Information Packet

General Meeting

November 13, 2017

Watershed Management Planning in the Upper Gunnison River Basin

To enhance resilience of agricultural, municipal and recreational water uses and improve stream ecosystems

The Upper Gunnison River Water Conservancy District (UGRWCD) and its partners have been granted $175,000 by the Colorado Water Conservation Board (CWCB), for Needs Assessments in Upper Gunnison tributary basins, as the first stage in a Watershed Management Planning process with a 2050 horizon. This describes that process.

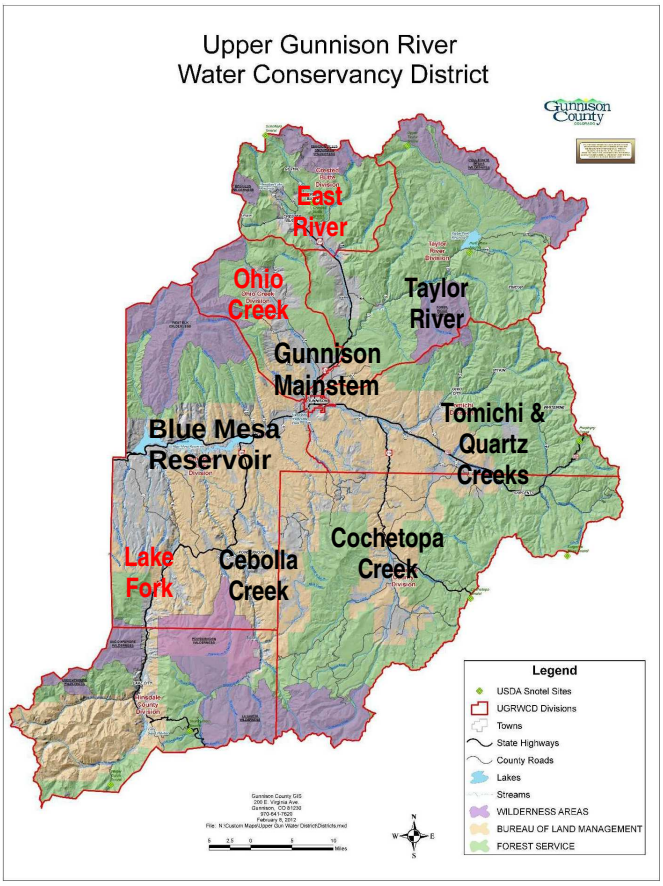
What is 'watershed management planning'?

A statewide water planning process was initiated by Colorado's governor in 2013, to address a ***projected mid-century gap between known water supply and anticipated new demand of as much 600,000 acre-feet of water*** (~195 billion gallons). Most of that would be due to urban population growth, mainly along the Front Range, but it will put pressure on all Colorado water users.

The resulting Colorado Water Plan, adopted in 2015, incorporated Basin Water Plans to 2050 developed in Colorado's eight natural river basins plus the metropolitan area. The basin plans were developed by citizen-run Basin Roundables, and assembled in an overall State Water Plan by Colorado Water Conservation Board staff.

The impetus for carrying out the Colorado Water Plan has now moved to the local level, with water managers in all Colorado watersheds working with all water users to assess their own future water needs, preparatory to developing adaptive watershed management plans to address those needs consistent with all state concerns.

The rest of this sheet describes the needs assessment process the UGRWCD board and staff will be working through with private and public partners on these assessments in the Upper Gunnison River tributary watersheds indicated on the adjacent map.



Watersheds in red type will be assessed first.

The Upper Gunnison Basin Watershed Management Planning Process

The overarching goal for the Upper Gunnison Basin Watershed Management Plan – consistent with the Gunnison Basin Plan – is ***the protection and sustainable continuity of existing water uses*** (agricultural, municipal, ecological and recreational) that are the foundation of our local economic and cultural lives, ***in a time of diminishing water supply and increasing demand.*** Other related goals, consistent with both the Gunnison Basin and State Water Plans, include maintenance and improvement of water quality, improvement of relationships between consumptive and nonconsumptive water users, improvement and maintenance of water-use infrastructure, and conservation and efficiency among all users.

