Arkansas River Compact Administration Engineering Committee Update December 12, 2024

Dustin Ethredge
Colorado Water Science Center
Southeastern Colorado Field Office
Pueblo, CO

Nathan Sullivan
Kansas Water Science Center
Hays Field Office
Hays, KS

U.S. Department of the Interior
U.S. Geological Survey

USGS
science for a changing world

Colorado Updates

- Arkansas River at Las Animas
- Camera Network

Kansas Updates

- Frontier Ditch near Coolidge
- Arkansas River near Coolidge

U.S. Department of the Interior
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Arkansas River at Las Animas Construction

- Construction began October 2024
  - Projected to end March 2026
- Potential impacts to data collection/gage access
  - Contractor willing to implement flagging and/or build access deck
  - June/July traffic should be diverted back away from east side of bridge

- 07124000 Arkansas at Las Animas; Looking downstream from gage

USGS

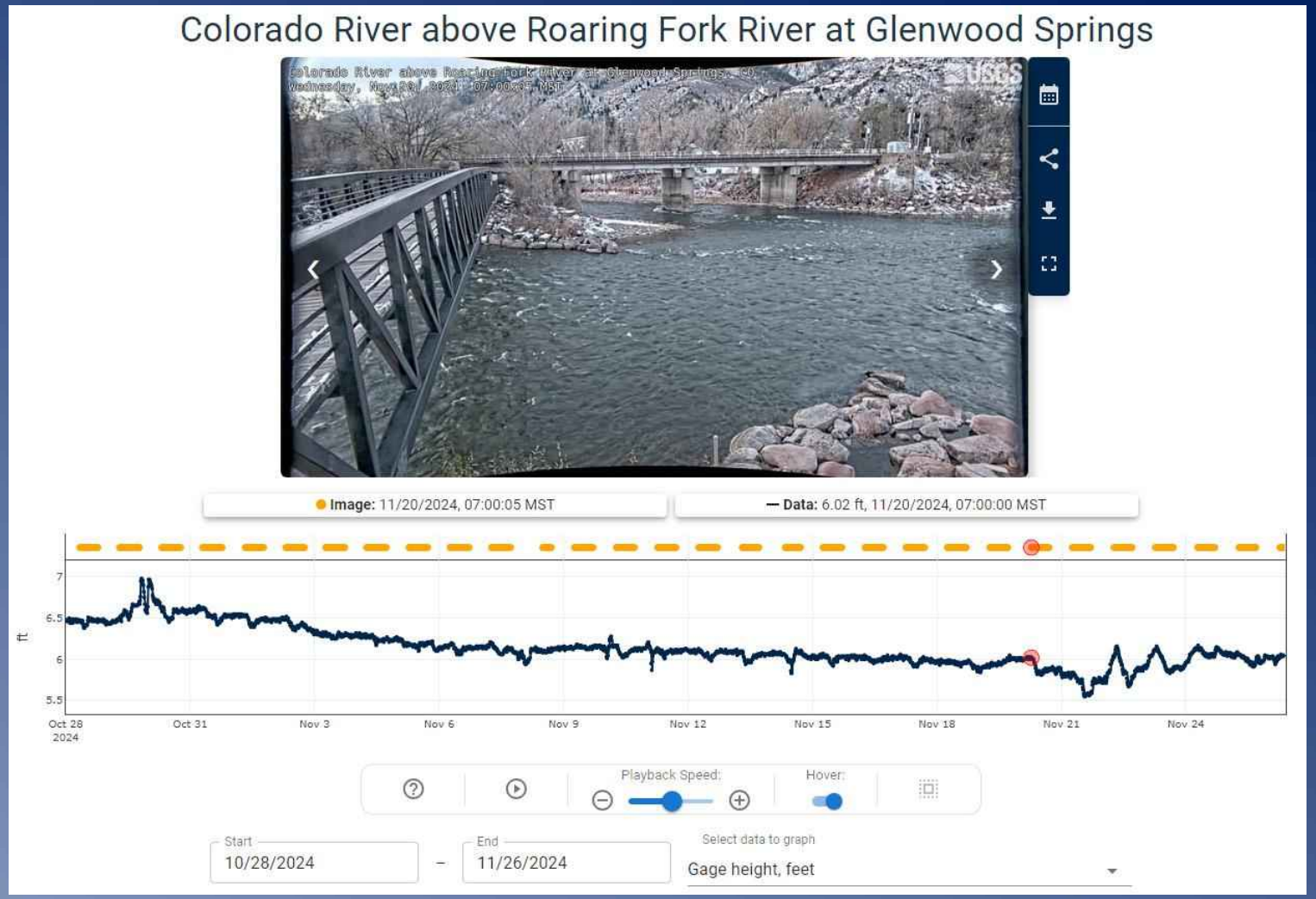
COWSC Camera Deployments

- 7 “Real-Time” cameras with telemetry
  - Planned future deployments in the Arkansas, Colorado, Gunnison, Yampa basins FY2025
- Real-Time imagery is served via Station Pages (WDFN) and Hydrologic Imagery Visualization and Information System (HIVIS)
