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QQ Meeting Summary
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QQ RELEASES STUDY ON CLIMATE CHANGE IMPACTS TO HEADWATERS ECONOMY

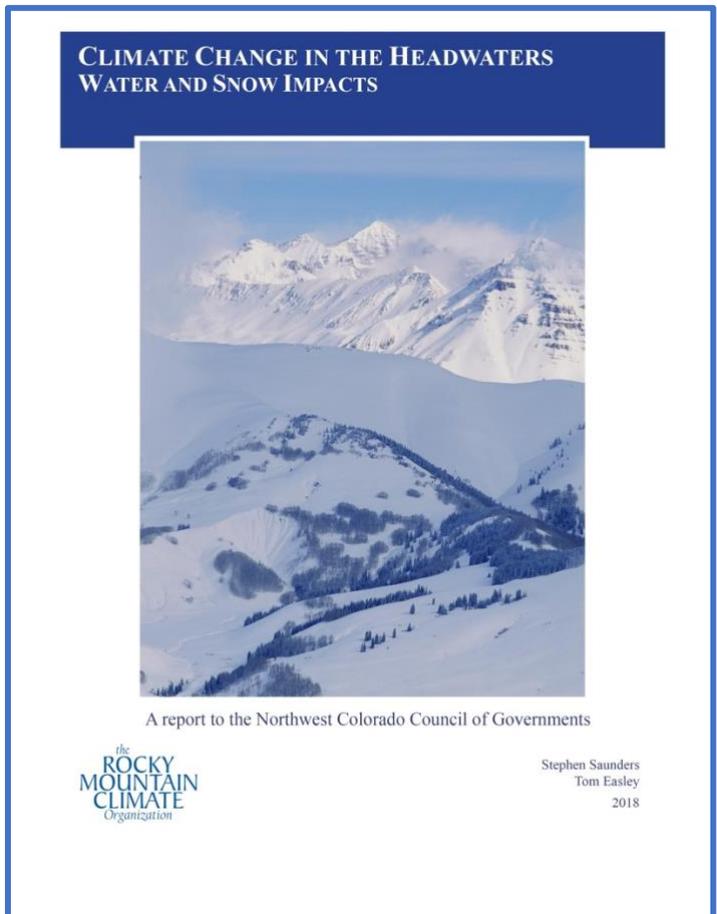
On February 7, NWCCOG and the Rocky Mountain Climate Organization (RMCO) released a report documenting how climate change may affect the water and snow resources in the headwaters region of the Colorado River. [Climate Change in the Headwaters: Water and Snow Impacts](#), prepared by RMCO for NWCCOG, summarizes existing information on how climate change puts at risk water and snow resources and the many economic and social values that depend on them in six Colorado counties—Eagle, Grand, Gunnison, Pitkin, Routt, and Summit. At QQ’s winter quarterly meeting, held February 8th in Breckenridge, Stephen Saunders and Tom Easley with RMCO presented a summary of the report’s findings to QQ members and others in attendance. Their presentation is available [here](#).

The report details the impacts of climate change that have already happened, and those that could happen, including:

Temperature. In Colorado, in all but one of the last 40 years, statewide temperatures have been hotter than the 20th century average and this century has had seven of the state’s ten hottest years on record. Mid-century temperatures are projected to average 1.5° Fahrenheit to 6.5° hotter than in 1971–2000, and late-century temperatures 1.5° to 9.5° hotter, depending on future levels of heat-trapping emissions.

Precipitation. To offset the impacts of higher temperatures on snow and water resources, there would need to be large increases in total precipitation and snowfall. But only the wettest 10 percent of climate projections suggest that Colorado precipitation amounts could increase by even six to nine percent.

Water and snow resources. Across the West, less winter precipitation is falling as snow and more as rain, snowpacks are declining, and snowmelt is occurring earlier. The flows of the Colorado River, fed mostly by mountain snow, have recently been the lowest in the past century—driven in large part by the evaporative effects of higher temperatures. Projections are that these changes will



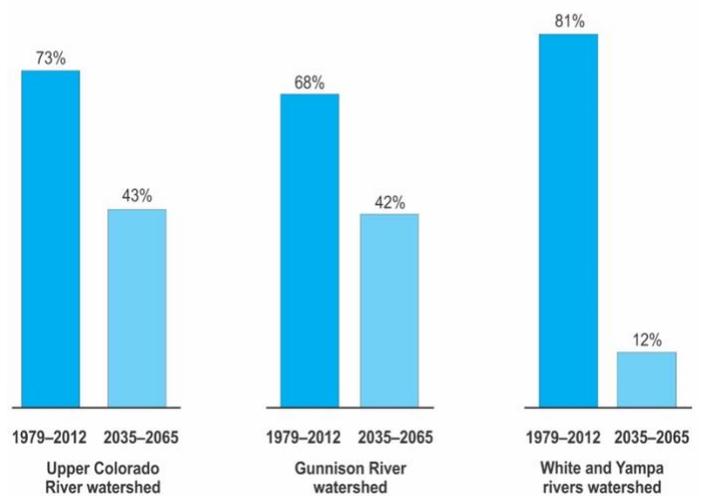
become more pronounced, with mountain snowfall being reduced to less than half of the precipitation in winter, snowpacks being cut by about one quarter, and river flows being reduced more than anywhere else in the West. Water restrictions and curtailments could become more likely, including an increased possibility of water restrictions under the Colorado River Compact.

