



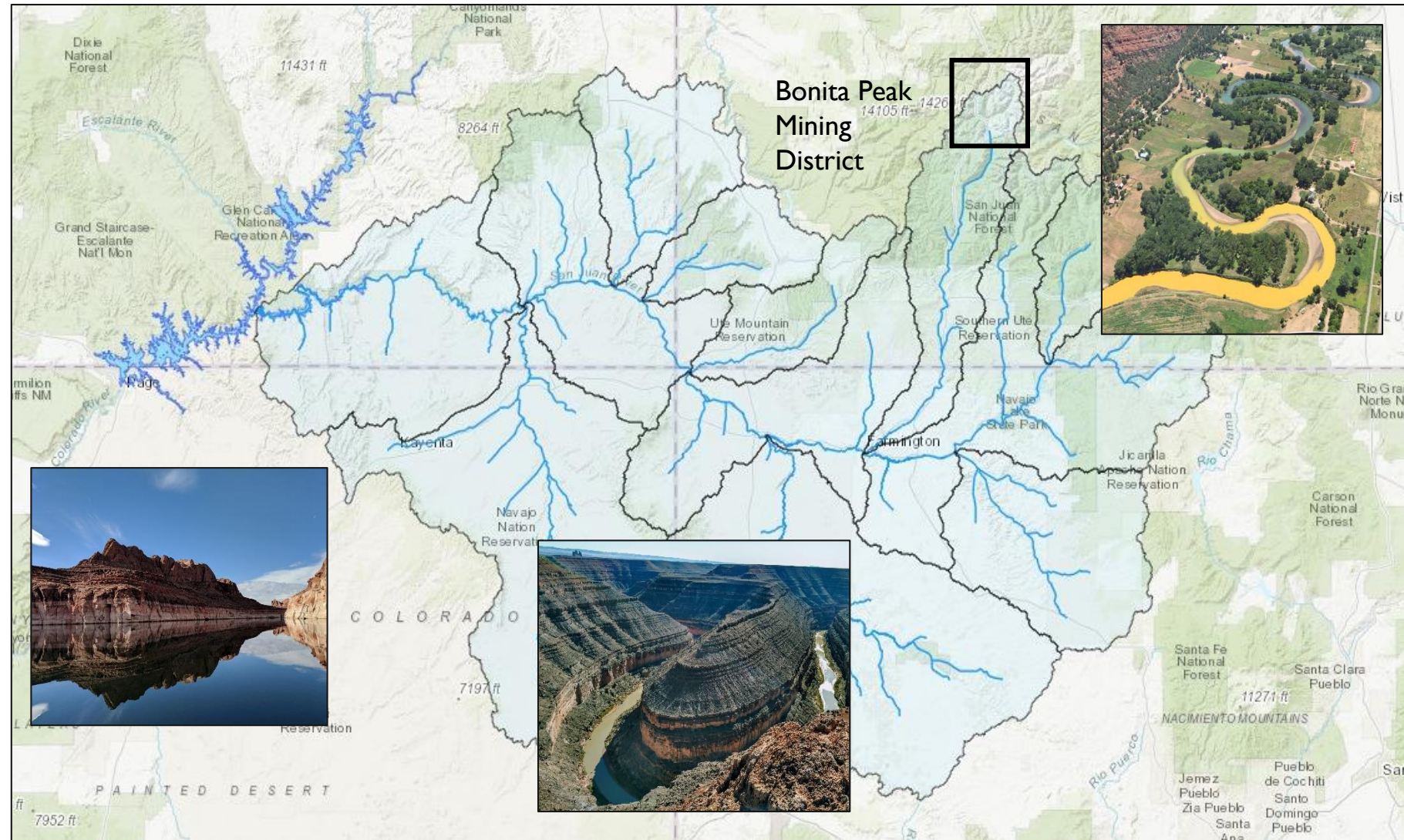
**Multijurisdictional Efforts Using
WIIN Act Appropriations in the
San Juan Watershed**

