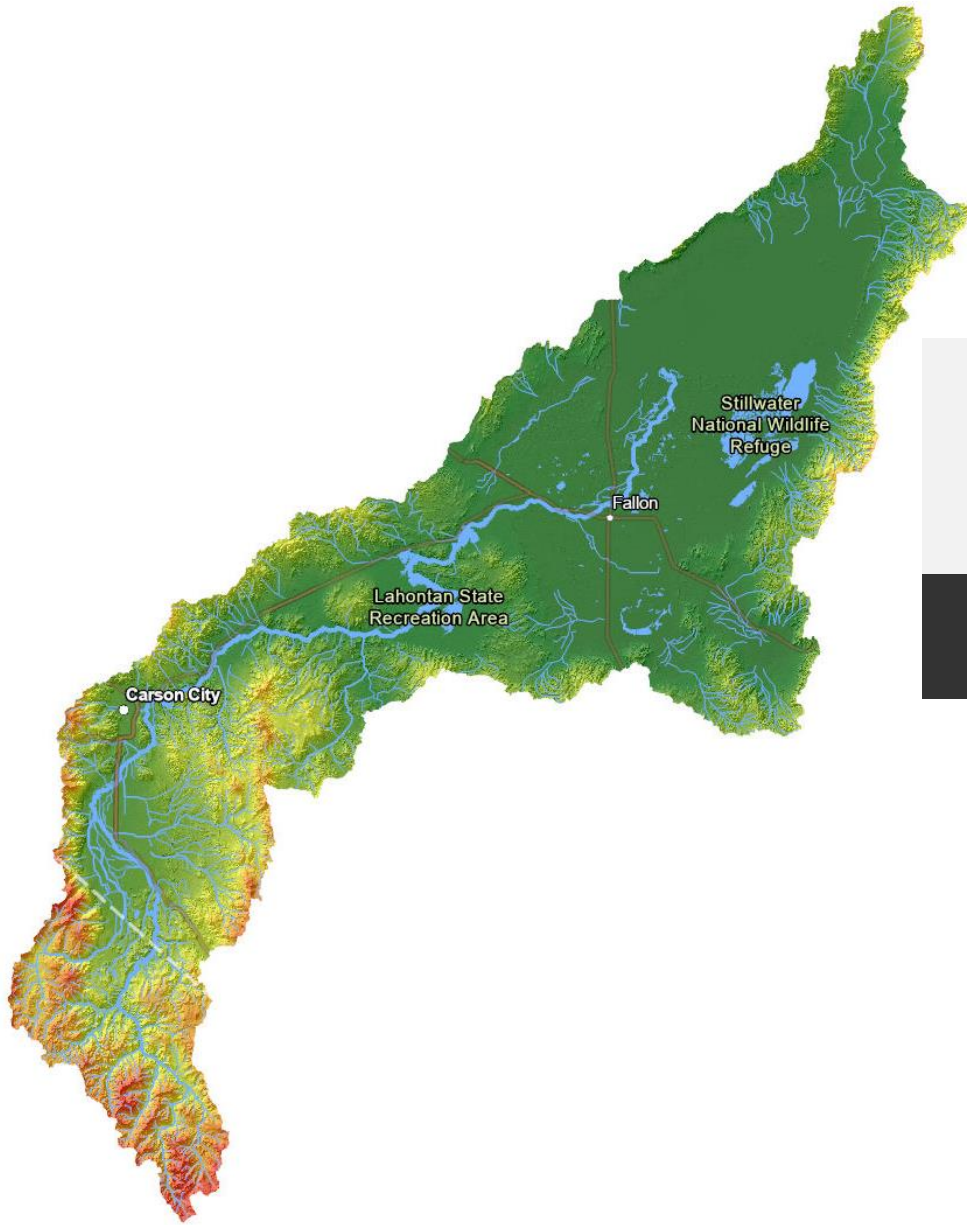


# Carson River Water Marketing

CWSD Regional Water System Committee – May 4, 2020



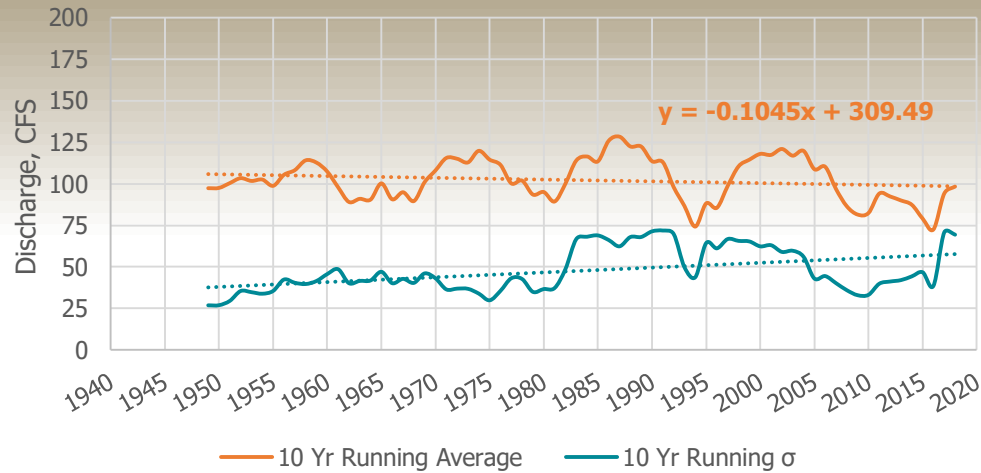
# Background

- Lumos is working under contract with CWSD to complete a Water Marketing Study
