

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 November 3, 2021

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

Guests Present

Rodriguez, AJ	CCWRD
Sumanis, Abigail	CCWRD
Lee, Charlie	CCWRD
Carlson, Brian	City of Henderson
Sutherland, Jill	RCI
Smith, Erin	RCI
Zonge, Lynn	RCI
Grant, Brendon	NDEP, Bureau of Safe Drinking Water

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 9:01 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 AUGUST 4, 2021**

Charles Trushel moved and Todd Tietjen seconded to accept the August 4, 2021 minutes. The motion was unanimously approved.

4. **APPROVAL OF AGENDA**

Adrian Edwards moved and Mark Dunbar seconded to approve the agenda. The motion was unanimously approved.

5. **INTEGRATED SOURCE WATER PROTECTION PROGRAM PRESENTATION**

Jill Sutherland and Lynn Zonge from Resource Concepts Inc. provided an update on the Nevada Division of Environmental Protection's Integrated Source Water Protection Program.

6. **DISCUSSION OF QUARTERLY FLOW REPORT**

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

- The Q2 flow report reported CCWRD main plant reuse totals that were well below the average. There was a reporting error in the Q2 data that is now corrected.
- City of Henderson noted an increase in influent flows and are investigating the cause.
- CCWRD influent flows have also increased over the past few months, likely due to increased activity of the Strip.
- In July 2021, CCWRD recorded the highest monthly average influent flow of 114 MGD at the Flamingo Plant.

7. **MEMBER UPDATES**

A. Moapa Valley Water District

- Nothing to report.

B. Las Vegas Valley Water District

- Met with MWD to discuss water reuse efforts.
- The Water District has switched back to flat pumping for winter.
- The new lateral pipeline to go across the south end of Henderson is still in design.

C. Boulder City

- Hired consultant to do a SCADA upgrade to all City utilities: wastewater, water, and electric. Part of the upgrade will include a fiberoptic masterplan.
- Developing scopes of work from consultants for a manhole rehabilitation project and lift station upgrades.
- The Utilities Director position is still open and has not been filled.

D. Virgin Valley Water District

- In process of designing treatment plants that will accompany two newly constructed water wells.

E. City of Mesquite

- N/A

F. City of Las Vegas

- HR is working through significant staffing changes. Within the past 12 months, 15 employees were recently hired or promoted; 9 positions remain open.
- Open recruitment for a new Plant Manager to replace Mark Dunbar who will be retiring on February 1, 2022.
- O&M Updates:
 - Awarded a new FOGG vendor, who will inject Fats Oils and Grease into the digesters to facilitate an increase methane production.
 - Installing a test polymer blend system to compare against the existing custom system, with the goal to assess the efficiency of the polymer usage.
 - Anticipate multiple shutdowns this winter in order to perform necessary rehabilitation and maintenance. Major maintenance is scheduled at the BNR facility.
- CIP Updates:
 - BNR rehabilitation project is 90% complete.
 - Digester rehabilitation project is 95% complete.
 - Filtration rehabilitation project is 10% complete.
 - Dewatering building rehabilitation project is working towards 60% design.

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.
 - Diverted flow from the District's major interceptors in order to clean the pipes. Debris was conveyed to the District's headworks facility.
- Flamingo Plant Updates:
 - Construction activities are on-going.
 - Sludge thickeners and Archimedes screw pumps have been demolished.
 - HR is in the process of filling multiple open positions.

H. City of North Las Vegas

- Working with consultant to optimize the BNR process at the main plant.
- Sludge conveyance project is moving forward despite material delays.
- Phase I of the membrane coating project is underway.
- The flow equalization project is scheduled to go out for bid later this year.
- In-house updates: Start scheduling buyer reactor inspection and maintenance.

I. City of Henderson

- Staffing updates:
 - Brian Carlson was promoted to the Wastewater Operations Manager.
 - A new Wastewater Assistant Manager was hired.
- The Lake Las Vegas lift station project is 90% complete; the new pumps are installed and running.
- Phase 4 project at the WRD is moving along. Established a plan to expand plant capacity by 8 MGD and reduce bottlenecks at the headworks facility.
- Henderson manages a 15 MGD water treatment plant that supplies about 15% of the water delivered to the City of Henderson. Raw lake water is removed through the BMI intake. Henderson is struggling with water quality due to declining Lake levels.
- WRF Updates:
 - Repairs to the oxidation ditch aerator decks. The undersides need recoating and assessment. The project will require some internal flow diversions.
 - Experiencing seasonal reuse challenges at the plant. The strategy is discharge reuse into the Pittman Wash at the SWRF facility, in order to reduce the seasonal WRF influent level by 5 MG. The facility can handle 21 to 22 MGD internally.

8. CLARK COUNTY UPDATE

- Selenium: Fish collection has been completed and is undergoing tissue testing. The project is on track to submit a site-specific standards proposal for Las Vegas Wash and tributaries to NDEP by mid-2022.
- Draft MS4 Permit: Awaiting updated draft in response to MS4 co-permittee comments.
- Draft Construction General Stormwater Permit: Awaiting updated draft in response to MS4 co-permittee comments.
- Public Outreach: Statewide proclamations in October by Clark County, State of Nevada, Regional Flood, and City of Henderson for Stormwater Pollution Awareness Month. Included numerous outreach events and activities.

9. MEMBER VACANCIES

- A. City of Henderson – 1 member vacancy; 1 alternate vacancy
- B. Virgin Valley Water District – 1 member vacancy
- C. Boulder City – 1 member vacancy

10. COMMENTS BY THE GENERAL PUBLIC - None

11. SCHEDULE NEXT MEETING

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

12. ADJOURNMENT

The meeting was adjourned at 10:13 am.

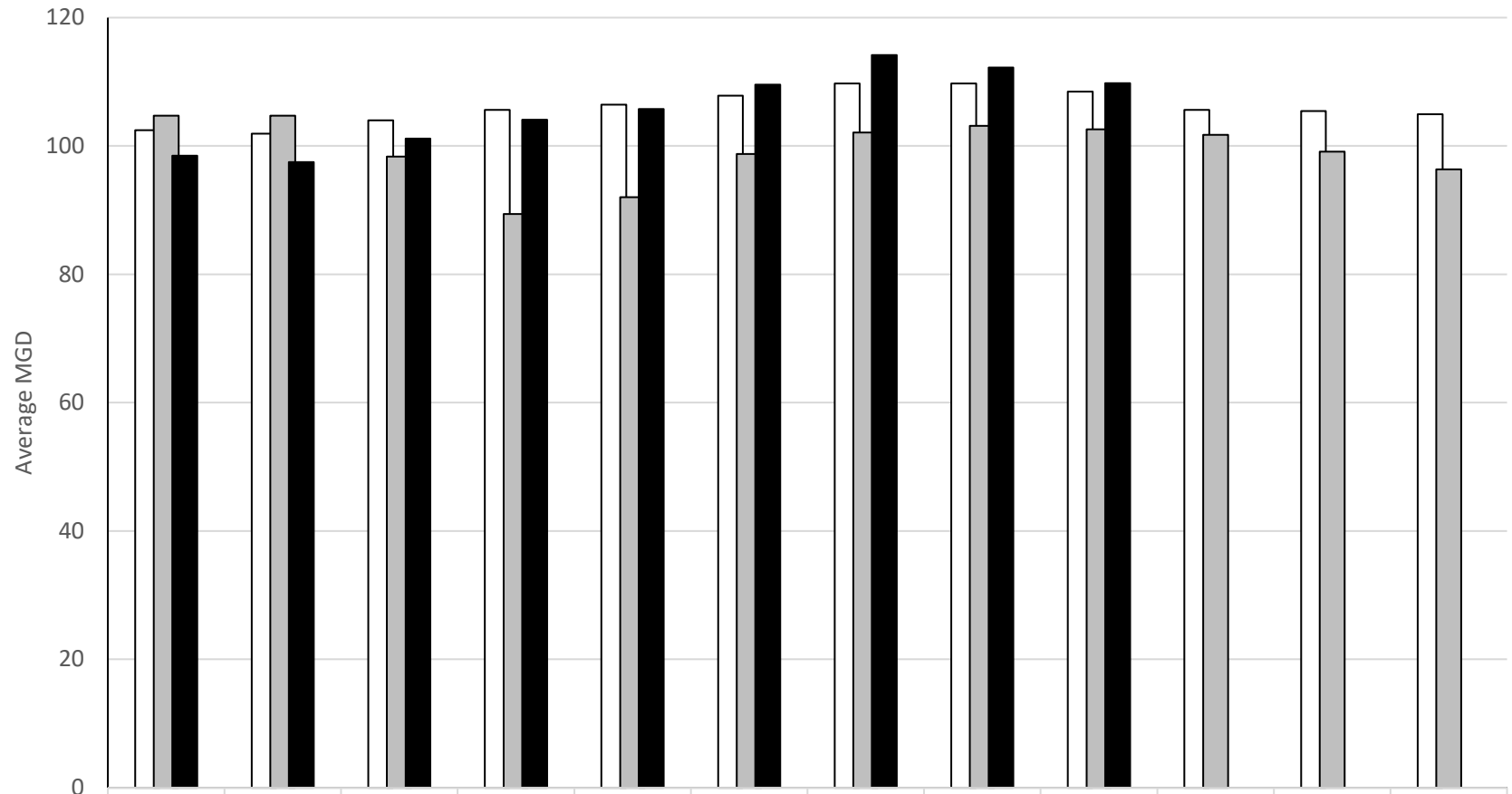
2021
3rd Quarter Flow Report
For
Clark County Sewage
And
Wastewater Advisory
Committee
(SWAC)