Over the next several years, the UGRWCD will be working with water-user groups in each of the eight Upper Gunnison watersheds. Because each of these watersheds is unique, we are beginning with a needs assessment study for each watershed. These studies will begin with Ohio Creek, the East River and the Lake Fork.

Each watershed study begins with a needs-assessment inventory of currently known needs, and also anticipated needs and concerns out to mid-century that take into account these factors that are projected to change over the next three decades:

Growth: The State Demographer projects that the population of the Upper Gunnison Basin will increase by 50-100% by mid-century – from ~16,000 today to as much as 32,000. Statewide roughly the same range of increase is projected. Urban conservation will mitigate much of the increased demand, but some additional water will have to come from other sources.

Climate Change: Precipitation may stay roughly the same out to mid-century, but increased temperatures will cause more evaporation, transpiration and sublimation, reducing the amount of water in our watersheds as much as 20%. Stream flows in the Colorado River Basin are already 10% less for the 21st century to date than the late-20th century average.

Reconciling Ecosystem Needs with Agricultural and Domestic Uses: Consumptive water uses that remove water from streams impact nonconsumptive instream needs (quantity, quality and temperature to sustain aquatic life), situations that require creative and collaborative user efforts at the interface of watershed and stream management.

'Big River' Issues: The Upper Gunnison River watersheds are an important part of the headwaters for the Colorado River that eventually provides some or all domestic water for ~40 million mostly-metropolitan people, irrigation water for more than 4 million acres of high-value agricultural crops, and water-based recreation activities enjoyed by much of the nation. Growth and climate change factors throughout the region served by the Colorado River (including major cities outside the natural basin) may challenge historical allocations of the river's water and force difficult changes on all users.

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Process for Developing Needs Assessments for the Individual Watersheds

The UGRWCD will be the coordinating agency for the Watershed Management Planning processes, working with other water-related agencies and organizations within the Upper Gunnison Basin, including but not limited to:

- The Gunnison County Stockgrowers Association
- The seven municipal/domestic water suppliers in the Upper Gunnison Basin
- Trout Unlimited
- High Country Conservation Advocates
- Coal Creek Watershed Coalition
- Lake Fork Conservancy
- Recreational Industry organizations (rafting businesses, Crested Butte Mountain Resort, anglers' organizations)
- All federal and state land management agencies where relevant (USFS, BLM, BuRec, NPS, USFWS, NRCS, CPW).

Needs Assessment Inventories for the eight watersheds will be the first phase of the overall planning process: How will we deal with diminished water supplies (already down about 10% in the 21st century)? Increased pressure on water supply? This process is estimated to take four years (completed in 2020). Although each watershed is unique in its mix of uses, natural flows and other variables, a similar process will be used in assessing needs in each watershed, as follows:

- *Identify and engage key watershed stakeholders (water users and other water-related interests).* A watershed coordinator who is familiar with the watershed and its user groups will contract with the UGRWCD to do this down-on-the-ground work, compiling individual assessments of the *current and future* needs of both the individuals willing to participate and their watersheds as a whole – taking into account the probable decline of water supply due to climate change within and beyond the watershed.
- *Identify information and data gaps*, and address them, utilizing consultants with expertise when necessary or desirable.
- *Develop pilot studies and demonstration projects in each watershed* to identify best practices for efficiency, conservation and reconciliation of instream and diversion needs.

The CWCB grant (up to $175,000) will be combined with matching funds from the UGRWCD and other sources to carry out these needs assessments over the next several years.

A Point of Frequent Confusion - 'Watershed Management Plan' and 'Stream Management Plan': 'Watershed planning' covers all water functions from the time precipitation hits the ground until it leaves the watershed in a stream (or more subtly, as groundwater merging with groundwater from another watershed). Each 'Watershed Management Plan' will also include a 'Stream Management Plan,' which involves the environmental needs and recreational uses of the surface water flowing through the watershed. Given the preponderance in Upper Gunnison watersheds of agricultural use outside of the flowing streams, a major element in both watershed and stream planning will be balancing the environmental needs of the streams with the agricultural needs in the larger watershed.

