisture and Vegetation Water Demand**

# Planned 2021-22 Pumping

Wellfield	Available Pumping Capacity (af)	Planned Pumping (af)
Laws	39,751	8,900-9,400
Bishop	19,400	12,000
Big Pine	48,724	20,500-23,000
Taboose-Aberdeen	40,090	5,300-8,880
Thibaut-Sawmill	16,325	8,000-11,000
Independence-Oak	15,710	7,000-8,800
Symmies-Shepherd	6,847	1,200-2,900
Bairs-George	2,820	800-2,100
Lone Pine	980	900
<b>Total Owens Valley</b>	<b>190,647</b>	<b>64,600-78,980</b>

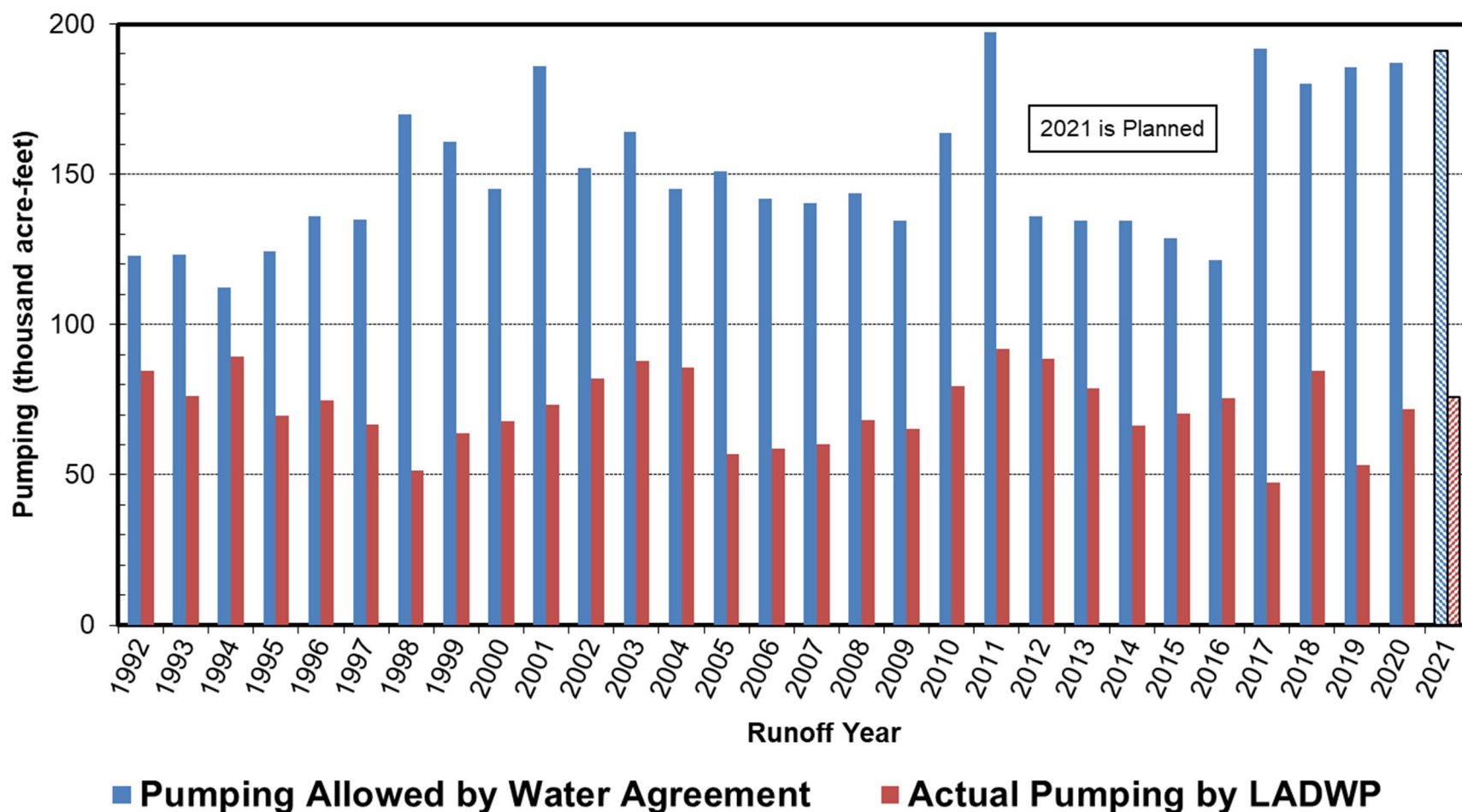
*See Tables 1.3 & 1.4 in Annual Operations Plan*

