

Stream Management Planning
In Upper San Juan River Basin
WSRF Grant - POGGI PDAA 201800000886

Progress Report
September 2019

PREPARED BY:
Mountain Studies Institute

SUBMITTED TO:
Colorado Water Conservation Board

Mountain Studies Institute (MSI), Trout Unlimited (TU), and Western Wildscapes (WW) are coordinating a steering committee and stakeholder group to facilitate a community-led process to assess water needs and develop a Stream Management Plan (SMP) for the Upper San Juan River Basin. The Southwest Basin Roundtable's (SWBRT) Basin Implementation Plan (BIP) identified a significant gap in information necessary to understand and protect environmental and recreational (E&R) water needs. This project addresses the identified information gap by tackling the first critical step in the process: community engagement; the development of a steering committee and stakeholder group; a review of existing data and information; and a determination of next steps.

*Envisioned as a three-phase process, **the ultimate purpose of the proposed project is to initiate, and ultimately implement, the SMP process to integrate values and seek opportunities to conserve the Upper San Juan Basin streams and their uses with wide-ranging community support and decisions based on current, relevant science and assessments and community input.***

Task 1 Deliverables: Create an organized stakeholder group, led by a steering committee, with structure, capacity and collective interest in pursuing a coordinated Stream Management Plan.

- In 2018, MSI, TU, and WW identified potential partners, built a steering committee, identified common interests and goals, established a process for soliciting public input, and publicized the effort through radio shows, newspapers, and establishment of a website. Attachment 1 contains example outreach posters.
- The Steering Committee is comprised of representatives from agricultural, municipal, recreational, and environmental interests. This includes representatives from: the Park Ditch Company, Colorado Parks and Wildlife, private landowner/rancher on the Piedra River, Town of Pagosa Springs planning department, ranch manager from Banded Peak Ranch/ Chama Peak Land Alliance, Trout Unlimited, US Forest Service, Colorado Division of Water Resources, The Nature Conservancy local CSU Extension Office, Pagosa Area Water and Sanitation District, local outdoor recreation business owner, and local restoration/engineering firm.
- Initial Steering Committee meetings established operational ground rules, guidelines, and Code of Conduct. Next, community involvement and efforts were identified as critical components of group goals and objectives as well as an emphasized need to follow Colorado water laws, the objectives of Stream Management Plans in the CO Water Plan, and the use of science in developing work plans. In addition, a proposed geographical subdivision was drafted and outlined (Attachment 2) based on hydrological sub-basin boundaries of the Upper San Juan River. While a SMP will be a significant outcome of these efforts, the Steering Committee is currently referring to this collaborative group as the Watershed Enhancement Partnership (WEP) to reflect the goals and interest of the community and demonstrate the broader effort is designed to identify voluntary opportunities to address the water needs of the community.
- A total of 14 steering committee meetings, including one field trip to explore site options, were held from May 2018 to September 2019, with representation from the aforementioned stakeholders. These meetings discussed topics including: potential project options, specific site considerations, collaboration with other groups, watershed assessment needs, and a long-term conceptual direction for the Steering Committee.
- The Steering Committee collaborates with other working groups dealing with water related issues in the same geographic area, including: San Juan Headwaters Forest Health Partnership, Growing Water Smart Workgroup, and Resilient Archuleta. Coordination with these working groups helps WEP develop a list of "lessons learned" and "best practices" from other efforts, as well as ensuring efforts are not duplicated and

are working to benefit the landscape as an ecosystem supporting the environmental, recreational, and socio-economic needs of the community.

- The WEP has also brought speakers from other SMP-related efforts and technical experts to inform the Steering Committee of different project examples and considerations for planning. Guest speakers and topics included:
 - Frank Kugel (Upper Gunnison Basin): SMP processes and experiences;
 - Brian Boughton (Division of Water Resources): stream gauge costs, benefits, implementation, operation and maintenance, and potential reestablishment of stream gauge locations in the Basin (see Attachment 3);
 - Nicole Seltzer (River Network): SMP resources, best practices, and examples across Colorado state;
 - Jerry Archuleta (National Resource Conservation Services): congruent agricultural infrastructure inventory of major ditch companies in Archuleta County; and
 - Seth Mason (Lotic Hydrological): watershed assessment options, scope, timeline, deliverables, etc.

