

The Open Channel

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2014 ANNUAL CONFERENCE RECAP

By Shea Thomas, CASFM Vice Chair



Can you guess the year? NASA launches a new spacecraft; the Palestinians and Israelis are considering peace talks; students are protesting; Taylor Swift exists; plans are being made for a CASFM conference in Vail.

Need more help? I look like this:



That's right; I'm talking about 1989, which happens to be the name of Taylor Swift's new album. Though it was significant for her because that's the year she

was born. Feeling old yet? It's amazing how life circles around on itself considering all those headlines from 25 years ago can be found in today's papers, and apparently the life of CASFM is no different. Our organization was created in 1989 and held its first conference at the Vail Westin. This year we marked our 25th anniversary by having our annual conference at the Vail Cascade, formerly known as the Vail Westin. (Cue the Circle of Life music...)

Workshops

The conference kicked off with a couple workshops on Tuesday afternoon. There was pretty high attendance for both workshops so I think the idea of getting up to the conference early to attend these great training sessions is finally catching fire. The Green Infrastructure and Low Impact Development Planning, Design and Evaluation workshop was led by Chris Olson of the Colorado Stormwater Center and David Delagarza with RESPEC led the GIS Tools for Hydrology workshop. On Friday morning the Basic Bridge Hydraulics using HEC-RAS workshop was led by Sam Crampton from Dewberry.

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Featured Speakers

Brian Bledsoe with Colorado State University gave a great keynote presentation on the subject of Resilient and Rambunctious Floodplains. I'll admit, I was never a great student and I always took horrible notes, so I won't even attempt to summarize some of the graduate course level material Brian presented. However I was able to retain some great takeaways for our industry to ponder. For instance, we tend to focus on our task of flood conveyance and water quality when we're dealing with floodplains, but some of the equally important benefits of safe and accessible floodplains include biodiversity, lower urban heat islands, human happiness and health. Those are all things the public and elected officials can understand better than "conveyance zones" and "risk factors" and "percent chance". While we engineers know we achieve numerous benefits by preserving the 100-year floodplain, we don't always think to use those as selling points for getting lay-peoples to buy into the vision. I also liked Brian's challenge to our industry: Silicon Valley turns failures into adaptive improvements—can floodplain managers do the same? I know we've all had failures in our designs or policies, but do we modify our subsequent designs adequately to ensure prevention of recurring failure? After a severe storm event, do we adapt our policies and regulations to prevent repeat damages and risks? I think our industry does a de-

cent job of adapting when needed, but certainly not at the pace of Silicon Valley.

Barry Fagan with the Alabama Department of Transportation and Jesse Poore with FHU in Nebraska were our featured speakers on Thursday morning and presented Environmental Leadership through Collaboration—It's Not My Way or the Highway. The purpose of their presentation was to teach us how to be better leaders through collaboration in order to more effectively achieve our common goals. Engineers trend toward isolationism—I'm not being accusatory, I'm one of the worst offenders. But we need to understand that we can reach out to others instead of thinking we have to find all the solutions on our own. Collaboration forces change; it forces empathy; and it has the potential to change us and our organizations. "We are stronger together as professionals than we are by ourselves"—Poore/Fagan. Their presentation was one great bumper sticker after another: "You can tell the difference between a leader and a complainer by whatever comes after 'yeah, but...'", "Leadership = knowing the problem and influencing people to take action to resolve it"; "3 things that interfere with leadership = confusion at management, tradition and misplaced focus". There wasn't anything earth shattering in their presentation, but it's all information we need to hear over and over, because implementation is the hard part.

Penn Gildersleeve from ICON kicked off the conference with an unusual presentation titled It's One Year Later: Do You Know Where Your Psyche Is? In typical engineer fashion, he converted the results of a survey he had sent out to the general membership before the conference into a series of charts and graphs and displayed them in a Powerpoint. And in typical bad student fashion, I forgot to take notes. Which is too bad because it was a fascinating look into the minds of a large group of professionals in our industry and understanding how the flood last year affected them. There were some great statistics presented that showed disasters create different responses in everyone. It was a great start to the conference—nicely done, Penn!



84.8% of CASFM members agree Colorado flood damage could have been prevented by better decisions before the flood



Technical Presentations

Most of the feedback I received after the conference was praise for the quality of the technical presentations on Wednesday and Thursday afternoons (well, that and the food). Everyone has really been stepping up their game when preparing these presentations and it shows. We had six great presentations each in annually recurring tracks: Water Quality, Emergency Preparedness, Stream Restoration, Technical Modeling and General Interest. Unique this year was a track dedicated entirely to the 2013 flooding that affected so much of Colorado. It was a great way to showcase projects that have arisen due to the flooding, reconsider floodplain management policies and procedures, and to remember that flood recovery work is ultimately about helping people.