October 28, 2021

Wastewater Flows

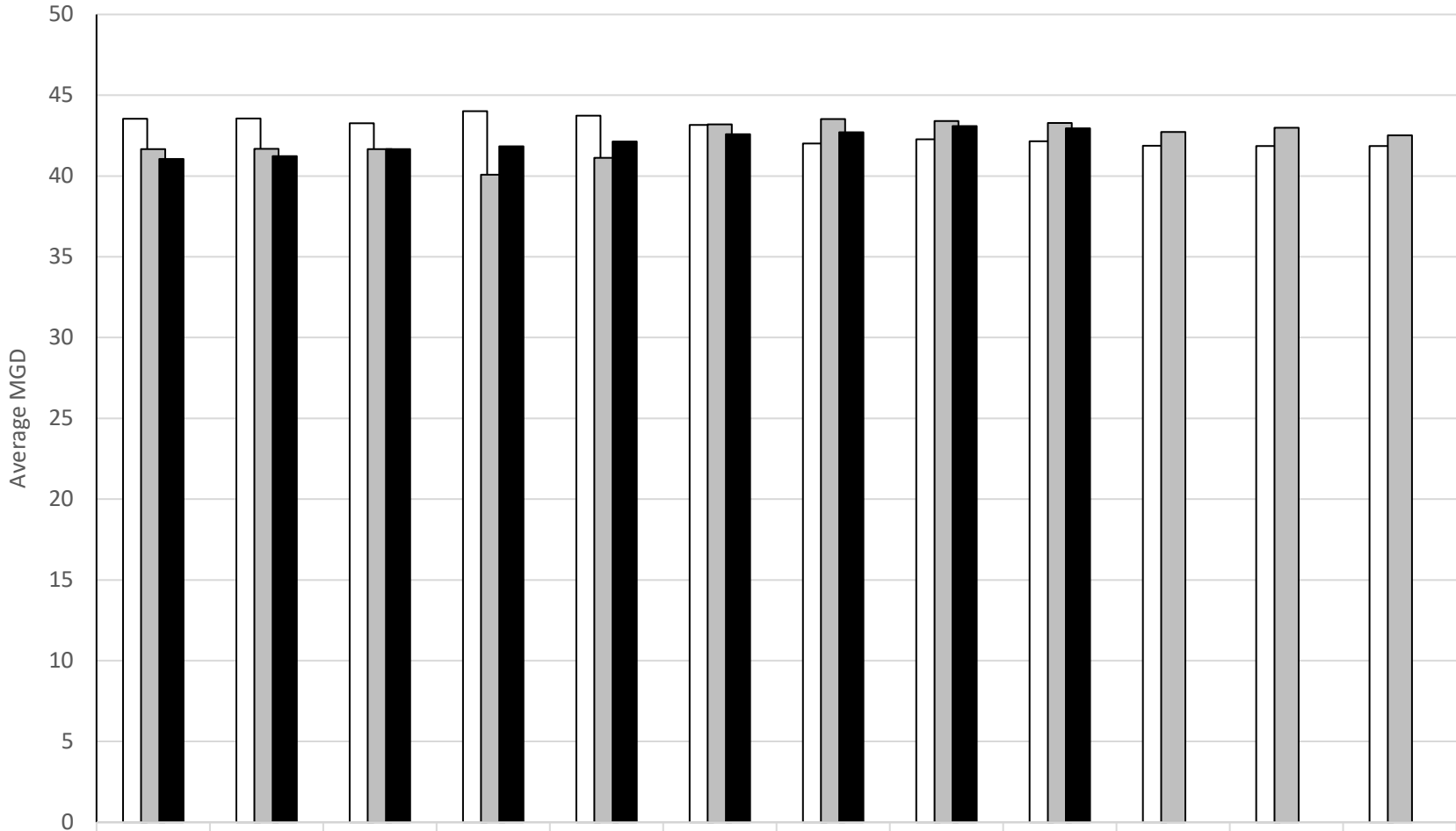
2019 through 2021

Clark County Water Reclamation District Wastewater Flows



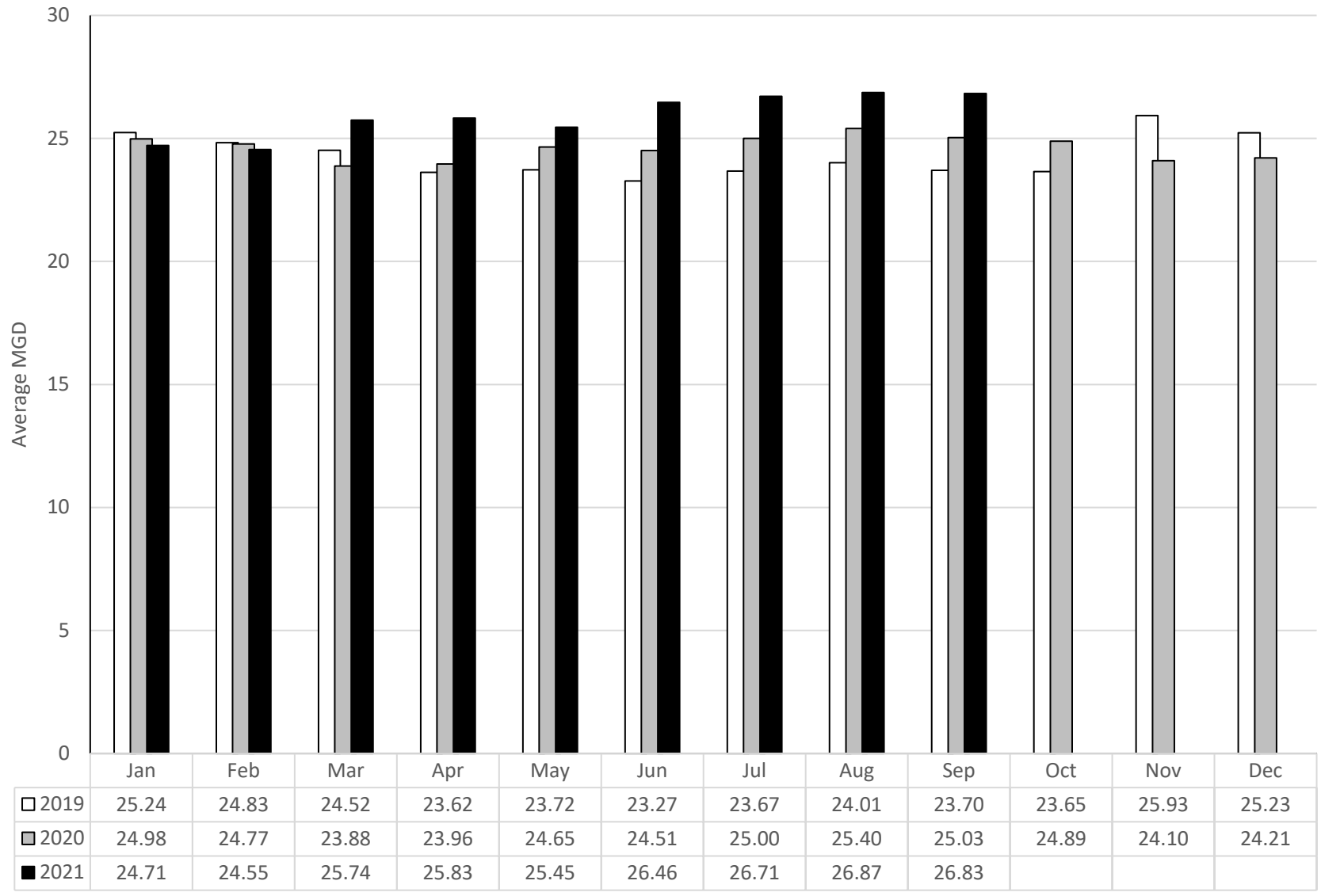
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	102.48	101.90	104.00	105.63	106.42	107.84	109.74	109.74	108.48	105.63	105.45	104.93
2020	104.74	104.72	98.35	89.42	92.00	98.74	102.12	103.15	102.59	101.73	99.13	96.37
2021	98.48	97.50	101.17	104.07	105.77	109.55	114.18	112.23	109.79			

