



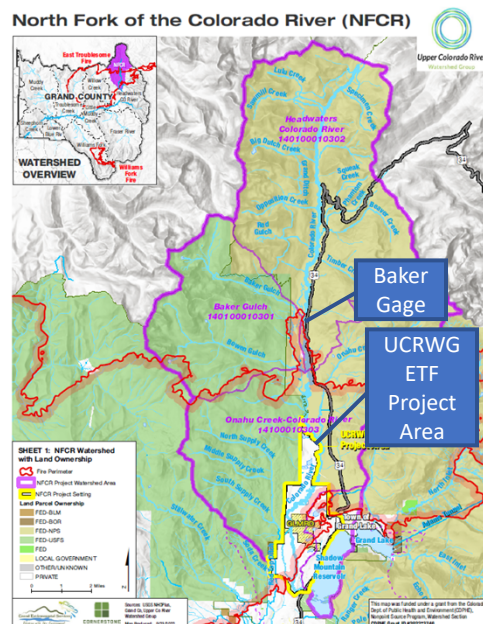
Supporting Document 2-1 Baker Gauge Water Monitoring for Flows and Water Quality, USGS Gauge 09010500 Colorado River Below Baker Gulch

Brief prepared for the Upper Colorado River Watershed Group
Under CDPHE Grant #2022*3746
December 2022

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USGS Baker Gauge in Rocky Mountain National Park

- USGS Gauge 09010500 *Colorado River Below Baker Gulch* is at the northern (upstream) border of the East Troublesome Fire, ~1.5 miles upstream from the UCRWG ETF project area
- This “Baker Gauge” offers long-term baseline insight on water flows and quality flowing into the UCRWG ETF Project Area
- This supporting document is funded by:
 - ❖ (CDPHE) Nonpoint Source Program, Watershed Section Grant ID#2022*3746
 - ❖ Fire on the Mountain Foundation 2022



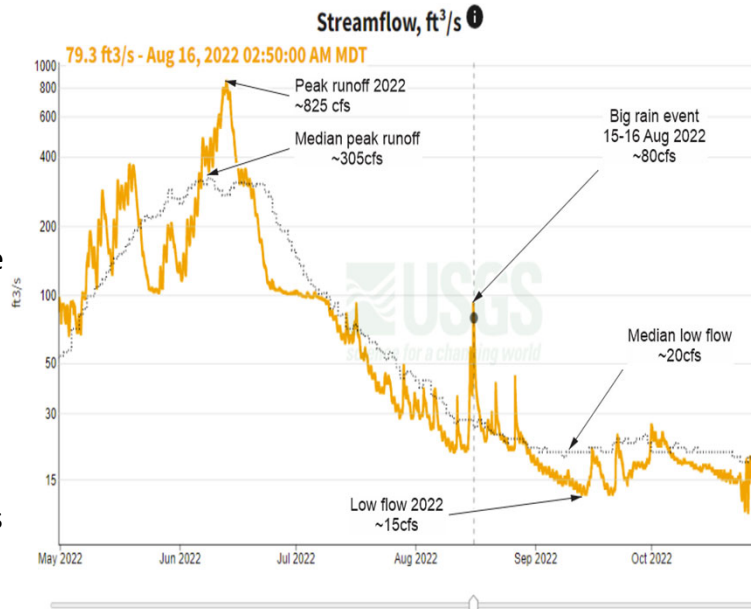
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Colorado River Flow Hydrograph at the Baker Gauge, 2022 Runoff Year

- The early, climbing limb of the hydrograph ranges above then below median flows in May then peaked at more than 2.5X median peaks in mid-June
- The receding limb of the hydrograph was generally below medians with several additional pronounced peaks associated with rainy summer-fall weather



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Colorado River Gauge Height at the Baker Gauge, 2022 Runoff Year

- Early season flows climbed ~3 ft from ice off to the peak in mid-June, then dropped ~3.5ft to low flows in early September
- Rains 15-16 August raised the river elevation by ~3/4ft before quickly dropping down to base flow



