Watershed Health Basin Plan Working Group
Webinar
May 13, 2014
Draft Summary

Purpose of the Webinar

Heather Bergman, facilitator of the Watershed Health Basin Plan Working Group, stated that the purpose of the webinar is to learn from past experiences and to outline tools and processes that currently exist to help plan better for the future. The goal is not to blame anyone for past events or perceived shortcomings in planning and/or responses to wildfire or floods. The objective is to identify lessons learned from the past and tools to leverage and integrate in the future to best protect water supplies for consumptive and nonconsumptive uses.

Lessons Learned from Recent Wildfires and Floods

Travis Smith, Rio Grande Basin Roundtable and Colorado Water Conservation Board (CWCB) member, shared his experience of the 2013 Papoose Fire in the Rio Grande Basin, touching on the following points:

- The initial experience of a large fire can be chaotic, and mandatory evacuations cause a high level of anxiety for local residents and businesses. A sense of martial law is often felt with the presence of law enforcement.
- Communication with the public is key during a large fire, and having a centralized process for getting the correct information out to a community makes communication much easier. A great deal of misinformation can be spread when smoke is visible and local residents are anxious. On the Papoose Fire, the Incident Management Team (IMT) Center was a great source of accurate and updated information.
- Identifying values at risk is a critical component in fighting a fire, and having an organized protocol in place for doing this prior to a fire is preferable to attempting to carry out this process on the fly.
- In the Rio Grande Basin, a local stakeholder group called the Rio Grande Watershed Emergency Action Coordination Team (RWEACT) was quickly formed in the aftermath of the Papoose Fire to be able to more quickly and cohesively respond to future incidents. The local organizational structures and partnerships now in place through RWEACT have set the watershed up to be much more prepared for the next emergency incident.
- Post-fire impacts linger long after a fire has been contained. The RWEACT group has found that they are able to accomplish many post-fire rehabilitation tasks that US Forest Service (USFS) burn area emergency response (BAER) teams are unable to address.

Question: You talked about determining your partners before the incident, and pointed out that those partnerships will help during and after the incident. Although I recognize that your partners will not necessarily be the same as other partners, could you provide a list of suggested partners that could be used by others as a base list of agencies that should be involved? This list might also be useful for identifying those that need to be involved in a watershed management group.

> ***Response:*** The Rio Grande experience during the 2013 fire was made possible due to the relationships and connections formed during the last 30 years, as well as more recent connections developed in the last 8 years through the Rio Grande Basin Roundtable and local

community leaders who represent their area. Although it sounds simple, RWEACT was quickly formed by a few phone calls to trusted individuals who answered their phones. You do not create partnerships by organizing a meeting and telling the people who show up that they need to cooperate. Each basin and sub-basin will have its own cast of characters. Some key people and agencies that might be needed include:

- A County Commissioner from each affected county
- County emergency managers
- Water conservation and or water conservancy district representatives
- Water user representatives
- Division of Water Resources (DWR)
- Natural Resources Conservation Service (NRCS)
- Colorado State Forest Service (CSFS)
- Colorado Parks and Wildlife (CPW)
- Colorado Department of Public Safety
- Town or municipal managers
- Local environmental and conservation groups
- Key business owners

My role as CWCB Basin Director and having a good working relationship with the Forest Supervisor was very helpful. Partners are developed when people understand that they have skills to be brought to the effort. As a group, partners can speak with one voice to the Forest Service. Also important is being able to recognize that each entity has its own authority and that collectively there is strength.

Jerry Gibbens, Northern Colorado Water Conservancy District (NCWCD), shared his experience of recent wildfire and floods within the NCWCD system, touching on the following points:

- The NCWCD system includes watersheds on both the East Slope and West Slope. Most of their water supply is on the West Slope, but consideration of overall forest health has to include watersheds on the East Slope as well. The Fern Lake and Big Meadows fires demonstrated to the District that even high-elevation watersheds are vulnerable and can burn at any time.
- NCWCD has learned that multi-agency planning and coordination are critical before, during, and after a fire. Through the Colorado-Big Thompson (CBT) Headwaters Partnership, NCWCD has established a partnership with CSFS, the Bureau of Reclamation (BOR), and USFS to improve health and resiliency before and after fires. This partnership also includes the National Park Service (NPS), counties, and private landowners to coordinate permitting efforts and secure grants.
- Sometimes working with other landowners can be tricky due to differing priorities. This is particularly the case with NPS land and wilderness areas. NCWCD has been able to conduct forest health treatments on the edge of Rocky Mountain National Park and works actively with NPS to identify common strategies for watershed health management.
- Water providers do not have first responders and are not present on the front line during a disaster. This makes it difficult to get in the door and get water supply values identified during an emergency event. This is why building relationships and identifying values prior to an event is so important.

- Another challenge for water providers when it comes to post-fire flooding events is knowing exactly when to modify operations (e.g., turn off a system during heavy rain). Better monitoring of reservoirs and rivers is needed to take into account post-fire conditions.
- While a big picture perspective is important when considering watershed health, small, isolated areas can also have huge impacts. A small diversion off the Poudre River was recently impacted by a large debris flow event. The affected creek and watershed had not been identified on US Geological Survey (USGS) maps in prior to this event.

Question: You mentioned USFS is doing an analysis under the National Environmental Policy Act (NEPA) for mitigation related to forest fires. Are there any lessons learned from this permitting process that would be helpful for others seeking similar permits? Is it possible to do blanket NEPA permitting for a group of post-fire restoration projects? Is pre-permitting an option for wildfire sedimentation and flood control projects in high hazard areas that have not burned yet? Are blanket and pre-permitting approaches practical, and would they provide an economic or time savings?

> ***Response:*** The Arapaho and Roosevelt National Forests and Pawnee National Grassland have existing and ongoing NEPA compliance for several resource management projects on both our East Slope and West Slope watersheds. Since we established the Colorado-Big Thompson Headwaters Partnership (CBTHP) in late 2012, we will rely on this NEPA for our near-term fuels reductions/forest health activities. Eventually, NEPA compliance will likely need to be implemented for more specific fuels reductions projects related to the CBTHP.
>
> Regarding post-fire restoration projects, we are beginning discussions within the CBT Partnership group about the best approach for NEPA compliance. It may be possible to do "blanket" NEPA compliance for our overall post-fire plan. However, this would need to be performed on a very large area, for post-fire conditions that are unknown, and for conditions that may never occur. Additionally, this NEPA compliance may have a "shelf life" that would need to be revisited at the time of occurrence. Another approach would be to plan and discuss the types of projects that we may want to implement post-fire, but wait until the fire actually occurs to do actual NEPA compliance. Thus, NEPA compliance would be done with known conditions and locations, on more specific projects. Our CBT Partnership is currently discussing the merits of these types of approaches.

