

Conservation of the Middle Provo River and Its Fishery

High Country Fly Fishers
May 6, 2026

Jeremyallanflyfishing.com



- Tailwater Blue Ribbon brown trout fishery
- Self-sustaining (no stocking)
- Excellent aquatic insect production
- 12 river miles with public access, wading only
- A million people live within 60 mile radius of river
- Most heavily fished of all Utah rivers
- Increasing environmental pressures



Easy
access
from the
Wasatch
Front



Before Jordanelle Reservoir was built, the **Provo River Project** straightened, diked and channelized the river in the Heber Valley to prevent floods. The dam's construction included funding for mitigation to compensate for any ecological damage. After the dam was built the **Provo River Restoration Project** (PRRP) used heavy equipment to attempt to return the river to its historical channel in the years 1999-2008. Levees were largely removed.

The Middle Provo is an *artificial river*.

180 ft Tower
6 Gates (7.5 ft high)

Built 1987-93
Filled in 1996

Penstock

Jordanelle Dam

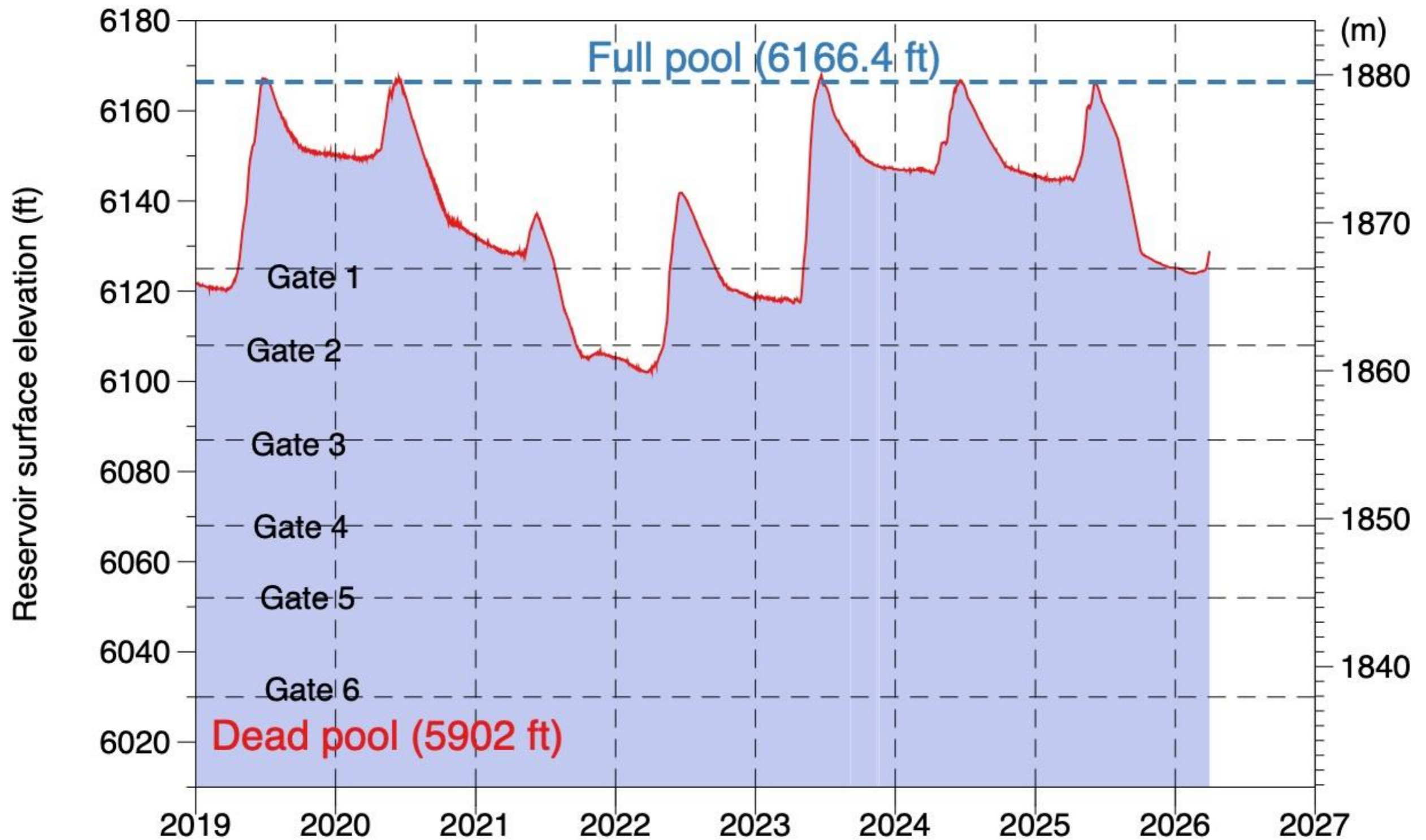
Turbines
13 MW

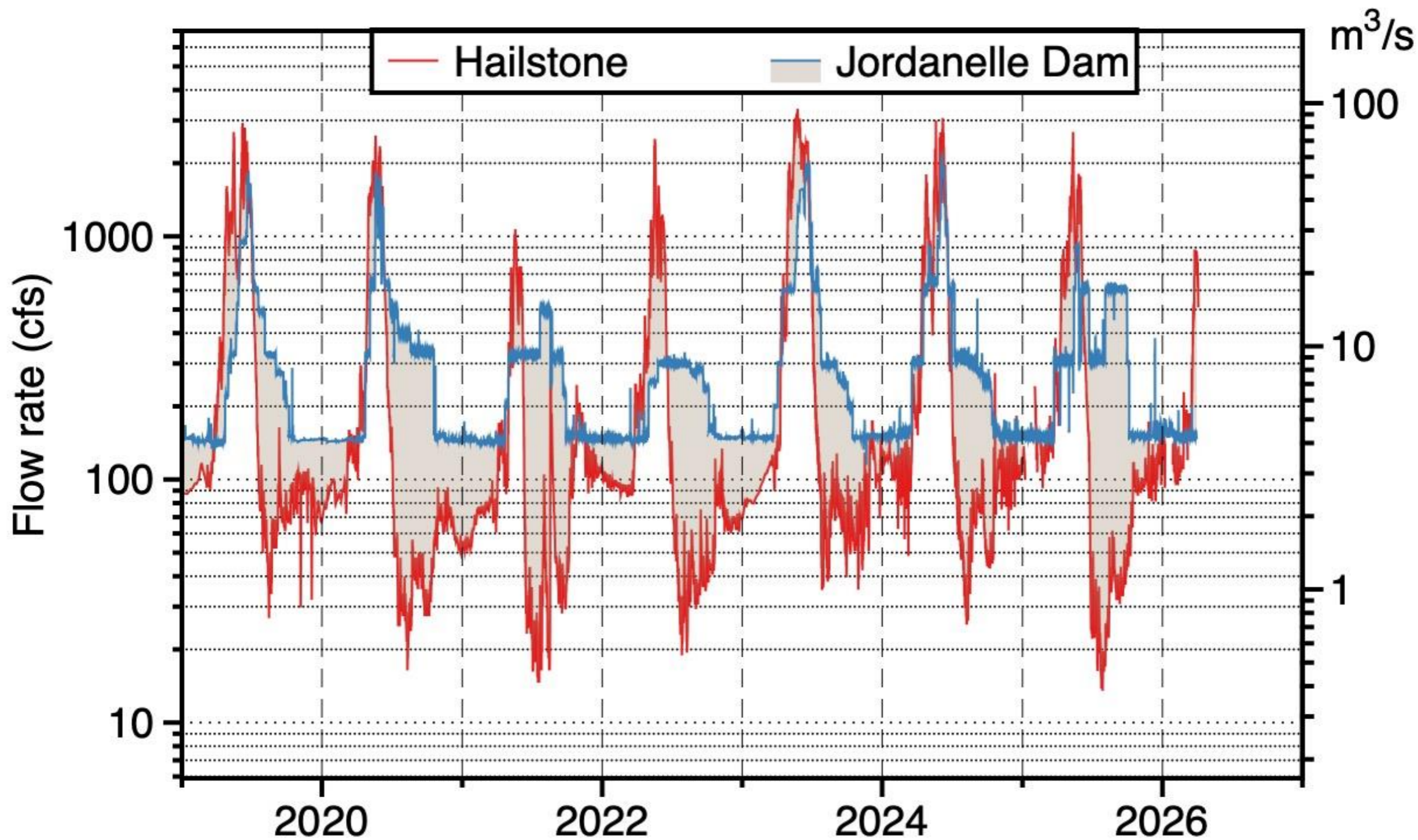
Middle Provo River

Dam flow rate and T are controlled by CUWCD

'95 5 18

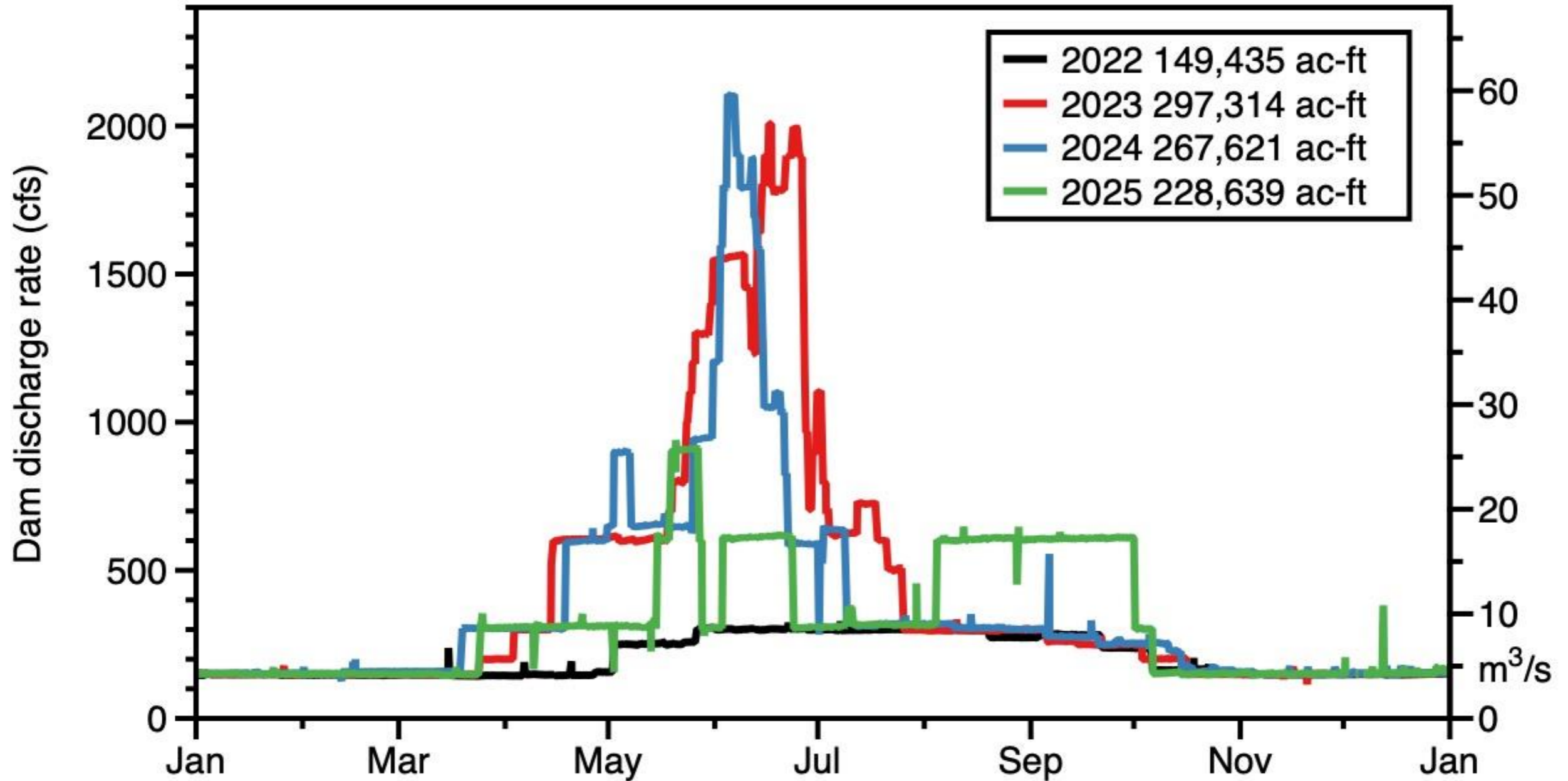
Jordanelle Reservoir Surface Elevation





Continuous flow of nutrient-rich cold water, ≥ 125 cfs

Release Rates



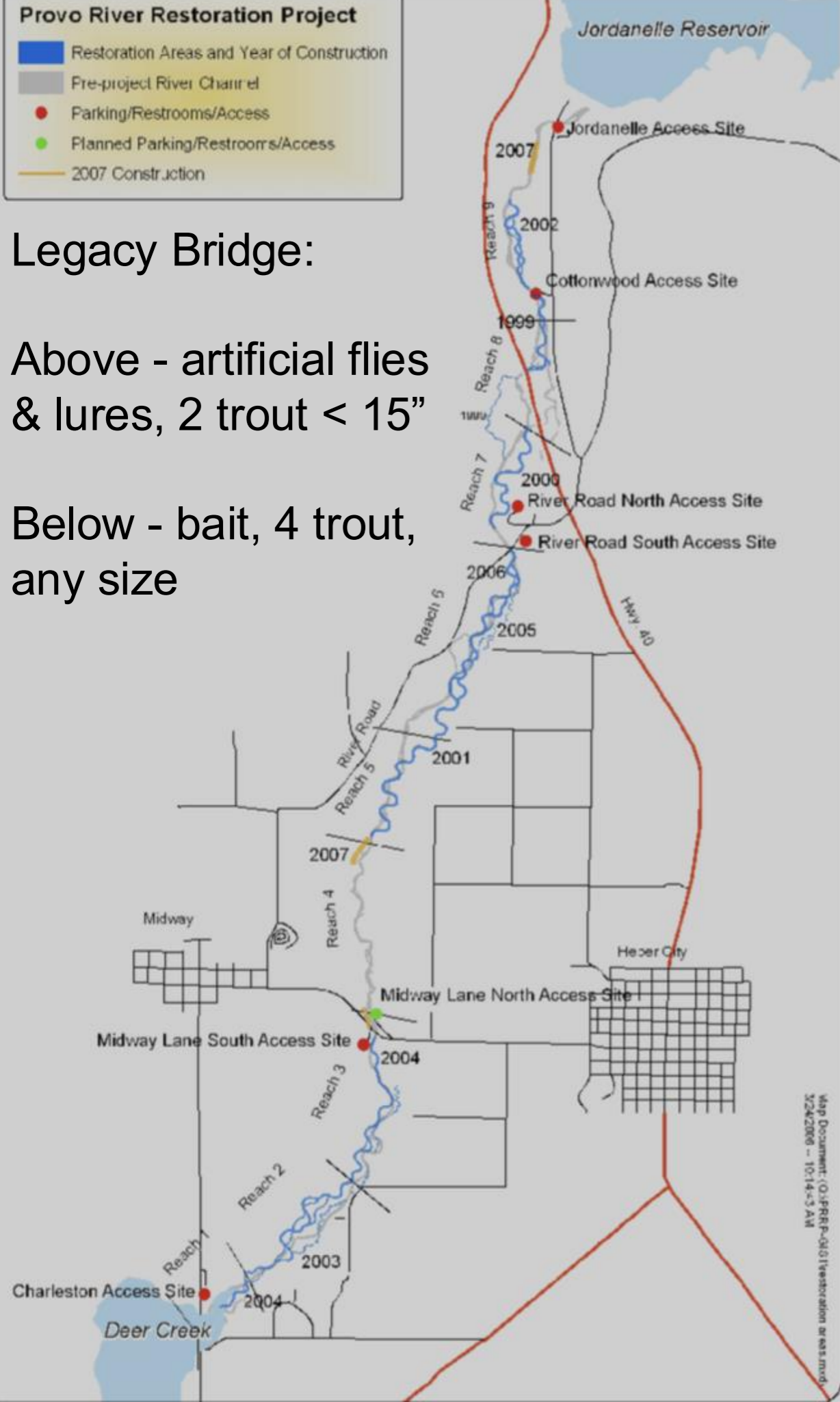
Provo River Restoration Project

- Restoration Areas and Year of Construction
- Pre-project River Channel
- Parking/Restrooms/Access
- Planned Parking/Restrooms/Access
- 2007 Construction

Legacy Bridge:

Above - artificial flies & lures, 2 trout < 15"

Below - bait, 4 trout, any size



River Restoration

Between 1999 and 2008 the river was reconstructed to create more natural habitat. Bends, pools, riffles, runs.

public corridor: 800 to 2200 ft wide



- Bureau of Reclamation
- Central Utah Water Conservancy District
- Utah Reclamation, Mitigation and Conservation Commission
- Provo River Restoration Project (1999)