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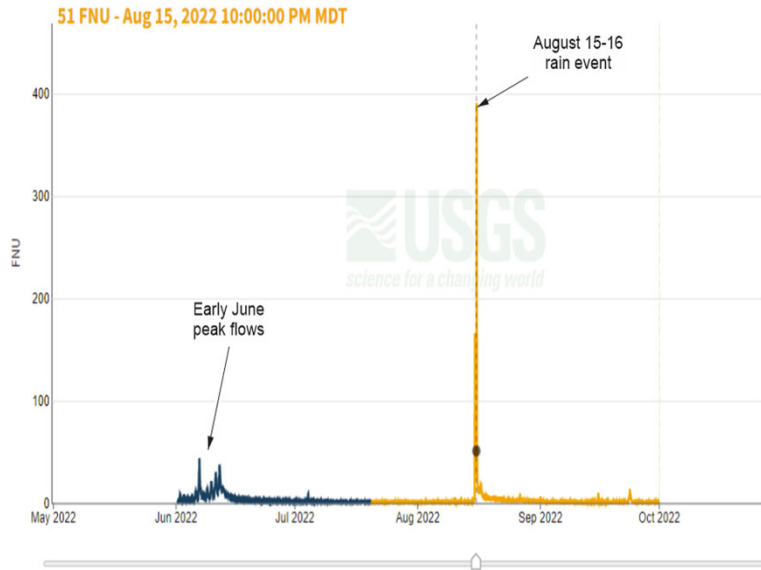
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Colorado River Gauge Turbidity at the Baker Gauge, 2022 Runoff Year

- After modest increase during peak runoff, turbidity was generally low throughout the runoff year except for a significant peak during the August 15-16 rain event

Turbidity, water, unfiltered, monochrome near infra-red LED light, 780-900 nm, detection angle $90 \pm 2.5^\circ$, formazin nephelometric units (FNU) ^①

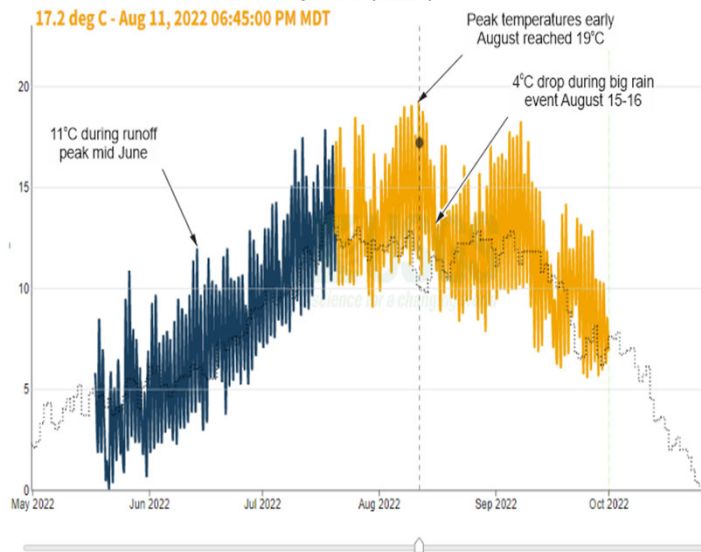


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Colorado River Temperatures at the Baker Gauge, 2022 Runoff Year

- Water temperatures range from near 0°C to 19°C during the measured runoff year
- Note peak temperatures approaching 20°C, near the recognized upper limit for coldwater fisheries (www.docest.com.colorado-coldwater-fish)

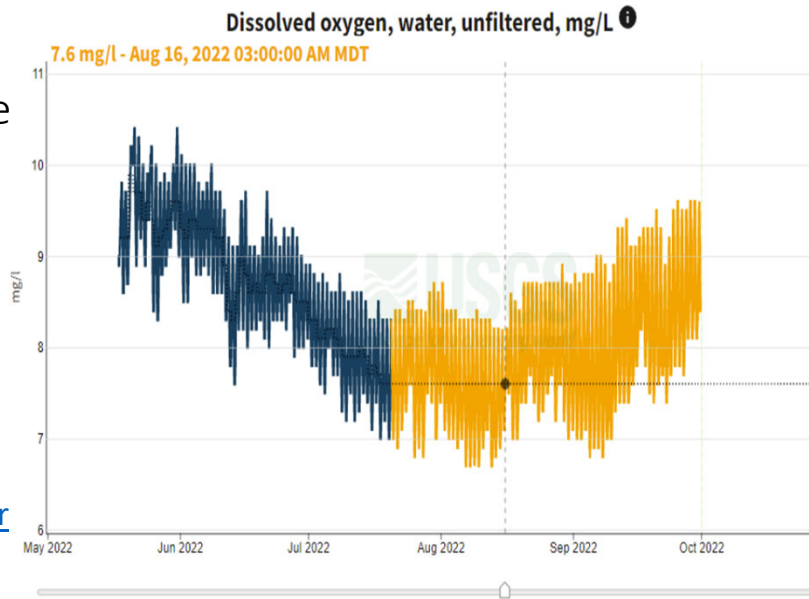
Temperature, water, °C ^①



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Colorado River Dissolved Oxygen at the Baker Gauge 2022 Runoff Year

