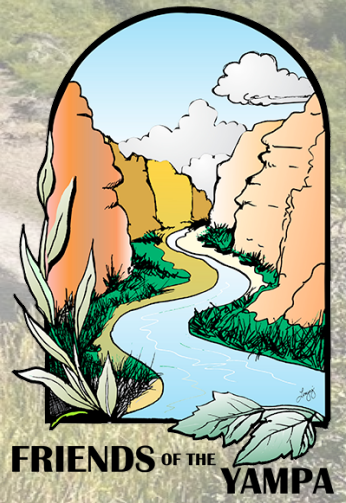
YAMPA RIVER SCORECARD PROJECT

YAMPASCORECARD.ORG

Engaging Community Through the Yampa River Scorecard Project

ALBA watershed consulting



IWMP FINAL RECOMMENDATIONS & STRATEGIES

8

Utilize the Yampa River Scorecard Project to centralize collection & reporting of river ecosy

data: Develop a scorecard to fill data gaps, be a source of easily accessible information, and support a comprehensive understanding of the community benefits a healthy river provides for everyone who uses the river for whatever purpose.

PROBLEM STATEMENT

In the Yampa River Basin there are:

- Simultaneous projects and planning efforts
- Data gaps related to river health and function and community connection
- A lack of accessibility to the data for all members of the community
- A lack of comprehensive understanding of the ecological health & community benefits of the river

WE WANT TO ASK

How can we convey science and river management to all people in a fun and exciting way that stimulates community awareness and engagement with the Yampa River and its unique attributes?

Scorecard Goals

01

Serve as a source of consistent long-term monitoring of river condition/attributes to track their changes over time for all interested parties including the public.

02

Present data and science in an easily digestible and visually appealing, multimedia format to foster engagement and science education to everyone.