Question: You mentioned different challenges with low- and high-elevation fires. How would these differences affect post-fire flood and sedimentation treatments?

> ***Response:*** We have had two higher-elevation fires in our watersheds in recent years (Fern Lake Fire in 2012 and Big Meadows Fire in 2013). In response to the Fern Lake Fire, we jointly funded (with several of our municipal allottees) a baseline water quality data collection effort by the USGS to analyze how higher-elevation fires may affect water quality. We have received this data from USGS, and NCWCD water quality staff is currently analyzing the data; a report should be available later this year.

One interesting aspect of the higher-elevation fires is that they both occurred upstream of large mountain meadows. We suspect that these mountain meadows, where stream channels are much flatter, more sinuous, and well connected to the floodplain, have been effective in naturally filtering sediment and other contaminants from runoff.

Additionally, in our particular case, these higher-elevation fires are further upstream from our infrastructure, thus providing the opportunity for natural processes (as described above) to be effective, and to minimize direct impact on infrastructure. Our lower-elevation fires were located much closer to critical infrastructure. Thus, adverse effects were much more immediate and damaging.

Question: You talked about different approaches or priorities between NPS or wilderness managers compared to water providers when it comes to watershed and forest health protection. Can you describe these differences in more detail and suggest possible ways to work within or around these different goals?

Response: As is expected, land management goals within National Parks and wilderness areas tend to take more of a natural management approach. For instance, although Rocky Mountain National Park has done fuels treatment projects around critical infrastructure and along some boundaries, there are few (if any) landscape-level fuels treatments projects within the Park's interior. Similarly, for wildfire response, the park does protect and mitigate critical infrastructure, but tends to allow a more natural healing process following a fire. By contrast, as water providers, we are typically risk-averse and would prefer a more aggressive mitigation response to reduce or eliminate effects on our water supply systems.

From a water provider perspective, we have recognized and planned our efforts around these goals. From a planning and forest health perspective, we have tried to design fuels reductions projects to minimize the possibility of fire spreading into these areas from areas where more proactive measures can take place (and vice versa). Additionally, we are looking at types of post-wildfire responses that may be applicable in or downstream of these areas in case of a larger scale high-severity fire, such as sediment basins and debris booms (located outside of wilderness or park boundaries). In the case of both the Fern Lake and Big Meadows fires, water quality monitoring (including both baseline water quality monitoring and real-time turbidity data) was performed in downstream channels to monitor effects (see response to Question 2, above, for further information on these fires).

Question: You talked about determining your partners before the incident, and pointed out that those partnerships will help during and after the incident. Although I recognize that your partners will not necessarily be the same as other partners, could you provide a list of suggested partners that could be used by others as a base list of agencies that should be involved? This list might also be useful for identifying those that need to be involved in a watershed management group.

Response: Below is a list of entities that we have had contact with. As mentioned in the comment, this will vary by location. There are others that should probably be included in a watershed management group that we haven't necessarily had direct contract with yet in our planning efforts.

- USFS
- CSFS
- BOR
- Western Area Power Administration
- Mountain Parks Electric
- Grand/Larimer Counties (Sheriff's Office, Natural Resources Department)
- Local fire management agencies

Mark Shea, Colorado Springs Utilities (CSU), provided an overview of the 2012 Waldo Canyon Fire from the perspective of CSU. Highlights of his presentation are summarized below.

- During this large fire, protecting the Northfield system was critical for CSU. This system provides 80% of water supply to the City during high demand and is the exclusive source of water for the US Air Force. CSU worked closely with first responders during the Waldo Canyon Fire to make sure this and other values were incorporated into firefighting tactics.
- From this experience, CSU learned that cooperation is needed with a wide variety of partners. Identifying exactly who these partners are prior to an event is critical. In the case of the Waldo Canyon Fire, USFS was the key partner agency both during and after the fire.
- CSU also learned in the aftermath of the Waldo Canyon Fire that the level of burn severity is an important factor in considering post-fire impacts. Low burn severities are not a cause for serious concern, while moderate and high burn severities cause soil to become hydrophobic and can lead to flash flooding, debris flows, erosion, and sedimentation.
- Another lesson learned from the Waldo Canyon Fire is the importance of maintaining a diverse water supply portfolio. CSU did not have to deal with major water quality problems in the aftermath of the fire due to their many sources of water supplies.
- Flash flooding and storm discharges in a burned watershed can be significant even when a common, smaller storm occurs (e.g., a 5-10-year storm event).
- Watershed/stream bank stabilization and flood mitigation must occur very quickly after a fire. Partners are needed to carry out these actions, so relationships and protocols should be built beforehand. Identifying exactly where to carry out these measures is complicated and efforts to identify areas at risk should take place before an event.
- Funding post-fire watershed stabilization and flood mitigation is another huge issue; it is expensive to deal with burned watersheds and make needed structural repairs. The NRCS Emergency Watershed Protection Program has been a huge help for CSU and other entities in the region.

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that could be used by others as a base list of agencies that should be involved? This list might also be useful for identifying those that need to be involved in a watershed management group.

> ***Response:*** Depending on land ownership/management, the main federal partner is USFS, which handles wildfire suppression on its lands and on BLM lands. If you have any military installations in the vicinity, the Department of Defense (DOD) will be involved (reach out to the fire suppression staff at the installation as a first step). Outside of federal lands, partners include local fire protection districts within their designated jurisdictions (maps of these are usually available through the counties within which they're located) and fire departments within the incorporated areas (e.g. cities and towns). Outside of the fire districts and cities/towns in the unincorporated counties, the county sheriff is the designated fire warden. I'd always suggest working with the local sheriff's office as they are typically plugged in on local fire response and suppression arrangements. Knowing your local Fire Management Officer (FMO) from the Colorado Department of Fire Prevention and Control (DFPC) is important too, as they can be brought in if a fire exceeds the sheriff's capacity. I'd recommend focusing your conversations with these agencies specifically on fire response and suppression, as most of them play a relatively small or indirect role in the broader watershed management efforts. For that, you'll need to work with other, designated staff within USFS, boards of county commissioners, nearby cities and towns, and other land owners (such as homeowner associations). Non-profits, like the Coalition for the Upper South Platte (CUSP), are also very helpful in the broader watershed management efforts - especially forest management projects. CSFS is also available for assisting with forest management work on larger tracts of private property. Beyond that, sometimes recreational and environmental groups and local universities or other educational institutions are interested in being involved in watershed management initiatives.

Question: You mentioned the importance of diversifying your water supply portfolio to help manage water supply in a crisis. Can you talk more about that? Is it about diversifying the location of water supplies, the type or source of water, or both? Does CSU have a specific strategy for diversification along these lines, or do you just happen to have a diverse portfolio that proved beneficial during the incident?