- Dissolved Oxygen(DO) follows an inverse pattern with temperatures above, ranging from 10 to 7 mg/L (ppm)
- Note DO levels above 6mg/L a recognized lower limit for coldwater fisheries (www.docest.com.colorado-coldwater-fish)



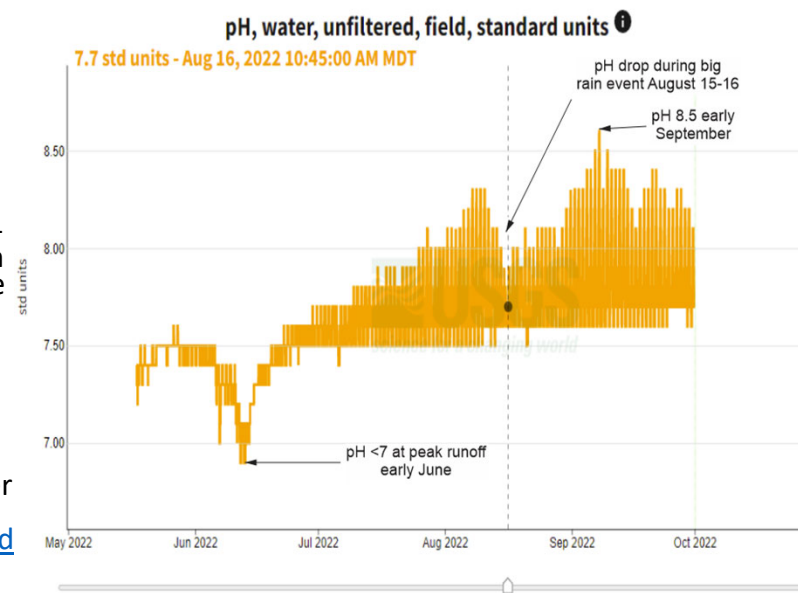
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Colorado River pH at the Baker Gauge, 2022 Runoff Year

- pH climbed from neutral during peak flows in mid-June to peak above 8.5 in early September with the notable downward excursion coinciding with the big rain event mid-August
- These alkaline pH measurements are consistent with Coldwater fisheries in Colorado (www.docest.com.colorado-coldwater-fish)



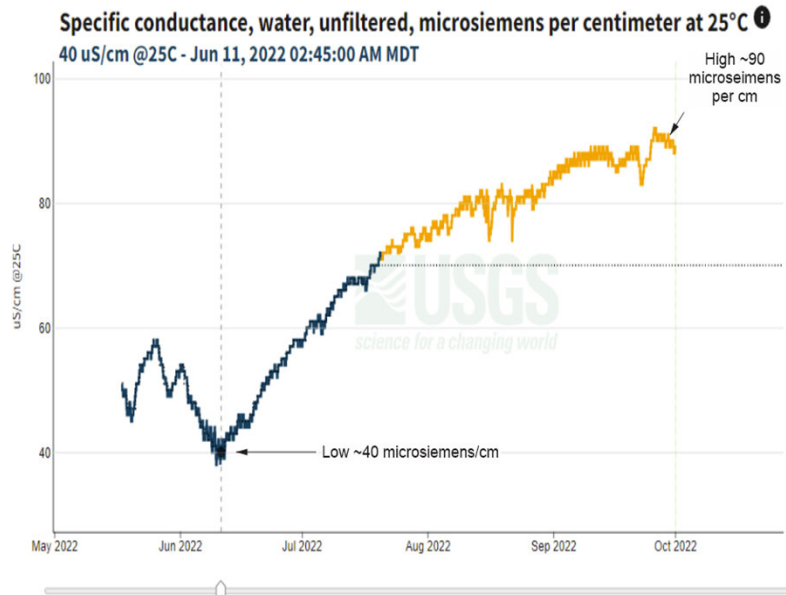
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Colorado River Specific Conductance at the Baker Gauge, 2022 Runoff Year

- Specific conductance dropped to a minimum coinciding with peak runoff, then climbed through summer and fall



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Thank You, Happy to Answer Questions or Schedule a Field Trip



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