

**Watershed Health Basin Plan Working Group Meeting
February 24, 2013
Pueblo, Colorado
Final Meeting Summary**

Attendees

Mike Applegate
Elise Bergsten
Elise Bowne
Heather Dutton
Rich Edwards
Carol Ekarius
Jerry Gibbens
Polly Hays
Eric Howell

Jerri Marr
Dave Mau
Sara Mayben
Mike McHugh
Brad Piehl
Jeff Ravage
Marcus Selig
Jay Skinner
John Smeins

Tom Spezze
Travis Smith
Chris Sturm
Van Truan
John Valentine
Brenda Wilmore

Grant Team

Gary Barber (Arkansas Basin Roundtable)
Heather Bergman (Peak Facilitation Group)
Kim Gortz (Colorado Springs Utilities)

Kyle Hamilton (CH2M Hill)
Olivia Salmon (Peak Facilitation Group)
Mark Shea (Colorado Springs Utilities)

Next Steps

Kim Gortz	Send spreadsheet of current watershed health data sources to the group
Elise Bergsten	Invite a representative of the agricultural committee from the Arkansas Basin Roundtable to join the Working Group
All group members	Invite individuals with intersecting interests or information to join the Working Group; notify Heather Bergman of any additions to the group
All group members	Send relevant data to Mark Shea (mshea@csu.org) and Kim Gortz (kgortz@csu.org) by March 17, 2014 for inclusion into an integrated dataset
All group members	Speak with stakeholders to identify key fears and/or worst case scenarios related to watershed health and bring a list to next meeting.

Welcome

Gary Barber welcomed the group and provided an overview of how the group came into being and his hopes for its future. Highlights are summarized below.

- Watershed health generally, as well as improved communication between local, state, and federal agencies during events that impact watershed health, have become more of a priority in Colorado and will be an important component of Basin Implementation Plans (BIPs).
- In his role as chair of the Arkansas Basin Roundtable, Gary reached out to Mark Shea and Colorado Spring Utilities to capitalize on their expertise on watershed health issues. At the same time, recognizing the interconnectivity of watershed health issues across

basins, Gary began to reach out to other basin roundtables and invite them to join in a larger process.

- In reaching out to other basins and other agencies, it became clear that a large amount of work on this subject had already been conducted. Getting as many knowledgeable parties as possible into one room would be an important step to coordinate efforts and share information.
- BIPs will be due in July, which leaves limited time for action at this stage in the process. However, it is hoped that the Watershed Health Basin Plan Working Group (the Working Group) will be able to articulate important next steps and improve connections and communication between interested parties who can work together in the future. Some deliverables that may come out of the Working Group process include: a watershed health best practices manual, a mapping tool, a common technical platform for further additions to the mapping tool, and a watershed health action plan.

Watershed Health: Parameters and Definition

Facilitator Heather Bergman began discussion by asking the group to brainstorm definitions, parameters, and components of watershed health. Highlights from the discussion are presented below.

- The group discussed the concept of resiliency and ecosystem function when talking about watershed health. Several group members pointed out that there are many factors that play a role in watershed health and that they are all part of an integrated and dynamic equilibrium. One group member pointed out that the word “health” could be problematic since that concept is more of a continuum than a specific point. Some group members suggested that defining acceptable and unacceptable boundaries within that equilibrium could be the most appropriate way to talk about watershed health. Some group members favored the term resiliency, i.e. looking for a resilient system that keeps as much water as possible within a high-functioning system.
- Many group members spoke about watershed health in terms of forest health, forest insects, and fire risk. Other group members emphasized a broader view that considers wetlands, riparian health, and the competence of a watercourse to be able to handle sediment loads. The group discussed how the word “watershed” can encompass concepts specific to “water” (i.e., hydrologic processes and water quality) as well as the “shed” (i.e., forest and land use issues). These concepts are connected and even when discussed separately should be considered in an integrated way.
- Several group members highlighted the importance of fire to forest ecosystems and discouraged an emphasis on fire suppression when discussing watershed health. Fire management (e.g., thinning, prescribed burns) is a more appropriate way to ensure that fires are not catastrophic and threaten the resiliency of watersheds and the broader ecosystem. One group member also discouraged use of the word “restoration” in relation to watershed health, since defining the point in time to restore “to” is problematic and usually irrelevant.
- Many group members pointed out that any discussion of watershed health would need to be geographically broad and take into account the conditions in multiple river basins. It was later clarified that all Colorado basin roundtables had been invited to join the process and would hopefully contribute to future coordination of efforts.