- Resources and updates on the WEP and SMP process are available on a variety of public platforms, including the group website at <http://www.mountainstudies.org/sanjuan/smp>. The WEP is also part of a larger online Stream Management Plan database at www.coloradosmp.org to share relevant information on current and past processes, lessons, budgets, and accomplishments along with other groups pursuing SMPs statewide.

- The Steering Committee led its first public meeting in January of 2019 to facilitate public understanding of WEP's efforts and incorporate stakeholder involvement. This meeting disseminated information to stakeholders regarding the WEP goals, objectives, steering committee representatives, SMP information, funding sources, SMP project examples, and sub-basin breakout sessions.

- The second public meeting, held in early September of 2019, gathered around 50 attendees, and collaborated with Resilient Archuleta and Growing Water Smart Workgroup to invite guest speaker, Brent Newman from CWCB, to present education on state level water laws, planning, and concerns (i.e. CO Water Plan, Drought Contingency Plan, Demand Management). Representatives from local groups then explained the goals, objectives and programs occurring within the community to address both state and regional water issues and values, demonstrating the Southwest Basin is taking initiative proactively planning and collaborating on solutions to benefit all water user groups.

- Both public meetings solicited critical community feedback and suggestions on the geographic scope, priority issues and opportunities, what additional information to gather, and new partners to involve ensuring this process aligns with the region's needs and goals. Conversations on opportunities focused on creating collaborative, mutually-beneficial projects for all water uses, in hopes of efficiently using and conserving water resources in preparation for a drier and warmer climate. The Steering Committee will carry this information forward to inform next steps towards immediate project options and possibly a broader watershed assessment in Phase II. Public engagement and information exchange within the community is further illustrated in Figure 1.



Figure 1. Illustration of public engagement and information exchange for the Watershed Enhancement Partnership.

- In May 2019, the Steering Committee visited four sites along the San Juan River, near Pagosa Springs, to visually inspect sites and explore potential project options, multiple water user groups involved, project benefits, challenges, and resources for each site. A subsequent Project Option Table (see Attachment 4) captured site analysis to summarize Steering Committee considerations and to inform a Phase II assessment process. Local stakeholders were engaged at each site to provide background, voice their concerns/issues, and identify opportunities for improvement and collaboration.
- Meeting discussions, stakeholder input, and field visits have all contributed to the WEP's decision to develop a Concept Design Plan for a site on the Upper San Juan River this fall/winter. The purpose of the Concept Design Plan is to demonstrate, on a smaller scale, the SMP process of evaluating water issues, assessing conditions, identifying opportunities for improvements, and implementing solutions on the ground, with stakeholder involvement and consensus throughout the process. The group believes the Concept Design Plan could serve as a demonstration project for the WEP achieving the goal of implementing a project that addresses agricultural, environmental, municipal, and recreational water needs.
- From Steering Committee meetings and the spring field trip, the group has decided to move forward focusing on three main tasks: 1) complete the SMP process under guidance of Steering Committee and community; 2) use the Concept Design Plan site as a demonstration project to address environmental values (i.e. habitat, flows), recreation access, and infrastructure efficiencies; and 3) develop a long term vision and structure for the Watershed Enhancement Partnership.

Task 2 Deliverables: Review existing data and information, to determine data gaps for subsequent assessment.

- MSI and partners conducted an assessment of historic and existing information to continue building off of local efforts, findings, and data (Summarized in Figure 2). Initial data gaps that have been identified include: a better understanding of who owns water rights on the San Juan River and where; comprehensive flow data; stream temperature data; completed restoration projects, and population growth projections. The local Growing Water Smart Workgroup has offered to share their results to provide data and guidelines on

population growth projections.

