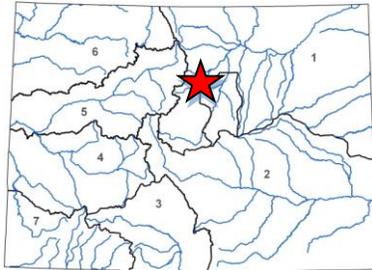




**Colorado Watershed Restoration
Program Application**



L O C A T I O N	
County/Countries:	Boulder
Drainage Basin:	South Platte

D E T A I L S	
Total Project Cost:	\$805,289
Colorado Watershed Restoration Program Request:	\$382,320
Recommended amount:	\$382,320
Other CWCB Funding:	\$0
Other Funding Amount:	\$422,969
Applicant Match:	\$0
Project Type(s):	Planning
Project Category(Categories):	Watershed and Stream Restoration
Measurable Result:	Monitor 50,000 linear feet of stream. Develop framework for 16 stakeholder groups.

The lead project sponsor is Left Hand Watershed Center and direct project partners include Mile High Flood District, City of Boulder - Open Space and Mountain Parks, St. Vrain and Left Hand Water Conservancy District, Keep It Clean Partnership, City of Longmont, and Boulder County. The purpose of this multi-objective project is to develop and implement a shared adaptive management framework (“shared framework”) for assessing watershed health in the St. Vrain Basin (including Left Hand Creek and Boulder Creek). We will develop the shared framework collaboratively, with input from diverse partners that currently manage and monitor watershed health throughout the basin. Our goal is use this shared framework to make more informed management decisions as a basin and to better track broad progress towards basin-wide watershed health goals. To achieve this goal, we will:

- Work with partners to assess watershed health data collection efforts throughout the basin in order to understand what is collected, where there is overlap, and where there are gaps;
- Work with partners to document, research, and refine watershed health indicators;
- Develop a shared framework for adaptive management that compliments existing data collection efforts and integrates existing watershed management plans and tools; and
- Implement the shared framework, report results in a “State of the Watershed” report, and iterate the adaptive management process by updating the shared framework based on what is learned.

A critical aspect of this project is collaboration, so that project partners can learn from each other to achieve a greater level of broad consensus regarding watershed health and resilience, as well as the role of adaptive management in helping achieve these goals. Another key aspect of this project is integrating existing plans and tools to ensure that we are accounting for partner goals and building upon others tools and frameworks through an adaptive management perspective. With coalition-based leadership at the helm of this highly collaborative science-based effort, this project is well aligned with Colorado Water Plan recommendations regarding coalition-based partnership plans, projects, monitoring, and adaptive management strategies.

**COLORADO WATERSHED RESTORATION PROGRAM
GRANT APPLICATION**

Project Title:

Adaptive Management at Scale



**LEFT HAND
watershed center**

Submitted by:

LEFT HAND WATERSHED CENTER
6800 Nimbus Road, Longmont CO 80503 (office)
P.O. Box 1074, Niwot, CO 80544-0210 (mailing)
303.530.4200 | www.lwog.org

Project Title	Adaptive Management at Scale
Project Location	St. Vrain Basin (see map – Attachment A)
Grant Type	Watershed/Stream Restoration and/or Protection (Restoration)
Grant Request/Amount	\$ 382,320
Cash Match Funding	\$ 382,969
In-Kind Match Funding	\$ 40,000
Total Match Funding	\$422,969
Project Sponsor(s)	Left Hand Watershed Center
Contact person	Yana Sorokin, ysorokin@lwog.org
Brief description of the project	<p>The purpose of this multi-objective project is to develop and implement a shared adaptive management framework (“shared framework”) for assessing watershed health in the St. Vrain Basin (including Left Hand Creek and Boulder Creek). We will develop the shared framework collaboratively, with input from diverse partners that currently manage and monitor watershed health throughout the basin. Our goal is use this shared framework to make more informed management decisions as a basin and to better track broad progress towards basin-wide watershed health goals. To achieve this goal, we will:</p> <ul style="list-style-type: none"> • Work with partners to assess watershed health data collection efforts throughout the basin in order to understand what is collected, where there is overlap, and where there are gaps; • Work with partners to document, research, and refine watershed health indicators; • Develop a shared framework for adaptive management that compliments existing data collection efforts and integrates existing watershed management plans and tools; and • Implement the shared framework, report results in a “State of the Watershed” report, and iterate the adaptive management process by updating the shared framework based on what is learned. <p>A critical aspect of this project is collaboration, so that project partners can learn from each other to achieve a greater level of broad consensus regarding watershed health and resilience, as well as the role of adaptive management in helping achieve these goals. Another key aspect of this project is integrating existing plans and tools to ensure that we are accounting for partner goals and building upon others tools and frameworks through an adaptive management perspective. With coalition-based leadership at the helm of this highly collaborative science-based effort, this project is well-aligned with Colorado Water Plan recommendations regarding coalition-based partnership plans, projects, monitoring, and adaptive management strategies.</p>

BASIC APPLICANT QUALIFICATIONS

- Our commitment to collaborative approaches is demonstrated by our diverse project partners, including Mile High Flood District, City of Boulder – Open Space and Mountain Parks, City of Longmont, St. Vrain and Left Hand Water Conservancy District, Keep it Clean Partnership, and Boulder County that are all providing cash and/or in-kind match, as well as our mission to: “Protect and restore watersheds for people and the environment using a collaborative and science-based approach”
- Our commitment to restoring and protecting ecological processes while also protecting life and property is demonstrated by our project goal: To improve our approach for tracking broad progress towards basin-wide watershed health and resiliency by using a shared adaptive management framework that represents multi-objective watershed health indicators at a basin-wide scale, from the canyons to the urban corridors. Our commitment is also demonstrated by our watershed coalition-led approach that will help ensure that the diverse watershed resilience goals of each unique partner are addressed and incorporated.
- Our commitment to multi-objective approaches is demonstrated by our adaptive management goals, which are rooted in the desired future conditions of our watershed. We envision a resilient watershed as one that supports both the people and the environment. Therefore, our adaptive management approach includes improving the ecology, water quality, fluvial-geomorphic function, and aquatic habitat, as well as water delivery, health, safety, and quality of life for landowners through improved protection of homes, improved flood protection, and reduction of hazards. These goals will become more refined through the project process as we work to understand and integrate individual partners goals into a shared framework.
- Broad-based support for this application and appropriate match are demonstrated by the diverse letters of support and detailed budget table provided in the attachments.

