

Guests Present

JD Dotchin

Brandon Senger

Kevin Guadalupe

Dawn Boyer

NDEP

NDOW

NDOW

City of Las Vegas

1. CALL TO ORDER

The Sewage and Wastewater Advisory Committee (SWAC) meeting was called to order by Chair Dan Fischer, Clark County Water Reclamation District at 9:03 a.m. It was confirmed that the meeting was properly noticed and posted in accordance with the Open Meeting Law.

2. COMMENTS BY THE GENERAL PUBLIC - None

3. APPROVAL OF THE MINUTES OF THE MEETING OF MAY 3, 2023

Charles Trushel moved and John Bettencourt seconded to accept the May 3, 2023 minutes. The motion was unanimously approved.

4. APPROVAL OF AGENDA

Todd Tietjen moved and Xiaoping Zhou seconded to approve the agenda. The motion was unanimously approved.

5. PRESENTATION: AUSTRALIAN REDCLAW CRAYFISH IN LAS VEGAS WASH

6. DISCUSSION OF QUARTERLY FLOW REPORT

The group discussed the flow report for the second quarter of 2023:

- Wastewater flows across the municipalities are fairly flat and are not showing the seasonal peaks which are typical for the warmer months. Suspect this may be a result of indoor conservation efforts.
- Las Vegas Valley Water District, City of Henderson, City of North Las Vegas, Boulder City, and Big Bend Water District are producing less water compared to previous years.

7. MEMBER UPDATES

A. Moapa Valley Water District

- Nothing to report.

B. Las Vegas Valley Water District

- The horizon lateral is continuing.
- Worked with Stantec on a low lake treatability study that assessed how treatable Lake Mead's water will be in the future. The study concluded that, in the near term, the water remains very treatable using existing technologies. However, certain parameters, such as temperature and disinfection byproduct formation problems, could limit the treatment system.
- Implemented excessive use water charge, which takes effect if customers exceed 28,000 gallons/month.
- Septic tank conversions passed the state legislation.
- Worked with a consulting firm to collect water quality samples from the Lower Las Vegas Wash.
- Increasing construction costs are impacting the Lower Las Vegas Wash construction projects.

C. Boulder City

- City Council approved a rate increase across all utility funds. The new rates take effect October 1, 2023.
- Meeting with SNWA and City of Henderson to discuss a feasibility study to reclaim Boulder City's treated effluent.

D. Virgin Valley Water District

- N/A

E. City of Mesquite

- N/A

F. City of Las Vegas

- O&M Updates:
 - The rehabilitated filters are working well and removing phosphorus.
- CIP Updates:
 - Filtration building rehabilitation project is on-going. The project is approximately 75% complete. Late materials deliveries will require a process shutdown to be installed. They will be installed during the next off permit season.
 - The following projects are finished with design and will go to construction:
 - Site security improvements for the main site and the adjacent solar power site.
 - Phase I of the process air improvements will install a single turbo blower. This will be followed by a Phase II process air improvements where the remaining blowers will be replaced with the high megawatt turbo blowers.
 - BNR clarifiers equipment replacements.
 - The following projects are in design:
 - Dewatering building rehabilitation is at 75% design. In association with this project, a request for proposals for new centrifuges will be advertised. Submittals will be evaluated, and a selection will be made on what centrifuges will be used to finish the dewatering rehabilitation design.
 - Headworks rehabilitation and a lab expansion are going into design.
 - Replacement of the first process air blower will be installed soon. Electrical equipment delays are continuing to impact the project.
 - Performing maintenance and cleaning the influent pipes which has increased the amount of grit in the headworks facility. Republic Services determined the grit is too moist and that it exceeds the EPA's mandate that limits the amount of fluids.

G. Clark County Water Reclamation District

- Collection System Updates:
 - Construction material cost increase and supply chain issues are delaying scheduled construction projects.
 - Lincoln Lift Station rehabilitation is at about 90% complete.
 - Whitey Lift Station rehabilitation is about 85% complete.
- The Flamingo Plant Updates:

- The Flamingo plant experienced a campus-wide power outage in July due to an NV Energy substation failure. It took approximately 5 hours to get the plant back up and running.
- It is likely that a rate increase will be issued to address the rising costs of on-going capital improvement projects.
- Plant expansion is on-going.
 - Construction of three new primary clarifiers and the headworks facility is on-going.
 - Construction of three new secondary trains for biological nutrient removal is on-going.
 - Construction of new sludge thickeners to produce VFAs is on-going.
 - Demolition of the lime silos is complete.

H. City of North Las Vegas

- Construction of the flow equalization basin is on-going.
- Successfully set up a temporary septic dump station at the headworks facility while the permanent one is still being constructed.
- Phase II of the membrane replacement project is scheduled to begin in October.

I. City of Henderson

- Phase 4 project to expand the capacity of the activated sludge process by 12 MGD is at 90% design. Construction is estimated to begin in early 2024.
- WateReuse has a scholarship for Nevada University students working on water based projects.

J. Clark County

- NDEP's Draft MS4 Permit and Draft Construction General Stormwater Permit remain pending.
- Clark County Water Quality is moving forward with its assessment of the 208 Area-Wide Water Quality Management Plan.
- Clark County Water Quality is brining on two new Water Quality Specialists.

8. MEMBER VACANCIES

- A. Virgin Valley Water District – 1 member vacancy
- B. City of Las Vegas – 2 member vacancies

9. COMMENTS BY THE GENERAL PUBLIC - None

10. SCHEDULE NEXT MEETING

The next meeting is scheduled for November 1, 2023 at 9:00 am. A meeting invite will be sent out.

11. ADJOURNMENT

The meeting was adjourned at 10:34 am.

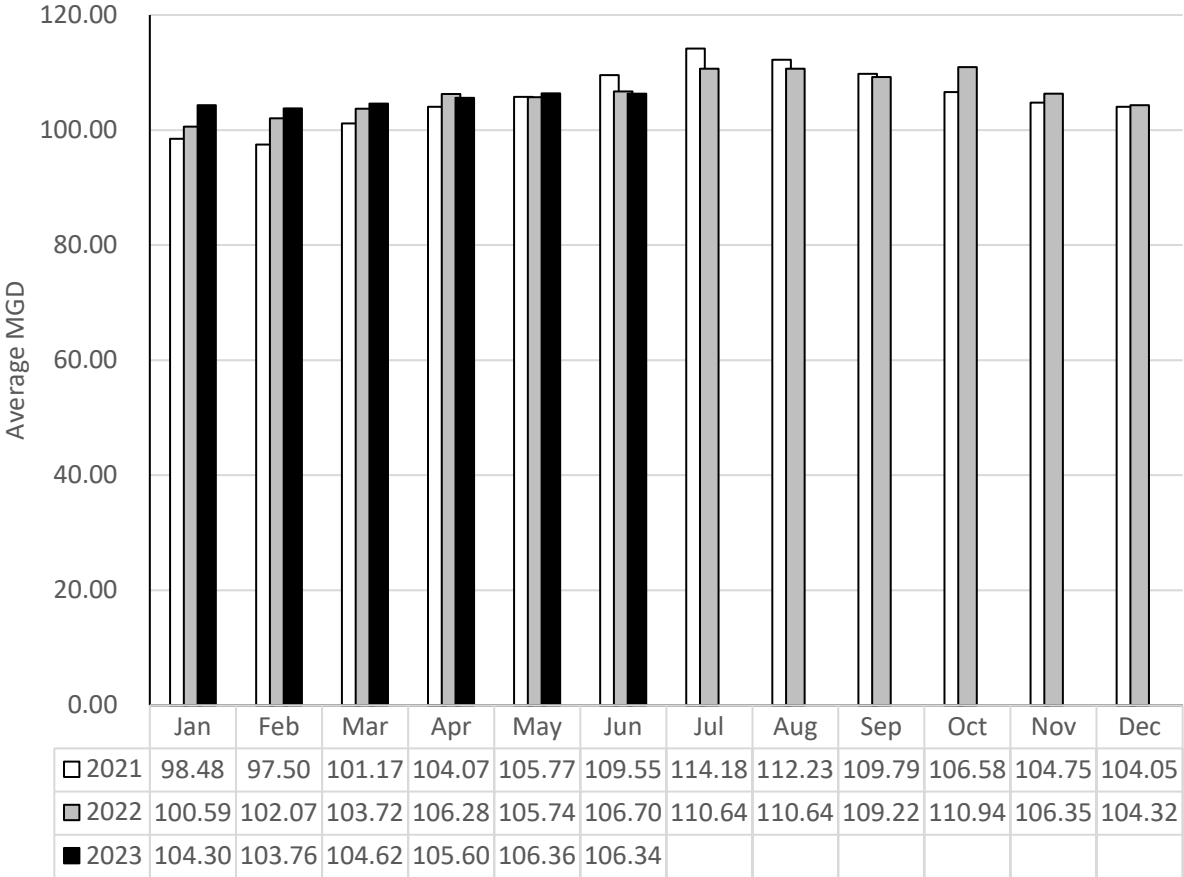
2023
2nd Quarter Flow Report For
Clark County Sewage And
Wastewater Advisory
Committee
(SWAC)