**Planned pumping is 34 to 41 percent of pumping allowed under Water Agreement Provisions**

**Planned pumping meets long-term groundwater mining provisions of Water Agreement**



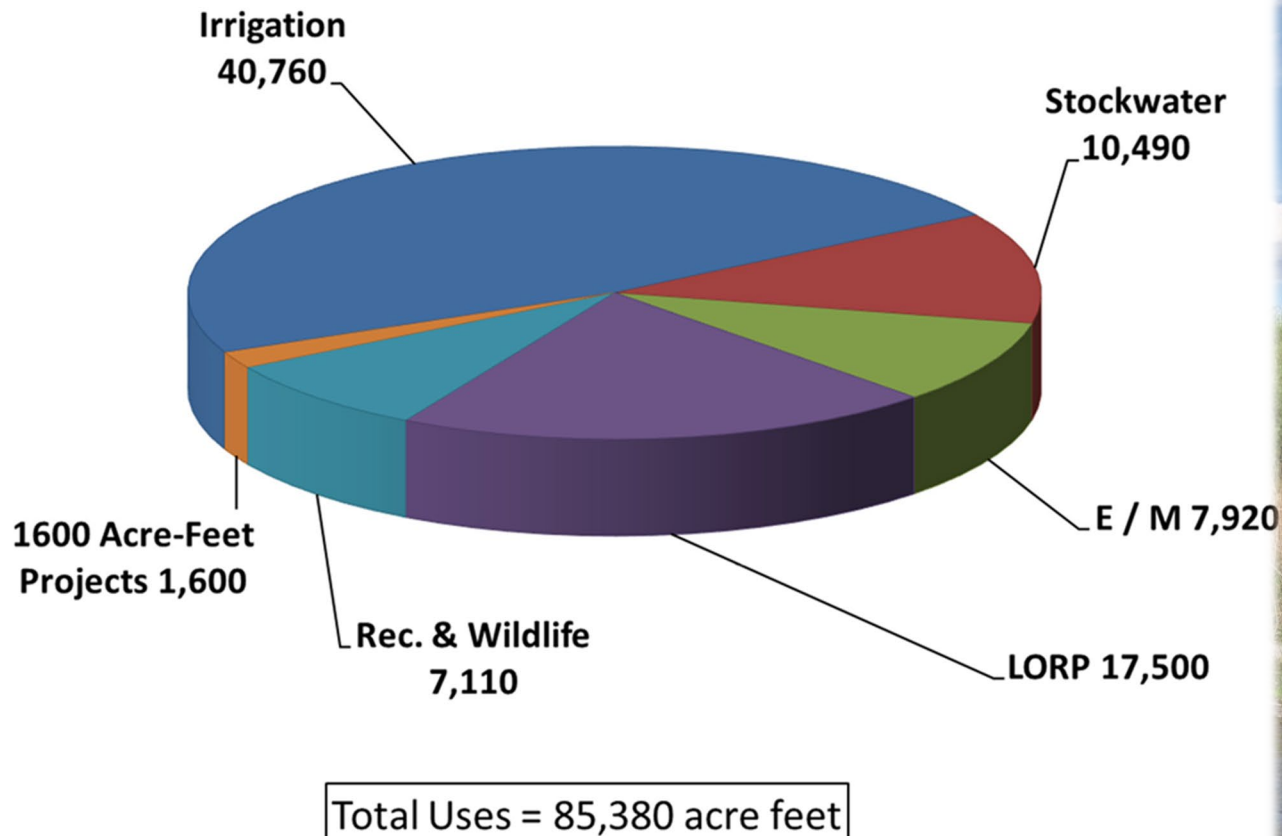
# Planned 2021-22 Pumping is 34 to 41 percent of pumping allowed under the Water Agreement