> ***Response:*** Diversity in your water portfolio is a good thing - just like diversity in your investment portfolio. For CSU (like other larger water providers - e.g. Denver Water and Aurora), we have larger parts of our system that provide a majority of our source water. These are primarily our transmountain projects, which provide fully reusable water types that extend our local supplies through exchanges and augmentation plans. But different types of water are helpful to have in your water rights portfolio, too. Historically, local surface water and tributary ground water supplies were typically the first water type developed by communities and provide a good affordable water source. This was also the case for Colorado Springs and most other older Colorado communities. Following local sources and transmountain projects, many growing towns and cities acquired agricultural water rights from willing sellers interested in getting out of farming. Limited amounts of non-tributary ground water sources, like those from the Denver Basin Aquifers, have also provided a small but steady source to both urban and rural developments. Bottom line is:

the more diversity, the better. However, it does come at the cost of maintaining more infrastructure and more source watershed lands to help manage. CSU has historically followed this strategy out of necessity. Today - with drought and other climate variability - assuring a reliable water supply for our community means continued diversification. Specifically, we're trying to focus on multi-use/multi-benefit water development projects. We're also interested in helping develop alternative agricultural transfer arrangements that can help meet our communities' needs while also supporting Colorado's farming industry. All of this to help in larger water supply issues like drought, and more acute incidents like wildfires and post-fire flooding and debris flows.

Carol Ekarius, CUSP, described the history of CUSP and the lessons the organization has learned while working on fire and flooding events since 1996. Highlights of her presentation are summarized below.

- CUSP came into being after the Buffalo Creek Fire in 1996. This fire led to large flooding and sedimentation problems in the Denver Water and Aurora systems. These entities initiated a series of meetings with communities in mountains, the environmental community, the recreation community, and others, and ultimately decided to form a non-profit watershed group to address these interrelated problems into the future. Over the years, CUSP has developed specialized expertise in pre- and post-fire mitigation.
- CUSP has learned that active forest management needs to be considered more often. Water providers need to work with USFS to identify risks to municipal water supplies and identify areas to prioritize with forest health treatments to reduce risks from fire and flood. This work and these partnerships must be developed prior to a disaster. Figuring out where to conduct treatments during or immediately after a fire is much more difficult.
- After the Waldo Canyon Fire in 2012, CUSP and CSU conducted a Watershed Assessment of River Stability and Sediment Supply (WARSSS) assessment to help prioritize post-fire work and get the most impact for the money invested. This allowed parties in the watershed to hit the ground running in 2013.
- During last year's floods, the watersheds that had established collaborative groups in place responded much more quickly than watersheds that had not built partnerships ahead of time. Watershed groups are extremely valuable during an emergency and need to be established beforehand.
- Non-profit agencies are good organizations to bring into a collaborative group; they can bring in resources (e.g., volunteers, large donations) that federal agencies cannot.

Kevin Houck, CWCB staff, gave an overview of recent flooding and fire events from the state agency perspective, touching on the following points:

- Wildfires are becoming much larger and more destructive in recent years. Colorado has broken the state record four times in four years for most homes destroyed in a wildfire.
- Wildfire impacts go beyond the fires themselves. Flooding and water quality problems affect water users far from the burn scar for many years after a fire has been contained. It is often difficult to convey to a community in shock after a wildfire that they need to look ahead and anticipate flooding as a large potential problem in their future that they need to mitigate.
- Recent floods in Colorado were not as rare of an event as many Coloradans think. Floods of that magnitude could happen again in our lifetimes, and climate change and population

pressure are increasing the chances of that occurring. As communities recover from last year's flood while preparing for the next one, it is important to consider balance between speedy recovery efforts and establishing long-term resiliency in the watershed.

- Existing watershed groups that had built relationships prior to last year's flood are much farther along in the recovery process than those that are just forming. Watersheds that have not experienced a flood yet should get a collaboration going as soon as possible.
- Last year's floods revealed that water infrastructure is often hard to fit into federal recovery programs. Water providers need to be prepared to handle impacts on their own. State grants are available but are not always enough to make a provider whole after a disaster.

Question: You talked about determining your partners before the incident, and pointed out that those partnerships will help during and after the incident. Although I recognize that your partners will not necessarily be the same as other partners, could you provide a list of suggested partners that could be used by others as a base list of agencies that should be involved? This list might also be useful for identifying those that need to be involved in a watershed management group.

Response: I would say that the top partners that I would recommend should be part of the conversation for the context of my discussion would be USFS, NRCS, BLM, CWCB, the Colorado Office of Emergency Management, CSFS, and the Water Quality Control Division within Colorado Department of Public Health and Environment (CDPHE).

Secondary contacts could include (as needed and appropriate): US Environmental Protection Agency (EPA), Federal Emergency Management Agency (FEMA), the US Army Corps of Engineers (USACE), CPW, and the State Trust Land Board (STLB). I would have also included the Colorado Geological Survey, although they were recently disbanded and former staff are all over the place.

This list only includes state and federal partners. Local partners are key as well, although it is obviously dependent on local circumstances and I couldn't really list a blueprint set of local partners.

Federal and State Planning for Wildfire

Lisa Mason, CSFS, provided an overview of the Community Wildfire Protection Plan (CWPP) process, touching on the following points:

- CSFS is non-regulatory agency and does not own any land. They are focused on long-term stewardship of forests through education and outreach.
- CWPPs originated in the 2003 Healthy Forest Restoration Act, which placed an increased emphasis on community planning. Additionally, Senate Bill (SB) 09-001 requires counties to identify wildfire hazards in unincorporated areas. To date about 45 county-wide plans have been created, all of which are on the CSFS website. For communities considering a CWPP or other wildfire planning strategies, it is worth checking the website to see if work has already been done in the area.
- To do a CWPP, it is necessary to have CSFS, local governmental agencies, and the local fire protection district involved. It is also a good idea to include stakeholders in the area

early in the process. Education and outreach is an important component of the CWPP process.

- Components of a CWPP include a map delineating the wildland-urban interface, identification of values at risk, evacuation routes, and high-priority fuels treatments. Minimum standards for a CWPP are described in more detail on the CSFS website.
- The more detailed that an implementation plan for a fuels treatment can be, the better. A detailed implementation plan helps inform and provide content for grant applications. Also, because treatments are usually local in scope, in many cases, a county-wide CWPP is better used as an umbrella plan that communities can pull information from and use to help identify priority areas. Then a more specific plan can be used in a local area to complete implementation.
- Along with CWPPs, CSFS offers other resources to conduct pre-fire assessments and planning. These resources include in-person technical assistance for landowners and communities, CSFS publication, and an online database for grant funding.
- The Firewise program is also a good tool for communities to conduct education about pre-fire planning. It is a recognition program that is often simpler and more appropriate for a community than a CWPP.
- The Colorado Wildfire Risk Assessment Portal (CO-WRAP) is also an important planning tool for identifying wildfire risks.

