

2022 ARCA ANNUAL MEETING ARKANSAS RIVER BASIN REPORT

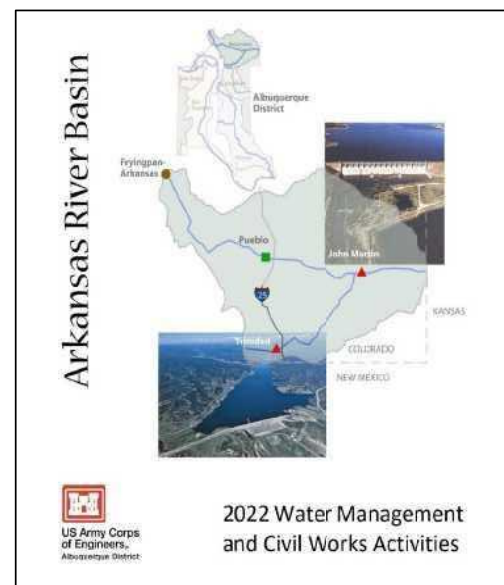
LTC Jerre Hansbrough, PE
District Commander
South Pacific Division
Albuquerque District

8 December 2022



TOPICS

- Compact Year 2022 Water Management
- Arkansas Basin Water Quality Monitoring
- Operations and Maintenance
- Civil Works Projects
- Emergency Management Coordination





COMPACT YEAR 2022 WATER MANAGEMENT

Snowpack and Runoff



May 1st Natural Resources Conservation Service Forecast

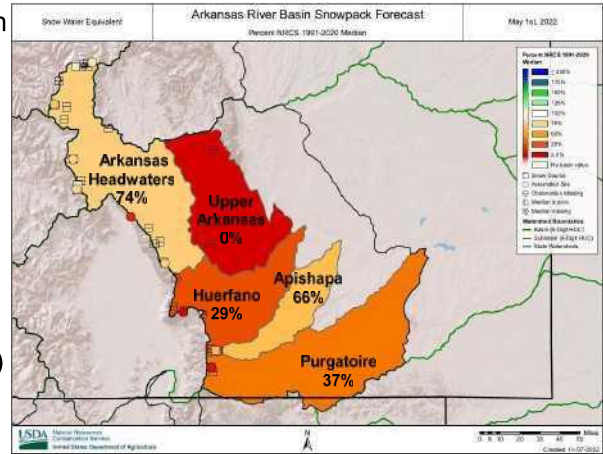
- Arkansas Headwaters Basin snowpack: 74% of median
- Upper Arkansas Basin snowpack: 0% of median
- Purgatoire Basin snowpack: 37% of median
- Basin-wide average: 66% of median

Trinidad Dam and Lake

- Forecast runoff inflow: 10,000 ac-ft
- Actual runoff inflow: 7,000 ac-ft (24% of median)

John Martin Dam and Reservoir

- National Weather Service: 82,400 ac-ft
- Actual runoff inflow: 60,750 ac-ft (48% of median)



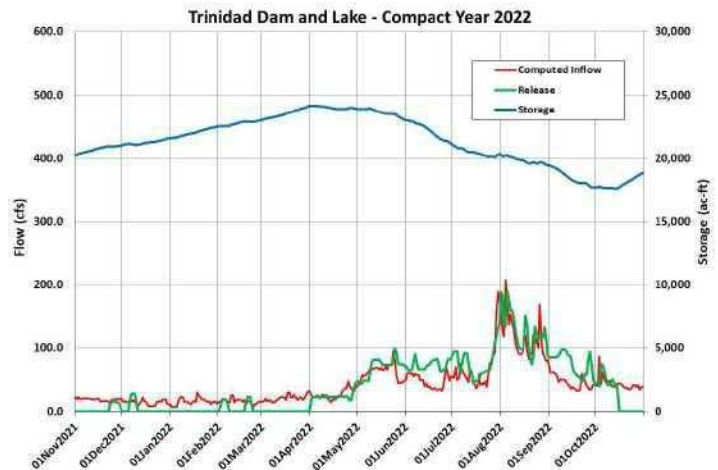
COMPACT YEAR 2022 WATER MANAGEMENT

Trinidad Dam and Lake



Compact Year 2022 Water Management

- Computed inflow: 30,200 ac-ft
- Release: 29,400 ac-ft
- Maximum storage: 24,160 ac-ft
- Minimum storage: 17,620 ac-ft
- End of Compact Year storage: 18,862 ac-ft
- No Flood Risk Management Operations
- No evidence of zebra or quagga mussels