City of Las Vegas Wastewater Flows

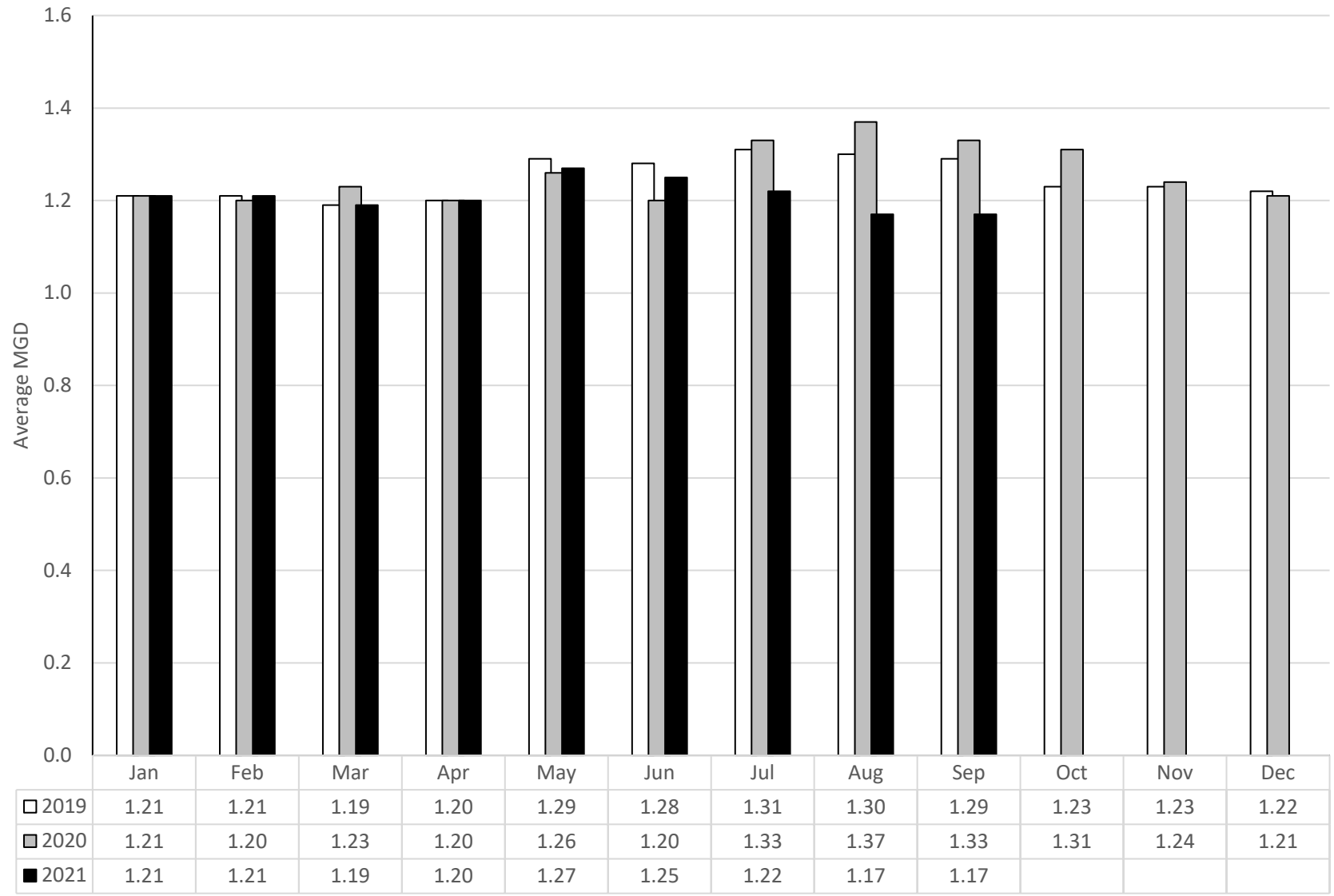


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
□ 2019	43.54	43.56	43.27	44.01	43.74	43.17	42.02	42.27	42.15	41.87	41.85	41.86
■ 2020	41.67	41.68	41.67	40.09	41.13	43.20	43.52	43.41	43.28	42.73	42.99	42.52
■ 2021	41.06	41.23	41.67	41.84	42.14	42.58	42.71	43.10	42.95			