Question: What are the advantages or strengths of CWPPs from the perspective of identifying values for consumptive and nonconsumptive water use? What are the disadvantages or limitations?

Response: CWPPs at a minimum are required to identify values at risk and create an implementation plan that includes fuels treatments projects. Those projects can include fuelbreaks, thinning, pruning, defensible space around structures and landscape-scale treatments. Reducing wildfire risk in a community will create healthier and more resilient forests, which will have beneficial impacts on protecting and enhancing water quality.

CWPPs are not required to identify water use as a value at risk, which can be a disadvantage in terms of water use. Some communities may not make the connection between reducing wildfire risk, managing for healthy forests, and water quality.

Question: What is your sense of the level of knowledge or awareness about CWPPs among HOAs, municipalities, and counties around the state? Is it safe to assume that most people who should know about this tool do, or would it be beneficial for basin plans or other community planning and/or outreach tools to include outreach and education about CWPPs?

Response: Colorado has 211 CWPPs that are all around that state. They are at various stages of implementation. The scale of each CWPP varies, including subdivision, fire protection districts, and county-wide levels. CWPPs are well known throughout the state, but there are still homeowners, communities, and stakeholders who aren't aware of this program. It would be beneficial to include CWPP/fuels mitigation outreach and education for the basin plans, especially since fuels mitigation and forest management are a major component of watershed management. I can provide program information and literature

on CWPPs and fuels mitigation. The CSFS local districts can provide local information on technical assistance in their area. I recommend that interested homeowners or stakeholders look at the CSFS website to see if they are already covered under a CWPP. All 211 plans are at http://csfs.colostate.edu/pages/CommunityWildfireProtectionPlans.html. If they are not covered under a plan, they can contact me or their local CSFS district to find out more information on developing a plan.

Elise Bowne, USFS, provided an overview of the USFS wildfire risk assessment and prioritization process, touching on the following points:

- The USFS wildfire risk assessment and prioritization process was initiated in the Rocky Mountain region to help prioritize investments and establish a cohesive strategy for fuels mitigation. It is part of the National Cohesive Fire Management Strategy that is focused on taking a collaborative approach to bringing together federal, state, local, and tribal governments and non-profits to decide how to handle fire across all jurisdictions. The goals of the national strategy are to restore and maintain resilient forest landscapes, to help human populations and infrastructure to withstand fire without loss of life or property, and to come up with safe and effective decision-making processes during wildfire response.
- The wildfire risk assessment and prioritization process focuses on using the best available science, coming up with scalable results, and maintaining effective collaboration with other landowners. It has been tested on both a forest and project level.
- The wildfire risk assessment and prioritization process identifies highly valued resources and assets (HVRAs), determines susceptibility of these HVRAs, and incorporates management priorities as well as scientific data. Resource specialists, partners, and forest leadership come together in a series of workshops to determine how to integrate these factors.
- The models used in the USFS wildfire risk assessment and prioritization process incorporate positive impacts from fire as well as negative ones.
- Advantages of the process so far include increased collaboration and better understanding of how resources interact with each other and the role of fire. While the process does not give you a specific answer, it can inform the decision-making process in important ways.

Brenda Wilmore, USFS, provided an overview and demonstration of the Wildland Fire Decision Support System (WFDSS), touching on the following points:

- WFDSS is required by USFS to document decisions for managing wildland fires.
- As a demonstration of the system, Brenda created a red flag incident scenario to depict a situation in which a wildfire has just escaped initial attack. After mapping the point where the fire was started, Brenda demonstrated how to identify values in the vicinity (e.g., infrastructure, building clusters, campgrounds, communication towers, power plants, transmission lines, pipelines, etc). Based on the location of these values, the next step is to draw a planning area boundary for the fire.
- WFDSS also offers a tool to project the fire's spread based on a fire weather forecast, the area terrain, and 10 years of past weather conditions.
- An important component of the WFDSS system is a relative risk assessment interface that allows managers to consider and write up notes and descriptions of values, hazards,

and probability of fire spread. This interface is useful in informing and documenting decisions.

- Outside entities who wish to add values to the WFDSS system should initiate conversations with local USFS staff. There are two approaches for adding data to the system: points of interest, which can be added quickly during an incident, and values/inholdings, which become part of the national dataset.

Question: Can you describe the process of getting values into the WFDSS in a little more detail?

> ***Response:*** Adding values at the time of the incident is the most likely scenario. This can be done as the decision document containing objectives and a course of action is developed. The local forest/field office has the ability to upload some layers but they are constrained to a fairly small file size. Work with the local forest/field office fire and fuels staff to determine what data can be loaded permanently at the local level. To have a permanent nationally available layer in WFDSS requires that the data be compatible with similar data across the nation.

Question: What are the differences between adding a point of interest and adding a value/inholding? Will both be permanent features on the map and/or considered during a fire?

> ***Response:*** A value can easily be added as a point of interest as the decision is being developed. Both will be permanent features. The point of interest, in this case a value, can be carried forward throughout the life of the incident which may include multiple decision documents. The point of interest can also be deleted at any time (for instance, the fire has moved beyond the location of the value and it is no longer threatened).

Question: When contacting a USFS office to add values to the WFDSS is there a specific person or job title to ask for?

> ***Response:*** Local fire staff will know who to contact.

Question: Is there a way to get values into WFDSS before an incident?

> ***Response:*** Getting the data into WFDSS on a more permanent basis will need to be coordinated with the local federal fire/fuels management folks.

Question: What are the advantages or strengths of WFDSS from the perspective of identifying values for consumptive and nonconsumptive water use?

> ***Response:*** There would be value in loading a consumptive water layer, similar to loading a Threatened and Endangered Species layer (some of which are currently available in the national WFDSS layers). It alerts the decision maker that there is a critical value at risk that may require mitigation actions.

Question: What are the disadvantages or limitations of WFDSS from the perspective of identifying values for consumptive and nonconsumptive water use?

Response: The limitation would be file attribute consistency and the file size. Would the national Forest to Faucets layer meet this need? If so, we can ask the WFDSS folks if that can be loaded as a permanent nationally available layer.

Federal and State Responses to a Wildfire: Protocols and Procedures

Brenda Wasieleski, Colorado Division of Fire Prevention and Control (DFPC), provided an overview of the newly-formed agency and protocols for managing wildland fires. Highlights of her presentation are summarized below.

