

South Platte River Urban Waters Partnership (SPRUWP)
November 17, 2020, 12:30pm - 2:30PM
Zoom Meeting
Quarterly Meeting Summary – FINAL

ATTENDANCE

Participants: Lubna Ahmed, Ryan Banta, Bill Battaglin, Jen Charles, Amy Conklin, John Covert, Rachel Crouch, Stacey Eriksen, Madelene McDonald, Mike McHugh, Jordan Parman, Lisa Pelstring, Jayla Poppleton, Gene and Polly Reetz, Steve Reeves, Chuck Reid, Donny Roush, Weston Toll, Travis Warziniack, Shane Wright, Marge Price, Alison Witheridge

Facilitation: Samantha Haas and Calley Schubert

Weston Toll	Send Mike McHugh information on the BAER (burn area emergency response) report
Sam Haas	<ul style="list-style-type: none"> • Share list of those interested in the USGS call for proposals with Bill Battaglin. • Distribute meeting spreadsheet with group members to fill out with topics they are interested in covering in 2021.
All Partners	<ul style="list-style-type: none"> • Share any information on events, conferences, etc., with Sam to distribute more widely in the monthly update email. • Fill out the 2021 meeting spreadsheet with topics of interest. • Reach out to Groundwork Denver if you have any leads on a turbidity meter they can use for an extended period.

PARTNER UPDATES

Partners shared general updates.

Barr-Lake and Milton Watershed Association (BMW)

- The 2020 urban water cycle bike tour and the 2020 watershed tour both went virtual this year and are available to view on the BMW website.

City and County of Denver

- An infestation of New Zealand mud snails was discovered this summer at the Johnson Habitat Park along the South Platte River in Denver; they have not been discovered at any other location.
- In an effort to reach pet owners and encourage dog waste cleanup, the City and County of Denver has completed a version of a dog waste infographic that will be distributed to doggy daycares in the city along with dog waste bags.

Water Education Colorado

- The Sustaining Colorado Watersheds Conference went virtual this year.
- The Statewide Water Education Action Plan (SWEAP) is a statewide five-year education plan that sets out a framework for 10 outcomes related to education, participation, and outreach in support of the Colorado water plan.
- Water Education Colorado has been working with the SWEAP Coalition to help inform outcomes and strategies that are built into SWEAP. They are actively enrolling partners, endorsers, and people interested in being co-implementers as part of that project.

- A task force was developed that is looking how to align the understanding of SWEAP concepts with statewide education standards for K-12 students and opportunities in leading those in classroom education.
- The latest issue of Headwaters Magazine is focused on land trusts and opportunities with land conservation to protect water rights.
- Water Education Colorado recently hosted two webinars focused on aging infrastructure in the water sector. The first webinar focused on municipal infrastructure, while the second focused on Ag infrastructure; both webinars are posted on the Water Education Colorado website.
- Applications for the 2021 Water Leaders Program will open this December.

Metro Wastewater Reclamation District

- Metro Wastewater Reclamation District has been conducting routine water quality monitoring of the South Platte, downstream of Denver.
- They recently completed ten fish surveys that spanned from North Denver to Fort Lupton. A summary of the fish data will be uploaded to the Metro Wastewater Reclamation District website.
- Macroinvertebrate sampling conducted downstream of Denver did not indicate the presence of New Zealand mud snails.

Groundwork Denver

- Lubna Ahmed attended her first SPRUWP meeting as the new Groundwork Denver Director of Water Programs.
- Groundwork Denver is continuing sampling water in Lower Bear Creek every other Wednesday and is focusing on E. coli reduction in that water body.
- Groundwork Denver is focusing efforts on planning best management practices (BMP) activities including irrigation audits, spring garden installations, downspout corrections, etc. for early next year.

Bluff Lake Nature Center

- Bluff Lake Nature Center is doing a lot of virtual programming and hosting field trips with elementary school students that are currently doing virtual learning.
- They are creating a lot of online content and are looking to host more livestreaming directly from their site.
- Bluff Lake Nature Center has some funding to provide schools with kits that can be sent home to students so they can do experiments in their homes.
- Site visitor numbers have doubled between March and June; Bluff Lake Nature Center typically sees 6,000 visitors a month and is currently up to 11,000 visitors each month.

Denver Trout Unlimited (DTU)

- DTU's Trout in the Classroom is now virtual. Five-minute video observations of the EDDY tank, a 100-gallon fish tank, are created daily and include the temperature of the tank, the pH levels, and the ammonia content. The eggs delivered from Colorado Parks and Wildlife (CPW) had an excellent hatching rate. Trout are currently one-month old and three quarters of an inch long. DTU expects to have a birthday party for the trout when they are one-inch long.
- DTU is working on assembling a coalition of people to fund studies in how to establish a recreational fishery in the South Platte River.