Qualifications Evaluation (Maximum of 20 points)

<p>Identify the lead project sponsor and describe the other stakeholders' level of participation.</p> <p>The lead project sponsor is Left Hand Watershed Center and direct project partners include Mile High Flood District (MHFD), City of Boulder – Open Space and Mountain Parks (OSMP), St. Vrain and Left Hand Water Conservancy District (SVLHWCD; District), Keep It Clean Partnership (KICP), City of Longmont (COL), and Boulder County. These direct project partners will participate directly in assessing data, defining watershed health indicators, developing the framework, and supporting framework implementation. Partners are all committed to “rolling up their sleeves” to work together towards a shared framework. Left Hand Watershed Center will also work with other project stakeholders who are interested in watershed health and resilience (e.g. Department of Public Health and Environment, Colorado Parks and Wildlife, United States Geological Survey, Northern Water, United States Forest Service, and other watershed groups) to ensure their data, planning efforts, and tools are integrated into the shared framework where appropriate.</p> <p>As a coalition of watershed stakeholders, we also partner with many additional individuals and organizations with an interest in watershed resources in the St. Vrain Basin. Some of our most significant relationships are with the landowners and residents, Left Hand Water District (LHWD), Boulder County, City of Longmont, St. Vrain and Left Hand Water Conservancy District, Town of</p>

Jamestown, Town of Ward, James Creek Watershed Initiative, U.S. Forest Service, Left Hand Ditch Company (LHDC), and Colorado Division of Reclamation and Mining. All of these entities are represented on our Board and help coordinate our efforts with their own related efforts.

Specify in-kind services and cash contributions (match) amount for the proposed activities.

Project partners are contributing significant cash and in-kind contribution towards this project. Further details are included in Attachment B - Budget Table and Schedule.

Type	Source	Amount	Status
Cash	Keep it Clean Partnership	\$177,969	Committed
Cash	Boulder County	\$60,000	Committed
Cash	City of Boulder – Open Space and Mountain Parks	\$30,000	Committed
Cash	Mile High Flood District	\$60,000	Committed
Cash	St. Vrain and Left Hand Water Conservancy District	\$15,000	Committed
Cash	Other Grants	\$40,000	Pending
In-Kind	Keep It Clean Partnership	\$40,000	Committed

Organizational Capability (Maximum of 30 points)

What is the applicant organization’s history of accomplishments in the watershed?

Left Hand Watershed Center has obtained funding to implement diverse projects across our service areas. Below we highlight some of our ongoing and complete projects and partners.

	Description	Partners and Funders
St. Vrain Adaptive Management	Adaptive management at recently completed creek restoration projects (\$52,500; November 2018-December 2019)	St. Vrain Creek Coalition, Lyons Schools, CWCB, CEMEX, Landowners
Water Quality Data Analysis	Analysis of water quality data collected by the City of Longmont (\$8,000; 2019)	City of Longmont
Fish Passage & Education	Fish passage feasibility study and education initiative (\$78,000; 2019 – 2023)	LHDC, LHWD, SVLHWCD, CWCB
Community Science	Citizen science program using mobile and web platforms for collection, management, and sharing of data (\$143,500; 2018 – 2023)	CSU, Trout Unlimited, Lyons Schools, Gates Family Foundation, CWCB, DOLA
Upper Left Canyon	Stage zero restoration, channel grading, floodplain grading, asset protection, and bank protection (\$2,000,000; 2018 – 2020)	USFS, Boulder County, Left Hand Fire Protection District, LFDC, LHWD, Landowners, CWCB, DOLA
Stewardship	Adaptive management in Left Hand Creek Watershed (\$384,271; 2018 – 2023)	>100 landowners and Citizen Scientists, CWCB, DOLA
Adaptive Management	Development of framework and guide for adaptive management (\$46,500; 2018)	Boulder County, City of Boulder, USFS, Landowners, DOLA
Foothills, 3B, Plains, 63rd	Watershed restoration including asset protection (over \$8,750,000; 2016 – 2017)	Boulder County, LHDC, LHWD, CDOT, >100 landowners, DOLA
Stewardship Handbook	Resource about watershed stewardship for landowners. (\$200,000; 2016 – 2017)	Full list of collaborators is available in the handbook .

Demonstrate that the project budget and schedule are realistic.

Left Hand Watershed Center staff will allocate the equivalent of 40% of three people’s staff time over three years to this project, including partner outreach partner coordination, data collection, data management, data analysis, research, framework developments, fieldwork, and project management. Below we provide brief resumes for each team member.

- **Jessie Olson, Executive Director:** Jessie is a watershed planner who has worked professionally in the field of ecological restoration since 2003, overseeing restoration and land management projects with non-profits, land trusts, and in the private sector. She is experienced with outreach, non-profit leadership, and long-term land management plans.
- **Yana Sorokin, Project Manager:** Yana is an ecosystem ecologist with nine years of experience. She holds a Master’s degree in Plant Ecology and she is a skilled project manager with background in ecological research, data analysis, experimental design, watershed planning, outreach, and all aspects of managing watershed restoration projects.
- **Deb Hummel, Project Coordinator:** Deb is a fish biologist with experience working on fish and wildlife habitat restoration and mitigation projects. She received her Master’s degree in Fisheries Biology and coordinates watershed science and stewardship projects from data collection and weed management to community engagement and education.

Our direct project partners bring additional expertise and experience to the project team. Brief resumes and roles for a subset of staff representatives are included below.

- Marianne Giolitto, Wetland & Riparian Ecologist – Will contribute to data assessments, watershed health indicator assessments, and shared framework development, including providing guidance related to the City of Boulder’s planning and monitoring goal and tools.
- Jim Krick, Natural Resources Specialist – Will contribute to data assessments, watershed health indicator assessments, and shared framework development, including provide guidance related to the City of Longmont planning and monitoring goals and tools.
- Laura Kroeger, Program Manager – Will support shared framework development by providing guidance related to Mile High Flood District’s planning and monitoring goals and tools, as well as broad scale needs related to urban corridor watershed management.
- Kevin Peterson, Coordinator – Will contribute to data assessments and support framework development by providing guidance related to Keep It Clean Partners’ goals and tool.
- Sean Cronin, Executive Director, District – Will support shared framework development by providing guidance related to the SVLH Stream Management Plan and broad scale watershed planning efforts and needs throughout the basin, including agriculture and ditch companies.

Demonstrate that the project budget and schedule are realistic.

Please see attached budget and timeline table, including assumptions. In summary, the budget is a realistic estimate of cost based on quotes received for similar work, number of partners, plans, tools expected to be included in Tasks 1 – 3, and number of sites and protocols expected to be included in Task 4. The budget is also a realistic estimate of cost based on outreach and project management experience on adaptive management activities completed in the past four years by Left Hand Watershed Center staff at more than 100 private properties in St. Vrain and Left Hand Creek. The schedule is a realistic estimate based on time required to coordinate data assessments with different partners, coordinate watershed health indicator research and discussions with different partners, and develop and implement a shared framework. The schedule is also a realistic estimate based on the experience of both staff and project partners in implementing numerous watershed health planning and monitoring project. However, the team acknowledges that adaptive management is a process rather than a destination, and plans to continue this process beyond the initial three-year period.

Proposal Effectiveness (50 points)

What information is the project sponsor using to develop the proposed plan or project?

The proposed project will be informed by existing data collection efforts, management plans, and monitoring tools related to watershed health. We will use Left Hand Watershed Center's existing Adaptive Management Framework as a starting point, but will update and modify to accommodate the needs of project partners and the basin through a collaborative learning process.

