

2021 ARCA ANNUAL MEETING ARKANSAS RIVER BASIN REPORT

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South Pacific Division/Albuquerque District
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US Army Corps
of Engineers®



TOPICS

- Compact Year 2021 Water Management
- Arkansas Basin Water Quality Monitoring
- Operations and Maintenance
- Civil Works Program
- Emergency Management Coordination



Arkansas River Basin

Frylingpan-Arkansas

Albuquerque District

Pueblo

John Martin

Trinidad

KANSAS

COLORADO

NEW MEXICO

US Army Corps of Engineers, Albuquerque District

2021 Water Management and Civil Works Activities



COMPACT YEAR 2021 WATER MANAGEMENT

Snowpack and Runoff



May 1st Natural Resources Conservation Service Forecast

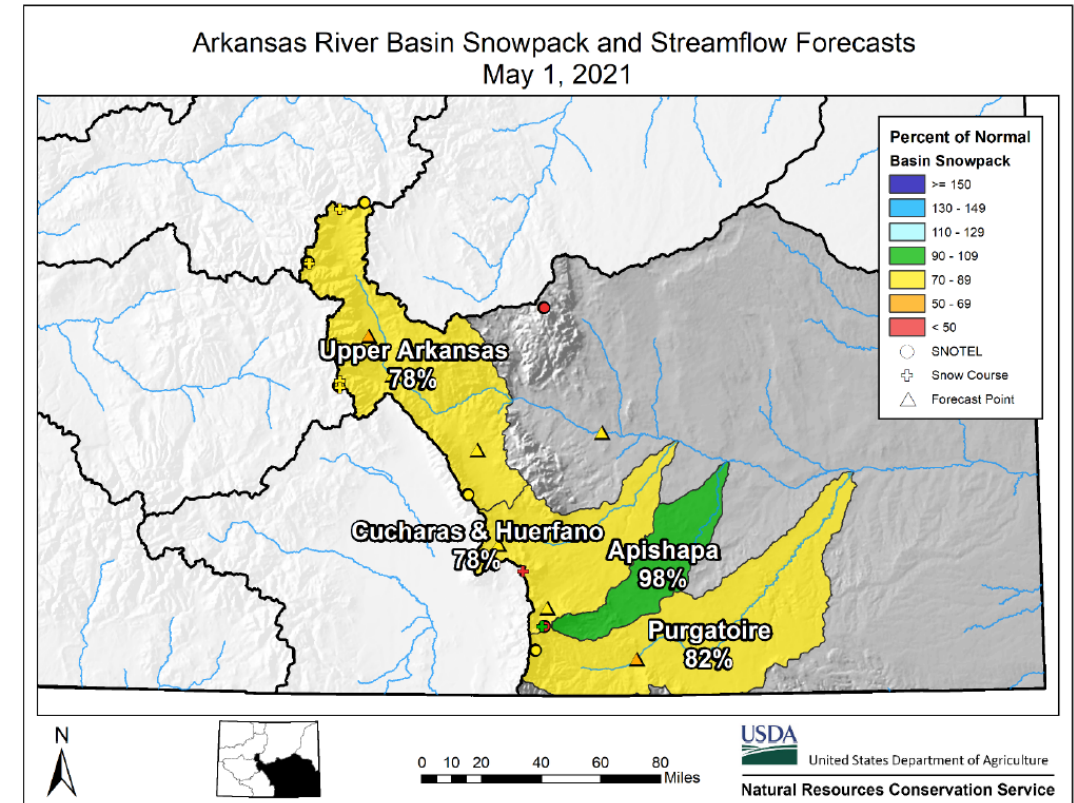
- Upper Arkansas Basin snowpack: 78% of median
- Purgatoire Basin snowpack: 82% of median
- Basin total: 76% of median

Trinidad Dam and Lake

- Forecast runoff inflow: 25,000 ac-ft
- Actual runoff inflow: 45,910 ac-ft (125% of average)

John Martin Dam and Reservoir

- NRCS does not forecast runoff inflow
- National Weather Service: 89,000 ac-ft
- Actual runoff inflow: 87,000 ac-ft (51% of average)





