

**Fountain Creek Watershed, Flood Control and Greenway District
Citizens Advisory Group**

**Meeting Minutes
September 11, 2020**

The meeting was held online via Zoom

- 1. Call to Order, Establish Quorum and Introductions.** The September 11, 2020 meeting of the Fountain Creek Watershed, Flood Control and Greenway District (FCWD) Citizens Advisory Group (CAG) was called to order by Mr. Ian Hartley, Vice Chair, at 9:31 a.m. A quorum was noted, with the following CAG members attending via Zoom.

Ian Hartley – Vice Chair

Mary Barber – Alternate Representative to the FCWD Governing Board and Web Manager

Annie Berlemann – TAC Representative to the CAG

Jack Wallick – Secretary

Nancy Bernard

Velma Campbell

Judith Rice-Jones

Jamie Valdez

David Woolley

CAG Members Not Present:

Irene Kornelly – Chair and CAG Representative to the FCWD Governing Board

Tom Ready

Also in Attendance:

Bill Banks, FCWD Executive Director

Krystal Brown, USGS

Alli Schuch, FCWD Outreach Coordinator

- 2. Approve Agenda of Meeting.**

Upon motion duly made, seconded and unanimously carried, the September 11, 2020 Agenda was approved.

- 3. Approve August 14, 2020 Minutes.**

Upon motion duly made, seconded and unanimously carried, the August 14, 2020 Minutes were approved.

4. Presentation: USGS Precipitation and Stream Gauges along Fountain Creek, Krystal Brown, Supervisory Hydrologist, USGS Colorado Water Science Center, Pueblo.

Ms. Brown's presentation gave an overview of the technologies and types of gauges used in real time monitoring of precipitation and stream flow on Fountain Creek and its tributaries.

- There are 340 real time stream gauge and 105 precipitation gauge locations throughout Colorado. The Fountain Creek drainage has more gauges than other parts of the state and is one of the most heavily gauged stream basins in the U.S.
- Currently there are 37 active stream gauges and 35 active precipitation gauges in the Fountain Creek watershed. This is a unique watershed due to a number of factors.
 - The drainage sees localized high intensity rainfall making good spatial coverage important.
 - Additional factors are the steep mountain gradients in the western portion of the watershed, urbanization, and exposure of most areas to potential flash flooding.
 - Flash flooding is common, and events can occur and be over within 15 minutes. Flooding can be exacerbated by wildfire and other soil disrupting conditions.
 - The monitoring network is used by water resource managers, emergency response agencies, water rights holders, public safety officials, the National Weather Service, and many others.
- Precipitation gauges record rainfall every five minutes, with that data transmitted hourly to a satellite and then to the web.
 - As circumstances warrant, data can be transmitted more often, up to every five minutes.
 - Alerts can be sent to subscribing cell phones.
 - A USGS interactive precipitation map can be found at:
<https://co.water.usgs.gov/infodata/COPrecip/index.html>.
- Precipitation gauges employ a device known as a tipping bucket. Precipitation is captured in a vessel of known volume which tips over and empties when full. The number of tips per time period is recorded, transmitted, and incorporated into the public database of sensors given above. Precipitation gauges are visited regularly and calibrated.
- Streamflow gauges transmit data to the web every hour; although due to the importance of the data some sites are monitored every five minutes; some every fifteen minutes.
 - If conditions are changing rapidly, the system is updated more frequently.
 - Users can go to the USGS Mapper for data captured by the system, at:
<https://maps.waterdata.usgs.gov/mapper/index.html>
- Stream gauges measure the gauge height or stage, which is the height of water above an established altitude.
 - A staff gauge (yardstick on a rock) is a non recording gauge used as the reference for an electronic gauge that records and transmit streamflow data.
 - Recording and transmitting stream gauges use in-stream pressure transducers or non contact radar sensors above the surface to measure the water's height. They are regularly calibrated against staff gauges, which are in turn calibrated by survey using known reference points.

- To report discharge, i.e., cubic feet per second of flow –CFS, the equation is simply that Discharge equals Velocity times Cross Sectional Area. However, the cross section of the channel is irregular and constantly changing, so USGS takes numerous measurements and uses curve-fitting to compute a best-fit relationship between gauge height and stream flow for each gauge.
- Ms. Brown offered an example of the real-time network providing alerts during times of danger. On July 23, 2018 a highly localized and extremely intense thunderstorm occurred over the Waldo Canyon burn scar, upstream from Manitou Springs.
 - Several precipitation gauges in the area captured the event in real-time and transmitted information to the web indicating that a high flow event would soon follow.
 - There was a lag of about 25 minutes from that rain event over Waldo Canyon to when the streamflow at the 33rd Street gauge went from base levels of about 20 CFS to over 1,600 CFS in a span of 10 to 15 minutes.
- Another example was June 16, 2015 when a rain event in the Southern Colorado Springs and the Security-Widefield area followed a very wet May in which soils were already close to saturation. A set of streamflow gauges in the lower Fountain Creek recorded flow greater than 20,000 CFS.
 - Data showed how three inches of rain in less than two hours preceded a 20,000 CFS flow at Piñon by 11 hours, and then hit Fountain Creek at Pueblo a couple hours later.
 - Because several important tributaries to the Arkansas, including Fountain Creek and the St. Charles River, don't have flood control reservoirs in place, having information like this allowed timing of Pueblo Reservoir releases to avoid downstream Arkansas River flooding in this instance.
- Numerous types of automated alerts are available to agencies and organizations needing streamflow and precipitation information, and she outlined how to subscribe from the USGS Mapper site. Another tool is Streamstats (<https://streamstats.usgs.gov>) which gives long term data on precipitation and flow for user specified locations. The tool also permits modeling of flows for a given precipitation event at a given location. Other tools are available as well.
- In response to a question, she stated that flood stage in this creek involves a lot of debris, which damages equipment, and rapid changes to channel configuration. Calibrations have to be performed more often in order to have confidence in the data being generated.
- Ms. Brown's presentation is on the District's website, and she is available for questions at kbrown@usgs.gov.