July 26, 2023

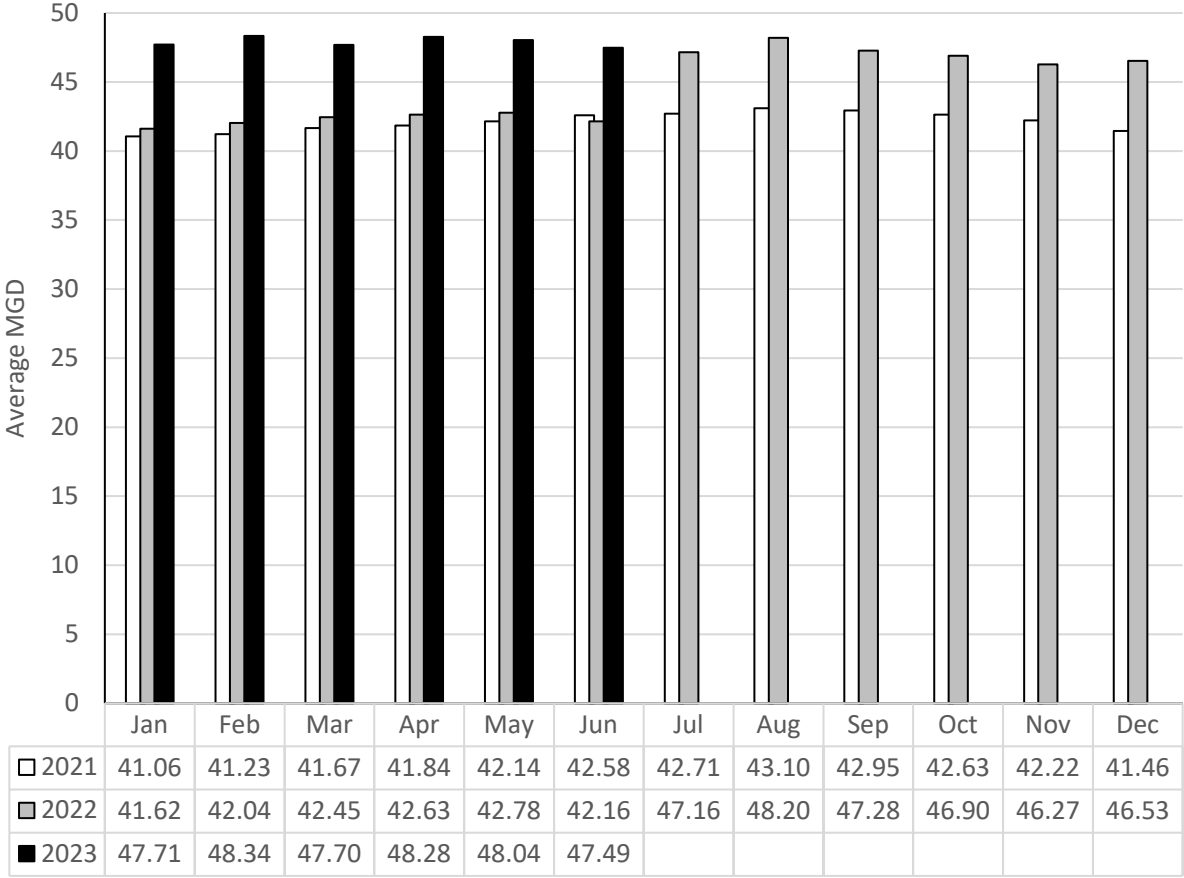
Wastewater Flows

2021 through 2023

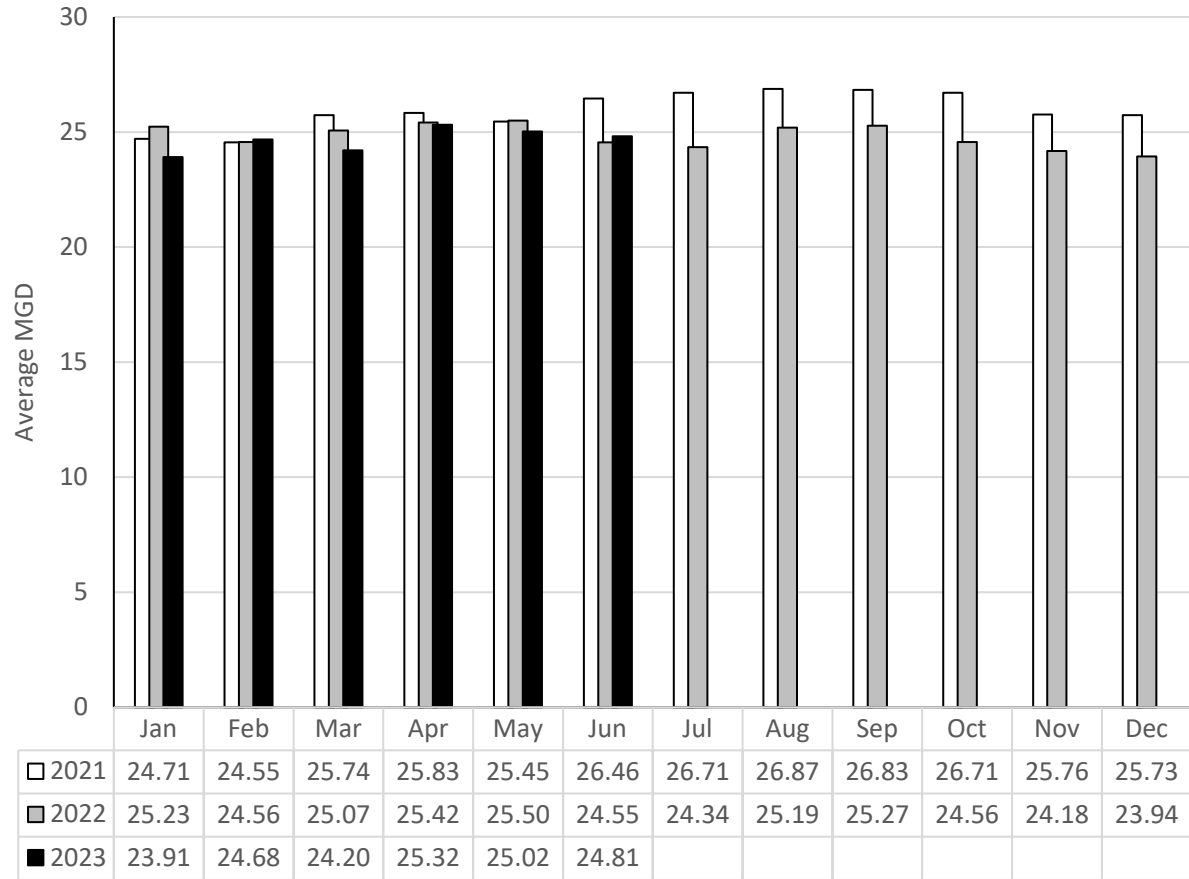
Clark County Water Reclamation District Wastewater Flows



