

Water Use and Conservation in a Rural Teton County Subdivision



**Teton
Conservation
District
Est. 1946**

Skyline Subdivision
November 18, 2021

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Who We Are



- **MISSION**

- Teton Conservation District is a local government entity whose mission is to work with the community in the conservation of natural resources for the health and benefit of people and the environment.

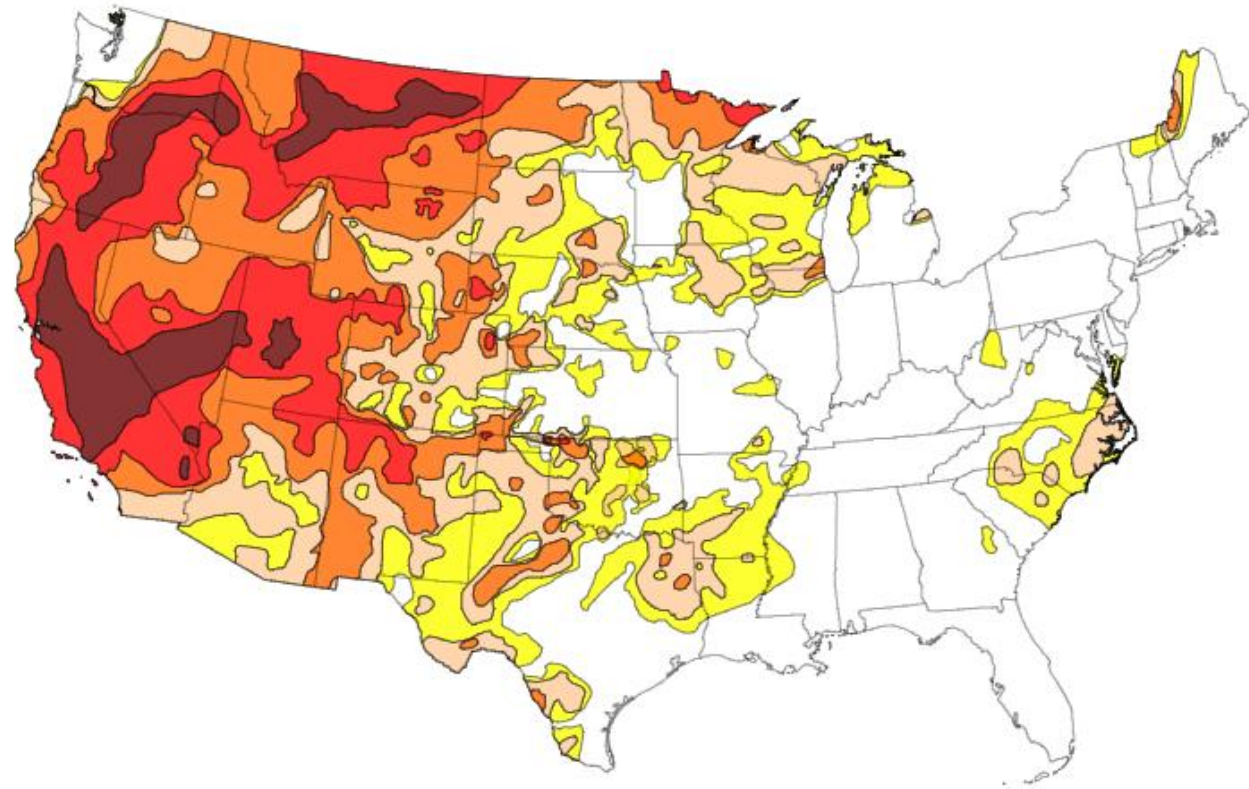
- **VISION**

- Teton Conservation District envisions a forward-looking community practicing natural resource stewardship.

