

**SEWAGE AND WASTEWATER ADVISORY COMMITTEE**  
*Advisory to the Board of Clark County Commissioners*

**Conveyed virtually in accordance with changes to Open Meeting Law during the 2021 Legislative Session**  
**Meeting Minutes of February 9, 2022**

MEMBERS	Present	Absent
<b>Clark County (2 Members)</b>		
John Solvie (Member)	X	
Ebrahim Juma (Member)	X	
Joseph Leedy (Alternate)	X	
Sara Gedo (Alternate)	X	
<b>City of Las Vegas (3 Members)</b>		
Mark Dunbar (Member)		X
John Bettencourt (Member)	X	
Sharon Harney (Member)	X	
Nalleli Herrera (Alternate)	X	
Charles Trushel (Alternate)	X	
Dan Combs (Alternate)		X
<b>City of Henderson (2 Members)</b>		
Brian Carlson (Member) VICE-CHAIR	X	
Adrian Edwards (Member)	X	
Bryan Mortensen (Alternate)		X
James Koloskie (Alternate)	X	
<b>City of North Las Vegas (1 Member)</b>		
Frazier Speaks (Member)		X
Daniel Ybarra (Alternate)	X	
<b>Clark County Water Reclamation District (1 Member)</b>		
Daniel Fischer (Member) CHAIR	X	
Richard Donahue (Alternate)	X	
<b>Moapa Valley Water District (1 Member)</b>		
Joe Davis (Member)		X
Lon Dalley (Alternate)	X	
<b>Las Vegas Valley Water District (1 Member)</b>		
Todd Tietjen (Member)	X	
Xiaoping Zhou (Alternate)	X	
<b>Mesquite (1 Member)</b>		
Bill Tanner (Member)		X
Travis Anderson (Alternate)		X
<b>Virgin Valley Water District (1 Member)</b>		
VACANT (Member)		
Aaron Bunker (Alternate)		X
<b>Boulder City (1 Member)</b>		
VACANT (Member)		
Jim Keane (Alternate)	X	

### **Guests Present**

Rodriguez, AJ	CCWRD
Sumanis, Abigail	CCWRD
Taylor, Advergnus	CCWRD
Mills, Jeffrey	CCWRD
Morgan, Devon	CCWRD
Smith, Willie	CCWRD
Stoft, David	CCWRD
Hannoun, Deena	Southern Nevada Water Authority
Isler, Dan	Southern Nevada Health District
LaRance, Dana	City of Henderson
Starrett, Harvey	City of Henderson
Thomas, Matt	City of Henderson
Schiefer, Scott	City of Las Vegas
MacKinnon, Angela	Brown and Caldwell

#### **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 NOVEMBER 3, 2021**

Adrian Edwards moved and Todd Tietjen seconded to accept the November 3, 2021 minutes. The motion was unanimously approved.

#### **4. APPROVAL OF AGENDA**

John Solvie moved and Todd Tietjen seconded to approve the agenda. The motion was unanimously approved.

#### **5. ELECT/RE-ELECT CHAIR AND VICE CHAIR**

Charles Trushel moved and Sharon Harney seconded to re-elect Dan Fischer as the Chair and Brian Carlson as the Vice-Chair for 2022. The motion was unanimously approved.

#### **6. PRESENTATION: FUTURE WATER QUALITY PLANNING SCENARIOS UTILIZING THE LAKE MEAD MODEL**

Deena Hannoun provided an overview of SNWA's Lake Mead Model and how it will be used to assess future water quality planning scenarios.

#### **7. DISCUSSION OF QUARTERLY FLOW REPORT**

The group discussed the flow report for the fourth quarter of 2021:

- 2021 influent flows to the WRD Flamingo Plant were almost identical to what they were in 2019.
- WRD's return flows to the Wash were pretty strong in 2021. WRD's non-potable reuse has been declining over the years. In 2021, all agency non-potable reuse was about 10 MGD, which was the same as 2020.

## 8. MEMBER UPDATES

### A. Moapa Valley Water District

- Nothing to report.

### B. Las Vegas Valley Water District

- Projects Updates:
  - Continuing to work on septic tank conversions.
  - Continuing to work on evaporative coolers.
  - Continuing to convert decorative grass to artificial turf.
- The lateral pipeline to go across the south end of Henderson is still in design.
- There is a proposal to build 5 new erosion control structures for the Lower Las Vegas Wash. The project has a 7-year timeline.

### C. Boulder City

- A new Utilities Director was hired.
- SCADA project is on-going.
- Completed the design of a project to install a new hydro-dyne vertical screen at the Headworks Facility. The project will go out for bid soon.

### D. Virgin Valley Water District

- N/A

### E. City of Mesquite

- N/A

### F. City of Las Vegas

- Mark Dunbar retired, and Charles Trushel has been promoted to the new Environmental Manager.
- Finalized a contract with APG Neuros to install new process air blowers at the plant.
- Royal Links golf course will be redeveloped as a multi-family homes. The golf course was a reuse customer for the CLV plant; the new development may potentially use reuse water for construction activity and common area landscaping.
- HR is working through significant staffing changes; 10 positions remain open.
- CIP Updates:
  - No updates.

### G. Clark County Water Reclamation District

- Collection System Updates:
  - Whitney Lift Station project is estimated to be 90% complete.
  - Lincoln Lift Station project is estimated to be 90% complete.
  - Multiple projects to rehabilitate/replace defective small diameter pipe throughout the Collection System.
- Flamingo Plant Updates:
  - The Flamingo Plant expansion is on-going.
  - Headworks, primary expansion, and grit are all 60% design.
  - Three new secondary basins and clarifiers are estimated 50% design.
  - Sludge thickening is 100% design.
  - Demolishing old facilities is on-going.

## **H. City of North Las Vegas**

- Completed annual inspections and maintenance of bioreactors.
- In the process of inspecting membrane trains and completing necessary repairs.
- Phase II of the membrane coating project is underway. The project is scheduled to be completed by the end of July.
- Solids improvements project to replace the cake pumps is underway, despite material delays.

## **I. City of Henderson**

- Measured higher than normal ammonium concentrations at the WRF in December.
- Direct reclaim use will decline over the next year because the Black Mountain reuse line is being eliminated.
- WRF Updates:
  - Ceased the temporary discharge from the SWRF facility to Pittman Wash.
  - Completed repairs to oxidation ditch two, the unit is back online and operating normally.

## **9. CLARK COUNTY UPDATE**

- Selenium Project: Continuing to work closely with NDEP. Fish tissues analyses is complete. A report is being prepared for NDEP with proposed site-specific standards and tributary exemptions. NDEP hopes to present proposed standards to the SEC this fall, prior to the regulatory exemption for Las Vegas Wash expiring on 12/31.
- Draft MS4 Permit: Awaiting revised draft from NDEP.
- Draft Construction General Stormwater Permit: NDEP submitted the draft to EPA. The MS4 group has two remaining concerns, which will be commented on when the draft is released for public comment.

## **10. MEMBER VACANCIES**

- A. Virgin Valley Water District – 1 member vacancy
- B. Boulder City – 1 member vacancy
- C. City of Las Vegas – 1 member vacancy (Mark Dunbar retired)

## **11. COMMENTS BY THE GENERAL PUBLIC - None**

## **12. SCHEDULE NEXT MEETING**

The next meeting is scheduled for May 4, 2022 at 9:00 am. A meeting invite will be sent out.

## **13. ADJOURNMENT**

The meeting was adjourned at 10:44 am.

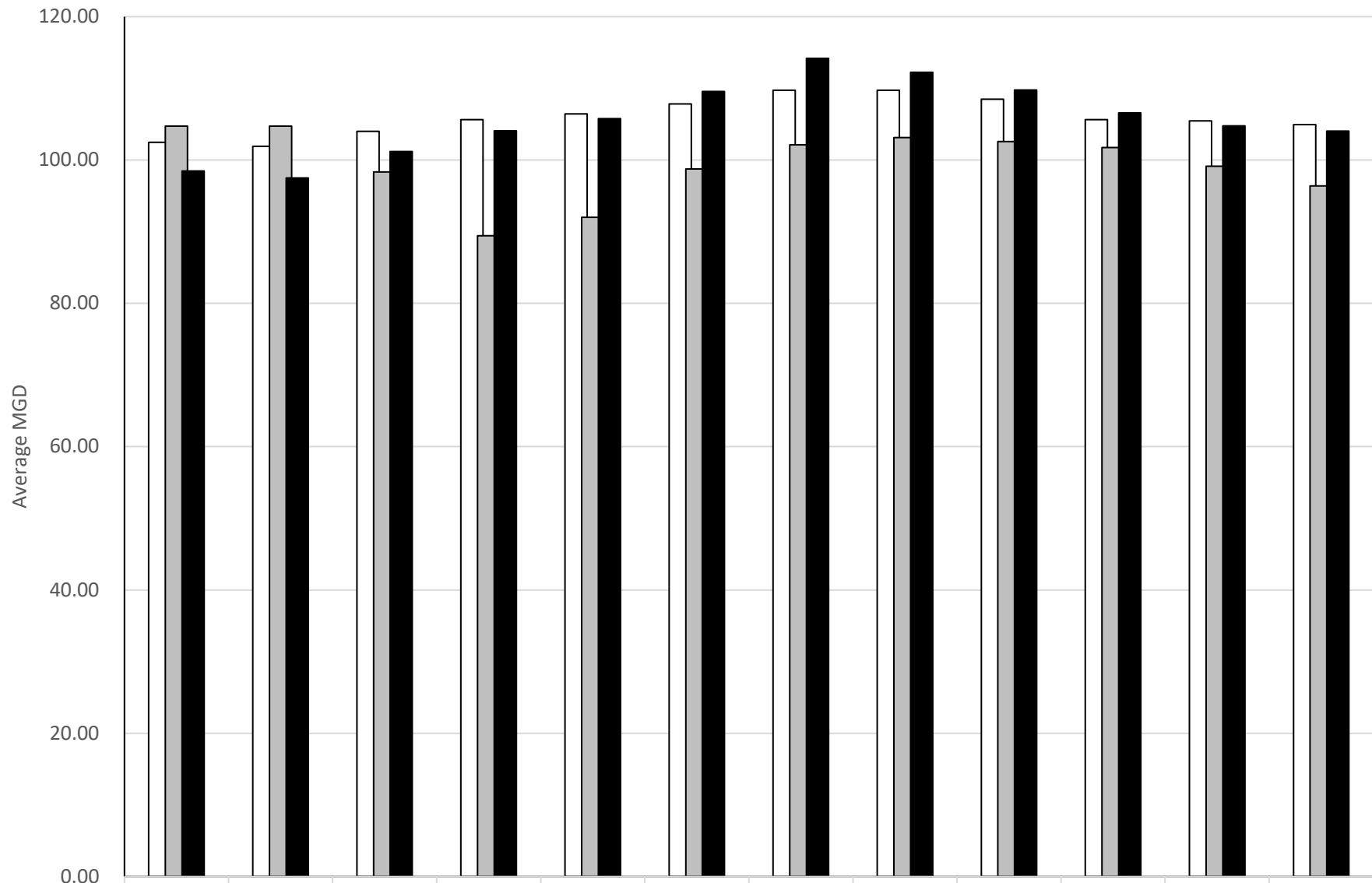
2021  
4th Quarter Flow Report  
For  
Clark County Sewage  
And  
Wastewater Advisory  
Committee  
(SWAC)