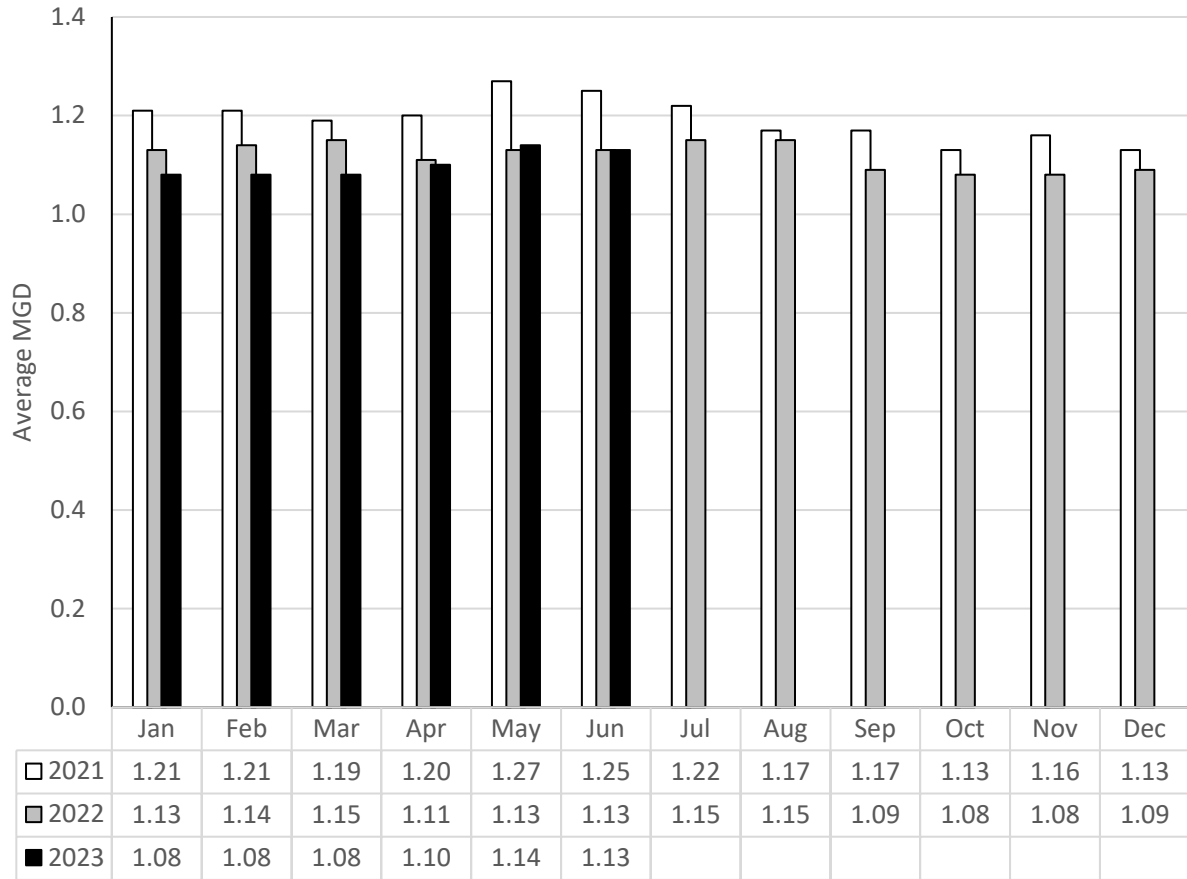
City of Las Vegas Wastewater Flows



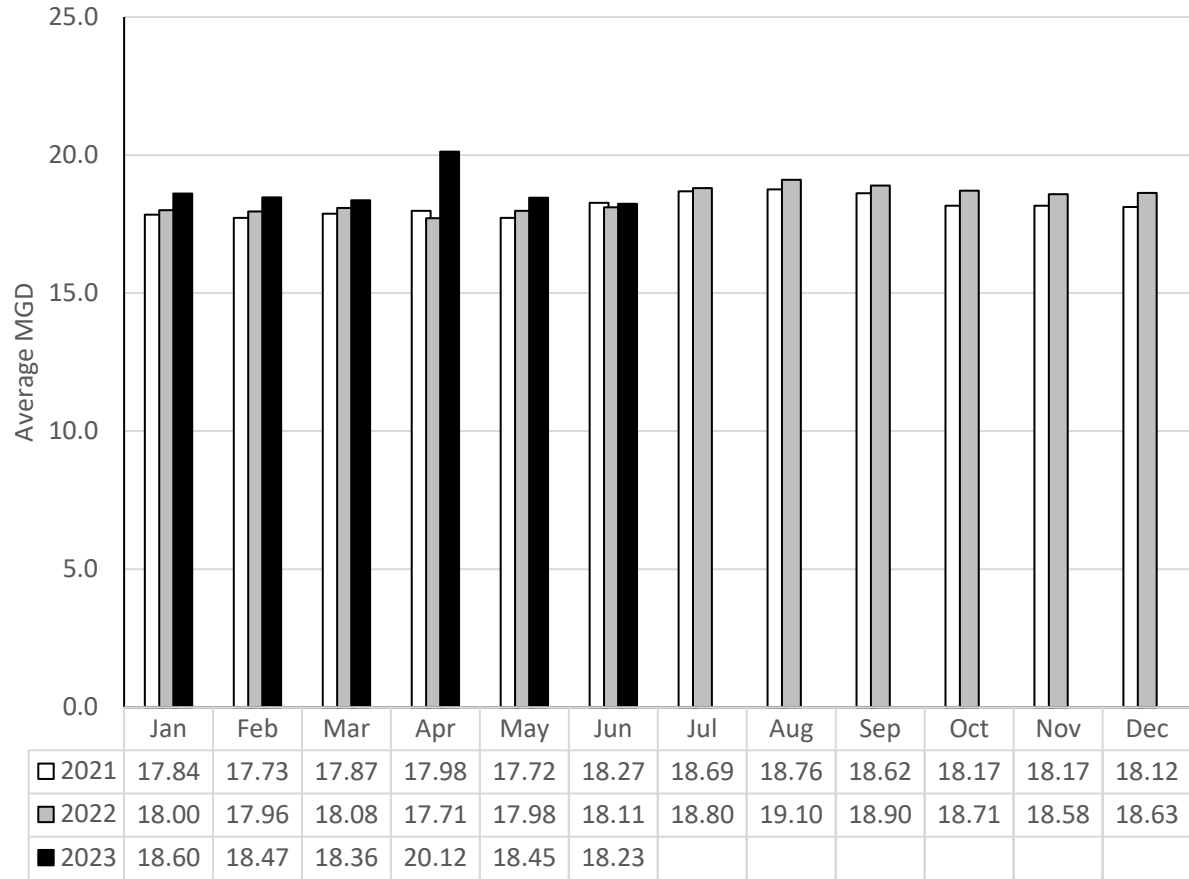
City of Henderson Wastewater Flows



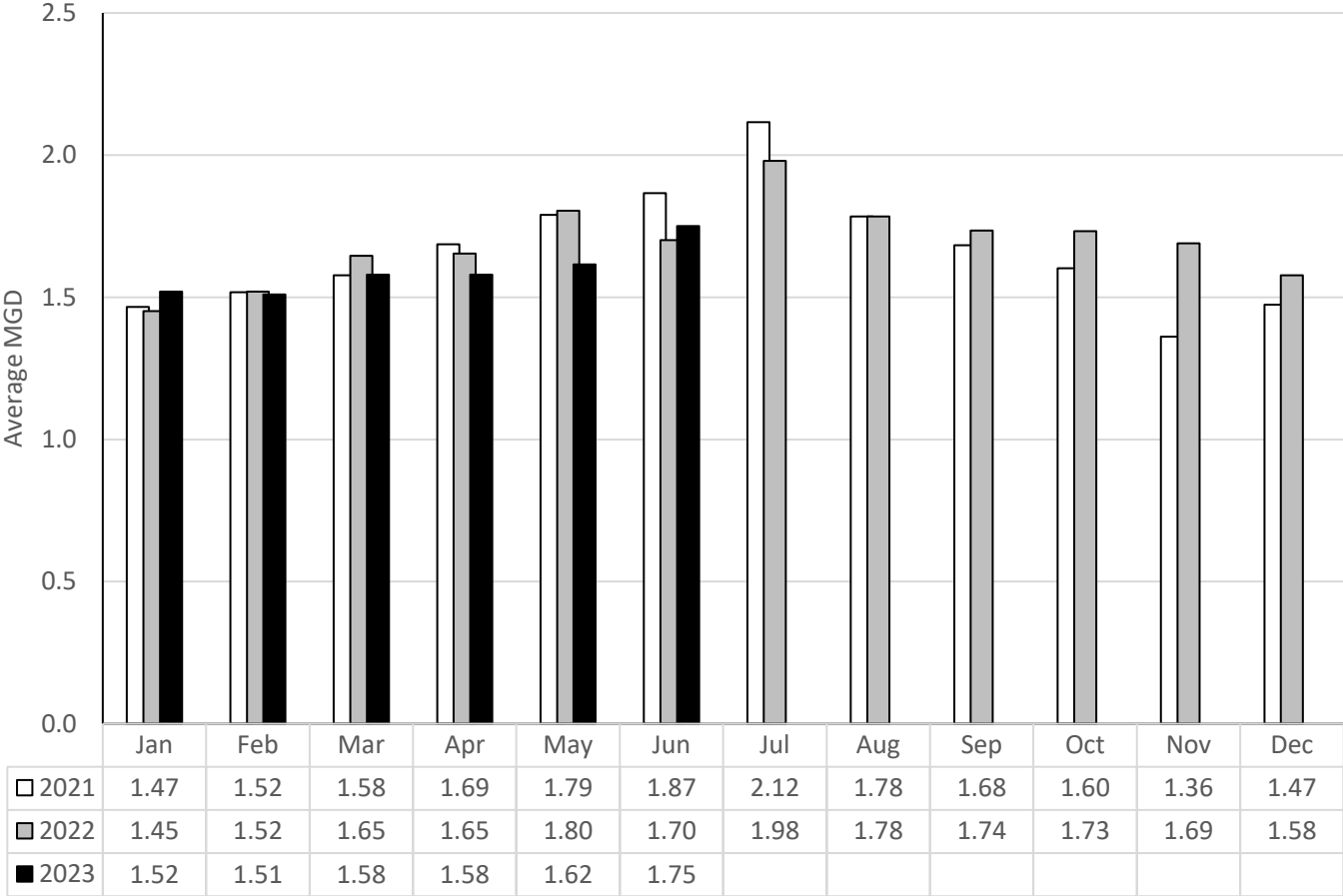
Boulder City Wastewater Flows



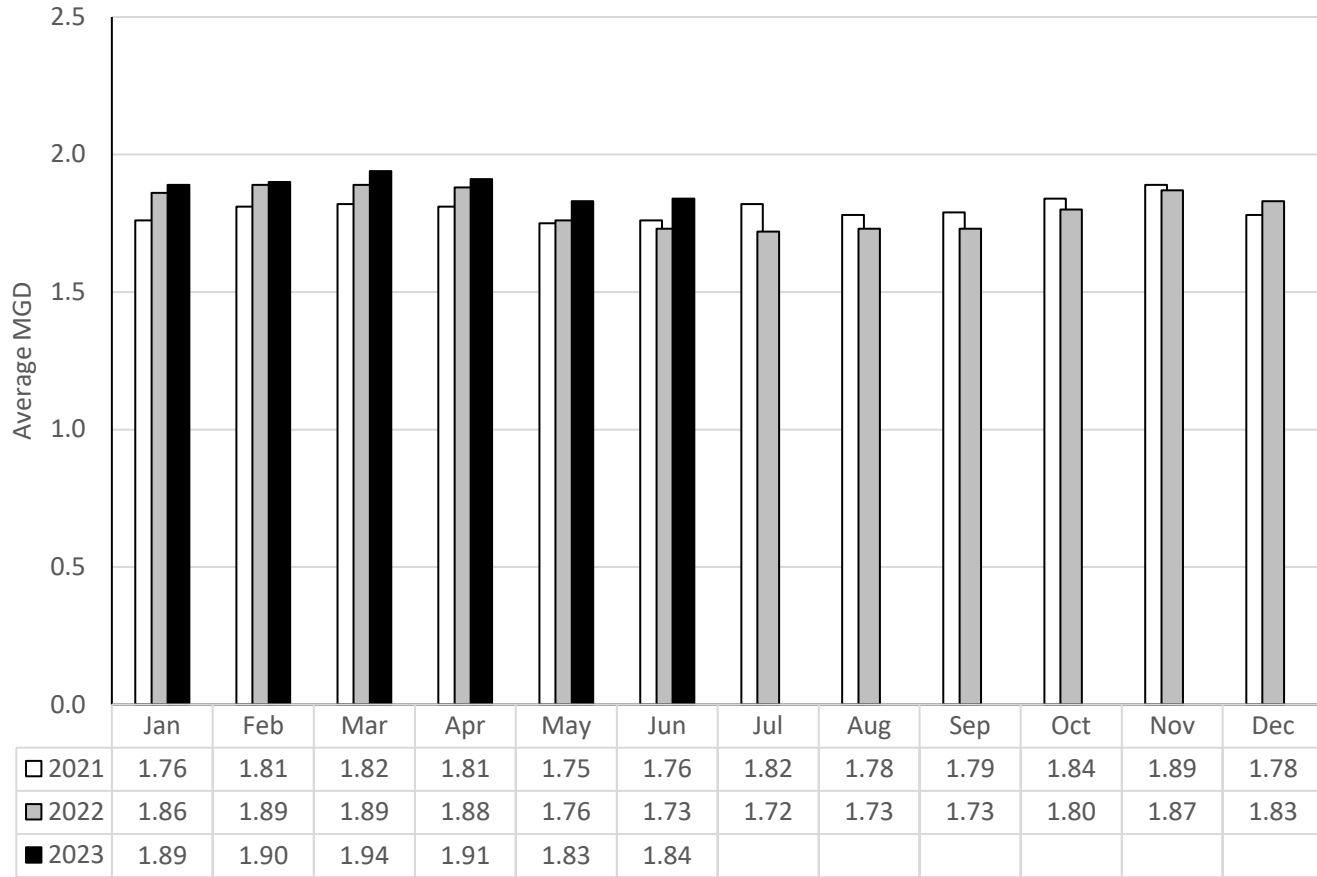
City of North Las Vegas Wastewater Flows