Our existing shared framework provides a good starting point because it incorporates key elements of the adaptive management process to address holistic watershed health. Adaptive management is a well-documented method of management that helps reduce uncertainty in complex systems, such as watersheds, which face threats from climate change, floods, fires, and other dynamic ecosystem processes. We have been applying this approach for two years in Left Hand Creek and have found it to be our best tool for improving watershed health and resilience and mitigating flood hazards. The key elements incorporated in our existing framework include (1) hypotheses related to the performance of watershed health indicators that tie directly to conceptual model goals (desired future conditions); (2) performance standards that identify an acceptable science-based threshold of performance for each watershed health indicator; and (3) suggested actions for when thresholds are exceeded.

These key elements provide the balance of flexibility and accountability needed to manage our complex watersheds that are subject to ever-changing realities associated with climate change and dynamic watershed processes. Accountability is achieved through the tracking of science-based performance thresholds and noting when they are exceeded and what pre-planned actions are recommended. Flexibility is created through the inherent structure of the framework which allows wiggle room when thresholds are not well understood and actions may not be straightforward. For example, qualitative performance standards may be used if good scientific data is not yet available. However, qualitative standards can get more quantitative as more information is learned with each iteration of the process. Similarly, suggested actions can fall along the spectrum of specificity from broad (e.g. setting up a stakeholder discussion) to concrete (e.g. implementing a maintenance action), or somewhere in-between (e.g. collecting additional data). In addition, new datasets can be incorporated by modifying hypotheses, standards can be modified to accommodate changing goals, and data collection methods can be adjusted for different systems or needs.

While our existing framework provides a good foundation for developing a new basin-wide adaptive management framework, this project will also integrate existing data collection efforts, management plans, and monitoring tools related to watershed health. This step will help ensure that the new shared framework is applicable at scale, leverages existing resources, and ultimately compliments existing data collection efforts by all partners. Additional efforts, plans, and tools that we plan to assess and integrate as appropriate are listed below, but more will be identified during the project: SVLH Stream Management Plan, Keep It Clean Partnership 319 Basin Plan, City of Boulder Grasslands Plan, Boulder Creek Master Plan, Mile High Flood District adaptive management planning efforts, City of Longmont Channel Maintenance Plan, Stream Quantification Tool, Stream Health Index, and Ecological Integrity Assessment and Floristic Quality Assessment tool.

Discuss the multiple objective aspects of the project and how they relate to each other.

A multi-objective approach is inherent to this project because our adaptive management framework is designed to assess our progress towards meeting multi-objective watershed management goals. Specific goals include improving the ecology, water quality, fluvial-geomorphic function, and habitat, as well as water delivery reliability for agricultural users and health, safety, and quality of life for people through improved protection of homes, improved flood protection, and reduction of hazards. This starting point of multi-objective goals will be further developed as we incorporate additional partner goals in the new adaptive management framework. Our diverse partners also bring unique goals to the project based on their specific focus areas. For example, while some partners may have a focus of water quality and storm water (e.g. Keep It Clean Partnership or City of Longmont Environmental Services), others have a focus on riparian community health (e.g. City of Boulder – Parks and Open Space, City of Longmont Parks, Natural Resources) or hydrologics and hydraulics (Mile High Flood District). By collaborating and incorporating diverse partner goals, our adaptive management approach will become more multi-objective through development of a shared framework. Goals are related to each other through their combined impact on watershed health and resilience, and goal performance will ultimately be incorporated into the framework via the performance standards and thresholds that are assigned to each watershed health indicator.

This project will build upon other existing similar efforts in the St. Vrain Basin without duplicating efforts by starting with an assessment of existing similar on-going efforts and ensuring that the new framework specifically addresses gaps and compliments other efforts, rather than overlaps any existing efforts. This process will benefit all partners through creation of a map showing on-going efforts, overlap, and gaps. By bringing together all partners to develop a shared understanding of existing efforts, this project will improve overall collaboration and partnership throughout the basin reducing duplication of efforts and increasing sharing of knowledge and methods. We are aware of a number of on-going similar efforts that we will assess and integrate where appropriate. These include: SVLH Stream Management Plan, Keep It Clean Partnership 319 Basin Plan, City of Boulder Grasslands Plan, Boulder Creek Master Plan, Mile High Flood District adaptive management planning efforts, City of Longmont Channel Maintenance Plan, Stream Quantification Tool, Stream Health Index, and Ecological Integrity Assessment and Floristic Quality Assessment tool. Additional efforts and tools will be incorporated during the project process.

Describe the proposed monitoring or implementation plan.

The success of our project will be measured by our ability to (1) develop a shared adaptive management framework using a collaborative process with all project partners and (2) implement this shared framework to report on the health of our watershed through the lens of multiple objectives and partner goals. We will use the following quantifiable measures of success:

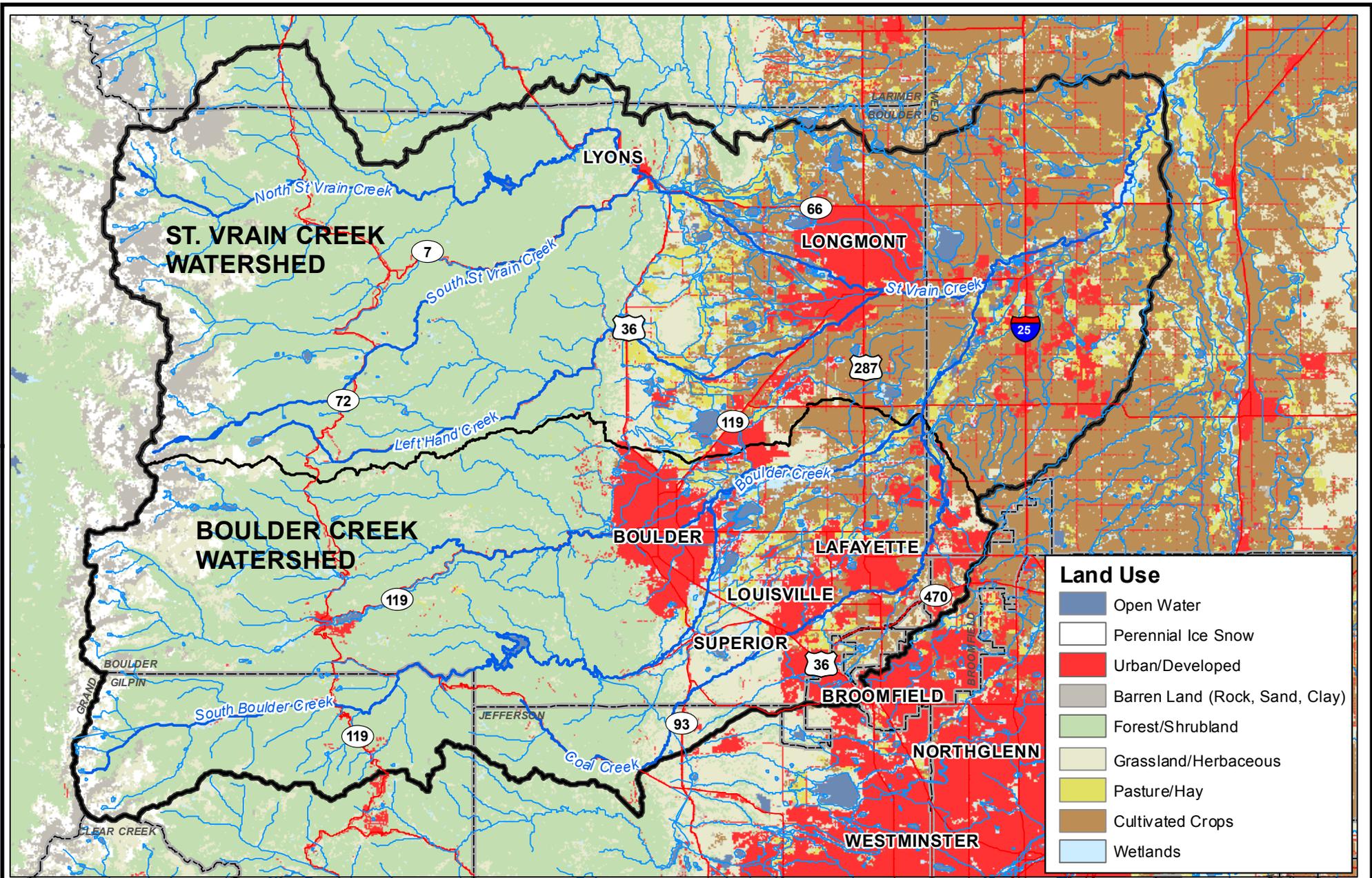
- Measure via survey that partner goals were adequately assessed and incorporated.
- Measure via survey that other watershed management planning efforts and monitoring tools were adequately assessed as part of the shared framework development process.
- Measure via survey that shared framework is applicable and relevant for making more informed management decisions as a basin and better tracking broad progress.
- Measure that framework was implemented at selected representative basin sites.

Attachments

Contents

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Attachment 1: Project Map



Land Use

- Open Water
- Perennial Ice Snow
- Urban/Developed
- Barren Land (Rock, Sand, Clay)
- Forest/Shrubland
- Grassland/Herbaceous
- Pasture/Hay
- Cultivated Crops
- Wetlands

Path: Z:\Project Files\121-002\121-002-010\CAD-GIS\GIS\Figure1_Boulder319BaseMap.mxd

Base Map: National Land Cover Dataset

WWE
 WRIGHT WATER ENGINEERS, INC.
 2490 W 26TH AVE 100A
 DENVER, CO. 80211
 (303) 480-1700

ST. VRAIN WATERSHED
 LAND USE MAP


 1 inch = 27,832 feet
 0 8,000 16,000 32,000
 Feet

PROJECT NO. 121-002.010
 FIGURE 1

Attachment 2: Budget and Schedule Table

Adaptive Management at Scale - Summary Budget

Task No.	Task Description	Start Date	End Date	Grant Funding Request	Match Funding (Cash and In-Kind)	Total
1	Task 1 – Data Assessment	5/1/2020	11/31/2021	\$ 71,795.00	\$ 81,795.00	\$153,590.00
2	Task 2 – Watershed Health Indicators	5/1/2020	11/31/2021	\$ 45,375.00	\$ 55,375.00	\$100,750.00
3	Task 3 – Shared Framework	5/1/2020	11/31/2021	\$ 60,950.00	\$ 70,950.00	\$131,900.00
4	Task 4 – Implementation	9/1/2021	5/31/2023	\$ 204,200.00	\$ 214,849.00	\$419,049.00
Total				382,320.00	422,969.00	805,289.00

Adaptive Management at Scale - Detailed Budget

	Consultant		Watershed Center & Partner Staff				Other Direct Costs				TASK TOTALS	CWCB Request	Other Funds - Cash	Other Funds - In Kind (Partners Time on Project)	Assumptions			
	Consultant		Executive Director	Program Manager	Project Scientist	Partner In Kind Contribution	Field Instruments & Supplies & Mileage	Office supply, printing, and poster board	BMI Sample Processing (per sample)	Partner Led Monitoring Expenses								
	\$	145	Subtotal	70	52	42	Lump sum estimate (200 hrs./task * \$50/hour)	Subtotal	Lump sum	Lump sum	400	Lump sum	Subtotal					
				Estimated Hours					Estimated Cost Per Task									
Task 1 – Data Assessment																		
Planning	\$	51,350.00	70	\$	10,150.00	200	200	400	\$	41,200.00			\$	-	\$	51,350.00	Assuming internal planning meetings occurring two times per week for first year, 16 to 60 planning hours per partner, and project management tasks.	
Partner Meetings - Indl	\$	16,290.00	50	\$	7,250.00	50	50	70	\$	9,040.00			\$	-	\$	16,290.00	Assuming two to four half day working meetings with each funding partner.	
Assessments of Data Collected by Partners	\$	44,850.00	50	\$	7,250.00	50	50	750	\$	37,600.00			\$	-	\$	44,850.00	Assuming 16 to 60 hours work hours per partner. Range is determined based on estimate of how much data each partner collects in the basin.	
Consolidation of Findings	\$	41,100.00	100	\$	14,300.00	50	50	250	\$	10,000.00			\$	-	\$	41,100.00	Assuming 6 to 20 hours work hours per partner.	
Task Subtotal	\$	153,590.00		\$	39,150.00				\$	114,440.00			\$	-	\$	153,590.00		
Task 2 – Watershed Health Indicators																		
Research Watershed Health Indicators	\$	51,600.00	100	\$	14,500.00	50	50	500	\$	10,000.00			\$	-	\$	51,600.00	Assuming research on fifteen to twenty indicators (e.g. floodplain connectivity, physical habitat, vegetation community, etc.) in various types of rivers and watershed zones.	
Partner Meetings - Individual	\$	23,275.00	75	\$	10,875.00	50	50	150	\$	12,400.00			\$	-	\$	23,275.00	Assuming one to two half day working meetings with each funding partners.	
Group Workshops	\$	25,875.00	75	\$	10,875.00	50	50	200	\$	14,500.00	\$	500.00	\$	500.00	\$	25,875.00	Assuming two to three workshops with facilitator.	
Task Subtotal	\$	100,750.00		\$	36,250.00				\$	64,000.00			\$	500.00	\$	100,750.00		
Task 3 – Shared Framework																		
Framework Development	\$	99,300.00	300	\$	43,500.00	100	100	800	\$	10,000.00			\$	-	\$	99,300.00	Assuming incorporate five to ten watershed health indicators.	
Framework Report	\$	32,600.00	100	\$	14,500.00	50	100	200	\$	17,100.00	\$	1,000.00	\$	1,000.00	\$	32,600.00	Assuming one report describing framework process and instructions.	
Task Subtotal	\$	99,300.00		\$	58,000.00				\$	72,900.00			\$	1,000.00	\$	131,900.00		
Task 4 – Implementation																		
Field Work and Data Collection	\$	310,369.00	400	\$	58,000.00	200	200	1000	\$	10,000.00	\$	3,000.00	\$	10,000.00	\$	162,969.00	Grant requests assumes 40 works hours required per site to implement existing habitat survey, BMI sampling, fish survey, and photo monitoring protocols at 25 sites. Assuming eight work hours required per transect and two transects per site to implement vegetation transects by consultant staff. Partner Led Monitoring Expenses Assumptions: Watershed health related monitoring expenses that are paid directly to vendors by partner agencies (BMI sample processing estimated at \$60,000 per year by partner agencies).	
Data Analysis and Reporting	\$	66,800.00	40	\$	5,800.00	200	500	500	\$	61,000.00			\$	-	\$	66,800.00	Assuming data analysis and reporting for data collected at 25 sites using habitat survey, BMI sampling, fish survey, photo monitoring, and vegetation protocols. Assuming production of one annual "State of the Watershed" report.	
Partner MOU Development and Future Planning	\$	41,880.00	100	\$	14,500.00	200	175	50	\$	25,200.00	\$	2,180.00	\$	2,180.00	\$	41,880.00	Assuming 20 hours per month on MOU development, planning, fundraising, and partner re-engagement during approximately 18 months. Also assuming legal fees associated with MOU development (estimated based on quotes received).	
Task Subtotal	\$	419,049.00		\$	78,300.00				\$	162,600.00			\$	2,180.00	\$	419,049.00		
TOTAL	\$	211,700.00		\$	413,940.00				\$	179,649.00	\$	805,289.00	\$	382,320.00	\$	382,969.00	\$	40,000.00