- Project is funded through a USBR *WaterSmart Water Marketing Strategy Grant*
- Project Completion – June 2021

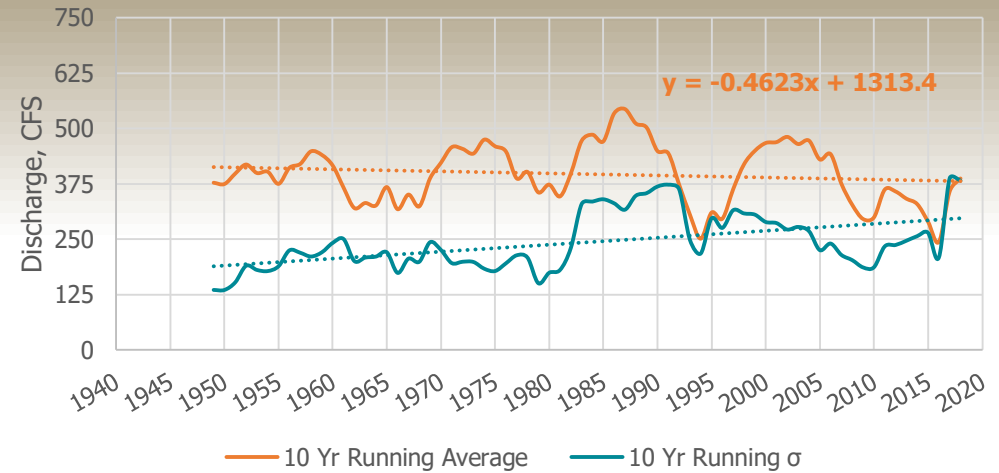
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap conti