The needs assessments will begin with the Ohio Creek, East River and Lake Fork watersheds. Lessons learned there will be utilized as assessments begin on the other watersheds.

Once all eight needs assessment inventories have been completed, the planning partners will begin work on an overall ***Upper Gunnison River Basin Watershed Management Plan***, determining the funding needed to execute best-practice projects and programs to address water quantity and quality needs identified in each watershed's inventory, and seeking those funds from state, federal and local sources. Such a plan in place will be necessary to obtain state and federal assistance.

We must emphasize that this will be an 'adaptive management' planning process. All we know for sure is that relentless population growth and climate changes will make the future of water in the west different from the past, so what we are planning for is ways to make our water use as efficient as possible, our watershed and stream ecosystems as healthy as possible, and our approach to the future as fully and creatively aware as possible, in order to adapt to whatever the future brings us with as much of our current mix of water uses still operational as possible.

FOR MORE INFORMATION:

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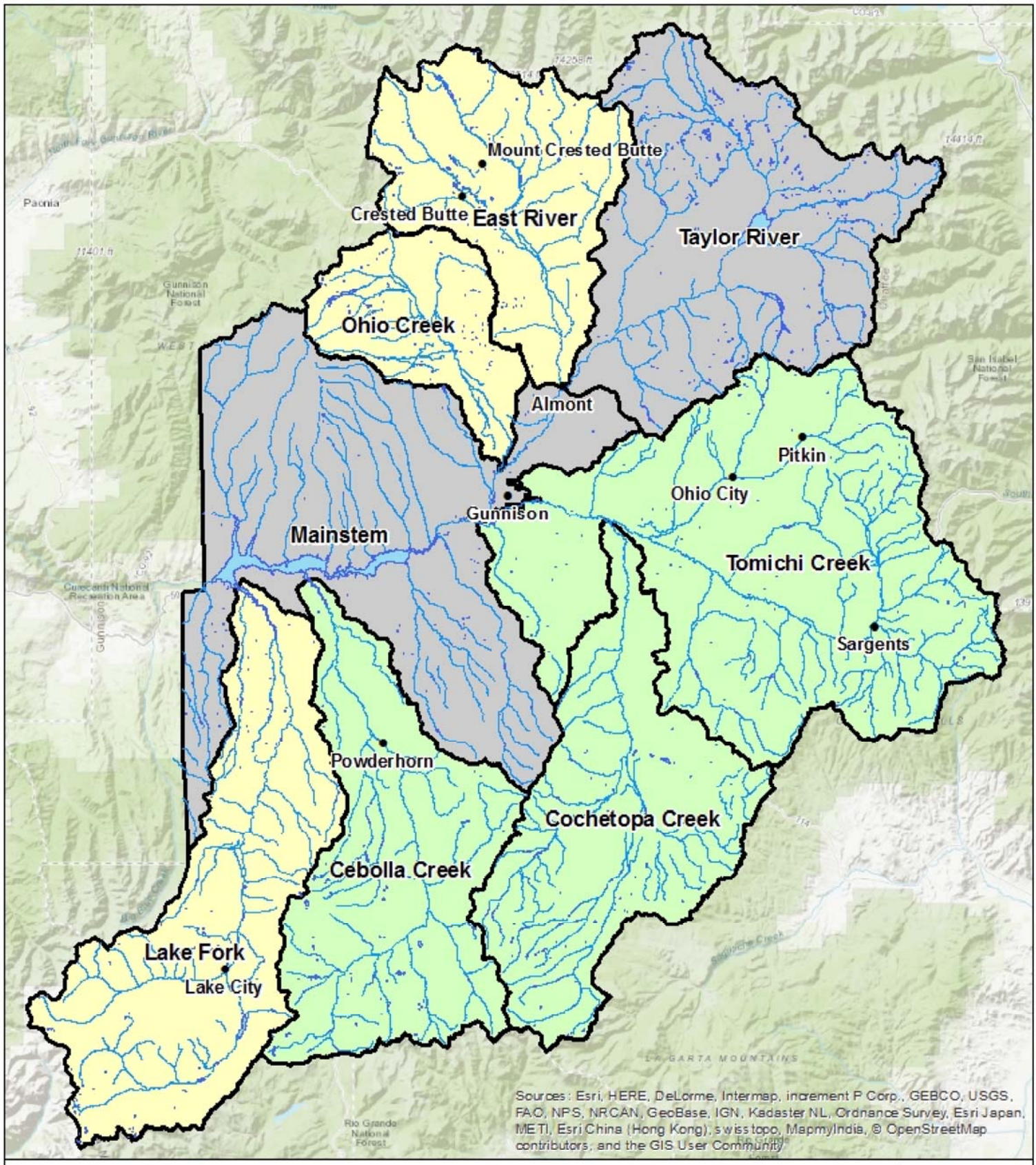