Adaptive Management at Scale - Match Budget

				Cash						In-Kind
	Project Total	CWCB Watershed Restoration Grant (this req.)	Cash Match Total	Keep It Clean Partnership	Boulder County	City of Boulder - Open Space and Mountain Parks	Mile High Flood District	St. Vrain and Left Hand Water Conservancy District	Local and Federal Grants (Submitted and In-Progress)	Partner Time on Project
<i>Status</i>				<i>Committed</i>	<i>Committed</i>	<i>Committed</i>	<i>Committed</i>	<i>Committed</i>	<i>Pending</i>	<i>Committed</i>
Total	\$ 805,289	\$ 382,320	\$ 382,969	\$ 177,969	\$ 60,000	\$ 30,000	\$ 60,000	\$ 15,000	\$ 40,000	\$ 40,000

Attachment 3: Scope of Work

Scope of Work

GRANTEE: Left Hand Watershed Center

PRIMARY CONTACT: Yana Sorokin

ADDRESS: ysorokin@lwog.org

PHONE: (303) 621-5780

PROJECT NAME: Adaptive Management at Scale

GRANT AMOUNT \$ 382,320

INTRODUCTION AND BACKGROUND

The purpose of this multi-objective project is to develop and implement a shared adaptive management framework for assessing watershed health in the St. Vrain Basin. We will develop the shared framework collaboratively, with input from diverse partners that manage and monitor watershed health throughout the basin. Our goal is to use this shared framework to make more informed management decisions as a basin and to better track broad progress towards basin-wide watershed health goals. To achieve this goal, we will:

- Work with partners to assess watershed health data collection efforts throughout the basin in order to understand what is collected, where there is overlap, and where there are gaps;
- Work with partners to document, research, and refine watershed health indicators;
- Develop a shared framework for adaptive management that compliments existing data collection efforts and integrates existing watershed management plans and tools; and
- Implement the framework, report results in a “State of the Watershed” report, and iterate the adaptive management process by updating the framework based on what is learned.

A critical aspect of this project is collaboration, so that project partners can learn from each other to achieve a greater level of broad consensus regarding watershed health and resilience, as well as the role of adaptive management in helping achieve these goals. Another key aspect of this project is integrating existing plans and tools to ensure that we are accounting for partner goals and building upon others tools and frameworks through an adaptive management perspective. With coalition-based leadership at the helm of this highly collaborative science-based effort, this project is well-aligned with Colorado Water Plan recommendations regarding coalition-based partnership plans, projects, monitoring, and adaptive management strategies.

OBJECTIVES

- 1 **Understand the types of watershed health data collected throughout the St. Vrain Basin** by working with partners to develop a map of collected data, gaps, and overlap.
- 2 **Identify watershed health indicators that are relevant and practical for adaptive management at the basin scale** by working with partners to understand and document which watershed health indicators they use, how they use them, and how they tie to individual partner goals.
- 3 **Develop a shared adaptive management framework for the St. Vrain Basin** by building updating Left Hand Watershed Center's existing adaptive management framework to integrate information learned in objectives one and two for a framework that is relevant and practical at scale.
- 4 **Implement the shared adaptive management framework** by collecting and reporting watershed health data throughout the St. Vrain Basin based on the framework.

TASKS

Task 1 – Data Assessments

Description of Task

The purpose of this task is to understand and document the types of watershed health data collected throughout the St. Vrain Basin, as well as associated methods and goals. Data may include any relevant watershed health information from water quality to upland forest health. A key component of this task, which provides the foundation for a robust and useful adaptive management framework, is understanding existing watershed health goals among partners. This clear recognition about what a healthy watershed looks like for each partner in the context of the basin will drive the data assessment efforts. Work will include:

1. Developing approaches for collecting, assessing, and consolidating data;
2. Meeting with individual partners to understand their unique watershed health-related goals, what data they collect in support of those goals, and where they see gaps or opportunities related watershed-health data collection; and
3. Synthesizing findings to inform development of a shared adaptive management framework (under Task 3).

This task will help answer key questions related to methodology used by different entities and existing overlap in data collection efforts. These questions will help improve our understanding of what watershed health indicators and methods are relevant and practical at the basin-scale (under Task 2).

Method/Procedure

- Develop project plan for collecting and tracking all watershed health data collected by different groups and entities.
- Conduct outreach to groups and entities to ensure the list of data collection efforts is comprehensive.
- Conduct research and outreach on other data consolidation projects that have integrated data collection efforts among numerous partners to leverage approaches and lessons learned.

- Conduct initial outreach to project partners to discuss expectation, identify unique partner needs and goals, and develop memorandums of understanding between Left Hand Watershed Center and individual partners.
- Meet individually with project partners and others who collect watershed health-related data throughout the St. Vrain Basin. An initial list is provided here, but will be modified and updated during the project process: Mile High Flood District, City of Boulder, City of Longmont, St. Vrain and Left Hand Water Conservancy District, Keep it Clean Partnership, Boulder County, Colorado Water Conservation Board, Colorado Department of Public Health & Environment, Colorado Parks and Wildlife, Colorado State Forest Service, Colorado Forest Restoration Institute, U.S. Forest Service, U.S. Geological Survey, Northern Water, Trout Unlimited (state and local chapters), Town of Lyons, St. Vrain Creek Coalition, and other watershed/community groups.
- Document data collection related to watershed health by various partners including location, partner, goal, and method.
- Develop map showing all efforts, emphasizing areas with gaps and overlap.
- Hire consultants to help support planning efforts.