Award Winner

Congratulations to the City of Loveland, Ayres Associates and Tetra Tech for winning the 2014 CASFM Project Award this year. They pulled off an “epic engineering feat on the fly saving Loveland’s water supply”...and put together a fantastic presentation showing how they did it. With two of three water transmission lines destroyed, the team was able to implement a plan to save the remaining line that was devised in less than 30 minutes and constructed in 72 hours. Their project verifies a recurring theme we’ve been hearing at CASFM lately: relationship-building prior to a crisis is essential.



Entertainment

The entertainment this year (other than Stuart, of course) was a team trivia night hosted by Geeks Who Drink. No, they did not change their name for the night just to accommodate us. While I think most people who stuck around after the dinner to play trivia enjoyed the evening, it did generate many comments in the post-conference survey because the host was so slow. So perhaps we’ll have another trivia competition in the future, but we will be prepared to provide help to the host for a group our size. Congrats to the brainiacs on the winning team, shown here.



Field Trips

The Tenmile Creek Restoration Project near the Copper Mountain ski area offered a site visit of a segment of stream that had been heavily impacted by historic mining upstream which for decades caused a major increase in sediment loading from tailing pond dam failures. Justin Anderson from the Forest Service led the tour which showed how natural channel design was used to mimic the natural form and function within the stream channel and to recreate the morphology and site characteristics prior to the mining. Thanks to Brian Murphy for coordinating that successful field trip.

Rich Ommert once again led a group of bikers on a stream-side tour, this time along Gore Creek. The trip gave the group an opportunity to chat about improvements to the watershed due to sedimentation and the difficulties with maintaining stream health while providing a safe and open corridor for the community. As our keynote speaker reported, studies show that riding bikes makes you a happier person, so be sure and sign up for the tour at next year's conference!

Golf Tournament

There has been a golf tournament associated with the CASFM conference since the very first conference. This year it was held at the beautiful (and difficult) EagleVail Golf Club. Though CASFM is the same age as Taylor Swift, we clearly don't have the same level of name recognition (what's a Cassum??). I have good news and bad news to report from the tournament. The good news: for the third year in a row the Thomas-Thomas-Kroeger-DeGroot foursome turned in the lowest score. The bad news: for the second year in a row they lost the tiebreaker in the scorecard playoff. Congrats to the team of Mark Glidden, Brad Anderson, Doug Williams and Brian Smith for the victory this year and for providing fun, entertaining, honest competition to all the other contestants.

Sponsors

Thanks again to all of our conference sponsors! We could not hold this conference without you (well, we could but it would be awful and no one would attend) so pencil in September 15-18 for next year's conference in Vail.



Conference surveys

Every year we send out a survey following the conference to get feedback from attendees on all aspects of the event. And every year the results of the survey are discussed at the general membership meeting in November. This year I thought I'd share them with a larger audience in this newsletter—mostly because there were good marks all around! The table shows a summary of the responses.

We also sent out a survey about locations for the 2016 conference. It was a mixed bag of results, but the Board will use the information to reach out to venues in the preferred areas. There were a lot of comments that closer to Denver is better, yet Crested Butte had the second most votes. Here are the results, for what they're worth. The average is based on a ranking from 1-6 with 6 being the best. Estes Park and Steamboat had the greatest love-hate relationship.

Conference Location Feedback		
Location	Average	Standard Deviation
Breckenridge	3.81	1.34
Crested Butte	3.76	1.40
Estes Park	3.67	1.96
Beaver Creek	3.67	1.40
Steamboat Springs	3.38	1.90
Snowmass	3.13	1.25

2014 CASFM Conference Feedback							
Item	# of Responses	Average	5's	4's	3's	2's	1's
Overall Rating	125	4.34	54	59	12	0	0
Registration	125	4.53	76	43	2	4	0
Booklet	130	4.62	88	34	8	0	0
Hotel Facilities	124	4.35	58	51	15	0	0
Conference Facilities	128	4.10	43	58	24	3	0
Food & Beverage	130	3.98	39	57	28	5	1
Vendors	125	4.05	32	69	22	2	0
CFM Review Class	12	4.33	6	4	2	0	0
GIS Tools Workshop	21	3.62	3	10	6	1	1
LID Workshop	18	3.78	4	7	6	1	0
Wednesday Breakfast	99	3.16	15	23	36	13	12
Stress Presentation	106	3.59	17	45	31	10	3
Keynote Bledsoe	112	3.66	21	50	30	4	7
Wednesday Lunch	121	3.90	37	47	28	6	3
Wednesday Technical Sessions	120	4.33	52	58	8	1	1
Thursday Breakfast	109	3.99	34	49	19	5	2
Awards Presentations	114	4.04	31	59	22	2	0
Featured Speaker Fagan/Poore	97	3.73	22	39	26	8	2
Thursday Lunch	111	4.04	32	57	18	2	2
Thursday Technical Sessions	121	4.34	54	54	13	0	0
Association Dinner	105	4.23	51	34	15	3	2
Trivia Night	73	3.25	11	19	28	7	8
Friday Breakfast	83	3.86	26	27	24	4	2
HEC-RAS Workshop	10	4.30	5	3	2	0	0
Te7nmile Field Trip	26	4.27	10	13	3	0	0
Mountain Bike Tour	7	4.43	4	2	1	0	0
Golf Tournament	14	4.64	10	3	1	0	0