COMPACT YEAR 2022 WATER MANAGEMENT

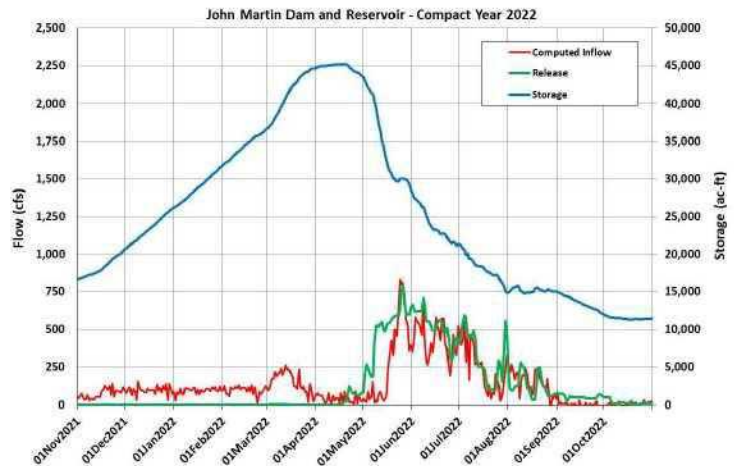
John Martin Dam and Reservoir



5

Compact Year 2022 Water Management

- Computed inflow: 101,500 ac-ft
- Release: 95,400 ac-ft
- Maximum storage: 45,260 ac-ft
- Minimum storage: 11,350 ac-ft
- No Flood Risk Management Operations
- No evidence of zebra or quagga mussels



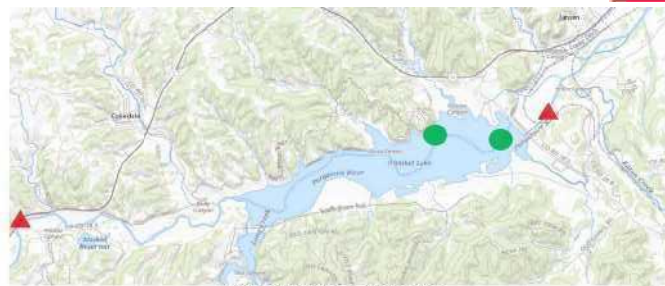
ARKANSAS WATER QUALITY MONITORING



6

● 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)



Trinidad Dam and Lake

▲ Riverine Stations (2020 – 2025)

- 15-minute interval
 - Water Temperature
 - Dissolved oxygen
 - Turbidity
 - pH
 - Specific conductance
- Monthly anions/cations and total suspended sediment



John Martin Dam and Reservoir



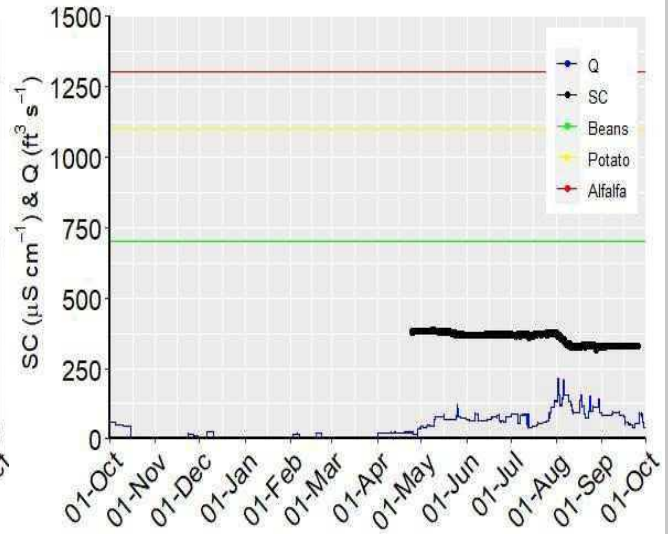
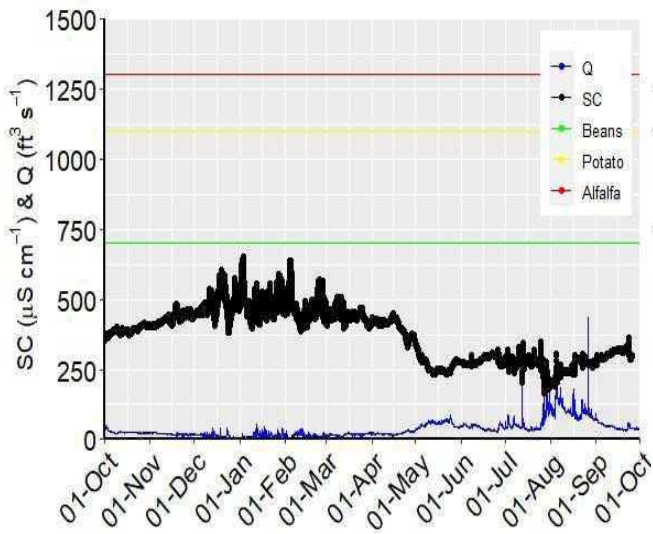
ARKANSAS WATER QUALITY MONITORING DATA



2022 Discharge, Specific Conductance, and Crop thresholds

Upstream of Trinidad dam (Madrid Gauge)