June 2023



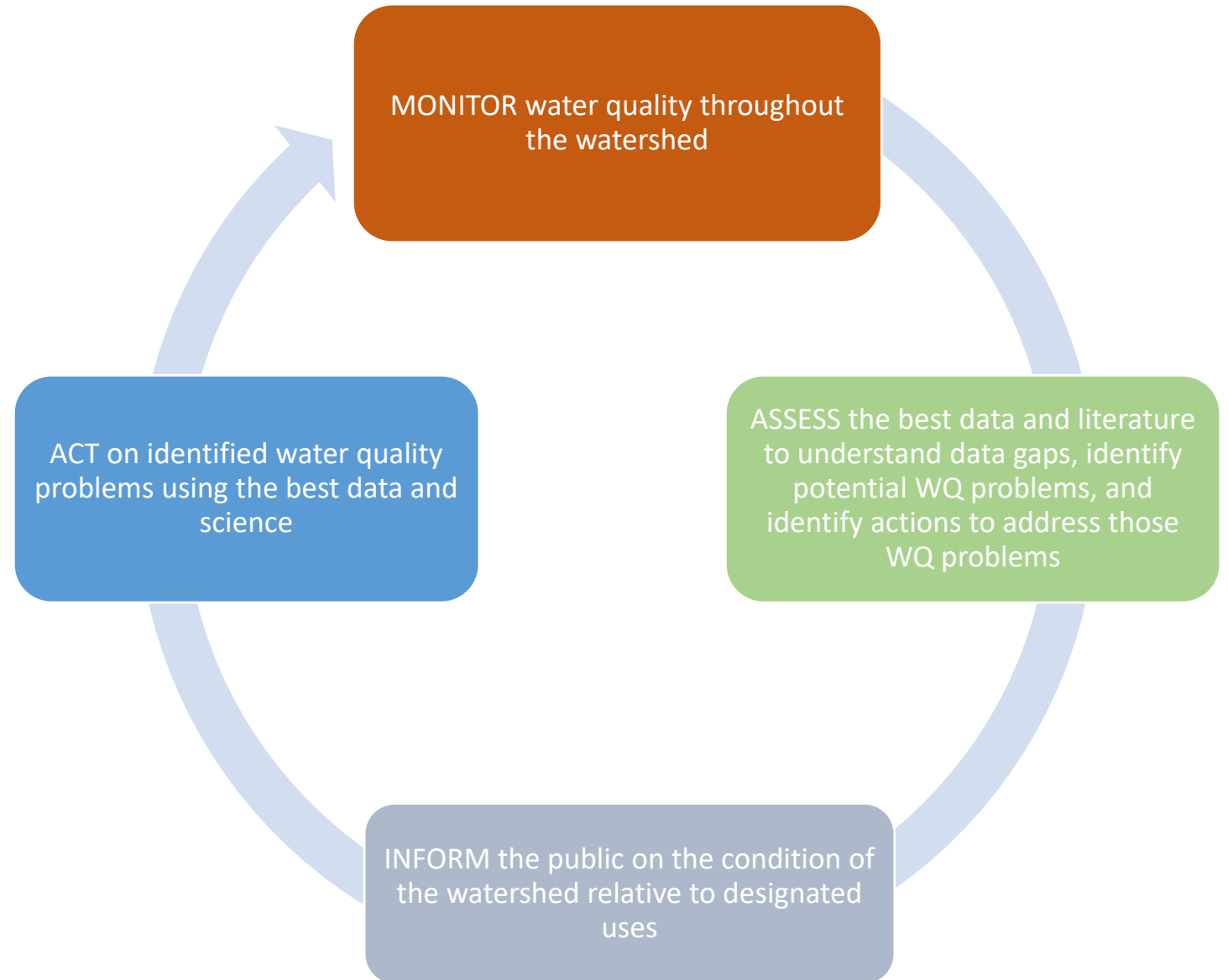
Gold King Mine Spill

- On 8/5/2015, an EPA contractor triggered a 3 million gallon release from GKM into Cement Creek in the San Juan Watershed
- Cement Creek flows in the Animas River, a major tributary to the San Juan River that flows through southeastern Utah and into Lake Powell
- Wide-spread monitoring and water quality modeling watershed-wide to determine impacts



Water Infrastructure Improvements for the Nation Act (WIIN)

- Under WIIN, Congress appropriated \$4,000,000 per year for 5 years from 2017 - 2021
- Utah, Navajo Nation, Ute Mountain Ute, New Mexico, Southern Ute, Colorado, and Arizona in collaboration with EPA work together to **monitor, assess, inform, and act**
- San Juan Watershed Group



Tribal and State Projects

Utah

- Lake Powell studies
- Communication & watershed planning
- Suspended sediment monitoring
- Watershed data analysis & reporting

Colorado

- Residential groundwater well monitoring
- Macroinvertebrate sampling
- Water quality monitoring
- Outreach and collaboration