# Instream Flow Trends

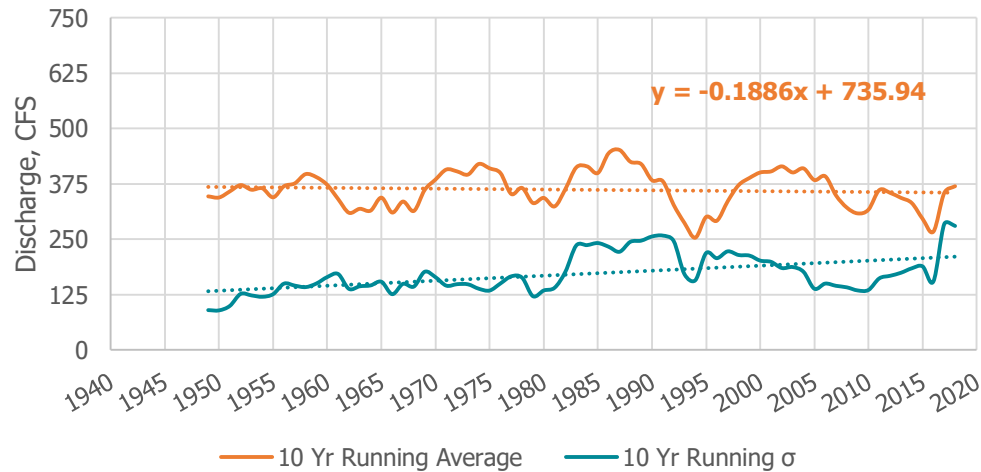
West Fork @ Woodfords



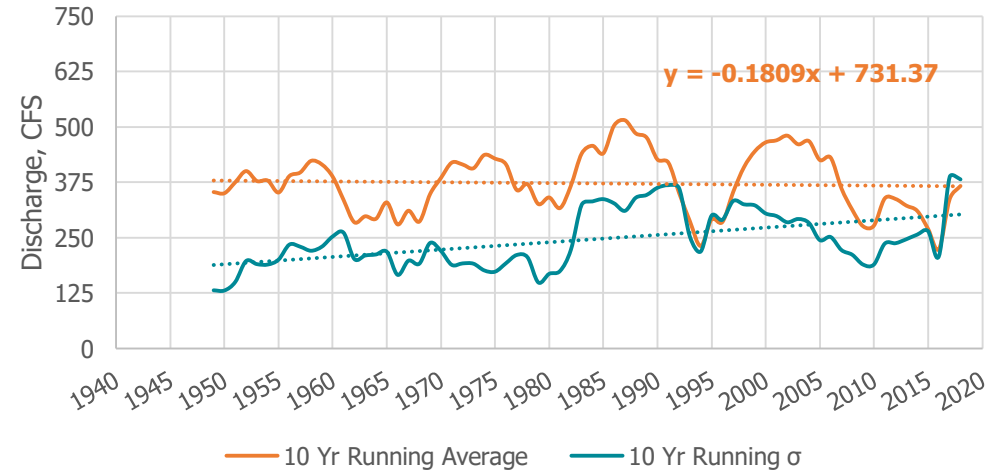
Carson River near Carson City



East Fork near Gardnerville



Carson River near Ft Churchill

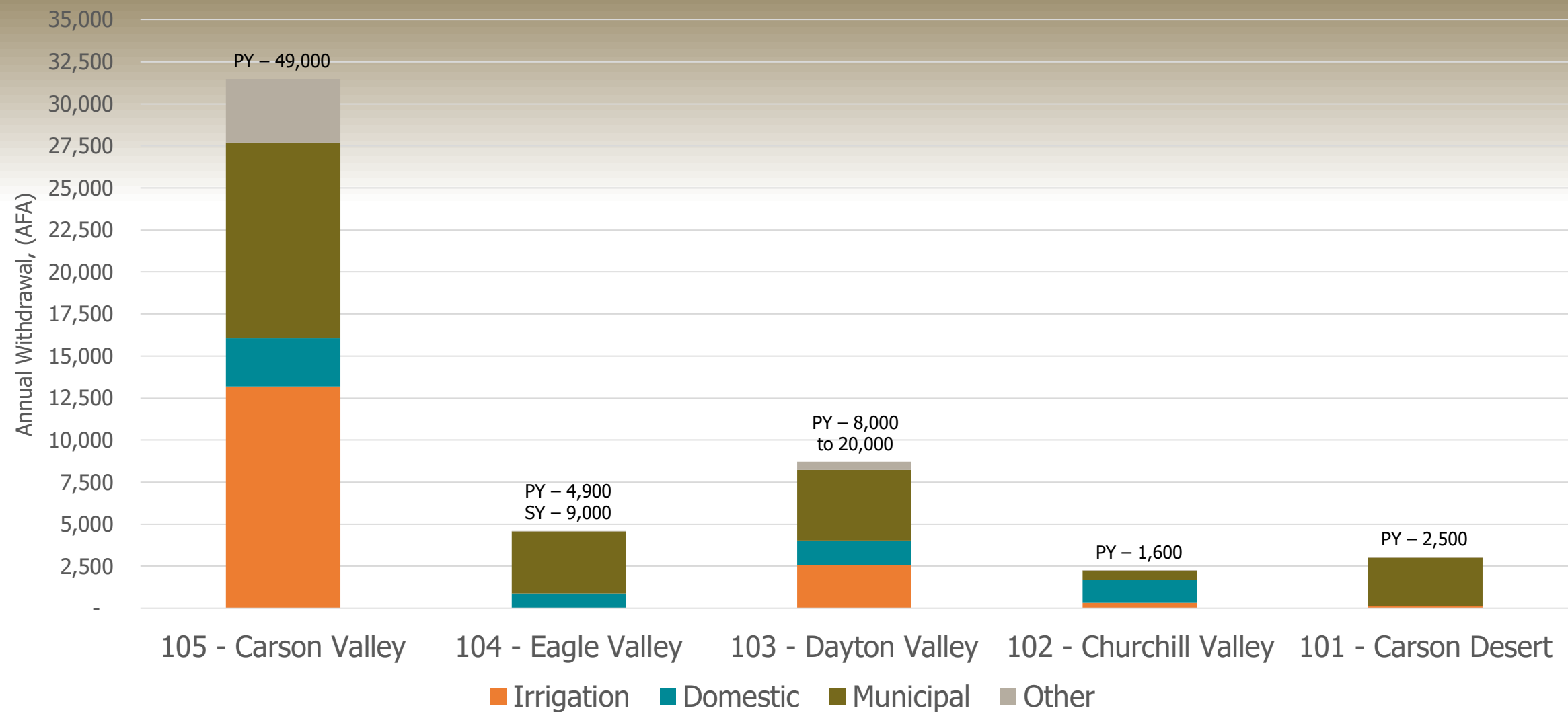




# Instream Flow Trends

Location		West Fork at Woodfords	East Fork near Gardnerville	West Fork + East Fork	Carson River near Carson City	Carson River near Fort Churchill*
Annual Change in Flow	CFS	-0.1	-0.2	-0.3	-0.5	-0.2
	AFA	-75.7	-136.5	-212.2	-334.7	-131.0
	MG/yr	-24.7	-44.5	-69.1	-109.1	-42.7
Change in Flow between 1940 and 2018	CFS	-8.2	-14.7	-22.9	-36.1	-14.1
	AFA	-5,901	-10,650	-16,551	-26,105	-10,215
	MG/yr	-1,923	-3,470	-5,393	-8,506	-3,329
Average Flow between 1940 and 2018	CFS	103.0	365.4	468.3	401.1	377.4
	AFA	74,617	264,698	339,249	290,594	273,438
	MG/yr	24,134	86,252	110,544	94,690	89,100
% Average Annual Change in Flow		-0.10%	-0.05%	-0.06%	-0.12%	-0.05%
% Average Change in Flow between 1940 and 2018		<b>-7.91%</b>	<b>-4.03%</b>	<b>-4.88%</b>	<b>-8.99%</b>	<b>-3.74%</b>
* Data trends from Ft Churchill gauge are not statistically significant and should be interpreted as such						

# Groundwater Usage



# Community Water System Usage

	Connections	% of Connections	Average Annual Usage (AFA)	% of Average Usage	AFA per Connection	% of Avg AFA per Connection