February 9, 2022

# Wastewater Flows

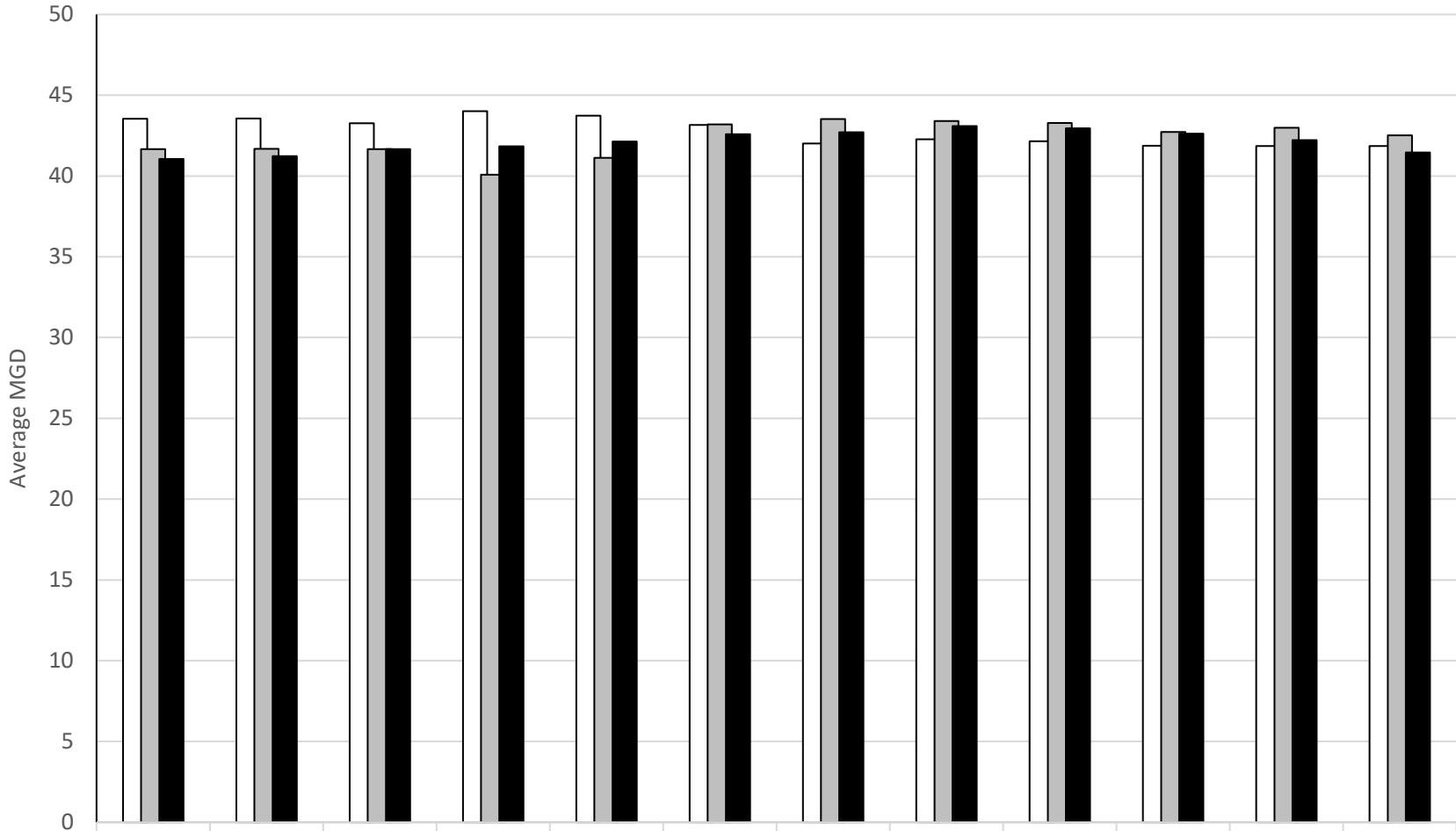
2019 through 2021

# Clark County Water Reclamation District Wastewater Flows



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
□ 2019	102.48	101.90	104.00	105.63	106.42	107.84	109.74	109.74	108.48	105.63	105.45	104.93
▒ 2020	104.74	104.72	98.35	89.42	92.00	98.74	102.12	103.15	102.59	101.73	99.13	96.37
■ 2021	98.48	97.50	101.17	104.07	105.77	109.55	114.18	112.23	109.79	106.58	104.75	104.05