Car Body



Cliff Hole



Cottonwood Bridge



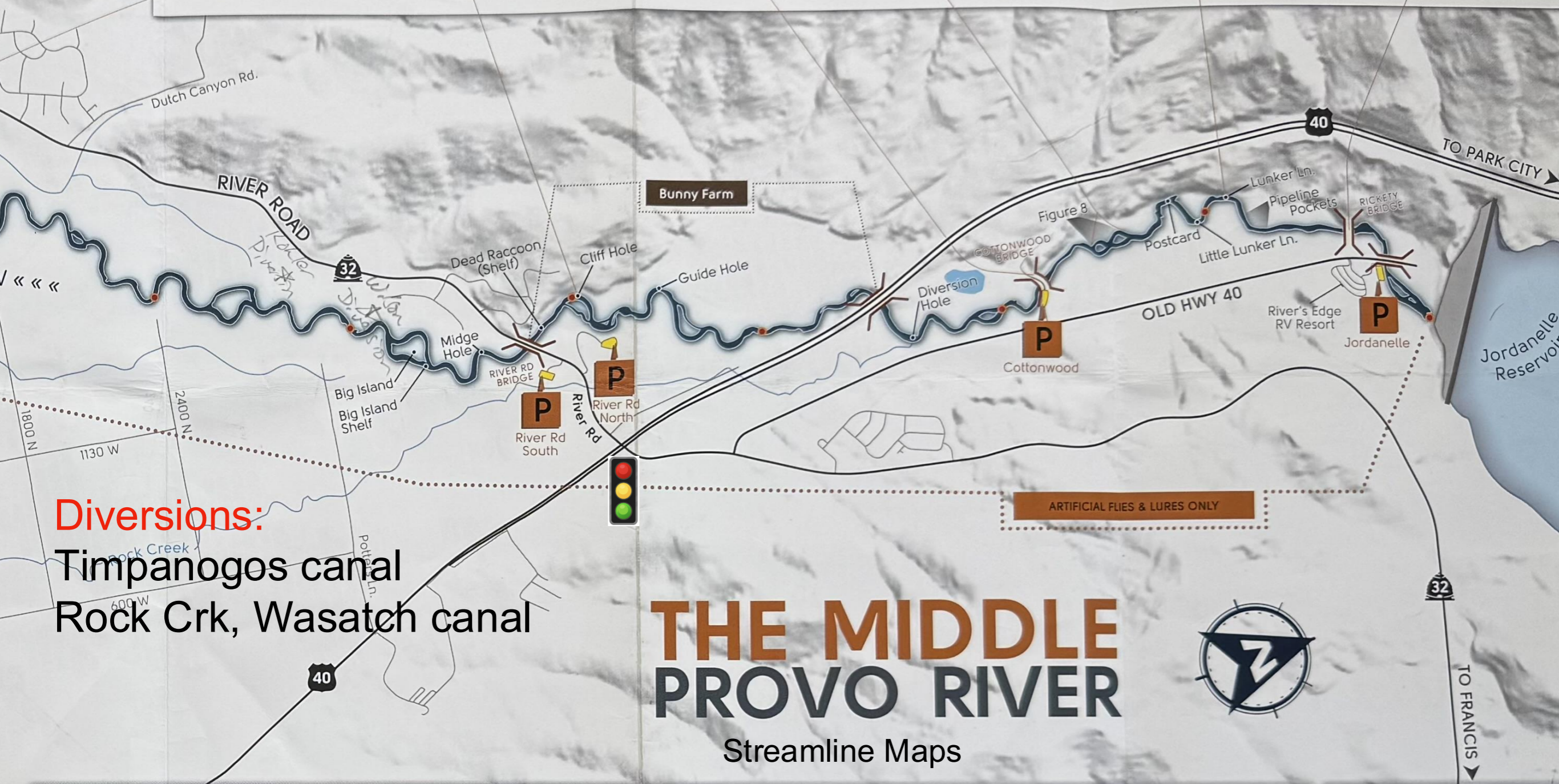
Figure 8



Lunker Lane



Rickety Bridge



Diversions:
 Timpanogos canal
 Rock Crk, Wasatch canal

THE MIDDLE PROVO RIVER

Streamline Maps



Flies for the Provo River



MIDGE
Double/Mating Midge



PALE MORNING DUN
Improved Sparkle Dun



GREEN DRAKE
Drake Cripple



GOLDEN STONEFLY
Bullet Head Golden Stone



LITTLE YELLOW STONEFLY
Yellow Sally



TERRESTRIAL
M's Grasshopper



BLUE WINGED OLIVE
No Hackle



STREAMER
Double Bunny

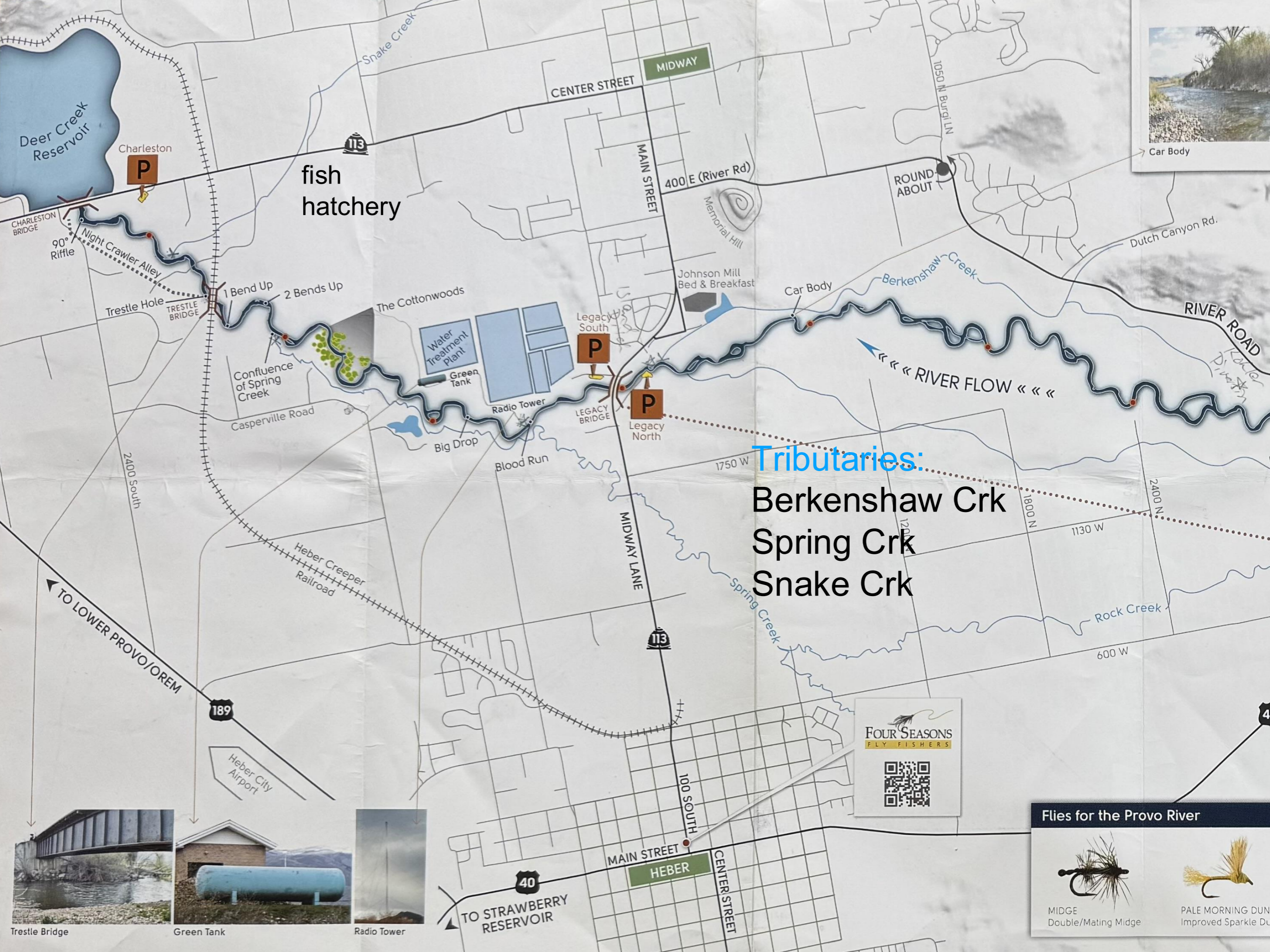
LEGEND

P Parking / River Access

Bridge

River Miles

Railroad Tracks



fish hatchery

Tributaries:
 Berkenshaw Crk
 Spring Crk
 Snake Crk

Flies for the Provo River



MIDGE
 Double/Mating Midge



PALE MORNING DUN
 Improved Sparkle Dun

FOUR SEASONS
 FLY FISHERS



Trestle Bridge



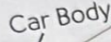
Green Tank



Radio Tower



Car Body



Car Body



P



P



P

90° Riffle

ROUND ABOUT

« « « RIVER FLOW « « «

TO LOWER PROVO/OREM

TO STRAWBERRY RESERVOIR

Deer Creek Reservoir

CHARLESTON BRIDGE

Night Crawler Alley

TRESTLE BRIDGE

Casperville Road

2400 South

Heber Creeper Railroad

Heber City Airport

189

Heber City Airport

HEBER

40

TO STRAWBERRY RESERVOIR

Snake Creek

CENTER STREET

MIDWAY

MAIN STREET

400 E (River Rd)

Memorial Hill

Johnson Mill Bed & Breakfast

Berkenshaw Creek

Dutch Canyon Rd.