- The group discussed the large number of values that are integral to watershed health, with one group member likening the number of values to a pile of leaves that needs to be raked together and then considered in an organized way. A suggestion was made to map important values for watershed health into separate GIS layers.
- One group member suggested that two components of watershed health be considered: immediate issues that should be dealt with immediately, and more proactive actions that can be taken to keep managers from being in a constant state of crisis management.
- Some group members stressed the importance of prioritization, given the large number of values that can be impacted by watershed health and the limited available resources to protect them. One group member suggested an economic consideration of watershed health that emphasized the best investments to avoid future costs. Other group members emphasized that any discussion of priorities should still consider the integrated nature of the system. One group member stressed that when you say yes to one action, you are saying no to another action, given the limited resources available to enhance watershed health.
- Several group members highlighted the importance of good communication between stakeholders before, during, and after events that have impacts to watershed health. Particularly important is developing good relationships and strong communication lines prior to an event, particularly with federal and state agencies that might own the land and/or be working together in a crisis. Strong collaborative groups that include forest-focused, water-focused, and emergency response entities will be more resilient to crisis events and better prepared to leverage their combined resources.
- Several group members asked for clarification about BIP scopes of work and how they relate to watershed health planning. Specifically, the group had questions about whether or not it was within the scope of the BIPs to consider nonconsumptive values such as recreation when prioritizing watershed health values, or whether preservation of water supplies for only consumptive uses should be considered within this scope. Chris Sturm with the Colorado Water Conservation Board clarified that the watershed health section of the BIPs should be focused on “water supply,” which can be defined as both consumptive and nonconsumptive uses of water. It will be up to each basin roundtable to identify their specific sets of priorities.
- One member of the group stressed that an important component of resilience is having the right people prepared to respond to natural disasters or other threats before those events occur. One potentially powerful outcome of this process could be a strategy or a how-to guide for getting local, state, federal, and nonprofit entities together before there is a catastrophe to identify key values to protect and develop a response plan.

Watershed Health: Existing Data and Assessment Strategies

In addition to an exploration of parameters, definitions, and components of watershed health, the group explored various methods for gathering data and assessing watershed health. Highlights of the discussion are summarized below.

- A group member pointed out that the US Forest Service (USFS) has completed a watershed condition framework focused mostly on hydrology considerations that includes conditions and indicators. The group could consider building upon the information provided in this framework to identify priorities and key values.

- Another group member described a USFS wildfire risk tool that identifies highly-valued resources at high risk from wildfire. The tool incorporates the intensity level of a potential fire based on thousands of fire-start scenarios and landscape types and determines whether the impact to valued resources would be positive or negative (for instance, a low-intensity fire in a ponderosa pine stand could have positive impacts to forest health, water quality, and wildlife habitat). Ultimately, the tool can highlight where important values are most at risk and which areas should be targeted with preventative treatments.
- One group member pointed out that USFS Burned Area Emergency Response (BAER) teams have a set of policies that guide what conditions they can and cannot respond to. Identifying values that are beyond the scope of BAER work could be a useful exercise for the group.
- The Coalition for the Upper South Platte (CUSP) has performed strategic watershed planning and mapping work that examined five-mile reaches around critical reservoirs and incorporated other high priorities identified by community groups. They were then able to identify priorities for targeting with projects and financial resources.
- One group member pointed out the difficulty in assessing a concept as broad and complex as watershed health. For instance, naturally-occurring selenium and uranium exist in the waterways of the Arkansas Basin, making assessments of water quality there problematic. Additionally, post-fire studies have found that streams with high sediment loads and metal concentrations have not prevented biological systems (e.g., fish species) from rebounding. When assessing watershed health, then, what parameters will be appropriate to examine? Health of biological systems? Water quality? Other group members highlighted the difficulty of measuring success when dealing with concepts like prevention or avoidable costs and stressed that the group should not focus on extremely specific assessment parameters.
- Several group members pointed out that defining the question to be answered would be important, particularly in relation to mapping exercises. Winding up with hundreds of layers of data that do not answer the questions the group wants answers to would be unproductive. Other group members echoed these concerns and encouraged the group to avoid “scope creep” and incorporating large numbers of values that, while important, may be beyond the specific goals and needs of the watershed health component of BIP process (e.g., highway infrastructure, buy and dry of agricultural land).
- Another group member suggested that a mapping exercise might be simplified by focusing on values at risk. Mapping layers would identify values affected by watershed health on a map, including information about how much water supply for consumptive and nonconsumptive use comes from which locations. Then a second layer will identify locations with various levels of risk for catastrophic fire or other dangers.
- The group discussed a sequencing process for the Working Group, trying to determine whether the group should explore existing data sets or attempt to identify values first. Some group members felt that existing data should be explored as a first stage in the process. Other group members stated that defining values at the beginning of the process, and then determining what data was available to assess those values, could help focus the group on a clear definition of questions they were trying to answer. One group member suggested defining and identifying risks as a first stage of the process, and then collecting data related to those risks.