See Figure 1.2 in Annual Operations Plan



# Inyo/LA Agreement Water Use



*See Figure 1.11 in Annual Operations Plan*



# **All of the pumped water directly or indirectly supply uses in the Owens Valley**



**Fish Hatcheries**



**Town Water Systems**



**Agriculture**



**Enhancement and Mitigation**



# All of the pumped water directly or indirectly supply uses in the Owens Valley



**Recreation**



**Other Operational Demands**

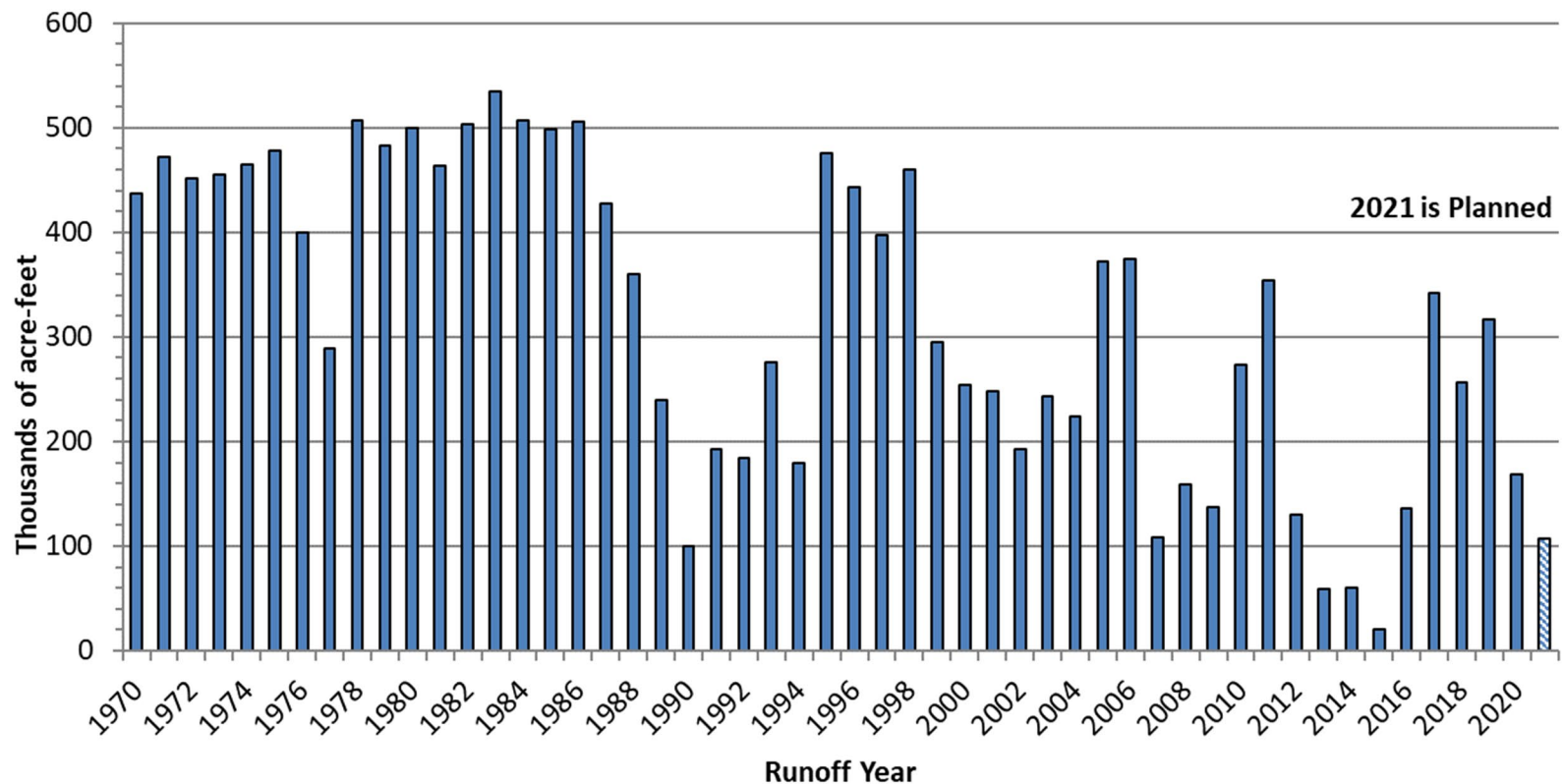


