



WATER QUALITY / QUANTITY COMMITTEE (QQ)

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Summary of May 7, 2014 Land Use and Water Conservation Workshop

The Northwest Colorado Council of Governments Water Quality/ Quantity Committee (QQ) hosted more than 35 planners and planning commissioners, primarily from headwaters towns and counties on the West Slope. Several attendees represented Front Range communities as well, including Arapaho County and Denver Water.

The workshop started with an introduction of the statutory authority and requirements that connect land use planning with water supply availability and planning. A panel then presented on various communities' approaches to integrating land use decision making with water supply considerations, water conservation and watershed protection. The workshop then became hands-on, with a session to brainstorm land use planning practices and regulations that work to achieve water conservation and water quality objectives within participant's communities.

The following is a summary of the panel presentations, discussion session and conclusions reached during this workshop.

I. Panel discussion on integrating land use decision-making, water supply considerations, and water conservation.

Panelists for this workshop included:

Tom Boni, *Eagle Town Planner*

John Ely, *Pitkin County Attorney*

Peter Grosshuesch, *Breckenridge Director of Community Development*

James Shockley, *Winter Park Town Planner*

Panelists answered and discussed a series of three questions. Participants in the workshop were encouraged to ask questions and provide additional feedback from their communities.

1. What plans/regulations does your jurisdiction use to ensure that new development will have adequate water supply? What challenges have you faced with respect to that issue?

Answers to this question reaffirmed that local governments currently control timing, density, and location of development, and require development to provide adequate water supplies. The techniques communities employ for ensuring adequate water supplies vary.

The Town of Winter Park has robust regulations to ensure adequate water supplies, in part because of the reduced flows in the Fraser River caused by transmountain diversions. 65% of the Fraser River is diverted to the Front Range before reaching Winter Park.¹ The Town developed much of its land use code to protect the health of the Fraser River through the Town. The Town limits the issuance of development permits to maintain 10 cfs (cubic feet per second, a unit of measuring flowing water) in the Fraser River. The Town also does not allow outside irrigation anywhere in Town limits.

When new developments apply for annexation into towns, the application serves as an opportunity to evaluate and control water supplies. The Town of Eagle, for example, requires the annexor to donate all water rights to the Town which then are leased back for use in the development. The Town of Eagle's Land Use Code also requires developers to give assurance of adequate public facilities in development applications. If no such facilities are available, the developer must upgrade existing facilities or provide new facilities. The Town of Breckenridge also requires new development to bring its own water supplies.

2. How do your plans/regulations protect streams, wetlands and other riparian areas from the impacts of land use and development and major challenges in protecting riparian areas?

Local governments actively regulate land use development for the protection of river corridors and riparian habitat. Local governments are also making significant public investments in river restoration and preservation. Specific funding and regulatory examples are listed below.

- **Management plans for river and stream corridors**, such as the Brush Creek Management Plan in the Town of Eagle. Such plans identify values in stream that should be protected and then require new development to preserve those values in order to be approved for a development permit. The Town of Eagle also works collaboratively with the Eagle River Watershed Council to implement recommendations in the Eagle River Watershed Plan.
- **Defining development areas on property.** Pitkin County regulates permissible areas of development within a property with an eye on riparian habitat protection, and imposes limits on landscaping outside of the design area.
- **Regulating septic systems.** Generally, participants and panelists agreed that septic systems are huge sources of pollution and degraded water quality in rural areas. Septic systems are also problematic because when they are not working properly the cost of repairs or replacement can be exorbitant. Panelists agreed local governments should look for methods to regulate septic systems and to help fund replacements. Summit County and other jurisdictions have explored options for addressing septic problems, such as requiring a septic inspection and compliance with current regulations upon the sale of homes. Summit County also encourages replacement of septic systems with sewer by

¹ Coley/Forrest Inc., "Water and its Relationship to the Economies of the Headwaters Counties," Northwest Colorado Council of Governments, December 2011
<http://nwccog.org/docs/qq/QQStudy_Outreach%20Summary%20Jan%202012.pdf>.

requiring new development to minimize phosphorous loading to Lake Dillon.