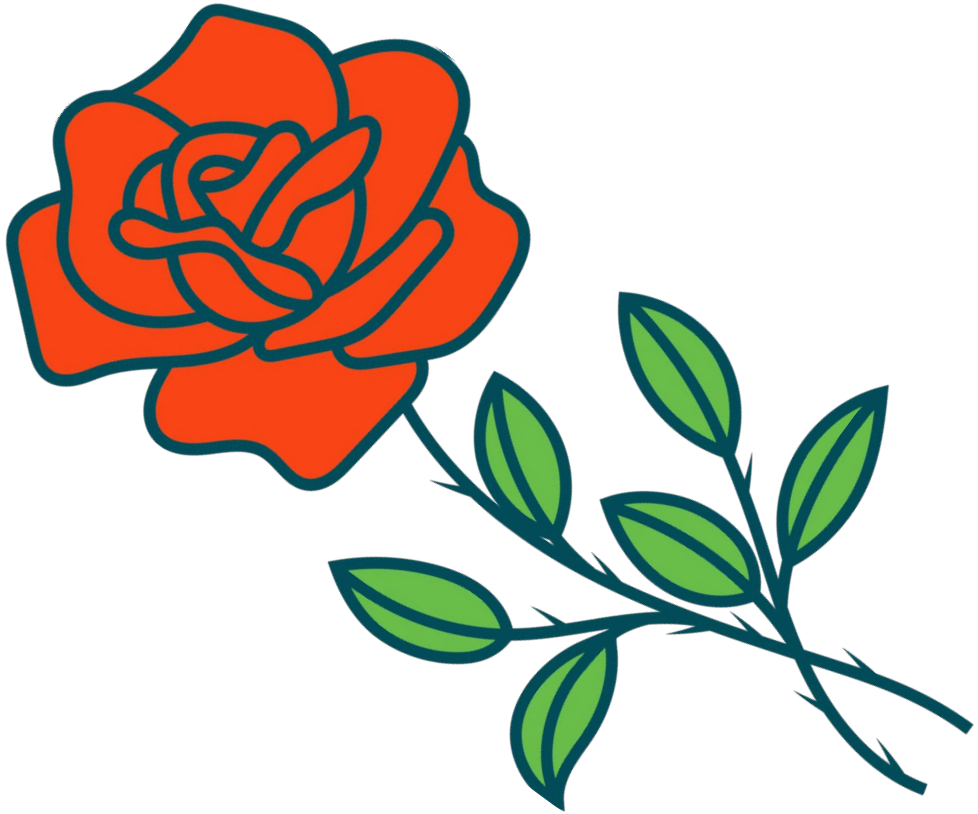
03

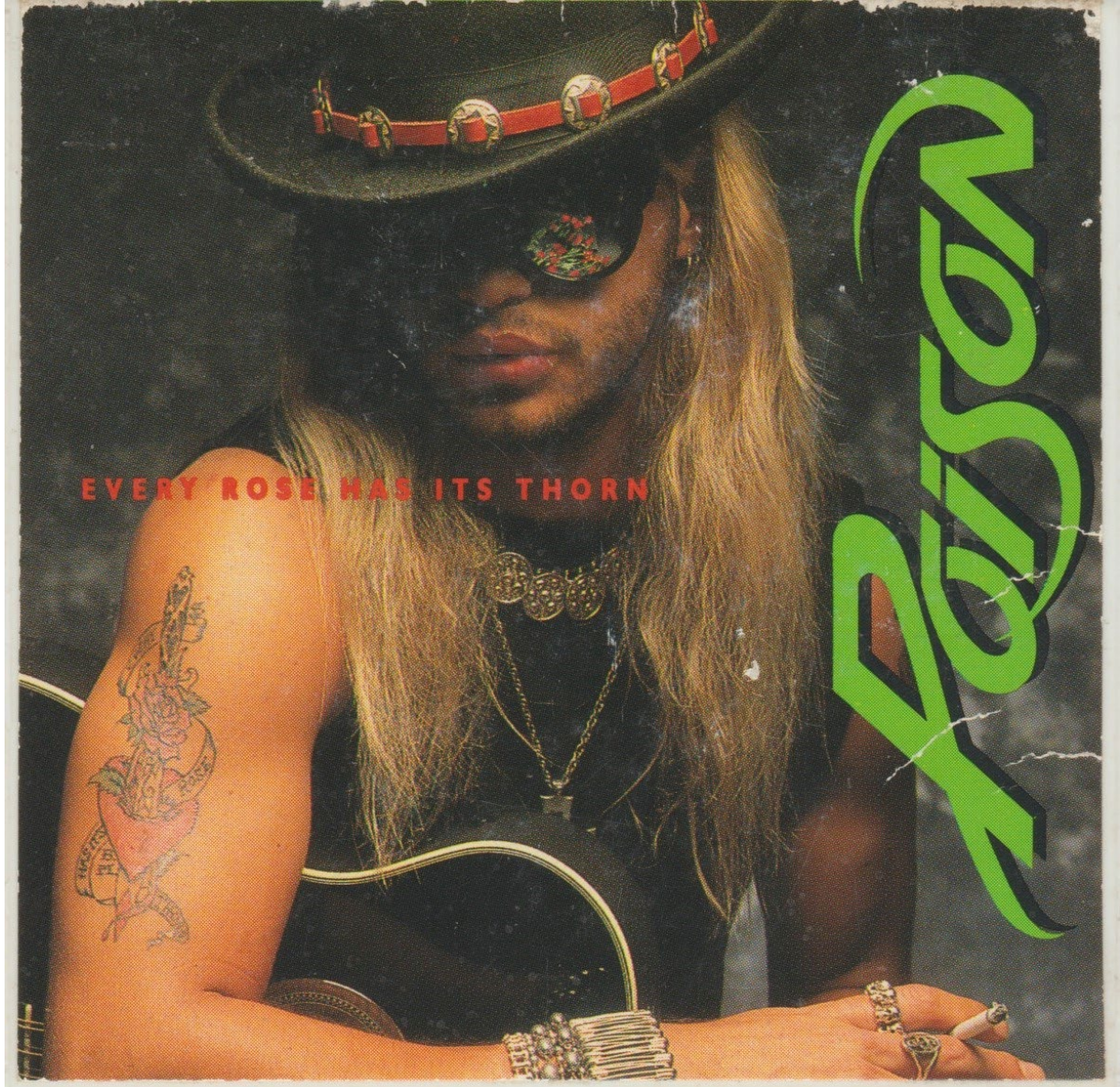
Provide a resource that helps inform future river management projects/decisions.

How does the Scorecard design foster community engagement?