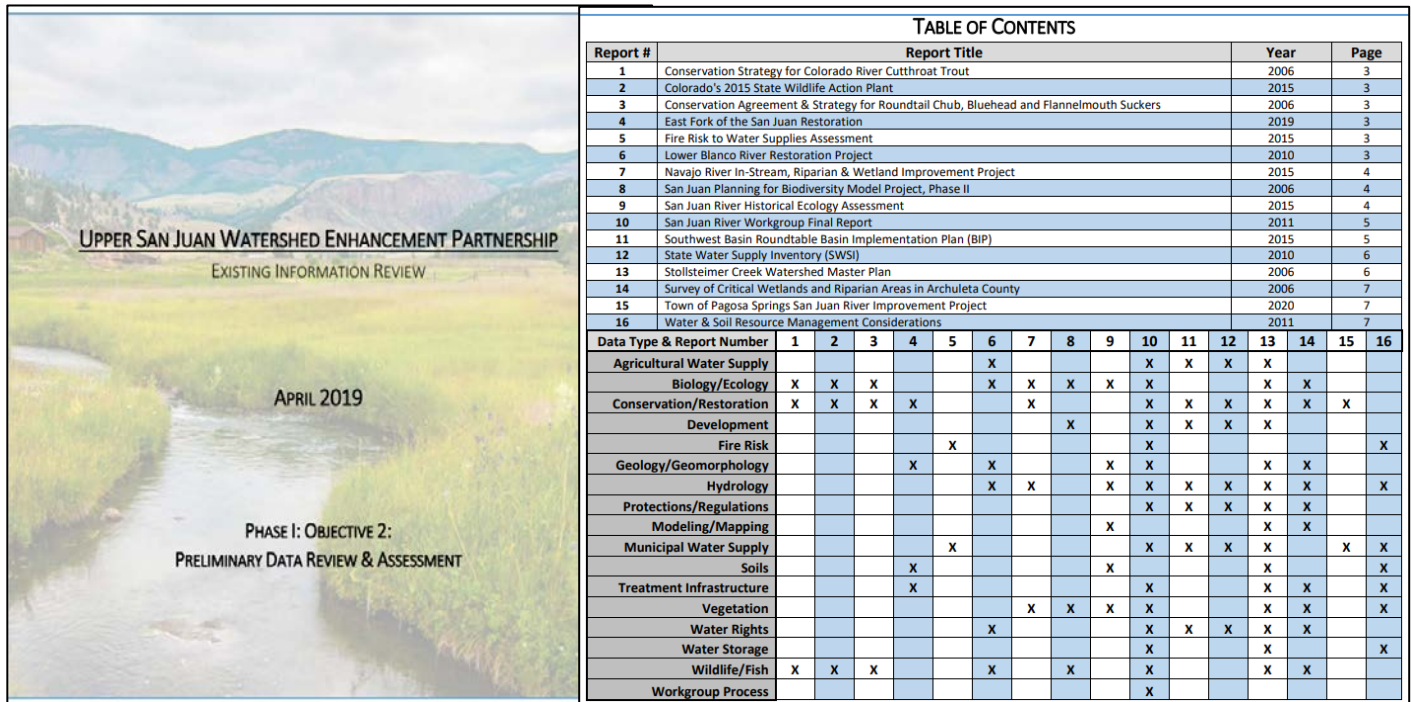


Figure 2: Existing Information Report summary of local efforts, findings, and data.

Task 3 Deliverables: Develop a scope of work to assess environmental and recreation water supply needs (Phase 2) and integrate other water supply needs as the next critical step toward a stream assessment and developing a SMP.

