



# **Lower Walker Accounting System and 2019 Program Water Flow Summary**

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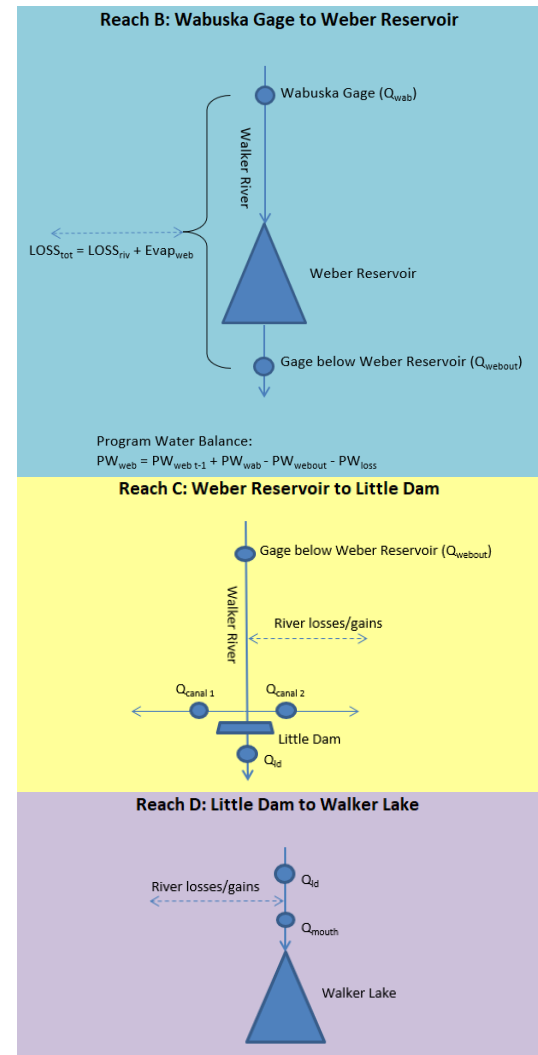
**Walker River Irrigation District Board meeting:  
December 9 2019, Yerington, NV**

# Topics

- **Overview of Lower Walker River (LWR) accounting system.**
- **2019 Program Water (PW) delivered to Walker Lake.**
- **LWR accounting system to be publicly available online.**

# Lower Walker River Accounting System

- Accounting of PW from Wabuska gage to Walker Lake.
- System represents conveyance agreement between NFWF and Walker River Paiute Tribe (WRPT).
- Jointly developed by NFWF, BIA, WRPT.
- Reviewed by USGS, DRI, and Federal Water Master.



# Major principles of LWR accounting system

- **Based on USGS daily flow and reservoir data.**
- **System gains and losses are proportionally shared.**
  - **Except precipitation.**
- **PW is passed through Weber Reservoir.**
  - **Pass through PW is not assessed evaporation.**
- **PW water is only subtracted from Weber account when it passes WRPT diversions.**
- **This protects PW against accidental diversion.**