  - Time-lapse imagery available as well as “stepping” through hydrograph to show corresponding image

Camera Installation

HIVIS Station Pages

- Nationally supported imagery user interface
- Updates automatically
- Serves still images, date picker, time-series selection, and time-lapse video



HIVIS Station Page

USGS

HIVIS Station Pages

HIVIS Time-lapse

USGS

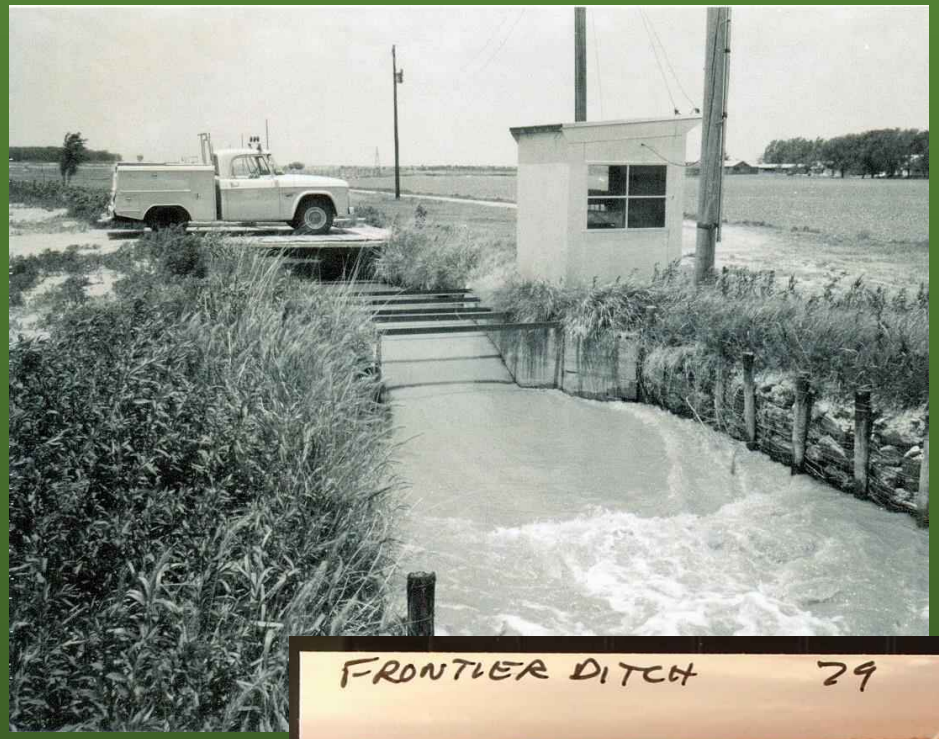
Camera Deployment Uses

- Cameras provide situational awareness at USGS monitoring locations
  - Images provide the public and emergency managers with visual information when floods or other natural hazards are present
- Imagery assists hydrographers with determining ice affected data, algae growth/cessation, debris accumulation, sediment deposition/erosion, other conditions which affect data collection
  - USGS External R&D project with Stevens Institute to use AI algorithms to automatically detect and flag ice affected gage height data from images
- Imagery and video being used to aid in enhancing non-contact discharge measurement methods through Particle Image Velocimetry (PIV)

07137000 Frontier Ditch nr. Coolidge, KS

- Current steel flume structure is believed to have been installed in the 1960s.