Ute Mountain Ute

- Cottonwood Wash Investigation
- East Fork Mancos restoration

Southern Ute

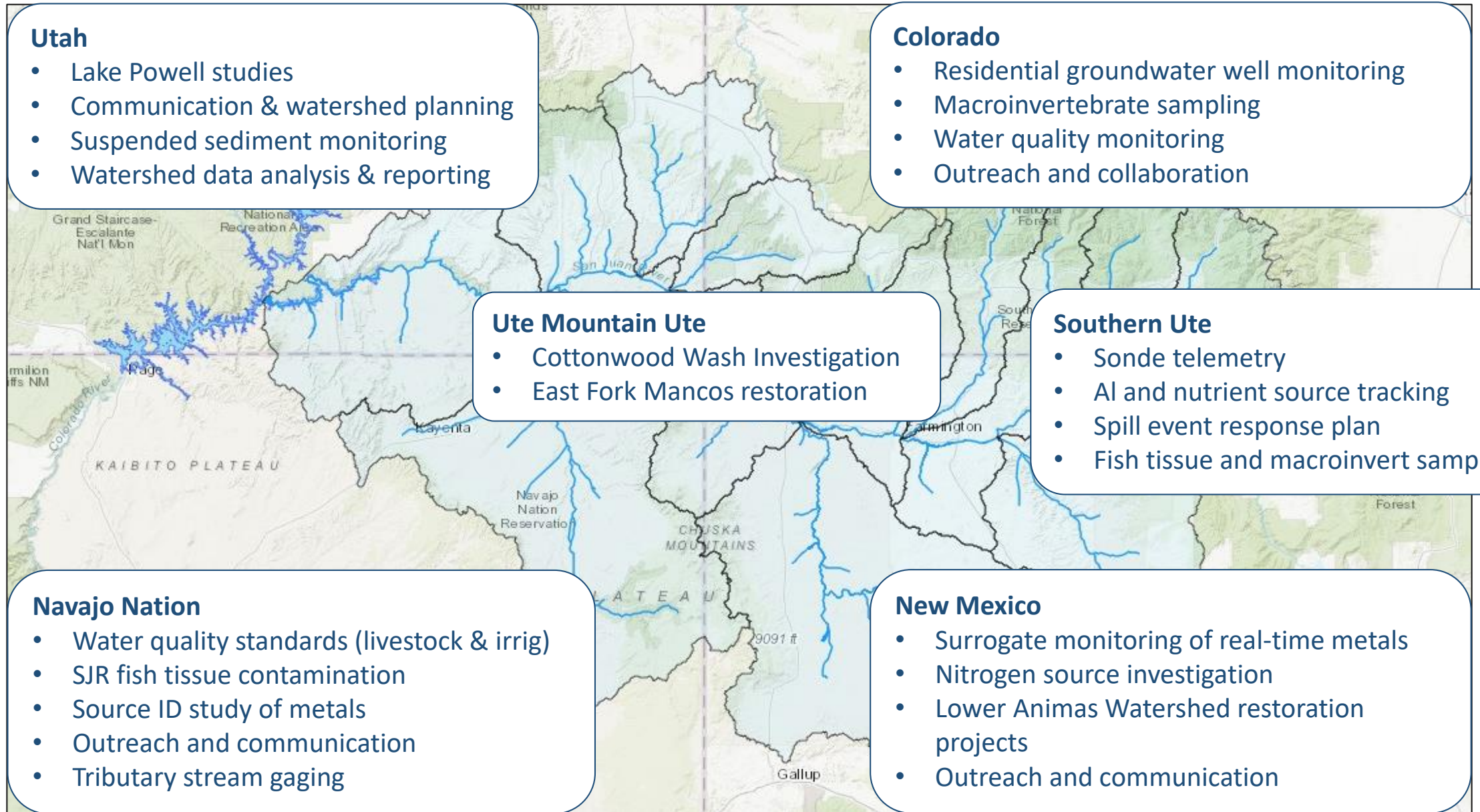
- Sonde telemetry
- AI and nutrient source tracking
- Spill event response plan
- Fish tissue and macroinvert sampling

