Yampa Integrated Water Management Plan

Yampa-White-Green Basin Roundtable

INTEGRATED WATER MANAGEMENT PLAN

Summary of the IWMP Process and Background

27 volunteers selected by and reporting to the Yampa White Green Basin Roundtable (YWG BRT)

Representing

- agriculture
- industry
- environmental conservation organizations,
- local state, and federal government,
- water suppliers
- fisheries
- recreation

4 years from start to finish, completed Sept 2022

Interviewed **150 stakeholders** including water and river users

The goal: To have a river in balance

Defined shared characteristics around four principles:

- Human Uses
- River Corridor
- Water in the River
- Education, Understanding and Collaboration

IWMP Guidelines for Projects to Focus on

- Have wide support among a diverse stakeholder group
- Do not “push” problems up or downstream
- Are voluntary
- Are at the “right scale”
- Do not cause injury to existing, absolute water rights
- Seek to pool resources and foster greater collaboration
- Help us learn
- Support agriculture in the region

What did we do?

- Stakeholder Interviews
- Diversion Infrastructure Condition
- Water Shortages Assessment
- Remote Environmental Assessment
- Riparian Condition Assessment
- Fluvial Hazard Zone Mapping

HYDROLOGY The departure, or change, of current high and low flows from modeled historical flows. High flows maintain riparian vegetation and intact floodplains, move sediment downstream and trigger fish movement and reproduction. Low flows influence the quantity and quality of aquatic and riparian habitats.

FLOODPLAIN CONNECTIVITY How much and how often flows overtop the channel to interact with the adjacent floodplain. A connected floodplain creates and maintains a healthy stream corridor by sustaining riparian vegetation that slows flow velocity, keeps water in the system for longer, improves water quality and provides aquatic habitat.

FISHERY CONDITION Changes in fishery condition over time as measured by trout density in cold-water fishery reaches and the percentage of native fish in warm-water fishery reaches. The condition of the fishery responds to stressors; changes to other indicators influence fishery condition and overall river health.

RIPARIAN CONDITION The degree of impairment to streambank and floodplain vegetation (riparian ecosystems) due to adjacent land and water uses. An intact riparian corridor supports critical functions such as habitat for fish and wildlife, bank stabilization, flood dissipation and water temperature regulation.

WATER QUALITY How clean the water is compared to state standards. Clean water supports a large diversity of aquatic and terrestrial wildlife. Impaired quality conditions such as high temperature and nutrients can degrade habitat quality.

STRUCTURE AND COMPLEXITY Potential for and degree of heterogeneity in the river's channel such as log jams, side channels and gravel bars. More complex and heterogeneous physical structure in a stream typically produces higher quality aquatic habitat.

What is a River in Balance?

Threats to a Balanced River

- ➔ Rising Temperatures
- ➔ Ongoing Drought
- ➔ Decreased Flows and Water Shortages

What did we learn?

- All stakeholder groups have concerns with future water shortages
- Aging diversion infrastructure
- Yampa River being over appropriated, and what does that mean?
- Broad concerns with out of basin demands
- River access issues and shortened river season
- Erosion and streambank stability large concern of land owners
- Riparian habitat healthy in areas and floodplain connection ranges throughout basin
- Water Quality was generally good except temperature exceedances
- Declining fishery health

Opportunities for Action (a Collaborative Approach)

- Increased data collection
- Improve floodplain connectivity
- Increase planning for a different and variable future
- Upgrade agricultural infrastructure
- Develop strategies for flows and shortages
- Balance riparian habitat, wetland and natural bank stability with other needs

1. **Build support for IWMP recommendations through coordination, collaboration, partnerships, communication & leadership for agriculture:** Begin to establish -- and seek sustainable funding to help maintain -- an organized, coordinated network among ag-related organizations/ individuals related to water issues in the Basin.

2. **Build long-term capacity & support for representation of agriculture in water efforts and initiatives:** Establish a paid position to represent basin irrigators' interests in local and statewide water conversations.

3. **Educate on water rights & improve diversion data reported to the State of CO:** Identify the barriers to accurate water reporting and seek funding to implement solutions.

4. **Educate on ditch governance to support water right owners who may want to form an entity, update existing governance documents, or prepare user agreements:** Conduct education and outreach on opportunities and options for ditch governance.

5. **Conduct demonstration projects & community outreach:** In partnership with landowners, groups & agencies, highlight Yampa Basin demonstration projects with overlapping goals of irrigation infrastructure upgrades, riparian restoration, improved fish movement, and/or recreational boat passage.

6. **Execute StateMod model refinements:** Review and update information housed in the State of Colorado's water rights model including irrigated acreage, water source and points of return flow.

7. **Form Yampa River dashboard & information database:** Develop a "Yampa River Dashboard" for use by stakeholders as a one stop location for information related to water management such as: status of snowpack, current climate conditions, soil moisture data, gage data, water quality data, etc.

8. **Utilize the Yampa River Scorecard Project (YRSP) to centralize collection & reporting of river ecosystem 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.

9. **Build Yampa River Recommended Practices Manual:** This toolbox of approaches for sustainable land and water management practices will serve as a resource for landowners, agencies and other stakeholders working to sustainably manage riparian and aquatic habitat, water, agricultural and livestock operations, and recreation infrastructure in the river corridor.