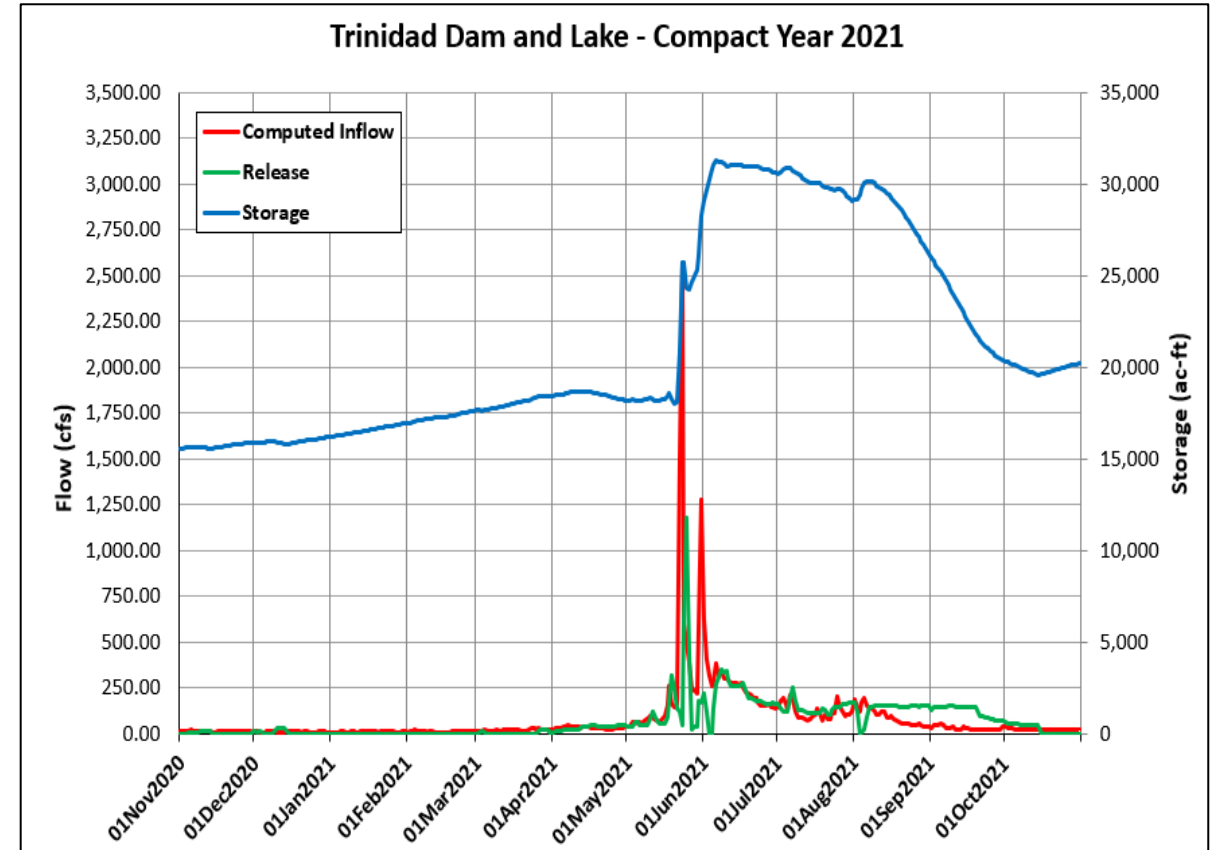
COMPACT YEAR 2021 WATER MANAGEMENT

Trinidad Dam and Lake



Compact Year 2021 Water Management

- Computed inflow: 58,000 ac-ft
- Release: 50,580 ac-ft
- Maximum storage: 31,260 ac-ft
- Minimum storage: 15,550 ac-ft
- End of Compact Year storage: 20,230 ac-ft
- During the May 22-23 rainstorm event, releases from the dam were reduced to prevent downstream flooding
- No evidence of zebra or quagga mussels