Final Thoughts

I want to thank Brian Varrella for being the designated CASFM tweeter (twitterer? twit? tweetist?) during the conference. If you don't follow @CasfmOrg on Twitter—and at least 603 of you do not—then you won't notice that I used a lot of information from his tweets to write this article. I had some serious writer's block when I started (because a Taylor Swift song was stuck in my head) and I can honestly say that if it weren't for Twitter, this article would not exist. Thanks Brian!

Finally, I thought I'd take this opportunity to let you

know that I am relinquishing my conference program duties, so this will be my last conference recap article. I've really enjoyed working with Robert Krehbiel and the rest of the conference committee over the years and appreciate everyone's patience as we made changes to the format and brochure. Sarah Houghland with Baker will be stepping up to take my place and I'm sure she will do a great job and enjoy the whole process as much as I did. But I'll look forward to spending future conferences working less and socializing more!

A Word From the Chair



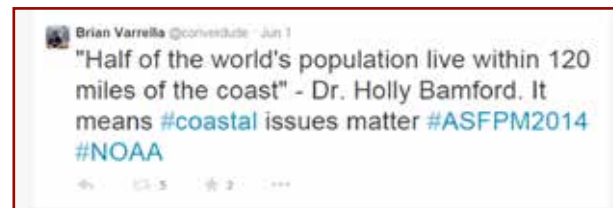
Brian Varrella, CASFM Chair

Our Vice Chair and Newsletter Editor, Shea Thomas, always does a fantastic job of giving CASFM leadership plenty of time to plan and prepare an article for our regular publication. Despite Shea's excellent time management, forewarning and regular reminders, I find myself at the 11th hour attempting eloquence, or at least a quip the membership might be mildly interested in reading. Perhaps if you read no further than the first paragraph you will leave with this singular thought in your mind;

“However beautiful the strategy, you should occasionally look at the results.” —Sir Winston Churchill

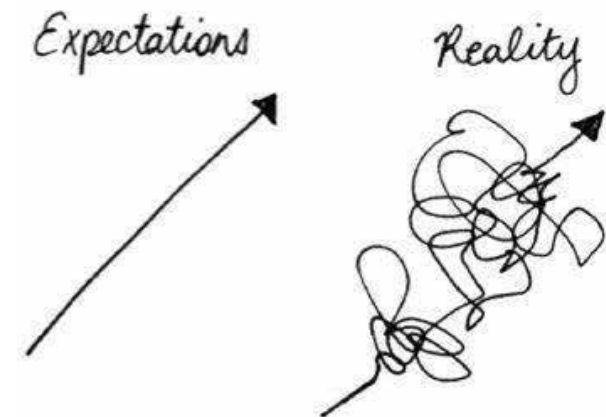
Here is a result; Colorado now has 427 Certified Floodplain Managers (CFMs)! That ranks us 4th in the nation for total number of practicing CFMs by state!! We just passed North Carolina by 13 people. And now for a bit of CFM smack-talk; ouch, NC, that's gotta sting! Illinois, our eye is on you next! We will see how that strategy plays out...

Here is another result; use of Twitter pays for ASFPM Conference registration in 2015! That's right, CASFM, I actually found a fiscal bottom-line for tweeting at the 2014 Conference in Seattle! Technically I was 4th in the tweet-a-thon, but the previous three winners could not accept gratuity, and since your 2015 budget reimburses most of my participation at the Conference anyway, we will be giving away the free registration to a worthy CASFM member hoping to attend the 2015 event in Atlanta, Georgia! A contest and application process will be created early in 2015 to determine who will receive this registration credit, worth \$545 (or whatever the 2015 rate might be). Here is a look at the winning tweet;



Small cadres of CASFM members recall the regional flooding of the 1960's in the Colorado urban corridor. Widely recognized as the worst floods in our state's history, the event triggered change in the decade that has far reaching outcomes today, including; the founding of the Urban Drainage and Flood Control District (UDFCD), the establishment of the National Flood Insurance Program (NFIP), and the development of a national framework that evolved into modern floodplain management. At the same

time we were looking at environmental policy that eventually laid the foundation for stormwater management. A strategy to manage these risks was formed and set in motion, and though it may not have been considered “beautiful” at the time, we are still looking continuously at the results. Honestly, I feel we could sum up the results using a Jessica Hagy sketch (@jessicahagy, 2014):



We as a CASFM body dedicated much of 2014 to responding to and recovering from a new regional disaster in many of the same parts of Colorado from September 2013, and this time there were 817 members participating in the experience from all corners of our state. You may look back to the previous Newsletters from Winter 2014 and Winter 2015, as prepared by Shea and Emmett Jordan, to get the detail on what we were able to achieve and how those achievements evolved into new practices. For this issue, I am excited to share some updates without repeating our history.