1. Three attribute areas
2. Spatial and temporal scope
3. Educational partnerships
4. Website

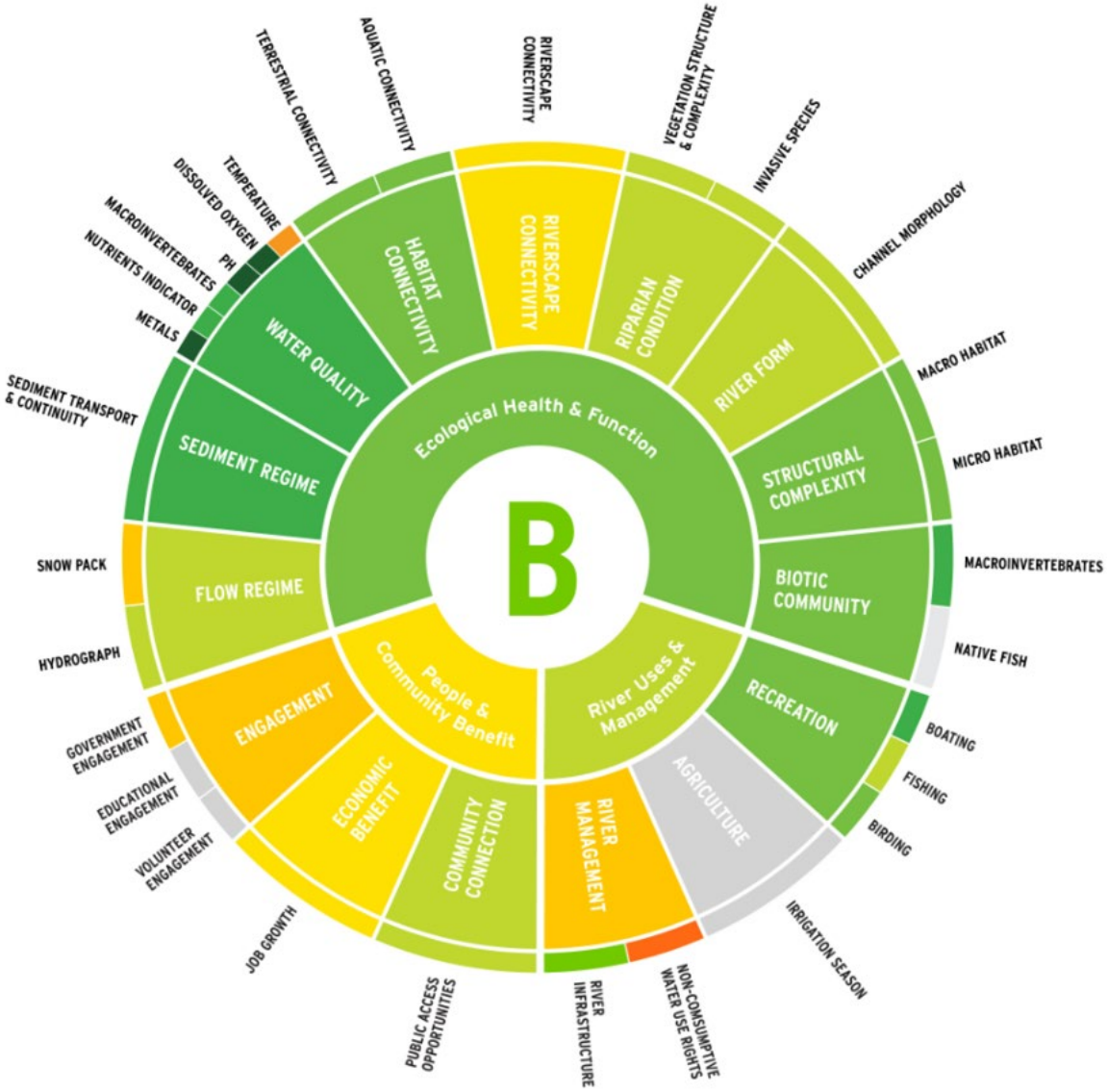
Keeping it Real



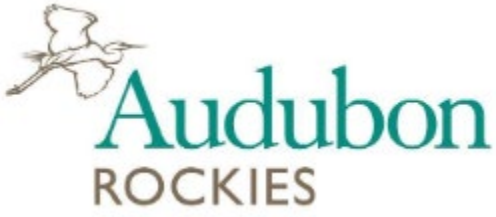


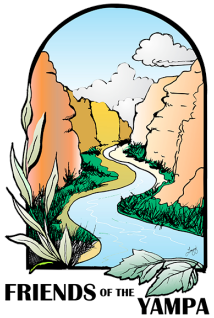
EXAMPLE 1:
Three Attribute Areas

- **Ecological Health and Function**
- River Uses and Management
- People and Community Benefits



Technical Committee





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Stakeholder Committee

community agriculture alliance

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FRIENDS OF THE YAMPA

UPPER YAMPA WATER CONSERVANCY DISTRICT

river NETWORK connecting people · saving rivers

COLORADO TROUT UNLIMITED

COLORADO WATER TRUST

Audubon ROCKIES

Hayden COLORADO

COMMUNITY MEMBERS

City of Steamboat Springs

COLORADO PARKS · WILDLIFE

YAMPA VALLEY SUSTAINABILITY COUNCIL

NATIONAL PARK SERVICE

EST. CRAIG 1908 Colorado's

COLORADO MOUNTAIN COLLEGE

Colorado State University

The Nature Conservancy

U.S. FISH & WILDLIFE SERVICE

USDA United States Department of Agriculture
Natural Resources Conservation Service

ROUTT COUNTY COLORADO

AMERICAN Whitewater

YAMPATIKA

JOHNSON ENVIRONMENTAL CONSULTING
The Confluence of Science & Application

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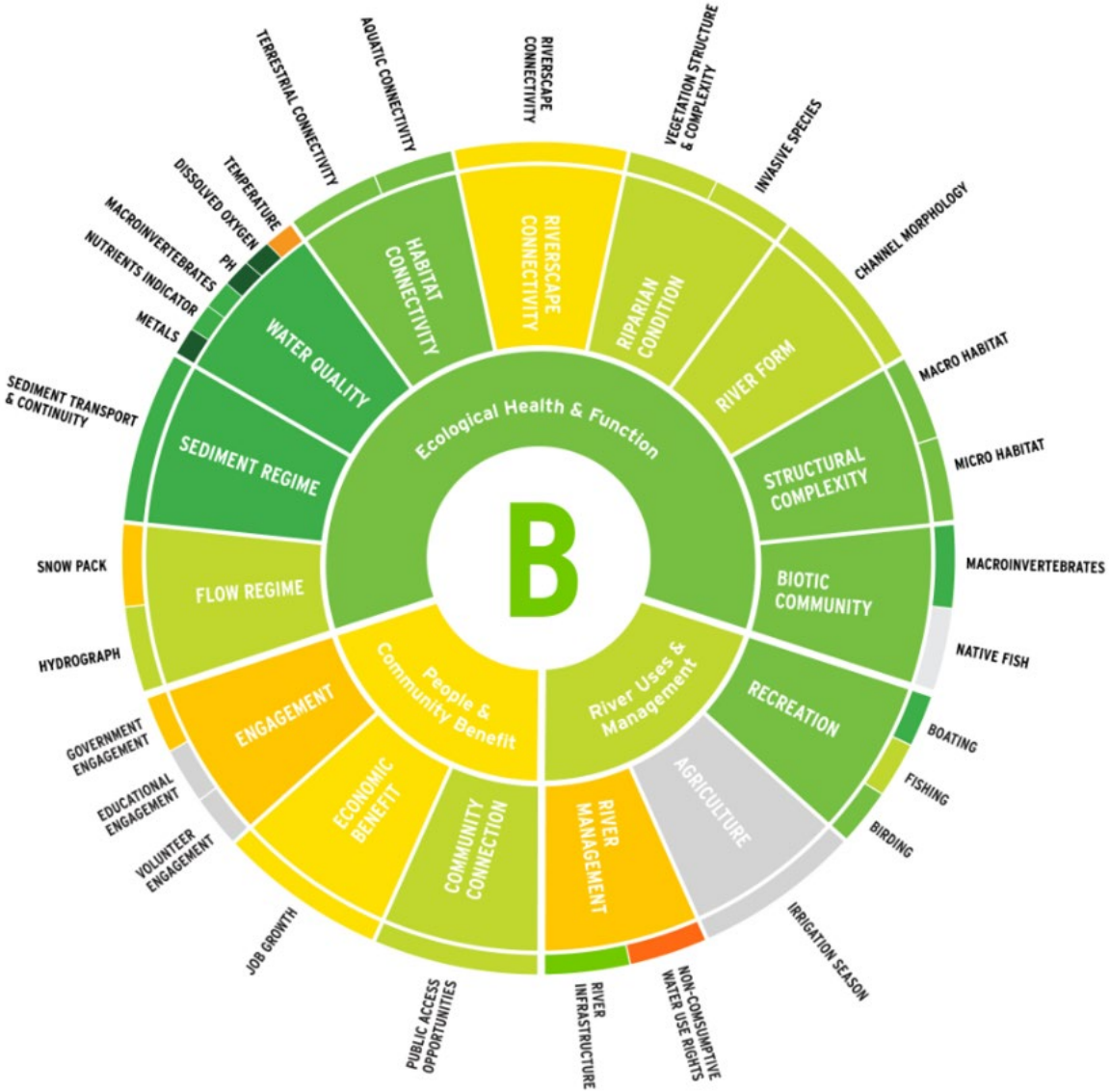
Three Attribute Areas

- Ecological Health and Function
- River Uses and Management
- People and Community Benefits



River Uses & Management:

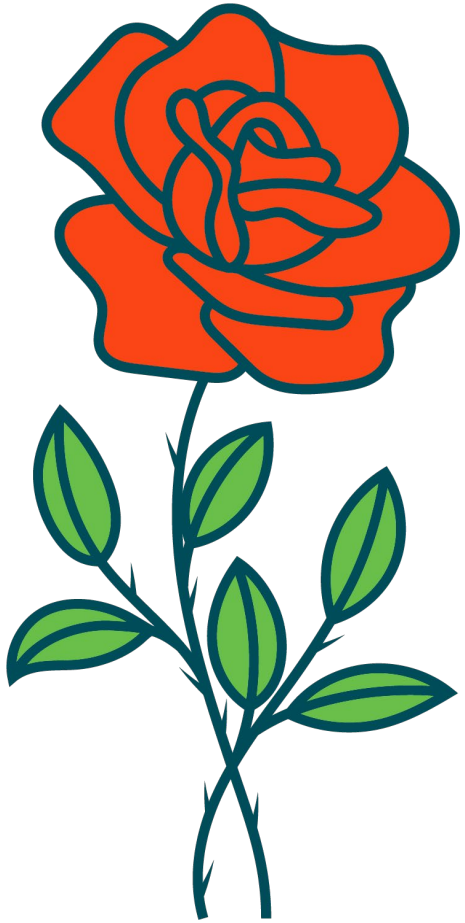
- Recreation: *Birding, fishing, boating*
- Agriculture: *Irrigation season*
- River Management: *Non-consumptive water rights, river infrastructure*

People & Community Benefits

- Economic benefit: *job growth*
- Engagement: *volunteer, education, and government engagement*
- Community Connection: *public access*

Roses

- Goes beyond a river health assessment and looks at community connections to the river, as well as how it is used and managed
- Engaged stakeholders from all interested parties, not just technical



Thorns

- Categories related to community connection and river uses and management are very difficult to measure and quantify
- Stakeholder committee engagement was limited compared to technical committee engagement

EXAMPLE 2: Project Design Forces Community Engagement

TIMING

- Assesses the health of the Yampa one focal segment at a time, every year

GEOGRAPHY

- Includes the Yampa River from its headwaters in the Flat Tops to the confluence with the Green River in Dinosaur NM

INDICATORS

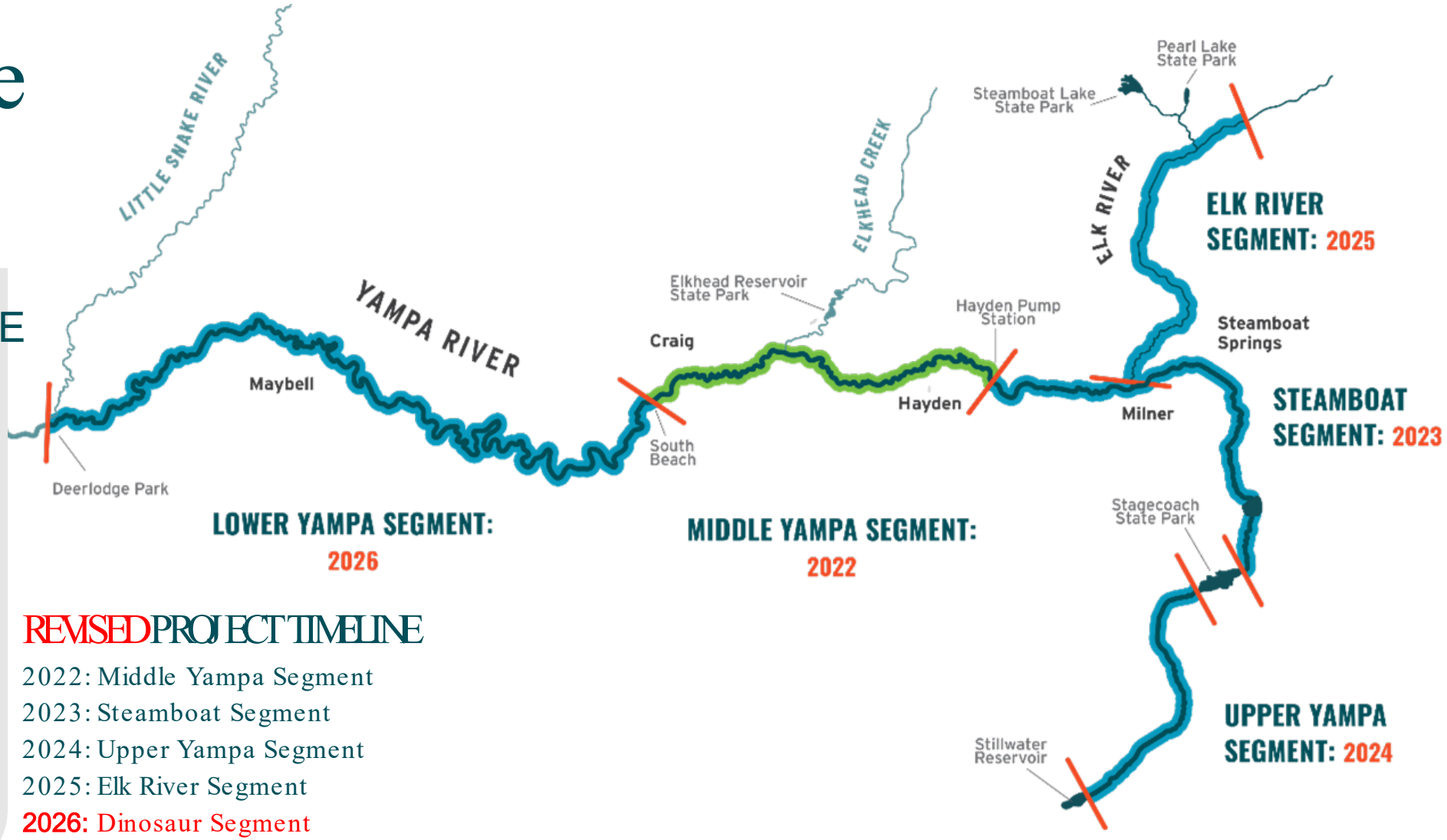
- Use existing data but reliant on field data collection to fill data gaps

Project Scope & Timing

PROJECT TIMELINE

The Yampa Basin is divided up into 5 focal segments. The year listed is when the majority of the data is collected, and most reports will come out early the following year.