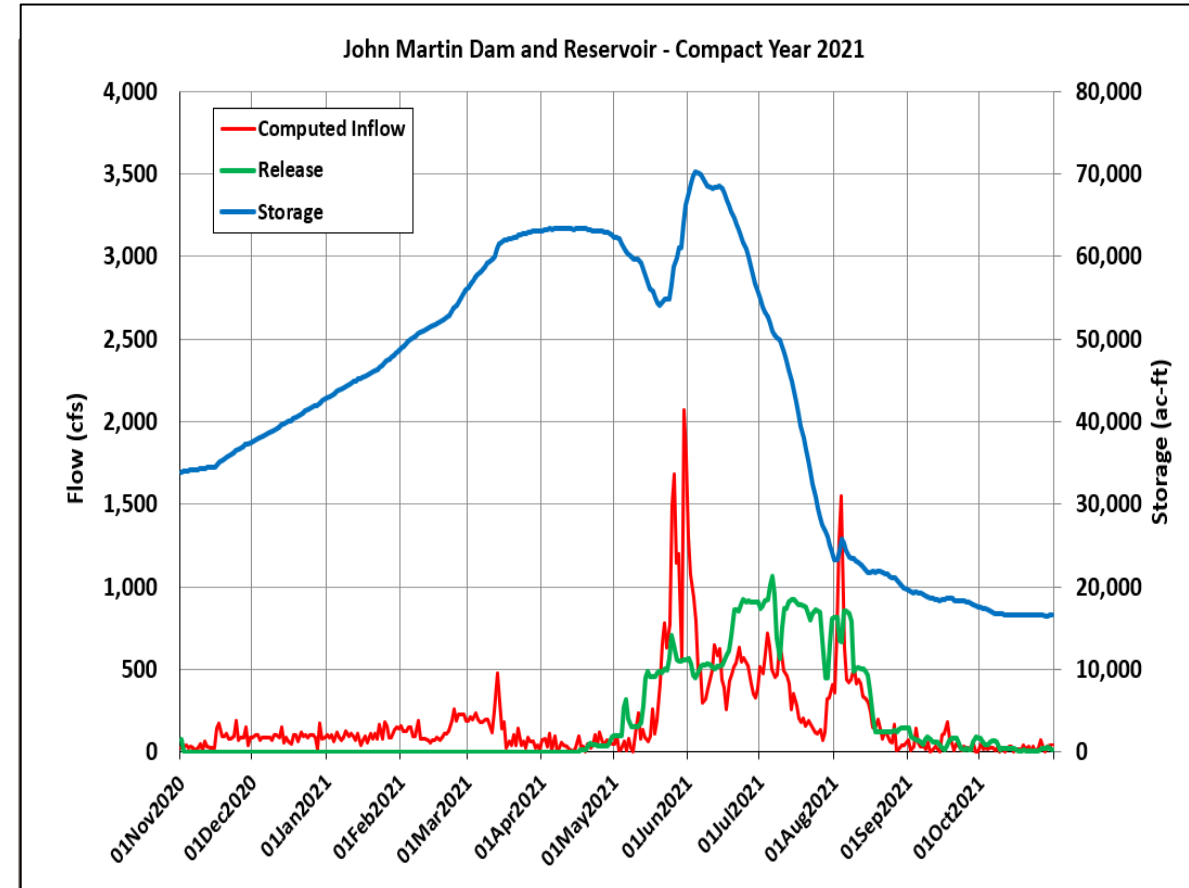
COMPACT YEAR 2021 WATER MANAGEMENT

John Martin Dam and Reservoir



Compact Year 2021 Water Management

- Computed inflow: 143,170 ac-ft
- Release: 145,410 ac-ft
- Maximum storage: 70,260 ac-ft
- Minimum storage (also end of year): 16,590 ac-ft
- No Flood Risk Management Operations
- No evidence of zebra or quagga mussels





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ARKANSAS WATER QUALITY MONITORING



● Reservoir Stations (2012 – Current)

Monthly during ice-free period

– Vertical profiles

Temperature

Dissolved oxygen

– Surface measurements

Turbidity

pH

Specific conductance

– Secchi depth

– Zebra and quagga mussel (June-October)

▲ Riverine Stations (2020 – 2025)