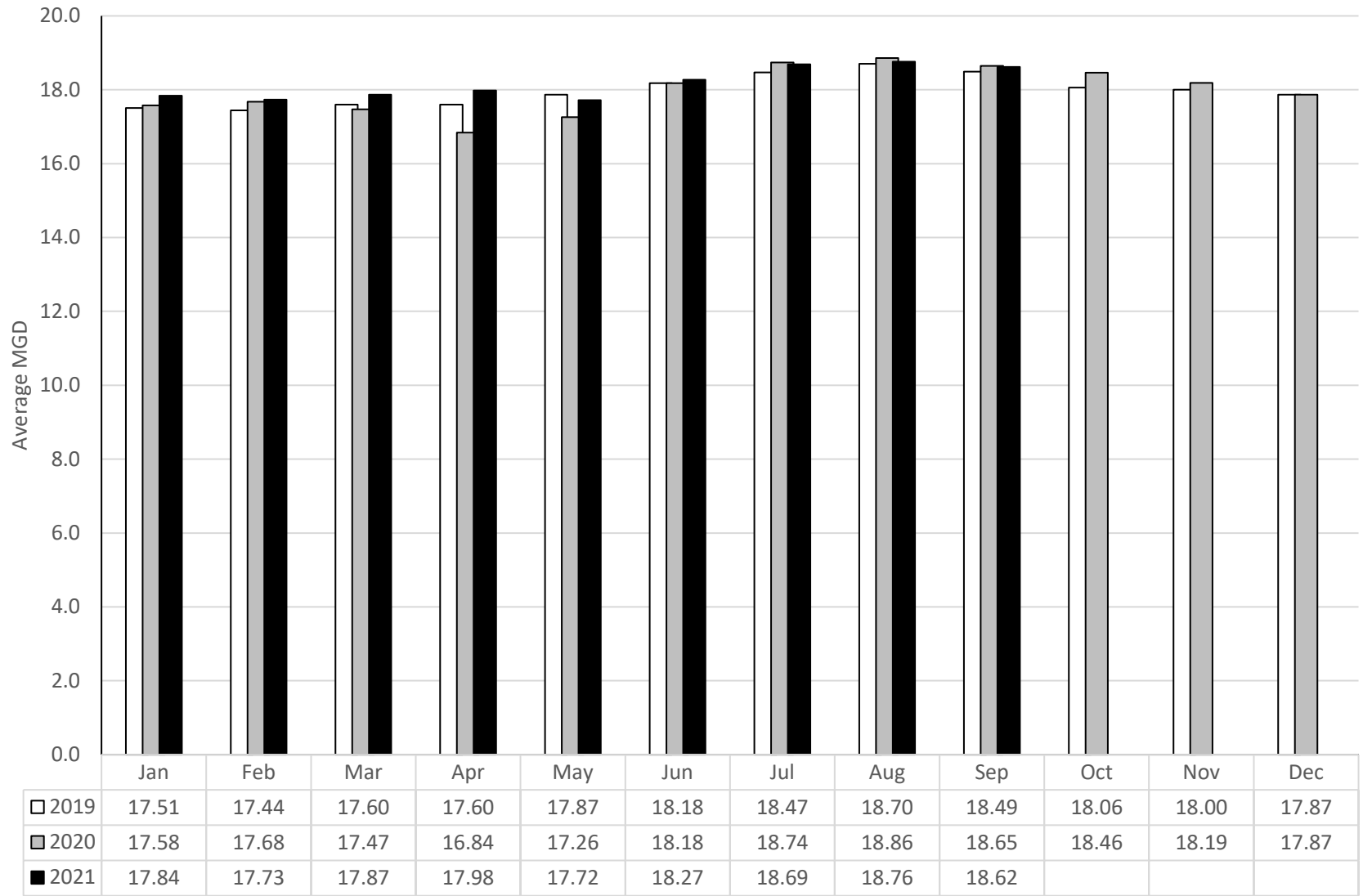
City of Henderson Wastewater Flows



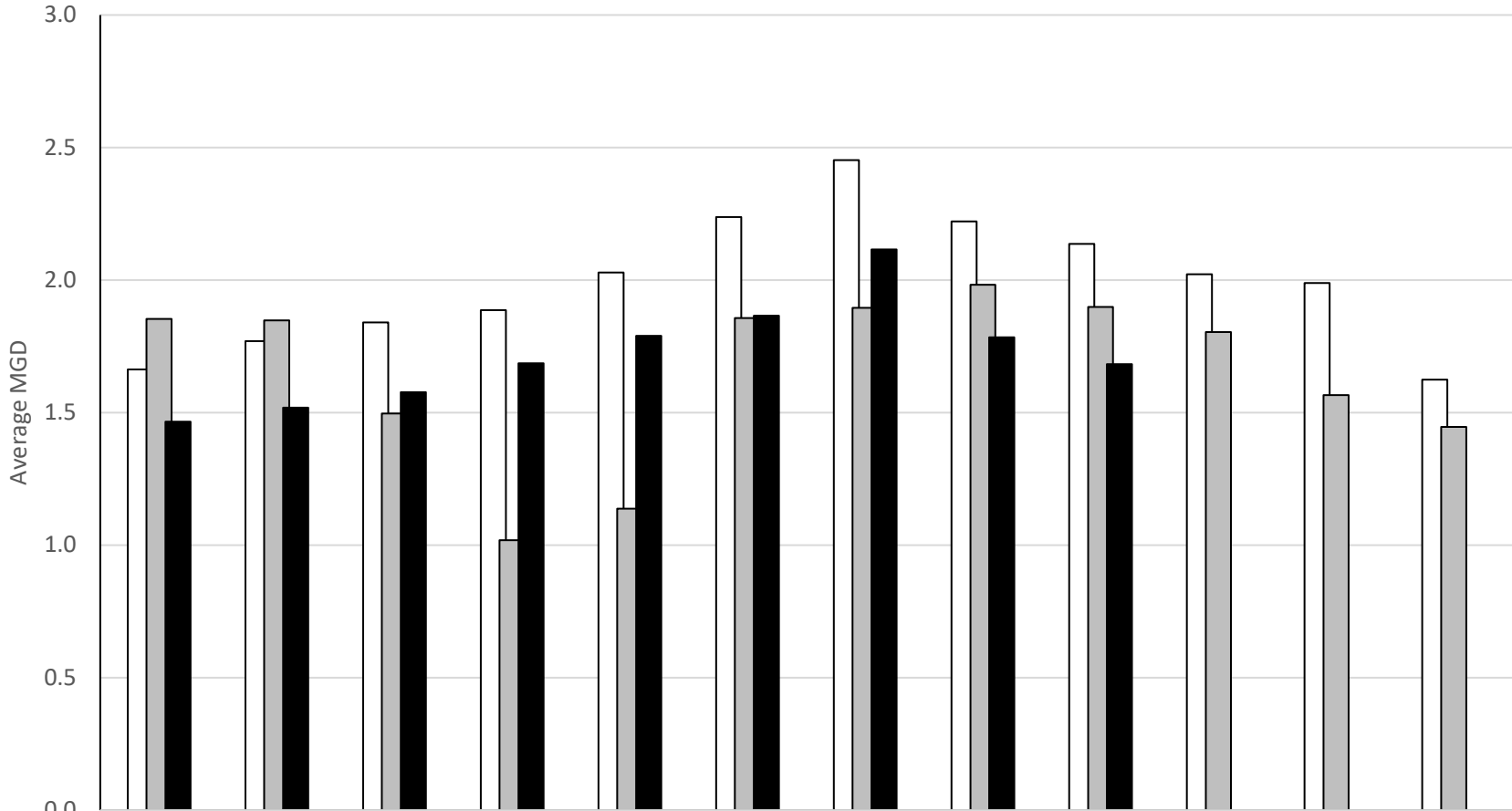
Boulder City Wastewater Flows



City of North Las Vegas Wastewater Flows

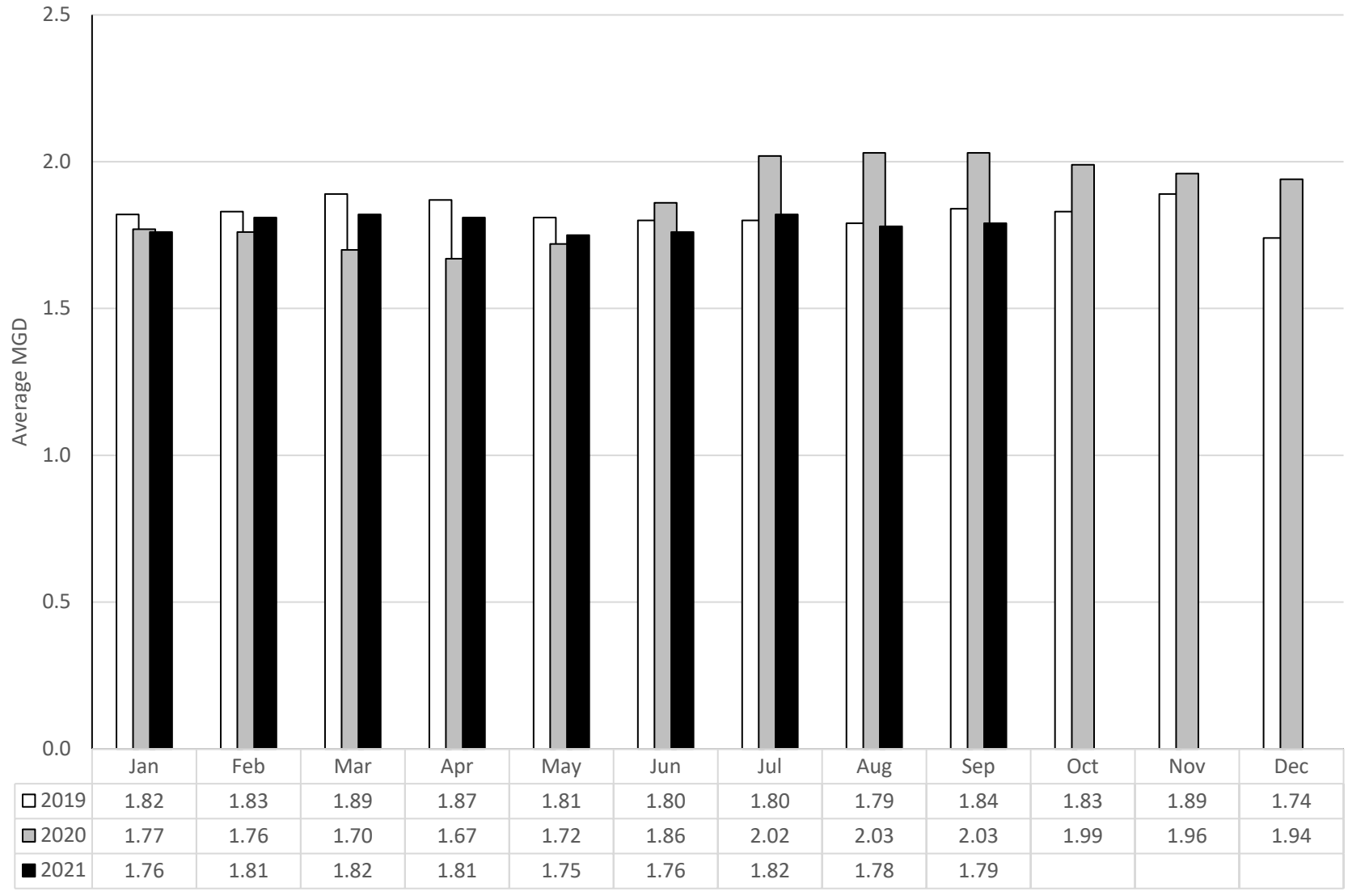


Laughlin Wastewater Flows