Douglas County	2,378	6.4%	2,088	8.1%	0.76	126.9%
Gardnerville Ranchos GID	3,992	9.3%	2,881	11.2%	0.72	120.0%
Town of Minden	1,799	4.2%	1,252	4.9%	0.70	115.8%
City of Fallon	3,215	7.5%	2,220	8.6%	0.69	114.9%
Carson City	16,883	39.3%	11,078	42.9%	0.66	109.1%
Churchill County	271	0.6%	147	0.6%	0.54	90.5%
Gardnerville Water Co	2,376	5.5%	1,279	5.0%	0.54	89.5%
Indian Hills GID	1,950	4.5%	995	3.9%	0.51	84.8%
Stagecoach GID	564	1.3%	256	1.0%	0.45	75.5%
Silver Springs GID	1,088	2.5%	484	1.9%	0.44	74.0%
Lyon County Utility District	6,849	16.0%	2,772	10.7%	0.40	67.3%
Storey County	635	1.5%	231	0.9%	0.36	60.6%
NAS Fallon	550	1.3%	113	0.4%	0.21	34.2%
<b>Total or Weighted Average</b>	<b>42,910</b>		<b>25,796</b>		<b>0.60</b>	
<b>System Total</b>	<b>44,019</b>		<b>26,463</b>			

# Water Marketing & What's Next

## Current / Existing Water Marketing

- Alpine Decree & Water Rights Law Allow Changes to
  - Point of Diversion
  - Place of Use
  - Manner of Use
  - Rotation
- Community Water System Regionalization & Interties
- Water Reuse & Engineered Recharge
  - Wastewater Effluent
  - ASR

## What's Next – Potential Water Marketing Opportunities

- Storage
- Aquifer Recharge
- Water Delivery





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