– 15-minute interval

Water Temperature

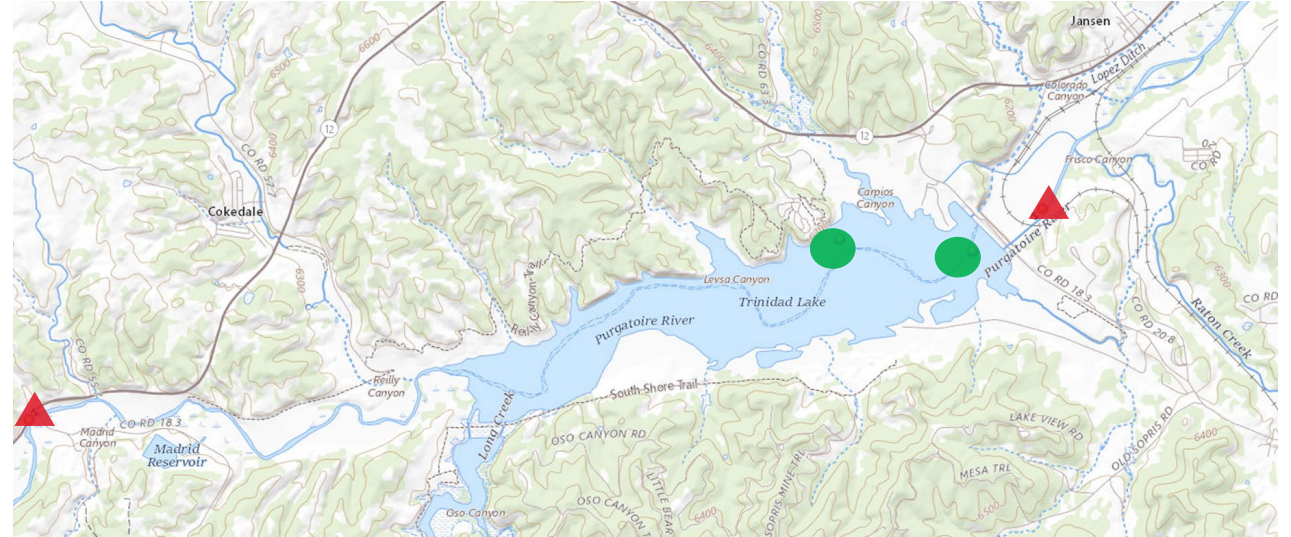
Dissolved oxygen

Turbidity

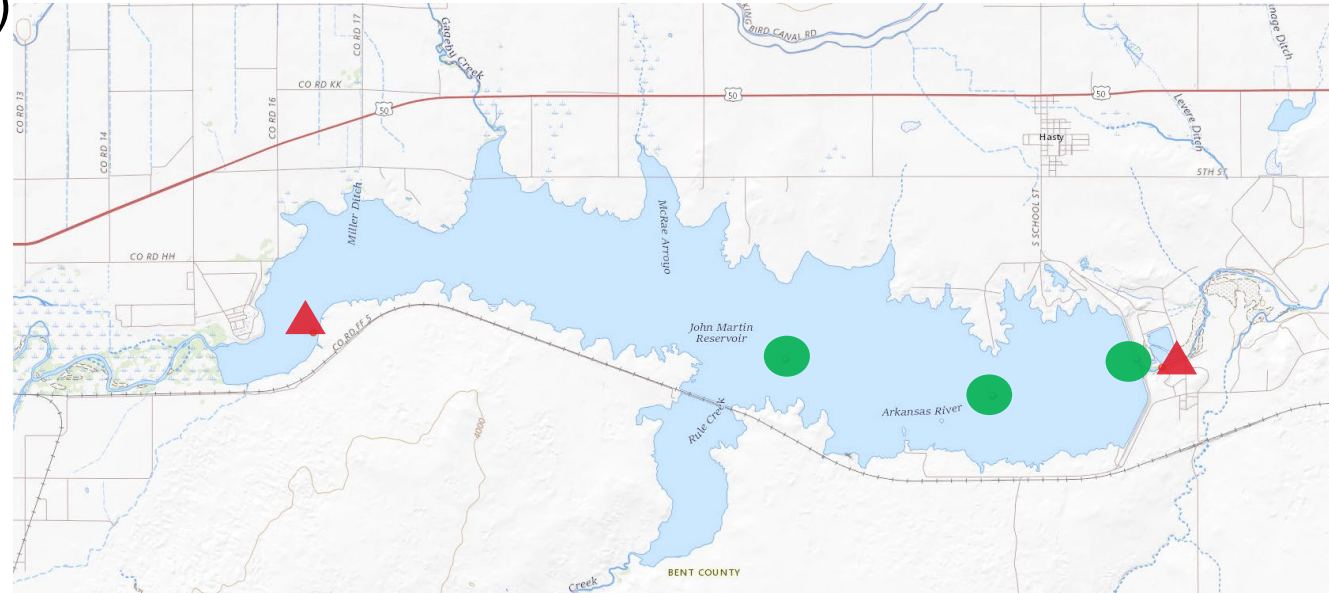