Drought conditions in the Western US

- All western states are experiencing severe drought
 - Dry soils
 - Low streamflows
 - Low precipitation

- Particularly dry conditions since wet winter of 2018/19



U.S. Drought Monitor Categories

-  D0 - Abnormally Dry
-  D1 - Moderate Drought
-  D2 - Severe Drought
-  D3 - Extreme Drought
-  D4 - Exceptional Drought

Source(s): NDMC, NOAA, USDA
Last Updated - 11/09/21

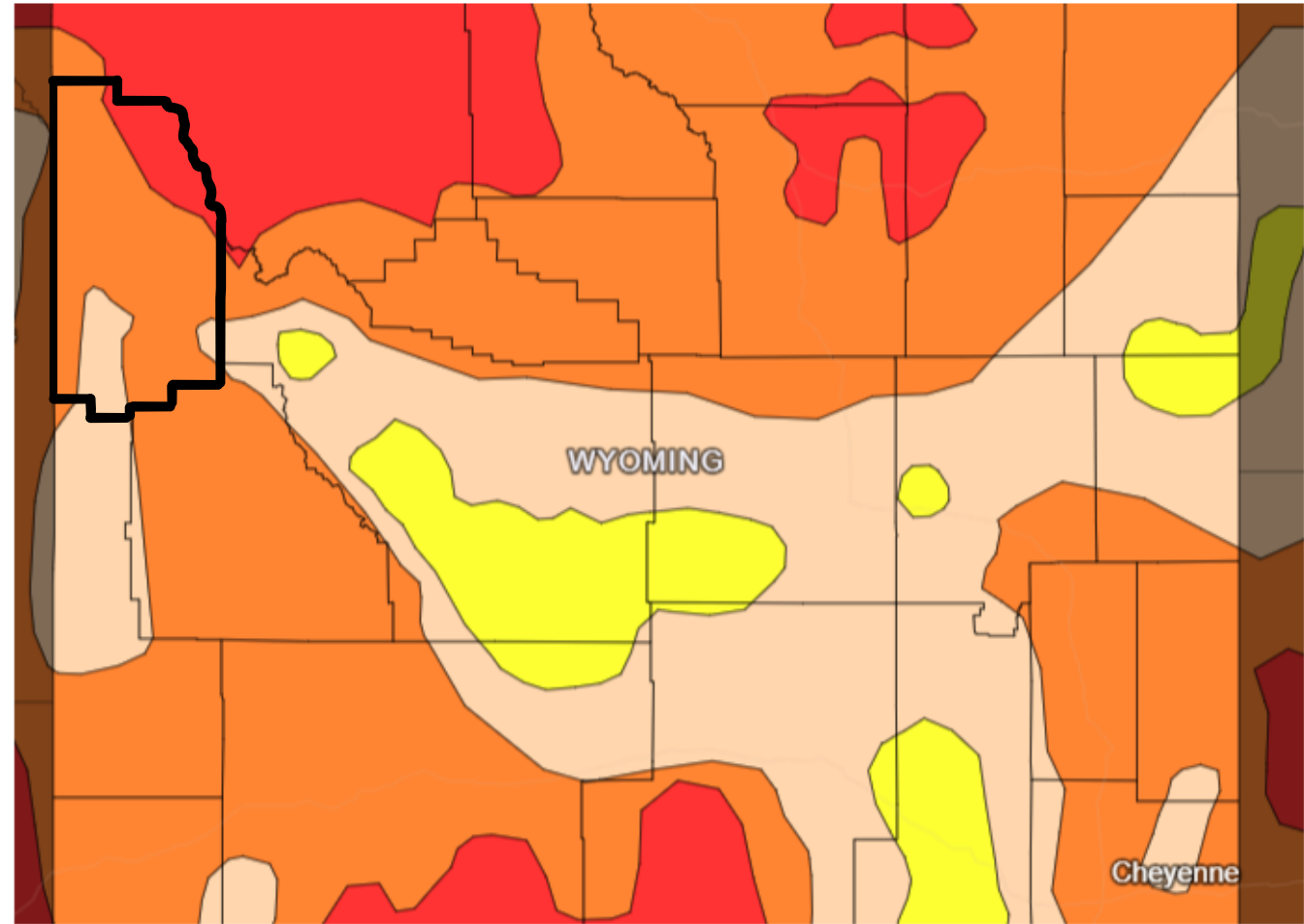
Lake Mead

- 34% capacity
- All-time lowest water level since construction in 1935
- August 16th, 2021:
 - Level 1 Storage Condition
 - First-ever federal water shortage declaration



