Owens Valley Annual Operations Plan 2022-23 Runoff Year

Los Angeles Department of Water and Power

Water Operations Division

Prepared by Eastern Sierra Environmental Group

Water Agreement Process

Water Agreement Process

- According to Inyo/LA Water Agreement procedure, LADWP submits a draft Operations Plan to the ICWD by April 20th 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.

Water Agreement Process **Consecutive Dry Years – six month pumping plan**

Water Agreement - Section V.D.

"In the event of two consecutive dry years when forecasted Owens River Basin Runoff for the April to September period is less than 75% of normal, LADWP shall prepare a proposed plan for the first 6-month period beginning on April 1st and will prepare a second plan beginning on October 1st."



Annual Operations Plan Preparation

Factors considered

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

Annual Plan for 2022-23 Runoff Year

Snowpack & Runoff Forecast

April Through September Runoff

	Acre-Feet	% of Average	Long-term Avg. (acre-feet)					
Mono Basin	56,200	56	100,307					
Owens River Basin	117,200	39	300,298					
April Through March Runoff								
	Acre-Feet	% of Average	Long-term Avg. (acre-feet)					
Mono Basin	70,900	60	118,170					
Owens River Basin	194,300	47	409,364					

Snowpack Measured: 41% of normal Runoff Forecasted: 47% of normal

2021-2022 was the driest year on record. Forecast is calling for the second driest year on record (since 1935).



Forecasted 2022-23 Owens River Basin Runoff is 47% of Long-term Average



ON/OFF Status of Vegetation Monitoring Sites (April 2022)

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	101	OFF
BP3	ON	102	OFF
BP4	ON	SS1	OFF
TA3	OFF	SS2	OFF
TA4	ON	SS3	ON
TA5	ON	SS4	OFF
TA6	ON	BG2	ON

LADWP can pump wells associated with monitoring sites in ON status

Planned 2022-23 Pumping April-September 6-Month Period

Wellfield	Available Pumping Capacity (af)	Planned Pumping (af)		
Laws	44,380	7,000-8,200		
Bishop	18,310	9,720		
Big Pine	50,510	10,200-11,700		
Taboose-Aberdeen	39,920	3,000-7,050		
Thibaut-Sawmill	16,120	5,040-5,280		
Independence-Oak	12,300	5,860-6,600		
Symmes-Shepherd	6,850	1,200		
Bairs-George	2,830	450-890		
Lone Pine	990	760		
Total Owens Valley	192,110	43,230-51,400		

Available pumping capacity is calculated using ON/OFF Provision of Water Agreement

Allowed, Planned Range and Actual Pumping



Groundwater Mining Calculations

with the														
	LAWS		BISHOP		BIG PINE		TABOOSE-THIBAUT		IND-SYM-BAIRS		LONE PINE		OWENS VALLEY	
water fear	Recharge	Pumping	Recharge	Pumping	Recharge	Pumping	Recharge	Pumping	Recharge	Pumping	Recharge	Pumping	Recharge	Pumping
2003-2022 Avg	15,822	6,449	40,399	9,309	25,359	21,553	32,237	19,025	33,554	12,253	13,153	927	160,524	69,515
20-Yr Total Recharge 19.5 yr Total Pumping	316,448	128,976	807,971	186,180	507,185	431,057	644,735	380,504	671,075	245,052	263,068	18,539	3,210,481	1,390,308
Apr-Sep 2022 Pumping Limit		187,472		621,791		76,128		264,231		426,022		244,529		1,820,173

*all values presented are in acre-feet

Mining calculation ensures avoiding long-term groundwater mining in Owens Valley

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

Recreation

Fish Hatcheries

Dust Mitigation at Owens Lake

Enhancement and Mitigation

Town Water Systems

Agriculture

12

Water Supplied to Uses in Owens Valley by LADWP



Planned Water Export to Los Angeles

- Despite a 47% runoff year (following the driest year on record) LADWP will meet its obligations in Owens Valley.
- 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, only 63,000 acre-feet of water will be exported from the Eastern Sierra this year.

Water Export to Los Angeles

Planned Export to Los Angeles is 25% of Long-Term Average



Owens Valley Conditions

Average Owens Valley Groundwater Levels (using representative monitoring wells)

	Average (199	1-2021 ROYs)	Correlation Coefficient, r			
vveimeid	Pumping (AF/Year)	Groundwater Level [§] (FT)	Runoff	Pumping		
Laws	6,880	-16.0	0.58	-0.48		
Bishop	9,547	-12.4	0.36	-0.39		
Big Pine	22,791	-17.1	0.44	-0.46		
Taboose-Aberdeen	7,631	-20.6	0.39	-0.21		
Thibaut-Sawmill	11,655	-12.4	0.35	-0.56		
Independence-Oak	8,295	-5.6	0.76	-0.53		
Symmes-Shepherd	3,002	-6.6	0.27	-0.35		
Bairs-George	682	-7.0	0.87	-0.23		
Lone Pine	1,133	-17.7	0.83	0.02		
Owens Valley	71,619	-12.8	0.62	-0.60		

§ Average distance to water from surface is calculated using 1992-2022 April 1 values.

* Average 1991-2021 ROYs Owens River Basin Runoff is 393,415 acre-feet.

Owens
ValleyAverage Owens Valley Groundwater LevelsConditions(using representative forecasting monitoring wells)



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

Findings: (based on 1991-2021 runoff year data)

- Owens River Basin runoff was highly variable
 - Range: 185,000 826,000 af / Average: 398,000 af/yr
- Owens Valley pumping was relatively stable
 - Range: 47,000 91,000 af / Average: 71,000 af/yr
- Average Owens Valley groundwater level was relatively stable
 - Range: 7 17 ft / Average: 13.0 ft
 - No long-term rising or declining trends
 - Correlated positively with runoff (Correlation coefficient: 0.67)
 - Correlated negatively with pumping (Correlation coefficient: -0.58)



Based on 70 wellfield vegetation parcels monitored throughout 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.
- Current status:
 - Completed 8
 - Implemented, achieving goals, and ongoing (i.e. have ongoing water, financial, or other monitoring requirements) - 43
 - Fully implemented but are not yet meeting goals 13
 - Not fully implemented 0

Owens Valley Basin Prioritization

 The Sustainable Groundwater
Management Act (SGMA) was enacted in 2014 to prevent groundwater basins from experiencing:



- SGMA requires the CA Department of Water Resources (DWR) to assess the priority of groundwater basins
- Owens Valley Groundwater Basin was determined to be a low priority basin as of December 2019



For more detailed information please see the Owens Valley Annual Operation Plan: <u>www.ladwp.com/OVAOP</u>

End of Presentation