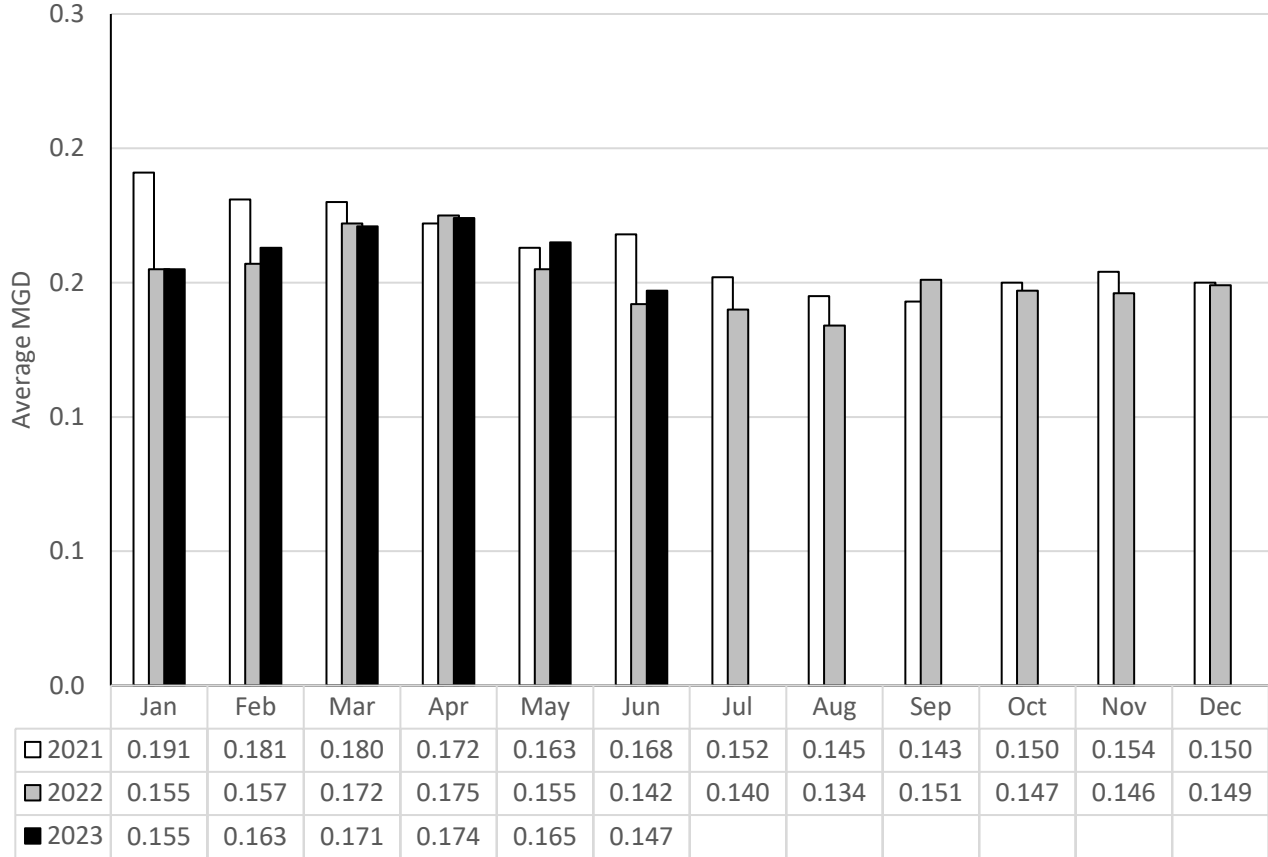
Laughlin Wastewater Flows



City of Mesquite Wastewater Flows

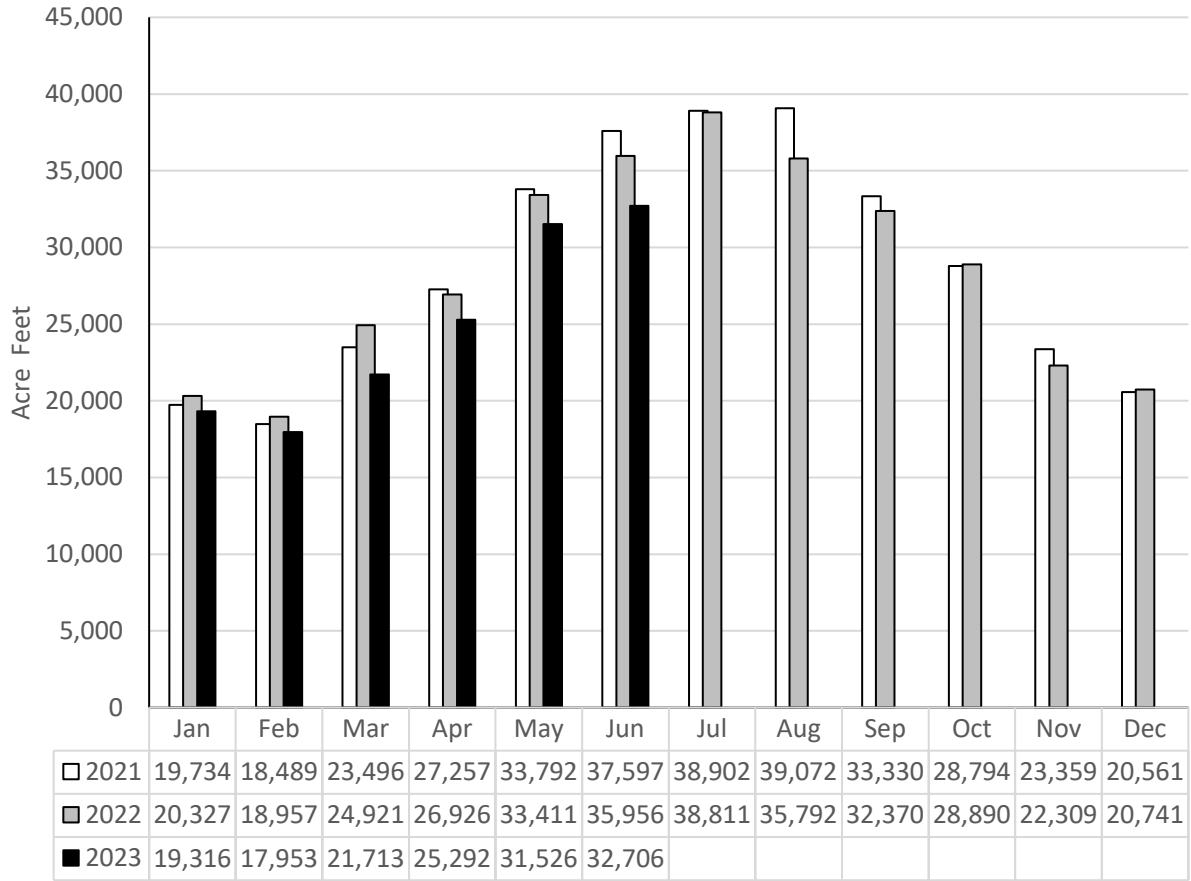


Moapa Wastewater Flows

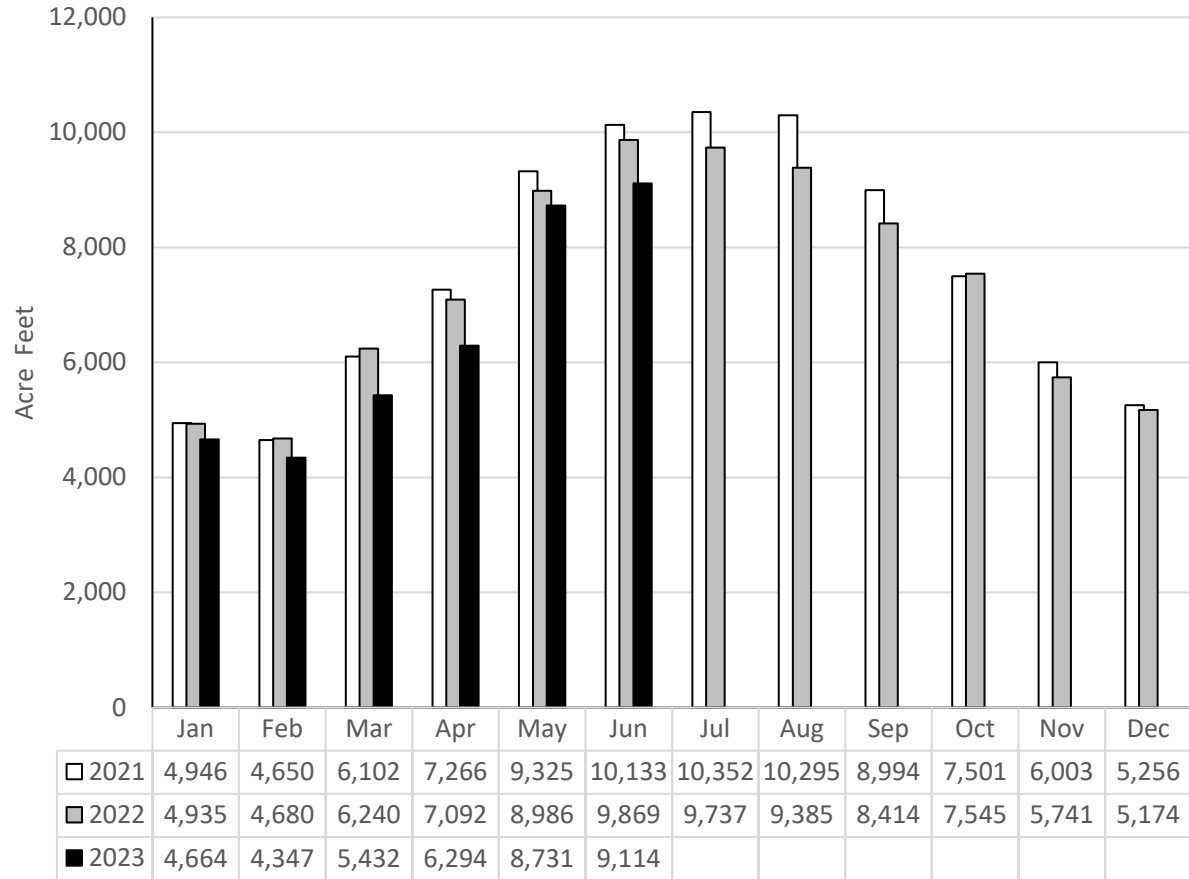


Water Production 2021 through 2023

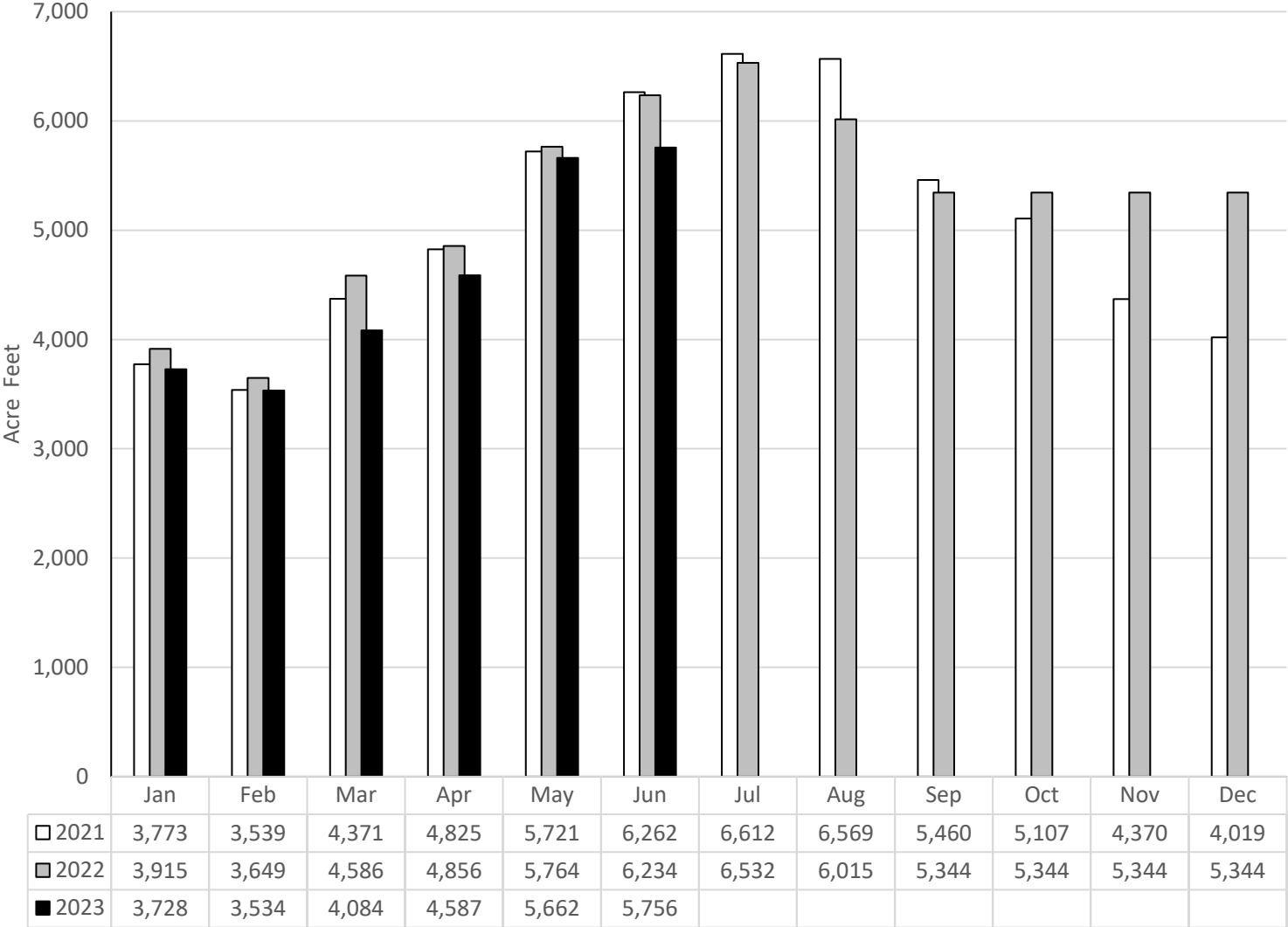
Las Vegas Valley Water District Water Production