US Geological Survey (USGS)

- The USGS completed their second round of sampling this September.

- The USGS Urban Waters Partnership call for proposals and funding has been released; proposals are due the first week of December. For these proposals the USGS commits to match funding that is provided by the cooperators, so overall project funding is split 50-50.

Environmental Protection Agency (EPA)

- Leonard Rice Engineers (LRE) is working on trying to finalize a statement of work for phase three of the water quality assessment tool (WQAT), they have estimated it will take them about six months. The updated WQAT will pull data directly from water quality portal and the Colorado data sharing network.
- An intern for EPA is creating a teacher educator guide for the WQAT, once that is complete it will be posted on the urbanwaters.gov website.

Denver Water

Denver Water awarded the contract to develop the Strontia Strings watershed sediment management plan to SWCA and they are partnering with LRE.

USFS

- The Coalition for the Poudre River Watershed will be presenting on Cameron Peak Fire impacts on the watershed.
- DUFS, which looks at ecological health of the Denver metro area, is having a lot of discussion that might be interesting for partners that have an outreach or an art vent. Next year, they are discussing talking about/sponsoring an artist that would integrate how you explore connections with nature and integrating that with science in an art realm. Thinking about Picking up artist in residency program and ways to develop that.
- The Five Star and Urban Waters Restoration Grant Program 2021 request for proposals is live and is suited to fund restoration projects with an educational component. The full proposal is due January 28, 2021.

COLORADO STATE FOREST SERVICE (CSFS) – FOREST ACTION PLAN (FAP)

Weston Toll, CSFS, shared information about the 2020 FAP and CSFS.

- The 2020 Colorado FAP was published Wednesday, November 11, 2020. The original due date was in June of 2020 but was extended due to COVID-19.
- CSFS is a service and outreach agency that is housed within the Warner College of Natural Resources (WCNR) at Colorado State University (CSU).
- There are 18 field offices around the state and 120 full-time employees.
- Each state and US territory is required to produce a new FAP every ten years with an update after five years.
- The FAP provides a tool moving forward for improving forest health across Colorado.
- Ecosystems that the forests provide include cleaner water and air, carbon storage and sequestration, recreation, scenic views, plant and wildlife habitat, wood products, renewable energy, nontimber market commodities, cultural history, and a sense of place.
- Some of the major threats to forests are climate change, drought, uncharacteristic wildfire, post-fire erosion, insect and disease, and human development.
- The wildland urban interface (WUI) is defined as areas where structures and other human developments intermingle with wildland vegetation. The Colorado WUI encompasses 3.2 million acres and 2.9 million citizens.
- More cross-boundary projects are being implemented in Colorado to support forest management.

- The Forests to Faucets Program, a collaboration between USFS, Denver Water, and the Natural Resources Conservation Service (NRCS), seeks to improve forest conditions in watersheds. By 2022, the program will have invested more than \$64,000,000 to protect Denver's water supply.
- A CSFS team consulted with external partners and stakeholders to begin developing the Colorado FAP by establishing six themes and setting goals categorized by national priority. The themes identified are forest conditions, living with wildfire, watershed protection, forest wildlife, urban and community forestry, and forest products.
- One of the ultimate end products is the priority composite map which incorporates data from three of the themes including forest conditions, living with wildfire, and watershed protection.
- Aiming to develop goals, strategies, and approaches to address climate change within the six themes, the CSFS action plan team attended a workshop hosted by the Northern Institute of Applied Climate Science (NIACS) and the Department of Forest and Rangeland Stewardship at Colorado that used the NIACS climate change response framework, which incorporates climate change considerations into natural resource management.
- The forest conditions theme included in the Colorado FAP established the following goals:
 - Keep forests as forests
 - Improve forest productivity
 - Promote adaptive management
- Challenges and threats established in the forest conditions theme include effects of insect and disease on forests, lengthening wildfire seasons, lack of seedling regeneration post-disturbance, reduced soil moisture in summer, warmer temperatures year-round, and conversion of forest to non-forest through development and disturbance.
- The map for the forest conditions theme depicts the state broken into HUC-12 level watersheds which average 15,000 – 40,000 acres. The datasets were chosen as a means to look toward expected conditions. Some of the data included into the map include potential loss of basal area through 2027 and trees per acre loss.
- The living with wildfire theme included in the Colorado FAP established the following goals:
 - Promote community fire adaptation
 - Reduce the risk of uncharacteristic wildfire
 - Promote the role of fire in ecological processes
- Challenges and threats established in the living with wildfire theme include scale of, and community capacity for planning and implementation of wildfire risk reduction, lengthening wildfire seasons, and impacts of climate change on vegetation and fire occurrence.
- The watershed protection theme included in the Colorado FAP established the following goals:
 - Improve and maintain water quality and quantity
 - Improve resiliency of critical water infrastructure
 - Sustain or restore fundamental ecological functions for watershed health
- Challenges and threats established in the watershed protection theme include conversion of forest cover, increase in forest insect and disease and uncharacteristic wildfire, lack of seedling regeneration post-disturbance, reduced soil moisture, seasonal changes in precipitation, population growth, and maintaining a balance between public access and protection.
- The watershed protection theme map has two subthemes incorporated, which are to improve and maintain the quality of water, which is weighted two times, and infrastructure, which is weighted one time.