**Dust Mitigation at Owens Lake**



# Planned Water Export to Los Angeles

The planned export to Los Angeles is 107,000 af



See Figure 1.13 in Annual Operations Plan

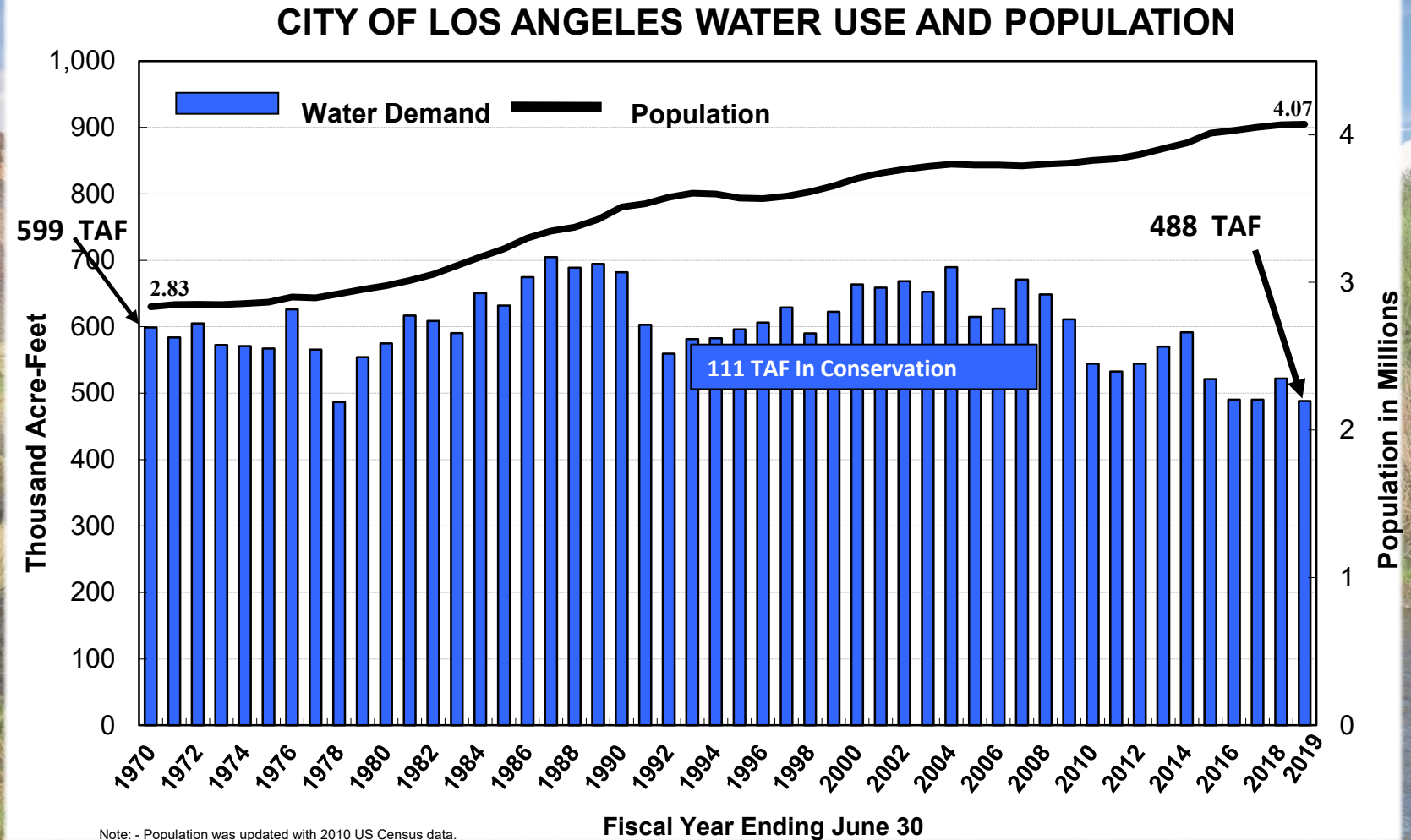


# Planned Water Export to Los Angeles

- Despite a 55% runoff year, LADWP will meet all obligations in Owens Valley; will not request for irrigation and E/M reductions
- Water supply in Owens Valley (including runoff, flowing groundwater, and pumping) is not enough to supply uses and losses in Owens Valley
- As a result, no net water will be exported from Owens Valley this year