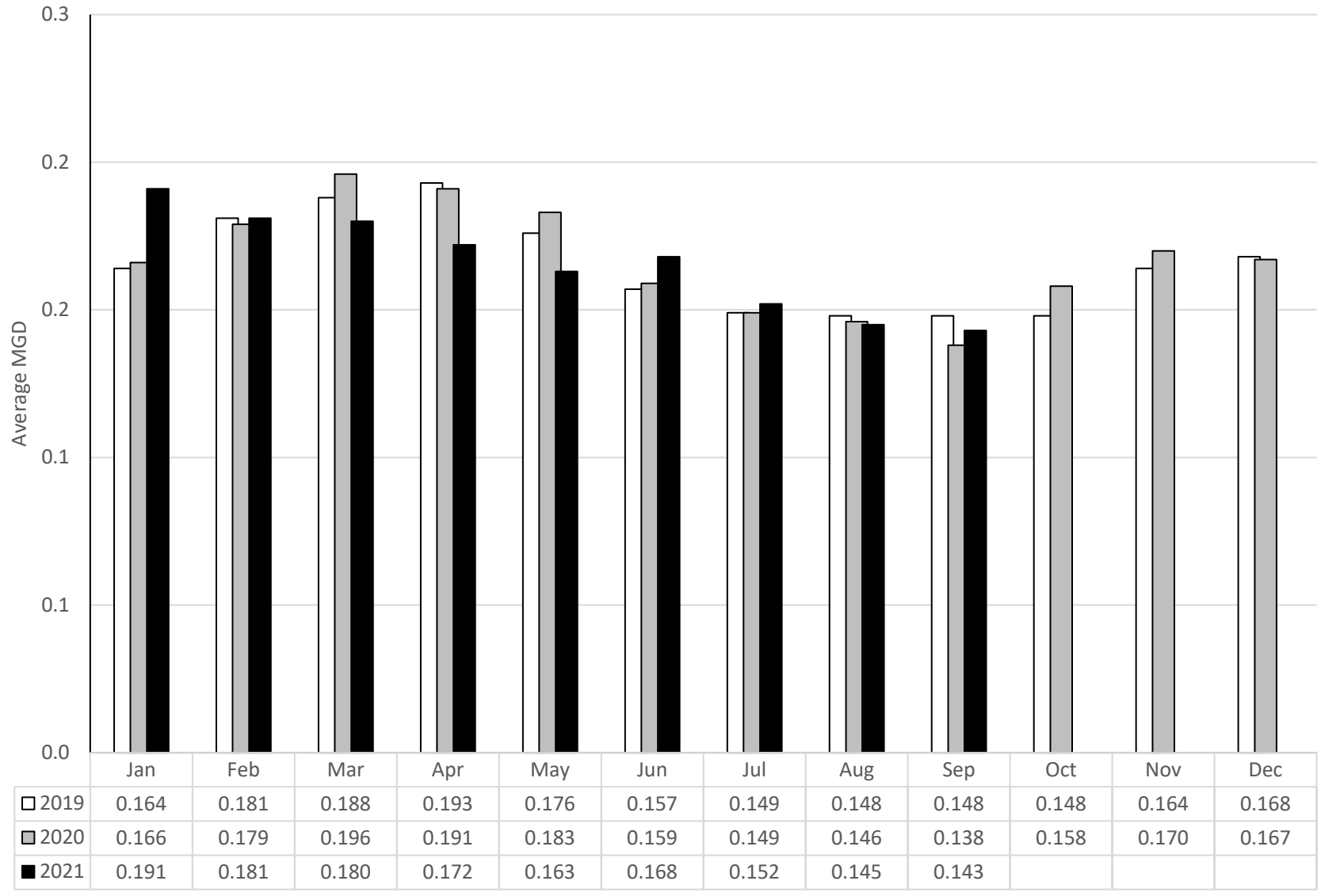


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	1.66	1.77	1.84	1.89	2.03	2.24	2.45	2.22	2.14	2.02	1.99	1.62
2020	1.85	1.85	1.50	1.02	1.14	1.86	1.90	1.98	1.90	1.80	1.57	1.45
2021	1.47	1.52	1.58	1.69	1.79	1.87	2.12	1.78	1.68			