I am pleased to acknowledge the achievements of some of our members following the 2013 flood. Both Chris Sturm and Kevin Houck of the Colorado Water Conservation Board (CWCB) were recognized by Governor Hickenlooper for their contributions to watershed protection and restoration, and to providing innovative solutions to complex challenges created in the wake of 2013 Front Range flooding. The Governor declared October 7, 2014 as Kevin Houck and Chris Sturm Day in Colorado! David Hollingsworth of the City of Longmont was also recognized for post-flood service by The American Public Works Association (APWA) as the Drainage & Flood Control Professional Manager of the Year. The achievements of these three long-time CASFM members illustrate a new awareness of stormwater, watershed and floodplain management in a complex world of often competing interests. This is to say someone finally noticed the results of their hard work! I wish I had all the detail of all the contributions of our 817 members, but for now I am pleased to recognize Chris, Kevin and David for their achievements and success, and for their contributions to CASFM!

In 2010, Dr. Dennis Mileti of the University of Colorado contributed a document to the Gilbert F. White National Flood Policy Forum and stated; "Perceptions of 'being safe' change to perceptions of 'being at risk' immediately after a disaster." He continues in the 2010 document to state that it only takes 2 years after a disaster for public perception of risk to return to pre-disaster levels. Returning to Winston Churchill's charge of looking at the results, the Colorado Recovery Office has organized the Colorado Resiliency Initiative to create a framework to make Colorado safer and stronger against future hazards, both natural and man-made. The vision is focused on healthy people, vibrant economies, durable systems and abundant natural resources that support Colorado's continued growth, recreation, beauty and quality of life. CASFM members are participating in this statewide effort, which will not only define resilient practices for our future, but will also competitively seek a portion of \$1 billion in funding to kick-start



The results of a "beautiful strategy" for managing our natural watershed assets were tested by four major wildfires and a regional flood between 2010 and 2013.

implementation! Has anyone heard of Erosion Zones? Foreshadowing Shea's next Newsletter...

The results of a "beautiful strategy" for managing our natural watershed assets were tested by four major wildfires and a regional flood between 2010 and 2013. The Colorado Department of Homeland Security & Emergency Management (DHSEM) re-mobilized the Flood Technical Assistance

Partnership (Flood TAP) so emergency management professionals could start sharing resources and combine efforts in response to natural disasters in Colorado. The Partnership includes multiple state agencies, federal partners, local communities, and CASFM. I am pleased to report the relationships formed in the Flood TAP allowed Colorado not only to respond to 2013 flooding more directly and swiftly in response, but also to share and trade resources more gracefully during recovery. The CASFM Board of Directors unanimously formed the Flood TAP Committee, led by member Julie Baxter, to lead the Flood TAP through 2015. To learn more about CASFM's newest committee, click on the Committees link on our website.

A strategy must not only be analyzed, but at some point be fully executed. The Watershed Coalitions along the Front Range are collaborating under CWCB leadership (thank you Chris Sturm) to share resources and develop executable visions across a wide cross section of stakeholders. Our Outreach and Training Committee Chairs, with help from members in their Committee, were able to donate \$5,000 of disaster relief funds from CASFM to 3 watershed teams. Craig Jacobson and Alan Turner have provided an excellent summary for you in their article.

I feel it imperative to recognize a few of our CASFM associates who recently left leadership positions in our organization. Huge thanks goes out to these individuals who dedicated so much time, sweat and innovative energy to our organization in 2013/14:

- » **Brian Murphy**, outgoing Treasurer (CDM Smith)—moved CASFM accounts to Quickbooks and worked with our accountant to align the budget with the new system, and helped CASFM stay profitable 2 years in a row
- » **Kevin Gingery**, outgoing Membership Committee Chair (City of Loveland)—maintained the database of CASFM members with Barb Meier, collected fees, and worked closely with our web master to keep our contact info updated

- » **Barb Meier**—worked closely with Kevin G. and will be missed for her behind-the-scenes labors over more than 1 decade
- » **Roberto Becerril**, outgoing SE Region Rep (City of Lamar)—Roberto recently accepted a new position in Florida but will be missed in southeast Colorado
- » **Rick Dorris**, outgoing NW Region Rep (City of Grand Junction)—volunteered to fill a mid-season vacancy and still works alongside Betsy Suerth to help keep the NW Region engaged
- » **Keith Curtis**, outgoing and incoming SE Region Rep (Pikes Peak RBD)—Keith graciously volunteered to fill in for Roberto Becerril in his absence, and was voted in by the Board as SE Region Rep again (also reached out to Lamar to help them following Roberto's transition)

It was only 6 months ago that I noted CASFM members are on the right course to meet our purpose and achieve our goals as an organization. I encouraged all of you to continue to apply zeal, passion and knowledge to make Colorado better than the state we knew in September of 2013, and you have answered that call by performing above all reasonable expectations. I am never disappointed by the results of our executed strategies—thank you, CASFM members.