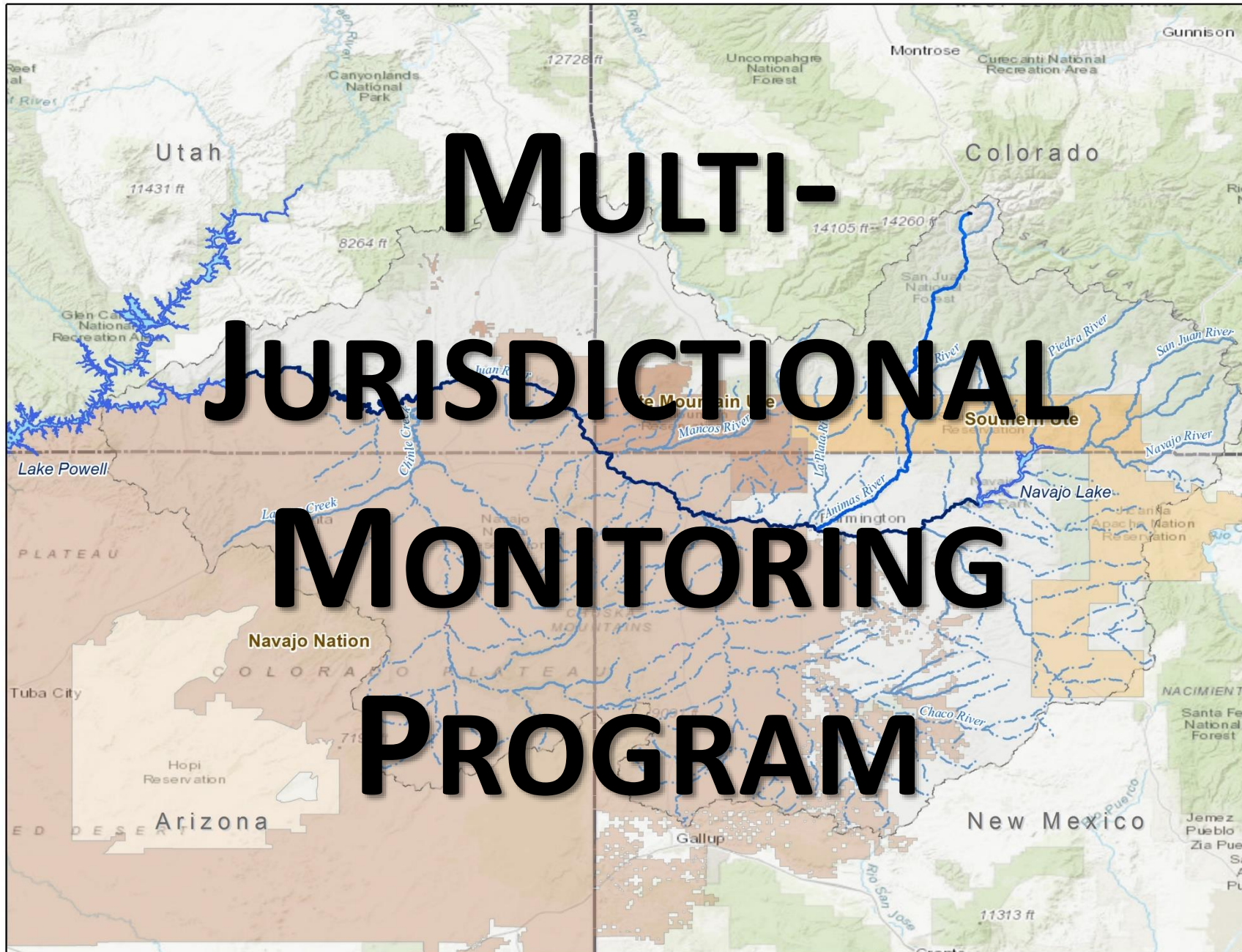
Navajo Nation

- Water quality standards (livestock & irrig)
- SJR fish tissue contamination
- Source ID study of metals
- Outreach and communication
- Tributary stream gaging