# Long-Term Effect of Conservation on Water Demand



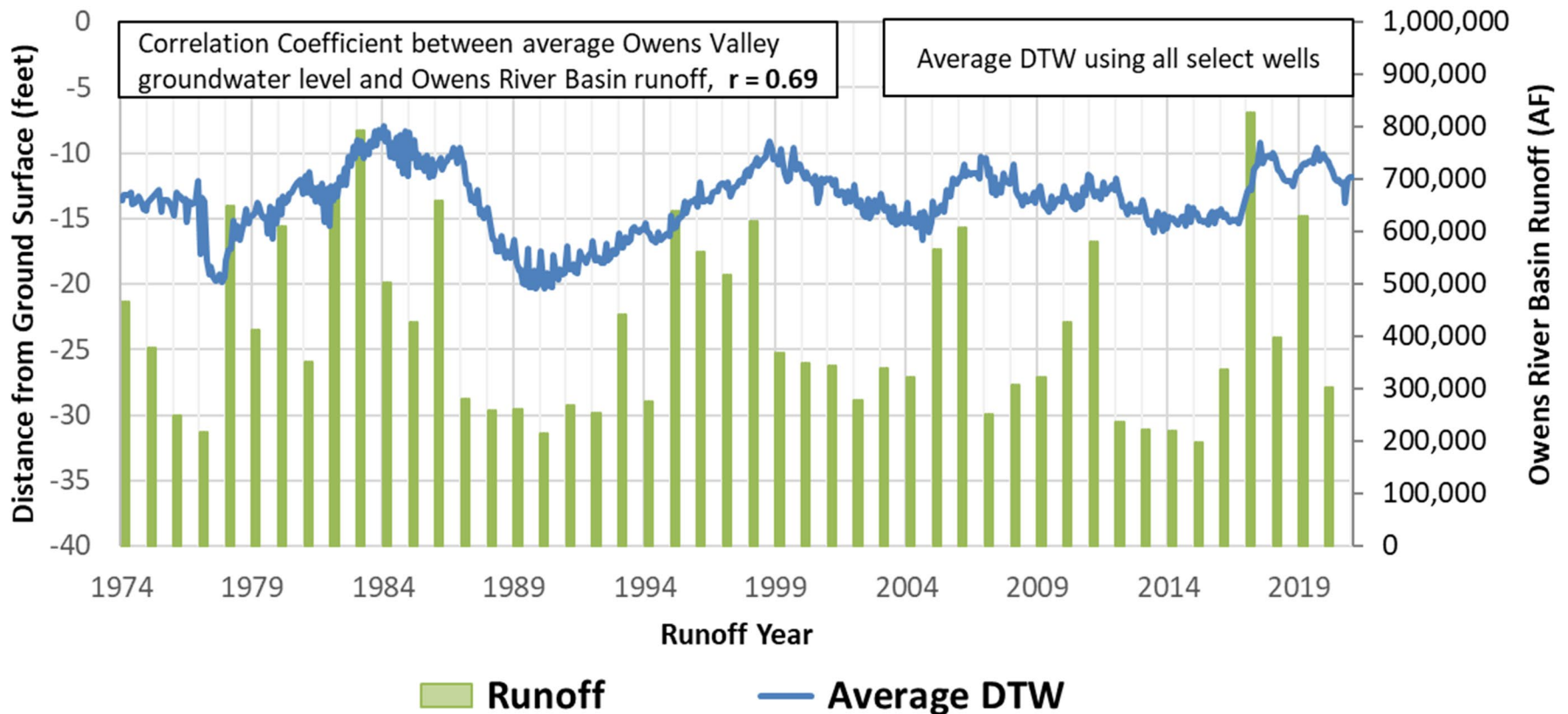


A wide river flows through a valley, with a grassy bank in the foreground and a rocky, arid hillside on the left. In the background, a range of mountains is visible under a blue sky with scattered white clouds. The river is dark blue with some white rapids. The text "Owens Valley Conditions" is overlaid in a white box in the center of the image.

