Yale SCHOOL OF THE ENVIRONMENT

Ucross High Plains Stewardship

FELLOWSHIP BRIEF

Managing the Yampa River in a Changing Climate

Humna Sharif, MEM '21

The Need.

The Yampa River begins in the Flattops Wilderness Area in Northwestern Colorado and reaches its confluence with the Green River at Echo Park within the Dinosaur National Monument. The Yampa River has a few small reservoirs located close to the headwaters, but it still has an open flood plain. However, the long running mega-drought in the Southwest is making it unlikely that the river floodplain will ever flood again.

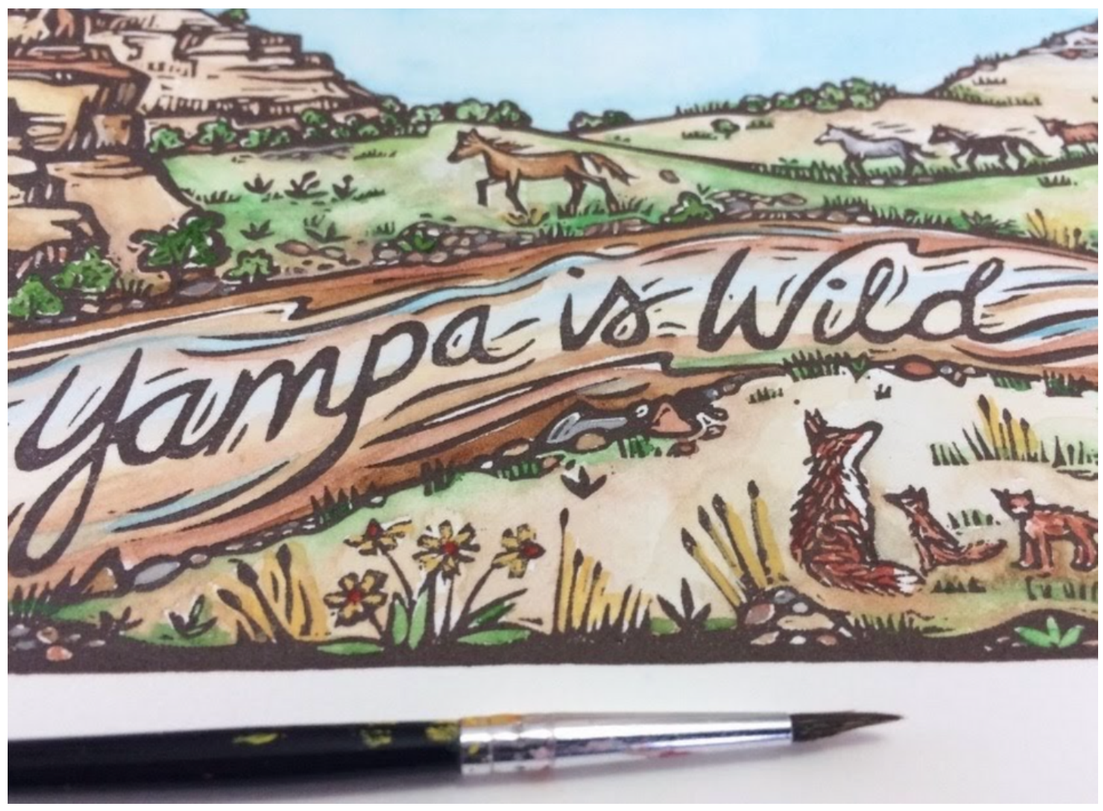

Photo by Kent Vertrees, President of Friends of the Yampa River

The 2018 water year was the fifth driest year in the 123-year record of Colorado. The reduced water flows caused the Yampa to be placed "on call" for the first time, meaning that junior water rights holders had their water shut off. In 2020, the river was placed on call for the second time in its history. This study explored the impacts of rising temperatures on this critical freshwater resource for the region and identified actions that can support improved water management practices.

The Project.

Humna Sharif worked with the National Parks Conservation Association (NPCA) to understand climate change and management policy impacts on freshwater resources that support national park units. Specifically, Humna examined the physical features of the Yampa river, water uses, management practices, stakeholder interests, and future challenges of the river. The water in the Yampa River has many competing uses, so conversations with a diversity of stakeholders, such as conservation groups and city government officials, were key to understanding the issues and identifying policy and conservation interventions. Humna also reviewed state and city water management policies for the river and identified key programs already working on the ground that could benefit from added capacity and funding resources. This included studying the Craig and Hayden power plants, two coal power plants currently consuming Yampa River water that are expected to close by 2036. Ultimately, this work resulted in a list of recommendations focused on how NPCA's involvement could help balance environmental flows in the river with the demands of development and energy use to ensure a healthy river ecosystem.

The Findings.

Capacity and funding issues within local organizations stood out to be a limiting factor that has kept many conservation plans from being implemented. Recommendations for NPCA focused on building partnerships with local organizations. Recommendations included the following highlights:

- Partner with the Yampa/White/Green Basin Roundtable, which is developing an Integrated Water Management Plan for the region that will include a prioritized list of water issues.
- Create integrated air and water advocacy campaigns by partnering with renewable energy companies, as well as utilities companies that are incorporating clean energy standards in their portfolios (e.g. Xcel Energy, and Tri-State).
- Support capacity building within local organizations to help them implement priority conservation projects. The Yampa River Health Assessment and Streamflow Management Plan can serve as a blueprint for future NPCA efforts.

The Impact.

This work highlighted the climate-change induced issues and challenges facing the Yampa River. Findings will serve as an important knowledge building block for water users as well as the entire region. Using the recommendations from this study, NPCA will be able to focus their involvement with local organizations and more effectively support sustainable river health. Using the information and recommendations, NPCA can begin to plan for a water-scarce future within the Dinosaur National Monument and initiate integrated air and water protection campaigns in the river basin. If you would like to read the full report and recommendations, please visit here.

The Student.

Humna Sharif is a Master of Environmental Management Candidate at the Yale School of the Environment. She focuses on Water Resource Science & Management and Environmental Policy Analysis during her time at Yale. She is interested in exploring the interconnectedness of freshwater systems with land, and how we can address issues of water quantity/quality through ecosystems management practices, and policy changes. She holds a BA in Environmental Sciences, and Environmental Thought & Practice from the University of Virginia and worked at the National Fish and Wildlife Foundation (NFWF) in Washington D.C prior to beginning her graduate work.