Impacts on winter recreation and tourism. If Colorado snowfall and snowpacks decline as projected, skiing, snowboarding, and other snow-dependent winter recreation could suffer. This could have economic consequences throughout the state, as the skiing/snowboarding industry alone contributes about \$5 billion to the state’s economy and supports 46,000 jobs. The changes would hit harder in the headwaters than elsewhere, as the six headwaters counties have the largest concentration of skiing in the nation, with 16 downhill ski resorts, including seven of the 10 most-visited resorts in the nation.

Impacts on warm-season recreation and tourism. If climate change projections materialize, fishing, boating, rafting, and other warm-season, water-dependent outdoor recreation could be adversely affected by hot temperatures, low water levels, and other manifestations of climate change. Colorado’s outdoor recreation across all four seasons, generates \$28 billion in consumer spending and supports 229,000 direct jobs. Much of this occurs in the headwaters region, which includes Rocky Mountain National Park, the most visited national forest in the nation (White River National Forest), half of Colorado’s wilderness areas, and other special places that support outdoor recreation.

Impacts on water quality. Climate change may lead to decreases in water quality, including violations of water quality standards that specify maximum stream temperatures to protect fish and other resources. Further, climate change is projected to lead to major increases in wildfires, including potentially a several-fold increase in area burned, which in turn can increase flooding and sediment flows from burned areas.

Snowfall as Share of Winter Precipitation
Projections with high emissions



Excerpt from RMCO study, p. 13.

Members followed up on this sobering report with encouraging updates that local governments throughout the QQ region are working to address climate change in a variety of ways. The updates were a good reminder of how many QQ jurisdictions are working on this issue. Stay tuned for ways QQ can engage on following up on this report. The presentation from RMCO is available on the QQ website as is the study itself. Thank you to our guests and members for great conversation!

QQ EFFORTS IN STATE RULEMAKINGS PROTECT WATER QUALITY AND LOCAL AUTHORITY

QQ recently participated in two administrative rulemakings, focusing on QQ priorities to protect headwaters water quality and local authority to regulate for water quality protection.

Molybdenum rulemaking. The first rulemaking was before the Water Quality Control Commission, in response to a proposal by Climax Metals to change the statewide molybdenum standards and those that currently apply to Ten Mile Creek and the Williams Fork River. After Climax’s original proposal to change the molybdenum standard was met with skepticism from local governments and the public, Climax requested to continue the hearing on changing moly standards and extend existing temporary modification for the Blue River. QQ and partnering local governments supported this move, and the WQCC agreed to grant the hearing continuance and temporary modification in January.

Along with studying an acceptable statewide standard and continued monitoring, Climax committed to conducting investigations for molybdenum, including identification of sources, influent control measures,

investigation of potential treatment alternatives and treatment optimization, and available blending. Climax will identify treatment options, source control and water management alternatives, the expected effluent quantity and quality that could be achieved with each alternative, and an estimated cost for each alternative. QQ supported the important additional commitments from Climax.

Flowline rulemaking. QQ also participated as a party to the Colorado Oil and Gas Conservation Commission’s rulemaking on flowlines, following the deadly flowline explosion in Firestone, CO. QQ participated in this rulemaking to protect existing local authority to regulate for environmental protection, in line with QQ policies. QQ successfully advocated for inclusion of a clarifying statement in the rule’s Statement of Basis and Purpose, stating that the rules were not intended to affect existing local government authority to regulate oil and gas development.

WATER FUNDING AND AQUATIC NUISANCE SPECIES TOP PRIORITIES IN LEG. SESSION

The 2018 General Assembly convened on January 10th, and members discussed primary issues of this session at the QQ meeting and took positions on bills that have been introduced to date.