RIVER ROAD

1 Bend Up

2 Bends Up

Confluence of Spring Creek

Water Treatment Plant

Green Tank

Radio Tower

Big Drop

Blood Run

Legacy South

LEGACY BRIDGE

Legacy North

1750 W

MIDWAY LANE

113

100 SOUTH

MAIN STREET

CENTER STREET

1800 N

1130 W

Rock Creek

600 W

2400 N

1200 W

1800 N

1130 W

600 W

1800 N

1130 W

600 W

1800 N

1130 W

600 W

1800 N

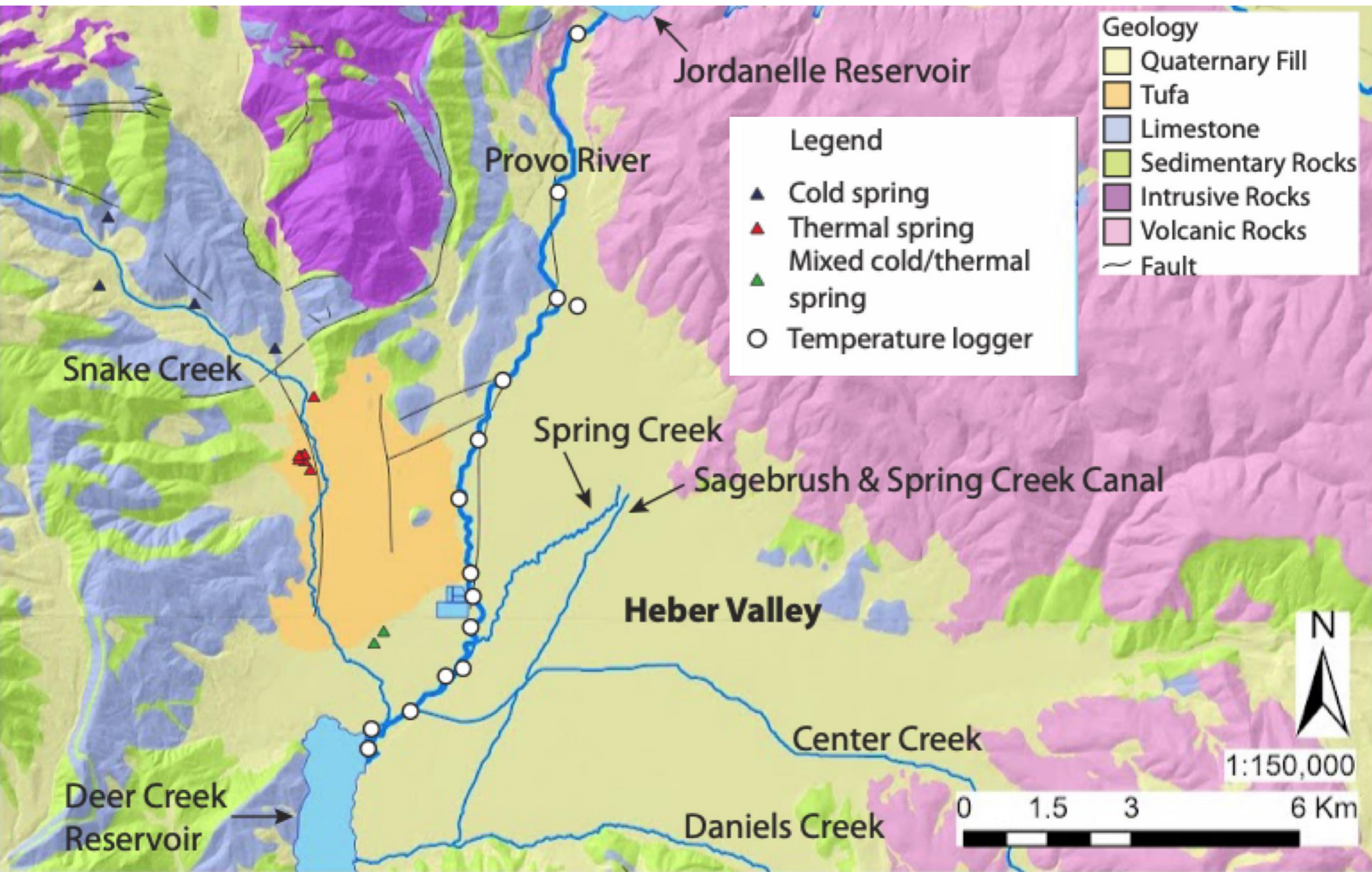
1130 W

600 W

1800 N

1130 W

600 W

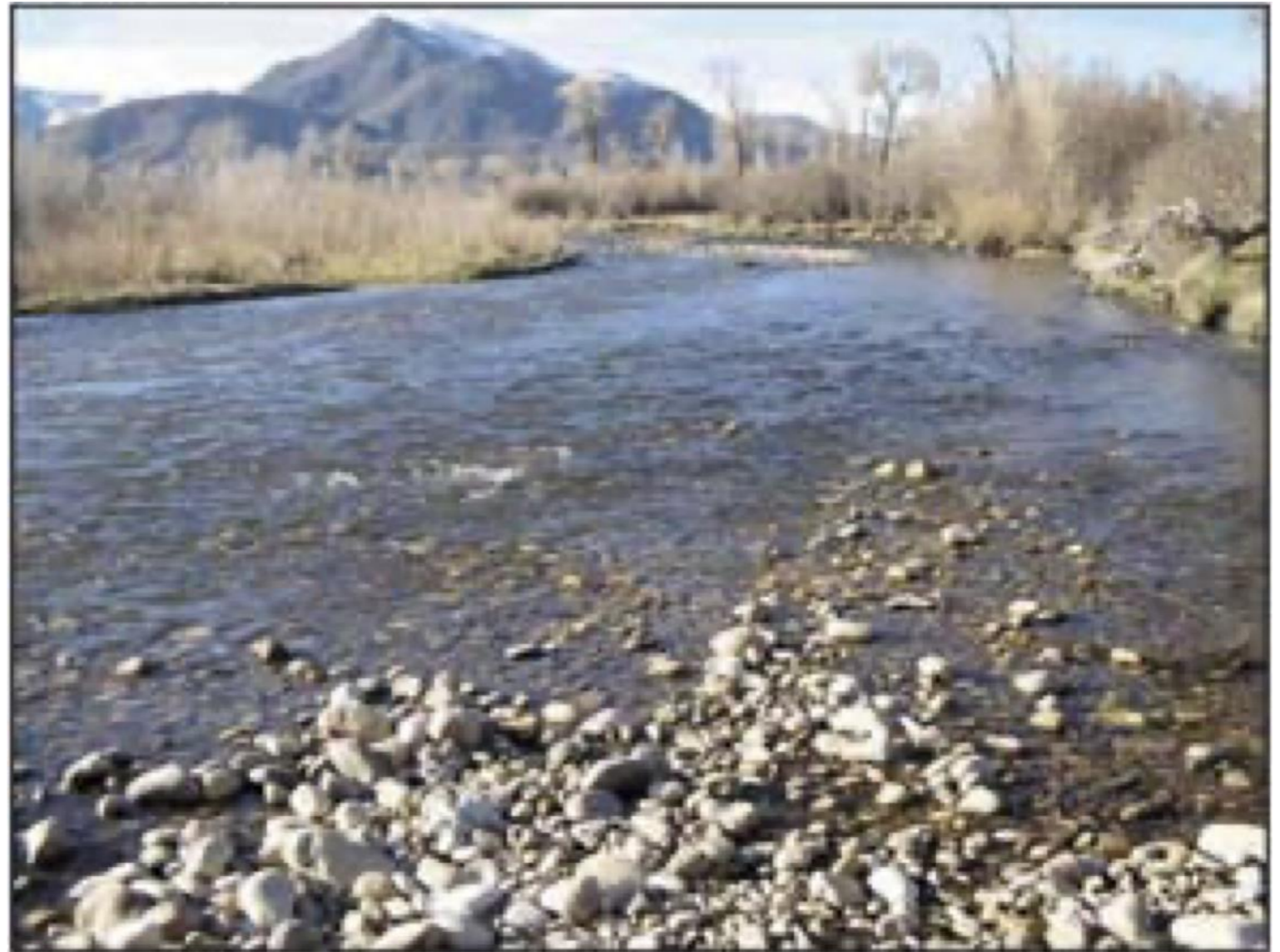


Tufa - porous rock formed from precipitation from mineral springs Alluvium

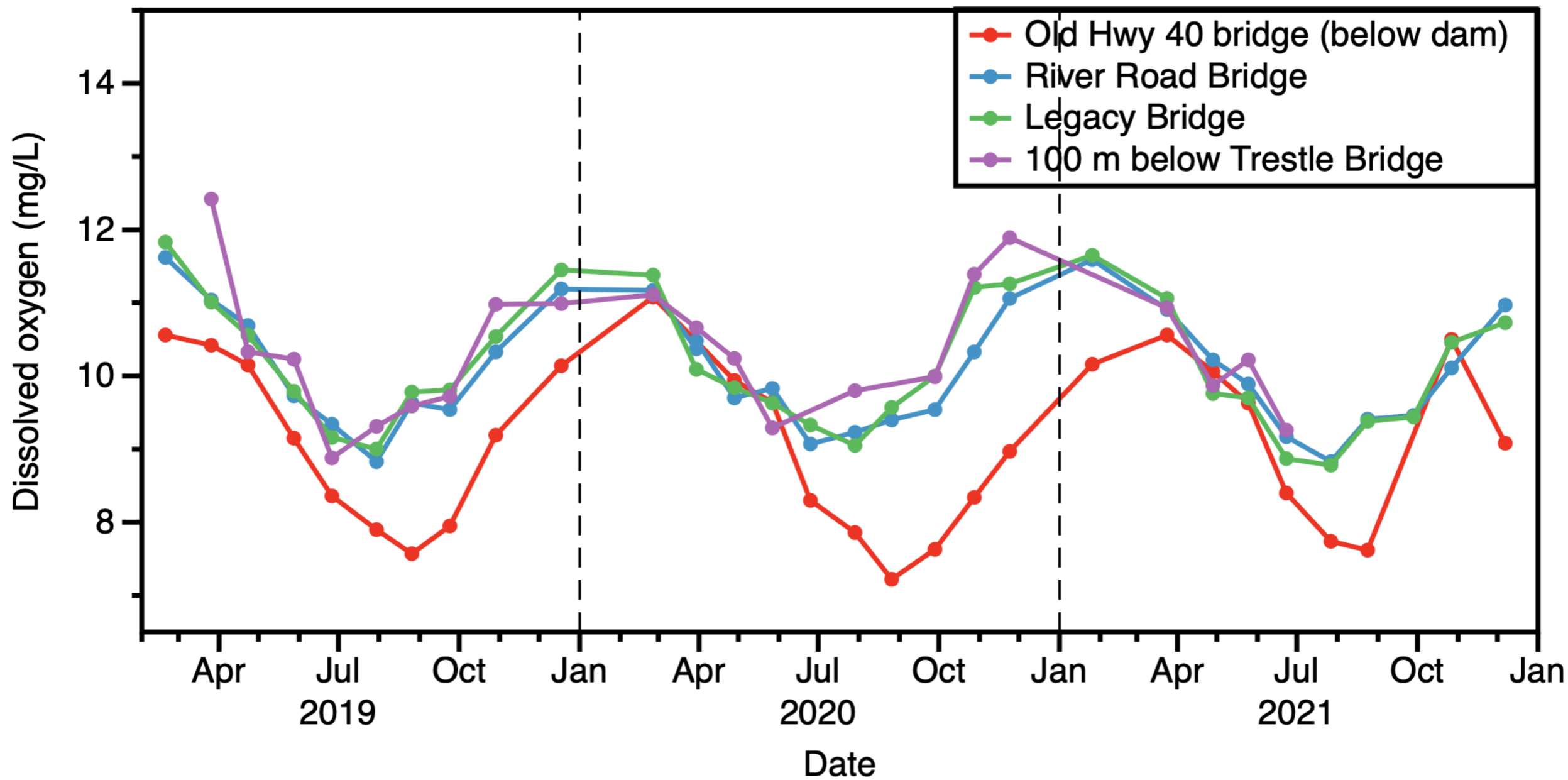
Streambed



Upper river



Lower river



Minimum levels of dissolved oxygen for a healthy trout fishery: 6 ppm

The fishery - Ectroshocking results, Oct 2024

- MPR has healthy brown trout and whitefish populations
- 2,300-3,400 brown trout over 6" per mile or 1,600-1,800 lbs/mile.
- Average length 10.8" and weight of .66 pounds
- Fish condition and sizes are quite good.
- There are Trophy opportunities for Brown Trout and Whitefish

The HCFF Middle Provo Temperature Monitoring Project

Fish need:

to eat (macro invertebrates, nutrients)

to breathe (dissolved oxygen)

sufficient year-round water flow (clean, temperature range)