- In the Colorado FAP, each goal is listed with overarching strategies and approaches to accomplishing strategies for each goal.
- The composite priority map is broken out in HUC-12 watersheds, and each HUC-12 watershed has a unique value.
- The composite priority map was reviewed multiple times before the final version was developed. The map versions were reviewed by CSFS field offices, partners around the state, the Forest Health Advisory Council (FHAC), and water providers.
- Statewide meetings identified the top priority resource goal as reducing wildfire risk.
- One unexpected outcome of the statewide meetings was the prioritization of power and communication infrastructure protection.
- CSFS worked closely with CPW on the forest wildlife theme.
- Top issues identified by CPW in their 2015 state wildlife action plan (SWAP) included lack of knowledge of species needs in regard to management. The CPW SWAP also identified quantity and quality of habitat continue to be affected by disturbances including insect and disease and uncharacteristic wildfire.
- The forest wildlife theme map did not go into the composite priority map, but CSFS thought it would be helpful to show where in the state forest management needs to happen to improve habitat. The two subthemes included in the forest wildlife theme map are habitat quality and connectivity and wildlife distribution.
- The composite priority map indicates significant agreement with other large landscape projects, such as the Rocky Mountain Restoration Initiative (RMRI) and the Two-Watersheds—Three Rivers—Two States (2,3,2) Cohesive Strategy Partnership.
- Based on the priority composite map, it was discovered that 10% of Colorado's Forests are in urgent need of treatment to address included themes. The cost associated with these treatments are estimated at \$4,200,000,000.
- Potential disturbances don't recognize ownership boundaries, so there is a great emphasis in the forest management community on working across these boundaries to have a landscape scale on forest health.
- The challenges and threats associated with the urban and community forestry theme include the projected increase of Colorado's population, which puts the state's population at almost ten million by 2040, and an increase in Colorado's urban areas, which are expected to double by 2040. These projections will result in a projected urban footprint of 1.9 million acres that will require conversion of forest and agricultural land into urban areas and effect quality and availability of clean air and healthy soil.
- Green infrastructure has a lot of ecosystem benefits including improvement in carbon sequestration rates, mitigation of stormwater runoff and noise pollution, connection of habitat corridors, improved mental and physical health, and enhanced property values.
- Also included in the 2020 FAP is the forest products theme, the forest legacy program, which is a conservation easement program administered through CSFS, a carbon stocks map, forest cover types map, major transmission line and communication tower densities, and other data.
- CSFS administers grants, such as the Forest Restoration and Wildfire Risk Mitigation (FRWRM) Grant to fund projects that reduce the risk of wildfire damage to property, infrastructure and water supplies.
- Funding for FRWRM is derived from Tier 2 of the Colorado Severance Tax fund that comes from oil and gas development. This round, there is only \$700,000 available in funding due to a slowdown in oil and gas development related to COVID-19.

- Along with Colorado FAP, CSFS launched the Colorado forest atlas website that provides interactive mapping applications portraying information about forest conditions and CSFS activities.
- Within the forest atlas, there is a new public application for the 2020 FAP that shows theme maps as well as composite priority maps and how many acres and what acres are going to be in high priority for CSFS moving forward. The website for the forest atlas is coloradoforestatlas.org, which is also a way for CSFS foresters to track where treatments are located moving forward.

Clarifying Questions

Meeting participants asked Weston Toll questions regarding his presentation. Questions are indicated in italics with responses below in plain text.

What type of conversations have you had about funding options beyond the traditional legislative process?

Funding is being funneled through the USFS and through the state government. Governor Polis announced there will be an increase of about \$5,000,000 to the FRWRM grant, most of which will go into private landowners' hands. However, there is not a lot of funding dedicated to increasing capacity to help landowners develop forest management plans. CSFS is in charge of pre-fire work, while the Division of Fire Prevention and Control (DFPC) is involved in the suppression of fire. DFPC has seen a huge increase in budgets lately, but an increase in pre-fire mitigation would save a lot of money because suppression is much more expensive than pre-fire mitigation.

Do you have an estimate of how many of the 2,400,000 acres in urgent need of restoration are on private land, or what is the breakdown of ownership?

CSFS does have it broken down by ownership, a vast majority is federally owned but there is quite a bit of private land, especially on the Front Range.