# Owens Valley Conditions



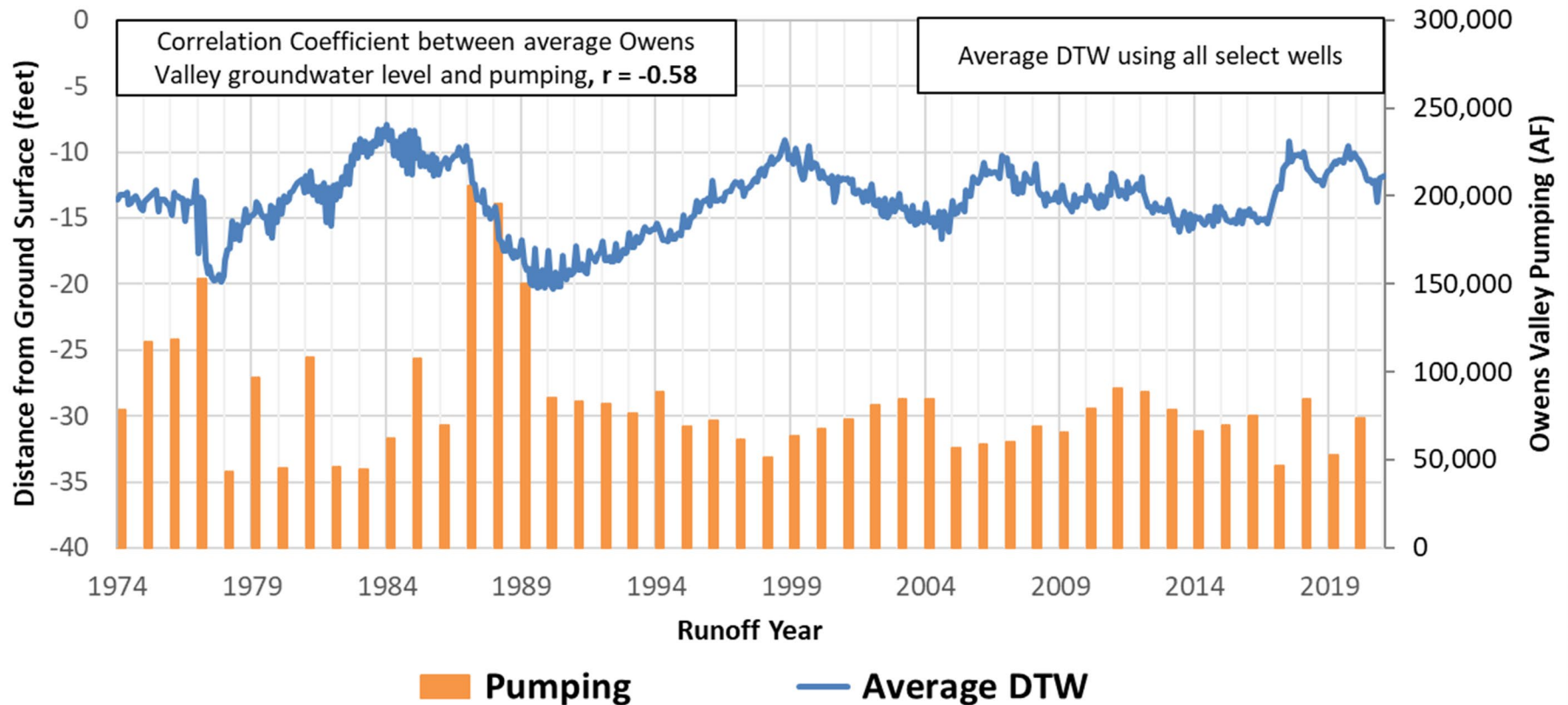
# Average Owens Valley Groundwater Levels (using representative monitoring wells)