- **Conservation easements.** Pitkin County has two zoning districts that require conservation easements before development approval.
- **Local government ownership of the river corridor.** The Town of Winter Park attempts to purchase as much of the river corridor through town as possible to protect river health and water quality and to add recreation and tourist opportunities. Generally, a new annexation to Winter Park requires town ownership of the river corridor.
- **River restoration projects.** Local governments are actively investing in projects that will improve river corridors, water quality, and riparian habitat in their communities. For example, the Town of Breckenridge invested in seven river restoration projects to date, primarily related to abandoned in-stream mines.
- **Construction management regulations.** Local governments regulate erosion from construction sites and limit impervious surfaces to reduce potential sediment loading into the rivers.
- **Revegetation requirements.** Local governments require the revegetation of disturbed areas with native species as a condition of development permits.
- **Setbacks** to prevent riverfront development from encroaching on riparian habitat. However, three panelists agreed that setbacks of 25 feet or 30 feet are often inadequate. The small setbacks also create an enforcement problem.
- **Pitkin County Healthy Rivers and Streams Fund.** In 2008 voters in Pitkin County passed a dedicated 0.1% sales tax for healthy rivers and streams. The Fund allows Pitkin County to award grants, develop restoration projects and participate in litigation to protect healthy rivers and streams. The Fund is administered by the Board of County Commissioners with the advice of a citizens' board.

The panel's discussion of the significant local government investment in river restoration turned to a broader discussion of how to ensure the Colorado Water Plan protects already-existing investments. Participants recommended gathering information on what investments have been made by various communities in the QQ region for inclusion in the Colorado River Basin Implementation Plan. Examples of local government investment are listed as Exhibit 1.

3. Does your jurisdiction use the concept of “carrying capacity” or similar analysis in planning or regulation to ensure that new development is located in areas where the natural environment can accommodate the development?

Some local governments have embraced the idea and funded studies to better understand how many people a community's available natural resources, including water, can support, as several panelists described. Other panelists stated that once a study came up with a carrying capacity number, then it's politically difficult to limit growth once it reaches that number due to concerns about how this could affect the economy of the area. In contrast, other local governments have embraced the idea and funded studies to better understand how many people a community's available natural resources, including water, can support.

The Town of Breckenridge completed carrying capacity studies as recently as 5-7 years ago. The study conducted in cooperation with Summit County examined what the Town and County will look like by 2030 and whether the leadership liked the direction the area was headed.

Breckenridge also funded a recent study of the capacity of all infrastructure including water and wastewater. The Town of Winter Park has regulations directly tied to the carrying capacity for the Town. The water capacity is capped (based on average density of currently zoned lands) to protect the river from over development. These capacity studies are subject to reevaluation, such as the potential to allow for more growth in Winter Park through new water available as a result of the Colorado River Cooperative Agreement.

While John Ely, Pitkin County's attorney, questioned the effectiveness of a "carrying capacity" approach to planning, he also highlighted Pitkin County's Growth Management Quota System, which establishes a set number of development permits available on a competitive basis to ensure slow, measured growth that won't get ahead of Pitkin County's quality of life. Likewise, the Town of Eagle institutes an urban growth boundary to help control density and ensure growth happens slowly enough to provide time to react.

II. Small Group Discussions: Water Conservation Targets in Comprehensive Plans.

Small groups debated the various pros and cons of requiring water conservation targets, such as a certain goal in gallons per capita per day, in local comprehensive plans. Participants explained why some alternative water conservation measures might work better in their communities than targets, identified issues with rural areas utilizing wells, and considered how they might prioritize the different water conservation methods. Finally, discussion focused on the best forum to integrate land use and water conservation.

1. Should water conservation targets be required in comprehensive plans?

Generally, most participants in this workshop positively affirmed that water elements should be required in comprehensive plans. Participants felt that conservation targets or something similar would be appropriate to implement water conservation in comprehensive plans. Several commented that targets were useful because they were flexible and could be easily changed. Water use goals or targets should include timelines to be most effective.

The metric that different communities would use to measure conservation was problematic. A method to determine the actual population using water day-to-day is necessary to avoid the appearance of inflated per capita use in communities where tourism and recreation-based population swings are dramatic. Many people in rural communities also rely on septic systems for wastewater treatment and wells for water supplies; usually neither of these services is metered. Water conservation targets based on gpcd may not adequately consider these situations.