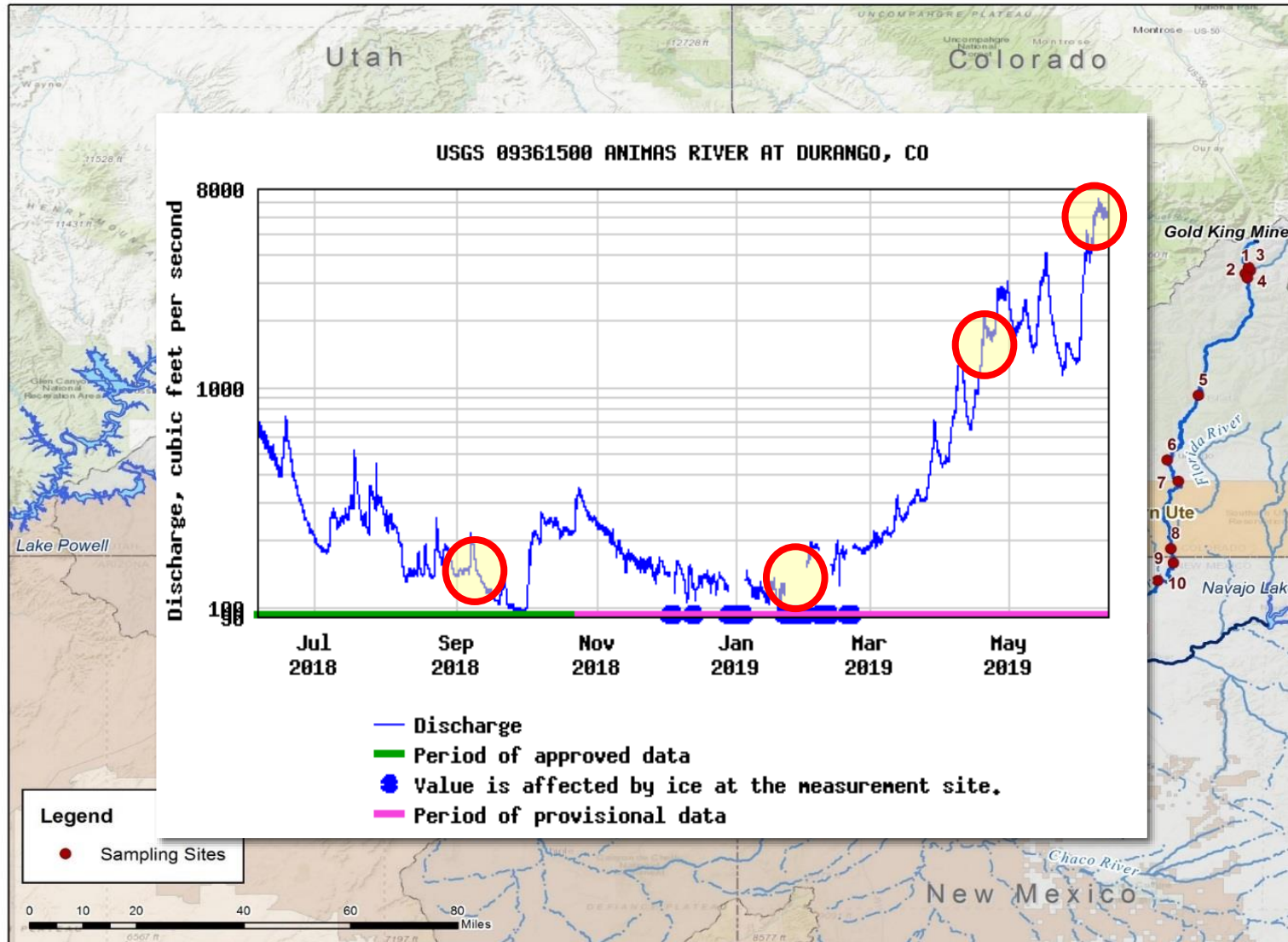
New Mexico

- Surrogate monitoring of real-time metals
- Nitrogen source investigation
- Lower Animas Watershed restoration projects
- Outreach and communication





EPA-Led Monitoring Program (2016-2021)



Water and Sediment

- 39 sites – Animas River, San Juan River, select tributaries
- Metals, Nutrients, Minerals, Physico-Chem
- Four collection periods per year

Biological

- 14 sites – Animas and San Juan Rivers
- pHab and Macroinverts
- One collection per year

Data is in WQX

Jurisdiction-led Monitoring Program (2022 & beyond)

Objectives:

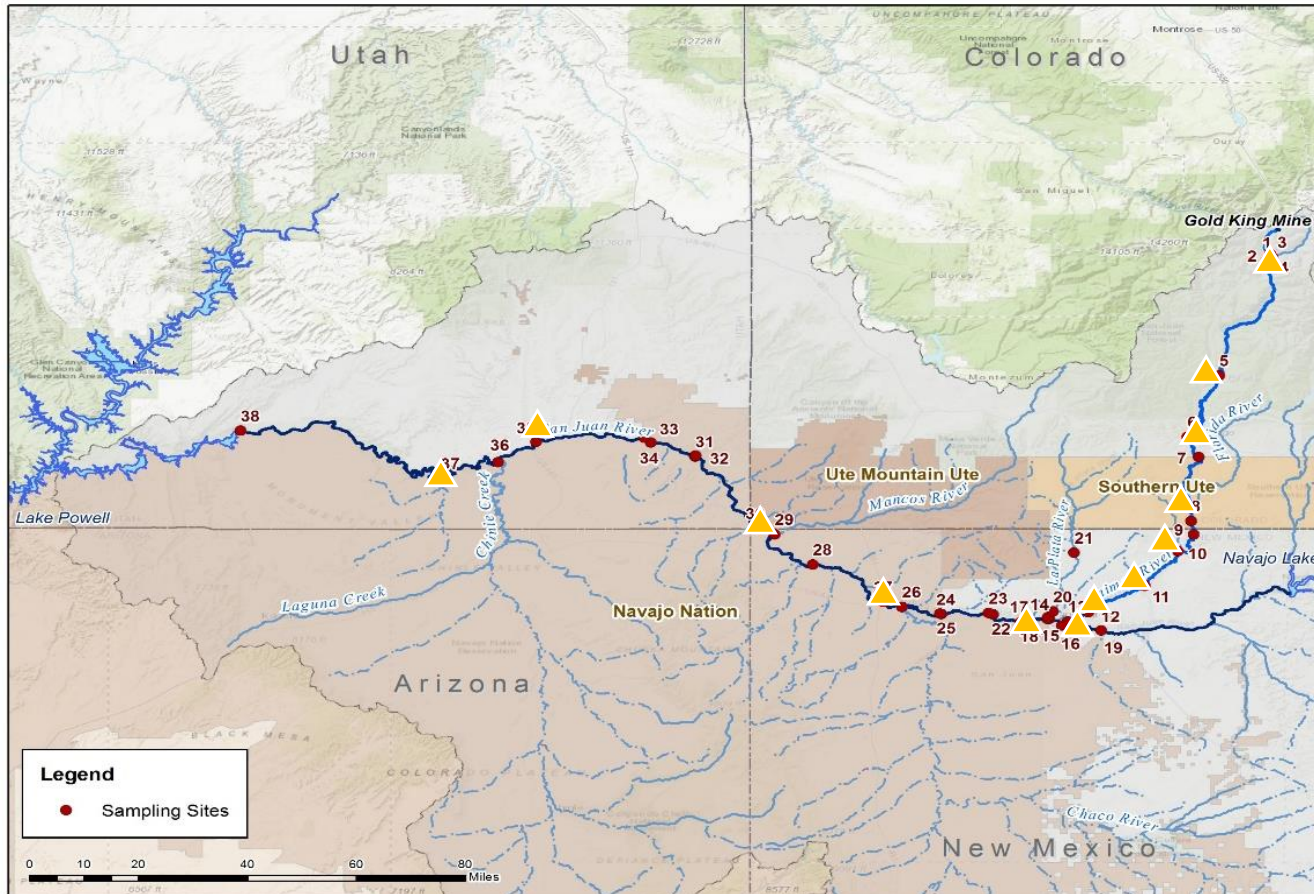
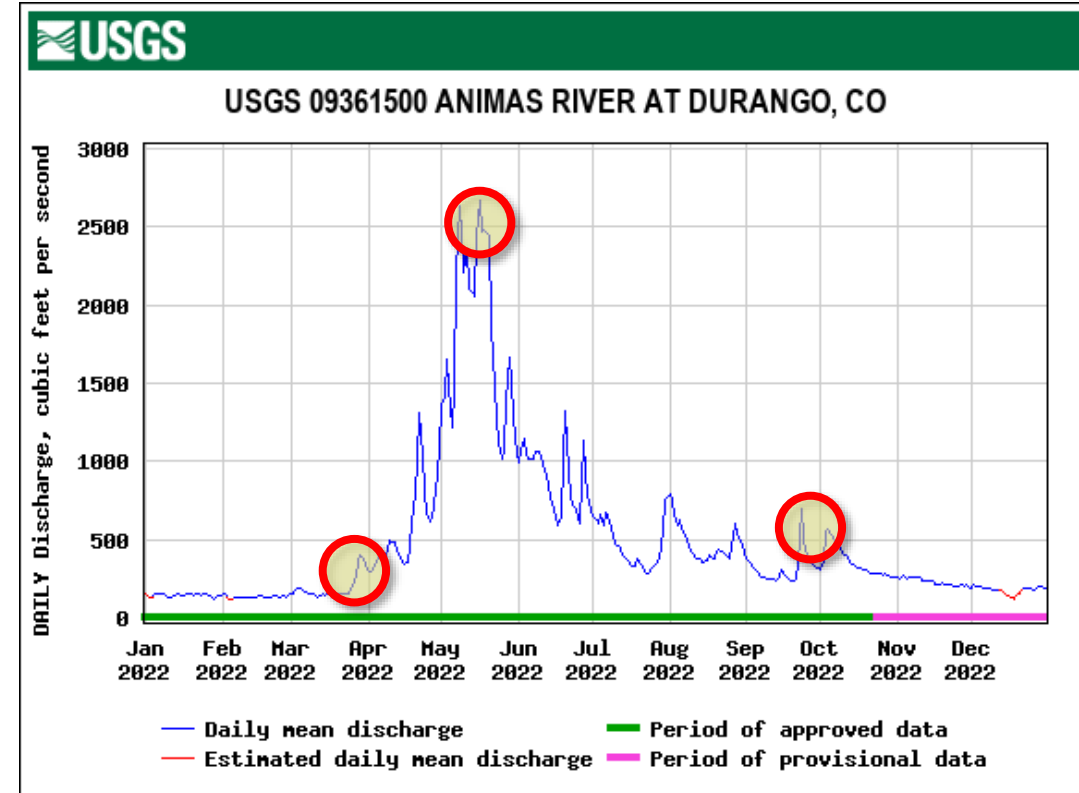