Deliverable

- Map and supporting technical memo showing relevant data collection efforts across the basin.

Task 2 – Watershed Health Indicator Assessments

This task will build on information obtained under Task 1 to develop a robust shared understanding of specific watershed health indicators that are either currently used by partners or may be relevant. Through this robust understanding, this task will help us narrow down a subset of watershed health indicators that are relevant and practical at the basin-scale. This subset will inform the framework development in Task 3.

While Task 1 focuses on collection and understanding of existing data, Task 2 involves building on this understanding to research and assess specific scientific indicators as well as performance standards, management triggers, and actions associated with each indicator. This task will help address questions about how indicators may vary with different rivers in the basin or different partner goals. As a starting point, this task will focus on indicators included in the Watershed Center’s Adaptive Management Framework (e.g. floodplain connectivity, channel morphology and habitat, riparian condition, macroinvertebrate community, fish community). However, indicators relevant to all partners will be considered for integration (e.g. water chemistry, uplands forests, etc.) into the framework. To narrow-down indicators that may be relevant and practical at scale, we will account for partner priorities, difficulty of methods, data usefulness, and other factors that will be determined collaboratively with Partners.

Method/Procedure

- Work with partners to determine what watershed health indicators they are currently using, including metric, method, performance standard, management triggers, and suggested action.
- Identify subset of metrics that are relevant and practical at scale through research and partner discussions.

- Host one to three group workshops to reach consensus among partners about which indicators should be included in the framework.
- Hire consultants to provide technical expertise and facilitate/plan workshops.

Deliverable

- Technical memo describing watershed indicators considered and selected.

Task 3 – Shared Framework

The purpose of this task is to develop a shared adaptive management framework for the St. Vrain Basin (including Left Hand and Boulder creeks). As mentioned above, the Watershed Center’s Adaptive Management Framework will serve as a starting point for integrating information from Tasks 1 and 2, which will include existing watershed-planning efforts throughout the St. Vrain Basin. The purpose of the framework will be to guide monitoring and assessment efforts throughout the basin.

As currently envisioned, the framework format will emphasize goals related to watershed health and tie goals to hypotheses, indicators (or parameters), monitoring metrics, methods, performance standards, management triggers, and actions. However, the framework format will be developed through a collaborative process and the format may be modified to reflect the unique needs of partners and basin-wide applicability. Supporting information may include lead entity, timing of data collection, and frequency of data collection. In some cases, lead entity may include community members who can help collect data through citizen science projects.

A strength of this shared framework is that it will provide a comprehensive assessment of watershed health by evaluating a suite of watershed health indicators from the headwaters through the plains to the urban corridor. This approach will enable partners to use this framework to identify multi-benefit restoration and stewardship projects informed by a thorough understanding of multiple watershed indicators both upstream and downstream of project areas. Integrating existing data (collected by partners) into the framework will help maximize data usefulness by contextualizing existing data with other data. This will help close data gaps and tie existing data to specific actions. Most importantly, this shared framework will facilitate shared learning and understanding about basin-wide watershed health among diverse partners with varying goals. By understanding data collected by each partner in the context of all other data, our community will have be well-positioned to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

Method/Procedure

- Develop a framework table in Microsoft Word or Excel based on information collected in Tasks 1 and 2, incorporating five to fifteen watershed health indicators.
- Identify, assess, and integrate other frameworks, plans, and monitoring tools related to watershed health. An initial list is provided here, but will be modified and updated during the project process: SVLH Stream Management Plan, Keep It Clean Partnership 319 Basin Plan, City of Boulder Grasslands Plan, Boulder Creek Master Plan, Mile High Flood District adaptive management planning efforts, City of Longmont Channel Maintenance Plan, Stream

Quantification Tool, Stream Health Index, and Ecological Integrity Assessment and Floristic Quality Assessment tool.

- Develop report describing how framework including instructions, limitations, and references.

Deliverable

- Shared Adaptive Management Framework

Task 4 – Implementation

The purpose of this task is to (1) implement the shared framework at sites throughout the basin; (2) report results; and (3) plan for the longevity of the shared framework into the future.

Framework implementation will occur on an annual basis, although work under this task accounts for only one year of implementation. Sites will be selected collaboratively to fill data gaps and meet partner goals. Work under this task will complement existing data collection efforts to ensure that all framework indicators are assessed at all sites. For example, if water quality and riparian condition are already collected at a particular site, then work under this task would involve collecting all other framework indicators (e.g. habitat, fish, etc.). For the purpose of this grant we estimated implementation of five protocols (currently included in the Watershed Center’s existing framework) at 25 sites, however this will change as more information is learned through Tasks 1-2. Current protocols include vegetation transects, habitat surveys, benthic macroinvertebrate sampling and processing, fish surveys, and photomonitoring, but will be updated to reflect the shared framework as needed.

Analysis and reporting of all data collected in an annual “State of Watershed Health in the St. Vrain Basin” report. Work will involve collecting, assembling, analyzing, and reporting all data that contribute to the shared framework. Data will be presented in a holistic context focused on basin-scale watershed health and suggested action in response to issues. Report development will involve two to three drafts for partner review and approval.

Lastly, ensuring longevity of the shared framework and associated partner collaborations into the future will require planning and fundraising. Planning efforts will include development of Memorandums of Understanding (MOUs) with partners; prioritization of projects recommended by the shared framework; prioritization of partner feedback for future iterations; and fundraising (including grant writing and partner engagement) to continue to maintain and grow a useful and feasible framework with strong partner support.

Method/Procedure

- Collect data based on shared framework recommendations at project sites.
- Hire consultants to help with data collection and processing.
- Manage and analyze all data.
- Provide two to three drafts of raw data results to partners for review and approval.
- Develop “State of the Watershed” report summarizing results.
- Provide two to three drafts of the report for partner review and approval.
- Hire graphic designer to develop report.
- Share report widely via with partners and the greater community.
- Update shared framework based on findings.

- Engage partners in continued support of the shared framework into the future.
- Write two to three grants to support future iterations of the shared framework.
- Complete planning to prioritize projects and processes for future iterations of the shared framework.
- Develop MOUs for each partner and hire lawyer to provide legal review.

Deliverable

- Annual “State of Watershed Health in the St. Vrain Basin” Report

Attachment 4: Letters of Support



Parks & Open Space

5201 St. Vrain Road • Longmont, Colorado 80503
303-678-6200 • POSinfo@bouldercounty.org • www.BoulderCountyOpenSpace.org

November 8, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

Boulder County is pleased to write in support of Left Hand Watershed Center's (the Watershed Center) application for the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program. Completion of this project is an important step as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The Watershed Center's proposed project brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the basin. This framework will aid the partners in making more informed management decisions and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of implementing successful science-based, collaborative projects in both Left Hand and St. Vrain Creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin. We will also build upon the legacy of recently completed projects while also contributing to the scientific body of knowledge for river restoration.