pH

Specific conductance

– Monthly anions/cations and total suspended sediment



Trinidad Dam and Lake



John Martin Dam and Reservoir



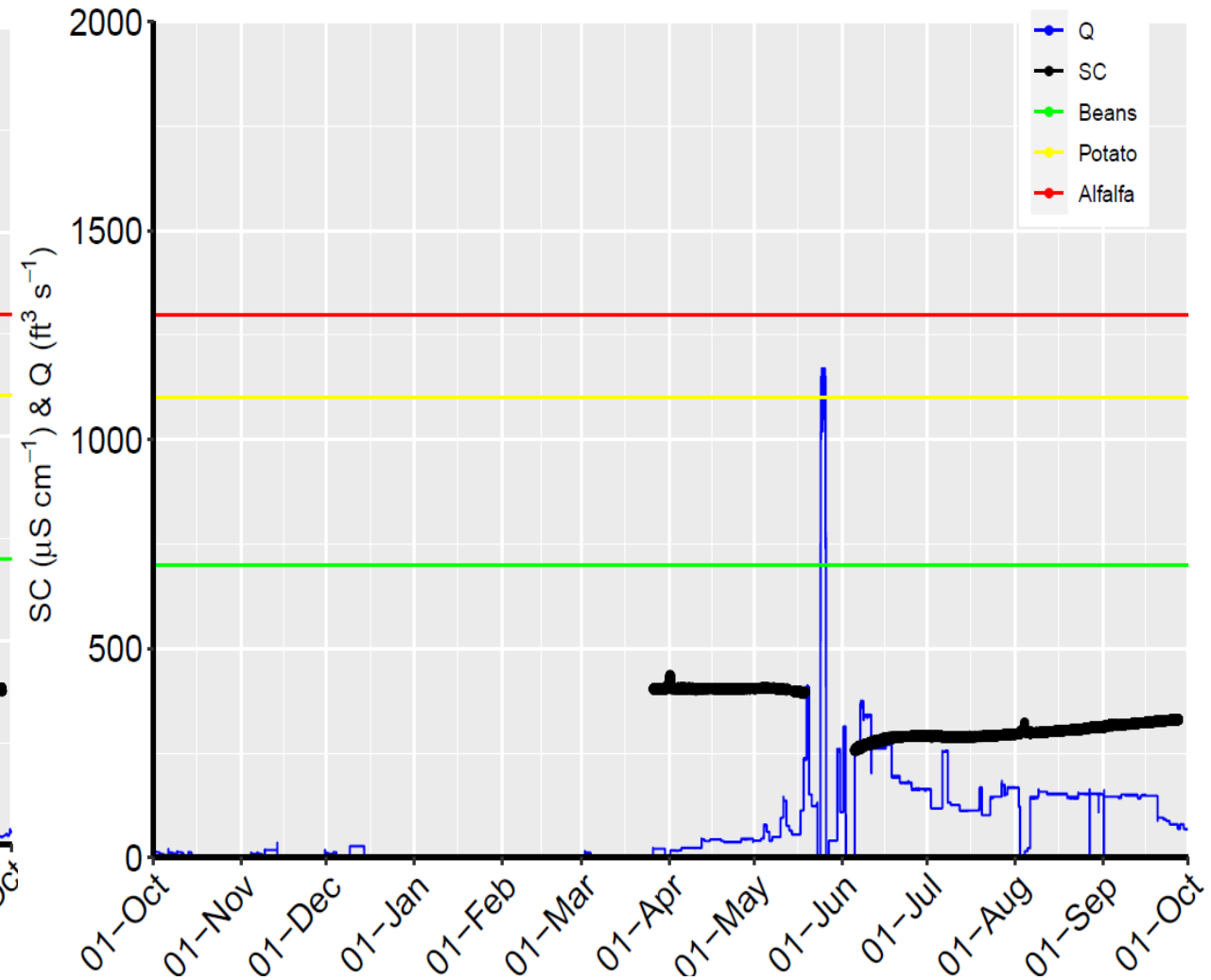
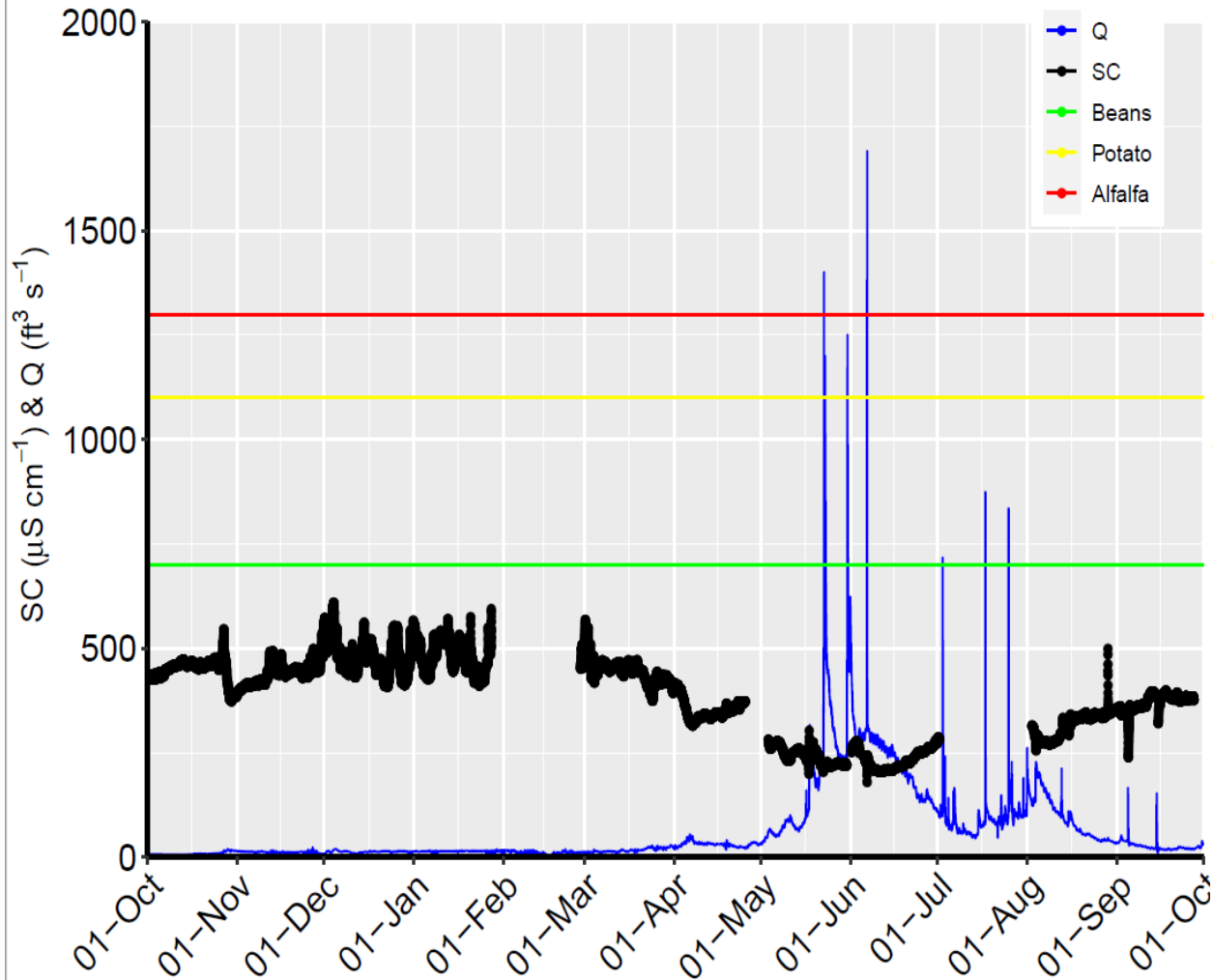
ARKANSAS WATER QUALITY MONITORING DATA