2022: Middle Yampa Segment
2023: Steamboat Segment
2024: Upper Yampa Segment
2025: Elk River Segment
2026: Lower Yampa Segment



REVISED PROJECT TIMELINE

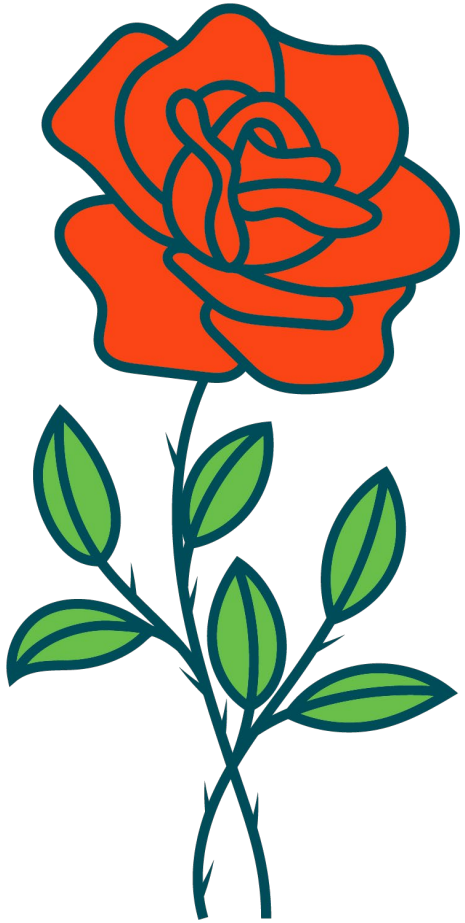
2022: Middle Yampa Segment
2023: Steamboat Segment
2024: Upper Yampa Segment
2025: Elk River Segment
2026: Dinosaur Segment
2027: Lower Yampa Segment

Selection of Indicators

- Fill existing data gaps
- Field data collection required
- Access from landowners, land managers, local businesses, local government is needed

Roses

- Looking at the entire basin and completing assessments across boundaries
- Cycle repeats every 6 years so forces repeated community involvement
- Landowner/manager relationships are formed basin-wide



Thorns

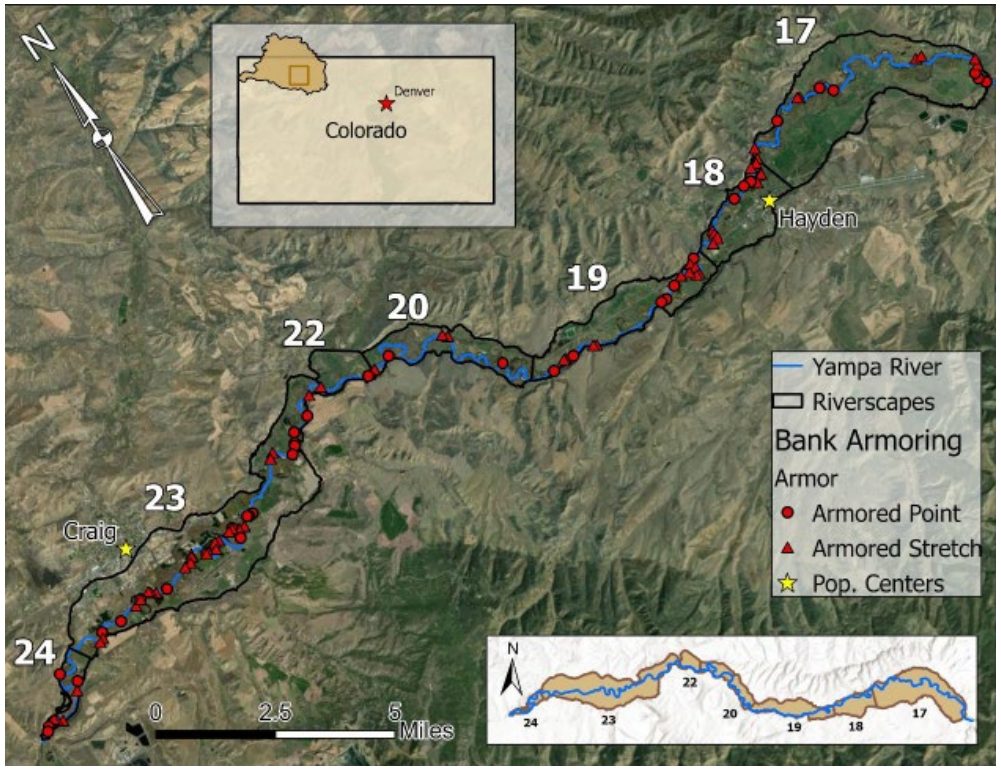
- Challenging to acquire consistent funding for such a comprehensive and ongoing effort
- Landowner/manager permissions and support necessary to gather data
- Need to be flexible because stakeholder/community buy-in takes time and patience

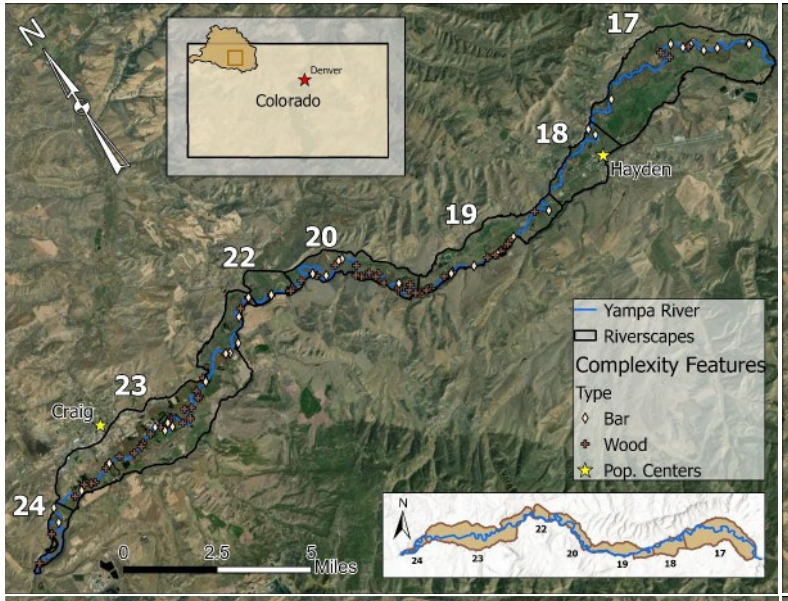
EXAMPLE 3: Educational Partnerships - Field Course