Drought Monitor

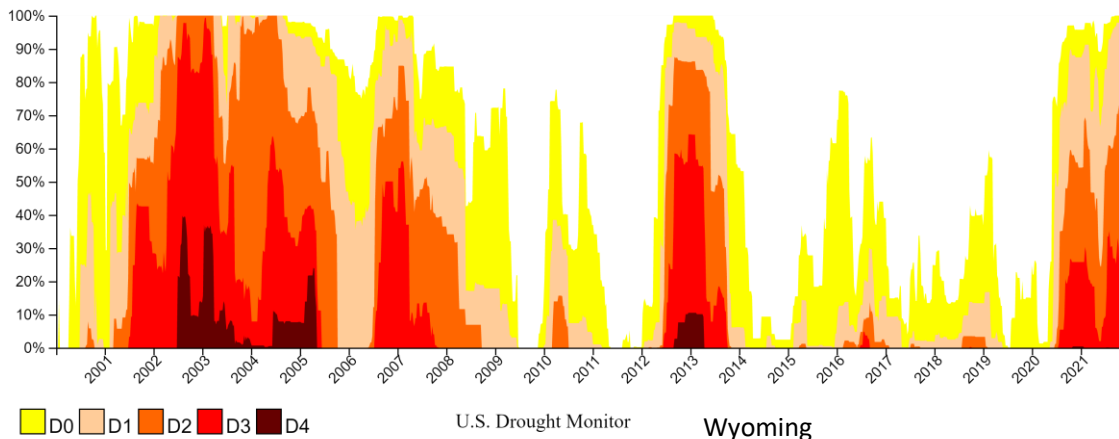
- 100% of Teton County is experiencing **drought**
 - Moderate (D1) to Extreme (D3)
- Most significant drought conditions since 2012/13