Watershed Management Planning

Schedule

- 2017-2019: East River, Ohio Creek, Lake Fork
- 2019-2020: Tomichi, Cochetopa, Cebolla
- 2020-2021: Taylor, Gunnison River Mainstem

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Upper Gunnison Watershed Planning Questionnaire

The mission of the Watershed Management Planning Group (WMPG) is to help protect existing water uses and watershed health in the Upper Gunnison Basin in the face of pressure from increased water demands and permanent reductions in water supply.

Your responses to these questions will help the Upper Gunnison River Water Conservancy District and its partners to develop a Watershed Management Plan to prioritize the projects or programs that will protect existing uses and improve watershed health through 2050. We want to hear your ideas on how water resource uses could be managed to protect existing uses and to improve local watershed health. We want to hear your concerns about how growth and climate changes might impact local water resources. Please skip questions that are not relevant to you.

Please return the completed questionnaire to: Upper Gunnison River Water Conservancy District, 210 West Spencer, Suite B, Gunnison, CO 81230.

NAME (Optional): _____

CONTACT INFORMATION: _____

_____

Please let us know if we can contact you for an interview regarding your responses to the questionnaire. Yes _____ No _____

Please mark all that apply:

Full time resident	___	Landowner	___
Part-time resident	___	Size of Property	_____
Local Business Owner	___	Water rights (categories)	_____
Public service (government, non-profit, etc.)	___	Choose not to answer	___

1. **What type of water use categories would you, your property, or your business best be associated with? (Select all that apply)**

Agricultural	_____	Recreation (boating–commercial)	_____
Industrial	_____	Recreation (boating–personal)	_____
Recreation (fishing-commercial)	_____	Domestic (central water system)	_____
Recreation (fishing-personal)	_____	Domestic (individual well)	_____

2. **What information would you like to have about your watershed?**

3. **Do you have any planning or legal concerns about your watershed?**

4. **Do you have any concerns related to the following topics: yes/no/uncertain (if yes, please explain)**

   - **Low flows**

   - **Riparian degradation, erosion, bank stability, etc.**

   - **Irrigation shortages**

   - **Recreation access**

   - **Fish habitat**

   - **Other (Some examples are water infrastructure needs, water quality, stream temperature, etc.)**

5. **Do you have recommendations for projects or actions that could help improve water use for your property or business (i.e. a diversion structure reconstruction, riparian restoration, an efficiency project)?**

6. **Do you have recommended projects or programs that will help improve water use for your watershed?**

7. **What could be done to improve irrigation infrastructure in the watershed?**

8. **Do you have recommended projects or programs that could help improve water quality?**

9. **What could be done, if anything, to improve recreational opportunities in the area (quality, use, and/or safety)?**

10. **Have you experienced or are you aware of conflicts between water users?**

11. **What is your biggest concern about the future of water uses in your watershed?**

12. **Are there additional objectives or issues that you would like to see addressed in the attached watershed assessment framework?**