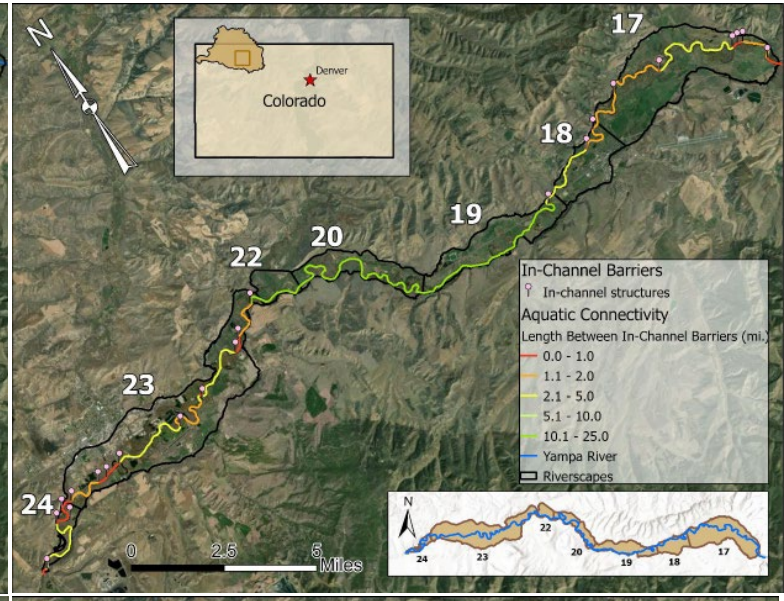
Educational Partnerships - Field Course

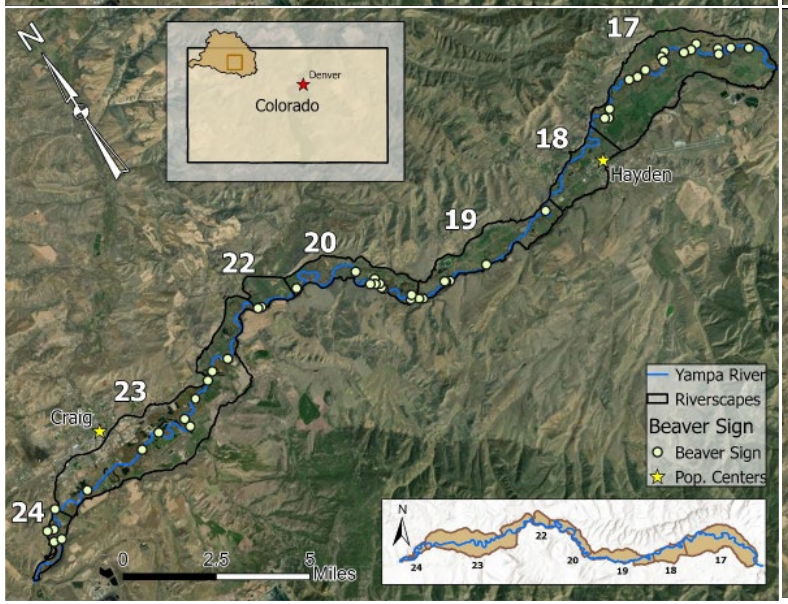
- Partnership between FOTY, CSU, CMC, USU
- CMC students got firsthand data collection experience over a 2-week period
- Collected copious data points related to river health:
  - Point bars
  - Reinforced banks
  - Undercut banks
  - Rapid erosion
  - Invasive species
  - In-channel barriers
  - In-channel treatments/ structures
  - Backwater areas
  - Secondary channels/ split flows
  - Large wood
  - Beaver sign
- Students gained skills in field observation, documentation, GPS use; learned basics of river health and function; received instruction on river safety