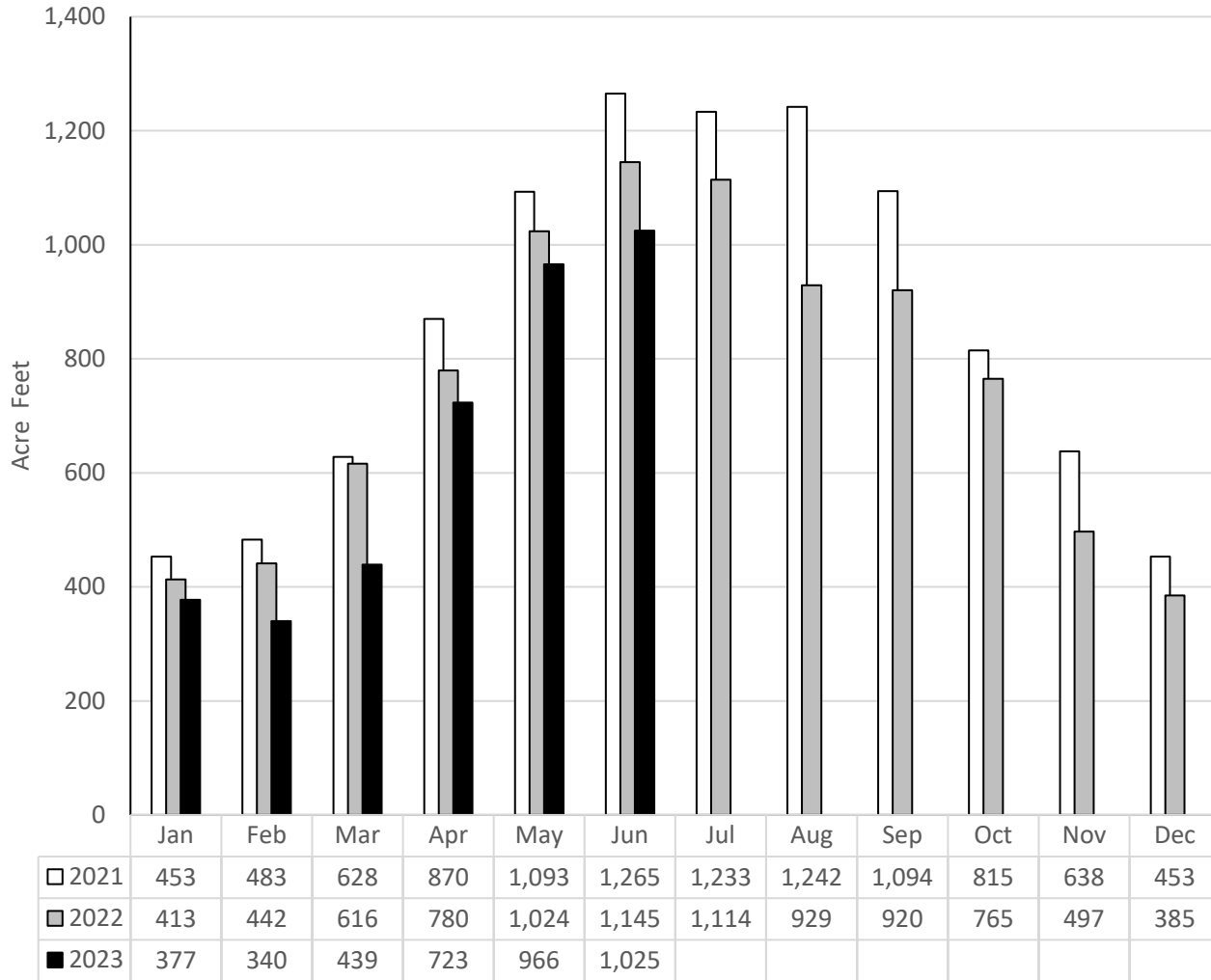
City of Henderson Water Production



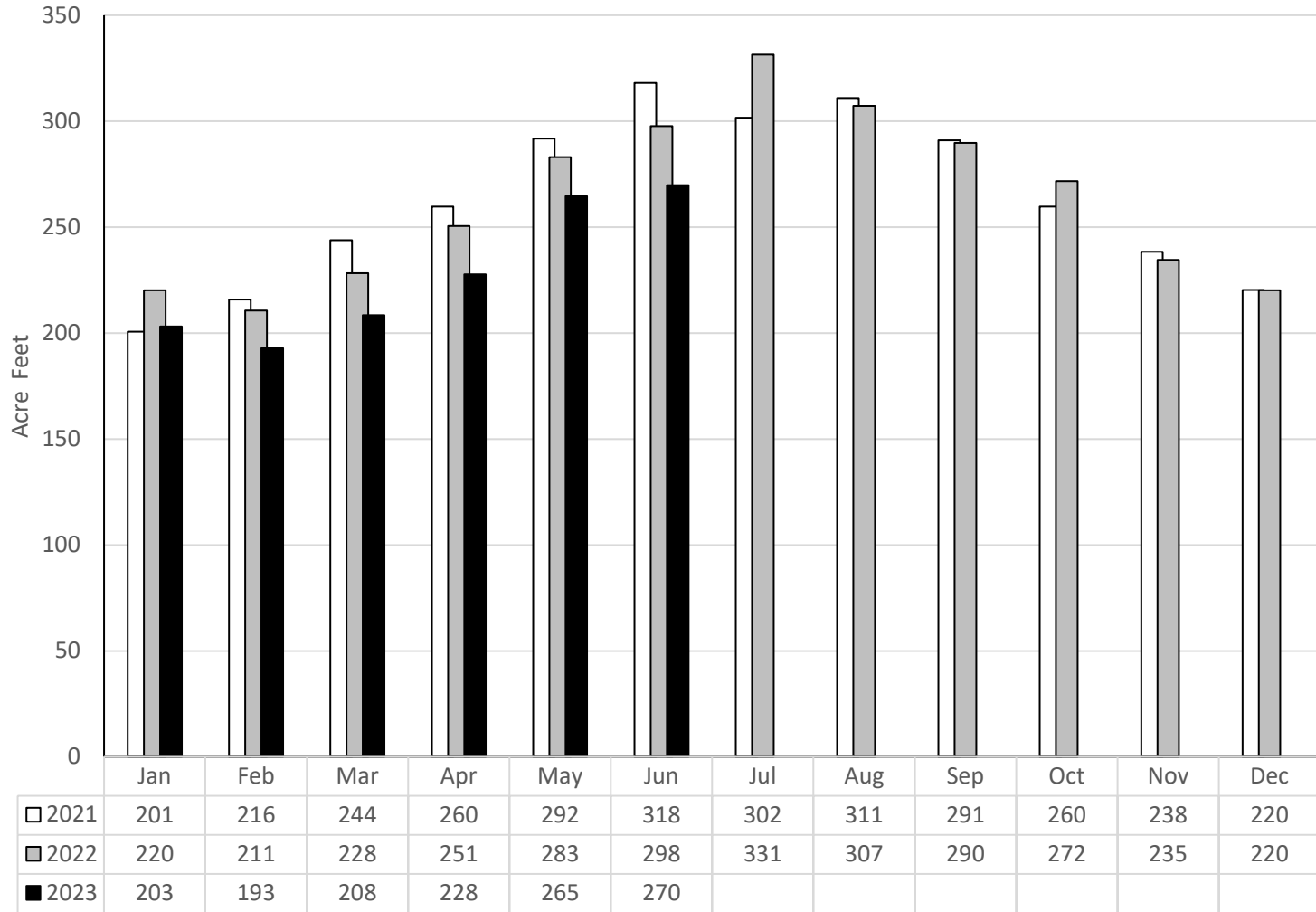
City of North Las Vegas Water Production