10. **Establish a riparian buffer program for the Yampa Basin:** Identify priority river reaches where riparian buffer enhancements would provide greatest benefit and support interested landowners in designing and funding these projects.

11. **Identify repairs for existing reservoirs & secure infrastructure funding to complete them:** Support owners of six large reservoirs with major infrastructure repair needs.

12. **Routt County: Secure funds to implement multi-benefit diversion structure upgrades per CAA/Ag workgroup's 2021 Flowchart and Prioritized List:** Develop sustainable funding to continue helping irrigators modernize their infrastructure with basic engineering, assistance with identifying funds and grant writing.

13. **Moffat County: Secure funds to implement multi-benefit diversion structure upgrades per CAA/Ag workgroup's 2021 Flowchart and Prioritized List:** Develop sustainable funding to continue helping irrigators modernize their infrastructure with basic engineering, assistance with identifying funds and grant writing.

14. **Coordinate reservoir operations to meet irrigation & environmental shortages:** Identify opportunities that increase the utilization of existing stored water to help alleviate existing and future irrigation water and environmental flow shortages.

15. **Refine return flow study:** Continue progress towards understanding surface water return flow patterns in the basin through additional science and monitoring.

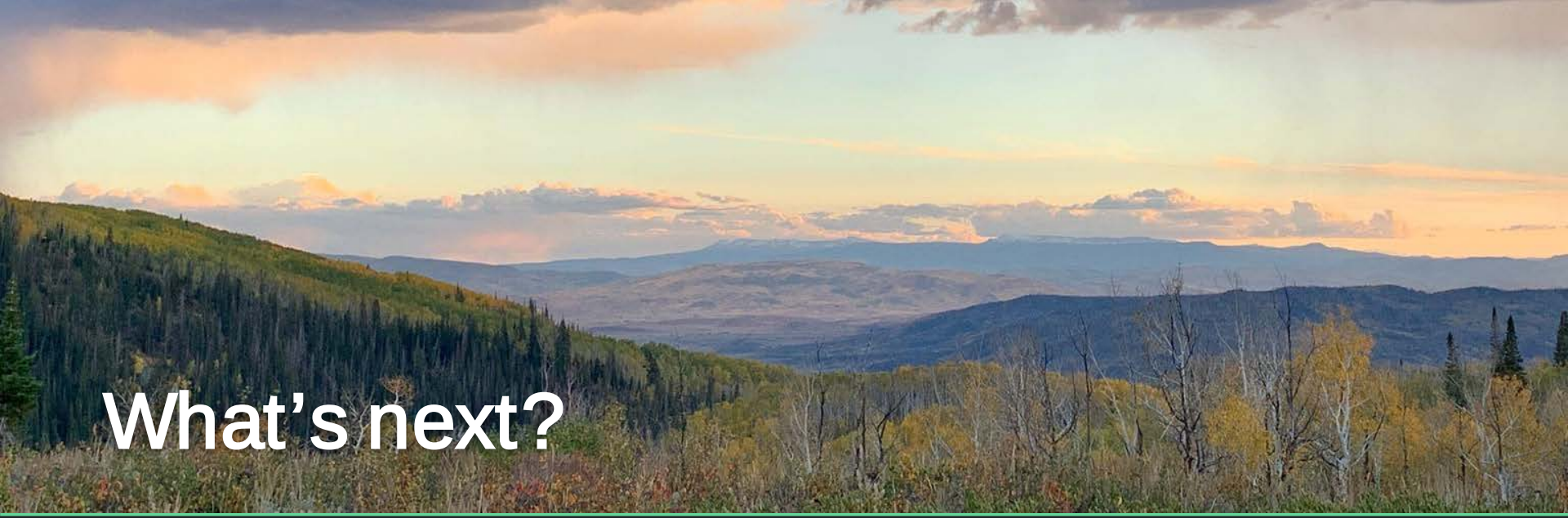
16. **Implement hydrology monitoring plan:** Work to install high priority gauging stations by confirming partners, identifying funding, and pursuing needed permits.

17. **Establish basin-wide water temperature monitoring plan:** Pursue identified monitoring locations and identify entity to provide basin wide coordination.

18. **Protect water quality in the upper Yampa River watershed & Stagecoach Reservoir:** Inventory, model and sample the sub-basin above and including Stagecoach Reservoir to identify possible causes of prolific algae blooms. Develop and implement land and water management practices to mitigate possible sources.

19. **Protect flows for listed fish:** Work collaboratively to improve flows in the Yampa River from Craig to the Green River confluence to benefit endangered fish.

20. **Meet existing environmental flow targets & water rights:** Develop an implementation plan to meet existing environmental flow targets and in-stream flow water rights that are currently short.



What's next?

FRIENDS OF THE YAMPA

community agriculture alliance

How can YOU get involved?

- Read the IWMP Final report at yampawhitegreen.com, IWMP top menu then Final Report link
- Connect with one of the river related organizations - volunteer, join, donate and learn more
- Help support one of the IWMP recommendations that you are passionate about - we need funding, local, state, and federal support
- If you have a diversion structure or have ideas for river health project, reach out and connect with us