Watershed Health Basin Plan Working Group: Future Process

The group ultimately agreed to the following process for their future deliberations and activities:

- 1) Identification of key fears and/or worst-case scenarios related to watershed health (e.g., “What scares you most?)
- 2) Identification of key values related to forest health
- 3) Identification of barriers to maintaining protection of values
- 4) Development of an action plan (including a strategy for getting people together in advance of a catastrophic event)

The group also agreed that in parallel with this process, compilation of existing data that could inform these questions will occur. Further, the group will honor the BIP process and utilize the priorities and values identified by basin roundtables. (It is possible that additional values relevant to watershed health will emerge.) When identifying values, the group will consider a wide variety of values but then will prioritize values most relevant to watershed health within the BIP process.

Next Steps

- Group members will speak with their stakeholders and come to the next meeting with a list of key fears and/or worst-case scenarios related to watershed health. The group will have a discussion about watershed health values at the next meeting based on these lists.
- Group members will also think about and review data they have access to that will be most relevant to the group’s future activities. Relevant data should be sent to Mark Shea (mshea@csu.org) and Kim Gortz (kgortz@csu.org) prior to the meeting for incorporation into an integrated dataset. The group will discuss this dataset at the next meeting.
- Group members will invite other individuals who they think should be involved in the Working Group process and notify Heather (heather@peakfacilitation.com) about anyone who agrees to join the group.

**Watershed Health Basin Plan Working Group
 March 24, 2014 Meeting
 Pueblo, CO
 FINAL MEETING SUMMARY**

Attendees

Elise Bergsten	Sara Mayben	Steve Smith
Abby Burk	Mike McHugh	Chris Sturm
Heather Dutton	Jenn Moore	Glenda Torres
Polly Hays	Rich Rhoades	John Valentine
Laura Kindt	Jay Skinner	

Grant Team

Gary Barber	Kim Gortz	Mark Shea
Heather Bergman	Olivia Salmon	

Next Steps

Mapping Team	Prepare updated watershed health map for discussion at April meeting
Working Group members	<ul style="list-style-type: none"> • Respond to forthcoming email from Heather Bergman regarding criteria for prioritizing watershed values • Send suggestions for webinar topics to Heather Bergman

Basin Roundtable Summit: Watershed Health Breakout Session

Gary Barber and Heather Bergman provided the group with an overview of the Watershed Health Breakout Session that occurred at the March 6, 2014 Basin Roundtable Summit. Key points are highlighted below. A summary of the Summit session is attached for reference.

- About 30 people attended the session, and participants were interested in tracking the activities of the Working Group and participating where they could. The interest and engagement of Basin Roundtable Summit attendees was an encouraging affirmation about the efforts of the Working Group.
- Participants at the Watershed Health breakout session had a fairly high-level discussion about values and threats related to watershed health, as well as barriers to the protection of key values and important partners to bring to the table. Participants from the South Platte and Rio Grande basins contributed a great deal of information about lessons learned during large fire and flood events.

Key Values Affected by Watershed Health

Following an overview of values, threats, barriers, and partners identified at the Basin Roundtable Summit, the group worked on outlining additional key values that will potentially be affected by watershed health. These are summarized below.

- Agriculture and prime farmland was identified by the group as a key value impacted by watershed health.
- Some group members emphasized watershed health in and of itself as a key value, specifically the resilience of ecosystems and the preservation of ecosystem processes.

These group members stressed that fires and floods will still occur within a resilient ecosystem, and that efforts should be targeted towards uncharacteristically severe events that would fundamentally disrupt ecosystem processes.