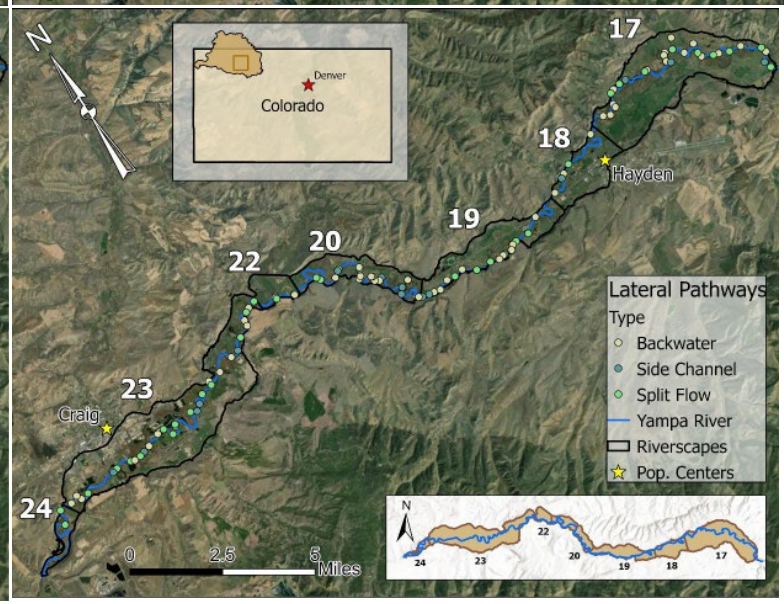
Quantitative Results





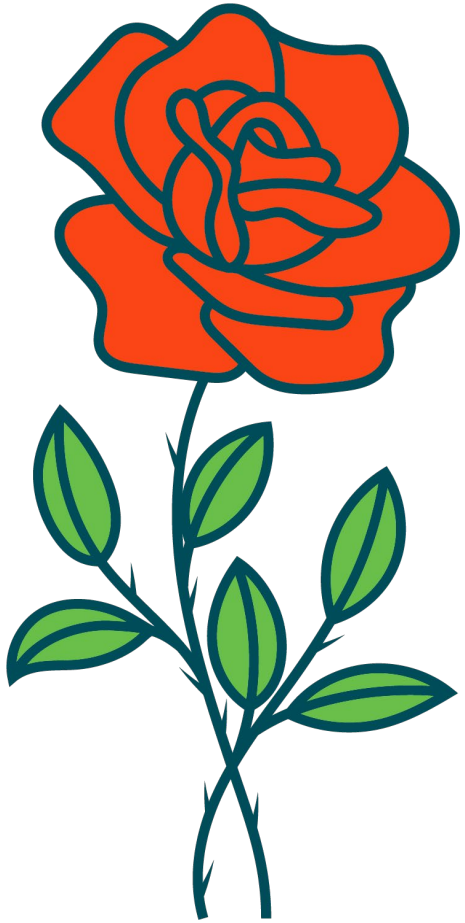






Roses

- Shepherding the next generation of river advocates and scientists to see the river through the holistic, integrated lens of YRSP
- Can collect data on a large area in a consistent way
- Educational partners bring expertise, value added



Thorns

- Data quality considerations
- Class enrollment is variable/ unpredictable

EXAMPLE 4: Interactive, Educational Website

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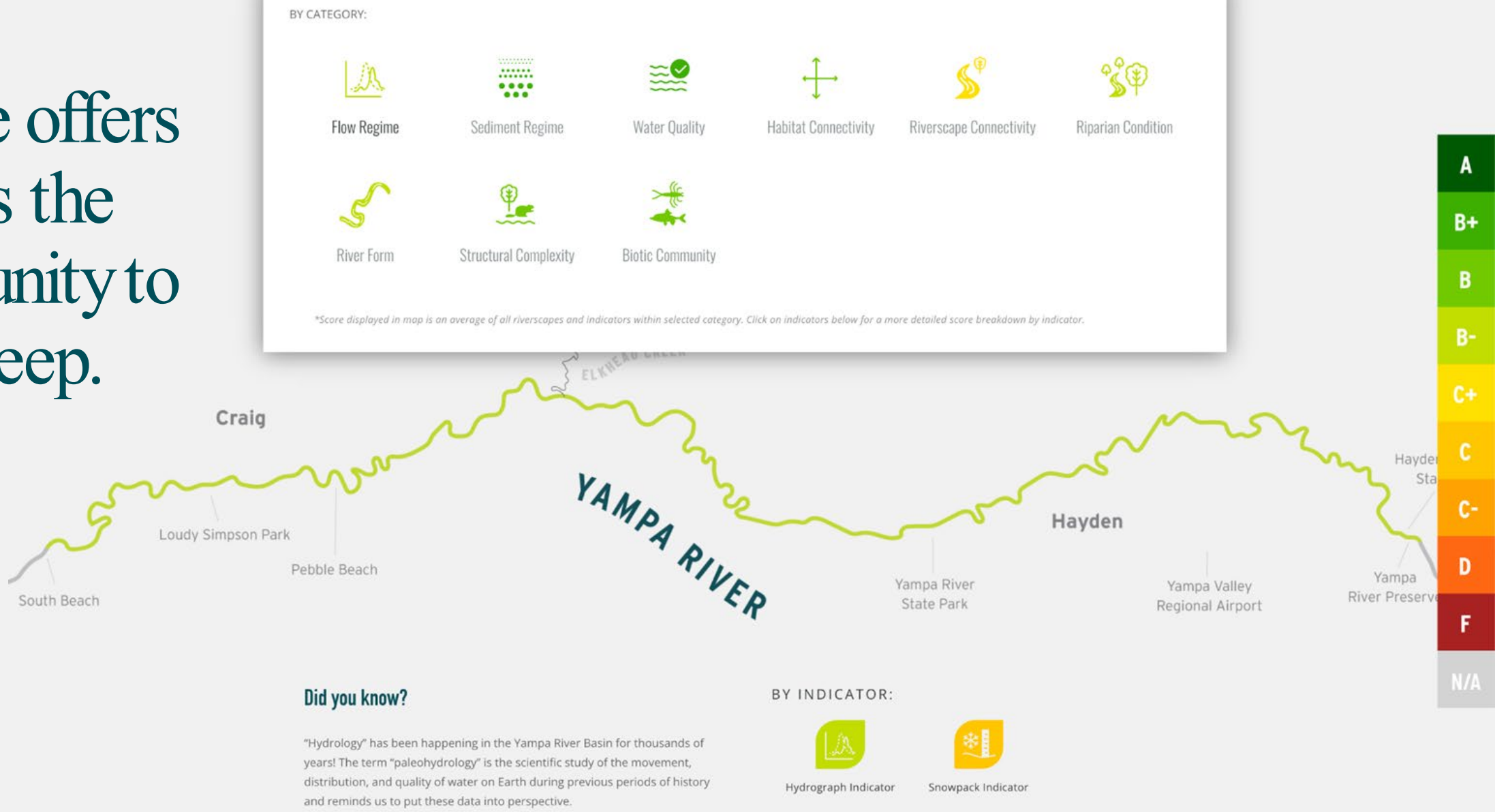
Website offers users the opportunity to go deep.



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ECOLOGICAL HEALTH & FUNCTION

CATEGORY: Riparian Condition

INVASIVE PLANT SPECIES INDICATOR

See how Invasive Plant Species scores >

The invasive plant species indicator provides a measure of the presence and relative proportion of several invasive plant species that are common in the Yampa Valley, including leafy spurge, Russian olive, and tamarisk.

INVASIVE PLANT SPECIES SCORE BY RIVERSCAPE

[INDICATOR PAGES Access drop-down menus with educational information.