- Deliverables for this task are in the process of being compiled and nearing completion. We are currently working to build the appropriate stakeholder involvement and community outreach. A newly approved Concept Design Plan will contribute to this scope of work for Phase II and serve as a demonstration project to improve water supply needs for environmental, recreational, agricultural, and municipal interests.
- The group has been working to refine the geographic range for the effort with the hope of phasing in river segments once success has been demonstrated. The initial public meeting helped the stakeholder group identify river segments and the issues within those segments. This information assisted the steering committee in identifying any common themes or unique issues as well as specific areas of concern/interest to explore. A field trip was conducted by the Steering Committee and stakeholders in May 2019 to assess several sites for the potential for improvements with infrastructure, river health, and recreational access to serve as example of multi-beneficial projects possible with a SMP. The results of project option discussions from the field trip are summarized in Attachment 4.
- The Steering Committee is developing a scope of work for the Phase 2 watershed assessment. Building on the draft scope of work included in our Phase 1 application, the Steering Committee is further refining a Phase 2 scope of work by incorporating stakeholder feedback, resources from other SMP groups, and direct consultation information from guest speakers and contractors. In addition to providing an assessment of environmental and recreational water needs, the scope of work is expected to incorporate an evaluation of agricultural structure and efficiency improvement needs. Such evaluation will be conducted in partnership with the NRCS and the local San Juan Conservation District. The final scope of work will outline watershed assessment needs tailored to unique characteristics, community values, and water uses for the Upper San Juan, Navajo and Blanco sub-basins. The Steering Committee anticipates applying submitting an application

for SMP funding by the November 1 deadline to pursue Phase 2. A letter supporting the effort and its funding has been provided by the Southwest Basin Roundtable.

Challenges, Opportunities and Lessons Learned:

➤ **Balancing stakeholder interests with geography**

In developing the Steering Committee, there was extensive interest in representing the spectrum of water users within the watershed. The geography of interest has varied and evolved between Steering Committee representatives and stakeholders. Interestingly, the overall region includes several river drainages, not all immediately associated with the region identified in the CWCB grant for this Stream Management Plan effort. Subsequently, the watershed was divided into 3 sub-basins (Upper San Juan, Blanco/Navajo, and Piedra) and priorities assigned to the sub-basins. The prioritization order has now been revised to focus on the Upper San Juan and Blanco/Navajo sub-basins, with the possibility of expanding to the Piedra in the future.

➤ **Identifying and incorporating appropriate partners**

The WEP has had success in developing a comprehensive and engaged Steering Committee. We worked extensively with local community members and networks to identify appropriate representatives. However, not all of the community representatives identified were able to participate due to time constraints and interest in the process creating challenges. We have been warned that we need to be conscious of peoples work schedules and needs (particularly seasonal constraints associated with agricultural needs) and have taken these concerns into account as we have had our regular Steering Committee meetings. We continue to keep an open information exchange between Steering Committee members and their constituents, ensuring Steering Committee representatives have ample opportunities to share information with the communities and bring back those stakeholder concerns to the Committee's regular meetings.

➤ **Maintaining clarity on process and outcomes**

The Steering Committee has had valuable conversations about needs, interests, and goals. Through those conversations we have ensured that we have consensus on achieving our end goal of developing a WEP/SMP that has implementable projects with buy-in from all interests.

With community stakeholders/partners, the Steering Committee has applied both targeted and broad outreach approaches to ensure private information and concerns are respected with targeted communication, coupled with public events to keep the community abreast of the WEP process, updates, and invite public feedback. As this is a community-driven effort, the WEP strives to balance keeping public stakeholders informed of developments through educational events and outreach, while also maintaining privacy of individual projects and sites when requested.

➤ **Trans-basin diversions**

The San Juan Basin includes a significant diversion from the San Juan into the Chama and Rio Grande River Systems. The existence of the diversion has influenced ideas around which stakeholders should be included and when in the conversation to include them. This diversion also reveals significant controversy and issues over water rights. Although these issues remain relevant to this process, the Steering Committee decided to approach these concerns in the future when assessments and projects involve this sub-basin directly.

➤ **Appropriate scale**

Scale is perhaps one of the most challenging components to the effort. The group ultimately wants to identify

actionable opportunities in completion of a watershed/stream management plan. After concerns over the appropriate size of watershed were addressed, and recognition that the sub-drainages have different issues, impacts, influences, and interests, the group opted for a phased approach within the different sub-basins. This will allow direct conversations with residents of each of the sub-basins and thus offer the greatest opportunity to move things forward via consensus.