Downstream of Trinidad Dam



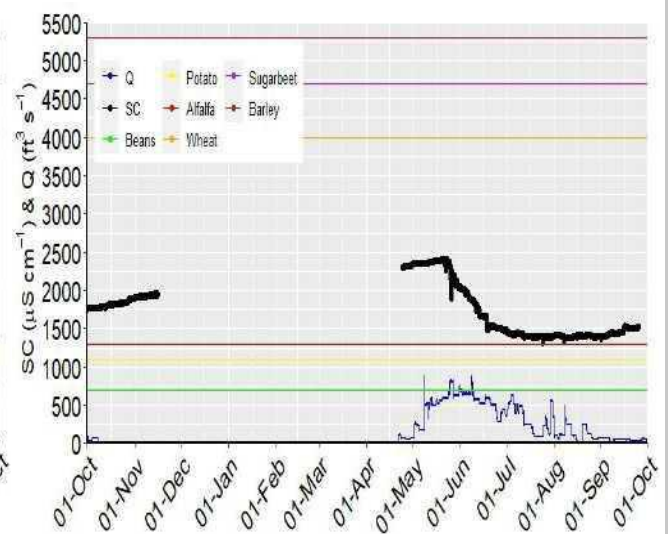
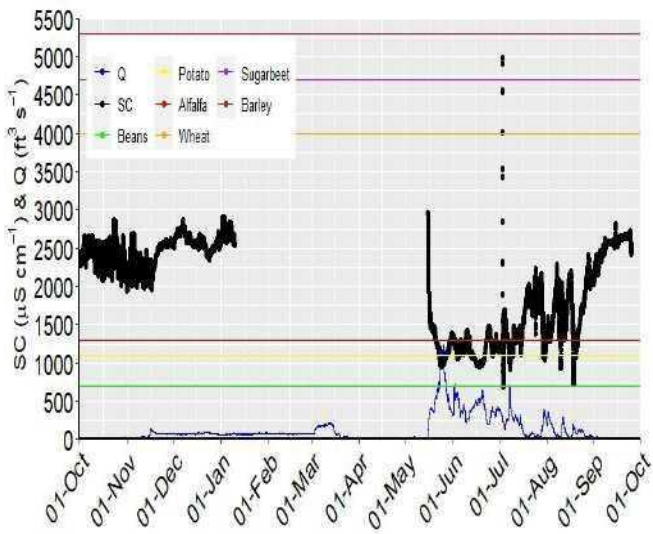
ARKANSAS WATER QUALITY MONITORING DATA



2022 Discharge, Specific Conductance, and Crop thresholds

Upstream of John Martin dam

Downstream of John Martin Dam





OPERATIONS AND MAINTENANCE



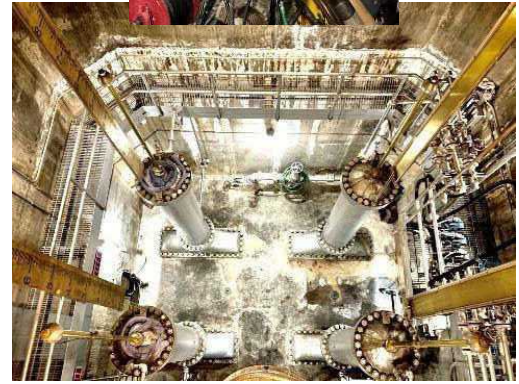
John Martin Dam and Reservoir

- Field investigation
Vibrating wire piezometers were installed at three key monoliths and directed both upstream and downstream of the dam. This effort involved drilling into the monoliths from the operating gallery and then barge drilling in the reservoir.



Trinidad Dam and Lake

- Maintenance Contracts
Contracts were completed 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

Sponsor: City of Colorado Springs

- 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
- Feasibility Cost Share Agreement signed July 2022
- Feasibility study expected to complete in 2025



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



EMERGENCY MANAGEMENT COORDINATION

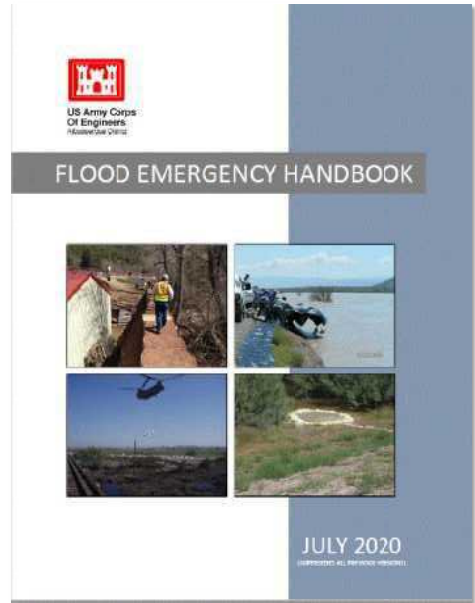


11

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



12

