LRE WATER

GRAND COUNTY
STREAM MANAGEMENT PLAN
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STREAM MANAGEMENT PLAN UPDATE

GC SMP Goals and Prioritization Methodology

SHAC Meeting

December 4, 2025

AGENDA

- GC SMP Management Themes and Goals - Draft
- Stream Reach Prioritization Methodology
  - Goals to Prioritization Elements
- Next Steps

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GC SMP GOALS

Using the outcomes of the Stakeholder Advisory Committee (SHAC) goal-setting exercise, the information was **synthesized** and **refined** to develop a set of draft GC SMP management themes and goals.

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THEMES AND COMMON THREADS

Five Management Themes

- Each theme has a set of 3-5 goals
- Common threads were developed based on what all small groups agreed upon

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Grand County Stream Management Plan Themes

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Theme	Common Threads	Prioritization Elements	Synthesized Goals from SHAC Meeting
Water Management & Stream Flow	Maintain and mimic natural flow regimes, coordinate among water users, build resilience to climate change, and use data/decision-support tools to guide environmental releases.	Thermal Stress Riparian Needs Geomorphic Needs Ecological Value	Maintain and preserve base and peak flows that sustain aquatic habitat, stream temperature, and channel function.
			Coordinate among water users to optimize environmental flow releases and ramping rates for ecological benefits.
			Develop and implement data-driven decision-support tools to support environmental flow management and enable proactive, flexible operational strategies to mitigate high-temperature periods other hydrologic variability due to climate change.
Community Engagement	Collaboration, education, visibility, landowner participation, recreation stewardship, and community buy-in.	Public Access Riparian Needs Geomorphic Needs Ecological Value	Strengthen collaboration among public agencies, landowners, and community groups to implement restoration and monitoring projects.
			Increase transparency and visibility of SMP projects through by strengthening data sharing, showcasing project successes, and using targeted communication and engagement strategies.
			Expand education and outreach to increase awareness of river health, stewardship, and "messy rivers are healthy rivers" concepts.
			Promote community participation through volunteer events, recreation stewardship programs, and partnerships with local events.
Water Quality	Address temperature and nutrient issues, manage hazard impacts, connect floodplains, and integrate green infrastructure and BMPs.	Fire Impact Sedimentation Thermal Stress Nutrient Enriched Riparian Needs Disconnected Floodplain Ecological Value	Reduce stream temperature through flow management, riparian shading, and channel modifications.
			Improve and maintain water quality by reducing nutrient and sediment inputs from point and non-point sources.
			Incorporate post-fire recovery into watershed restoration priorities.
			Reconnect floodplains and restore riparian areas to enhance natural nutrient uptake and thermal buffering.