limited competition from invasive species

Can we come up with a conservation project with:

long-term baseline monitoring

close collaboration with other stakeholders

promote better understanding of the river

promote education

Why measure stream temperatures?

- Not measured well in Middle Provo River
- Key environmental variable affecting trout and the macro-invertebrates on which trout feed
- Water temperatures affects:
 - Dissolved oxygen levels
 - Macroinvertebrate growth and emergence
 - Trout activity levels
- Provides key baseline information on river and trout health

- Multi-yr project, started Mar 2022.
- Monitor river temperatures and macro-invertebrates. Collaborate with CAPS students at Wasatch High School in Heber.
- Approved by USBR, Mitigation Commission, CUWCD, PRRP, USGS, DWR, UU, BYU.

Video Tour of the Middle Provo River

Cliff Hole

River Road bridge

River Rd-bridge

River Road Bridge

Macro-invertebrates of the Middle Provo River

Wasatch High School's Center for Advanced Professional Studies

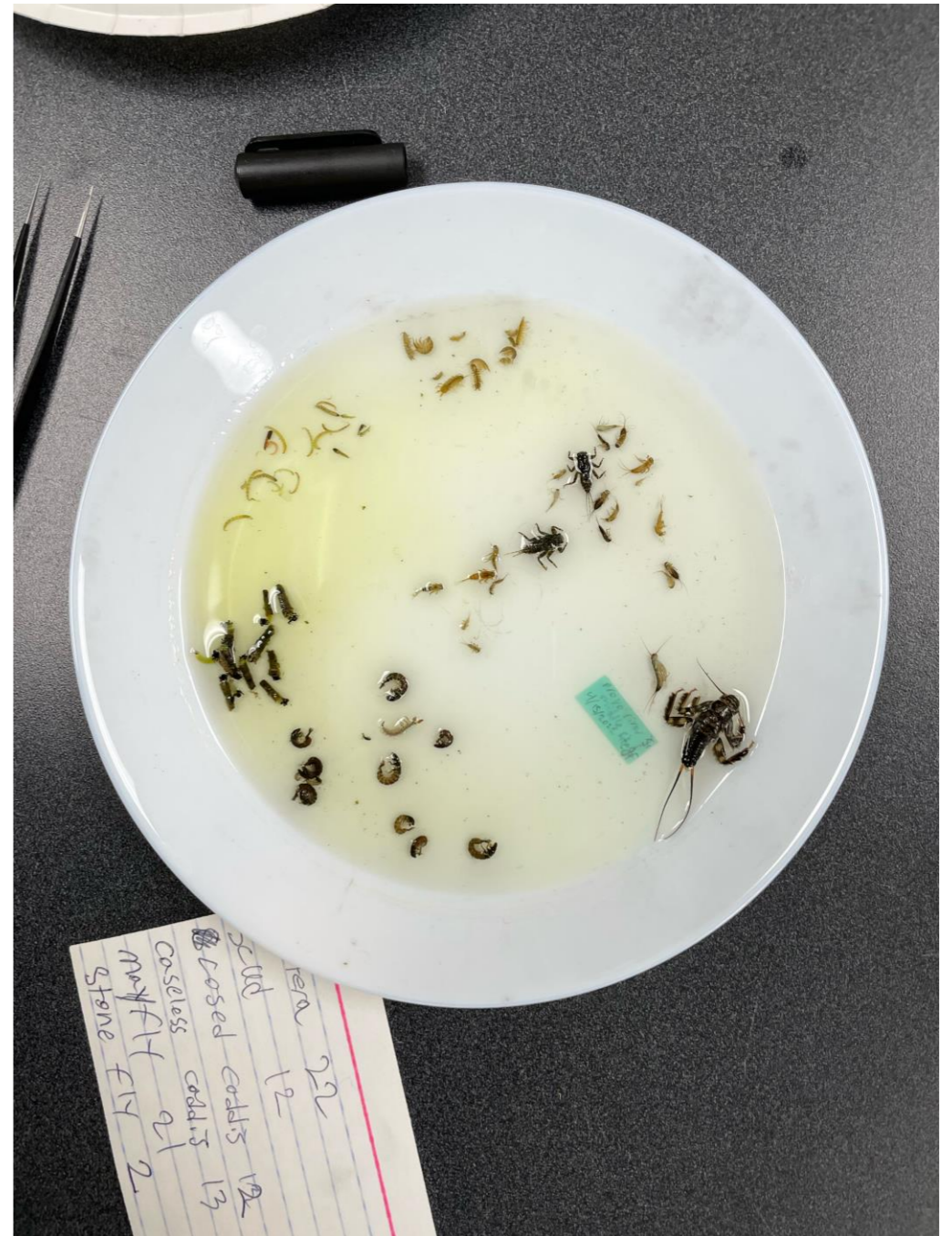


Dr. Roger Gold



Surber sampler





Utah Valley University
Wasatch Campus

What insects do trout eat in the Middle Provo River?