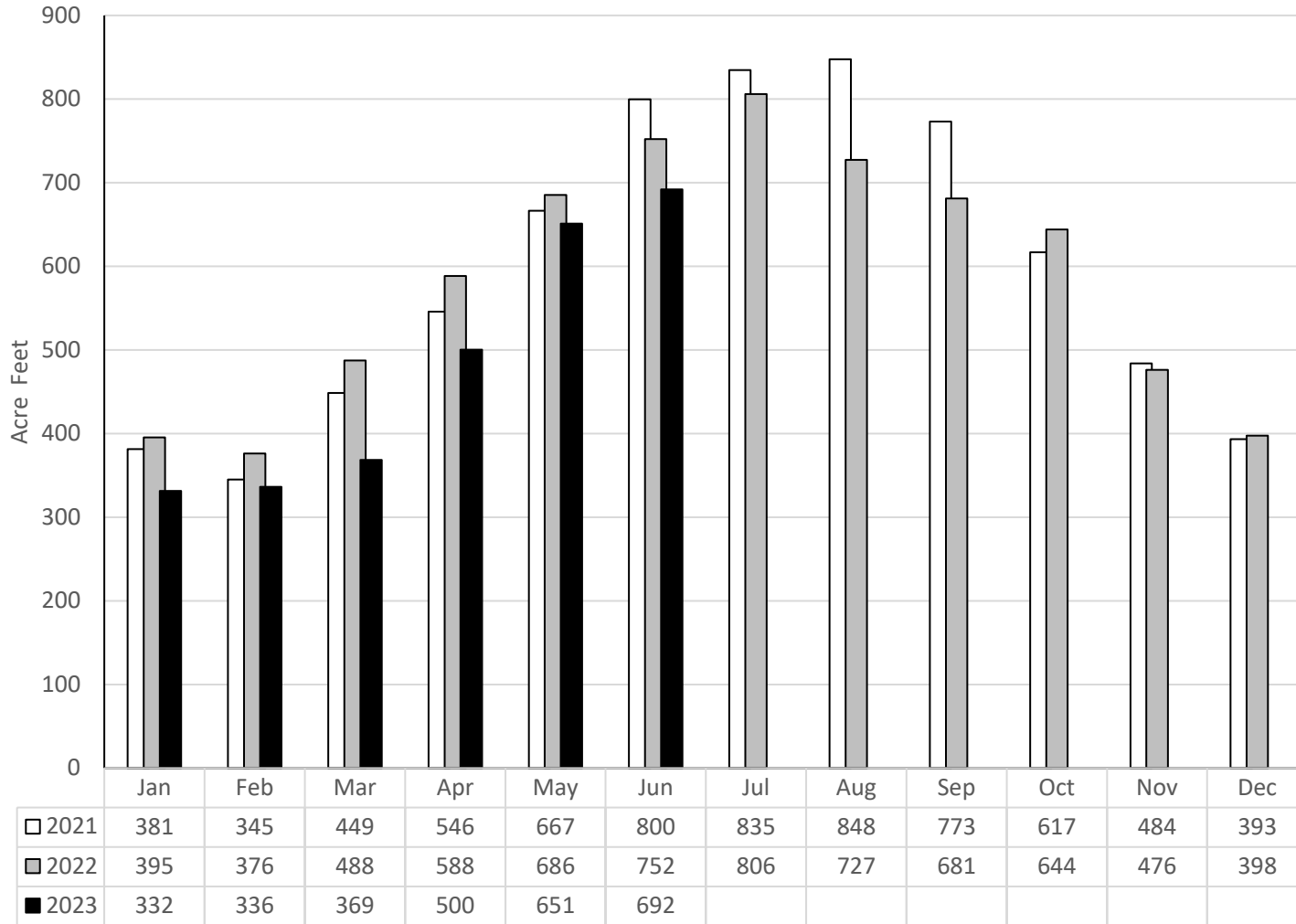
Boulder City Water Production



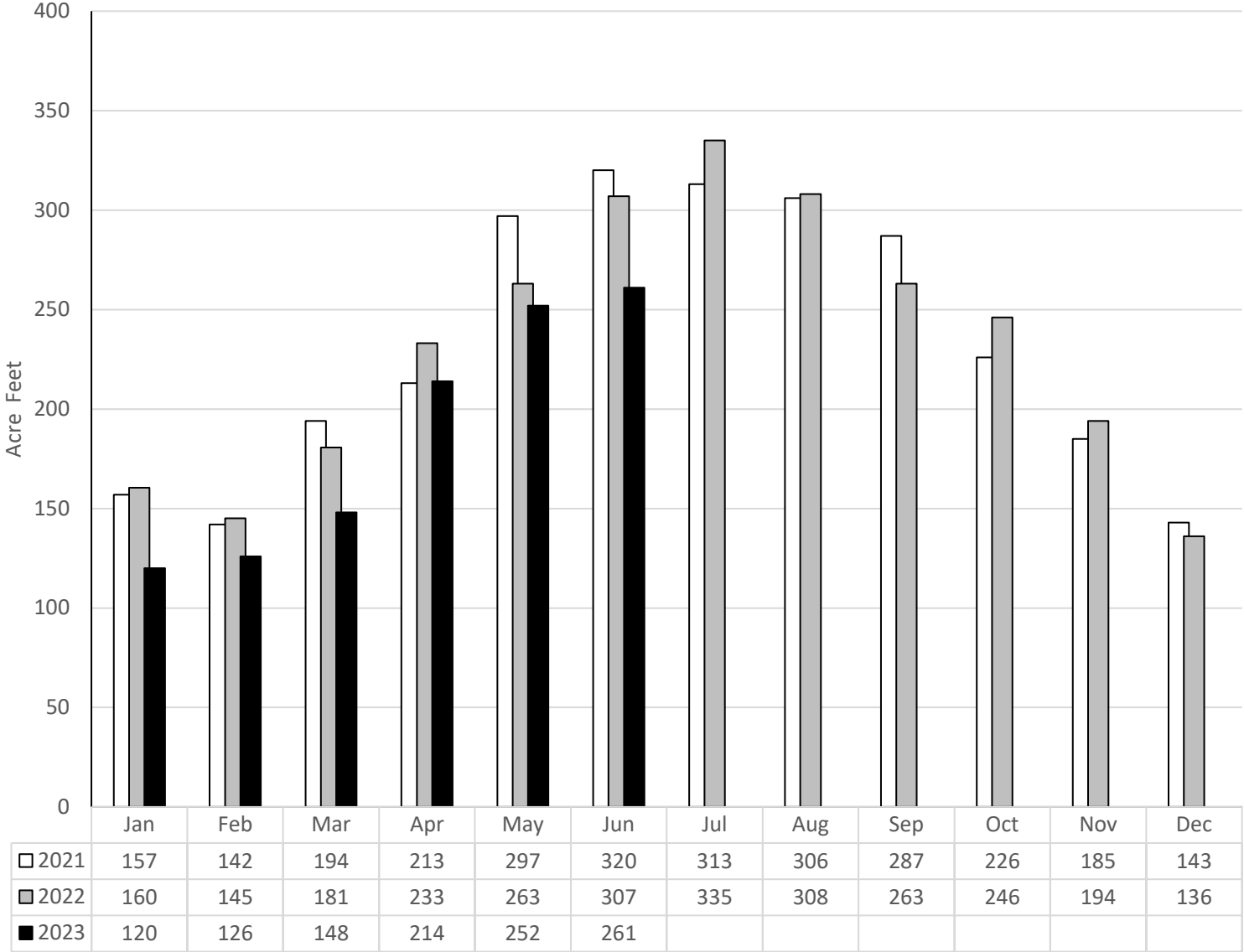
Big Bend Water District Water Production



Virgin Valley Water District Water Production



Moapa Valley Water District Water Production



Historic Trends Influent Wastewater Flows

(Avg. in MGD)

Month	Clark County Water Reclamation District *			City of Las Vegas			City of North Las Vegas			City of Henderson			Boulder City		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	98.48	100.59	104.30	41.06	41.62	47.71	17.84	18.00	18.60	24.71	25.23	23.91	1.21	1.13	1.08
Feb	97.50	102.07	103.76	41.23	42.04	48.34	17.73	17.96	18.47	24.55	24.56	24.68	1.21	1.14	1.08
Mar	101.17	103.72	104.62	41.67	42.45	47.70	17.87	18.08	18.36	25.74	25.07	24.20	1.19	1.15	1.08
Apr	104.07	106.28	105.60	41.84	42.63	48.28	17.98	17.71	20.12	25.83	25.42	25.32	1.20	1.11	1.10
May	105.77	105.74	106.36	42.14	42.78	48.04	17.72	17.98	18.45	25.45	25.50	25.02	1.27	1.13	1.14
Jun	109.55	106.70	106.34	42.58	42.16	47.49	18.27	18.11	18.23	26.46	24.55	24.81	1.25	1.13	1.13
Jul	114.18	110.64		42.71	47.16		18.69	18.80		26.71	24.34		1.22	1.15	
Aug	112.23	110.64		43.10	48.20		18.76	19.10		26.87	25.19		1.17	1.15	
Sep	109.79	109.22		42.95	47.28		18.62	18.90		26.83	25.27		1.17	1.09	
Oct	106.58	110.94		42.63	46.90		18.17	18.71		26.71	24.56		1.13	1.08	
Nov	104.75	106.35		42.22	46.27		18.17	18.58		25.76	24.18		1.16	1.08	
Dec	104.05	104.32		41.46	46.53		18.12	18.63		25.73	23.94		1.13	1.09	
ANNUAL	105.68	106.43	105.16	42.13	44.92	47.93	18.16	18.38	18.71	25.95	24.82	24.66	1.19	1.12	1.10

* Includes estimated .5 MGD NLV

Historic Trends Influent Wastewater Flows

Month	Searchlight			Blue Diamond			MVWRC			Laughlin			Mesquite			Indian Springs		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	0.030	0.041	0.039	0.017	0.017	0.019	0.191	0.155	0.155	1.47	1.45	1.52	1.76	1.86	1.89	0.072	0.088	0.106
Feb	0.029	0.042	0.040	0.020	0.026	0.009	0.181	0.157	0.163	1.52	1.52	1.51	1.81	1.89	1.90	0.073	0.091	0.098
Mar	0.034	0.039	0.042	0.020	0.017	0.016	0.180	0.172	0.171	1.58	1.65	1.58	1.82	1.89	1.94	0.074	0.095	0.138
Apr	0.027	0.043	0.040	0.016	0.015	0.016	0.172	0.175	0.174	1.69	1.65	1.58	1.81	1.88	1.91	0.082	0.095	0.139
May	0.340	0.044	0.041	0.016	0.010	0.016	0.163	0.155	0.165	1.79	1.80	1.62	1.75	1.76	1.83	0.082	0.098	0.145