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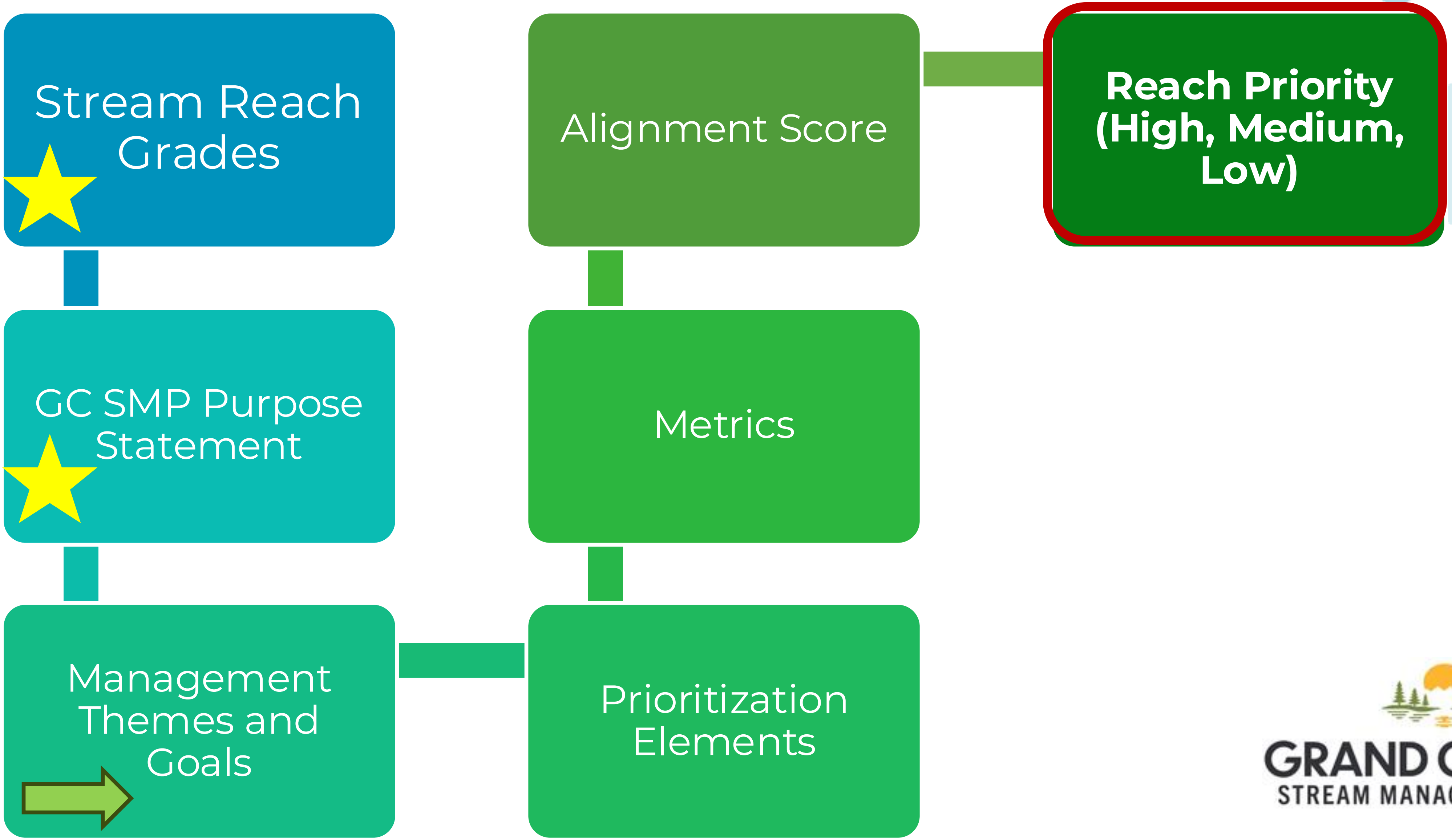
River Function	**Floodplain connectivity, sediment and geomorphic processes, riparian health, and large-scale process-based restoration.**	**Fire Impact** **Sedimentation** **Thermal Stress** **Riparian Needs** **Disconnected Floodplain** **Geomorphic Needs** **Ecological Value**	Restore and protect floodplain and groundwater connections to support base flows and habitat diversity.
			Enhance riparian vegetation, including establishing native species, to improve bank stability and ecosystem function.
			Promote natural geomorphic processes through channel right-sizing, sediment management, and increased habitat complexity.
			Prioritize implementation of process-based restoration approaches at both the reach and watershed scales.
			Improve diversion structures and undersized culverts to reduce post-fire hazard risks.
Aquatic Habitat	**Connectivity, habitat diversity, native species, and monitoring of ecological indicators.**	**Riparian Needs** **Geomorphic Needs** **Ecological Value**	Monitor key biological indicators (e.g., sculpin, pteronarcys) to track ecosystem health and restoration project success.
			Enhance and restore aquatic habitats to support healthy and self-sustaining native fish and macroinvertebrate communities.
			Increase habitat complexity (e.g., deep pools, varied channel morphology) to support diverse life stages and species diversity.
			Protect and maintain high-quality stream reaches through targeted restoration, adaptive management and long-term stewardship