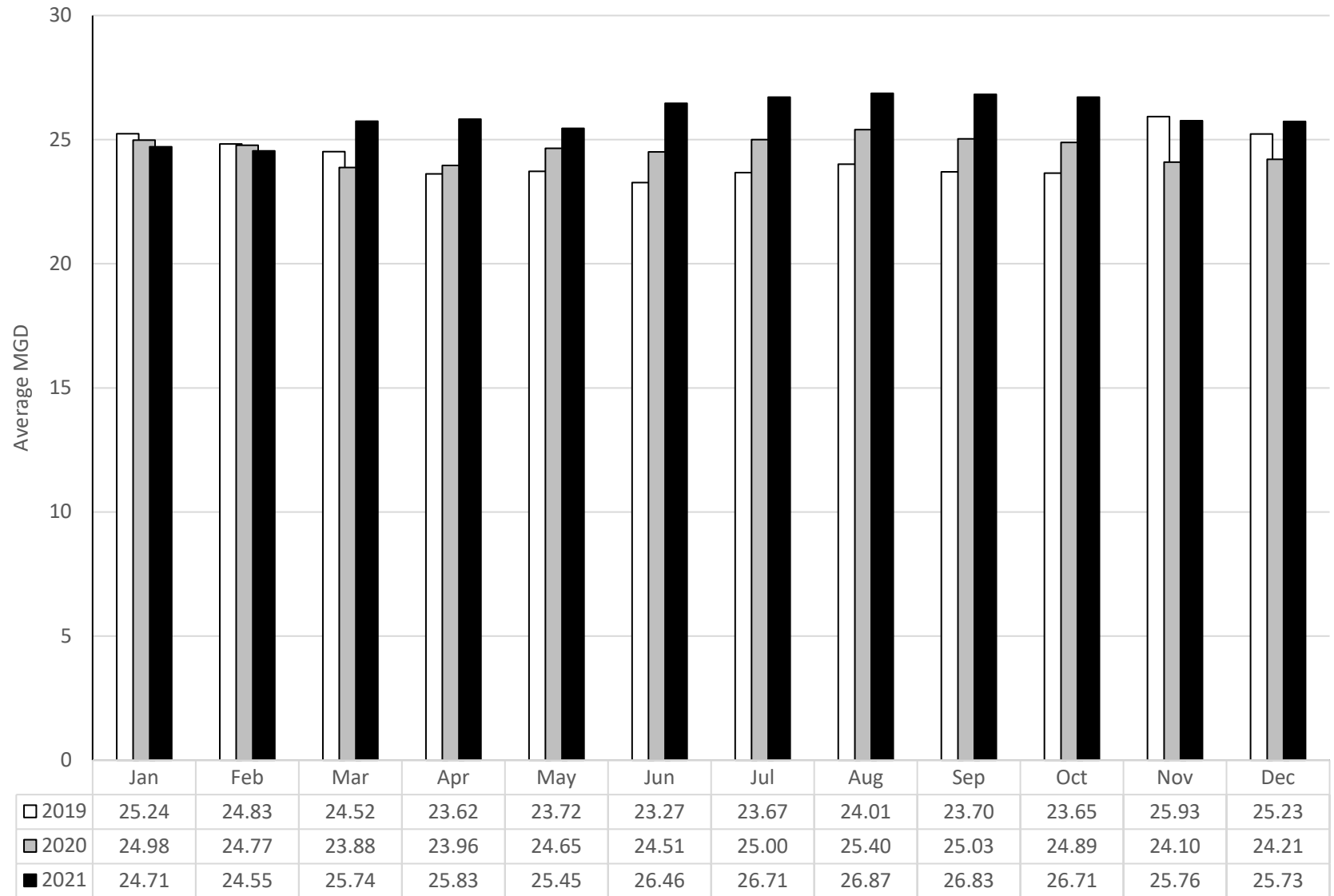
# City of Las Vegas Wastewater Flows



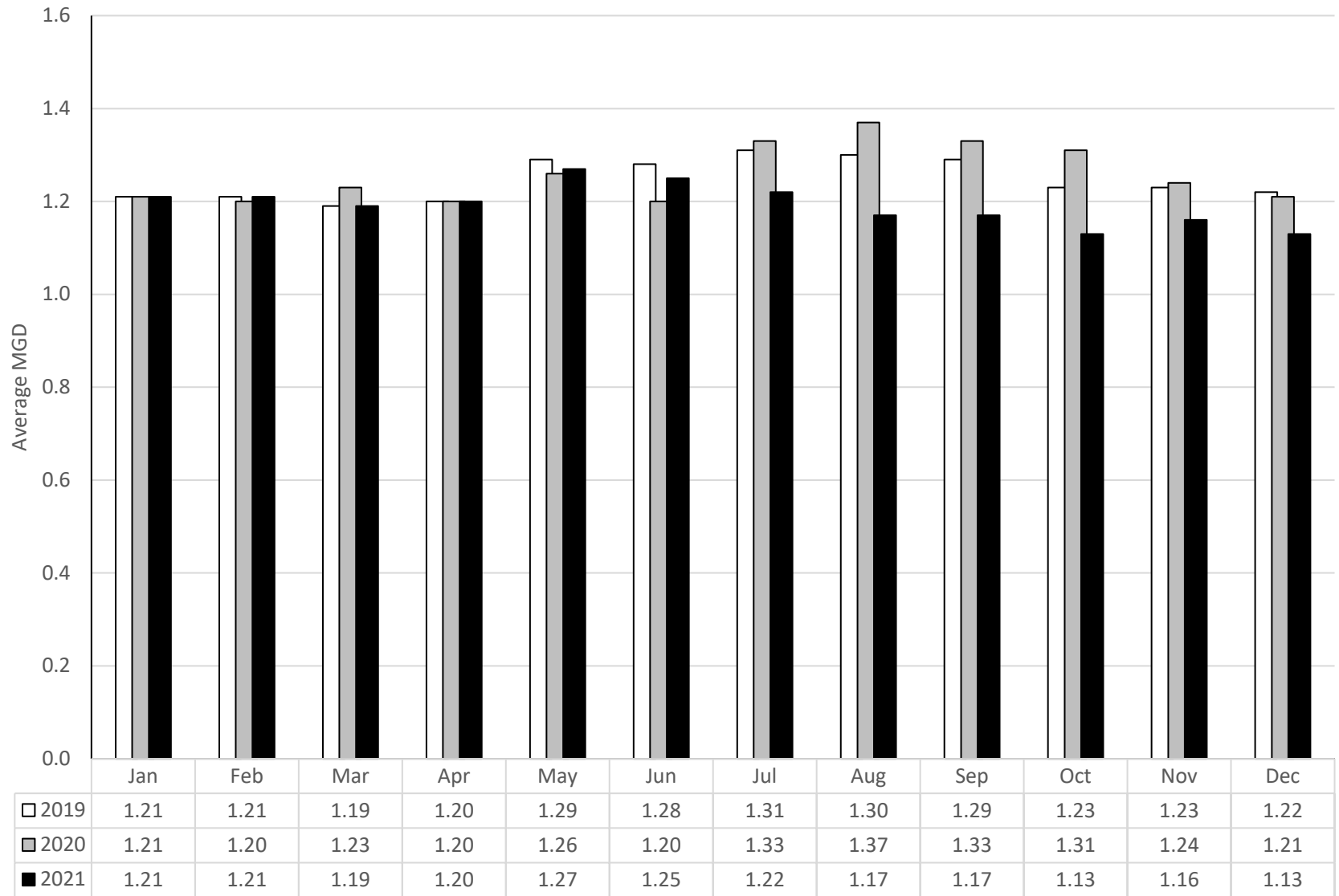
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	43.54	43.56	43.27	44.01	43.74	43.17	42.02	42.27	42.15	41.87	41.85	41.86
2020	41.67	41.68	41.67	40.09	41.13	43.20	43.52	43.41	43.28	42.73	42.99	42.52
2021	41.06	41.23	41.67	41.84	42.14	42.58	42.71	43.10	42.95	42.63	42.22	41.46