We are particularly pleased that the proposed project will address data gaps, identify opportunities for improvement, provide tools for assessing long term watershed health, and emphasize stakeholder collaboration. We plan to allocate \$20,000 dollars per year for three years toward this project.

On behalf of the Boulder County Sustainability Office and Boulder County Parks & Open Space, we are pleased to support the Watershed Center in this effort and look forward to working together to build resiliency in the St. Vrain Basin.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Lane". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Eric Lane, Director
Boulder County Parks & Open Space

October 28, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

The Keep it Clean Partnership is pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "**Adaptive Management at Scale.**" Completion of this project is vital to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

We are particularly pleased that the proposed project will include a thorough assessment of existing data and watershed health indicators because we believe increased collaboration and data integration are crucial to improving water quality throughout the St. Vrain Basin. This task will align closely with our organization's ongoing work in collaborative water quality monitoring. Keep it Clean Partnership staff intend to work closely with Left Hand Watershed Center to contribute to this project as we are able and make sure our efforts are well coordinated. We plan to allocate \$5,000 dollars annually toward this project, for three years to a total of \$15,000.

In addition, we already pay an estimated \$162,969.29 annually to outside entities through our shared instream water quality monitoring program that will be a valuable matching contribution to this project. This includes \$84,469.29 from the City of Longmont, \$32,000.00 from the City of Boulder, \$17,500.00 from the City of Lafayette, \$16,000.00 from the Town of Erie, \$8,000.00 from the Town of Superior, and \$5,000.00 from the City of Louisville and does not include internal expenses.

We urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,

Kevin Peterson
Keep it Clean Partnership Coordinator
Boulder County Public Health
3450 Broadway
Boulder, CO 80304
303-441-1439
kpeterson@bouldercounty.org



November 1, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration Application

Dear Mr. Sturm:

We are pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled “**Adaptive Management at Scale.**” The Mile High Flood District’s (MHFD) mission is to protect people, property, and the environment from flood risks, and we do this by implementing projects that align with our six core values. The Adaptive Management at Scale project directly aligns with two of our core values; to advance the practice and to be stewards of the stream and watershed. This project will help inform the industry of what data to collect and how to use it to indicate the health of our watersheds.

The proposed project brings together diverse partnerships to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin. The purpose is to make more informed watershed management decisions and to track broad progress towards basin-wide watershed health goals.

The Watershed Center has done an excellent job bringing the appropriate stakeholders to the table and developing a proposal that will result in the implementation of a successful project that is aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative projects in both Left Hand and St. Vrain Creeks, and we look forward to working with them on this regional adaptive management effort.

By completing this project, we will increase the connectivity of the many partners and agencies responsible for watershed planning and management and contribute to the scientific body of knowledge for river restoration. MHFD has budgeted twenty thousand dollars toward this project in 2020.

We encourage you to put a high priority on this proposed project and look forward to working with the Watershed Center to build resiliency in our watersheds.

Sincerely,



FOR
Ken MacKenzie, P.E.
Executive Director



City of Boulder Open Space & Mountain Parks

2520 55th St., Boulder, CO 80301; 303-441-3440
<http://www.osmp.org>

October 29, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

We are pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "**Adaptive Management at Scale.**" Completion of this project is important to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

Preserving water resources is one of the City of Boulder Open Space and Mountain Parks charter purposes (City of Boulder Charter Sec. 176 Open Space Purposes – Open space land). This project will help Open Space and Mountain Parks in its work by establishing a framework for watershed management decisions within a regional context. Because of this project is directly aligned with Open Space and Mountain Parks charter purposes, Open Space and Mountain Parks plans to allocate \$10,000 annually toward this project, for three years, pending final budget approval by city council.

We urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,



Dan Burke

Director

City of Boulder Open Space and Mountain Parks Department



ST. VRAIN AND LEFT HAND WATER CONSERVANCY DISTRICT
9595 Nelson Road, Suite 203 • Longmont, CO 80501 • 303-772-4060 • www.svlhwcd.org

October 29, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

On behalf of the St. Vrain and Left Hand Water Conservancy District ("District") I am writing in support of the Colorado Water Conservation Board ("CWCB") Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "**Adaptive Management at Scale.**" Completion of this project is vital to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management shared framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

The District believes that the Watershed Center has done a great job of bringing together the appropriate stakeholders to develop a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the District. In support of this, the District intends to provide up to \$5,000 annually for three years.

Please consider funding this important work!

Sincerely,

A handwritten signature in blue ink that reads "Sean T. Cronin".

Sean T. Cronin
Executive Director



File Code: 2500
Date: October 29, 2019

Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

Dear Mr. Sturm:

The Arapaho and Roosevelt National Forests and Pawnee National Grassland, Boulder Ranger District is pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "**Adaptive Management at Scale.**" Completion of this project is important to our interests on the landscape that we manage as we leverage regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals. The ownership pattern and varied interest groups can be difficult to take on for any one singular organization, but the Watershed Center and this project plan will be paramount in bringing different views together. Through building this framework, the multitude of managers can find ways to improve conditions throughout the watershed, not just to the boundaries of their ownership.

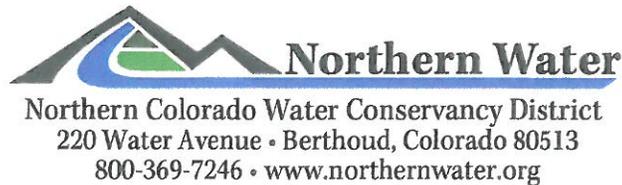
We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for watershed and landscape restoration.

We urge you to put a high priority on this proposed project and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,

ANGELA GEE
District Ranger





October 23, 2019

Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration Application

Dear Chris;

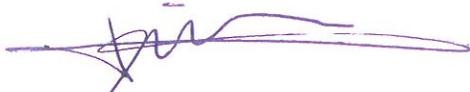
Northern Water is pleased to support the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "Adaptive Management at Scale." Completion of this project is vital to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partners throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin, to make more informed management decisions as a basin, and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

We urge you to put a high priority on this proposed project and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,



Esther Vincent
Director Environmental Services
Northern Water



October 28, 2019

Christopher Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Letter of Support for the Lefthand Watershed Center Adaptive Management Grant Application

Dear Mr. Sturm:

On behalf of the Left Hand Water District, I am writing in support of the grant application submitted by the Lefthand Watershed Center (the Watershed Center), entitled “**Adaptive Management at Scale.**” Completion of this project is the next logical step for our community as the Watershed Center now works beyond recovery from the 2013 flood and expands on their successes to create a vibrant basin-wide collaborative movement to enhance watershed health for Coloradans. This work is especially important to the tens of thousands of people who rely on the St. Vrain River and Left Hand Creek as a drinking water supply.