- a) Provide monitoring data at a frequency greater than respective jurisdiction monitoring programs to allow for current condition estimates of water quality in the Animas and San Juan Rivers.
- b) Establish a consistent collection schedule, parameter methodology, and analytical regime across jurisdictions to allow for better tracking of water quality trends and comparisons across jurisdictional boundaries.
- **Completed sampling events: June 2022, October 2022, April 2023, June 2023**
- **Proposed sampling events: October 2023, and 3 events in 2024**

Jurisdiction-led Monitoring Program

Study Area, Sites, Frequency:

- 13 monitoring locations
- 3X per year to capture baseflow, snowmelt, monsoon stormflow



- ☐ Sampling locations and frequency informed by data collected from EPA-led program and jurisdictional input.
- ☐ Other considerations included resource allocations for collection activities and analytical effort.

Jurisdiction-led Monitoring Program

So how are we going to pull this off?

- Sample Collection: NN
- Analytical Services: NMED and UDEQ

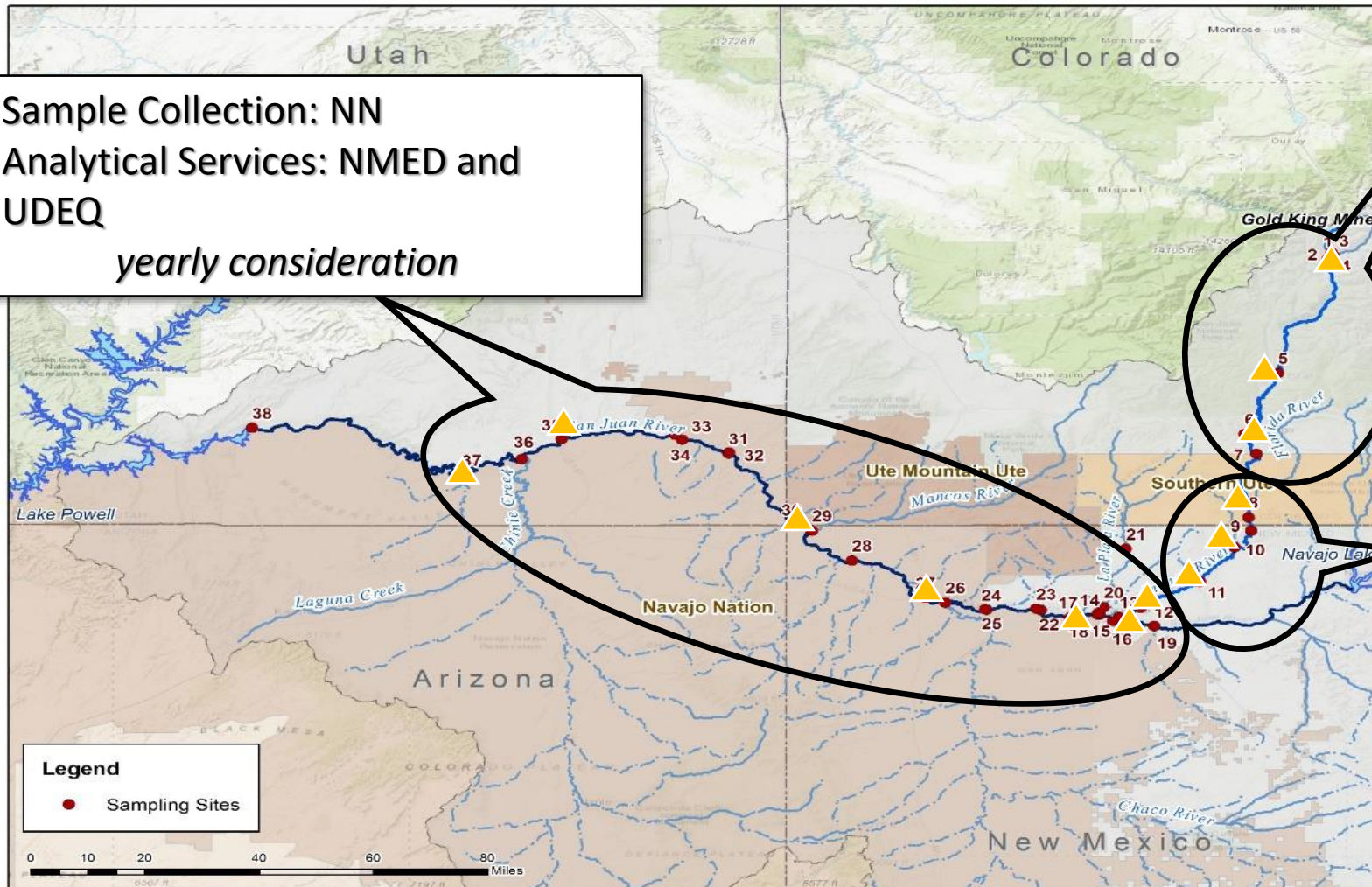
yearly consideration

- Sample Collection: CDPHE
- Analytical Services: CDPHE

2-year initial commitment

- Sample Collection: SUIT
- Analytical Services: NMED

yearly consideration



Jurisdiction-led Monitoring Program

What parameters?

- ☐ Standard analytical suite, respective to each agency
 - Water
 - Metals – both total and dissolved
 - Nutrients
 - Minerals (alkalinity, hardness, TSS, sulfate, chloride)
 - *E. coli* bacteria*
 - Physico-Chemical parameters (temperature, pH, dissolved oxygen, specific conductance, turbidity)
 - Sediment
 - Metals (only CDPHE currently)
- ☐ Grab Samples
- ☐ Exclusion of specialized collection techniques for certain parameters (e.g., Aluminum, low-level Mercury)



Jurisdiction-led Monitoring Program

What to do with the Data?

- ☐ Upload to WQX so data available on Water Quality Portal