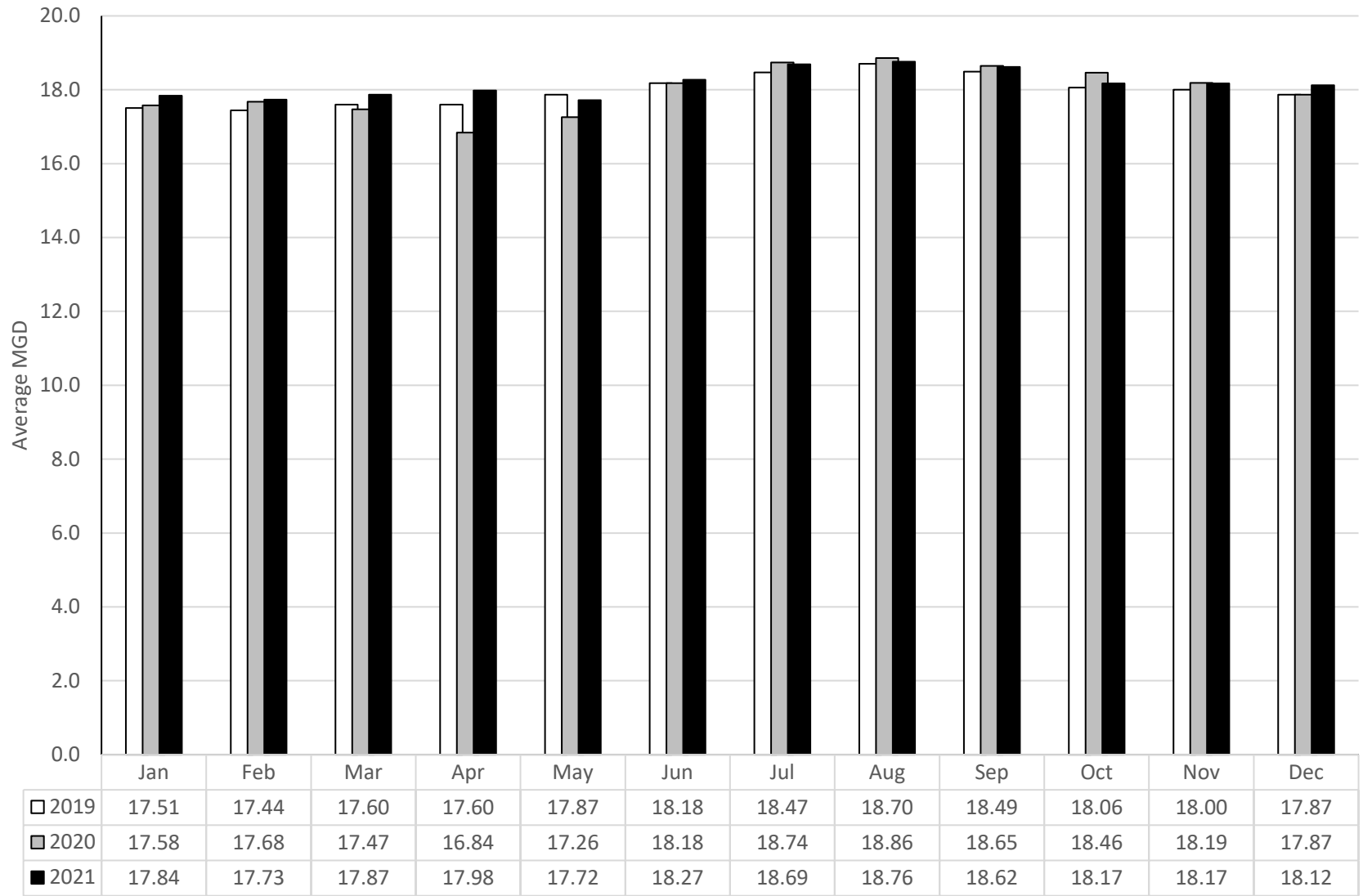
# City of Henderson Wastewater Flows



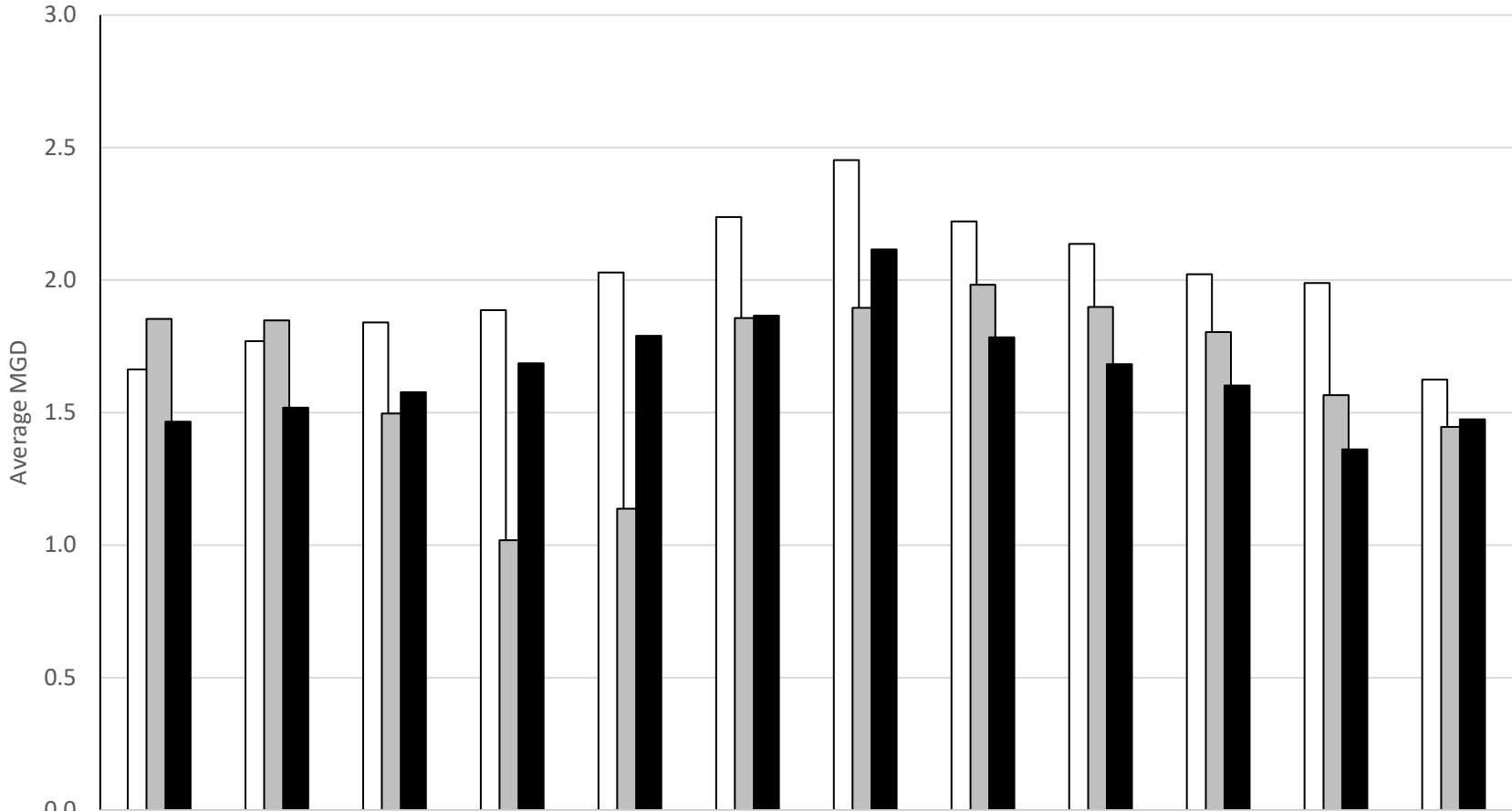
# Boulder City Wastewater Flows



# City of North Las Vegas Wastewater Flows

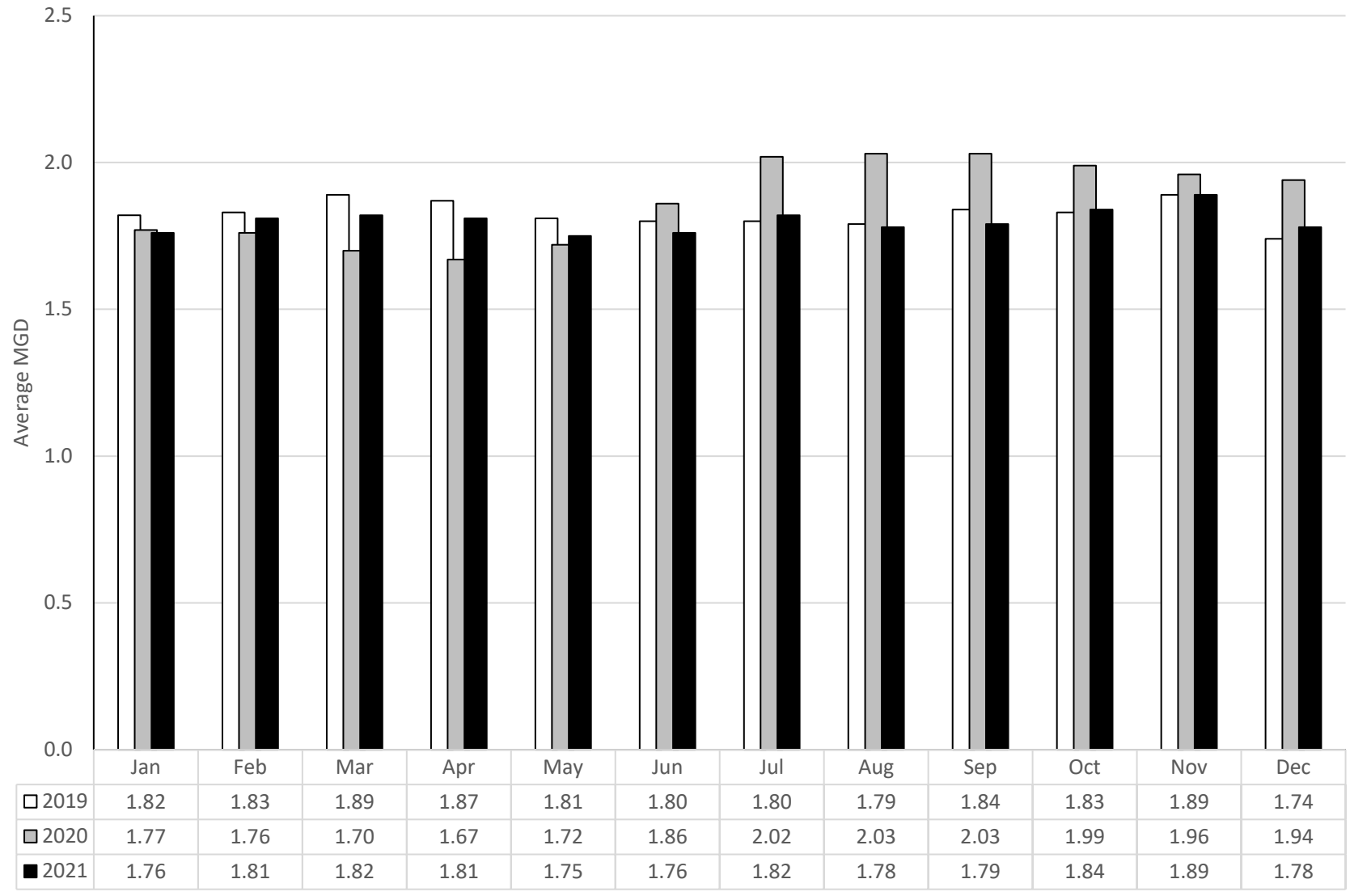


# Laughlin Wastewater Flows

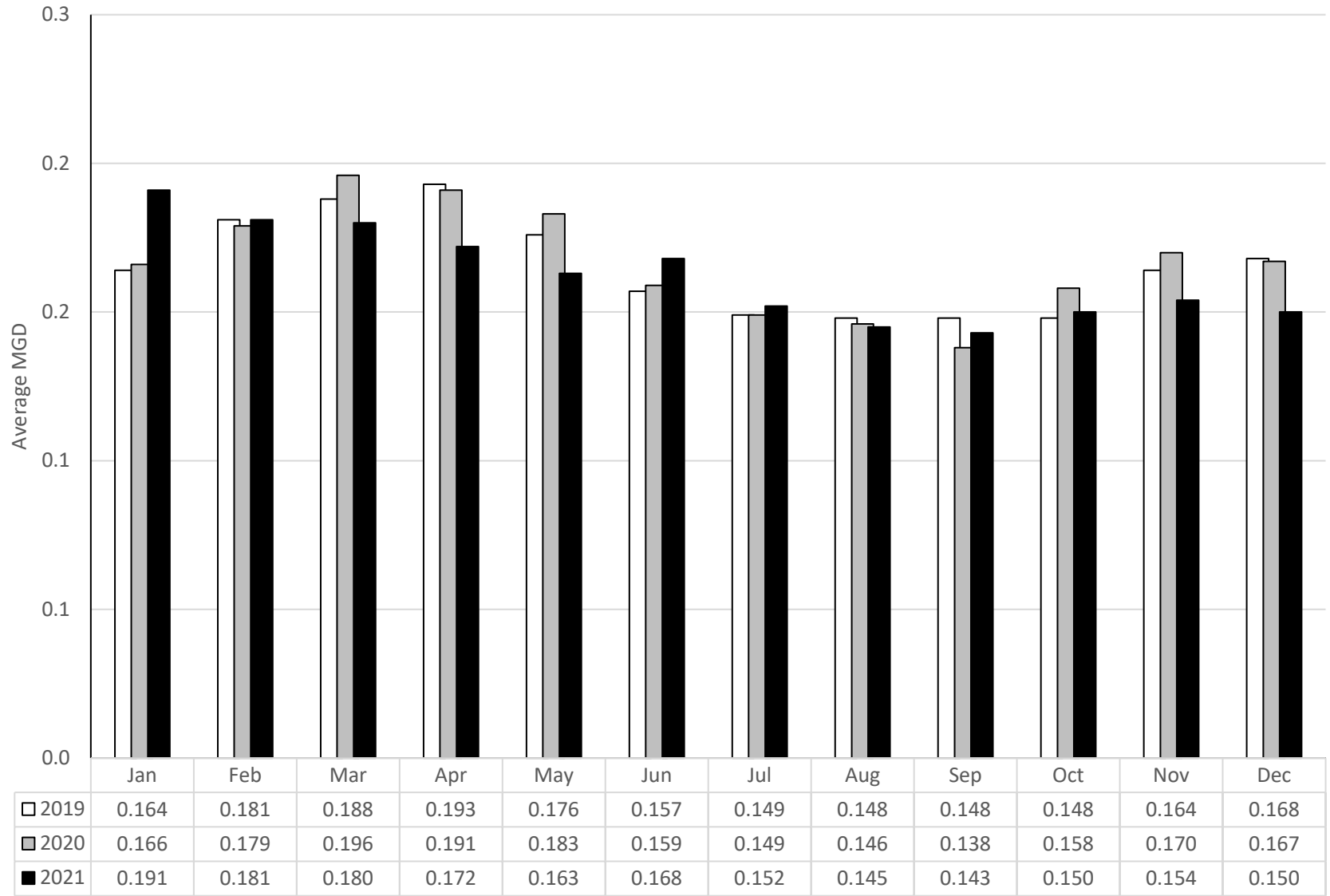


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	1.66	1.77	1.84	1.89	2.03	2.24	2.45	2.22	2.14	2.02	1.99	1.62
2020	1.85	1.85	1.50	1.02	1.14	1.86	1.90	1.98	1.90	1.80	1.57	1.45
2021	1.47	1.52	1.58	1.69	1.79	1.87	2.12	1.78	1.68	1.60	1.36	1.47