Prof. Roger E. Gold
Retired Entomologist
Texas A&M



Prof. C. David Whiteman
Retired Atmospheric Scientist
University of Utah

Attractor Patterns

Where to find current information on hatches and working fly patterns

Try: WesternRiversFlyFishing.com

Design and tie your own flies

Try: FlyFishFood.com



Fish Taco, size 12

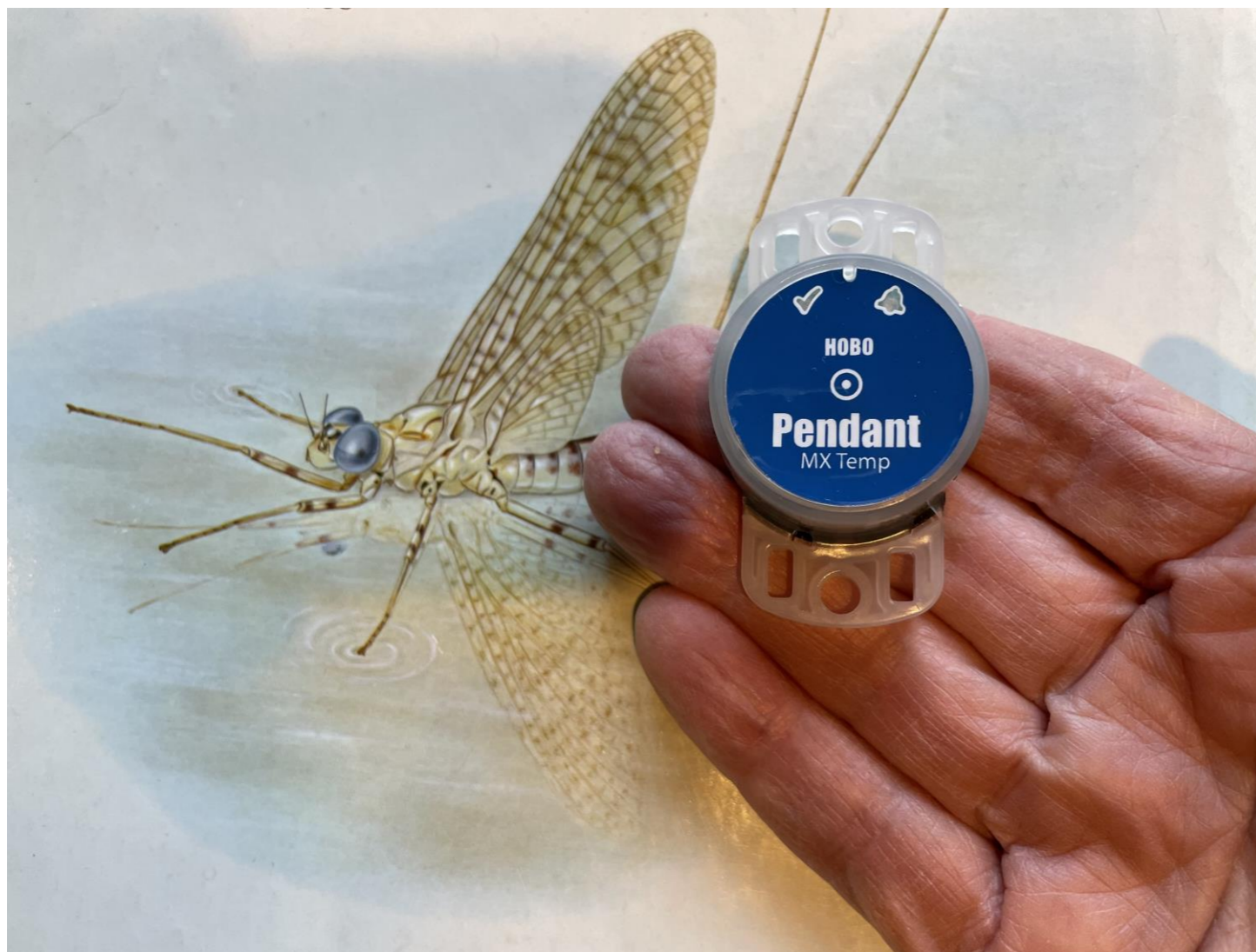
THE HCFF
TEMPERATURE
MONITORING PROJECT

Stream thermometers

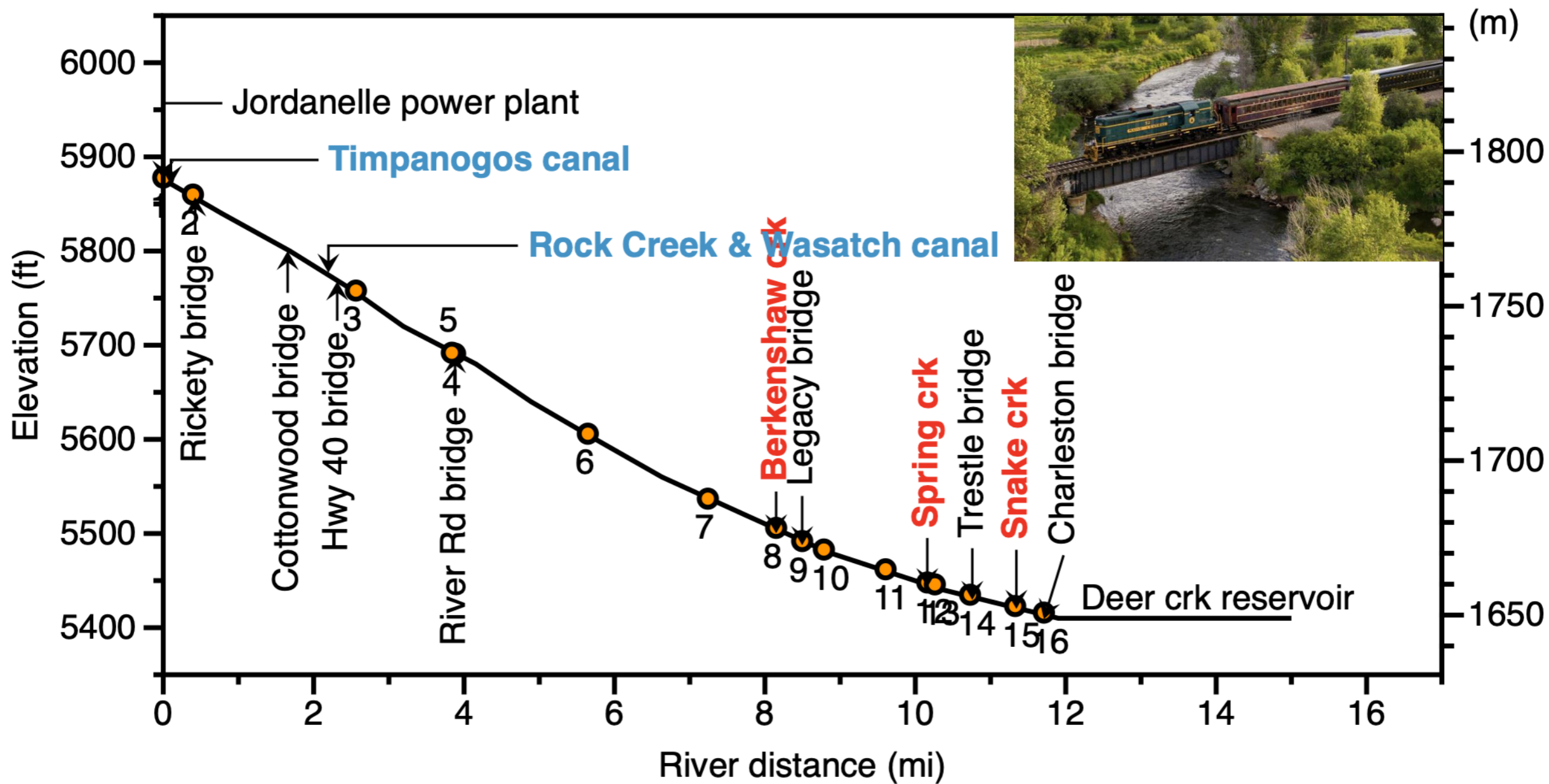


Henry's Fk Foundation

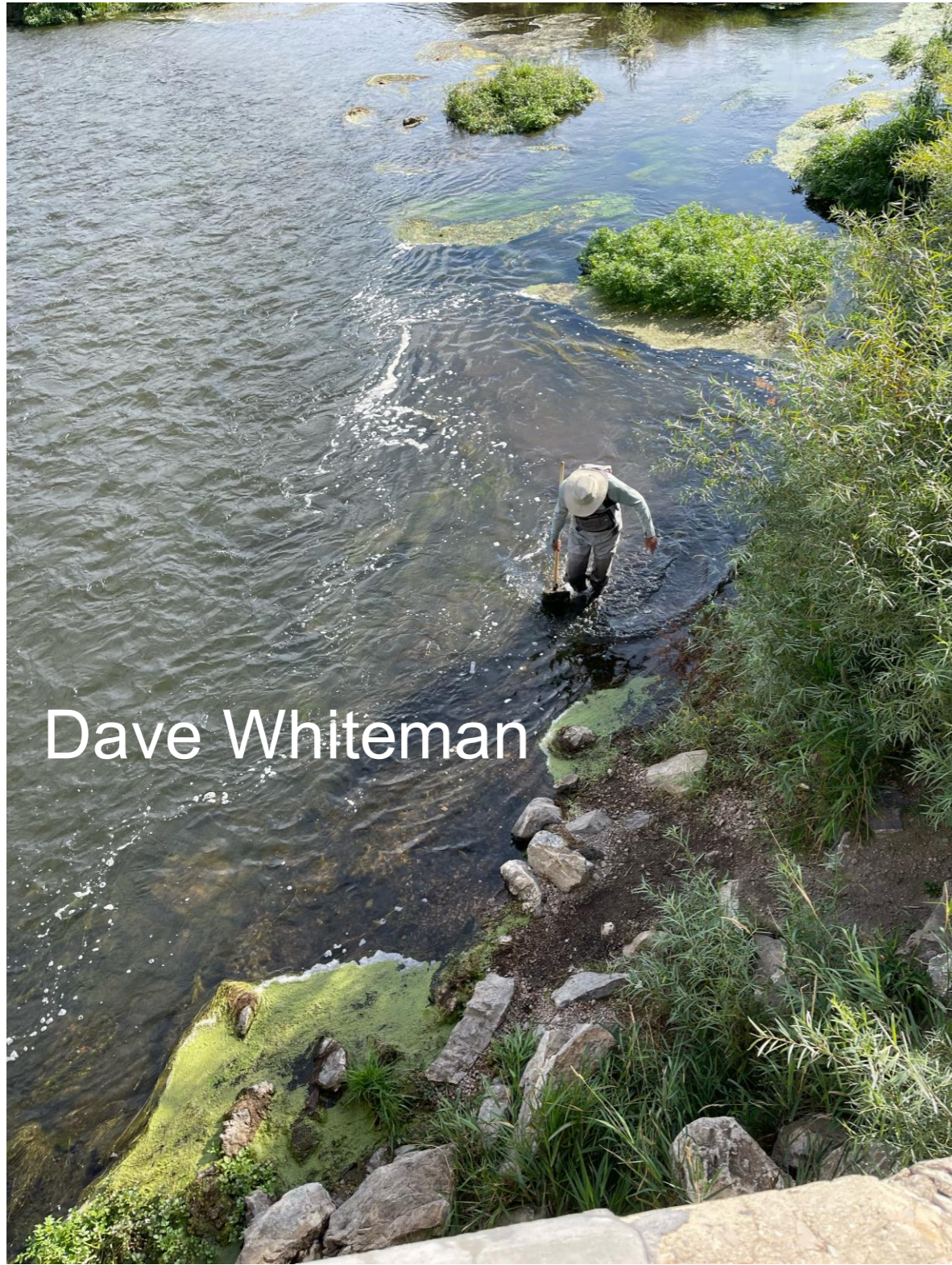




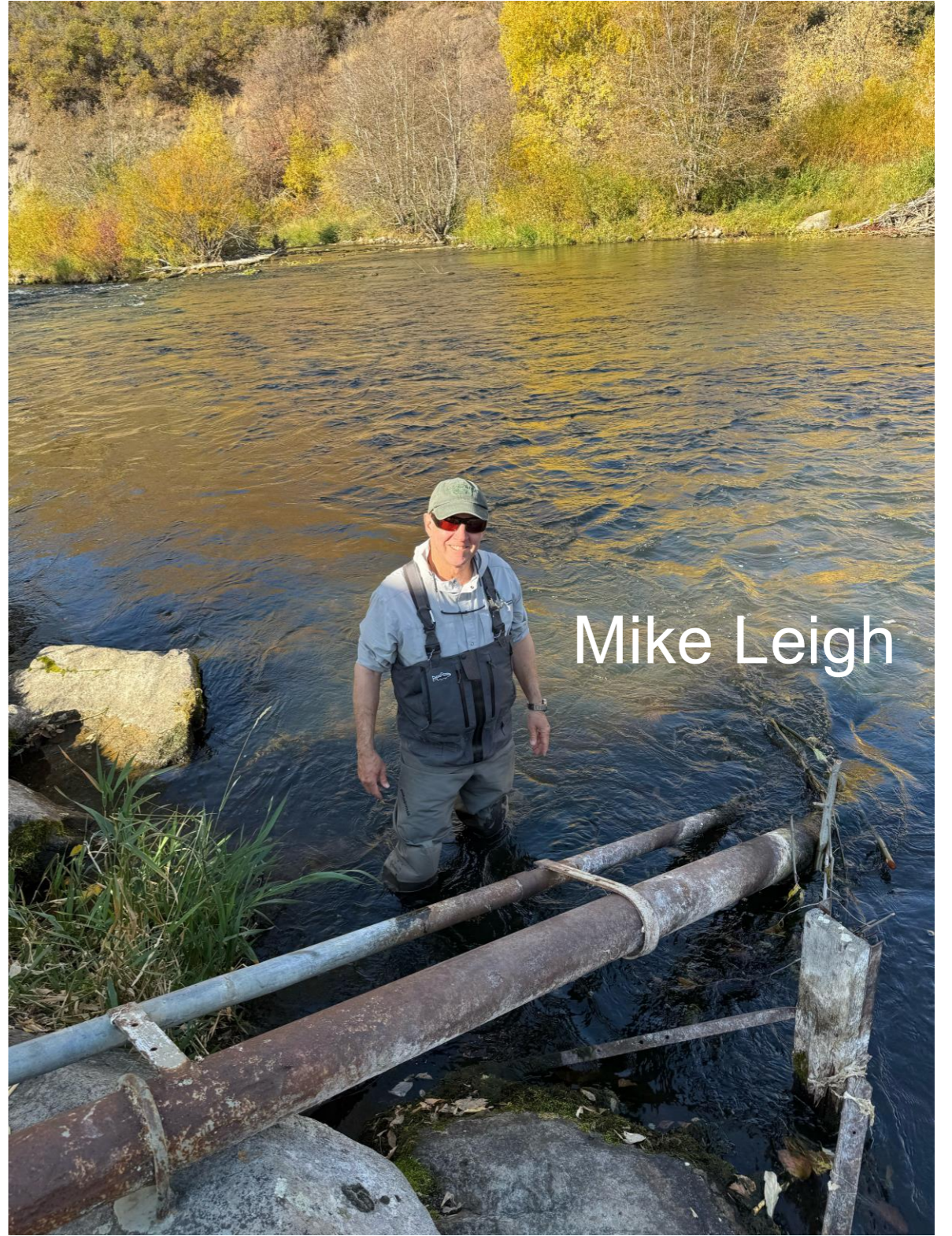
Data points at 15-min intervals



44 ft/mile above Legacy Bridge, 28 ft/mile below



Dave Whiteman