- ☐ Assessment of Data – How to communicate out results?

At Minimum:

1. TRIBES - Assessment Reports
2. STATES - Integrated Reports (§ 305(b) reports and/or § 303(d) lists)

- ☐ Annual report that summarizes spatial and temporal trends in the data and assesses the current condition of the watershed
 - ☐ First report on the 2022 data will be available in the fall of 2023

With more data available, current conditions can be better assessed and communicated



Jurisdiction-led Monitoring Program

Implementation Hurdles

- **E. coli** – E. coli sampling has been variable but hope to have samples analyzed for E. coli during the October 2023 run.
- **Dissolved Organic Carbon** – UDEQ and NMED are reassessing our DOC analytical method due to recurring errors so currently we will not have DOC.
- **Staff** – Staff-turnover in multiple agencies has led to capacity issues and challenges with sample collection scheduling; however, still on track to collect 3 coordinated sample events in 2023.
- **Timing** – No two years are the same for flows, depends on the snowpack. Agencies plan around trends to anticipate when to collect during rising limb, peak, and falling limb of the year's hydrograph, but may be impacted by dam releases, localized storms, temperature, and weather anomalies.
- **Data management** – current issue is lack of a streamlined method for downloading and assessing data.



Jurisdiction-led Monitoring Program

Wish List/Successes – Looking to the Future

- **Collaboration** between multiple agencies
- **Annual reports** that summarizes spatial and temporal trends in the data and assesses the current condition of the watershed
 - *First report on the 2022 data will be available in the fall of 2023*
- Priority Pollutants (PFAS, pharmaceuticals, etc.)
- Fish tissue analysis
- Working through E. coli and DOC issues



Questions?

Jurisdiction	Contact(s)
Colorado Department of Public Health and Environment	Christopher Theel
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