- The group identified wildlife habitat as a key value to be protected, particularly native species (e.g., cutthroat trout). Some group members emphasized that wildlife has an important intrinsic value as well as being an important part of recreation economies. One group member pointed out that riparian bird species, along with fish species, should be considered as a key value. Some group members stressed the importance of preventing wildlife species from being listed as endangered, which can have major impacts on water rights for all users in a region.
- Group members from the U.S. Forest Service (USFS) and Bureau of Land Management (BLM) pointed out that special use permits on federal lands encompass oil and gas infrastructure, power, timber, grazing, recreational outfitters, and communications infrastructure. In a crisis, human safety always comes first, resulting in the prioritization of things like power distribution lines and communication towers over wilderness areas. When it comes to recreation areas on federal lands, areas that have substantial infrastructure investments are prioritized before wilderness areas with no recreational infrastructure.
- The group discussed human safety more broadly, with some group members pointing out the importance of the phrase “human health and property” in receiving federal assistance during crisis events. The group also discussed the importance of human egress routes during fires and floods.
- Nuances of water supply infrastructure were discussed by the group. Reservoirs can be used to store water for municipalities, irrigation, and/or power generation. Understanding these differing uses will help prioritization efforts. One group member pointed out that in the Rio Grande Basin, a large reservoir allows multiple, smaller conservation pools to exist. If this reservoir were threatened, the conservation pools would also be threatened, potentially resulting in endangered species listings.
- Several group members pointed out that values and planning activities during crisis events are often very site-specific and need to be discussed as such, as opposed to simply identifying statewide values.

Key Threats to Watershed Health

In addition to threats outlined by participants in the Basin Roundtable Summit Watershed Health breakout session, the group identified the following key threats to watershed health:

- Major threats utilized in the USFS Watershed Condition Framework include fire, insects, disease, roads, motorized use, grazing, and noxious weeds.
- Washout of wastewater treatment facilities was identified as a serious threat to watershed health due to the nature of the potential contaminants.
- A group member highlighted mines and mining tailings as a serious threat to watershed health, particularly in the Upper Arkansas Basin.
- A group member identified landslides as a potential threat to watershed health, both in relation to post-fire conditions, as well as when they are unrelated to fires.

Key Barriers to the Protection of Watershed Health

In addition to barriers outlined by participants in the Basin Roundtable Summit Watershed Health breakout session, the group identified the following barriers to the protection of watershed health:

- There is a gap between strategic planning and budgeting in some federal land management agencies.
- A “how-to” manual is needed to gather information from multiple agencies and organizations about how to permit a project, how to get money for a project, and who to contact during a crisis.
- Deciding on scales of measurement and types of boundaries (e.g., watershed, Forest Service district) can be challenging.
- Some watershed health mapping layers gathered to date are based on stream reaches as a unit, while others use hydrologic unit codes (HUCs).

Key Partners for Watershed Health Action Plan

In addition to the partners outlined by participants in the Basin Roundtable Summit Watershed Health breakout session, the group identified the following potential partners to include in a watershed health action plan:

- Highway departments at the county, state, and federal level
- The Water Quality Control Division at Colorado Department of Public Health and Environment
- Water conservancy districts
- Fire district representatives
- The US Army Corps of Engineers

Presentation on Current Mapping Efforts

Kim Gortz, Colorado Springs Utilities, presented the watershed health mapping data collected to date for the Arkansas Basin. She explained that Colorado Springs Utilities (CSU) has been putting data together in themes, including fire, environmental data, water infrastructure, human geography, and nonconsumptive needs. Currently, the map does not include project-specific or forest-specific data. The group discussed additional data that could be utilized in watershed health mapping efforts

Additional Available Data Identified by the Group

- USFS Watershed Assessment Framework
- USFS Wildfire Decision Support Tool (more information is needed about how local groups can feed values into this tool)
- NRCS “prime farmland”/soil survey data
- BLM land health assessments
- CPW infrastructure mapping data for State Wildlife Areas (includes utility corridors, communication sites)
- Mining data to include permits, tailings sites, and reclamation activities
- USFS special use permits (not currently available in a geospatial format)

Strategies for Moving Forward

To target future efforts of the Watershed Health Basin Plan Working Group, the group discussed several different strategies for conceptualizing and mapping watershed health data. These strategies are summarized below.

- Some group members suggested organizing watershed health data and planning efforts into three tiers dealing with proactive management strategies, emergency management, and post-fire or post-flood rehabilitation.
- One group member suggested organizing watershed health data into consumptive and nonconsumptive water supply use categories. The consumptive use category could be broken down into agricultural and municipal categories, and the nonconsumptive use category could be broken down into environmental and recreational needs. A watershed health mapping tool could identify prioritized areas for each of these categories.
- Another group member suggested categorizing watershed health components according to built and natural infrastructures, with an emphasis on identifying values that share the same consequences.
- Several group members suggested that a first step for organizing watershed health data would be to identify exactly where water supplies are coming from before attaching values (e.g., what percentage of water below Pueblo Reservoir is coming from Twin Lakes?)

