

Dolores Watershed and Resilient Forest (DWaRF) Collaborative

Meeting 17

8-2-17, 1:30 - 3:30 at Dolores Water Conservancy District Office

In Attendance:

Jimbo Buickerood, David Sitton, Dewayne Findley, Aaron Kimple, Shauna Jensen, Rachel Medina, Helen Reynolds, Greg Kemp, Ryan Cox, Liz Manus, Richard Morris, Paul Hollar, Eric Janes, Derek Padilla, Pam Wilson, Mike Znerold, Doug Roth, Bruce Short, Mike Preston, Tanner Hutt, Thurman Wilson, and Rebecca Samulski (facilitating) attending in person. Chris Asbjorn, Ken Curtis, Shea Burns, and Dave Goodrich teleconferencing.

Updates:

Last month's tour of the Lake Canyon logging units and two burn areas went well. Becca commented that when she had been in the same area about two years ago it didn't seem like there was that much beetle kill but it really does now. Dewayne said he really appreciated Helen (BLM teacher on the land intern) being on the field trip; education will help the timber industry. Helen said she was impressed with how many organizations were involved. Bruce commented that he missed the field trip but was in the area working on the Dolores Rim fire that day and thought he was seeing many more pockets of beetle activity for a long way up.

Mike Z. noted that 20 years ago with the Pine Zone Project they were very interested in thinning and thought they could get ahead of problems. Now they are just chasing beetles. The objective has changed from thinning to release and make the pine more resilient to salvaging dead trees.

Dewayne commented that he was seeing a lot of spruce budworm activity. Bruce said that there is a large area of the San Juan infested, with Douglas fir and true firs affected as well as spruce. He noted that we usually have spruce budworm infestations on about a 12-year cycle. Trees survive much of the time but it is tougher if other problems such as drought are happening concurrently. Becca said she would look into getting an entomologist from the USFS Gunnison Service Center or the Colorado State Forest Service to attend a future meeting.

Becca made presentations to the Dolores Town Board and the Montezuma Community Economic Development Association (MCEDA) a few weeks ago. She suggested that MCEDA get engaged how to grow the timber industry.

Becca introduced Liz Manus, who is working with her on developing outreach materials.

Quite a few DWaRF members were able to visit with Brian Ferebee, the USFS Regional Forester, when he visited recently: Norm Bircher, David Sitton, Mike Preston, Jimbo Buickerood, Pam Wilson, Aaron Kimple, Derek Padilla (as well as J.R. Ford from Pagosa Springs). There was a lot of discussion about how to leverage state and federal resources. Mike P. commented that he sees more collaboration and momentum than he has since the Pine Zone Project days. The good neighbor policy is opening some paths. Derek said the Forest received \$1,000,000 in good neighbor authority funds that led to the State Forest Service adding a position as well as doing work on the ground.

Derek had spent a morning with Steve Lohr, the USFS Regional Director for Renewable Resources. Steve was very supportive of the San Juan and said they were getting a lot done and at better prices than elsewhere – “a good bang for the buck.”

Brian Ferebee has said that he and Jenna Sloan, Regional Director for Cooperative Forestry and Tribal Relations, will be engaged with the Forest Health Advisory Council. Mike P. passed out a letter from the Forest Health Advisory Council to the Colorado Water Conservation Board that expressed support for the Colorado Water Plan and discussed ways the Forest Health Advisory Council is aligned with the Colorado Water Plan. Mike P. and Aaron are working on some background materials for the Council on existing collaborative groups.

Risk Assessment:

Our risk assessment encompasses 1,032 square miles. We want the assessment to help guide priority areas for work. Last year we worked together on values at risk, using the methodology in RMRS-GTR-315 for HVRA modeling.

Brad Pietruszka led the modeling with input from many members of our group and presented the results to date at our January meeting. That work focused mostly on fire risk.