Jun	0.028	0.042	0.042	0.014	0.009	0.015	0.168	0.142	0.147	1.87	1.70	1.75	1.76	1.73	1.84	0.081	0.101	0.150
Jul	0.042	0.048		0.018	0.011		0.152	0.140		2.12	1.98		1.82	1.72		0.092	0.101	
Aug	0.041	0.045		0.015	0.012		0.145	0.134		1.78	1.78		1.78	1.73		0.098	0.104	
Sep	0.030	0.042		0.018	0.011		0.143	0.151		1.68	1.74		1.79	1.73		0.104	0.101	
Oct	0.033	0.039		0.017	0.012		0.150	0.147		1.60	1.73		1.84	1.80		0.095	0.094	
Nov	0.046	0.039		0.018	0.016		0.154	0.146		1.36	1.69		1.89	1.87		0.085	0.094	
Dec	0.040	0.039		0.021	0.012		0.150	0.149		1.47	1.58		1.78	1.83		0.092	0.120	
ANNUAL	0.060	0.042	0.041	0.018	0.014	0.015	0.167	0.152	0.163	1.66	1.69	1.59	1.80	1.81	1.89	0.086	0.099	0.129

Indian Springs calculation revised in 2021

Non-Discharging Facilities

Boulder City				
(Avg. in MGD)			(Total in MG)	
Month	Influent Flow	Reuse	Influent Flow	Reuse
Jan	1.08	0.12	33.5	3.72
Feb	1.08	0.11	30.2	3.08
Mar	1.08	0.13	33.5	4.03
Apr	1.1	0.08	33	2.4
May	1.14	0.08	35.30	2.48
Jun	1.13	0.10	33.90	3.00
Jul				
Aug				
Sep				
Oct				
Nov				
Dec				
Annual	1.10	0.10	199.40	18.71

Las Vegas Wash and Colorado River Dischargers (2023)

Month	Clark County Water Reclamation District*					City of Las Vegas						City of Henderson			City of North Las Vegas		
	Influent Flow	Main Plant Reuse	DBWRC Reuse	Total Reuse	Net to LV Wash	Influent Flow	WPCF Reuse	BMWRC Reuse	DHWRC Reuse	Total Reuse	Net to LV Wash	Influent Flow	Reuse	Net to LV Wash	Influent Flow	Reuse	Net to LV Wash
Jan	104.30	0.06	0.00	8.37	95.93	47.71	0.11	0.00	0.00	3.42	43.95	23.91	2.22	21.69	18.60	0.00	18.60
Feb	103.76	0.10	0.00	8.71	95.05	48.34	0.16	0.00	0.00	4.48	44.02	24.68	3.83	20.85	18.47	0.00	18.47
Mar	104.62	0.18	0.00	8.93	95.69	47.70	0.16	0.00	0.00	4.81	44.03	24.20	3.95	20.25	18.36	0.15	18.21
Apr	105.60	0.64	0.00	0.64	104.96	48.28	0.43	0.00	0.00	0.43	47.06	25.32	7.66	17.66	20.12	1.15	18.97
May	106.36	1.74	0.00	1.74	104.62	48.04	0.47	0.00	0.00	0.47	46.68	25.02	8.68	16.34	18.45	2.15	16.30
Jun	106.34	1.12	0.00	1.12	105.23	47.49	0.50	0.00	0.00	0.50	45.76	24.81	9.23	15.58	18.23	3.15	15.08
Jul																	
Aug																	
Sep																	
Oct																	
Nov																	
Dec																	
Average	105.16	0.64	0.00	0.64	104.52	47.93	0.30	0.00	0.00	0.30	47.15	24.66	5.93	18.73	18.71	1.10	17.61
YTD total	630.98	3.83	0.00	3.83	627.15	287.56	1.83	0.00	0.00	1.83	282.87	147.94	35.57	112.37	112.23	6.60	105.63