# City of Mesquite Wastewater Flows



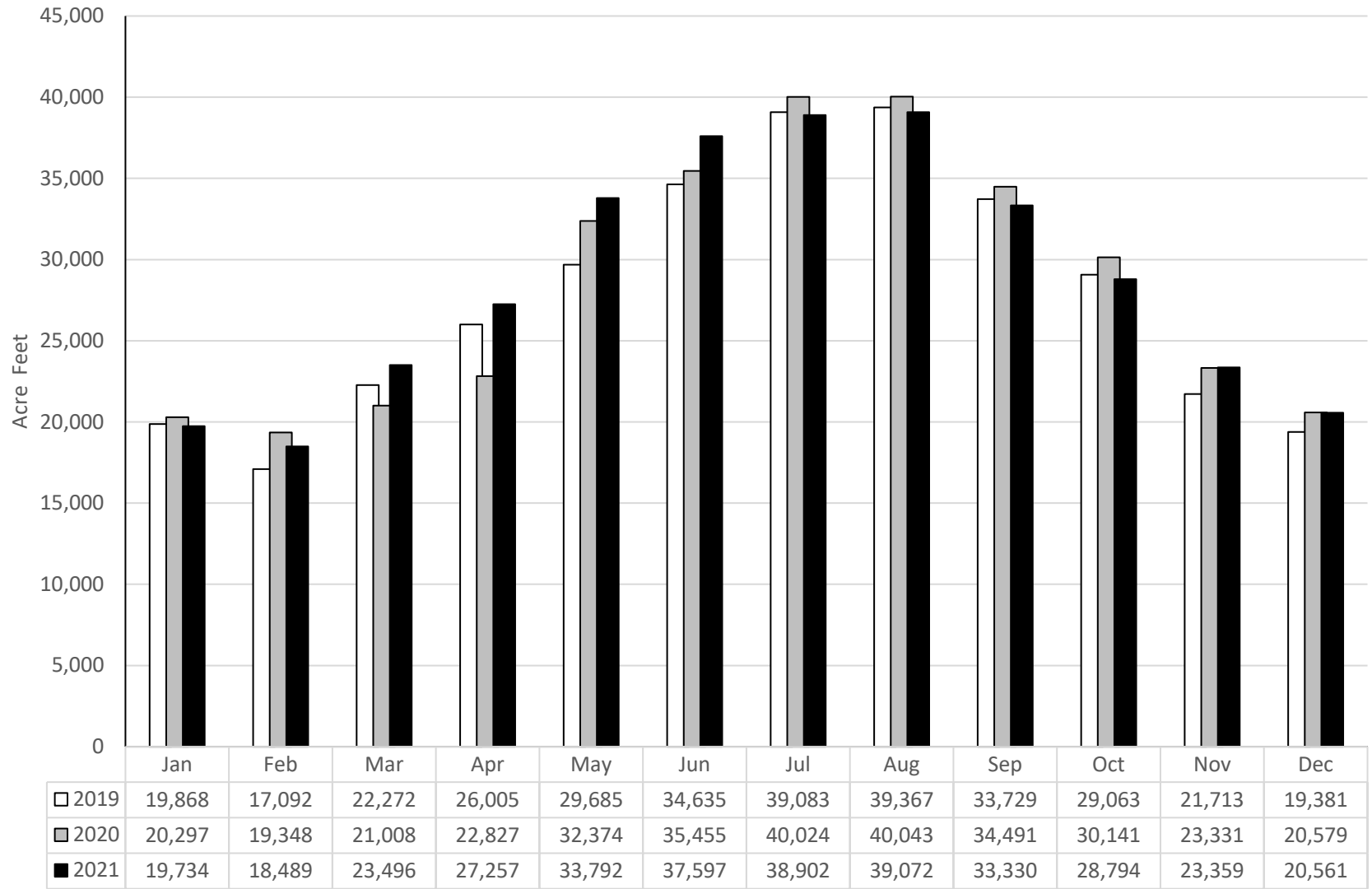
# Moapa Wastewater Flows



# Water Production

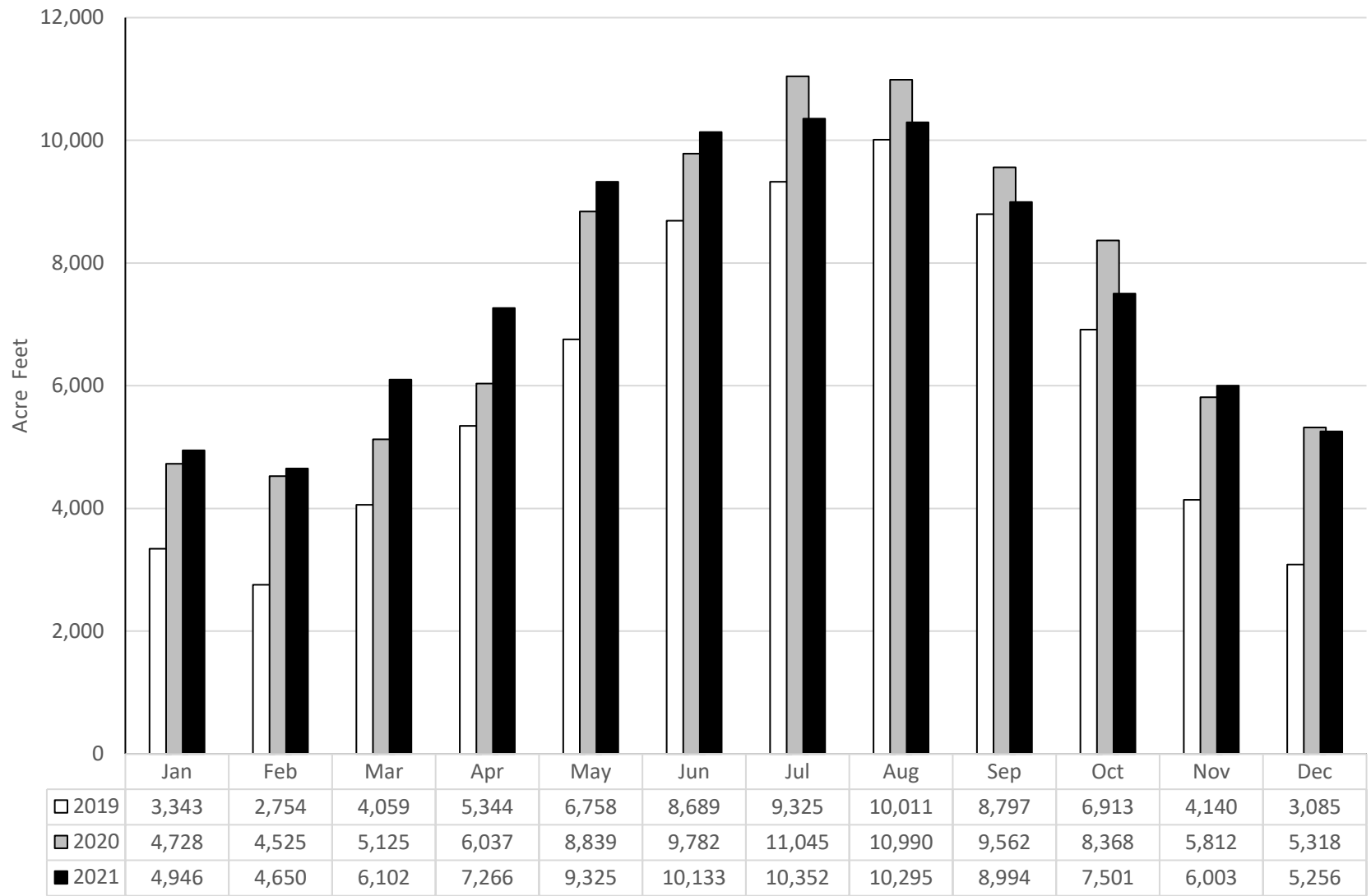
2019 through 2021

# Las Vegas Valley Water District Water