See Figure 2.20 in Annual Operations Plan



# Average Owens Valley Groundwater Levels (using representative monitoring wells)



See Figure 2.21 in Annual Operations Plan



# Average Owens Valley Groundwater Levels

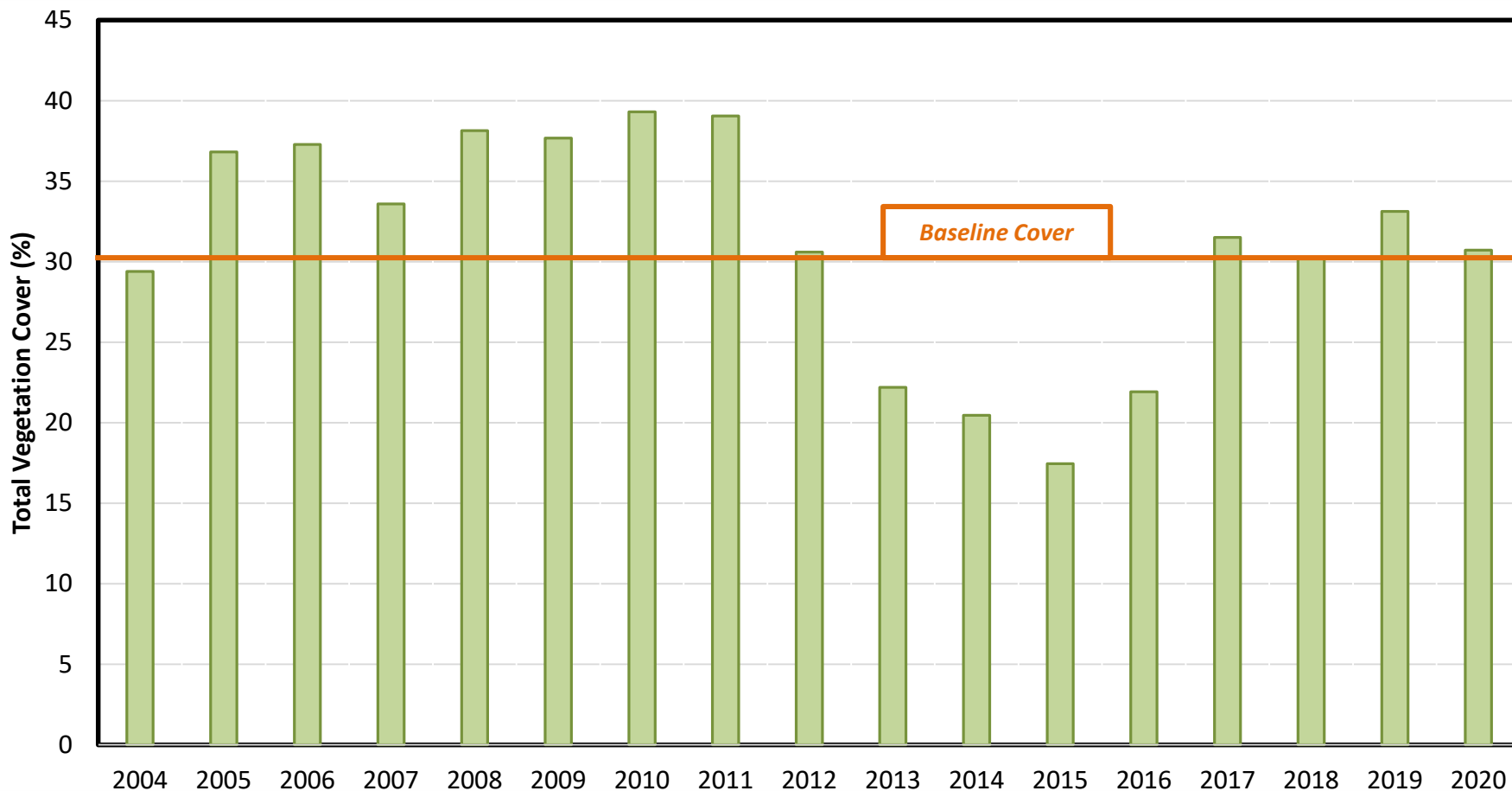
(using representative monitoring wells)

## Findings: (based on 1991-2020 data)

- Owens River Basin **runoff** was highly variable
  - Range: 198,000 - 826,000 af / Average: 400,000 af/yr
- Owens Valley **pumping** was relatively stable
  - Range: 47,000 - 91,000 af / Average: 72,000 af/yr
- Average Owens Valley **DTW** was relatively stable
  - Range: 7 - 17 ft / Average: 12.9 ft
  - No long-term rising or declining trends
  - Positively correlated with runoff (Correlation coefficient: 0.69)
  - Negatively correlated with pumping (Correlation coefficient: -0.58)



# Average Owens Valley Vegetation Condition



*See Figure 2.25 in Annual Operations Plan*

**Based on average of 70 wellfield vegetation parcels monitored throughout Owens Valley**



# LADWP Owens Valley Environmental Mitigation Projects

- 64 environmental mitigation projects are required by the Inyo/LA Water Agreement, 1991 EIR, 1997 MOU, and other related documents.
- The status of these projects are as follows:
  - 8 are complete
  - 43 are implemented, achieving goals, and ongoing (i.e. have ongoing water, financial, or other monitoring requirements)
  - 13 are fully implemented but are not yet meeting goals
  - 0 are not fully implemented



For more detailed information please see the Owens Valley  
Annual Operation Plan: [www.ladwp.com](http://www.ladwp.com)



**End of Presentation**