The group agreed to defer to the mapping team in terms of what approach makes the most sense moving forward. The mapping team will prepare an updated map for the April meeting. The next step for the group will be to develop criteria for prioritizing values. Some of the above approaches may be included in the prioritization process. The group agreed to send their ideas for prioritization criteria to Heather in advance of the next meeting; Heather will send an email requesting these criteria after the summary has been distributed. The goal of the email exchange will be to gather as many potential criteria as possible in advance of the meeting to allow for the bulk of the next meeting to be spent discussing and applying the criteria.

Watershed Health Basin Plan Working Group
April 22, 2014
Pueblo, CO
Final Meeting Summary

Attendees

Elise Bergsten	Roger Ortiz	Jay Skinner
Heather Dutton	Richard Rhoades	
Mike McHugh	Marcus Selig	

Grant Team

Gary Barber	Kyle Hamilton	Olivia Salmon
Heather Bergman	Kim Gortz	Mark Shea

Next Steps

Heather Dutton	Contact Dan Dallas to speak at the May 13 webinar
Kim Gortz	Digitize information from mapping exercise and present at next meeting. Explore methods to allow online contributions to mapping exercise (e.g., through Google Maps).
Kyle Hamilton	Contact Carol Ekarius from CUSP to speak at May 13 webinar
Mike McHugh	Send information about environmental and recreational “hot spots” east of Pueblo to Kyle Hamilton (Kyle.Hamilton@ch2m.com)
Mike McHugh	Identify and contact agricultural representative from the South Platte Basin to speak at the May 13 webinar
Mark Shea	Identify and contact Colorado Spring Utilities representative to speak at the May 13 webinar
Mark Shea	Identify and contact representative from Colorado Division of Fire Prevention and Control to speak at the May 13 webinar

Presentation of Draft Watershed Maps

Kim Gortz, Colorado Springs Utilities, provided an overview of the methodology that drove the creation of the Draft Watershed Maps, touching on the following points:

- Water supply and water quality were conceptualized as a nexus for the watershed health values represented in the maps. Water supply was categorized further to represent values for municipal and industrial (M&I) entities, agriculture, the environment, and recreation. Maps were generated for each of these categories. Threats to watersheds were also considered in the following categories: catastrophic fire, flooding (pre- and post-fire), contamination/degradation, insects, and disease. A “Parade of Horribles” map was generated to represent these threats.
- Data sources for the maps included the Colorado Wildfire Risk Assessment Portal (CO-WRAP), Federal Emergency Management Agency (FEMA) floodplain maps, Colorado Department of Public Health and Environment (CDPHE) source water protection data,

state stream impairment data, Natural Resource Conservation Service (NRCS) land use data, and forest insect and disease data from Colorado State Forest Service (CSFS). A focus was placed on State of Colorado data sources.

Discussion

- Several group members highlighted the usefulness of the maps as a reference document in order to target funding and financing opportunities for critical projects.
- A group member pointed out that contractors participating in the Colorado Water Plan (CWP) process are switching from hydrologic unit codes (HUCs) to stream-miles in their analyses. Several group members agreed that stream miles do not capture important components related to watershed health, including flat water recreation and potential impacts to rivers from the larger landscape. One group member pointed out that stream miles and HUCs can be integrated in a larger analysis without too much trouble (e.g., a high-risk fire area within a HUC could be analyzed in terms of how it would impact a stream section).
- Some group members had concerns about how current and complete the data sources in the Draft Watershed Maps were. Kim agreed that there are gaps in the data, but that further discussion and development will help to improve the maps. Another group member pointed out that gaps also exist in the US Forest Service Wildfire Decision Support System (WFDSS); however, if the Working Group is able to highlight and illustrate these data gaps through maps and an action plan, municipalities might be more likely to apply for grants and fill the data gaps.
- A group member expressed concern over the values and threats approach being taken by the Working Group and the Draft Watershed Maps, pointing out that values and threats are generally located in different geographic areas (i.e., values are mostly located downstream and threats upstream). This group member suggested prioritizing threats as opposed to values to focus mitigation efforts. Other group members pointed out that identification of values in the Draft Watershed Maps will be focused on driving action to address threats upstream.
- Some group members suggested additional factors beyond values and threats to be considered later in the prioritization effort (e.g., as the Working Group Action Plan is developed). These factors included problem areas (e.g., diversion structures that recreational boaters need to walk around) that are recognized by many parties and technical and financial feasibility.
- Several group members stressed that the mapping prioritization exercise would be more valuable if additional stakeholders contributed. The Grant Team agreed to present the maps and introduce the mapping exercise to attendees at the Arkansas Basin Forum and to solicit further feedback and future Working Group meetings.
- A group member expressed concern that information highlighted in the map (e.g., endangered species habitat) might not be entirely accurate and could be used in unintentional and potentially harmful ways. The Grant Team clarified that this was not the intent of the mapping exercise and that the process would be open, collaborative, and dynamic with a goal of getting a sense of the systems at play in watershed health issues.
- Several group members pointed out that filling the projected water supply gap was a great goal, but a secondary and perhaps more near-term goal should be to keep the gap from getting bigger.