U.S. Drought Monitor for WY

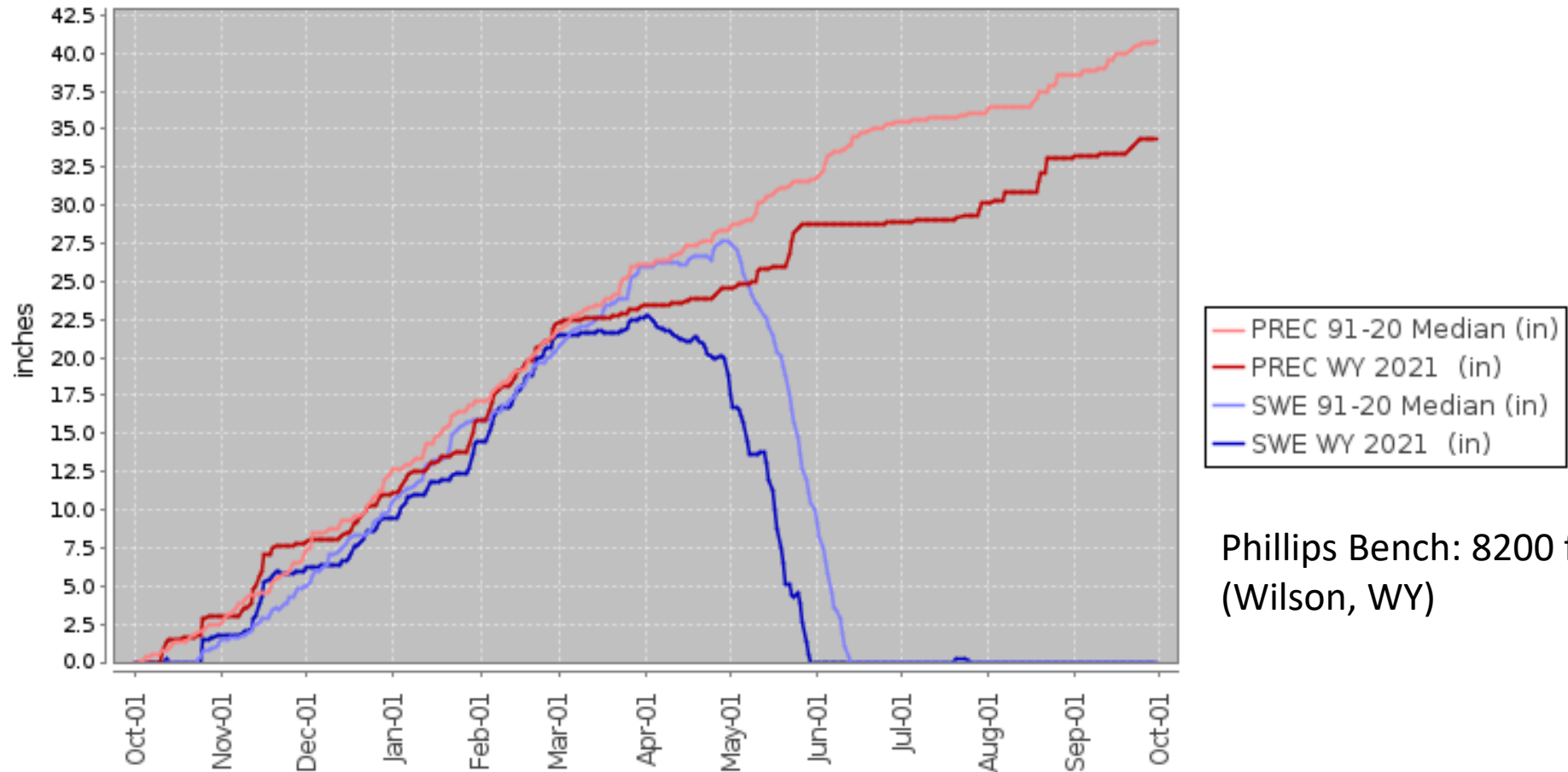


Source(s): NDMC, NOAA, USDA
Updates Weekly - 11/09/21



Snake River Basin: 90% of Median SWE on April 1

Station (689) WATERYEAR=2021 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Tue Nov 16 09:05:34 GMT-08:00 2021



Phillips Bench: 8200 ft
(Wilson, WY)

2021 was **unprecedented** for surface water availability and storage

- High flows from Jackson Lake Dam
- Magic Valley water users:
 - Magic Reservoir 27-day irrigation period
 - Shortest since 1977