Production

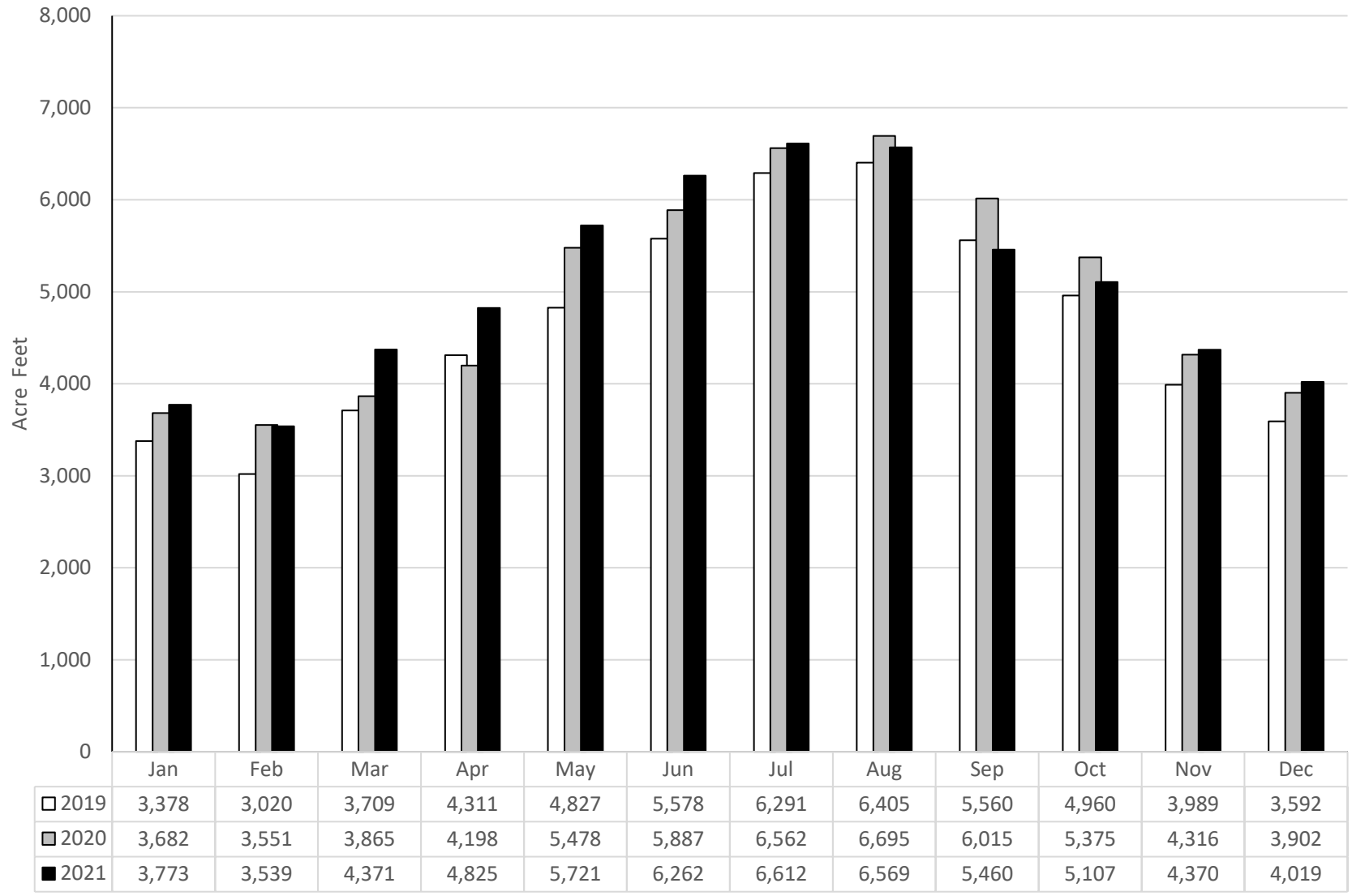




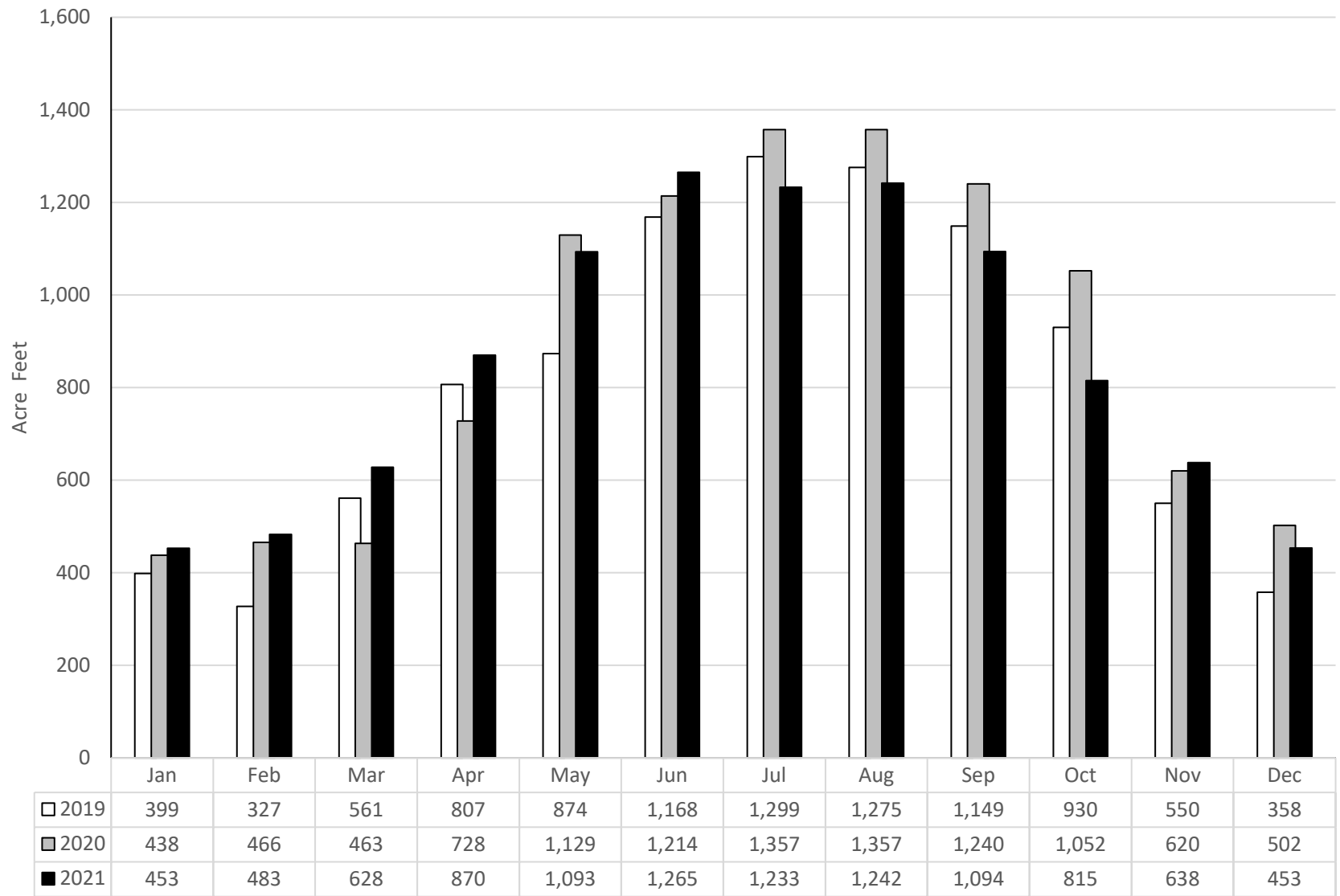
# City of Henderson Water Production



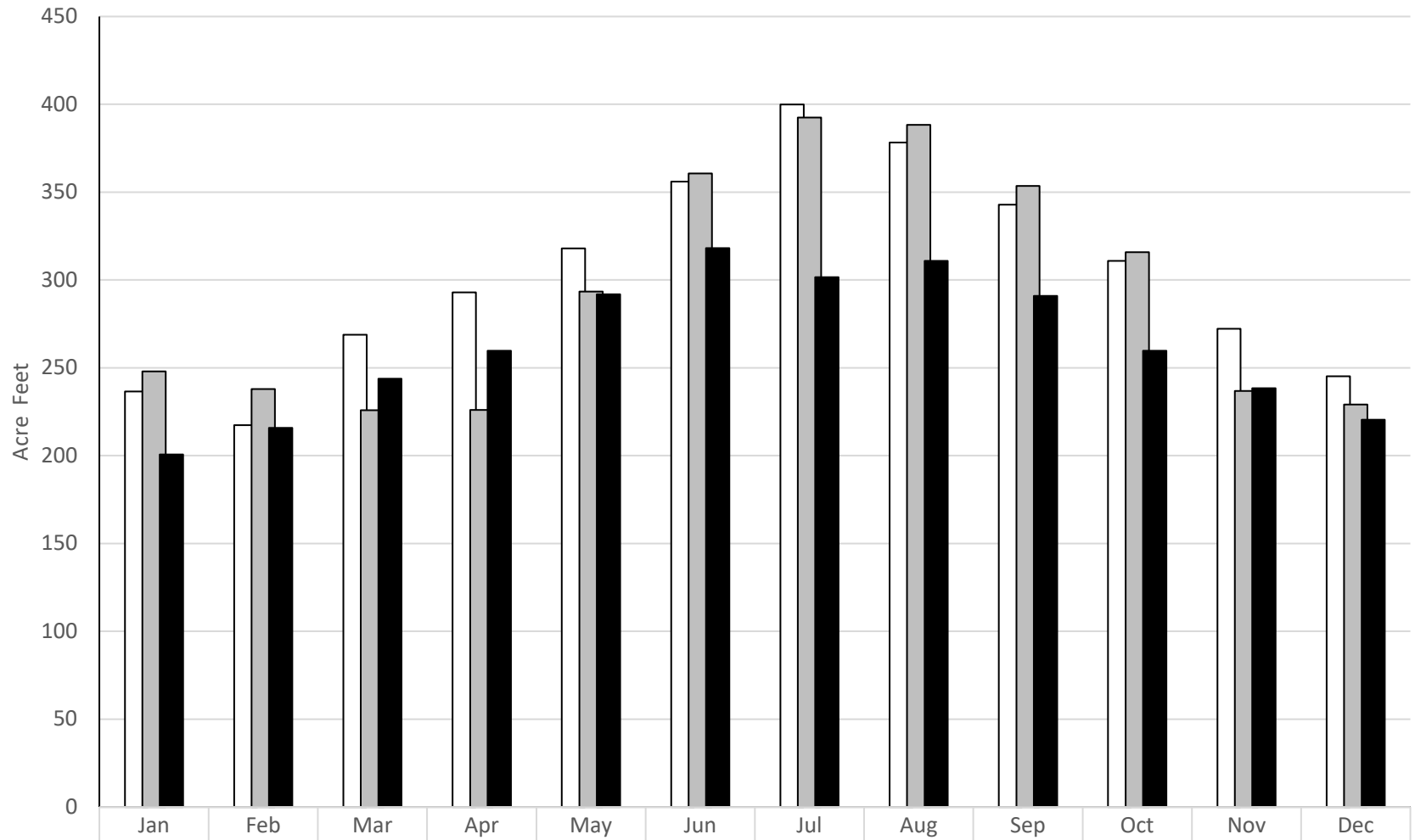
# City of North Las Vegas Water Production