➤ **Balance between community building and demonstrating progress**

This group has been brought together to help inform a stream management planning process. Relationships have been established and trust has been developing amongst the participants. We are now challenged to balance the need for securing appropriate information and the need of participants to feel a sense of progress that can establish actions. Participants desire reassurance this process will result more than conversation opportunities and lead to on-the-ground work to demonstrate to the community the types of activities and projects possible with designing and implementing a watershed/stream management plan. The group believes the Concept Design Plan and subsequent project implementation could serve as a demonstration project for the WEP achieving the goal of implementing a project that addresses agricultural, environmental, municipal, and recreational water needs.

ATTACHMENT 1

Watershed Enhancement Partnership flyer for Southwest Basin Roundtable presentation July 10, 2019.

UPPER SAN JUAN WATERSHED ENHANCEMENT PARTNERSHIP



In the summer of 2018, the Upper San Juan Watershed Enhancement Partnership (WEP) formed as a community-led, voluntary process to understand local water supply needs in the San Juan River Basin and to identify opportunities to engage in collaborative projects that benefit all water uses, including environmental, agricultural, municipal, and recreation.

Goals:

1. Incorporate all values, voices, and interests
2. Foster community support, include public into the conversation and planning
3. Build from local knowledge and incorporate into decision-making process
4. Advance a culture of stewardship
5. Respect history, current uses, and water law
6. Optimize water resources for all uses in accordance with Colorado water law
7. Build strategies around science-based adaptive management

Stakeholder representatives from:

Banded Peak Ranch, Chama Peak Land Alliance, Colorado Division of Water Resources, Colorado Parks and Wildlife, Colorado Water Conservation Board, CSU Extension Office, National Resources Conservation Service, Pagosa Area Water and Sanitation District, outdoor recreation business owners, public citizens, the Nature Conservancy, Town of Pagosa Springs Planning Department, Trout Unlimited, and the US Forest Service.



Phase I Objectives:

1. Mobilize a stakeholder group, organized by a steering committee of diverse water users, with the structure, capacity and collective interest in pursuing a coordinated watershed plan.
2. Review existing data and information to build off local efforts and findings.
3. Develop a work plan for future watershed assessments and project planning.



STAKEHOLDER GROUP HIGHLIGHTS

Community Values, Interests, & Concerns

SCOPE/SCALE

Focus on Upper San Juan, Navajo and Blaine watersheds, but potential to expand in future



ISSUES



- Balancing all water uses and users on private & public lands
- Lack of education/communication on CO water law, water rights, access
- Forest & river systems health—human & biological impacts
- Drought & subsequent restrictions/priorities
- Water conservation/regulation—inefficient infrastructure, monitoring

OPPORTUNITIES

- Funding for collaborative, multiple-use projects
- Education on water rights/laws, diversion & dam operations, conservation, access
- Improve Collaboration/Communication
- Needs Assessment/Priority Identification
- Drought Planning



INFORMATION NEEDS




- Balancing all water uses and users on private & public lands
- Lack of education/communication on CO water law, water rights, access
- Forest & river systems health—human & biological impacts
- Drought & subsequent restrictions/priorities
- Water conservation/regulation—inefficient infrastructure, monitoring



Accomplishments:

- Established local partnership of steering committee members and stakeholders from multiple water interests.
- Identified collective values on geographic scope/scale, issues, opportunities, and information needs (see highlights, right).
- To date, 12 stakeholder meetings have encouraged community learning and regular input throughout process.
- Compiled existing reports and strategies from local efforts as first step towards watershed assessment and priorities.
- Provided variety of outreach opportunities through surveys, public meetings, and site field trips.
- Currently exploring several potential sites for improvements, including a multi-purpose project on the San Juan River that would benefit all uses.

Joint Public Meeting flyer for Resilient Archuleta and Watershed Enhancement Partnership meeting on Sept. 4, 2019.