Finally, some participants highlighted the difficulty in a local government instituting a conservation goal when a special district provides the water for development in that same area. Even for these areas that may want to implement water conservation regulations, such change can be cumbersome with multiple districts and multiple processes. Nevertheless, the local government regulates where, how, and when development occurs and what conditions if any should be imposed on the amount of water that development uses.

For these reasons, most participants felt communities should adopt their own specific water conservation goals to allow local governments to tailor goals to their own needs. The metric used to calculate the baseline for comparing improvements in water conservation was important to most participants. One group offered the suggestion that gallons “consumed” per capita per day might more fairly compare local water use with trans mountain diversions since most water delivered to a household is not consumed but rather returns to the stream, whereas water that is diverted out of the basin has no return flows in the basin.

2. What alternative methods of conserving water would work in your communities? How should these methods be prioritized?

Participants discussed several possible techniques that might help implement water conservation in their communities. Such techniques include:

1. Requiring higher density development, which is also beneficial as a practical land use tool, especially for resort communities where tourists want to take advantage of public transportation.
2. Improvements in outdoor irrigation and landscaping, including:
 - Watering restrictions (participants were mixed as to the effectiveness for their communities)
 - Landscape design regulations, including encouraging alternative grass types
 - Evapo-transpiration-sensing fixtures for outdoor irrigation
 - More efficient irrigation practices and efficiency incentives (although many communities already do not allow outside irrigation for lawns)
3. Lodging tax that could be used to redevelop infrastructure (like the Pitkin County Healthy Streams tax, mentioned in the panel discussion above), for infrastructure improvements
4. Incorporate Low Impact Development protocols to protect water quality for stormwater runoff
5. Adjustable water billing rates based on water usage or a monthly “budget” of water calculated for a new development.
6. Metering of wells to include in compliance with targets.

Most participant discussions mentioned the importance of prioritizing efforts on measures that result in the highest water savings, such as outdoor irrigation regulations, in many regions around the state.

Each group also emphasized the importance of education in implementing water conservation measures. The general public should understand the reasons for such regulations. In order to gain momentum for implementing water conservation regulations, land use planners, planning commissioners, and elected officials all need continued education on the importance of such efforts.

3. What is the best forum to further land use and water integration?

Participants generally agreed that all government sectors, from the federal level through the state and county to the community, would need to be involved in meaningful water conservation. One group pointed out the importance of working with federal agencies to protect water infrastructure from wildfire, for example.

Many acknowledged that the issue is very localized, with strong momentum to keep it that way, but on many levels it should be a more regional discussion. Several groups mentioned that regional organizations like NWCCOG should be taking the lead, along with organizations directly involved in land use planning like the American Planning Association, Colorado Counties, Inc., or the Colorado Municipal League.

Each group grappled with whether they felt state legislation to mandate water conservation targets for communities statewide would be an acceptable solution. Many were hesitant to invite state action because of how varied communities' water challenges are and how unique the solutions might be. As discussed above, a system of state-wide targets created concern among some participants. Some mentioned that some type of state legislation could be possible, even if targets were not ideal. Others were very supportive of state legislation that would require water conservation and water availability elements in all comprehensive plans. Across the board, participants remained concerned about what the metric would be for targets or some other mechanism for water conservation.

III. Conclusion.

Local governments have the authority and tools to make sure that new growth and development do not outstrip water supply. These tools are been used effectively in many communities to protect the quality of life and important natural resources identified in master plan goals. The workshop agreed on the importance of integrating land use planning with water planning and making sure this discussion is included as part of the Colorado Water Plan, especially in light of State projections that Colorado's population may double by 2050 with necessary water supplies for many of those people yet to be built or even identified. Immense opportunities exist for closing Colorado's future water supply gap through land use planning and conservation while also restoring and maintaining healthy rivers and preserving agriculture.

Participants recommended continuing discussions on how best to establish and measure water conservation targets in land use planning, but emphasized that this is best done at the local level. They also want to consider legislation that would require, rather than allow, a water planning element in municipal and county master plans around the state.