We are also working on what happens post fire, using the Automated Geospatial Watershed Assessment (AGWA) modeling tool. Shauna Jensen is familiar with this approach from Burned Area Emergency Rehabilitation (BAER) work. We contracted with a team in Arizona to run the models, providing them with the fire intensities from our earlier work to use as inputs. Two members of that team, Dave Goodrich with the Agricultural Research Service in Tucson and Shea Burns with the University of Arizona presented the current status of their modeling to us using Zoom to videoconference. Their PowerPoint presentation is available on Google Drive: <https://drive.google.com/open?id=0BwH0TcHiDjZsRmpLWXREMIpENUtSYzNNQU5pLW5nNjVnY0Q0>.

They are looking at watershed response, which depends on things such as topography, land cover, land use, soils, precipitation, and human modifications. They use a distributed approach, which breaks our assessment area into many smaller pieces. They use national GIS datasets for basic information, supplemented with local management information that we provided. USDA KINEROS2 was used for watershed modeling. They first ran the model with pre-fire conditions, then ran it using post-fire burn severity from our earlier modeling work. They are looking at relative changes (using the same set of rainfall assumptions each time); not trying to predict actual runoff and sediment levels that would occur.

Using the National Hydrography Dataset flowlines, they subdivided our assessment area into 25,913 hillside elements and 10,387 channels. They focused their work more on the hillsides than the channels. Eighty percent of the hillslopes were 11 acres or less, but there were some larger ones. They used rainstorm data from the NOAA Precipitation Frequency Data Server and ran 112 simulations, 56 pre-fire and 56 post-fire. They generated 186 result files, 62 pre-fire, 62 post-fire, and 62 percent change from pre-fire to post-fire.

Becca and our assessment team gave them three locations to focus on: the Town of Dolores water tank, the Spruce Water Canyon/Road 36 intersection, and the Silver Creek water intake for the Town of Rico. They estimated the amount of runoff using 2-year, 10-year and 25-year 60-minute rainfall events. For example, the 2-year 60-minute event at the Town of Dolores water tank resulted in 0.2 inches per hour of runoff in pre-fire conditions but 1.3 inches per hour in post-fire conditions, a 550 percent increase. Total runoff volume can be calculated by multiplying those numbers by the area of the hillslope. The 10-year 60-minute event estimate was 2.5 inches per hour pre-fire and 2.6 inches post-fire (a 4 percent increase). The 25-year 60-minute event estimate was 3.55 inches per hour pre-fire and 3.63 inches per hour (a 2.25 percent increase). For this area and Spruce Water Canyon the pre-fire and post-fire runoff differences were much more pronounced at lower rainfall amounts than higher ones. A really big rain produces a lot of runoff regardless of whether fire has altered ground conditions. Changes in sediment may be greater post-fire than the runoff levels. They didn't have enough specific soils and channel condition data to model that accurately. It is much more difficult to get the erosion and sediment effects right compared to the runoff. The Silver Creek scenarios were different with runoff significantly increasing under post-fire conditions at any rainfall amount.

They stressed that these were designed storms used for modeling, not actual recorded events. The analysis points out potential problem areas; places to look harder and start asking questions.

Next Steps:

We need the risk assessment team to get back together to discuss next steps. Becca will send out a doodle poll in a month or so when we have final results back from the Arizona team.

We need a group working on helping timber industry. Bruce and Mike Z. volunteered and Derek said Dave Casey should be involved.

The owner of Neiman Enterprises, which owns the Montrose mill among others, visited recently. They are potentially interested in pine but aren't sure what it would take to make grade. They took two loads of pine from here to run through their Spearfish, South Dakota mill to test. They are in the kiln now. We will want to keep in the loop on this.

J.R. Ford recently stated that he is still interested in biomass over here. He wouldn't want to mill lumber over here since there are already facilities here that can do that; there weren't in Pagosa Springs.

Becca will send out an assignment to the group on a vision for DWaRF.

Jimbo suggested that it would be good to ground truth some of the risk assessment modelling where we have had recent fires such as Long Draw and Dolores Rim.

Helen asked people that have Dolores watershed (forest, river, etc.) lessons or knowledge that might be beneficial for area teachers to connect their students with to add yourself and resources to her program listings. Helen may be reached at hreynolds@dolores.k12.co.us

Next Meeting: September 6, from 1:30 to 3:30 at the Dolores Water Conservancy District Office in Cortez.

Notes by Thurman Wilson with Becca Samulski edits