- A group member suggested documenting the dataset query processes used in the development of the Draft Watershed Maps, so the process can be recreated by other parties in other basins. Another group member recommended documenting data layers that were excluded in the Draft Watershed Map.

Draft Watershed Health Mapping Exercise

Group members divided into small groups to examine the thematic maps. One group looked at the Environmental and Recreational Draft Watershed Health Maps, another group looked at the M&I Draft Watershed Health Map, and another group looked at the Agricultural Draft Watershed Health Map. Concurrently, each group also examined the “Parade of Horribles” map illustrating threats to watershed health. Group members were asked to place a colored dot on mapped values that they considered “most important.” Each dot was numbered by the group member, who was then asked to fill out a worksheet documenting each numbered dot. The worksheet included fields for naming the value, explaining why the value was important, assessing whether the value was at risk, and determining whether the risk could be mitigated. Additionally, group members were encouraged to identify projects, opportunities and partners on post-it notes and add them to the appropriate place on the map.

Kim Gortz will take the data generated by the group mapping exercise, digitize it, and present it at the next Working Group meeting. Additional prioritization data for the Draft Watershed Health Maps will be collected by participants at future Working Group meetings and Arkansas Basin outreach events.

May 13 Webinar: Discussion

The group brainstormed ideas for the upcoming May 13 webinar, touching on the following points:

- The first half of the webinar will focus on hearing from individuals who have learned from wildfire and flooding events. Travis Smith and Jerry Gibbens will discuss their experiences from recent wildfire events. Additionally, group members agreed to contact speakers representing Colorado Springs Utilities, the Coalition for the Upper South Platte, and an agricultural representative to describe recent flooding in the South Platte Basin.
- The second half of the webinar will focus on state and federal planning for wildfire, state and federal response strategies for wildfire, and collaborative approaches for the future. Some group members pointed out that understanding the chain-of-command during a wildfire emergency is complex. In locations where there is a great deal of federal (e.g., US Forest Service) land, it is important to understand how Type I Incident Command (IC) teams operate and the process and personnel involved in mobilizing them. Heather Dutton agreed to invite the Rio Grande National Forest Supervisor, Dan Dallas, who is also a Type I IC, to speak at the webinar about the process.
- In localities where affected land is not federally-owned, the chain-of command structure is different during a wildfire emergency, and many players are often involved. Mark Shea offered to contact a representative from the Colorado Division of Fire Prevention and Control to speak at the webinar. This agency is new and may play a role in facilitating conversations between local jurisdictions during a wildfire emergency.

**Watershed Health Basin Plan Working Group Meeting
June 17, 2014
Colorado Springs, CO
Draft Summary**

Attendees

Elise Bergsten
Rich Homann
Sara Mayben

Mike McHugh
Jay Skinner
Steve Smith

John Valentine
Brenda Wilmore

Grant Team

Heather Bergman
Kim Gortz

Kyle Hamilton
Olivia Salmon

Mark Shea

Next Steps

Peak Facilitation Group	Send draft Action Plan and revised “how-to” documents to Watershed Health Working Group for comment
Watershed Health Working Group members	Send revisions and suggestions for draft Action Plan and revised “how-to” documents to Heather Bergman (heather@peakfacilitation.com) by July 1, 2014
Kim Gortz	Send write-up of mapping methodology to Heather Bergman (heather@peakfacilitation.com)

Colorado Wildfire Risk Assessment Portal (CO-WRAP): Presentation

Rich Homann, Colorado State Forest Service (CSFS), provided an overview of CO-WRAP. Highlights of his presentation are summarized below.