Stream Reach Prioritization Methodology

OVERVIEW OF METHODOLOGY



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PRIORITIZATION ELEMENTS

The stream reach prioritization elements were pulled from the GC SMP goals to represent key **river functions, stressors, and resource needs.**

Reach Length Variability	Nutrient Enriched
Thermal Stress	Disconnected Floodplain
Public Access	Riparian Needs
Fire Impacts	Geomorphic Needs
Sedimentation	Ecological Value

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PRIORITIZATION ELEMENTS

The prioritization elements were matched to the associated **metrics (from the stream reach grading)** to inform the stream-reach prioritization process.

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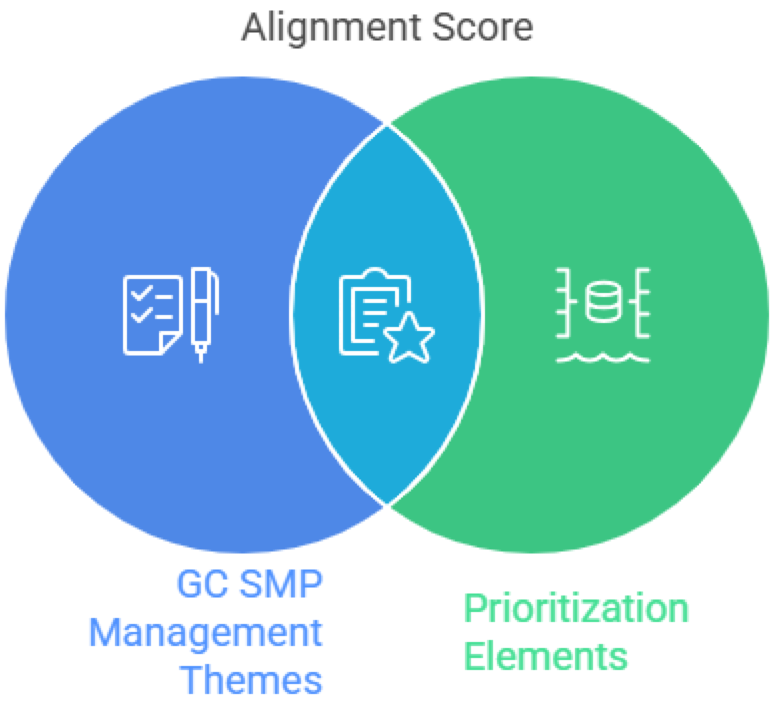
ALIGNMENT SCORE

Once the goals, elements, and metrics were in place, "alignment scores" reflect the number of management themes with each prioritization elements.



Water Management & Stream Flow	Community Engagement	Water Quality	River Function	Aquatic Habitat	Alignment Score
☑	☑	☑	☑	☑	5
☐	☑	☐	☐	☑	2
☑	☐	☑	☑	☐	3
☐	☐	☑	☑	☐	2
☑	☐	☑	☑	☐	3
☐	☐	☑	☐	☐	1
☐	☐	☑	☑	☐	2
☑	☑	☑	☑	☑	5
☑	☑	☐	☑	☑	4
☑	☑	☑	☑	☑	5

Prioritization Elements	Metric (Grades)
Sedimentation	Local Supply
Ecological Value	Aquatic Ecosystem
Nutrient Enriched	Nitrogen and Phosphorus
Geomorphic Needs	Planform Dynamics
Disconnected Floodplains	Riparian Fragmentation
Riparian Needs	Riparian Condition
Thermal Stress	Temperature
Fire Impact	Wildfire Burned Area