5. Reports.

a. Governing Board Meeting. Bill Banks reported on the August 28, 2020 Governing Board meeting.

- In response to a guest's question, it was clarified that the Southmoor Drive project is on hold until the City of Fountain is able to secure additional funding. The city is reportedly working diligently toward that end. Another question had to do with the construction work near the old Apple complex off I-25. Bank stabilization and re-channelization work there is being done by Tezak under El Paso County's direction.
- On August 27th the kick off meeting for the 13th Street Project was held with Matrix Design

and Tezak Construction. They'll begin working in the creek first or second week of October.

- Task Order 2020-3 was passed for Matrix Design to provide support from for the 2021 Capital Improvement Plan (CIP), at the level of \$24,616.
- Resolution 2020-1 was passed, requesting funding from our participating governments. Those letters will be going out around mid September, a bit late but in time for September draft budgets.

b. TAC Meeting. Annie Berlemann reported on the September TAC meeting.

- Pueblo Water attended the September TAC meeting to discuss their partially exposed mains upstream from the Highway 47 Bridge. The erosion likely happened in the 2013 and 2015 floods. They supply Walking Stick and the CSU Pueblo campus. Pueblo Water is hoping to partner with us to remedy the situation, and will give presentations to the Board and MMF.
- Bill commented that he had inspected the area with Matrix and Pueblo city personnel the day previous. He reported that the 30 inch main is still covered, but the 16 inch main is exposed. He says that we have opportunity and a strategy coming together there.
- Annie also reported that some standards are being updated in CDPHE's Water Quality Control Commission Regulation 31.

c. Outreach Group. Alli Schuch reported on Outreach and Creek Week activities.

- The Virtual 5K has 40 people already signed up.
- There are 28 public events and 25 private ones, with a total of about 1,200 volunteers. Alli said her hopes for this year had already been exceeded.
- There is a public clean up of Runyon Park in Pueblo September 26th. The event is being facilitated by Pueblo Stormwater. They also supported Creek Week at the \$2,000 level.
- Alli reported she had been contacted by a representative of Pueblo's Marketing Department, and they want to partner on various watershed events. She's encouraged by these opportunities for the District and the City of Pueblo to work together.
- There is a Liquid Lecture on Monday, October 19 at 5:00 p.m. featuring pollinators. The Manitou Pollinator Project will be presented, and there will be a guest from the Denver Butterfly pavilion. Another Liquid Lecture is on tap, with details later.
- December 3rd will be a national, virtual film festival entitled "Wild and Scenic." Alli needs team members from the CAG to help pull off this outreach event. Please contact her. Ian, Velma, and Nancy indicated a willingness to help.
- Alli's August-September and September-October Watershed Outreach Coordinator Reports are appended to these Minutes.

d. Monetary Mitigation Fund Advisory Committee. Bill reported that the MMF committee is working on the 2021 CIP.

- A big issue is the Southmoor Drive project, with the hope Fountain can find money.
- The Pueblo water mains are another possible project for 2021. Pueblo and their engineer, Wright Water Engineers, are studying the matter.
- Other citizens have suggested projects, and so Bill is please to see interest in our work expanding.
- Asked about the District's finances, Bill reported that we have about \$2.6 Million from the 2020 budget that has not been spent. If Pueblo can act quickly enough, he thought we could direct some of those funds to that project year.

e. Website and Facebook Page. Mary Barber had nothing to report, but asked that users report problems or suggestions.

6. Current Business.

- Bill reported that we have no active projects at this time. He expects the 13th Street project to begin in early October.
- The Tour of Projects has changed to October 16. Details will be released, but it looks like it will be a driving tour with printed media. Ian thought he might have a portable FM transmitter that would allow the tour leader to broadcast to other cars on the tour.

7. New Business.

- Annie mentioned that several regional utility departments are testing raw sewage for CoVid twice weekly to watch for increases signaling an increase in infections. Indications are that hints of an outbreak can be detected three to five days before symptoms appear in the monitored population.
- Mary said that the Colorado Springs Independent is reporting the EPA and Colorado Springs might be near a settlement in the lawsuit over stormwater violations.