Funding for basin roundtables and water projects. One of the central issues for QQ in the 2018 Legislative Session is identifying solutions for the lack of projected severance tax revenue that will affect not only Tier II programs that include water programs, but also general funding for DNR. Declines stem in part from a downturn in oil and gas development and in part from the [BP tax deduction payback case](#). Discussions will continue through the session on alternative funding sources for water projects. The CWCB and others have discussed funding water needs from the General Fund as an alternative to relying on severance and other fluctuating funding, especially for the Basin Roundtables (WSRA). *At its meeting, QQ committed to developing a resolution requesting the General Assembly replenish the WRSA funds for Basin Roundtables at 2017 levels through General Fund or other available funding.*

Aquatic nuisance species (ANS) prevention. QQ has prioritized increased and stable funding for Colorado Parks and Wildlife’s boat inspection program for the prevention of ANS for the past several years. Part of this approach has been advocating for federal participation in program funding, and another piece has been a state funding source separate from the beleaguered severance tax fund. The 2018 House Bill 1008, the Mussel-Free Colorado Act, would provide a portion of necessary funding for the boat inspection program through the purchase of an ANS sticker for motorized crafts and sailboats. *QQ supports HB 18-1008 as important partial funding for ANS prevention.*



Figure 1. Boat inspection signage at Green Mountain Reservoir, where quagga mussel larvae were identified this fall. Photo from <http://denver.cbslocal.com/2017/09/05/quagga-mussels-mountain-reservoir/>

QQ support for other water-related legislation. QQ also supports current legislative efforts to:

- Expand the ability to use reclaimed water for marijuana cultivation, toilet flushing, edible crops, and industrial hemp production (HB 18-1053, HB 18-1069, HB 18-1093, and SB 18-038 respectively);
- Include deficit irrigation in a pilot project to use existing water resources more flexibly instead of developing new water sources (HB 18-1151);
- Protect water quality through the study of and development of CDPHE regulations for the disposal of Naturally Occurring Radioactive Materials (NORMS) and technologically enhanced NORMS (TENORMS)(HB 18-1215);
- Expand the duration for loans from the Colorado Water and Power Development Authority revolving loan fund, consistent with federal law and allowing flexibility in individual loans (SB 18-019);
- Amend the Hardrock Mining Act to codify existing practices to bond for water quality and disallow both self-bonding and perpetual treatment systems as initial proposed mitigation for a new mine permit (bill not introduced, so QQ is supporting in concept); and

- Possibly require DNR to more transparently apply the Water Plan criteria to DNR processes, not just grant applications where it is currently being applied. Those conversations are ongoing and include meetings with DNR, so it is still possible another solution will come forward.



OTHER QQ ANNOUNCEMENTS

- **Assessing land use and water planning in the QQ region.** In late January, QQ was awarded a Water Plan implementation grant from the Colorado Water Conservation Board to assess our local governments' integration of land use and water in land use codes. The project includes an assessment of both water savings and water quality measures in all member land use codes, the development of a model code for water savings measures specific to the headwaters region, and technical assistance to update land use codes of up to five QQ communities. We are excited to get this project underway!
- **Ongoing projects to be completed in 2018.** QQ will complete two major projects in the next few months:
 1. The ongoing update of the 1999 Model Water Quality Performance Standards, and 2. Updates to *Water & Its Impact to the Economy of the Headwaters Counties*, focusing on recent accomplishments of QQ members.
- QQ is participating in the newly-formed **Water and Land Use Planning Alliance**, formed by the Colorado Water Conservation Board and Department of Local Affairs to convene leaders around the state on efforts to better link land use and water planning. **Sonoran Institute will host trainings** on land use and water, scheduled for September 26-28, 2018 in Keystone. QQ will continue serving in an advisory planning capacity.
- QQ continues ongoing member support, including:
 - **Upper Colorado Wild & Scenic Stakeholder Group (SG).** Torie represents QQ on the SG and supports SG local governments by serving on the Executive Committee, which provides day-to-day administration of the SG. NWCCOG recently began providing fiscal support to the SG, serving as a fiscal agent and managing the contract for the SG Administrator, Anna Drexler-Dreis.
 - **Learning By Doing (LBD).** Torie Jarvis and Seth Mason (Lotic Hydrological) continue to provide support to QQ members involved in LBD. Over the summer, LBD completed its [first river restoration project](#) on the Fraser River near Tabernash, with initial reports of a 400% increase over fish present before the restoration.
 - **Grand Lake Clarity Adaptive Management Committee.** Each summer this AMC meets weekly to evaluate real time water quality monitoring in Grand Lake and Shadow Mountain Reservoir and to discuss ongoing operations of the C-BT project and changes that could be employed to help maintain or improve Grand Lake clarity. Lessons learned from this process inform the evaluation of alternatives for the NEPA analysis (explained below). NWCCOG is party to the MOU establishing the AMC and participates in the AMC.
 - **Grand Lake Clarity NEPA process.** The Bureau of Reclamation is undertaking a NEPA analysis of operational approaches and structural changes to the Three Lakes portion of the Colorado Big Thompson Project to address clarity problems in Grand Lake. NWCCOG is participating in the process as the 208 Regional Water Quality Planning Agency, as well as supporting involved QQ members.
 - **QQ continues website development.** While it is certainly a work in progress, check out www.nwccog-qq.org for lots of new information on QQ history and current progress. We'd love to hear feedback.

Thank you and, as always, please do not hesitate to reach out with questions, concerns, or issues QQ should know about (qqwater@nwccog.org) !