Discharge, Specific Conductance, and Crop thresholds

Upstream of Trinidad dam (Madrid Gauge)

Downstream of Trinidad Dam



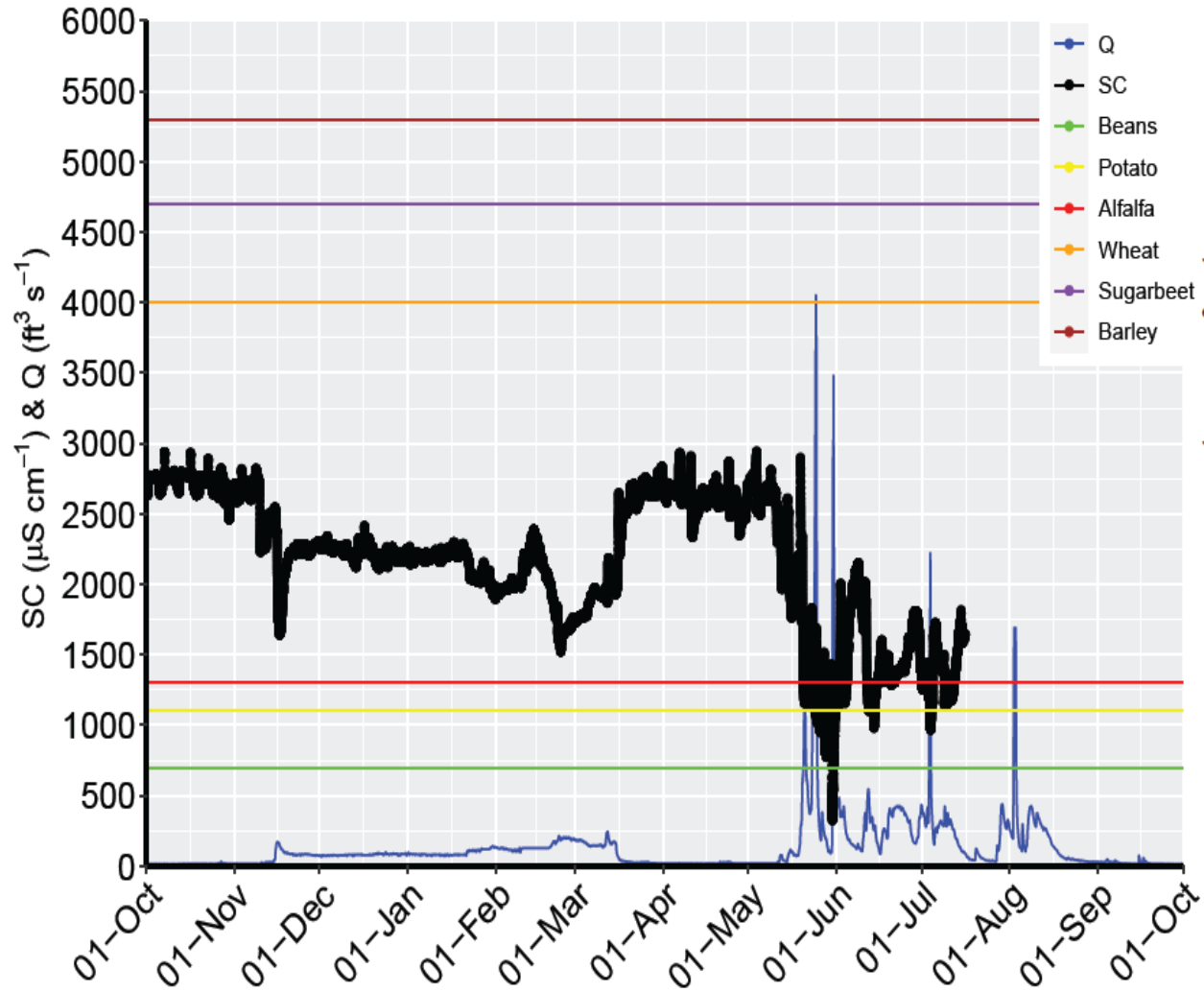


ARKANSAS WATER QUALITY MONITORING DATA

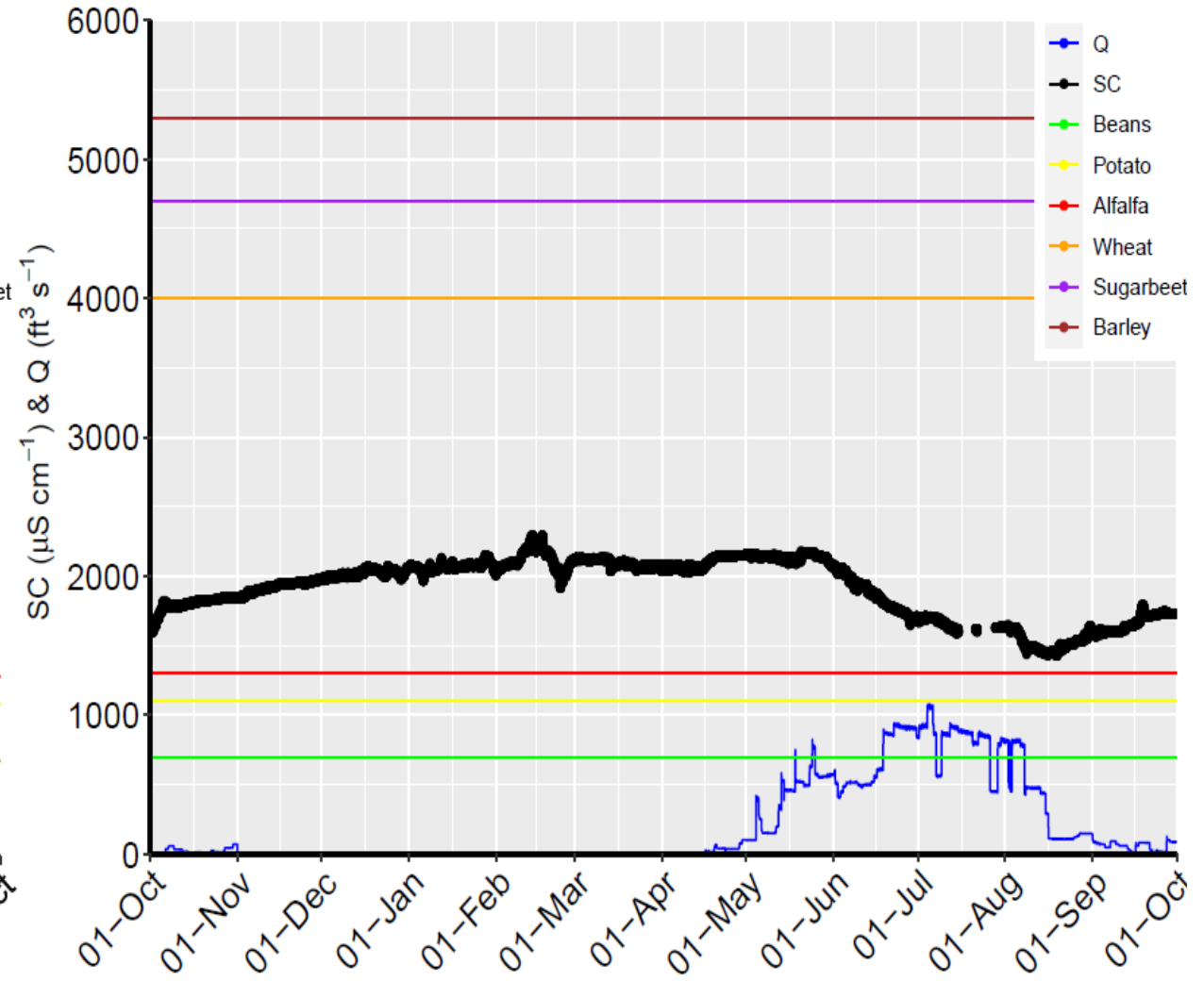


Discharge, Specific Conductance, and Crop thresholds

Upstream of John Martin Dam



Downstream of John Martin Dam





OPERATIONS AND MAINTENANCE



John Martin Dam and Reservoir

- Grouting gallery sump pump
The primary and backup sump pumps at the north end of the grouting had to be repaired.
- Field investigation
Sediment samples were collected to support future dredging upstream of the dam.

Trinidad Dam and Lake

- Emergency Power
A new heavy equipment shed was constructed in the maintenance yard. This structure also houses the new projects emergency generator.
- Maintenance Contracts
Contracts were awarded to replace the sump pump in the dam tower and to replace the packing glands on the two pairs of service and emergency gates.





CIVIL WORKS SECTION 206- ECOSYSTEM RESTORATION



Spring Creek, Colorado

- The purpose of the project is to restore a wetland and bird sanctuary formerly managed by the Audubon Society.
- In FY21, funds were used to complete the Federal Interest Determination (FID).
- Working on drafting the Feasibility Cost Share Agreement (FCSA)
- Feasibility study is expected to start in FY22



Project site location in Colorado Springs, CO. Former wetland outlined in light blue.



EMERGENCY MANAGEMENT COORDINATION



Public Law 84-99 authorized USACE to assist state and local governments before, during, and after flood events.

Assistance can be obtained by contacting:

**Albuquerque District, U.S. Army Corps of Engineers,
Emergency Management Branch, Operations Office**
cespa-eoc@usace.army.mil
505-342-3686



**US Army Corps
Of Engineers**
Albuquerque District

FLOOD EMERGENCY HANDBOOK



JULY 2020
(SUPERSEDES ALL PREVIOUS VERSIONS)



QUESTIONS