Jackson Lake
17% capacity

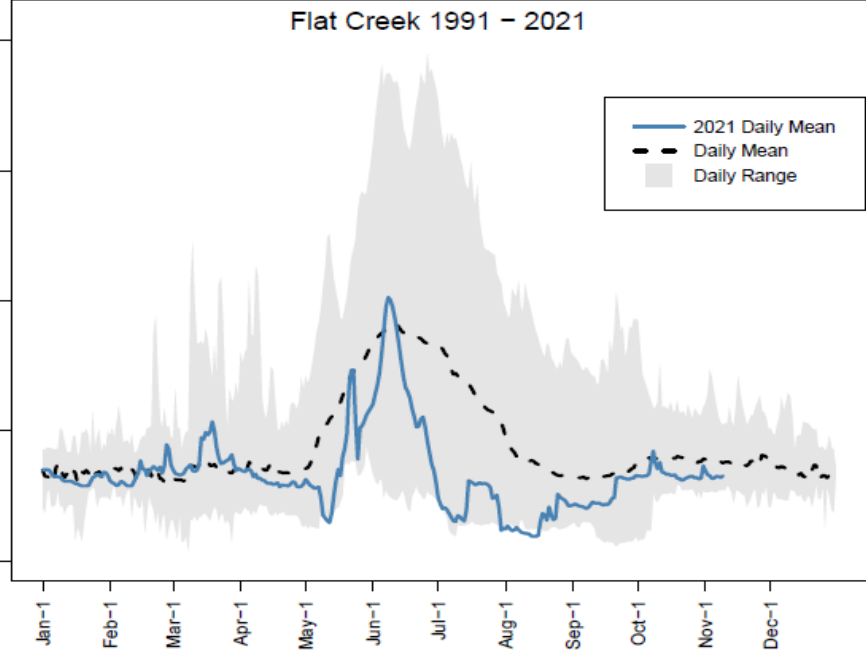
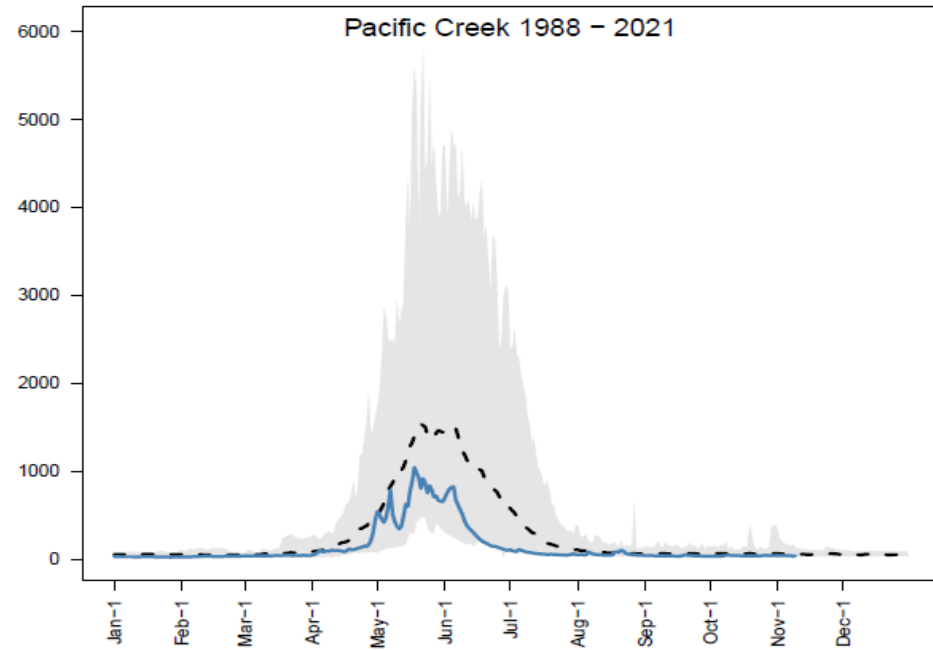
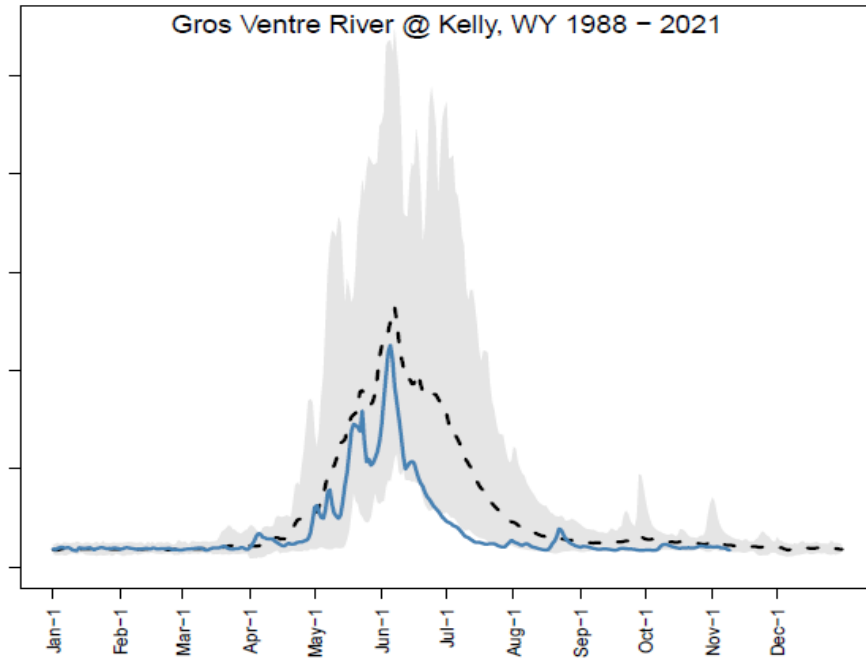
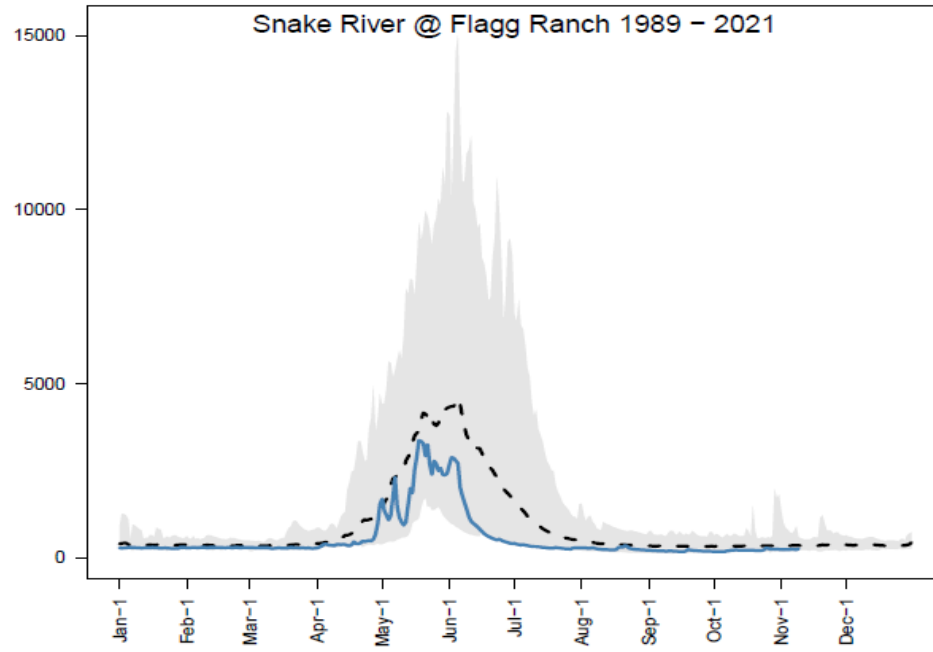