Participants decried the knowledge gap about water conservation in the planning profession and recommended that more should be done to close the gap. All were in agreement that the dialogue about the intersection of land use planning and water conservation must continue. Regional organizations like Councils of Governments, American Planning Association, Colorado Counties, Inc., and the Colorado Municipal League should provide leadership to educate and assist local governments in instituting water conservation and water availability elements in comprehensive plans.

Exhibit 1

Examples of Nonconsumptive Restoration Projects in Headwaters Counties

Many nonconsumptive projects have been completed at considerable investment of time and money. These projects deserve to be recognized and protected from future water projects envisioned by the Colorado Water Plan.

The following are only *examples* of the many nonconsumptive projects initiated by local governments to benefit the environment and recreation in their communities. QQ encourages the Colorado Water Plan process, specifically those undertaking planning efforts in the Colorado Basin, to consider completing such a list for the entire Colorado River Basin in Colorado. Such a list is important both to give a sense of scale and expense of these projects and to document investments that could be endangered with additional development of water resources in the Colorado Basin.

These sample responses were provided by NWCCOG members in response to the following emailed question:

NWCCOG/QQ is seeking information to include in the Colorado River Basin implementation plan for the Colorado Water Plan. We want to make sure that the Plan takes into account watershed restoration projects and other water body protections so that protected segments are not jeopardized by future transmountain diversion water development projects. **Examples are the stream restoration in Breckenridge in former mining areas, Town of Eagle water body setbacks required for new development along Brush Creek, or conservation easements allowing public access along stretches of the Roaring Fork.**

Please let us know whether your jurisdiction has restored any stream segments, acquired any conservation easements on any stream segments, or spent money on or required other watershed restoration work.

Please identify the specific stream reaches that have been protected or restored and an estimate of the amount of money spent on the projects.

Town of Fraser

The Fraser River Project, an aquatic habitat enhancement project completed in 2006, addressed riparian restoration of two miles of river through town.

Town of Frisco

In the past ten years the Town of Frisco has done extensive tree plantings to the benefit of the watershed on the Frisco peninsula in Dillon Reservoir. We have also created a white water park on Ten Mile Creek that included river restoration and improvement to the fish habitat.

Town of Silverthorne

The Town of Silverthorne has made a number of investments in restoring and protecting the Blue River corridor through Town, including:

- RICD below Dillon Reservoir with kayak park construction planned
- Paths/bridges along the River in Town
- Multiple Blue River restoration and habitat improvement projects
- Old Dillon Reservoir to supplement flows on the Blue River
- Several parks on the river
- Open space and conservation easements on the river
- Wastewater treatment plant investments

Eagle County and Eagle River Watershed Council

- River health and restoration projects in Eagle County, collaborative efforts of Eagle County and the Eagle River Watershed Council, include:
- Edwards Restoration Project- a \$4 million project on the Eagle River was that will be completed by spring 2015.
- Basin of Last Resort- a \$20 million sand clean up and prevention project for a 10 mile segment along I-70 to protect Gore Creek and the Eagle River. This is a CDOT project in response to a TMDL and is on-going, current monitoring costs alone are \$15,000/year.
- Camp Hale – watershed improvement projects that the National Forest Foundation is guiding this process, with Marcus Selig being the primary contact. Originally it was a \$5million project- made up of a \$2.5 million match from USFS and the remaining \$2.5 match from NFF's fundraising efforts, but is now estimated to cost \$10-20 million for competition.
- The Eagle River Watershed Council restored the Eagle with the ERWSD above and below Lake Creek to mitigate temperature issues.
- Several boat ramps have been constructed on the Colorado River.
- The Town of Minturn also conducted restoration on the upper Eagle River in two phases with assistance.

Town of Breckenridge

At least 7 major restoration projects have been completed, including:

- Cucumber Creek: \$130,000
- Maggie Pond: (pending response)
- Riverwalk (in town): \$8 million
- Wellington Oro: \$4 million for the building; \$300,000 annual operating
- Block 11: \$51,450
- 4 mile bridge: (pending response)
- Upper Swan: \$279,800

- Miners Creek: \$29,600
- Sawmill Creek: \$117,170
- Klack: \$181,000
- Illinois Gulch: \$141,310
- Kayak Park: \$225,000
- Stan Miller: \$1 million