Funding this project will expand on the Watershed Center’s success in creating partnerships throughout the St. Vrain Basin. The Watershed Center has a proven record of accomplishment, implementing successful science-based collaborative projects in both Left Hand and St. Vrain Creeks; all of which align with the goals of the CWCB. As stakeholders who rely heavily on the combined efforts of our community to ensure a high quality supply of drinking water, the Left Hand Water District sees the funding of this project as a success for all of us.

Thank you for the great work that CWCB has already done in protecting our water sources and we look forward to seeing this important project successfully funded.

Sincerely,

Left Hand Water District
Christopher Smith, PE
General Manager



OFFICE OF THE DEPUTY CITY MANAGER

(303) 651-8817 | LONGMONTCOLORADO.GOV

October 31, 2019
Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

The City of Longmont supports the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled, "**Adaptive Management at Scale.**" Completion of this project is vital to our community as we work toward regional collaboration and partnerships to help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with the CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin. This will help to make more informed basin-wide management decisions and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative projects in both the Left Hand and St. Vrain Creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and will build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

We are particularly pleased that the proposed project will address watershed stabilization upstream of the City of Longmont.

We urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,

A handwritten signature in black ink that reads "Dale F. Rademacher". The signature is fluid and cursive.

Dale Rademacher
Deputy City Manager

October 29, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

I am pleased to write this letter in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "**Adaptive Management at Scale.**" Completion of this project is vital to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery. I serve as Faculty Director of CU-Boulder's *Center for Sustainable Landscapes and Communities* (CSLC), and the work of LHWC aligns very well with our efforts to engage communities in building knowledge and informing action on environmental and sustainability issues of local and regional importance.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

In my view, the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks and I look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

I am particularly pleased that the proposed project will integrate scientific knowledge and stakeholder engagement toward collaborative watershed planning and management, and look forward to coordinating our CSLC efforts with activities of the LHWC.

I urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,



Sharon K. Collinge
Professor, Environmental Studies Program and
Faculty Director, Center for Sustainable Landscapes and Communities

10/30/2019
Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

I am pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled “**Adaptive Management at Scale.**” Completion of this project is vital to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

I feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks, and I look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

I am particularly pleased that the application submitted by the Watershed Center emphasized basin-wide efforts at restoration and recovery. Context is extremely important for restoration efforts and assessing basin-wide efforts that link across partnerships is integral for enhancing the ecological resiliency of the watershed.

I urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,

Dr. Katherine B. Lininger
Assistant Professor
Department of Geography
katherine.lininger@colorado.edu; 303-492-2860

Oct. 30, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

REGARDING:

A Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

Representing the community of Jamestown, Colorado, I am pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled “**Adaptive Management at Scale.**”

Completion of all watershed projects are very important to our community. For Jamestown, the James Creek portions of the St. Vrain Watershed provides our entire town water supply as well as being a primary source of ecological, educational, and recreational activity for our community.

The project being proposed with CWCB brings together several active and diverse scientific partnerships within the St. Vrain Basin, and allows them to collaborate on a regional watershed restoration plan in a way well aligned with the goals of the CWCB.

Please do favorably consider this proposed project. In Jamestown we are actively working with the Watershed Center to improve our watershed, and we look forward to continuing to work to improve the St. Vrain Basin.

Thank You,
Roger Loving
Town of Jamestown Trustee



COLORADO
**Division of Reclamation,
Mining and Safety**
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

October 29, 2019

Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

Re: DRMS Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Mr. Sturm,

The State of Colorado Division of Reclamation Mining and Safety (DRMS) is pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "Adaptive Management at Scale."

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks. By completing this project, they will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

The Watershed Center has been proactive in evaluating and incorporating legacy mining issues and water quality sampling into their planning and stream restoration projects wherever possible. Receiving this grant would help continue the current momentum by the Watershed Center and other partners by developing a plan to evaluate and prioritize potential mine reclamation projects that could positively impact water quality. The adaptive management document to help guide future work would be an asset. We urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,

Erica S. Crosby
Senior Environmental Protection Specialist



October 29, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236



RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

The Saint Vrain Vreek Coalition (SVCC) is pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled “**Adaptive Management at Scale.**” Completion of this project is vital to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and Saint Vrain creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the Saint Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

We urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,

SVCC Board President

Oct 30, 2019

Chris Sturm
chris.sturm@state.co.us
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Phone: 303-866-3441, ext. 3236

RE: Letter of Support for the Left Hand Watershed Center Watershed Restoration application

Dear Chris,

The Boulder Flycasters are pleased to write in support of the Colorado Water Conservation Board (CWCB) Colorado Watershed Restoration Program application being submitted by Left Hand Watershed Center (the Watershed Center), entitled "**Adaptive Management at Scale.**" Completion of this project is vital to our community as we work toward regional collaboration and partnerships and help ensure long term, basin-wide restoration and recovery.

The proposed project under consideration with CWCB brings together diverse partnerships throughout the St. Vrain Basin to collaborate on a regional adaptive management framework for assessing watershed health indicators in the St. Vrain Basin to make more informed management decisions as a basin and to track broad progress towards basin-wide watershed health goals.

We feel that the Watershed Center has done a good job bringing the appropriate stakeholders to the table and developing a proposal that will result in implementation of a successful project that is well aligned with the goals of the CWCB and the stakeholders. The Watershed Center has a proven record of accomplishment, implementing successful science-based, collaborative, projects in both Left Hand and St. Vrain Creeks and we look forward to working with them on this regional adaptive management effort. By completing this project, we will increase connectivity of the many partners and agencies completing watershed planning and management in the St. Vrain Basin, and build upon the legacy of recently completed projects, while also contributing to the scientific body of knowledge for river restoration.

We urge you to put a high priority on this proposed project, and look forward to working with the Watershed Center to build resiliency in the St. Vrain Basin.

Sincerely,
Boulder Flycasters



October 31, 2019
RE: Letter of Support
Adaptive Management at Scale
Left Hand Watershed Center

Dear Reviewers,

St. Vrain Anglers Chapter of Trout Unlimited is fully supportive of the proposed scope of work within the proposal Adaptive Management at Scale submitted by Left Hand Watershed Center. We share the goals of this project and believe that its deliverables are needed by the watershed stakeholders to support future collaborative decision making in regards to watershed health.

This project offers an opportunity to expand the partnership between organizations and citizens to document watershed health. This is a partnership that Trout Unlimited sees itself at the core of, and our chapter intends to continue to partner with Left Hand Watershed Center in this collaborative effort.

Trout Unlimited has demonstrated continued commitment to the Colorado Water Plan and Stream Management Planning efforts throughout the state. Developing an Adaptive Management Framework for the St. Vrain Basin is a practical tool to support integration of ongoing Stream Management Planning efforts.

We respectfully request your support by funding this proposal.

Sincere Regards,

A handwritten signature in cursive script that reads "Barbara a Luneau".

Barbara Luneau
St. Vrain Anglers Chapter Trout Unlimited
President