Palisades Reservoir
11% capacity

- Record low late-summer flows in Snake River tributaries

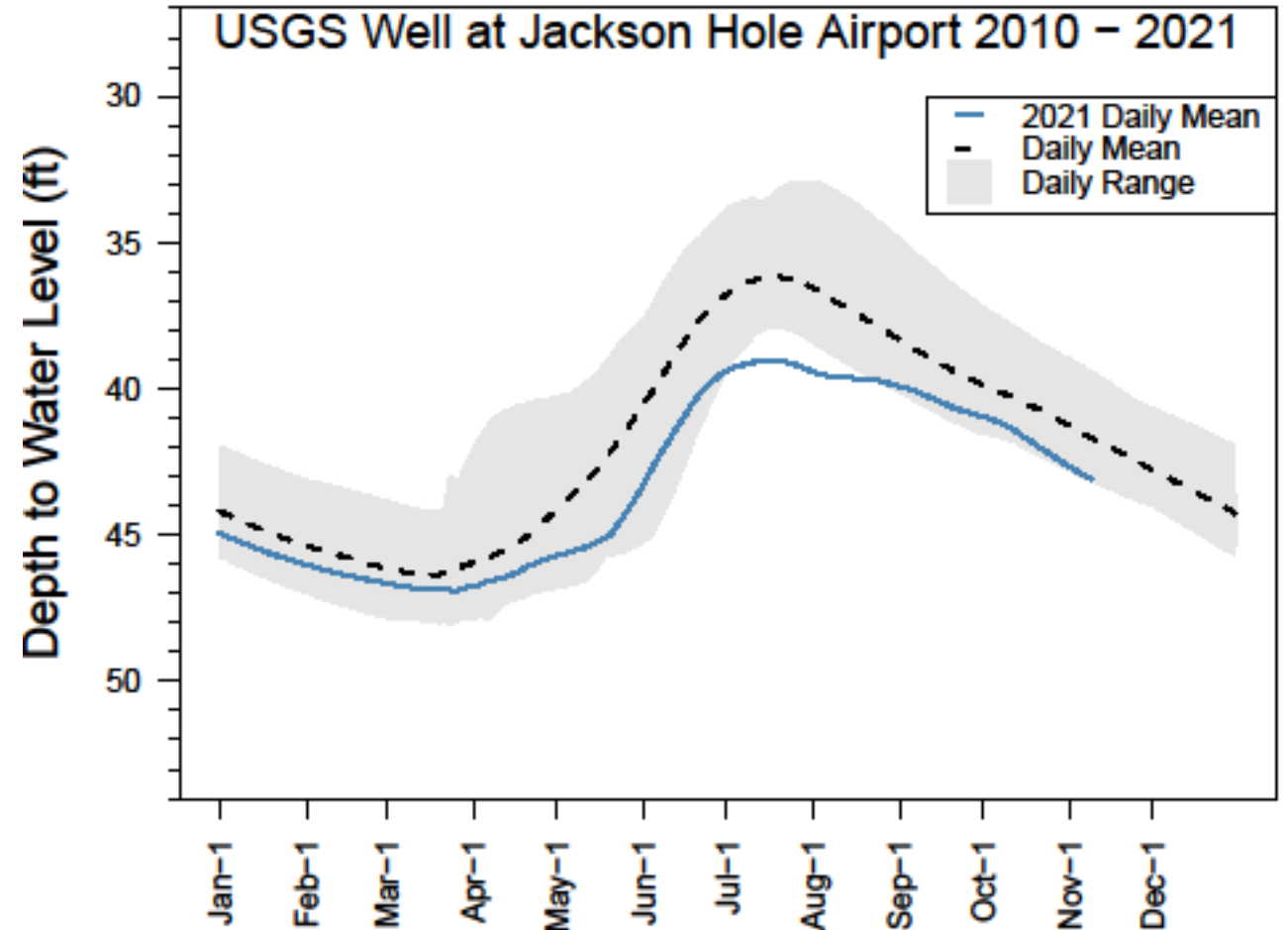
- Some of the lowest flows for the 30-year period of record