Net to LV Wash is calculated as Influent minus Total Reuse

Las Vegas Wash and Colorado River Dischargers (2023)

Month	Las Vegas Wash Discharge (Avg in MGD)			Discharge Directly to Colorado River (Avg in MGD)			Total Discharge (Totals in A/F)
	Influent Flow	Reuse	Net to LV Wash	Laughlin Influent Flow	Laughlin Reuse	Net to River	Effluent Flow
Jan	194.52	2.39	188.48	1.52	0.00	1.52	18,555.32
Feb	195.25	4.09	187.00	1.51	0.00	1.51	17,095.31
Mar	194.88	4.44	186.93	1.58	0.00	1.58	17,021.35
Apr	199.32	9.88	188.65	1.58	0.00	1.58	16,930.31
May	197.87	13.04	183.94	1.62	0.00	1.62	16,514.42
Jun	196.87	13.99	181.65	1.75	0.00	1.75	16,321.83
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
Annual Avg	196.45	7.97	188.00	1.59	0	1.59	102438.53

Water Production (2023)

(Totals in AF)

	Las Vegas Valley Water District			City of Henderson			City of North Las Vegas			Boulder City			Nellis Air Force Base			Totals	
Month	WELLS	SNWS	TOTAL	SNWS	BMI	TOTAL	WELLS	SNWS	TOTAL	RMTP	SNWS	TOTAL	WELL	SNWS	TOTAL	WELLS	SNWS
Jan	2	19,314	19,316	4,664	0	4,664	0	3,728	3,728	68	309	377	6.09	63	69	8	28,146
Feb	12	17,941	17,953	4,347	0	4,347	0	3,534	3,534	79	261	340	4.28	58	62	16	26,220
Mar	9	21,704	21,713	5,432	0	5,432	0	4,084	4,084	113	326	439	10.05	66	76	19	31,725
Apr	5,388	19,904	25,292	6,294	0	6,294	0	4,587	4,587	261	463	723	22.49	76	99	5,410	31,585
May	6,484	25,042	31,526	8,731	0	8,731	0	5,662	5,662	371	595	966	19.92	77	97	6,504	40,478
Jun	7,415	25,291	32,706	9,114	0	9,114	0	5,756	5,756	382	643	1,025	16.33	83	100	7,431	41,269
Jul																	
Aug																	
Sep																	
Oct																	
Nov																	
Dec																	
YTD	19,310	129,196	148,506	38,582	0	38,582	0	27,351	27,351	1,273	2,598	3,871	79	424	503	19,389	199,423

Historic Trends Water Production
(Totals in AF)

Month	Las Vegas Valley Water District			City of Henderson			City of North Las Vegas			Boulder City			Big Bend Water District			Virgin Valley Water District			Moapa Valley Water District		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	19,734	20,327	19,316	4,946	4,935	4,664	3,773	3,915	3,728	453	413	377	201	220	203	381	395	332	157	160	120
Feb	18,489	18,957	17,953	4,650	4,680	4,347	3,539	3,649	3,534	483	442	340	216	211	193	345	376	336	142	145	126
Mar	23,496	24,921	21,713	6,102	6,240	5,432	4,371	4,586	4,084	628	616	439	244	228	208	449	488	369	194	181	148
Apr	27,257	26,926	25,292	7,266	7,092	6,294	4,825	4,856	4,587	870	780	723	260	251	228	546	588	500	213	233	214
May	33,792	33,411	31,526	9,325	8,986	8,731	5,721	5,764	5,662	1,093	1,024	966	292	283	265	667	686	651	297	263	252
Jun	37,597	35,956	32,706	10,133	9,869	9,114	6,262	6,234	5,756	1,265	1,145	1,025	318	298	270	800	752	692	320	307	261
Jul	38,902	38,811		10,352	9,737		6,612	6,532		1,233	1,114		302	331		835	806		313	335	
Aug	39,072	35,792		10,295	9,385		6,569	6,015		1,242	929		311	307		848	727		306	308	
Sep	33,330	32,370		8,994	8,414		5,460	5,344		1,094	920		291	290		773	681		287	263	
Oct	28,794	28,890		7,501	7,545		5,107	5,344		815	765		260	272		617	644		226	246	
Nov	23,359	22,309		6,003	5,741		4,370	5,344		638	497		238	235		484	476		185	194	
Dec	20,561	20,741		5,256	5,174		4,019	5,344		453	385		220	220		393	398		143	136	
ANNUAL	344,383	339,413	148,506	90,823	87,798	38,582	60,627	62,926	27,351	10,266	9,029	3,871	3,152	3,145	1,367	7,137	7,018	2,880	2,783	2,771	1,121

Wastewater/Water Production Ratios

Month	City of Las Vegas/Clark County*			City of Henderson			City of North Las Vegas			Boulder City			Big Bend Water District			All Entities **		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	0.67	0.67	0.75	0.48	0.49	0.49	0.45	0.44	0.47	0.25	0.26	0.27	0.70	0.63	0.71	0.60	0.60	0.66
Feb	0.64	0.65	0.73	0.45	0.45	0.49	0.43	0.42	0.45	0.22	0.22	0.27	0.60	0.62	0.67	0.58	0.58	0.64
Mar	0.58	0.56	0.67	0.40	0.38	0.42	0.39	0.38	0.43	0.18	0.18	0.23	0.62	0.69	0.72	0.52	0.50	0.59
Apr	0.49	0.51	0.56	0.33	0.33	0.37	0.34	0.34	0.40	0.13	0.13	0.14	0.60	0.61	0.64	0.44	0.45	0.50
May	0.42	0.42	0.47	0.26	0.27	0.27	0.29	0.30	0.31	0.11	0.10	0.11	0.58	0.61	0.58	0.37	0.37	0.40
Jun	0.37	0.38	0.43	0.24	0.23	0.25	0.27	0.27	0.29	0.09	0.09	0.10	0.54	0.53	0.60	0.33	0.33	0.38
Jul	0.38	0.39		0.25	0.24		0.27	0.27		0.09	0.10		0.67	0.57		0.34	0.34	
Aug	0.38	0.42		0.25	0.26		0.27	0.30		0.09	0.12		0.55	0.55		0.34	0.37	
Sep	0.42	0.45		0.27	0.28		0.31	0.33		0.10	0.11		0.53	0.55		0.38	0.40	
Oct	0.49	0.53		0.34	0.31		0.34	0.36		0.13	0.13		0.59	0.61		0.44	0.46	
Nov	0.58	0.63		0.40	0.39		0.38	0.41		0.17	0.20		0.53	0.66		0.51	0.55	
Dec	0.67	0.69		0.47	0.44		0.43	0.45		0.24	0.27		0.64	0.68		0.60	0.61	
AVG.	0.48	0.50	0.57	0.32	0.32	0.35	0.34	0.34	0.38	0.13	0.14	0.16	0.59	0.61	0.65	0.43	0.44	0.50

Water Production and Waste Flows

Monthly Flows in A/F

Month	CLV and Clark County Monthly Flow in AF		City of Henderson Monthly Flow in AF		City of North Las Vegas Monthly Flow in AF		Boulder City Monthly Flow in AF		Big Bend Water District Monthly Flow in AF		All Entities Monthly Flow in AF	
	Water Production	Waste Flow	Water Production	Waste Flow	Water Production	Waste Flow	Water Production	Waste Flow	Water Production	Waste Flow	Water Production	Waste Flow
Jan	19,316	14,462	4,664	2,275	3,728	1,770	377	103	203	145	28,288	18,753
Feb	17,953	13,070	4,347	2,121	3,534	1,587	340	93	193	130	26,367	17,000
Mar	21,713	14,491	5,432	2,302	4,084	1,747	439	103	208	150	31,877	18,793
Apr	25,292	14,167	6,294	2,331	4,587	1,852	723	101	228	145	37,124	18,597
May	31,526	14,689	8,731	2,380	5,662	1,755	966	108	265	154	47,149	19,087
Jun	32,706	14,163	9,114	2,284	5,756	1,678	1,025	104	270	161	48,871	18,390
Jul												
Aug												
Sep												
Oct												
Nov												
Dec												
YTD	148,506	85,041	38,582	13,693	27,351	10,389	3,871	612	1,367	885	219,676	110,621

Recharge and Recovery

Monthly Flows In Acre-Feet

Month	Recharged			Recovered			
	LVVWD	NLV	Total	LVVWD	LV Paiute	NLV	Total
Jan	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0
Jul	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0
Sep	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0
Total 2023	0	0	0	0	0	0	0
Total 2022	0	0	0	797	0	0	0
Total 2021	0	0	0	688	0	0	0