Finally, I must thank Shea Thomas and Emmett Jordan again for compiling and creating this Newsletter. The effort that goes into the Newsletter is never fully known to the membership at large, but I can assure you we would not be reading this without their many hours of collaboration and toil.

May you all have a safe, prosperous, and wonderful New Year, and may you all get out and play in the snow!

Brian Varrella
CASFM Chair



SPECIAL NEWS!



October 7, 2014 was declared **Kevin Houck and Chris Sturm Day** in Colorado by Governor Hickenlooper!

October 7, 2014 was declared Kevin Houck and Chris Sturm Day in Colorado by Governor Hickenlooper! These CASFM members have worked tirelessly before, during and since the September 2013 flood to keep our state healthy, safe and environmentally pristine. This photo of

the document from the Governor's desk outlines the details of their commitment and results of their efforts.

Thanks Kevin and Chris for all your hard work at the Colorado Water Conservation Board and through CASFM and for embodying this expertise in your daily work.

Membership Update

The switch to using the online service Wild Apricot for our membership management officially began on December 8, 2014. While there have been a couple of odd glitches with individuals registering, the process has been much smoother than anticipated. Here are some interesting tidbits from the first two weeks it was up and running:

- » First person to follow the rules and register: Heiko Mues from Alpine Engineering
- » First bundle created: City of Arvada by Chris Sveum
- » First to lodge a complaint: John Burke with the City of Westminster (anyone surprised?)
- » First to completely ignore the instructions: Rick Willard, CDOT (though many others followed)
- » Most emails exchanged to debug problem: Atkins Global
- » My favorite email from Stuart: "Dangit Dangit Dangit!" (sent 18 hr 59 min after website went live)

- » Number of members signed up in first 10 days: 381
- » First person to change jobs and mess up changing their contact information: Brian Varrella



Thanks for being patient during this transition, we are hoping this will be a great tool to help us better facilitate membership applications and renewals and to create a database of information about our members. We will begin using Wild Apricot to send out email blasts by the end of the month, so look for emails from CASFM@wildapricot.org in the future.



Outreach and Training Committee

By Craig Jacobson and Alan Turner

It has been another exciting year for the CASFM Outreach and Training Committee, as we continue to recover from the 2013 floods. Annually, CASFM provides a charitable donation to an external organization in need of support. This donation has historically been made outside of Colorado, after floods or other natural disasters. In 2013, Colorado experienced our own disaster; therefore money from CASFM's charitable fund was pooled in 2013 and 2014 and recently distributed to local watershed coalitions leading the flood recovery efforts. Selections for CASFM's funds were made through a small grant application process and distributed as follows:

- » \$2,000 to the Little Thompson Watershed Coalition;
- » \$2,000 to the Coal Creek Watershed Coalition;
- » \$1,000 to the Big Thompson River Restoration Coalition;

We look forward to seeing how CASFM's funds can be leveraged further help with restoration and recovery. Thank you to our sub-committee (Monica Bortolini, Molly Trujillo, Penn Gildersleeve, and Chris Carlson) for their hard work with this charitable gift donation.

ASFPM held their National Mitigation and FloodProofing Workshop in Broomfield, last October. CASFM's Outreach Committee provided support by helping to arrange the field trip tour. Thanks again to Monica Bortolini for a job well done, and assembling a great tour of the flood recovery areas and Front Range floodproofing locations. CASFM held quarterly Lunch and Learns in January, April and July. This year's topics consisted of the following:

- » Derek Rapp of Peak Stormwater Engineering presented the use of new features in CUHP;



Committee Co-chair, Alan Turner and CASFM Member, Molly Trujillo presents a check to Chris Garre, Coal Creek Watershed Coalition

- » Ken MacKenzie and Myles Gardner of the UDFCD presented the UD-FSD, a new tool to size and design full spectrum detention basins;
- » Dave Skoudas of the UDFCD presented tips and suggestions on giving effective presentations.
- » CASFM will be hosting an upcoming training course on Stormwater Chemistry: Principals and Applications to Management and Treatment. The course will be held at the UDFCD between April 28th and 29th, so mark your calendars.

CASFM's Outreach and Training Committee always has new and exciting opportunities to support the organization. Please contact the co-chairs directly with interest in joining (cjacobson@iconeng.com, Alan.Turner@CH2M.com).

Scholarship Committee

By Morgan Lynch

Hello from your scholarship committee! In 2014 we awarded two scholarships, the CASFM—Ben Urbonas Scholarship and the CASFM Family Scholarship. The scholarships range from \$2,500 to \$4,000 and are awarded to the selected student for the following school year. This year we had a record number of applicants from all colleges along the Front Range. Thank you to all the members who helped spread the word and made this year's decision even more difficult.