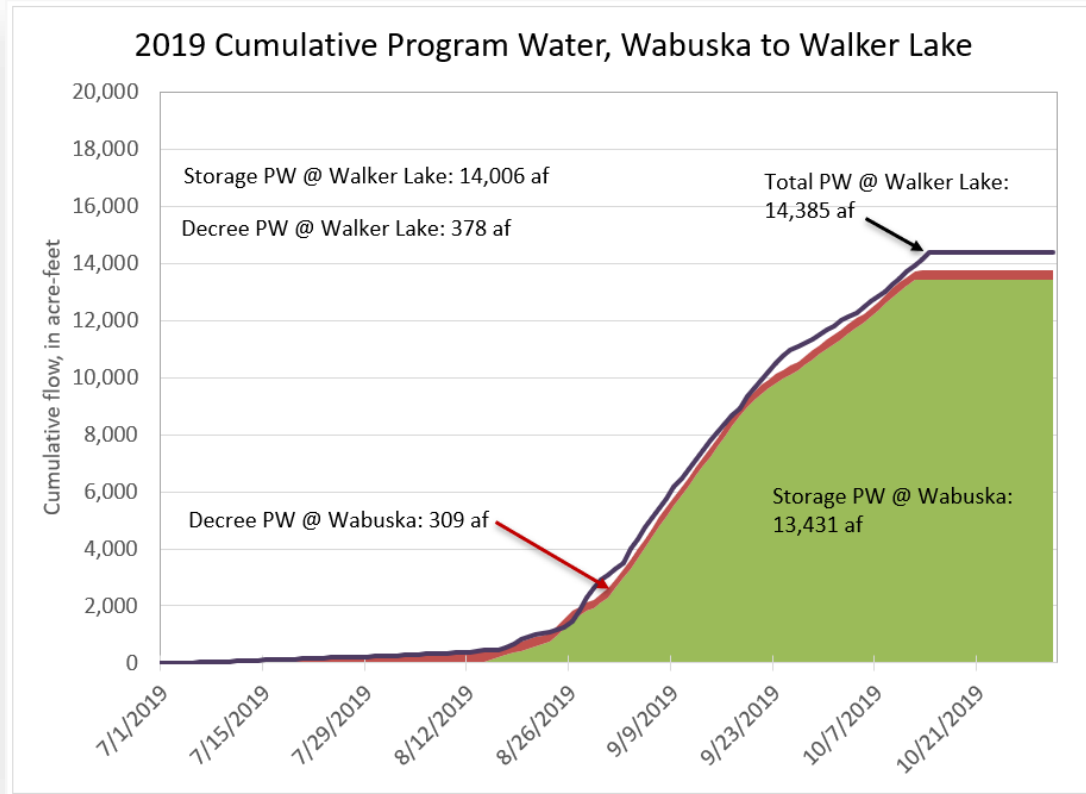
# LWR Accounting System Tool

- Excel workbook.
- Data Entry page shown here.
- Other pages not shown:
  - Weber Reservoir operation page.
  - Table of daily computations and accounting values page.
  - PW summary page.
  - Cumulative summary chart (next slide).


Walker River Conveyance Agreement			
Accounting Tool			
Version 4.1dev, 12/7/2019			
Analysis Date (previous day)	8/17/2019	<i>If first day of record for the year, must manually enter values on 'Annual' page.</i>	
USGS Gage Flow Data			
Gage Name	Gage ID	Avg. Daily Flow	
Walker Rv nr Wabuska, NV	10301500	114	cfs Q <sub>wab</sub> <a href="#">Get Data</a>
Walker River below Weber Reservoir	10301720	78.4	cfs Q <sub>webout</sub> <a href="#">Get Data</a>
Canal No 1 blw Little Dam nr Schurz, NV	10301755	34.8	cfs Q <sub>canal 1</sub> <a href="#">Get Data</a>
Canal No 2 abv Little Dam nr Schurz, NV	10301742	22	cfs Q <sub>canal 2</sub> <a href="#">Get Data</a>
Walker Rv abv Little Dam nr Schurz, NV	10301745	25.3	cfs Q <sub>ld</sub> <a href="#">Get Data</a>
Walker Rv nr Mouth at Walker Lake, NV	10302025	78.1	cfs Q <sub>mouth</sub> <a href="#">Get Data</a>
Weber Reservoir Data			
Reservoir Stage and Storage			
Weber Reservoir nr Schurz, NV		10301700	
Stage, end of day		4207.02	ft WEB <sub>stage</sub> <a href="#">Get Data</a> <i>[For both WEB<sub>stage</sub> and WEB.]</i>
Storage, end of day		9,917	ac-ft WEB
Temperature			
Weber Reservoir nr Schurz, NV - Precip and Air		390241118513301	
Max. Temperature		35.1	°C Temp <sub>web</sub> <a href="#">Get Data</a>
Precipitation		0.00	in PPT <sub>web</sub> <a href="#">Get Data</a>
Program Water Data			
<i>The following will be determined by the Water Master</i>			
Decree Program Water at Wabuska		0.2	cfs PW <sub>wab_decree</sub>
WRID Storage Lease Program Water at Wabuska		36	cfs PW <sub>wab_storage</sub>
NDOW Program Water at Wabuska		0	cfs PW <sub>wab_NDOW</sub>
Program Water at Wabuska Gage		36.2	cfs PW <sub>wab</sub>



# Lower Walker River was gaining system in late 2019 and slightly more PW arrived at Walker Lake than was delivered to Wabuska gage.