Discharge (CFS)



How does this affect you?

- Skyline Ranch water source
 - Snake River Alluvial Aquifer
- Groundwater at JAC at lowest level in the last 10 years



Water Resources in Teton County

A winter landscape in Teton County, Wyoming. The scene is dominated by snow-covered mountains and evergreen trees. In the foreground, a large, flat expanse of snow is visible, likely a frozen lake or a wide, snow-covered valley. The mountains in the background are rugged and partially covered in snow, with some evergreen trees scattered across their slopes. The sky is overcast and grey, suggesting a cloudy day. The overall atmosphere is cold and serene.

- Upper Snake River Watershed
 - High elevation, significant winter precip, slow release
 - Winter establishes our water availability
- 99.9% of drinking water comes from groundwater
 - Snake River Alluvial Aquifer, coarse material, connected to surface water, great water quality and quantity
 - Smaller aquifers exist throughout Teton County and vary significantly

Water in the Human Realm

If water is abundant, why is this conversation worth having?

- Unanticipated consequences of water use is part of the reason Conservation Districts exist
 - It takes local, collective effort to manage water effectively
- Water infrastructure is designed for a given range of conditions
 - Natural water regimes
 - High water years: flooding, erosion, introduction of bacteria to wells
 - Low water years: low flows, drinking water availability and quality issues, ecological strain, irrigation demand increases and available water decrease.
 - Desired use
- Conservation limits issues, as does planning for a broad range of conditions
 - Infrastructure cost/benefits
 - Skyline's adjacent aquifers

Water Efficiency in Residential Setting

- Landscaping is a primary water use (Trout Friendly Lawns)
 - In Teton County, native vegetation preservation is key
 - Wildlife, weed invasion, need for water, fertilizer, and pesticide
 - In your landscaping, what is useful as turf?
 - Outdoor lawn use, fire mitigation, etc.
 - Tips to limit water use
 - Manage watering based upon mowing and weather
 - Overwatering strips soil nutrients and makes vegetation drought intolerant
 - Only water at night
 - Water in bursts for root development, infrequent but high intensity
 - Soils, soils, soils
 - Fix leaks!
 - If it's a goal, landscaping can be low water, chemical, and maintenance



Some Final Thoughts

- You have great water in abundance
 - North and South of your water supply is poor water quantity/quality groundwater
 - Efficient use is one way to preserve your existing water resources
 - Assuming indefinite resource is an oversight
- Landscaping culture in Teton County has room for improvement and is changing
- Maintaining quantity for fire flows during peak periods
- Septic system function
- Climate projections shows decreased snowpack