EXAMPLE PRIORITIZATION

Prioritization Elements	Quantification	Metric
Potential for Variability	Percentile of Max	Reach Length
Public Access	% of reach public	Public
Thermal Stress	Min/ Average	Temperature
Fire Impact	1-5	Wildfire Burned Area
Sedimentation	1-5	Local Supply
Nutrient Enriched	Min/ Average	Nitrogen and Phosphorus
Disconnected Floodplain	1-5	Riparian Fragmentation
Riparian Needs	1-5	Riparian Condition
Geomorphic needs	1-5	Planform Dynamics
Ecological Value	Min/ Average	Aquatic Ecosystem

Reach Length and Public Access

- assigned relative values

Reach Length (miles)	*Reach Length Percentile*	Potential Public Access
0.9	*7%*	90%
0.7	*5%*	70%
0.6	*0%*	0%
4.1	*63%*	100%
3.0	*44%*	5%
3.0	*42%*	4%

Prioritization Elements

- assigned values based on metric grade

Chronic (MWAT)	Acute (DM)	Thermal Stress	WS Supply: Fire	Fire Impact	Local Supply	Sedimentation	Total Nitrogen	Total Phosphorus	Nutrient Enriched	Floodplain Fragmentation	Disconnected Floodplain	Riparian Condition	Riparian Needs	Planform Dynamics	Geomorphic needs	Micro Habitat	Trout Spawning	Macro	Fish	Ecological Value
5	2	5	1	1	3	3	1	1	1	1	1	1	1	1	1					
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			3		3
1	1	1	5	5	1	1	2	1	2	2	2	4	4	3	3					
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
			5	5	2	2	2	4	4	2	2	4	4	2	2					
2	3	3	4	4	1	1	1	1	1	2	2	2	2	2	2			3		3

EXAMPLE PRIORITIZATION

Potential for Variability	Public Access	Thermal Stress	Fire Impact	Sedimentation	Nutrient Enriched	Disconnected Floodplain	Riparian Needs	Geomorphic needs	Ecological Value
3	1	5	5	4	2	1	3	2	4
5	1	3	3	3	2	2	4	2	3
5	3	1	3	3		2	3	2	3
3	1		5	2	4	2	4	2	
4	5	5	1	1		1	1	1	
5	5		1	2	1	1	1	1	
3	1	3	4	1	1	2	2	2	3
4	5	1	1	1	1	1	1	1	
2	2	1	1	2	2	2	3	2	3

SECONDARY - PRIORITIZATION ELEMENTS

The secondary elements capture important goals priorities that fall outside the stream reach prioritization but still are important and valuable actions for future efforts.

- Flow – Operations Management Considerations
- Flow – Establish Flow Targets
- Protect Reference or Restored Reaches
- Data Gap – Additional Monitoring Needed

Operations Management	Establish Flow Targets	Protect	Monitor
☑	☐	☐	☐
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☑	☐	☐	☐

PRIORITIZATION EXAMPLE

Reach	Priority Rank	Priority	Score	Status	Reach Length (miles)	Percent Public Land	Potential for Variability	Public Access	Thermal Stress	Fire Impact	Sedimentation	Nutrient Enriched	Disconnected Floodplain	Riparian Needs	Geomorphic needs	Ecological Value	Operations Management	Establish Flow Targets	Protect	Monitor
1	1	**High**	3.0	In Progress	3.8	18%	3	1	5	5	4	2	1	3	2	4	☑	☐	☐	☐
2	2	**High**	2.9	Planning	14.6	18%	5	1	3	3	3	2	2	4	2	3	☑	☐	☐	☐
3	3	**High**	2.9		6.7	42%	5	3	1	3	3		2	3	2	3	☐	☐	☐	☑
4	11	**Medium**	2.7		3.0	5%	3	1		5	2	4	2	4	2		☐	☑	☐	☑
5	12	**Medium**	2.6		6.1	94%	4	5	5	1	1		1	1	1		☐	☑	☐	☑
6	13	**Medium**	2.6		7.7	98%	5	5		1	2	1	1	1	1		☐	☐	☑	☑
7	26	**Low**	2.2		3.0	4%	3	1	3	4	1	1	2	2	2	3	☐	☑	☐	☐
8	27	**Low**	2.2	Completed	4.1	100%	4	5	1	1	1	1	1	1	1		☐	☐	☑	☑
9	28	**Low**	2.1		2.4	31%	2	2	1	1	2	2	2	3	2	3	☑	☐	☐	☐