# Boulder City Water Production

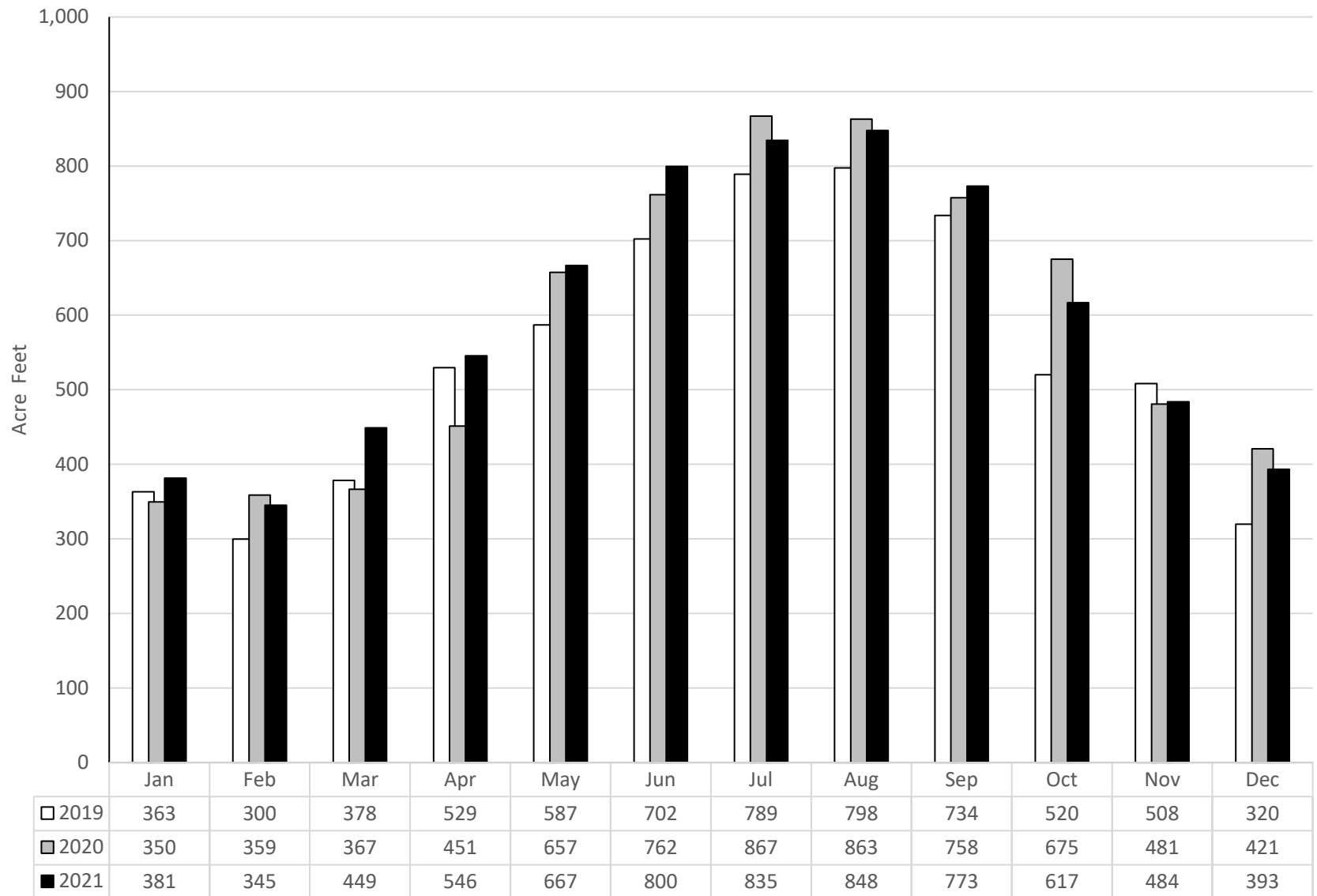


# Big Bend Water District Water Production

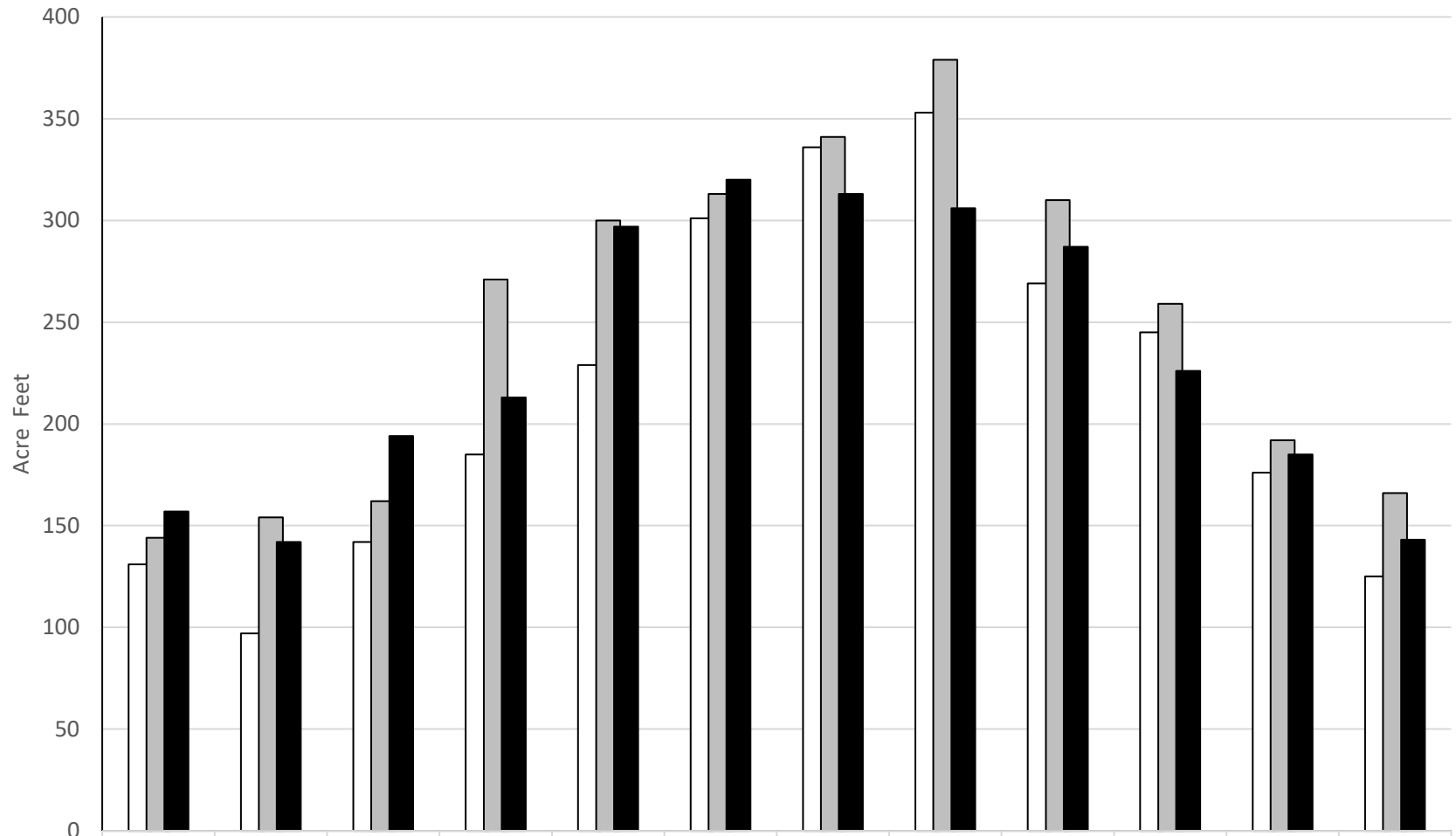


2019	236	217	269	293	318	356	400	378	343	311	272	245
2020	248	238	226	226	293	361	393	388	354	316	237	229
2021	201	216	244	260	292	318	302	311	291	260	238	220

# Virgin Valley Water District Water Production



# Moapa Valley Water District Water Production



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
□ 2019	131	97	142	185	229	301	336	353	269	245	176	125
■ 2020	144	154	162	271	300	313	341	379	310	259	192	166
■ 2021	157	142	194	213	297	320	313	306	287	226	185	143

# 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		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	102.48	104.74	98.48	43.54	41.67	41.06	17.51	17.58	17.84	25.24	24.98	24.71	1.21	1.21	1.21
Feb	101.90	104.72	97.50	43.56	41.68	41.23	17.44	17.68	17.73	24.83	24.77	24.55	1.21	1.20	1.21
Mar	104.00	98.35	101.17	43.27	41.67	41.67	17.60	17.47	17.87	24.52	23.88	25.74	1.19	1.23	1.19
Apr	105.63	89.42	104.07	44.01	40.09	41.84	17.60	16.84	17.98	23.62	23.96	25.83	1.20	1.20	1.20
May	106.42	92.00	105.77	43.74	41.13	42.14	17.87	17.26	17.72	23.72	24.65	25.45	1.29	1.26	1.27
Jun	107.84	98.74	109.55	43.17	43.20	42.58	18.18	18.18	18.27	23.27	24.51	26.46	1.28	1.20	1.25
Jul	109.74	102.12	114.18	42.02	43.52	42.71	18.47	18.74	18.69	23.67	25.00	26.71	1.31	1.33	1.22
Aug	109.74	103.15	112.23	42.27	43.41	43.10	18.70	18.86	18.76	24.01	25.40	26.87	1.30	1.37	1.17
Sep	108.48	102.59	109.79	42.15	43.28	42.95	18.49	18.65	18.62	23.70	25.03	26.83	1.29	1.33	1.17
Oct	105.63	101.73	106.58	41.87	42.73	42.63	18.06	18.46	18.17	23.65	24.89	26.71	1.23	1.31	1.13
Nov	105.45	99.13	104.75	41.85	42.99	42.22	18.00	18.19	18.17	25.93	24.10	25.76	1.23	1.24	1.16
Dec	104.93	96.37	104.5	41.86	42.52	41.46	17.87	17.87	18.12	25.23	24.21	25.73	1.22	1.21	1.13
ANNUAL	106.02	99.42	105.68	42.78	42.32	42.14	17.98	17.98	18.16	24.48	24.62	25.95	1.24	1.26	1.19

\* Includes estimated .5 MGD NLV

# Historic Trends Influent Wastewater Flows

AVG in MGD

Month	Searchlight			Blue Diamond			MVWRC			Laughlin			Mesquite			Indian Springs		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	0.046	0.033	0.030	0.014	0.018	0.017	0.164	0.166	0.191	1.66	1.85	1.47	1.82	1.77	1.76	0.106	0.121	0.103
Feb	0.048	0.041	0.029	0.009	0.016	0.020	0.181	0.179	0.181	1.77	1.85	1.52	1.83	1.76	1.81	0.112	0.118	0.105
Mar	0.042	0.030	0.034	0.009	0.019	0.020	0.188	0.196	0.180	1.84	1.50	1.58	1.89	1.70	1.82	0.101	0.113	0.107
Apr	0.041	0.026	0.027	0.008	0.015	0.016	0.193	0.191	0.172	1.89	1.02	1.69	1.87	1.67	1.81	0.112	0.108	0.118
May	0.045	0.030	0.340	0.008	0.023	0.016	0.176	0.183	0.163	2.03	1.14	1.79	1.81	1.72	1.75	0.114	0.125	0.118
Jun	0.032	0.032	0.028	0.005	0.015	0.014	0.157	0.159	0.168	2.24	1.86	1.87	1.80	1.86	1.76	0.121	0.121	0.117
Jul	0.039	0.034	0.042	0.014	0.018	0.018	0.149	0.149	0.152	2.45	1.90	2.12	1.80	2.02	1.82	0.117	0.117	0.042
Aug	0.037	0.034	0.041	0.017	0.016	0.015	0.148	0.146	0.145	2.22	1.98	1.78	1.79	2.03	1.78	0.120	0.115	0.041
Sep	0.039	0.033	0.030	0.022	0.017	0.018	0.148	0.138	0.143	2.14	1.90	1.68	1.84	2.03	1.79	0.119	0.109	0.150
Oct	0.031	0.029	.033	0.020	0.018	0.017	0.148	0.158	0.150	2.02	1.80	1.60	1.83	1.99	1.84	0.127	0.111	0.095
Nov	0.035	0.028	.046	0.017	0.015	0.018	0.164	0.170	0.154	1.99	1.57	1.36	1.89	1.96	1.89	0.120	0.096	0.085
Dec	0.034	0.028	.040	0.017	0.018	0.021	0.168	0.167	0.150	1.62	1.45	1.47	1.74	1.94	1.74	0.114	0.101	0.092
ANNUAL	0.039	0.032	0.060	0.013	0.017	0.018	0.165	0.167	0.162	1.99	1.65	1.66	1.75	1.87	1.80	0.103	0.113	0.086



# Non-Discharging Facilities

Boulder City				
(Avg. in MGD)			(Total in MG)	
Month	Influent Flow	Reuse	Influent Flow	Reuse
Jan	1.21	0.38	37.50	11.80
Feb	1.21	0.52	33.90	14.60
Mar	1.19	0.69	36.90	21.40
Apr	1.20	0.77	36.00	23.10
May	1.27	0.62	39.40	19.20
Jun	1.25	0.98	37.50	29.40
Jul	1.22	0.52	37.80	16.10
Aug	1.17	0.56	36.30	17.40
Sep	1.17	0.52	35.10	15.60
Oct	1.13	0.20	35.00	6.20
Nov	1.16	0.19	34.80	5.70
Dec	1.13	0.16	35.00	4.96
Annual	1.19	0.51	435.20	185.46

# Las Vegas Wash and Colorado River Dischargers (2021)

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	98.48	0.29	0.00	0.29	98.19	41.06	0.38	0.00	0.00	0.38	43.30	24.71	4.18	16.34	17.84	0.00	17.84
Feb	97.50	0.19	0.00	0.19	97.31	41.23	0.44	0.00	0.00	0.44	42.95	24.55	4.22	15.22	17.73	0.00	17.73
Mar	101.17	0.43	0.00	0.43	100.74	41.67	0.46	0.00	0.00	0.46	43.06	25.74	5.24	16.04	17.87	0.00	17.87
Apr	104.07	0.98	0.00	0.98	103.09	41.84	1.19	0.00	0.00	1.19	42.72	25.83	5.88	17.24	17.98	1.10	19.08
May	105.77	2.37	0.00	2.37	103.41	42.14	1.73	0.00	0.00	1.73	42.04	25.45	6.83	16.28	17.72	0.90	18.62
Jun	109.55	3.64	0.00	3.64	105.91	42.58	2.20	0.00	0.00	2.20	41.89	26.46	9.19	14.34	18.27	0.90	19.17
Jul	114.18	3.91	0.00	3.91	110.27	42.71	1.90	0.00	0.00	1.90	42.78	26.71	8.13	15.72	18.69	0.90	19.59
Aug	112.23	3.26	0.00	3.26	108.97	43.10	1.92	0.00	0.00	1.92	41.18	26.87	7.95	16.00	18.76	1.00	19.76
Sep	109.79	2.09	0.00	2.09	107.70	42.95	1.56	0.00	0.00	1.56	41.39	26.83	8.02	15.89	18.62	0.80	19.42
Oct	106.58	0.55	0.00	0.55	106.03	42.63	1.06	0.00	0.00	1.06	41.57	26.71	6.82	16.75	18.17	0.554	24.17
Nov	104.75	0.41	0.00	0.41	104.34	42.22	0.60	0.00	0.00	0.60	41.62	25.76	4.95	18.19	18.17	0.30	18.47
Dec	104.05	0.23	0.00	0.23	103.82	41.46	0.12	0.00	0.00	0.12	41.34	25.73	5.10	19.24	18.12	0.10	18.22
<b>YTD</b>	105.86	1.51	0.00	1.53	104.15	42.13	1.13	0.00	0.00	1.13	42.15	26.00	6.38	16.44	18.16	0.55	19.16