In 2014 we had a total of 19 applications for the 2 scholarships. Each scholarship was awarded based on both application essay and candidate interview. We were excited to award the scholarships to the following three students:

- » CASFM—Ben Urbonas Scholarship—Tyler Rosburg, Masters Student at Colorado State University
- » CASFM Family Scholarship—Colter Ritsch, Engineering Student at the University of Colorado—Boulder.

I wanted to give a special thanks to our Scholarship Committee. Each of the six members generously donate their time each year to review applications and interview each candidate, without them the continued success of this CASFM initiative would be difficult. In addition to member's time, the CASFM Family Scholarship is made possible by the generosity of our members. Please remember that CASFM is officially recognized as a 501(c)(3) with the IRS and all donations to the CASFM Family Scholarship Fund are tax free. If you have any interest in donating to the CASFM Family Scholarship please contact me or Brad Bettag, our current Treasurer.

To volunteer with the Scholarship Committee, or to receive information on the scholarships offered by CASFM, please contact me at morgan.lynch@ch2m.com.

Information about each recipient can be found on the scholarship page on the CASFM website.

CRS Committee

By Joanna Czarnecka

Try Googling the word “CRS” some time. The list of results is endless and many have nothing to do with storm-water. To the floodplain management population it is most commonly known as the acronym for the Community Rating System (CRS).

The CRS is a voluntary incentive program created by FEMA for communities in the National Flood Insurance Program (NFIP) that offers discounts to flood insurance policy holders within the CRS community. The program is designed to credit communities that go above and beyond the minimum NFIP requirements as part of their own floodplain regulations and policies. The CRS program is a great example of “doing the right thing” when it comes to public safety, reducing flood damages, stream health, flood risk awareness, and sustainable floodplain management. Although implementation of the CRS program can be a very lengthy process requiring a significant time and resource commitment, many communities in Colorado have chosen to join the program to get credit for practicing sound floodplain management and reward their citizens with reduced floodplain insurance premiums.

Although the Urban Drainage and Flood Control District (UDFCD) is not a local government and cannot have its own CRS program, for years we have been advocates and supporters of the CRS programs for our local government entities. With the updated 2013 CRS accreditation system, we saw an increased need to improve our support to UDFCD CRS communities.

In 2010 French Wetmore, Insurance Services Office (ISO) Specialist and CRS guru, prepared a report State Support for the Community Rating System to summarize UDFCD’s efforts as they pertain to the CRS program. The document that transpired can be found at our website www.udfcd.org in the Recent News section. The report provides a great summary of CRS credits that a community can claim based on efforts that CWCB and UDFCD already implement in their programs. Since the new CRS



City of Boulder receives an award for improving its CRS Classification and CRS Activities. CASFM CRS Committee Meeting, April 2014.

update in 2013, we recognize a need to update the report. UDFCD is currently working with Mr. Wetmore to update this report based on 2013 CRS Coordinator Manual and we will share it once it becomes available in the Spring of 2015. This update will also include considerations for “uniform” CRS credits for UDFCD communities.

UDFCD recognizes that there is a need to improve the process that documentation is provided to CRS communities for UDFCD activities. CRS communities can recognize CRS credits for activities performed by UDFCD like the flood warning system, floodplain mapping, master planning studies, floodplain rules and regulations, public outreach, and stream maintenance activities. The year 2015 begins a more concerted effort to outline the potential credits that CRS communities may be able to claim for work that UDFCD performs on behalf of local governments. Our goal is to make the information more readily available in a format that is consistent with the needs of the CRS program, more transparent and easily available, as well as offer a more uni-

fied service to our customers. With the upcoming UDFCD website update, most of this information will be available in one place and downloadable from the CRS Resources tab. We hope that this will eliminate the daunting task of contacting multiple individuals at UDFCD to get what you need for backup information. The website interface will be more user-friendly and lessen some of the struggle of getting all the paperwork ready for your next cycle visit. Woohoo!

Another effort that was triggered by the 2013 CRS manual update is a formation of a Multi-Jurisdictional Program for Public Information (PPI) Committee. In 2014 there have been a number of interest meetings to discuss participation in this PPI for communities served by UDFCD. Starting in early 2015, the committee will be formalized and begin work on a plan for public outreach information efforts and additional CRS credit. The committee will be comprised of both members of the participating local governments and non-government stakeholders. UDFCD has hired Susan Hayes to facilitate the committee efforts in hope of expediting this monumental effort. Within the Greater Denver Metro area jurisdictional boundaries are blurred and it is our hope that this joint effort will reach more people and produce consistent results throughout the region. This will be the first Multi-Jurisdictional PPI Committee of its kind in the nation.

UDFCD also helped facilitate this year’s CASFM CRS Committee meetings and we wish to continue this support in the future. This helped us also to be more involved and keep updated on all the great things the committee does “behind the scenes”. The use of GoToMeeting, a remote meeting platform, has enabled us to broaden member involvement throughout Colorado even though the meeting is hosted in Denver.