- DFPC was established less than two years ago and is focused on supporting local fire departments and county sheriffs. DFPC does not own land or have any jurisdiction until given that authority by a county sheriff. This places the agency is a unique position to bring parties together during a wildfire incident.
- DFPC is divided into regions throughout the state to help local parties prepare for and respond to wildfire. Each region is staffed by a fire management officer (FMO) who conducts outreach and maintains communication with all landowners in the region, including federal partners.
- When a wildfire occurs on non-federal land, the local fire protection district has full jurisdiction and authority. If a wildfire grows beyond the capability of the district, the county sheriff is given jurisdiction. The county sheriff then has the option to go to the State and ask for DFPC to assume authority over the fire. Only then will the State have jurisdiction over the incident. Usually the local fire chief and county sheriff will remain a part of the process after handing authority to the State.
- In the case of large wildfire that affects federal land, DFPC will delegate management of the incident to an IMT. However, the State is considered to operate on equal footing with federal agencies and will act as an intermediary between these agencies and local fire authorities.

Dan Dallas, USFS, is a Forest Supervisor as well as a Type 2 Incident Commander (IC). He spoke to the group about what happens when an Incident Management Team (IMT) is delegated authority during a fire, touching on the following points:

- An IMT is an interagency group that usually consists of 50-60 team members. They are called in to a wildfire when local capacity has been exceeded. The goal of an IMT is to bring order to the chaos and to get the local community back to normal as soon as possible.
- Every IMT has a Liaison Officer who is charged with bringing in information from the local community and translating it into IMT operations. This person is usually a key contact for local individuals and agencies who need to make sure that local values are included in the firefighting plan. Often, a Liaison Officer will conduct stakeholder meetings (also called cooperator meetings) to gather the community and learn about key values to protect during a wildfire.
- Every IMT also has an Information Officer who is focused on getting accurate and up-to-date information out to the public.
- An IMT will often work closely with other local and state agencies during a wildfire. For instance, an IMT may collaborate with the Colorado Department of Transportation on

road closures or with a county public health department if a long power outage has resulted in a situation where many residents' frozen food has thawed.

Question: I assume that the transition from local to federal management of a fire isn't always seamless. Can you describe the types of challenges that sometimes emerge and how they are resolved? Other than develop collaborative relationships before an incident, is there anything communities can do to limit the "chaos" and ease the transition?

Response: Transitions of any sort always have the potential to be difficult and chaotic. However, they can also be very satisfying and gratifying with a little forethought and preparation. Most of the problems I have encountered were at their core timing issues. Usually somebody or an entity that has a real and/or urgent need isn't able to get their need met, or is not able to communicate it to the right person who can help solve their issue. I've dealt with some very frustrated people on issues such as this. My advice and suggestion on this is to put some thought and a little work into being prepared for an event that could threaten or disrupt your operations.

To use a specific example of what an entity can do, if you are a power provider or transmission provider (oil/gas, electric, water, etc.) it would be good to have a digital copy of your infrastructure readily available on a thumb drive to share with those who will help protect your infrastructure during an emergency. Your internal GIS folks (some have their own employees, others contract it out) should be able to provide you this information in a recognizable GIS format that you can share with those who need to know in an emergency event. Privacy and corporate "close hold" information can be identified and dealt with appropriately. IMTs are used to dealing with these issues upon identification by the party who shares the information. Another example is power companies being able to show locations where they can segment and turn off power in critical locations without disrupting their whole grid in a particular area.

At the community level, it is always great if the emergency services folks put on a "mock" event such as a sand table exercise to get the community thinking about how to respond to an event. The most recent success related to this suggestion happened last year in the Arkansas Basin. The community of Canon City had a sand table exercise exactly two weeks before the Royal Gorge Fire. The only real difference between the exercise and the real fire was the fire actually started on the other side of the river! This was one of the most seamless transitions and operational incidents that I have experienced, and it was all because of their foresight and effort earlier in the spring.

The bottom line is getting your needs met and communicated. As I mentioned on the webinar most IMTs have structured themselves to seek out and find the people and entities they need to coordinate their efforts with. The two main things to remember are that a little foresight and work to be prepared can go a long way, and in the absence of that, if you are involved in an emergency situation, don't be afraid to simply ask any identified IMT member who you need to talk to in order to get your needs met. They should direct you where you need to go and more than likely will go with you to find the person you need. That's what I ask my team members to do.

Question: We have heard that Incident Commanders do not generally work on fires in their own districts. If this is the case, how does building collaborative relationships with the local district office help prepare for a wildfire if the people who will be managing the fire will come from another area and be strangers to the local community?

> ***Response:*** Building a collaborative relationship with the local district office is THE KEY to success. It is true that the people on IMTs can come from anywhere and more than likely will not be local if the emergency situation is large in scale.
>
> The point to remember as I discussed on the webinar is that by definition when an IMT is called in, the local capacity to deal with the emergency incident has been exceeded. The local jurisdiction then gives a delegation of authority to the IC of the IMT to deal with the incident, under their (local agency) jurisdictional authority until the incident can again be handled by the local forces. In other words, the IMT is an augmenting force for the local agency until such time that the local agency can assume the workload again with their existing capacity.
>
> So, to be clear, when my team is working on an incident, I'm working for one or more local agency administrators with a delegation of authority from them. Generally this is a land management agency line officer (USFS District Ranger or Forest Supervisor, BLM Field Office or District Manager, NPS Park Superintendent, FWS Refuge Manager, etc.) or a local or state jurisdiction official (sheriff, DFPC official, Office of Emergency Management, etc.).
>
> Quite simply, if you have a collaborative and well established relationship with your local office you can rest assured they will transmit and ensure your needs are met during an incident. That is why I'm calling it the key to success before, during, and after an incident.

Collaborative Approaches for the Future

Carol Ekarius, CUSP, spoke to the group about collaborative approaches taken by CUSP in managing for forest health and fire recovery, touching on the following points:

- Collaboration will be more and more important in the future as climate change and population growth threaten watershed health conditions, impacting water supplies that we all depend on.
- CUSP has a mission to protect water quality and the ecological health of the Upper South Platte Watershed through cooperative efforts. Collaboration across multiple boundaries and among varied agencies is a complex but necessary component of working at the broader scales that watershed health management requires. In any collaborative watershed health effort, all stakeholders need to be at a table, not just governmental agencies.
- CUSP and other non-profits are in a unique position to bring varied individuals and agencies together and to coordinate collaborative efforts that enhance and protect watershed health. They bring expertise in working with private landowners, as well as a

large, well-managed volunteer force, the ability to secure private donations, and experience in public-private partnerships.

- CUSP can help other watershed groups in the early stages of their formation by sharing information on bylaws, policies, formation documents, articles of incorporation, etc.