LEARN MORE ABOUT INVASIVE PLANT SPECIES ON THE YAMPA RIVER

Russian Olive vs. Buffaloberry

Russian Olive

Buffaloberry

Russian olive (**Elaeagnus angustifolia**)

Tamarisk

Tamarisk

Tamarisk, also called salt cedar, is an invasive plant introduced with the blessing of the Federal government to reduce erosion in the late 1800s. It has since been classified as an invasive species due to its tendency to outcompete native riparian plants, decrease native biodiversity, and stabilize formerly dynamic stream channels. Not only is it an extraordinary consumer of water, but it also creates salty deposits that inhibit other plant species from growing, and it turns cobbled river beds where native fish spawn into **impenetrable sandbars** neither fish nor

Leafy Spurge

c

Leafy Spurge

Leafy spurge was introduced into the Yampa River watershed about 40 years ago just west of Hayden, Colorado. Whether the original source of contamination was hay equipment brought into the area from Utah or road building equipment working on U.S. Highway 40 is unknown, but both occurred at approximately the time that leafy spurge was first observed (**according to Yampa River Leafy Spurge Project volunteer Ben Beall, Sr.**) It has expanded its range since that initial introduction, and

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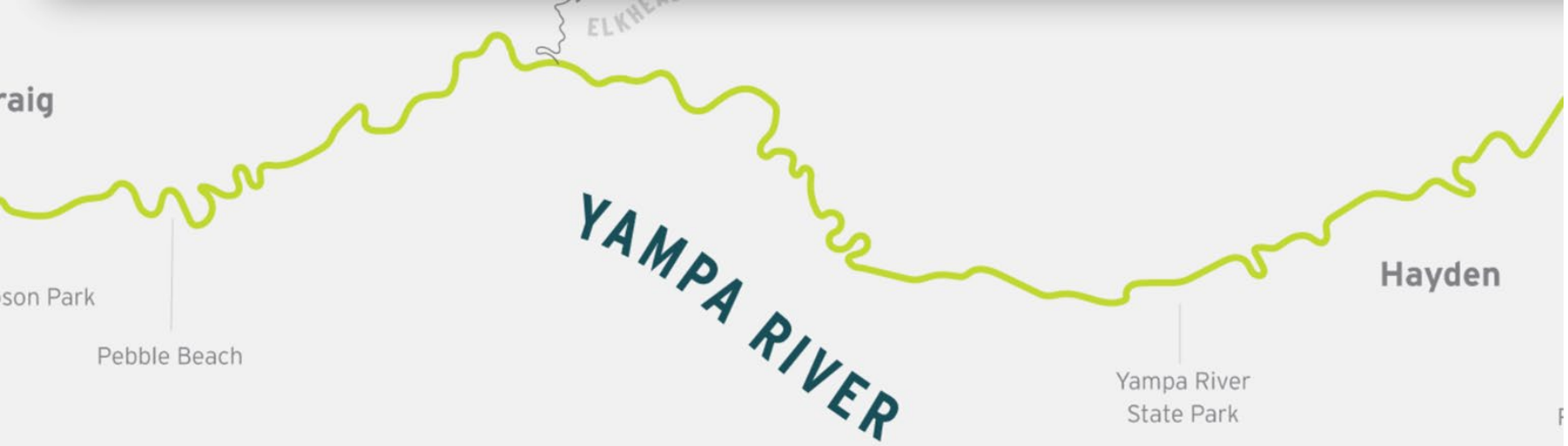

Did you know?

Channel morphology is not just determined by hydrology and geology, but biology as well!

Plants and animals big and small can actually be drivers of the physical form of a stream (**Castro and Thorne, 2019**).

For example, riparian vegetation tends to have a stabilizing effect on channel morphology. Beaver change streams by increasing the channel complexity and amount of fine sediment deposition. Amazingly, macroinvertebrates such as caddisfly can be drivers of channel morphology because they reduce the mobility of the sediments along the riverbed. Conversely, macroinvertebrates and fish can also serve to increase bed mobility, due to the disturbance that results when fish forage for a macroinvertebrate meal!

BY INDICATOR:

Channel Morphology

Scorecard website seeks to improve understanding of river health with pull-out facts.

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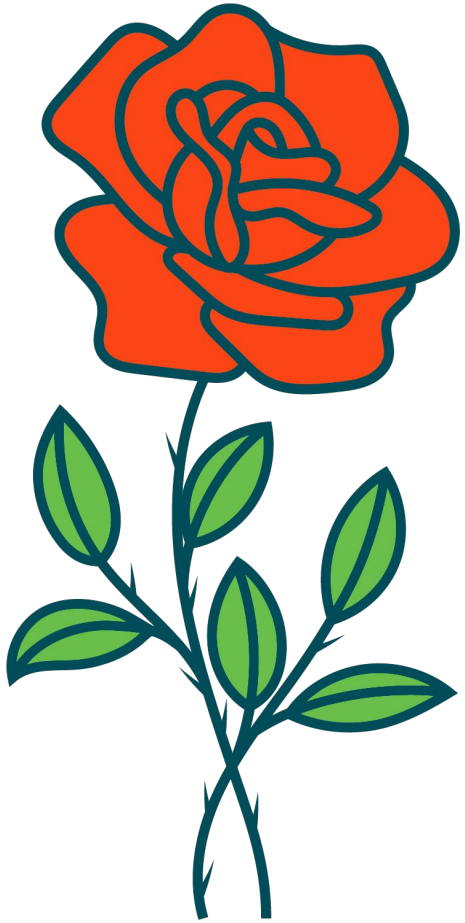
Roses

- Website is approachable and informative
- The process of creating it led to many other opportunities for education and outreach



Thorn

- Use and benefit of the website is yet to be determined

What comes next?

- Inform future management
- Increase the scores
- Yampa River Stewardship Program
  - Combines existing conditions info with stakeholder input to develop desired future conditions for the river corridor
  - Provides guidance/training on good practices for river stewardship, conservation, and restoration

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Thank you!

Any questions?

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Thank you to our funders:

DNR

MIGHTY ARROW FAMILY FOUNDATION

WALTON FAMILY FOUNDATION

City of Steamboat Springs

BUREAU OF RECLAMATION

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