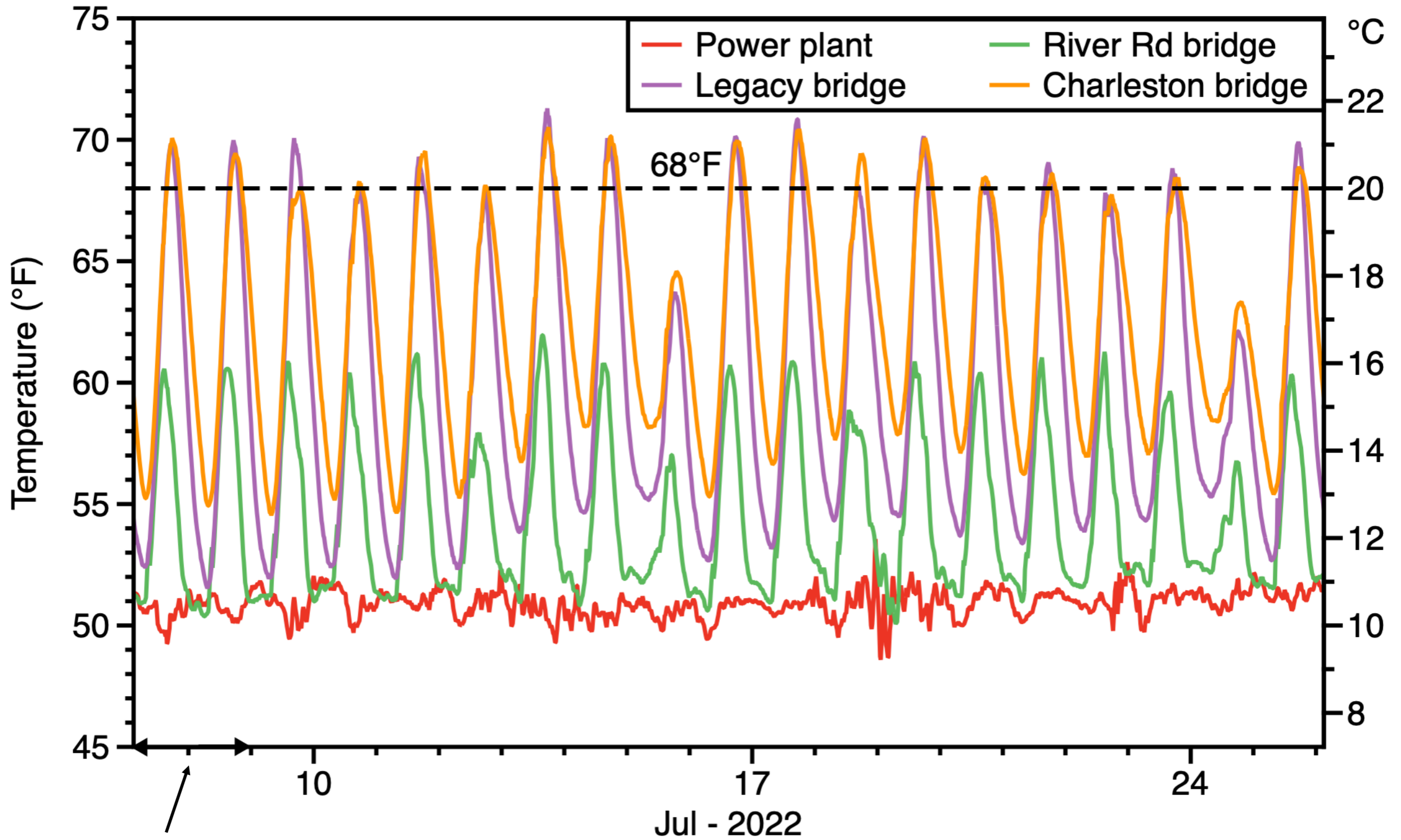


Mike Leigh

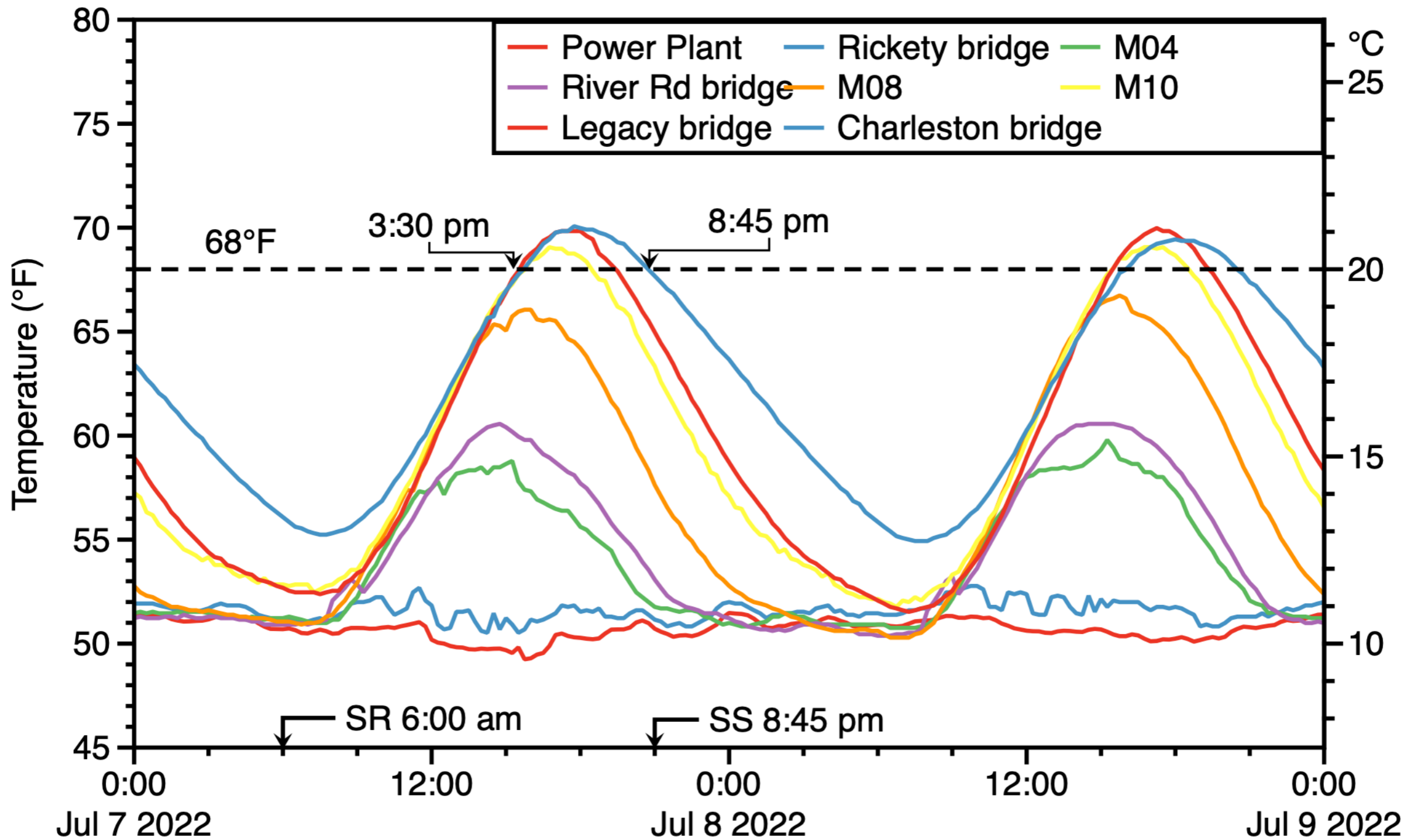


Bruce Pope
Paula Trater
Becca Black

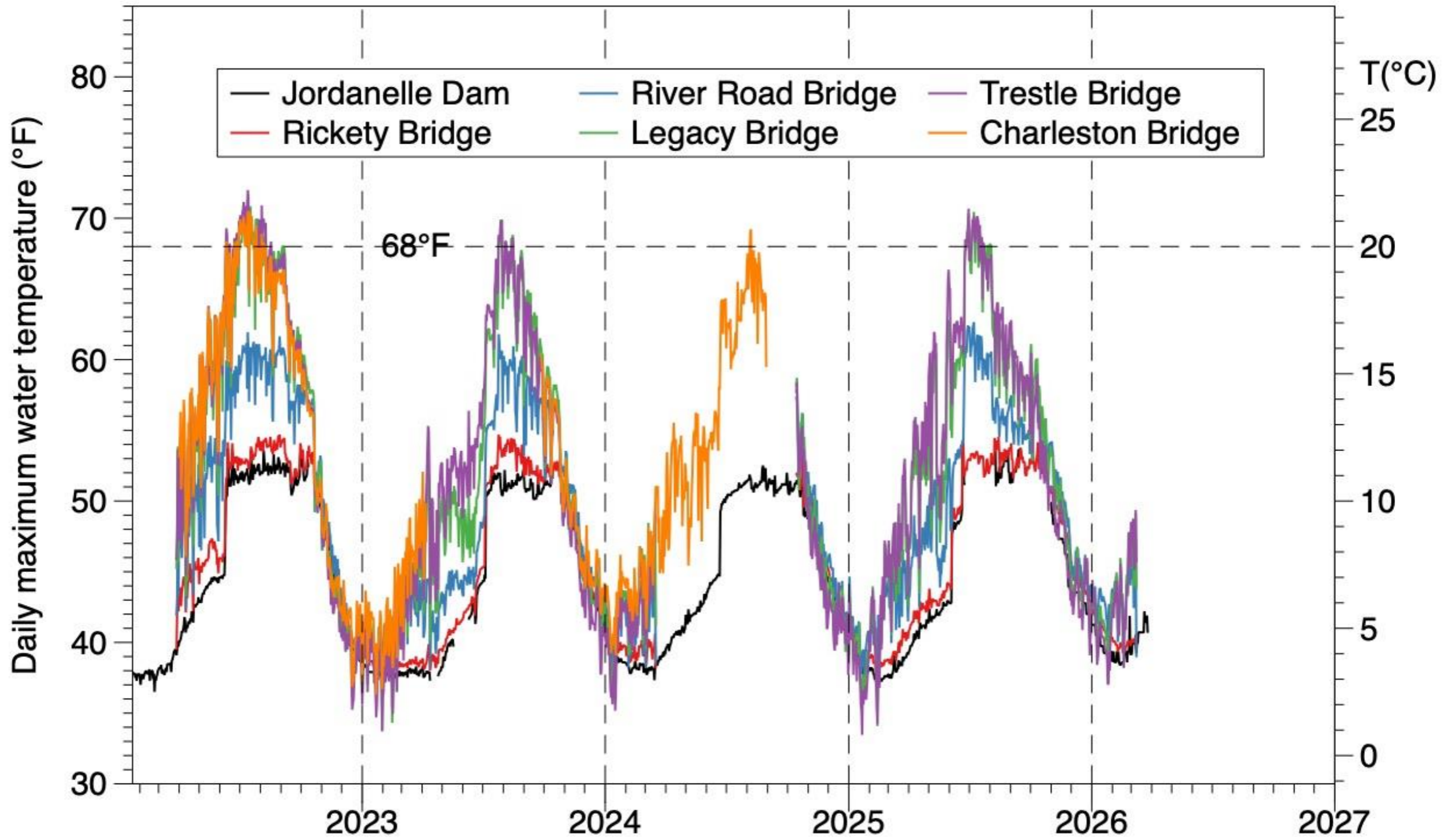
Water temperature affected primarily by solar radiation



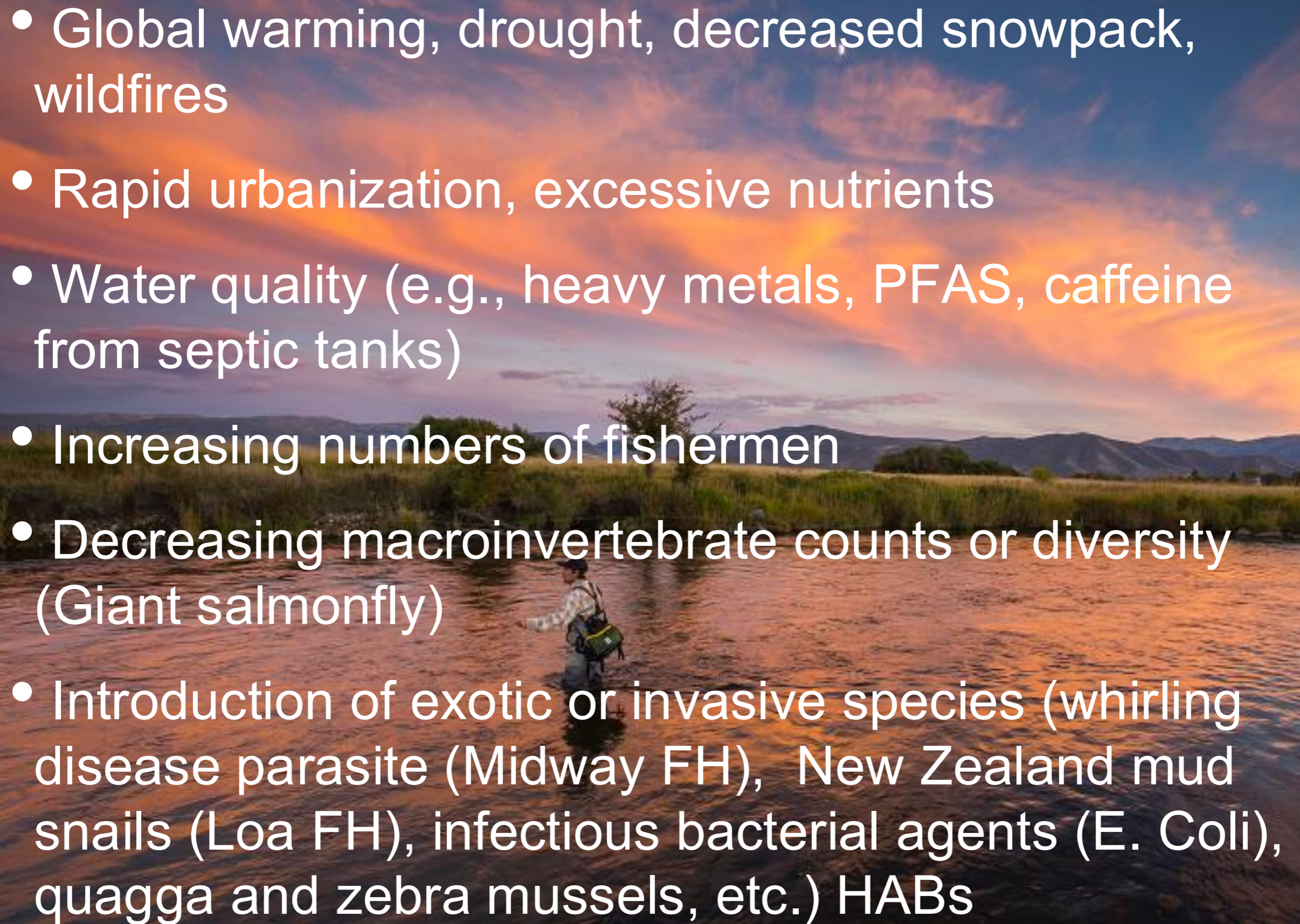
2-d focus period



In contrast, in winter “warm” water leaves dam and cools downstream



Long-term Concerns for the Fishery

- 
- A person is fly fishing in a river during sunset. The sky is filled with orange and blue clouds, and the water reflects the light. The person is wearing a hat and a backpack, and is standing in the water, casting a line. The background shows a grassy field and mountains in the distance.