- CO-WRAP is a web mapping tool focused on providing easy access to wildfire risk assessment data. Its primary purposes are to quantify the magnitude of the wildfire problem in Colorado, serve as a foundation for policy and management, display baseline data, and to enhance communication about wildfire. It can be a valuable tool in identifying and comparing priorities for fuel treatment areas when limited resources are available.
- CO-WRAP has a public viewer for interested citizens and a professional viewer (requiring registration) for planning professionals. CO-WRAP is suitable for land managers and professionals without GIS experience, as well as those who are experienced in working with GIS data.
- Examples of wildfire risk assessments conducted by CSFS from 1996 through 2012 were given. The first assessment was conducted by fire behavior analysts who used Mylar maps and grease pencils to identify areas where fuel loading would support large wildfires and where values in an area could make a fire catastrophic. Updated wildfire risk assessments have occurred every six years since that time. Recent assessments have incorporated additional data and science about fire behavior (e.g., slope, aspect, weather forecasting, housing density) and have incorporated national datasets (e.g., Landfire) that can be updated across the Colorado landscape.

- One of the primary advantages of CO-WRAP is the repeatable and consistent nature of the data.
- Four value layers are included in the current CO-WRAP system: urban interface, water quality/quantity, forest assets, and riparian assets. These values are ranked, with a higher ranking given to urban interface and water quality/quantity values.
- CO-WRAP is not a static system. Last year hydrologic unit code (HUC) 12 boundaries were added to the mapping tool. This year, data about forest management activities on private land in Colorado will be added.

Discussion

- A group member posed a question about the potential interface between CSFS and the US Forest Service (USFS) in the collection of data used in CO-WRAP or other, similar efforts. Rich and USFS staff present at the meeting clarified that USFS also uses national datasets to assess wildfire risk on USFS land and that CSFS and USFS partnered in the development of CO-WRAP.
- A group member asked about increased wildfire risk displayed in northwestern Colorado in the 2012 risk assessment maps when compared to the 1996 assessment maps. Rich clarified that invasive species and fine fuels in northwestern Colorado rangelands have increased the fire risk in that region.
- A group member asked whether the CO-WRAP data that can be downloaded by registered professional users is raw or run through algorithms. Rich stated that both data types are available.
- The group discussed the definition of risk used in the CO-WRAP system. Rich clarified that for the purposes of the CO-WRAP assessment, threat is defined as the probability of an acre burning, while risk is defined as that probability plus the values that a fire could affect. Kim Gortz pointed out that the Working Group mapping exercise utilized risk layers from CO-WRAP and not threats.
- The group also discussed the fact that while fuels treatment projects on private lands will soon be mapped on CO-WRAP, data about treatments on USFS land is not yet available for use in CO-WRAP. Rich clarified that additional funding is needed to incorporate additional data layers into CO-WRAP and that funding sources for this task have not yet been identified. Other group members pointed out the importance of showing reduced fire risk on all land ownerships after treatments have taken place. One group member pointed out that rerunning data with fuels treatment information to learn more about how management has modified potential fire behavior and risk is complicated and costly. However, simply identifying treatment locations could be a simpler first step.
- Some group members highlighted the fact that CO-WRAP is a large-scale tool that is best-suited for identifying broad areas for treatment. However, people are still needed on the ground to interpret the data on a smaller scale and make localized decisions for optimal treatments. Different tools and models should be used for smaller-scale decisions and projects.
- A group member asked whether existing water infrastructure was reflected in CO-WRAP maps. CO-WRAP uses the USFS Forests to Faucets data layer to represent water values. Rich clarified that infrastructure was taken out of the assessment because the data used included highways and roads, which skewed the output too much. However, this data can be incorporated into CO-WRAP mapping data on an individual or localized basis.

- A group member inquired about documentation associated with how CO-WRAP was built. Rich stated that this information is available upon request.
- A group member asked how the fire-intensity scale was constructed and defined in CO-WRAP. Rich clarified that descriptions for each level of the fire-intensity scale are included in the system (e.g., a low-intensity fire is described as one-to-two-foot flame lengths, where the fire is controllable with ground forces, while a high- or extreme-intensity fire would be described as 150-foot flame lengths that cannot be controlled with ground or air forces).

Update on Value and Risk Maps

Kim Gortz provided an update on the watershed health value and risk mapping effort, touching on the following points:

- The watershed health value and risk maps have been displayed at several meetings in the Arkansas Basin recently, including the Arkansas Basin Water Forum and a recent Arkansas Basin Roundtable meeting. Attendees at these meetings placed sticky notes on the maps indicating values and points of interest, and some individuals pointed out errors in the maps.
- The maps have been updated to correct mistakes and include new points of interest. Static maps will be posted online soon.

Discussion

Some group members asked whether it would be appropriate to map proposed projects and processes emerging from the basin implementation plan (BIP) process, and USFS representatives offered to contribute fuels treatment data layers for national forest lands. The group ultimately concluded that intersecting current and future projects and processes with the values and risks maps would be better suited to a future action item.