City of Mesquite Wastewater Flows



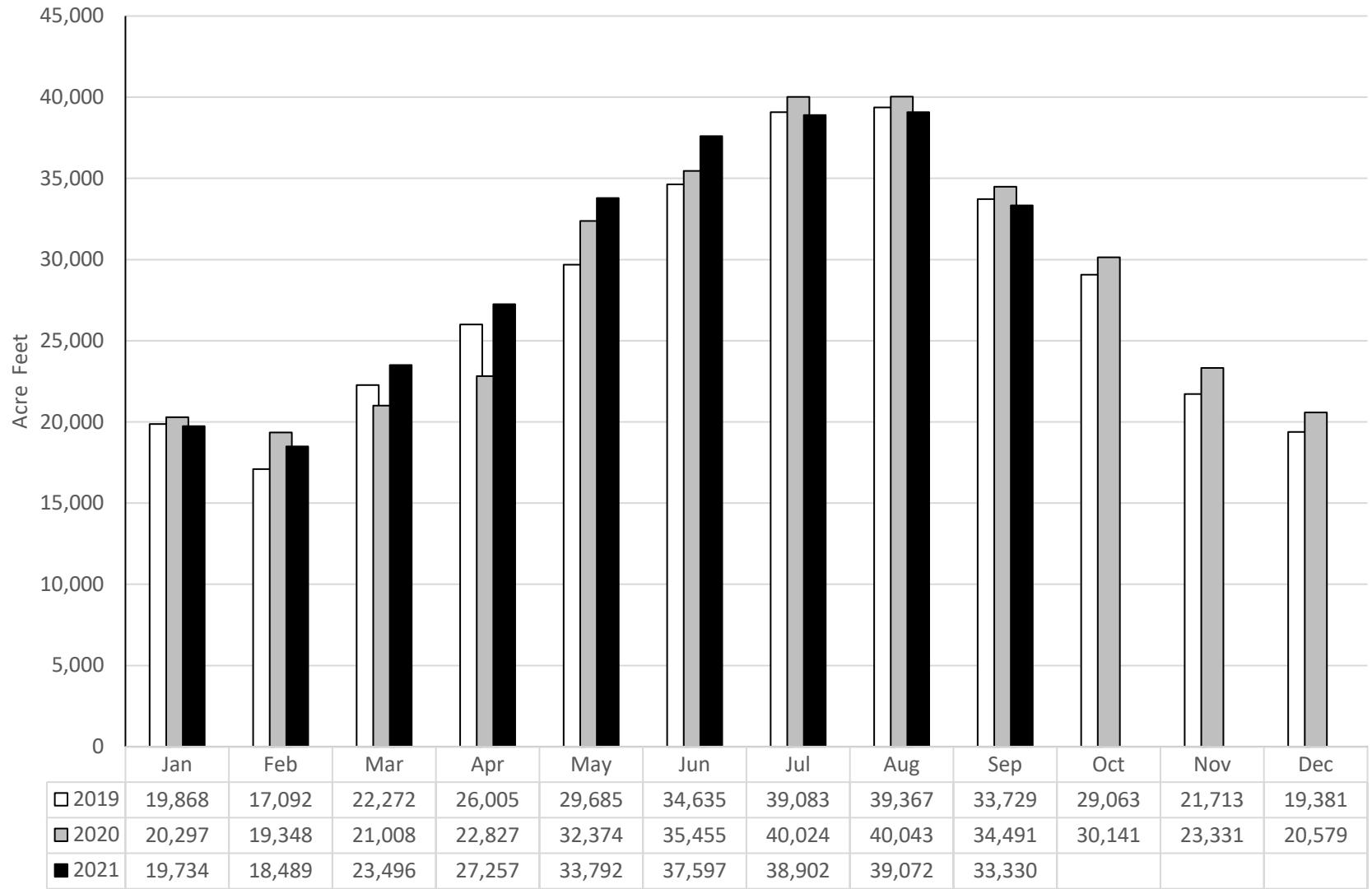
Moapa Wastewater Flows



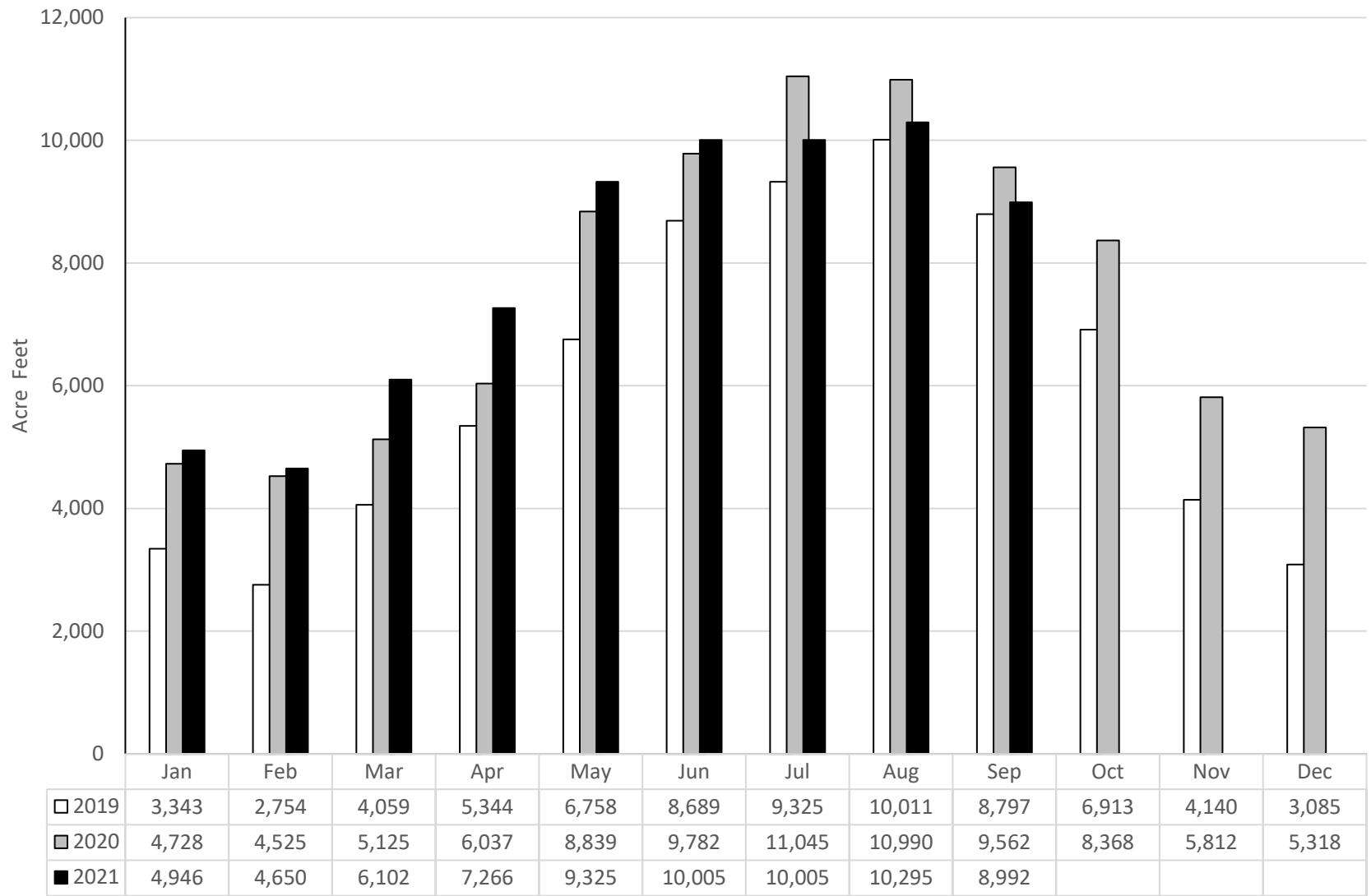
Water Production

2019 through 2021

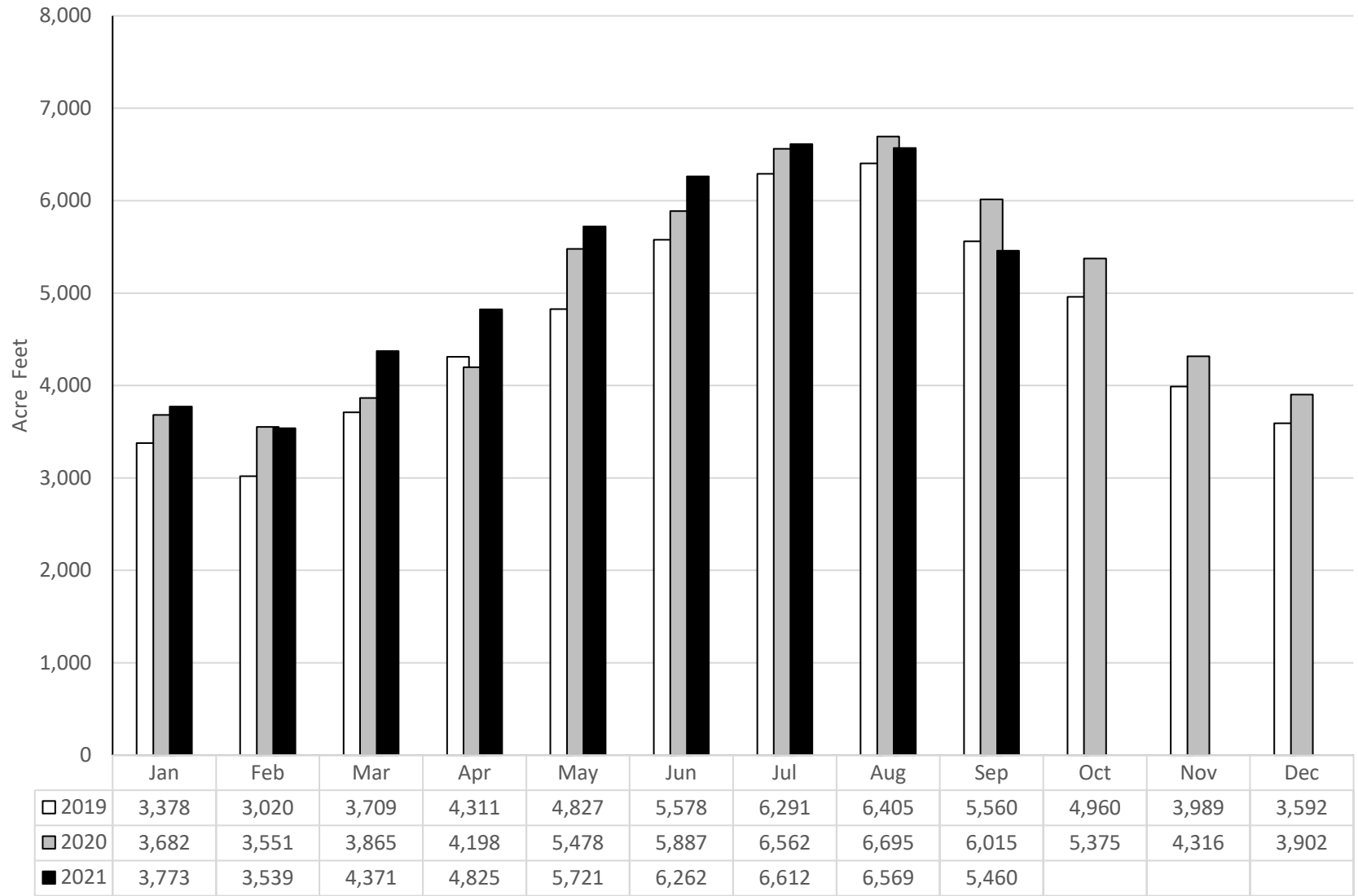
Las Vegas Valley Water District Water Production