- Global warming, drought, decreased snowpack, wildfires
 - Rapid urbanization, excessive nutrients
 - Water quality (e.g., heavy metals, PFAS, caffeine from septic tanks)
 - Increasing numbers of fishermen
 - Decreasing macroinvertebrate counts or diversity (Giant salmonfly)
 - Introduction of exotic or invasive species (whirling disease parasite (Midway FH), New Zealand mud snails (Loa FH), infectious bacterial agents (E. Coli), quagga and zebra mussels, etc.) HABs



6/19/2025

Jordanelle Reservoir

Jordanelle powerplant

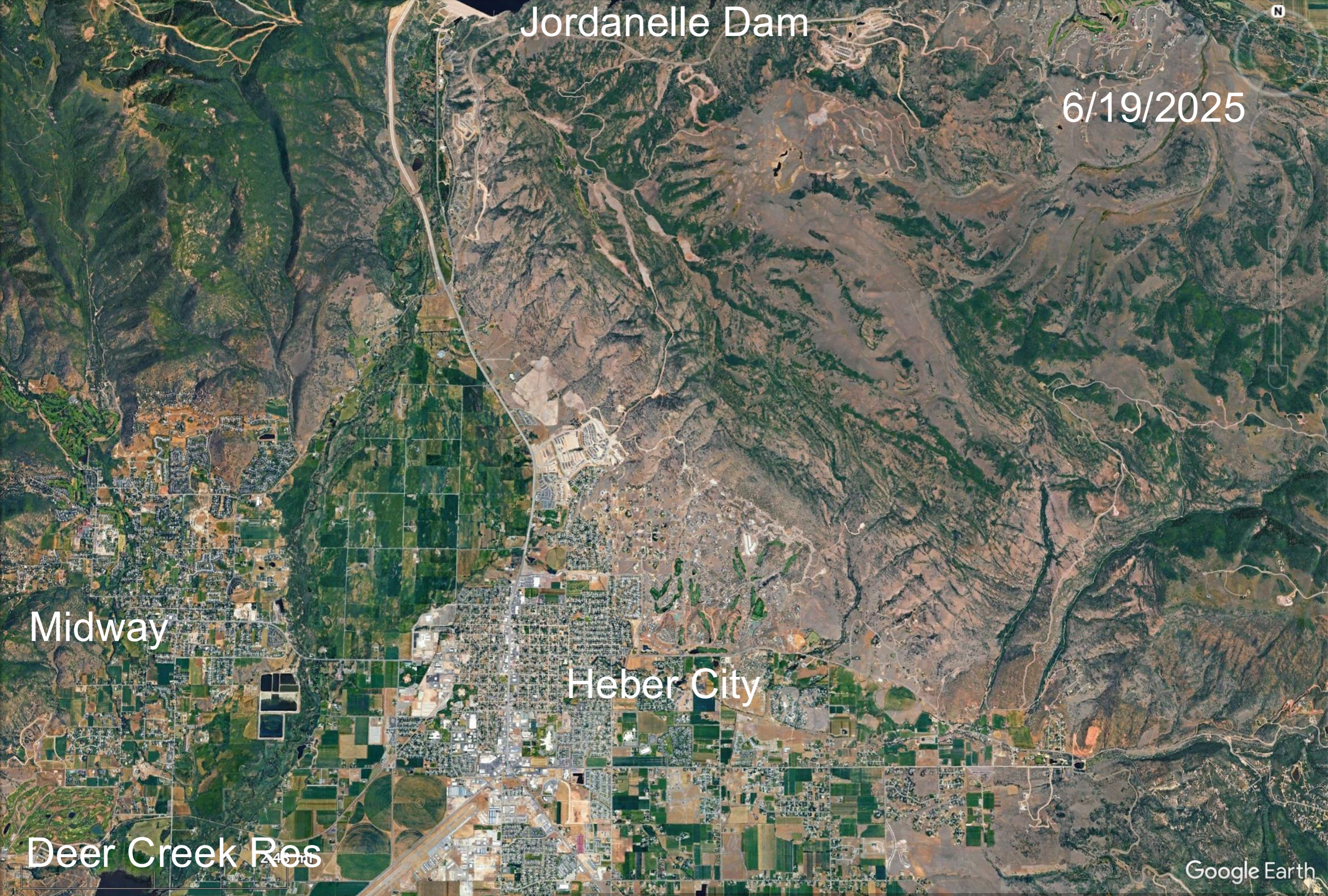
9231 ft

1985

Google Earth

Imagery Date: 6/19/2025 40°37'17.40" N 111°24'33.81" W elev 0 ft eye alt 39888 ft