- It has far exceeded its useful life span



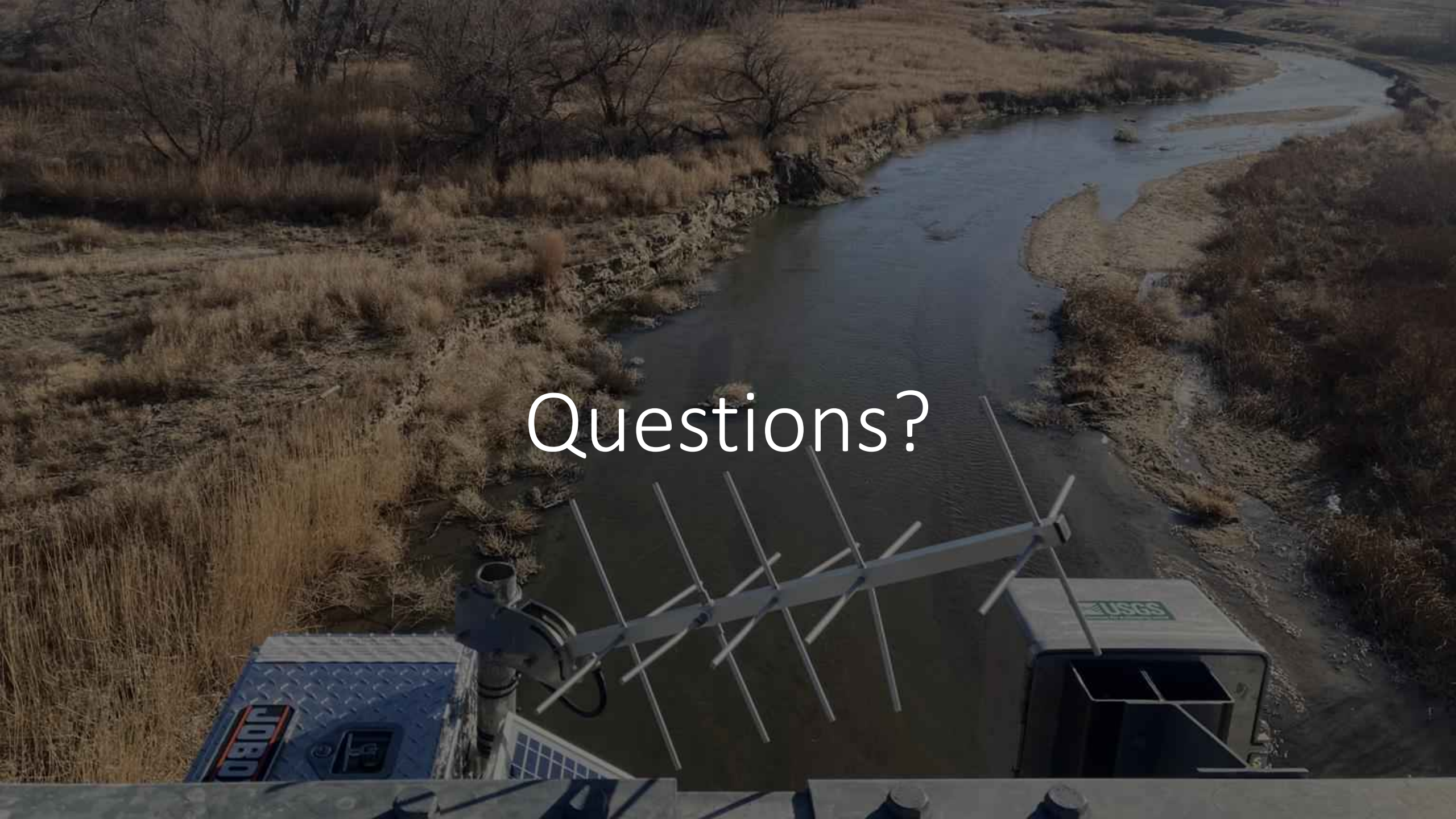
07137000
Frontier Ditch Nr. Coolidge, KS

- The flume has been patched and painted numerous times to try to extend its life, but the condition has continued to deteriorate over the years

- The flume needs to be replaced as soon as possible to provide accurate discharge data.

07137500 Arkansas River nr. Coolidge, KS

- The bridge is scheduled to be replaced beginning Jan. 2025
- A temporary gaging site has been installed downstream of the construction zone
- All current data will continue to be provided during construction


Questions?