Is there a preliminary burn severity map out for Cameron Peak and East Troublesome fires?

The BAER (burn area emergency response) report is compiled by the USFS and is half completed for Cameron Peak. Some of that information is publicly available.

How do you approach discussing these issues and their impact with people living in the Denver urban area?

The average person in cities along the Front Range makes the connection between turning on their shower or faucet and where that water came from; a lot of work goes into getting water from the west side of divide into east side collection systems. If you enjoy plentiful and clean water in your home, we need to make sure we are managing forest health. Forest health is watershed health.

CHERRY CREEK BASIN WATER QUALITY AUTHORITY (CCBWQA) PRESENTATION

Chuck Reid, CCBWQA, shared an overview of CCBWQA's work and relevant projects.

- The clean lakes study, conducted by the Denver Regional Council of Governments (DRCOG) in the mid 190's, looked specifically at land-use trends expected to happen within Bear Creek Lake, Chatfield, and Cherry Creek over and into the next 50 years. Following that review, Colorado's Legislature made the determination to create the CCBWQA.
- CCBWQA was gifted the ability to assess at .5 mills on property within the Cherry Creek Basin. That money is used to preserve, maintain, and improve water quality in Cherry Creek and Cherry Creek Reservoir.
- Water Quality is defined by beneficial use criteria, values set by the water quality control commission, and anti-degradation efforts.

- CCBWQA has primarily focused on point source dischargers, or wastewater treatment plants. There are about nine wastewater treatment plants in the Cherry Creek Basin, and those plants have a tighter discharge limit than any other place in the state for nutrients. Nutrients are related to algal growth in the stream and then in Cherry Creek Reservoir.
- Early focus on the point source led to sophisticated wastewater treatment systems in the Cherry Creek Basin.
- CCBWQA has been reexploring relationships with wastewater providers and water treatment providers as they are seeing more reuse in introducing indirect and direct potable use and the impact on the watershed.
- CCBWQA has close ties with municipal separate storm sewer system (MS4) permit holders, that treat regulated stormwater flows.
- As an urbanized stream, Cherry Creek changes a lot based on urbanization, and the area has experienced 350% growth since the 1980's.
- CCBWQA also works with partners on stream restoration and rehab work. Over the years they have had approximately 20 stream reclamation projects they have participated with in restoration.
- McMurdo Gulch, an area just outside of Castle Rock, is an area currently in the process of urbanizing. CCBWQA is working with Castle Rock to make improvements so the stream doesn't unravel as development occurs.
- As the area around Piney Creek, which runs southeast of Cherry Creek Reservoir into Aurora, urbanized and more of the land became concrete and impervious, changes in the intermittent stream flows happening in the Piney Creek area led to degradation. CCBWQA, along with partners such as the Southeast Metro Storm Water Authority (SEMSWA), had to go in and reconnect banks to the broader riparian habitat in that area.
- CCBWQA has numeric criteria it has to meet as set by the Water Quality Control Division. Most of the information and data that the Basin Authority has is available on ccbwwqportal.org.
- The CCBWQA tool is working on including a performance evaluation of pollutant reduction facilities (PRF). This component piece helps to compare effectiveness over time at a particular site.
- Cherry Creek Reservoir has a destratification system, that is relatively small compared to the size of the reservoir. While the water quality did not meet the numeric criteria for this year, it did not result in a more significant fish kill within the reservoir indicating the operation of the aeration system helped water quality in the Cherry Creek Reservoir.
- CCBWQA covers Douglas and Arapahoe Counties, and has a board of 18 people that is comprised of locally elected officials, citizens appointed by the Governor, and one member representative wastewater facilities.

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Do you partner with entities downstream?

The CCBWQA does some partnering, but the focus is mainly within the political boundaries of the entity, which ends at Denver County and Elbert County lines.

What have you found to be the most effective actions to reduce nutrients in your water bodies?

In terms of meeting the numeric criteria set by the Water Quality Control, the most beneficial actions will always be focused on upstream issues. The internal loading of the pollutants is so high

at this point in time in Cherry Creek Reservoir, that they need to shift some efforts back to in-lake management treatments.

Do you have any additional detail around the funding component of your project?

The Legislature provided the ability for the Board to assess at .5 mills. On an average single-family home, that turns out to be about \$50 a year that is paid to the CCBWQA. Additionally, there is a specific water quality fee that is assessed at the state park level that for water quality benefits. They also assess a fee on new development in terms of impervious surface within the Basin Authority boundaries. Control regulation 72, which is the numeric criteria set by Water Quality Control Commission, and the statute has some other components as well.

NEXT STEPS

Sam Haas created a spreadsheet for members of the group to fill out with suggestions for future SPRUWP meetings. Sam will redistribute this spreadsheet and group members should fill in any content they would like to learn about in 2021.