# LWR accounting system to be online next irrigation season.



Nevada Water Science Center Program Water Summary Daily Accounting [🏠](#)

## Walker River Conveyance Agreement

### Daily Accounting Calculations By Year

Year: 2019

Unit Abbreviations: ac-ft, acre-feet; cfs, cubic feet per second; eod, end of day; eopd, end of previous day; °F, degrees Fahrenheit; in., inches

Program Water									
Date	A. At Wabuska	B. Wabuska through Weber Reservoir				C. Weber Reservoir to Little Dam	D. Little Dam to Walker Lake	Operation Day Targets	
	Flow cfs	Weber Reservoir Inflow cfs	Weber Reservoir Storage ac-ft	Weber Reservoir Outflow cfs	Net Loss cfs	Little Dam Gage cfs	Flow at Mouth cfs	Weber Reservoir Outflow cfs	Flow at Little Dam cfs
	PW <sub>wab</sub>	PW <sub>webin</sub>	PW <sub>web t-1</sub>	PW <sub>webout</sub>	PW <sub>loss</sub>	PW <sub>ld</sub>	PW <sub>mouth</sub>	TPW <sub>webout t+1</sub>	TPW <sub>ld t+1</sub>
09/23/2019	96.0	82.3	191.00	121.5	13.8	128.0	128.0	96.3	101.4
09/22/2019	100.0	90.9	268.90	135.3	9.2	138.0	138.0	135.6	138.4
09/21/2019	115.0	103.5	357.10	132.8	11.6	135.0	135.0	180.0	182.9
09/20/2019	121.0	117.2	415.40	136.4	3.9	137.0	137.0	209.4	210.3