8. Public Comment. There were no public comments.

9. Next Meeting. The next meeting will be held October 9, 2020, virtually via Zoom. Members will be notified prior to the next meeting, or may use the link, faithfully updated by Mary, on the web site calendar.

10. Adjourn.

Upon motion duly made, seconded and unanimously carried, the meeting adjourned at 10:42 a.m.

Appendix

AUGUST - SEPTEMBER 2020 WATERSHED OUTREACH COORDINATOR REPORT

8/15 Attended Shooks Run Agroforestry tour, opened 5K registration
8/17 Pueblo Creek Week meeting, PR meeting, call with Brandon from Manitou, Brewshed work
8/18 5K marketing, spoke at North Carolina water educator's online meeting
8/19 District MMF meeting, CW marketing, CW meeting prep
8/20 CO Water Education Symposium – online, CW meeting
8/21 5K marketing, CW form development
8/22 CW website updates, marketing
8/24 Set up proclamations, CW marketing
8/25 5K marketing, CW budget, materials ordering, 5K race packet prep
8/26 Finalized Brewshed map, call with Melody from Manitou Pollinators, CW registration update, delivered Brewshed maps to breweries
8/27 Pueblo Fishing Derby prep, Wild and Scenic call, CW Crew Leader training updates to ppt and video, CW marketing call with CSU, set up ads in papers
8/28 CW sponsorship meeting, pet waste bag prep, Izzy follow ups, CW training updates, District Board meeting

9/1 PR meeting, CW registrations, lunch with Bill, Generation Wild program prep, Green Mtn Falls proclamation reading
9/2 Organized CW supplies/prep for pickups, District TAC meeting, call with Scott Abbott from City Parks, PR work, CW registrations
9/3 CW marketing to schools, WordPress training, met with Irene, Brewshed deliveries, website updates, registrations
9/4 Social media updates, PR work, Brewshed deliveries, CW registrations
9/5 CW website and event updates, 5K marketing, sponsorship follow ups, Crew Leader communications
9/7 Meeting with Palmer Lake Park Commission, CW registrations, marketing, educational document updates, Brewshed deliveries
9/8 CW marketing, Fishing Derby coordination, CW registrations, Sondermann Park project updates – signage and coordination, 5K marketing
9/9 Website updates, proclamation coordination, EPC Parks Board proclamation reading, Wild and Scenic coordination, sponsorship updates, Liquid Lecture coordination
9/10 CS Parks Board proclamation reading, material purchases/pickups, call with John Rodriguez from City of Pueblo, finalize educational document, CW registrations, Town of Palmer Lake proclamation reading
9/11 District CAG meeting, CW registrations, Sondermann project, Wild and Scenic planning, Litter Letter planning meeting, crew leader communications
9/14 CW registrations, sponsorship updates, Litter Letter coordination, PR meeting, marketing updates, call with Kelly from Waste Management, recorded Podcast, set up for material pick up events
9/15 Fishing Derby coordination, Crew Leader material pickup, CW registrations, PR work, sponsor updates, Manitou proclamation reading
9/16 CW registrations, MMF meeting, website updates, social media posts, Liquid Lecture coordination

SEPTEMBER-OCTOBER 2020 WATERSHED OUTREACH COORDINATOR REPORT

9/17 Updated Crew Leader and Volunteer surveys, call with Kelly from Waste Management about sponsorship, CW material shopping, CW material pickup event, Woodland Park proclamation
9/18 Pueblo CW meeting, Wild and Scenic planning, meeting with Irene, Sondermann Park sign installation
9/19 CW material pick up
9/21 CW registration updates, Costco donation follow up, Litter Letter planning, CW marketing, Wild and Scenic planning, Monument proclamation
9/22 El Paso County proclamation, City of CS proclamation, social media updates, Wild and Scenic planning, Crew Leader virtual training
9/23 Lower Ark Basin Workshop, KRDO interview prep, Greenway meeting
9/24 KRDO interview, Lowes donation pickup, CW material pickup event, social media updates, Local Relic beer event
9/25 FCWD Board meeting, Liquid Lecture promo, CW registrations
9/28 CW registrations, sponsorship updates, Stormwater Soup lesson for Manitou Elementary 2nd graders, CW marketing

9/29 CW registrations, Manitou Elementary storm drain chalk art viewing, fishing derby prep, Wild and Scenic call with Allison
9/30 Sondermann prep, Storybook brewing fundraiser
10/1 Sondermann project, Kum & Go meeting, Stormwater Soup lesson for Manitou 2nd graders, derby prep, meet with Irene, CW registrations and social media, Crew visits
10/2 Pueblo Fishing Derby, Litter Letter dedication, CW registrations and communication catch up
10/3 Sondermann Project, Crew visits
10/4 Crew visits, CC student work coordination
10/5 CW wrap up, Liquid Lecture promo, sponsorship summary