## Las Vegas Wash and Colorado River Dischargers (2021)

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	182.09	4.85	175.67	1.47	0.00	1.47	16,851.64
Feb	181.01	4.84	173.21	1.52	0.00	1.52	15,550.66
Mar	186.45	6.12	177.71	1.58	0.00	1.58	15,956.40
Apr	189.72	9.15	182.13	1.69	0.00	1.69	16,359.21
May	191.78	11.83	180.35	1.79	0.00	1.79	16,209.60
Jun	196.86	15.94	181.31	1.87	0.00	1.87	16,302.07
Jul	202.29	14.84	188.36	2.12	0.00	2.12	16,951.67
Aug	200.96	14.13	185.91	1.78	0.00	1.78	16,704.16
Sep	198.19	12.48	184.40	1.68	0.00	1.68	16,560.52
Oct	194.09	14.43	188.52	1.60	0.00	1.60	16,920.60
Nov	190.90	6.26	182.62	1.36	0.00	1.36	16,373.80
Dec	189.36	5.55	182.62	1.47	0.00	1.47	16,384.30
<b>Annual Avg</b>	191.98	10.03	181.90	1.66	0.00	1.66	197124.64

# Water Production (2021)

## (Totals in AF)

Month	Las Vegas Valley Water District			City of Henderson			City of North Las Vegas			Boulder City			Nellis Air Force Base			Totals	
	WELLS	SNWS	TOTAL	SNWS	BMI	TOTAL	WELLS	SNWS	TOTAL	RMTP	SNWS	TOTAL	WELL	SNWS	TOTAL	WELLS	SNWS
Jan	995	18,739	19,734	4,849	96	4,946	0	3,773	3,773	127	326	453	0.01	61	61	995	27,875
Feb	2,762	15,727	18,489	4,120	530	4,650	0	3,539	3,539	134	349	483	0.02	61	61	2,762	23,929
Mar	0	23,496	23,496	5,182	920	6,102	0	4,371	4,371	181	447	628	0.05	75	75	0	33,753
Apr	0	27,257	27,257	6,039	1,226	7,266	97	4,728	4,825	273	597	870	61.04	82	143	158	38,977
May	4,407	29,385	33,792	8,305	1,021	9,325	142	5,580	5,721	367	727	1,093	3.27	94	97	4,552	44,457
Jun	6,476	31,121	37,597	9,560	445	10,005	62	6,200	6,262	450	815	1,265	4.61	102	106	6,543	48,247
Jul	6,450	32,452	38,902	8,764	1,588	10,005	35	6,578	6,612	457	776	1,233	1.36	107	108	6,486	49,133
Aug	6,641	32,431	39,072	8,606	1,689	10,295	0	6,569	6,569	457	785	1,242	1.14	107	108	6,642	48,954
Sep	6,020	27,310	33,330	7,423	1,572	8,994	0	5,460	5,460	408	685	1,094	0.40	92	92	6,024	41,378
Oct	5,792	23,002	28,794	6,157	1,343	7,501	0	5,107	5,107	273	543	815	2.04	87	89	5,794	35,168
Nov	5,240	18,119	23,359	4,574	1,428	6,003	0	4,370	4,370	214	424	638	4.65	73	78	5,245	27,774
Dec	743	19,819	20,561	3,881	1,375	5,256	0	4,019	4,019	123	330	453	2.73	64	67	746	28,235
YTD	45,526	298,857	344,383	77,588	13,234	90,823	336	60,292	60,627	3,464	6,803	10,266	85	1,004	1,089	45,947	448,008

# 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		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	19,868	20,297	19,734	3,343	4,728	4,946	3,378	3,682	3,773	399	438	453	236	248	201	363	350	381	131	144	157
Feb	17,092	19,348	18,489	2,754	4,525	4,650	3,020	3,551	3,539	327	466	483	217	238	216	300	359	345	97	154	142
Mar	22,272	21,008	23,496	4,059	5,125	6,102	3,709	3,865	4,371	561	463	628	269	226	244	378	367	449	142	162	194
Apr	26,005	22,827	27,257	5,344	6,037	7,266	4,311	4,198	4,825	807	728	870	293	226	260	529	451	546	185	271	213
May	29,685	32,374	33,792	6,758	8,839	9,325	4,827	5,478	5,721	874	1,129	1,093	318	293	292	587	657	667	229	300	297
Jun	34,635	35,455	37,597	8,689	9,782	10,133	5,578	5,887	6,262	1,168	1,214	1,265	356	361	318	702	762	800	301	313	320
Jul	39,083	40,024	38,902	9,325	11,045	10,352	6,291	6,562	6,612	1,299	1,357	1,233	400	393	302	789	867	835	336	341	313
Aug	39,367	40,043	39,072	10,011	10,990	10,295	6,405	6,695	6,569	1,275	1,357	1,242	378	388	311	798	863	848	353	379	306
Sep	33,729	34,491	33,330	8,797	9,562	8,994	5,560	6,015	5,460	1,149	1,240	1,094	343	354	291	734	758	773	269	310	287
Oct	29,063	30,141	28,794	6,913	8,368	7,501	4,960	5,375	5,107	930	1,052	815	311	316	260	520	675	617	245	259	226
Nov	21,713	23,331	23,359	4,140	5,812	6,003	3,989	4,316	4,370	550	620	638	272	237	238	508	481	484	176	192	185
Dec	19,381	20,579	20,561	3,085	5,318	5,256	3,592	3,902	4,019	358	502	453	245	229	220	320	421	393	125	166	143
ANNUAL	331,890	339,918	344,383	73,217	90,131	90,823	55,618	59,525	60,627	9,697	10,567	10,266	3,639	3,508	3,152	6,528	7,009	7,137	2,589	2,991	2,783

# Wastewater/Water Production Ratios

\*Calc. as combined CLV and CCWRDwastewater / LVVWD Production

\*\*Calc. as the sum of all entities wastewater / the sum of all entities production

Month	City of Las Vegas/Clark County*			City of Henderson			City of North Las Vegas			Boulder City			Big Bend Water District			All Entities **		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	0.70	0.69	0.67	0.72	0.50	0.48	0.49	0.45	0.45	0.29	0.26	0.25	0.85	0.67	0.70	0.67	0.62	0.60
Feb	0.73	0.65	0.64	0.77	0.47	0.45	0.50	0.43	0.43	0.32	0.22	0.22	0.85	0.70	0.60	0.70	0.59	0.58
Mar	0.63	0.63	0.58	0.57	0.44	0.40	0.45	0.43	0.39	0.20	0.25	0.18	0.77	0.65	0.62	0.59	0.57	0.52
Apr	0.53	0.52	0.49	0.41	0.37	0.33	0.38	0.37	0.34	0.14	0.15	0.13	0.72	0.59	0.60	0.49	0.47	0.44
May	0.48	0.39	0.42	0.33	0.27	0.26	0.35	0.30	0.29	0.14	0.11	0.11	0.63	0.61	0.58	0.44	0.35	0.37
Jun	0.40	0.37	0.37	0.25	0.23	0.24	0.30	0.28	0.27	0.10	0.09	0.09	0.55	0.58	0.54	0.36	0.33	0.33
Jul	0.37	0.35	0.38	0.24	0.22	0.25	0.28	0.27	0.27	0.10	0.09	0.09	0.51	0.58	0.67	0.33	0.31	0.34
Aug	0.37	0.35	0.38	0.23	0.22	0.25	0.28	0.27	0.27	0.10	0.10	0.09	0.53	0.56	0.55	0.33	0.31	0.34
Sep	0.41	0.39	0.42	0.25	0.24	0.27	0.31	0.29	0.31	0.10	0.10	0.10	0.51	0.57	0.53	0.36	0.34	0.38
Oct	0.48	0.46	0.49	0.33	0.28	0.34	0.35	0.33	0.34	0.13	0.12	0.13	0.51	0.62	0.59	0.43	0.40	0.44
Nov	0.62	0.56	0.58	0.58	0.38	0.40	0.42	0.39	0.38	0.21	0.18	0.17	0.63	0.67	0.53	0.58	0.50	0.51
Dec	0.72	0.64	0.67	0.78	0.43	0.47	0.47	0.44	0.43	0.32	0.23	0.24	0.66	0.63	0.64	0.69	0.57	0.60
AVG.	0.50	0.47	0.48	0.37	0.31	0.32	0.36	0.34	0.34	0.14	0.13	0.13	0.64	0.62	0.59	0.46	0.42	0.43

# Water Production and Water Flows

Monthly flows in AF

	CLV and Clark County		City of Henderson		City of North Las Vegas		Boulder City		Big Bend Water District		All Entities	
	Monthly Flow in AF		Monthly Flow in AF		Monthly Flow in AF		Monthly Flow in AF		Monthly Flow in AF		Monthly Flow in AF	
	Water	Waste	Water	Waste	Water	Waste	Water	Waste	Water	Waste	Water	Waste
Month	Production	Flow	Production	Flow	Production	Flow	Production	Flow	Production	Flow	Production	Flow
Jan	19,734	13,275	4,946	2,351	3,773	1,697	453	115	201	139	29,106	17,578
Feb	18,489	11,921	4,650	2,110	3,539	1,524	483	104	216	130	27,376	15,788
Mar	23,496	13,589	6,102	2,449	4,371	1,700	628	113	244	150	34,841	18,001
Apr	27,257	13,433	7,266	2,378	4,825	1,655	870	110	260	155	40,478	17,733
May	33,792	14,071	9,325	2,421	5,721	1,686	1,093	121	292	170	50,224	18,470
Jun	37,597	14,006	10,133	2,436	6,262	1,682	1,265	115	318	172	55,575	18,411
Jul	38,902	14,926	10,352	2,541	6,612	1,778	1,233	116	302	201	57,401	19,562
Aug	39,072	14,777	10,295	2,556	6,569	1,785	1,242	111	311	170	57,488	19,400
Sep	33,330	14,062	8,994	2,470	5,460	1,714	1,094	108	291	155	49,169	18,509
Oct	28,794	14,195	7,501	2,541	5,107	1,729	815	107	260	152	42,477	18,617
Nov	23,359	13,531	6,003	2,372	4,370	1,673	638	107	238	125	34,607	17,701
Dec	20,561	13,843	5,256	2,448	4,019	1,724	453	107	220	140	30,509	18,155
YTD	344,383	165,631	90,823	29,073	60,627	20,347	10,266	1,014	3,152	1,861	509,251	217,925

# Recharge and Recovery

Monthly Flows in AF

\*Data provided by SNWA

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	259	0	0	0
Oct	0	0	0	183	0	0	0
Nov	0	0	0	162	0	0	0
Dec	0	0	0	84	0	0	0
Total 2021	0	0	0	688	0	0	0
Total 2020	0	0	0	672	0	0	0
Total 2019	0	0	0	322	0	0	0