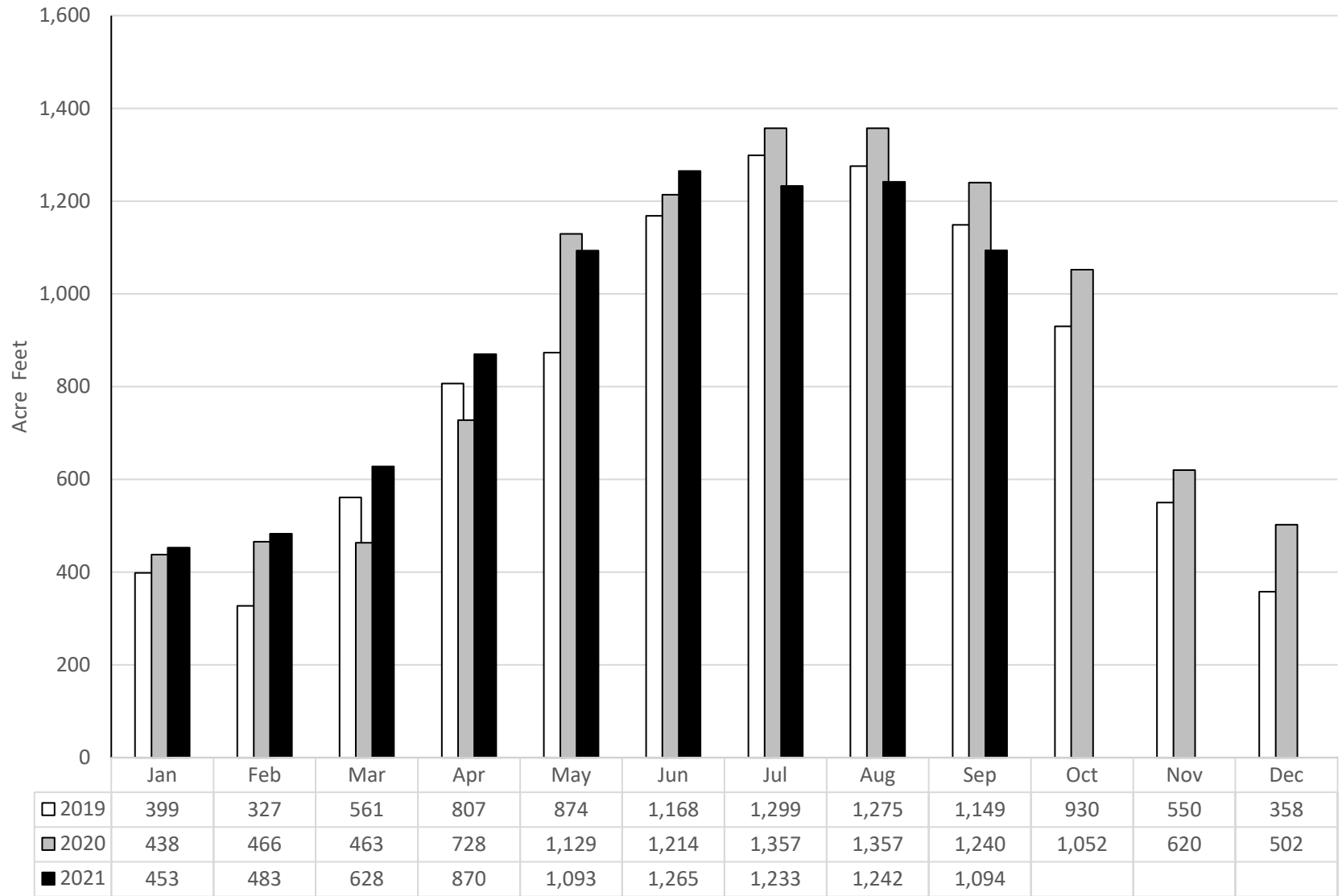
City of Henderson Water Production



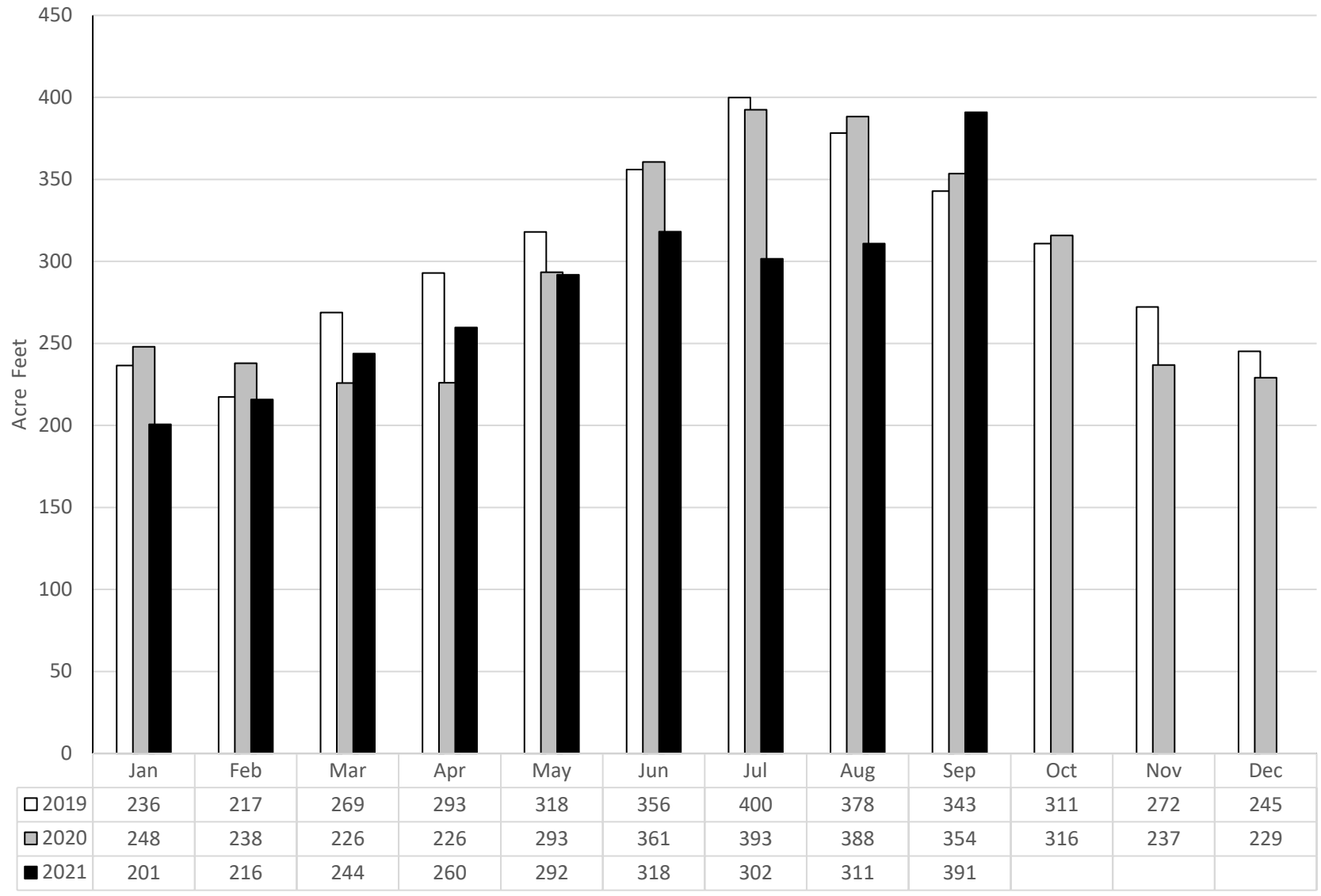
City of North Las Vegas Water Production