Action Plan Affinity Mapping and Revisions to How-To Documents

The Watershed Health Working Group engaged in an action plan affinity mapping exercise to identify key components of a Watershed Health Action Plan. Additionally, the group discussed potential revisions to two watershed health “how-to” documents. A draft Watershed Health Action Plan and revised “how-to” documents based on these discussions will be distributed to the Working Group as soon as they are available.

**Watershed Health Basin Plan Working Group
July 30, 2014 – Colorado Springs, CO
Meeting Summary**

Attendance

Gary Barber	Kyle Hamilton	Chris Sturm
Heather Bergman	Sara Mayben	Van Truan
Elise Bergsten	Olivia Salmon	
Carol Ekarius	Steve Smith	

Action Items

Heather Bergman, Olivia Salmon	Revise BIP documents to reflect the day’s discussion; submit to Gary Barber on July 30, 2014
Heather Bergman	Send group an update after the August 7 presentation to the Water Resources Review Committee
Heather Bergman	Prepare a summary PowerPoint and handouts for Working Group members to use to share the outcomes of this process with others

Discussion Highlights

Report on Draft Basin Plan Presentations to the Arkansas Basin Roundtable and the Colorado Water Conservation Board (CWCB)

Gary Barber reported that both the Arkansas Basin Roundtable and the Colorado Water Conservation Board seemed satisfied with the Draft Arkansas Basin Implementation Plan (BIP). At the CWCB meeting, Travis Smith indicated that he was very pleased with the watershed health component in particular. Few of the other BIPs addressed watershed health; only the Rio Grande addressed it depth similar to that of the Arkansas. Both the Metro/South Platte and the Gunnison BIP teams stated that they believe that watershed health is a critical issue but did not address it in their respective BIPs.

Other Updates

During and after the BIP presentation to the Arkansas Basin Roundtable in July, several members of the Working Group reached out to some Roundtable members to assess interest in forming a collaborative watershed group. This idea was favorably received and several individuals volunteered to host the first meeting.

The Front Range Roundtable has already begun working to get the Arkansas Basin mapping data into other agency databases. Progress is expected to continue, with specific focus on getting CO-WRAP updated with GIS data from the Forest Service and other federal agencies.

CWCB, the National Forest Foundation, and other entities remain interested in the work that this group is doing, which several participants view as validation of their work together.

Watershed Health Action Plan for the Arkansas Basin

The Working Group dedicated substantial time at the meeting to revising and refining the action plan for watershed health in the Arkansas Basin. The group decided to align the main sections of the action plan with the first four stages of the “Circle of Fire” graphic. Multiple action items from the previous draft were combined and consolidated to create a more streamlined and clear action plan. The Working Group developed specific action items geared toward getting a collaborative group in the Upper Arkansas Basin (above Pueblo Reservoir) started in the fall of 2014. The group envisions a coalition of existing entities that will work together to identify and implement projects and other efforts collaboratively to improve and protect watershed health. These and other revisions are reflected in the action plan included in the BIP submitted to CWCB on July 31, 2014.

Review of Watershed Health Documents for the Arkansas BIP

The Working Group offered suggestions for change to the current draft narrative for the watershed health chapter of the BIP. Specific suggestions included:

- Clarifying that there are additional values, needs, and threats in the watershed that do not relate to wildfire
- Highlighting the importance of getting a collaborative up and running before there is a fire or other event
- Clarifying in the graphic showing the progression of authority in wildfire response that responses to fires that start on county, state, or federal land will automatically begin at the county, state, or federal level, respectively

Presentation to the Water Resources Review Committee

Travis Smith, Gary Barber, and Heather Bergman have been invited to give a presentation on watershed health to the Water Resources Review Committee on August 7, 2014, at the State Capitol. The goal of the presentation is to update the Committee on the collaborative work underway in the Rio Grande Basin, the Working Group’s formation and purpose, some key products and findings of the Working Group, and the intent to create a collaborative group in the Arkansas Basin. Additionally, the team has been encouraged to suggest a role for the State in supporting and advancing watershed health. The Working Group offered advice on how to approach the presentation, including the following ideas:

- Consider whether the State will be willing and able to fund staff in addition to projects
- Focus on the need for capacity building as a critical first step for which there is currently no State funding
- Stress that funding should be a new allocation and not a repurposing of existing funds away from current projects or programs
- Stress that funding collaboratives in the short term will save money and lives in the long term
- Stay at a high level; do not get into the weeds of how to fund or administer the allocation for collaborative efforts
- State that funding collaboratives allows for proactive planning and preparedness rather than reaction