UDFCD will continue to increase our involvement with the CRS program in the future as a service to the all of these hard working communities within our area who choose to be a part of something bigger and joined the CRS. Kudos to you!

Stormwater Quality Committee

By Holly Piza

On July 9, 2014 the Stormwater Quality Committee held its annual stormwater quality field trip. With 55 passengers on board the bus, we spent the day traveling to a variety of stormwater quality installations and hearing presentations from the design engineer, developer, or owner of the facility. The theme was “Tight Spaces” and the trip consisted of a number of good example BMPs, all constructed with limited land available. A number of installations by the Denver Housing Authority (DHA) were included. These sites included bioretention, tree grates with volume provided under the grate, and an infiltration basin. The Colorado Supreme Court building included some very creative

and attractive bioretention areas that fit successfully into the landscape of the site. We also viewed a sand filter at the University of Denver that wrapped around the perimeter of a parking structure and was screened by vegetation placed between the sand filter and the sidewalk. At the Denver Green school we viewed a rainwater harvesting system that uses cloud-based infrastructure to ensure that volume is available when a storm is forecasted. We ended the trip at the Highland Bridge Lofts. This is a regular stop on the tour. It’s interesting to see how this rain garden changes over the years. Join us next year on June 25th for next year’s trip.



Metro Region *By Drew Beck*

The Metro Region had a great 2014 filled with interesting and informative presentations while providing excellent networking with our fellow members. On October 9th Ed Thomas from the Natural Hazard Mitigation Association talked about how the recovery from wildfires, floods, and landslides of the past few years gives Colorado a unique opportunity to celebrate its success in preventing disaster damage; as well as an opportunity to be a national model for resilience in an era of climate uncertainty. We further discussed how the stormwater management and floodplain management community often operate separately from the climate adaptation community, as well as separately from the development community, the planning community, the emergency management community and the legal community. These separate silos all too often constrain the exchange of information and ideas necessary to craft best possible local solutions for reducing the growing toll of despair caused by improper and unsafe construction in areas

subject to foreseeable natural events. Ed also presented recent case law related to stormwater/floodplain management and introduced us to the term negative externality.

On November 6th we were joined by Dr. Ruth Alexander from Colorado State University. Dr. Alexander is the Principal Investigator for the 2013 Colorado Flood Oral History Project which is a joint project with the Colorado Water Conservation Board (CWCB) and Colorado State University's Public Land History Center. The project captured accounts of the historic 2013 flood event by conducting thirty oral histories, primarily with water professionals responsible for flood management and recovery. In keeping with the CWCB's mission, the project's researchers conducted interviews with the goal of eliciting insights and evidence about the 2013 flood that could be used to improve future flood preparation, mitigation, management, and recovery. The project's final report highlights key characteristics of the flood and its impacts, as well as critical lessons learned by water managers and other flood recovery

specialists as they confronted the unusual scope and severity of this event. In addition, Dr. Alexander discussed the value of training for flood events; the critical importance of communication and networking with professionals and the public in and beyond northern Colorado; the necessity of mutual aid agreements; the important role of new technologies and social media; trends in successful floodplain management; and gaps in flood recovery resources and services.

We are currently working on presentation topics for 2015. As always if you, or someone you know, would like to present a project or research work, or if you would like to see a social event held at a specific location, please contact me at drew_beck@matrixdesigngroup.com. Lastly, we saw a changing of the guard for the Metro Region representation as Danny Elsner completed his term and handed over responsibilities to myself. I would like to thank Danny for making my transition as smooth as possible and for his service to CASFM.

Northwest Region *By Betsy Suerth*

Floodplain managers across Western Colorado recently attended SGM's annual Fall Forum session devoted to complicated and controversial water topics. HOT Water Issues delved deep into the most debated conversations in the water resources field today, including a presentation on the Interstate Call and other threats to the Colorado River



Basin by John McClow, Colorado's Commissioner on the Upper Colorado River Commission. Attendees were presented the new proposed regulations for the EPA Clean Water Act proposed rule change, with commentary into what this means for local water users. Participants also heard what conservation looks like in terms of current trends in land-use planning from Harold Smethills, Sterling Ranch Development, and through the story of SB-23 and what this vetoed bill has inspired for future legislation.

The NW Region will likely team with SGM for future education sessions. If you would like to receive To information regarding the sessions hosted by SGM, please add your name to their email list for next year's fall forum invite, or for further information visit www.sgm-inc.com or call 970.945.1004. SGM is a full-service engineering and surveying company headquartered in Glenwood Springs with offices in Aspen, Salida, Gunnison, Meeker and Grand Junction.