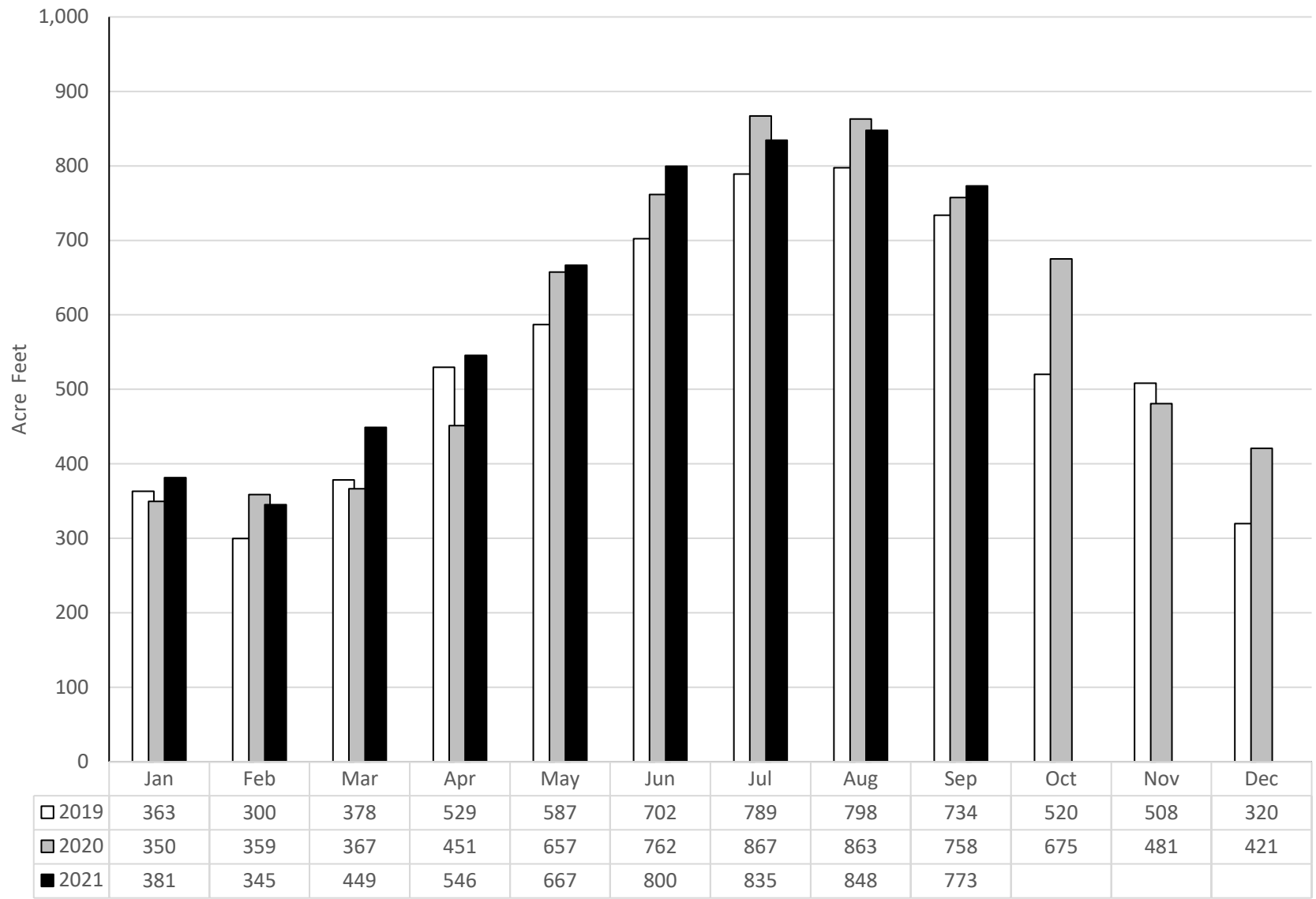
Boulder City Water Production



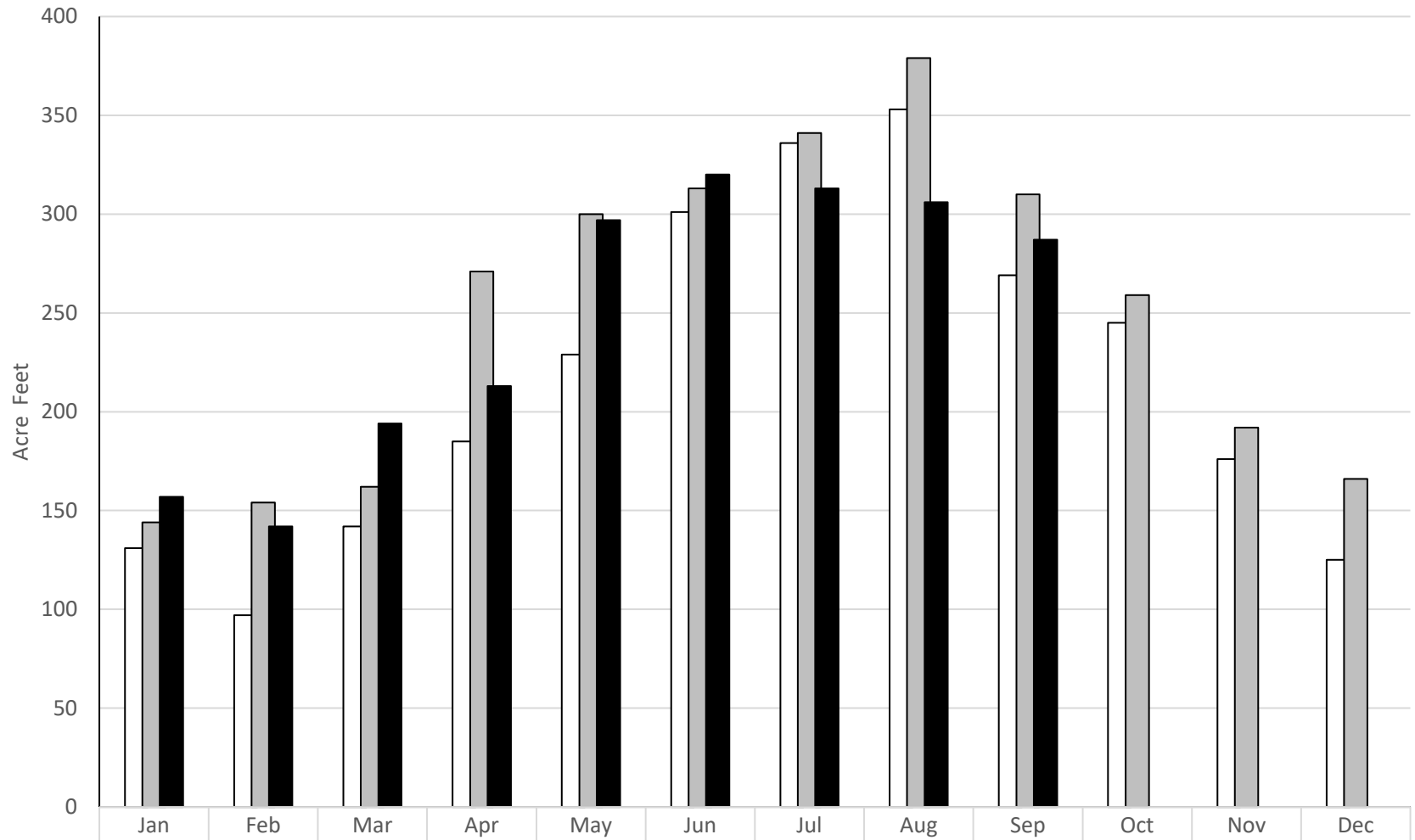
Big Bend Water District Water Production



Virgin Valley Water District Water Production



Moapa Valley Water District Water Production



□ 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			

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		41.87	42.73		18.06	18.46		23.65	24.89		1.23	1.31	
Nov	105.45	99.13		41.85	42.99		18.00	18.19		25.93	24.10		1.23	1.24	
Dec	104.93	96.37		41.86	42.52		17.87	17.87		25.23	24.21		1.22	1.21	
ANNUAL	106.02	99.42		42.78	42.32	42.14	17.98	17.98		24.48	24.62		1.24	1.26	

* Includes estimated .5 MGD NLV

Historic Trends Influent Wastewater Flows

	Searchlight			Blue Diamond			MWWRC			Laughlin			Mesquite			Indian Springs		
Month	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	0.020	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		0.020	0.018		0.148	0.158		2.02	1.80		1.83	1.99		0.127	0.111	
Nov	0.035	0.028		0.017	0.015		0.164	0.170		1.99	1.57		1.89	1.96		0.120	0.096	
Dec	0.034	0.028		0.017	0.018		0.168	0.167		1.62	1.45		1.74	1.94		0.114	0.101	
ANNUAL	0.039	0.032	0.067	0.013	0.017	0.017	0.165	0.167	0.166	1.99	1.65	1.72	1.75	1.87		0.103	0.113	0.100

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				
Nov				
Dec				
Annual	1.22	0.66	221.20	119.50

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				0.00	0.00					0.00	0.00						0.00
Nov				0.00	0.00					0.00	0.00						0.00
Dec				0.00	0.00					0.00	0.00						0.00
YTD	105.86	1.91	0.00	1.43	77.96	42.14	1.31	0.00	0.00	0.98	31.78	25.91	6.63	15.90	18.16	0.62	14.09

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	1.00	2.69	16,448.20
May	191.08	11.83	180.35	1.79	2.00	3.79	16,387.60
Jun	196.86	15.94	181.31	1.87	3.00	4.87	16,569.06
Jul	202.29	14.84	188.36	2.12	4.00	6.12	17,307.66
Aug	200.96	14.13	185.91	1.78	5.00	6.78	17,149.15
Sep	198.19	12.48	184.40	1.68	6.00	7.68	17,094.51
Oct							
Nov							
Dec							
YTD	1728.65	94.18	1629.04	15.49	21.00	36.49	149314.88

Water Production (2021)

(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	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	8,992	0	5,460	5,460	408	685	1,094	0.40	92	92	6,020	41,378
Oct																	
Nov																	
Dec																	
YTD	33,751	237,918	271,669	62,849	9,087	71,586	336	46,796	47,132	2,854	5,506	8,360	72	779	851	34,159	356,703

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	150
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	144
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	190
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	210
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	290
Jun	34,635	35,455	37,597	8,689	9,782	10,005	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	10,005	6,291	6,562	6,612	1,299	1,357	1,233	400	393	302	789	867	835	336	341	310
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	300
Sep	33,729	34,491	33,330	8,797	9,562	8,992	5,560	6,015	5,460	1,149	1,240	1,094	343	354	391	734	758	773	269	310	280
Oct	29,063	30,141		6,913	8,368		4,960	5,375		930	1,052		311	316		520	675		245	259	
Nov	21,713	23,331		4,140	5,812		3,989	4,316		550	620		272	237		508	481		176	192	
Dec	19,381	20,579		3,085	5,318		3,592	3,902		358	502		245	229		320	421		125	166	
ANNUAL	331,890	339,918	271,669	73,217	90,131	71,586	55,618	59,525	47,132	9,697	10,567	8,360	3,639	3,508	2,533	6,528	7,009	5,643	2,589	2,991	2,290

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	1.55	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	1.67	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	1.70	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	1.90	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	2.34	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	2.61	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	2.76	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	2.77	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	2.61		0.10	0.10	0.10	0.51	0.57	0.40	0.36	0.34	0.38
Oct	0.48	0.46		0.33	0.28		0.35	2.27		0.13	0.12		0.51	0.62		0.43	0.40	
Nov	0.62	0.56		0.58	0.38		0.42	1.95		0.21	0.18		0.63	0.67		0.58	0.50	
Dec	0.72	0.64		0.78	0.43		0.47	1.69		0.32	0.23		0.66	0.63		0.69	0.57	
AVG.	0.50	0.47	0.46	0.37	0.31	0.30	0.36	2.16	0.32	0.14	0.13	0.12	0.64	0.62	0.58	0.46	0.42	0.41

Water Production and Water Flows

Monthly flows in AF

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	19,734	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	10,005	2,436	6,262	1,682	1,265	115	318	172	55,447	18,411
Jul	38,902	14,926	10,005	2,541	6,612	1,778	1,233	116	302	201	57,054	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	8,992	2,470	5,460	1,714	1,094	108	391	155	49,267	18,509
Oct												
Nov												
Dec												
YTD	271,669	124,062	71,586	21,712	47,132	15,221	8,360	1,014	2,533	1,443	401,282	163,452

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	0	0	0	0
Nov	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0
Total 2021	0	0	0	0259	0	0	0
Total 2020	0	0	0	672	0	0	0
Total 2019	0	0	0	0	0	0	0