Question: You talked about determining your partners before the incident, and pointed out that those partnerships will help during and after the incident. Although I recognize that your partners will not necessarily be the same as other partners, could you provide a list of suggested partners that could be used by others as a base list of agencies that should be involved? This list might also be useful for identifying those that need to be involved in a watershed management group.

Response: Each watershed will be a bit different depending on the size and area, but partners generally fall into a few classes: funders, doers, property owners, area business people, area media, other non-governmental organization (NGOs) with an interest in the area (particularly representing environmental groups and recreational interests), science and academic interests, and incidental folks. They don't all have to be involved in everything, but they are part of a network that plays a role in different aspects of your watershed and different issues you are dealing with.

For government partners, think of federal land managers. Depending on your area, these could include:

- USFS
- Bureau of Land Management (BLM)
- NPS
- Bureau of Reclamation (BOR)
- DOD
- NRCS

Stage and local agencies that have a specific role in watershed protection or emergency response include:

- CDPHE
- CSFS
- Colorado Department of Local Affairs (DOLA)
- Colorado Department of Agriculture (CDA)
- CPW
- CWCB
- Division of Water Resources (DWR)
- Colorado Division of Reclamation, Mining and Safety (DRMS)
- STLB
- Colorado Division of Homeland Security and Emergency Management (DHSEM)
- Local government agencies, including counties, towns, and pertinent special districts
- Conservation districts and conservancy districts
- External water providers with a stake in the watershed (e.g., Denver, Aurora, Colorado Springs, Pueblo, Centennial, Northern).

For non-governmental funders, think about:

- Local community foundations
- National Forest Foundation (NFF), which has a Colorado Director, Marcus Selig

- National Parks Foundation, if you have a park or monument in the area
- Major businesses that have some kind interest in the region (including energy utilities)

One NGO everyone should reach out to is their closest chapter of Trout Unlimited. They are actively engaged in volunteerism and bring some funding to the table. Multiple chapters may have an interest in a particular area (we work with three chapters).

Question: CUSP is a really impressive organization. Creating something like that may seem daunting to people. Can you describe how it started a little bit more? How many people and how much money did you have at the beginning? What were your early priorities? What contributed to the growth of the organization?

Response: Creating CUSP was a bit daunting, but I truly believe others can emulate us and succeed. Here are some points to consider:

1) **History:** In 1994-96, three things happened that set the stage for the formation of CUSP: The USFS did a study of segments of the South Platte within Forest Service boundaries to assess whether any river segments within the boundaries might qualify for designation under the Wild and Scenic Rivers Act, based on Outstandingly Remarkable Values (ORVs). The Denver Water Board and other Front Range water providers were concerned that designation would require the abandonment of some senior water rights, and that designation would give the USFS operational control of the river, negatively. EPA guidelines on Source Water Assessment Programs (SWAP) require water providers to look at areas that impact their water quality. As this watershed is a major source of municipal water for Colorado's Front Range municipalities, SWAP would require water providers to actively study this watershed. The Buffalo Creek fire burned 11,700 acres within the watershed in 1996, and subsequent flooding resulted in the loss of life and serious impacts on municipal water systems. This fire was, at that time, the biggest fire in Colorado history, and served as a wake-up call for agencies and entities dealing with forest health and fire issues, that worse could come. With these three issues looming large, the Denver Water Department and the City of Aurora Water Resources Department pooled some funds to hire Brown and Caldwell, an environmental engineering firm headquartered in Walnut Creek, California, to facilitate a series of stakeholder meetings for the Upper South Platte Watershed. By early 1998, attendees (all government entities) to these meetings began working on a Memorandum of Understanding (MOU) and bylaws establishing a watershed group. Under the MOU, everyone agreed that whatever came out of the newly created Upper South Platte Watershed Management Program should be looked at as voluntary, not regulatory. By August of 1998, Park, Jefferson, Teller and Douglas Counties, the City of Aurora, Denver Water, STLB, the Soil and Water Conservation Districts, and the Center of Colorado and the Upper South Platter Water Conservancy Districts signed the MOU, and began working on incorporating as a nonprofit entity.

Under the MOU, the parties agreed to the following preliminary list of water quality goals:

- Protect water quality in the Upper South Platte River and its tributaries to support beneficial uses, which could include drinking water supply, cold-water fisheries, and other values at risk
- Sustain the productivity and diversity of the ecological systems within the watershed
- Address water quality impacts related to water quantity management
- Manage nonpoint pollutant sources including grazing, forestry, transportation corridors, mining, erosion, and septic systems
- Minimize impacts of disastrous events, such as the Buffalo Creek Fire

The list of preliminary objectives the group agreed on to attain these goals included:

- Develop a Coordinated Watershed Management Program to coordinate planning and development, optimize data collection, involve the public in planning, and give first priority in planning to cooperative projects among members
- Understand the watershed by identifying current and future contamination trends that jeopardize water quality, use the best scientific information for resource allocation and land management discussions, incorporate the effects of growth and development in the basin, and protect historic and cultural resources
- Prioritize watershed issues to incorporate diverse community values, incorporate desired ecosystem conditions based on historic and current considerations, and prioritize contamination concerns using water quality standards as preliminary objectives
- Implement effective management strategies and practice adaptive management to bridge the gap between science and management, and to blend the objectives of the Clean Water Act and Safe Drinking Water Acts
- Maintain and improve water quality and related resources to achieve of streams, and sustain or improve habitat for valuable renewable resources

In August 1998, Lisa McVicker, an attorney and Board member of the Center of Colorado Water Conservancy District, and who many in the water community know, prepared Articles of Incorporation for the Upper South Platte Watershed Protection Association to submit to the Secretary of State's Office. In September, Lisa prepared an application for determination of non-profit, exempt status by the Internal Revenue Service, which the group received in October 1998. Once the Association received determination from the IRS, it began applying for grants.

In 1998 CUSP received an EPA grant to complete a Data Inventory and Assessment (prepared by Brown & Caldwell) and an EPA grant to hire a coordinator and develop a strategic plan. I was hired with that funding to lead the development of the plan, and hopefully once it was complete, find some funding to implement projects and programs identified in it. I worked with the board to broaden the stakeholders

involved in the board to include environmental representatives, recreation interests, businesses, and interested individuals.

The plan, completed in 2001 had the overall goals to:

- Create a water literate culture that understands where water comes from, what the water quality concerns are, and how water relates to the greater ecological good.
- Develop watershed education programs for students so they will go on to be water literate as adults.
- Act as a clearinghouse for information and a trustworthy link between citizens, government entities, environmental organizations and others who wish to participate in a dialog about watershed issues.
- Provide expertise to other groups that need technical information (for example, best management practices, SWAP, etc.).
- Develop and implement restoration projects that will begin protecting and restoring the water quality and ecological health of the watershed.
- Coordinate monitoring and maintenance of data developed by CUSP or other entities and organizations.