Looking forward to 2015, Rick Dorris and the folks in Grand Junction will be hosting a presentation by Brian Varrella entitled "Preventing Flood Disasters from Becoming Disastrous." If you were not able to see Brian's presentation earlier in 2014, this is a great opportunity to do so. Please join us at the City of Grand Junction Auditorium, 250 N. 5th Street, Grand Junction on Monday, January 26, 2015 from 4:00 to 5:00 p.m. followed by dinner. Please RSVP by January 22nd to Deana Pietro at 970-244-1554 or deanap@gjcity.org.

Southeast Region

By Keith Curtis

Phase I of Williams Canyon Project Nears Completion

When the Waldo Canyon wildfire swept the mountains north of Manitou Springs in 2012, Williams Canyon was one of several severely burned drainage basins. The 2.7 square mile Williams Canyon watershed drains into Manitou Springs and had a long history of causing flooding in the community even prior to the wildfire. In 2013, several storm events caused flooding in Williams Canyon, the worst occurring on August 9th, when numerous homes, businesses and vehicles were damaged or destroyed by heavy runoff and flows of sediment and rock debris.

While other agencies worked on rehabilitation efforts in the burned portion of the watershed, the City of Manitou Springs focused on problems closer to the community, including damaged buildings in the floodplain, a damaged and eroding channel, undersized culverts and ongoing flows of rock debris that reduced the capacity of the stormwater infrastructure. With funding from a combination of federal and state sources, including the Natural Resources Conservation Service (NRCS), Department of Local Affairs (DOLA), Colorado Water Conservation

Board (CWCB), the Colorado Department of Transportation (CDOT) and others, the City of Manitou Springs has been working with El Paso County and the Pikes Peak Regional Building Department to address these issues.

Phase 1 of the Williams Canyon work was constructed during the summer and fall of 2014 and is nearly complete. The project involved construction of approximately 1,000 feet of heavily armored channel in the steep, narrow mouth of the canyon, along with a road to provide access to several homes as well as access for maintenance of the channel. Two damaged homes were removed during Phase 1 to create space for construction of a basin to capture flood debris. The installation of three steel Geo-Brugg debris nets is also part of the Phase 1 work.

Phase 2, which will be constructed through the winter and early spring of 2015, will extend the channel improvements approximately 500 additional feet. The contractor for the projects is Perco Rock Company. The engineering design team is Wright Water Engineers (civil), Kumar and Associates (geotechnical) and J.F.Sato and Associates (structural).



View of the sediment/debris basin under construction as part of Phase 1 of the Williams Canyon project in Manitou Springs. The roadway adjacent to the channel is on the left. The photo is taken from the Highway 24 overpass which crosses Williams Canyon.



View down the channel constructed as part of Phase 1 in Williams Canyon. A roadway parallel to the channel is above on the left, out of sight. The Highway 24 overpass is visible above.

For a complete list of CASFM events, please visit the calendar on our website at <http://www.casfm.org>.

Upcoming events include:

» **Lunch & Learn**

Urban Drainage and Flood Control District
January 26

» **CRS Committee Meeting**

Urban Drainage and Flood Control District
January 20

» **Northwest Region Social**

City of Grand Junction
January 26

Water Education: Applied Fluvial Geomorphology for an Urbanizing World

Colorado Riparian Association (CRA) and Colorado Association of Stormwater and Floodplain Managers (CASFM) recently hosted Applied Fluvial Geomorphology for an Urbanizing World. The three-day course, November 13-15th, held at the Sylvan Dale Guest Ranch in Loveland, CO, was taught by Dr. Brian Bledsoe and Dr. Ellen Wohl. Both are professors at Colorado State University. The course focused on applying the concepts and principles of fluvial geomorphology to develop an understanding of approaches and methods for using geomorphology in stream restoration.

The instructors discussed topics such as conducting geomorphic assessments, fluvial classification systems, design discharge and the stable stream concept, sediment transport, and using wood in urban streams. At the conclusion of the course, participants synthesized the topics, the principles and relationships for stream restoration, and tools for managing hydromodification in urbanizing watersheds.

The course was not strictly academic, but rather had many practical examples that can directly be applied to work on the ground. The teachers provided supplemental information which allowed the participants to dig deeper in their own time to the subjects that most apply to their job or interests. Dr. Wohl's and Dr. Bledsoe's presentations were also quite approachable and made the subject matter even more interesting as a result.

The course was well-attended with 25 participants who came from all over Colorado's Front Range with backgrounds in engineering, environmental management, ecology, and planning. Overall the course was successful and plans are in the works for a follow up course in the summer of 2015.

Comments from Attendee:

The instructors were very thorough given the amount of time they had, and they left us with notes, references, online tools, and even links to spreadsheets that we could explore later. I was impressed with the range of professions and backgrounds of the attendees. It resulted in some very interesting discussions of practical problems in stream restoration that I had not considered before. The course left me with a good review of material I had not looked at recently, and a new perspective on many stream restoration approaches. And of course, Sylvan Dale Ranch in the snow is stunning.

—Rachel Williams, Water Resource Engineer at Walsh Environmental



The Open Channel

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