Questions & Discussion

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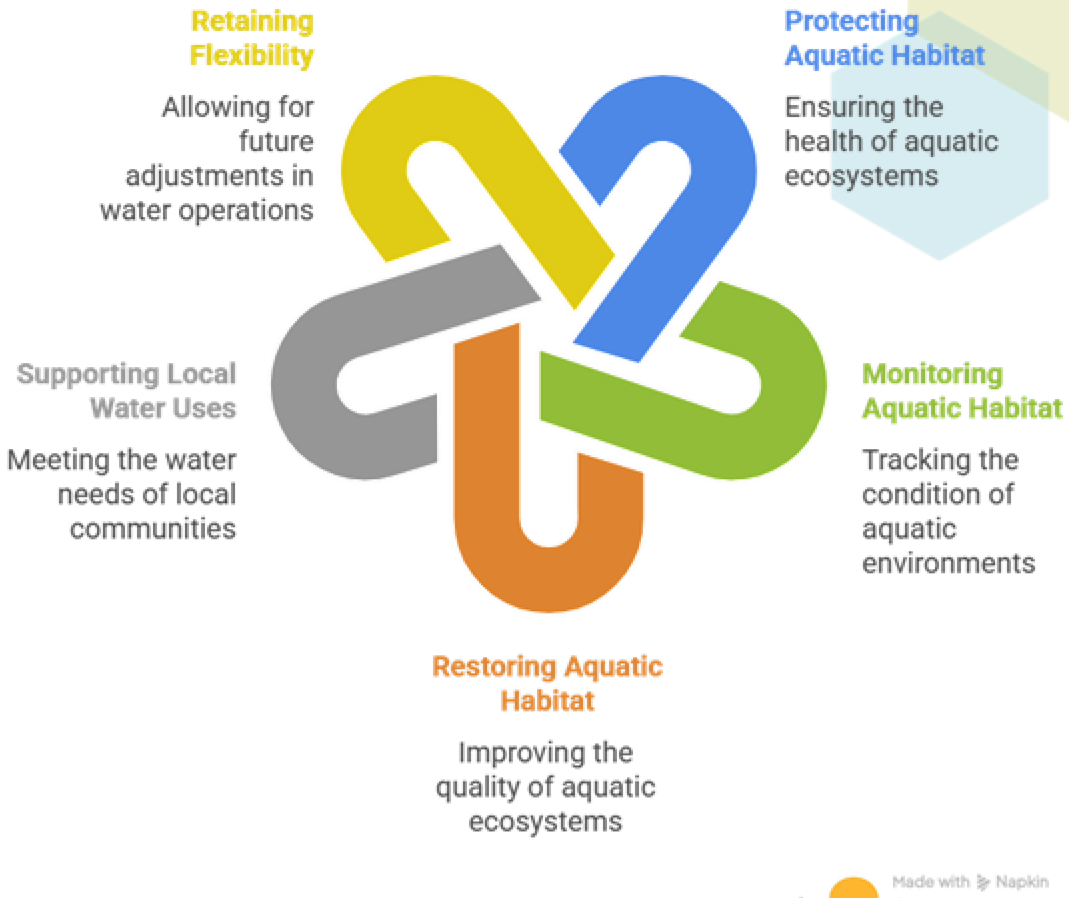
GC SMP: Purpose Statement

The purpose of this Stream Management Plan is to provide a roadmap for maintaining a healthy and resilient stream system within the Cooperative Effort Area in Grand County, Colorado by protecting, monitoring, and restoring aquatic habitat while supporting local water uses and retaining flexibility for future water operations.



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