These goals would help address problems related to four specific contaminants of concern:

- Sediment: both natural conditions and human activities that contributed to sediment loadings. Natural conditions noted in the report included the results of wildfire.
- Nutrients, in particular phosphorous, because the Colorado Water Quality Control Commission's Chatfield Reservoir Control Regulation places an annual allocation on the upper watershed, but also nitrogen.
- Metals/acid mine drainage.
- Microorganisms, particularly fecal coliforms. The plan identified dozens of strategies to work on that stakeholders supported as helping to reduce impacts from key areas, such as agriculture, fire, recreation, transportation, land use and development, or water system operations.

Between 2000 and 2002, the Association received several grants, such as a 319 Information and Outreach grant, which enabled it to develop a newsletter, sponsor environmental education efforts, and host a series of meetings for watershed stakeholders, and a Rural Community Assistance Grant, which enabled it to help coordinate monitoring and information sharing meetings. We hired our second employee. We became directly involved in fire and forest issues, working closely with partners. We responded to several fires. As Hayman was burning, the USFS and other partners asked us to take over the Hayman Recovery Assistance Center. The board approved this, with the understanding that we would either come out the other side a stronger organization, or we would not come out at all. There was no middle ground on such a task, but we decided that if the mission was more than words on a paper, we had to "die trying."

By October of 2002, two more full-time employees and a couple of part-timers were added to the payroll, and CUSP opened an office on Highway 24 in Lake George. CUSP staff and partners helped coordinate 23,000 volunteer hours on fire recovery between August 2002 and November 2002, when weather shut down recovery operations for the winter. Staff also answered thousands of phone calls from fire victims, bureaucrats, academics, the media, donors, and volunteers seeking information after the fire, as well as coordinating distribution of supplies and donations for victims. CUSP continued its fire -related efforts throughout 2003, with funds from a NFF grant, a Rural Community Assistance Grant (RCAG), and donations from various sources. Although the RCAG grant was to be used exclusively for fire rehab, the NFF grant also provided funds for green forest restoration and organizational capacity building. This grant allowed CUSP to hire several more positions in 2003. In late 2003, CUSP was chosen as one of 20 watershed groups nationwide (of 176 applications submitted to EPA Headquarters by governors and tribal leaders) to receive a $600,000 grant under EPA's Targeted Watershed Initiative Grant. This was a three-year grant that included funds for continuing fire rehab, as well as to undertake a variety of projects outlined in the Strategic Plan that was completed in 2001 such as river restoration, trail restoration, and environmental education. During 2003, CUSP received tremendous recognition for its work, including numerous awards, like the National Fire Plan Award for Excellence in Rehabilitation and a NFF Partners in Stewardship Award. The Toyota Corporation donated a new Tundra pickup truck to CUSP.

Each year we continued growing. We completed the first CWPP in the state after the Healthy Forest Restoration Act was adopted (a county-wide plan for Teller County). Our crews began doing more and more field work for both forest mitigation at larger scale and defensible space at the household level, as well as continuing on fire rehab, and doing other projects aligned with the plan. We have hosted over 27,000 volunteers since 2001; they have completed over 180,000 hours of work, worth about $3.8 million in match to grants! I believe the total acres of green forest work we have had our footprints on is currently nearing 10,000 acres across five counties. We have completed miles of river restoration within burned areas and in unburned areas. All of these accomplishments, however, are not just CUSP's accomplishments: they are accomplishments we truly share with our project partners (agencies, other nonprofits, local governments, utilities, etc.), our myriad funders, and the private property owners who let us do work on their land.

In 2012 as Waldo was burning, the Pike and Colorado Springs Utilities asked if we could help, and due to our existing partnerships with both, and the impacts Waldo would have on the watershed even though it was on the boundary, our board approved us playing a major role in Waldo recovery.

Today, our member entities contribute amounts annually ranging from $500 to $30,000 for unrestricted funding or for minimally restricted funding, depending on their size and ability to give. Many of our counties and other larger member entities also contribute significantly more money on a project-by-project basis, and these

amounts vary from year to year. Most of these funds are handled under contracts or sub-grants to us from the entities. We also seek and receive grants and donations from a wide array of government, foundation, and corporate programs, as well as individual donations ranging from $10 to $5,000.

2) **Contributions to our growth:** Obviously fires and post-fire flooding have been a driver, but we have also grown significantly in other programs that have nothing to do with fire and flood, so I believe even had we not had Hayman and other fires, we would still be recognized as an important watershed group in the state; but because of our location, because of how out of whack our forests in the watershed are, and because of the values at risk affected by the fires in our watershed, forest health and fire rehab have driven significant amounts of growth. But, we were here and formed before Hayman, and were working on Buffalo Creek rehab, Hi Meadow, Snaking, and the Schoonover before June 8, 2002, and when asked to step up for Hayman, we did.

2) **Some other thoughts and observations:** We have avoided a lot of advocacy, though we do some on some topics (such as supporting prescribed fire). Our focus has always been on being the big table where people can come together and discuss things and identify what they can agree on, and to then be the boots-on-the-ground implementers who get out and make things happen based on those agreements. When we do engage in advocacy positions, our board will discuss them and sluice out what is appropriate for us. For example, when potential oil and gas development was coming to South Park, we consciously decided not to advocate for or against, but to develop a robust base-line monitoring program that would put the onus on industry to take responsibility in the future if they cause damage. There are plenty of people on both sides of the issue who are advocating for and against, and we will talk to all of them.

To succeed, I really believe that groups have to have strong representation of government on their boards, and that those entities need to invest real dollars in building the group, but government-only boards could not do what we do. The mix of government folks and non-governmental folks is a critical strength. I also believe that hiring really good people is critical. I am smart, driven, and care about this being successful, but I did not do this by myself, and I am by no means the only person capable of building a CUSP. We have been extremely lucky in the support of the board, in the other hires we have made, and in the partners we cultivated: we have truly great people involved who bring a lot of value to our endeavors (but the good people who are employed by a nonprofit need decent pay and benefits).

As we have grown, we have invested in technology (cloud-based database servers and GIS, for example), in developing monitoring capacity, and in outreach capacity. These investments become critical to success, but you need momentum before you spend too much on them.

Government entities are not always able to be nimble, and having a nonprofit partner like CUSP increases the speed with which certain types of things can happen, and most government entities are not comfortable working directly with individual private landowners, so having a CUSP provides the bridge to public-private partnerships, and particularly to completing projects on private land, but that are really for the greater good and not just the benefit of the private landowner.