Rapid development around Jordanelle Reservoir



Jordanelle Dam

6/19/2025

Midway

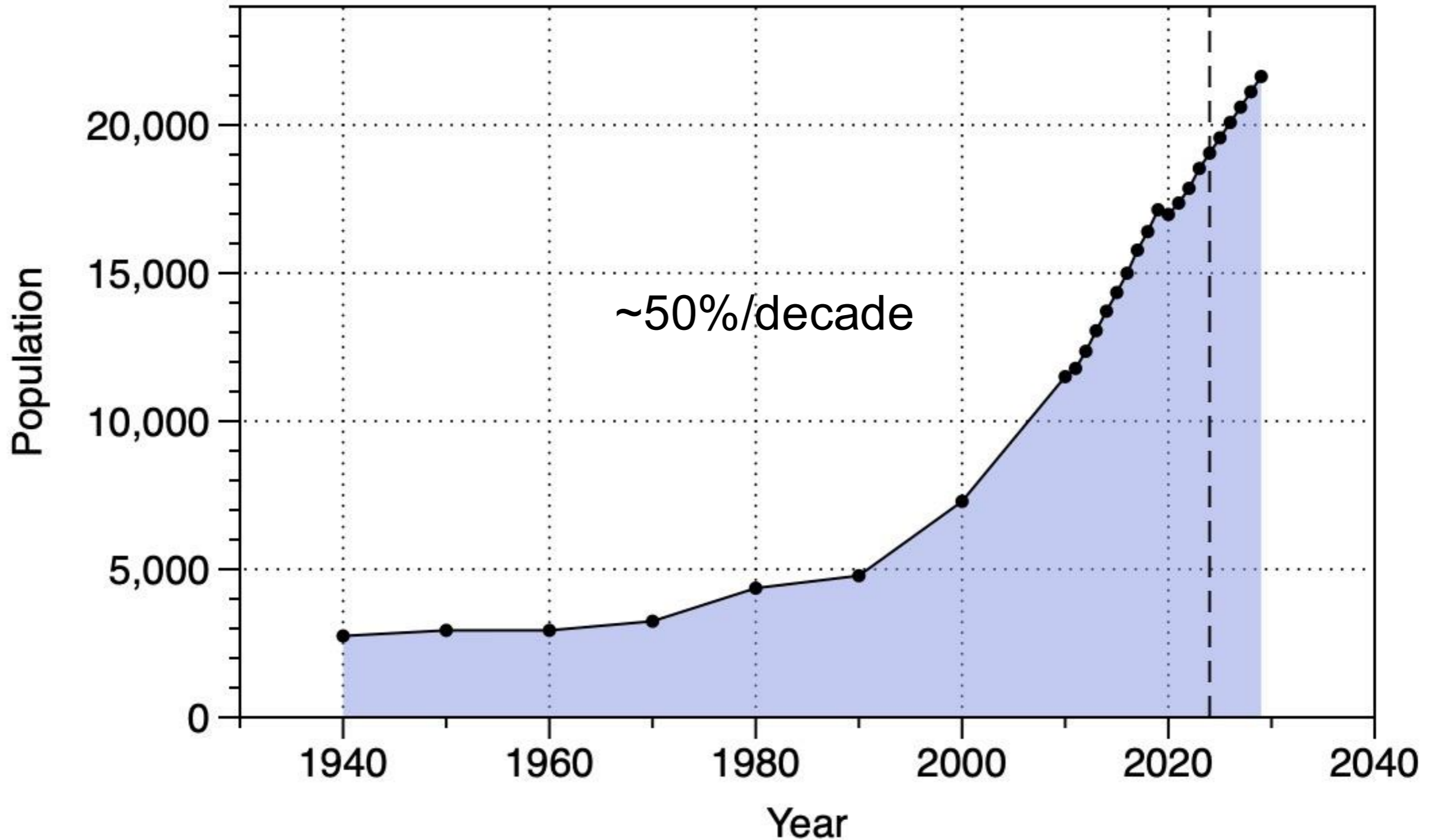
Heber City

Deer Creek Res

Google Earth

Rapid urbanization of Heber Valley

Heber City population growth



Summary

Middle Provo fishery - presently a healthy fishery

Middle Provo River history, geology, hydrology, and video tour

Middle Provo macro-invertebrates

Initial results of HCFF river temperature monitoring project

Concerns about the fishery's future (global climate change, droughts, urbanization, overuse, water quality, invasive species)

Ongoing conservation project and connections to other stakeholders

HCFF website - includes reports

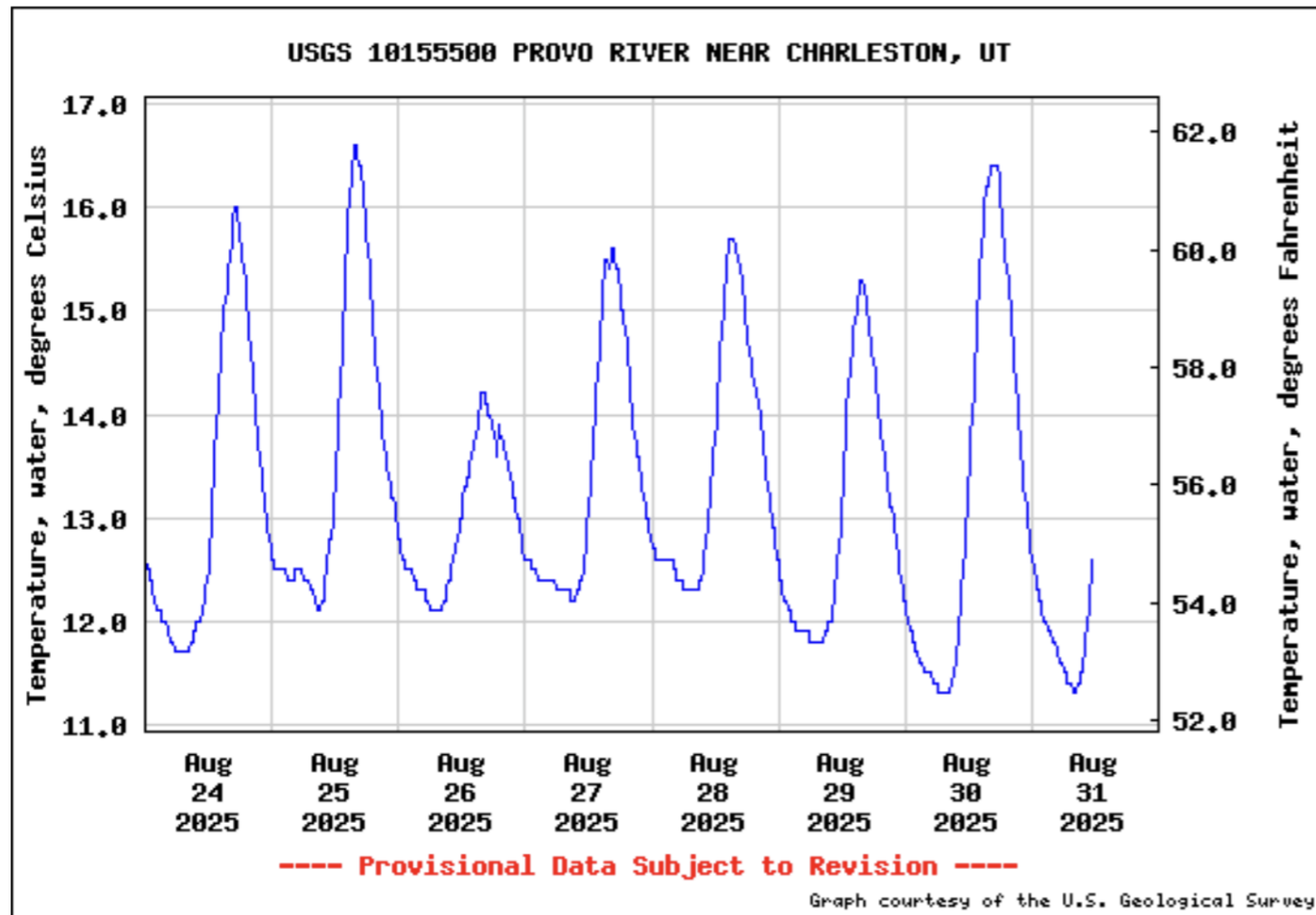
Realtime Data from the USGS

PROVO RIVER NEAR CHARLESTON, UT Station 10155500

Latest readings (local time). Data courtesy of USGS.

Parameter	Value	Time
Temperature, water, °C	12.6°C/54.7°F	Aug 31, 2025 11:30 am
Streamflow, ft ³ /s	563	Aug 31, 2025 11:30 am
Gage height, ft	4.75	Aug 31, 2025 11:30 am

[View full station details on USGS](#)



Acknowledgements

HCFF: Bill Quapp, Jayne Guyse, Bruce Pope, John Atwood, Tim Kinzel, Mike Leigh, Steve Herron
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PRRP interns: Lauryn Crabtree, Becca Black
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USGS: Ryan Rowland
DWR: Mike Slater
DWQ: Paul Burnett
BoR: Bruce Whiting

Home: Johanna Whiteman
Mitigation Commission: Mark Holden
TU: Jordan Neilson
Site access: Katie Baird, Jared Horner
CAPS: Dr. Roger Gold, Weston Broadbent, Matt Zierenberg
CAPS students: Quinn Richins, Enoch Zierenberg, Sophia Ward, Gage Schiess, David Chavez, Conon Yorgason, Allan Arauz, Ian Danley, Zealand Bouwhuis, Lewis Brooks, Gray Mathewson, and Zach Yoshioka.

Provo River Watershed Council