**RESILIENT ARCHULETA
PRESENTS**

Watershed Enhancement Partnership

Sept. 4th @ 6pm

JOIN

**BRENT NEWMAN
OF THE
COLORADO WATER CONSERVATION BOARD**

**Learn about the
COLORADO RIVER DROUGHT CONTINGENCY PLAN
and local planning efforts**

IF YOU USE WATER, YOU SHOULD BE HERE!

**GSU EXTENSION OFFICE
344 HIGHWAY 84
PAGOSA SPRINGS, CO
970-264-5931**

THIS IS A PUBLIC MEETING. JOIN THE CONVERSATION!

ATTACHMENT 3

Example slide from Colorado Division of Water Resource guest speaker, Brian Boughton's, presentation on stream gauge considerations, processes, and options. After discussion amongst the Steering Committee, the group decided to place stream gauge replacement as a lower priority for implementation at this time but remains an option to consider with the broader watershed assessment.

Stream gauge

- Most important questions.
 - What is the purpose of the stream gauge?
 - What to I wish to accomplish with this stream gauge?



COLORADO
Division of Water Resources
Department of Natural Resources

ATTACHMENT 4

Project Option Table and photos from the WEP Steering Committee’s field trip to sites along the San Juan River near Pagosa Springs.

Location	Project Options	Values	Benefits	Challenges	Resources
1	Infrastructure: headgate automation/ telemetry, ditch piping	Agriculture, Environmental Recreation, Municipal	Create more user-friendly structure/decrease labor, accurate & precise diversion/tailwater, increase efficiency. Increase flow capacity, possibly pipe portions of ditch to prevent leaks/property damage.	Operation & maintenance cost, fear of regulation/loss of water rights with changes, log jams blocking channel and intake. Rusting of headgate after wildfire debris, ash, sediment.	Examples from ditches on Pine & Florida using telemetry.
	Bank Stabilization (upstream of headgate)		Prevent headgate and coffer dam damage with slope and channel work to stabilize upstream and upland of headgate.	Active geology	
	Coffer Dam		"Lower hanging fruit" project with no regulatory risk, easy to improve via debris removal, protects recreational user equipment & passage, lower cost	Structure in place and functioning currently.	Alternative designs than gabian structure, jersey barriers, deadman cabling.
2	In-channel restoration (bank stabilization, narrowing or low flow channel, fish habitat)	Environmental Recreation, Agriculture, Municipal	Plans already designed by government agency to improve habitat, flows, recreation opportunities (fishing), enhance property values. Bank stabilization and low flow or channel narrowing to help with flooding, flows, temperature, aquatic habitats and water supply reduce rationing property owners dealt with last year. Site has access points for equipment for construction/restoration.	Landowner buy-in, spending public money on private land—justify w/package of multiple use benefits. Agency plans complete, but property line issues preventing work on ground.	Utilize existing plan designs
	Public access		Provides rec access/exit since no boating access 15 miles above town, extends recreation river segments with easy/family-friendly stretch. Prevents trespassing or property damage, utilizes current easement & roads. Potential land swap agreement to benefit private land owner and gain property access.	Private landowners not wanting public traffic, construction costs & maintenance for roads, boat ramp, parking, bathrooms.	
	Diversion structure improvements		Improve efficiency & accuracy, decrease labor & maintenance cost.	Construction costs & maintenance. Ditch leaking, flooding—perhaps piping (above or underground) reduce property damage & improve ditch delivery & reduce maintenance costs/time.	
3	Public access (boating, fishing, etc.)	Environmental Recreation, Agriculture, Municipal	Provides rec access/exit extending recreation river segments with easy/family-friendly stretch. Economic revenue from day use & fishing permit fees. Property owners open to access & restoration.	Which entity responsible/has capacity for management of site, no permanent sale reassurance possible, only use of property, due to commitments	
	In channel restoration		Agency interest in restoring instream habitat & possibly managing. Could open door to in-channel restoration between site and town sections.	Property lease	
	Headgate infrastructure		Diversion relocation: potential move back to property line & improve ag water use.		
4	Public access	Municipal, Recreation			Discussed in Town Master Plan?
	Potential municipal park/river center		Tourism, public access & education on San Juan River		