Pat McCusker, BOR, provided an overview on two collaborative watershed health processes currently engaged in by BOR. Highlights of his presentation are summarized below.

- In July 2013, the Western Watershed Enhancement Partnership MOU was signed by the Department of the Interior (DOI) and the US Department of Agriculture (USDA) at Horsetooth Reservoir to enhance cooperation between agencies dealing with wildfire-damaged resources and to lessen the severity of impacts on water supply facilities.
- The Colorado-Big Thompson (CBT) Headwaters Partnership project came out of this MOU. BOR, NWCD, USFS, and CSFS are working together to coordinate work and grant applications for fuels reduction projects. Other partners include Larimer County, Rocky Mountain National Park, and Western Area Power Administration. This partnership has been effective in facilitating communication between agencies and helping everyone involved to work effectively across boundaries. NWCD is working with Larimer County on their own lands and CSFS is working with private landowners on projects along the CBT. Many other planned projects are NEPA-ready and current efforts are underway to secure federal funding for them.
- An effort is underway on the Fryingpan-Arkansas to develop an MOU with Southeastern Colorado Water Conservancy District, USFS, BLM, CPW, CSFS, NRCS, and Upper Colorado Water Conservancy District. This MOU is expected to be signed in Summer 2014 and will be modeled on the CBT Headwaters Partnership. Since the Fryingpan-Arkansas system is so diverse, an attempt is being made to include every agency from the headwaters to Pueblo Reservoir on the East Slope. In addition to this partnership, BOR is developing an interagency agreement with the Regional Office of USFS to include the White River National Forest.
- In addition to the two MOUs, BOR is working on fire management plans for all facilities on the CBT and Fryingpan–Arkansas projects. These plans include stakeholder input on pre- and post-fire projects and ideas with a focus on reducing post-fire flooding impacts. Fire management units (FMUs) are being defined for each project and evaluated for methods to reduce post-fire flooding impacts. It is hoped that BOR will be able to work with USFS BAER teams to reduce the amount of material that gets into BOR reservoirs. Additionally, FMUs will include management action areas to identify facilities at risk and determine what to do for initial attack during a wildfire, as well as actions to take after a fire has been contained. Fire management plans for these areas will be distributed to neighboring land management agencies.

Question: You talked about determining your partners before the incident, and pointed out that those partnerships will help during and after the incident. Although I recognize that your partners will not necessarily be the same as other partners, could you provide a list of suggested partners that could be used by others as a base list of agencies that should be involved? This list might also be useful for identifying those that need to be involved in a watershed management group.

Response: Reclamation has water conservancy districts for both projects: the Northern Colorado Water Conservancy District for the CBT project and the Southeastern Colorado Water Conservancy District for the Fryingpan-Arkansas (Fry-Ark) water project. So those were easy to identify for partners.

We also have USFS, which is part of USDA and collaborated with DOI on the Western Watershed Enhancement Partnership. Arapaho-Roosevelt National Forest is on the CBT, Pike-San Isabel National Forest is on the eastern slope of the Fry-Ark, and the White River National Forest is on the West Slope.

Of course, we invited CSFS to both partnerships, because they provide assistance to private landowners. We also wanted to include BLM near Canon City, NRCS, CPW, and the Upper Arkansas Water Conservancy District because of their proximity and ability to contribute to solutions.

I found that the more people I talked to, the more folks wanted to partner.

Question: Are there any specific requirements for partnering with the Bureau on collaborative projects like the ones you described? Who generally initiates such projects—the Bureau or local water providers?

Response: Partnering with Reclamation can mean several things. The CBT Headwaters Partnership meets monthly to discuss projects we all want to do within the watersheds that are part of the project. We identified the watersheds with the greatest potential to affect the project if there was a wildfire. We discuss grant opportunities with the State and how to apply for those grants. NWCD and CSFS apply for those grants. The grants cannot be used on federal property, but the grant application can include federal dollars that are being spent on watershed projects within the grant application area. In fact, the State likes to see those partnerships because it means we are all working together. As a federal agency, Reclamation has an interagency agreement to transfer funds to USFS to get work done on federal lands.

On the Fry-Ark, I also attend meetings with the Pike-San Isabel National Forest for the Tennessee Creek Project. In those meetings, the Cities of Aurora and Colorado Springs attend because they have a direct interest in the Fry-Ark project because they store water in Turquoise and Twin Lakes. Both cities have cooperative agreements with USFS to provide funding for the project.

Sara Mayben, USFS, spoke to the group about current partnerships between the Pike-San Isabel National Forest and other entities in the Arkansas and South Plate Basins. Highlights of her presentation are summarized below.

- The Pike-San Isabel National Forest is collaborating with a variety of non-profit, local, state, and federal agencies and organization in the Tennessee Creek area near Leadville. Many of these partnerships are long-term and pre-exist the MOU with BOR. USFS has been working with some of these organizations individually on fuels reduction projects

and other actions to reduce the potential for catastrophic fire. Future plans are to include other non-profits and to extend from the Leadville area to the grasslands in eastern Colorado.

- Through the Tennessee Creek Project, USFS and partners have identified 15,000 acres of treatment needed to restore resiliency and protect critical infrastructure. Treatment priorities have been identified using fuels models. There are a lot of opportunities to form partnerships and address hazardous fuels reduction across landscapes and different ownership categories.
- Another important USFS collaborative dealing with the watershed health is occurring at Upper Monument Creek. Pike-San Isabel National Forest worked with the Front Range Roundtable to receive special initiative funding from USFS. The partnership is working to identify where and how fuels treatments projects should be performed and includes representatives from The Nature Conservancy, university researchers, CUSP, and CSU.
- There are dozens of models available to help identify and prioritize values impacted by watershed health. It is just a matter of choosing one that meets a collaborative's needs.

Question: You talked about determining your partners before the incident, and pointed out that those partnerships will help during and after the incident. Although I recognize that your partners will not necessarily be the same as other partners, could you provide a list of suggested partners that could be used by others as a base list of agencies that should be involved? This list might also be useful for identifying those that need to be involved in a watershed management group.

Response: I would engage the following agencies and group before the fire:

- Local utilities, including water, power companies, ditch or irrigation companies (basically anyone who has infrastructure that could be threatened by a wildfire)
- County officials (Commissioners, Sheriff's Office, Emergency Managers, Fire Dept/VFDs)
- CSFS
- CPW
- BLM
- NPS (if applicable)
- BOR (if applicable)
- NFF (if applicable)
- USFS
- Local environmental groups (wildlife groups, etc.), being sure to include those that have been against doing treatments in the past
- Watershed groups like CUSP
- If along the front range, include the Front Range Roundtable, Wildfire Watershed Protection Group (Brad Piehl)
- Other non-profits or groups working on wildfire mitigation, watershed protection, etc.