# Will be automated and updated daily, and publicly available.

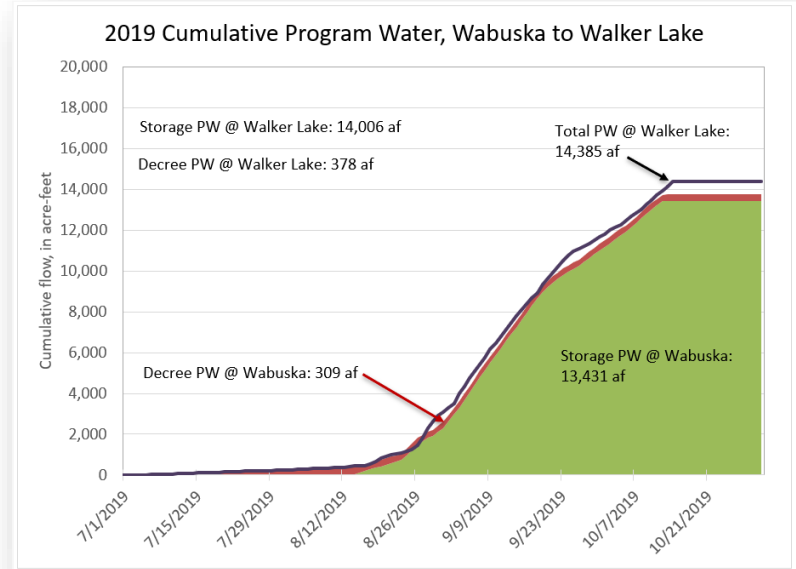
**USGS**  
science for a changing world

Nevada Water Science Center Program Water Summary Daily Accounting

Walker River Conveyance Agreement

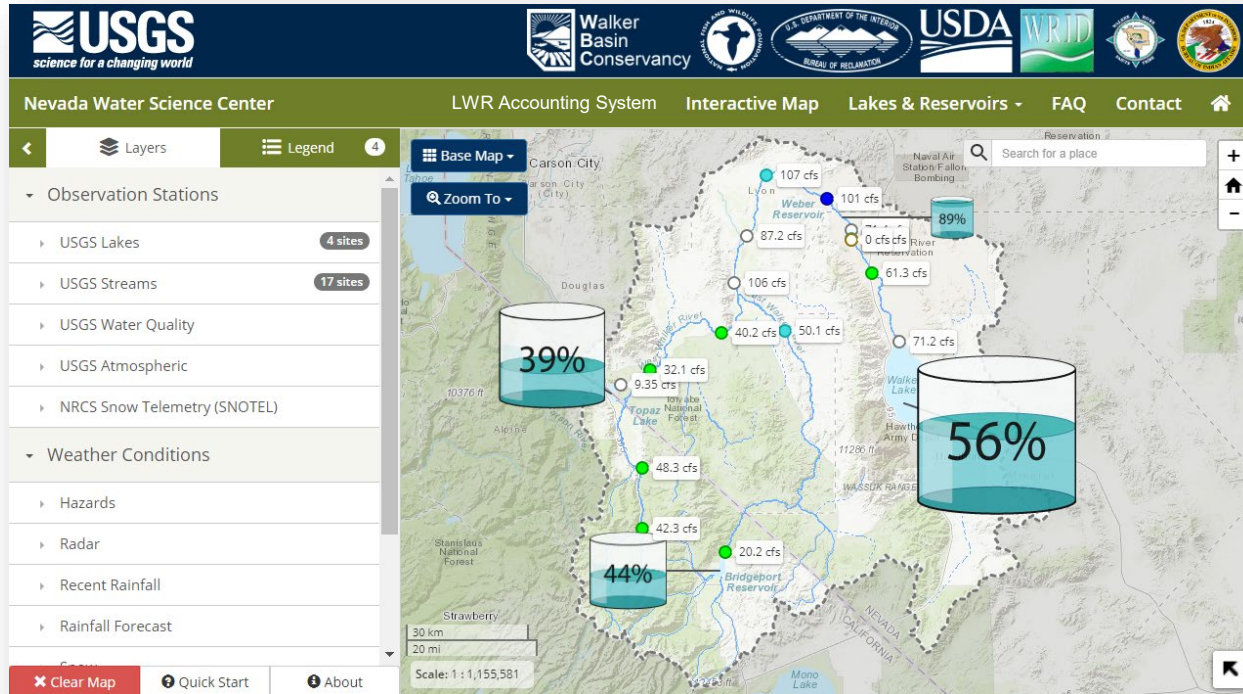
## Summary of Program Water

Program Water		Values	
Description	Abbreviation	Daily Average	Cumulative for the Year
		Analysis Date: 09/23/2019	Date Range: 04/01/2019 to 09/23/2019
At Wabuska Gage	PW <sub>wab</sub>	96.0 cfs	10,086.0 ac-ft
Inflow to Weber Reservoir	PW <sub>webin</sub>	82.3 cfs	9,454.0 ac-ft
Stored in Weber Reservoir (end of day)	PW <sub>wes</sub>	191.0 ac-ft	191.0 ac-ft
Net loss from Wabuska through Weber Reservoir reach	PW <sub>loss</sub>	13.8 cfs	636.3 ac-ft
Released from Weber Reservoir	PW <sub>webout</sub>	121.5 cfs	9,258.4 ac-ft
At Little Dam Gage	PW <sub>ld</sub>	128.0 cfs	9,165.8 ac-ft
At Walker Lake	PW <sub>mouth</sub>	128.0 cfs	9,096.7 ac-ft
PW at Little Dam that enters Walker Lake			100 %
PW at Wabuska gage that reaches Walker Lake			90 %





# Will be hosted within the Walker River Basin Hydro Mapper application.



# Other Walker River Basin Resources

<https://nevada.usgs.gov/walker/>

Thank You!



The screenshot shows the USGS website page for 'Hydrology of the Walker River Basin'. At the top, the USGS logo is displayed with the tagline 'science for a changing world'. Below the logo, the navigation path is 'USGS / Science / Science Centers / Nevada Water Science Center / Research'. The main heading is 'Hydrology of the Walker River Basin'. A large banner image shows a wide view of Walker Lake with mountains in the background. Overlaid on the banner is the text 'USGS Research in the Walker River Basin' and 'Online publications about USGS research in basin', with a 'Learn More' button. Below the banner is a navigation menu with 'Home', 'Hydro Mapper', 'Images', 'Data', and 'Publications'. The 'Hydro Mapper' tab is selected. The main content area contains a paragraph about Walker Lake, describing it as a perennial terminal lake in the Great Basin, sensitive to changes in stream inflow, and affected by agricultural diversions. To the right of the text is a map of the Walker River Basin showing the river network, major cities like Reno and Carson City, and various watersheds. Below the map is a scale bar from 0 to 20 miles. On the far right, there is a 'Contact Information' section listing Kip Allander, Supervisory Hydrologist, with his phone number (775) 887-7675 and email kalland@usgs.gov. Below that, it lists Sonya Vasquez, Hydro Mapper, with her phone number (775) 887-7718 and email slvasque@usgs.gov.