

**DOLORES RIVER RESTORATION PARTNERSHIP**  
**Biannual Meeting**  
**May 15, 2013**

**Welcome:** Barb Sharrow, manager of the Bureau of Land Management's Uncompahgre Field Office, welcomed the group. She said it was heartening to see so many people present and the UFO truly appreciates their efforts. She praised the work of the Conservation Corps and said it will produce many effective leaders in the future.

**Reflecting on ecological accomplishments of the first four years**

**Tracking on-the-ground investment:** Jim Cagney, district manager of the Northwest District BLM, discussed the question of how to know when DRRP's work is finished. Funders want to see a beginning, middle and end for an effort, although they are willing to continue funding a successful organization. They want to know the relationship between the DR-RAP goals and current work, and when the effort will be turned back to the private landowners or public land manager.

Jim showed a chart comparing the four field offices involved in the partnership and lands where objectives have been met. The only field office that had any such lands was the Grand Junction FO, which had 30.2 acres (4% of the total of 2,735 acres) where objectives have been met. He said DR-RAP goals are the long-term end product, so it will be perhaps 15 years before some of those are met. Jim noted that DRRP is not an entity that will do long-term maintenance, so when the active work is finished (i.e. native or desirable plants are restored on a given site to the extent that, assuming appropriate long-term maintenance, it is reasonably foreseeable that plant succession will progress toward DR-RAP's long-term vision), the effort should be turned over to the landowner. The question is how to determine when that point has been reached.

Peter Mueller of The Nature Conservancy, co-chair of the Implementation Subcommittee, said the subcommittee is trying to develop a much more nuanced approach to decide how progress is evaluated. A number of tools, ranging from managers' site visits, to rapid monitoring, to watershed-wide monitoring, may be used, based on managers' needs for a given site.. Peter discussed categories for further identifying the progress within each polygon.

To determine when objectives are met, Peter described some of the guidance criteria that managers may employ:

- Native/desirable species are more than 50%.
- Native/desirable species show an increase in relative cover.
- Total tamarisk is less than 5%, or the tamarisk beetle is present if canopy cover is more than 5%.
- Total canopy cover is greater than 30%.

Peter said they want to digitize information onto a GIS map that will show the history of treatment on a polygon and the results of monitoring. Then any individual polygon could

be uploaded to see how it is progressing and whether it is moving toward a sustainable improving condition.

Peter said in general it appears the effort is between one-third to one-half completed. The evaluation Jim has done indicated the partnership is about one-third finished. Peter and Daniel Oppenheimer of the Tamarisk Coalition need to continue this work with the BLM to evaluate where the partnership is. The work of monitoring and tracking progress is very complicated but Peter said he believes the mechanisms are in place to track DRRP's progress.

Tim Carlson of the Walton Family Foundation talked about the original DRRP vision and said it is important to be realistic. The foundation would like to see the precise strategy for restoration in the system articulated. Different areas are doing things differently, for good reasons. What level of commitment is needed at the private-landowner point as well as with the BLM, and are those commitments ones that the BLM can make part of its routine program? Those questions need to be answered.

Comments during discussion included:

- It is important to develop human infrastructure, such as a group of volunteers to assist the BLM in monitoring.
- A communications strategy is needed. The next step might be a communication process for handoff to the landowner.
- Monitoring is well worth the cost. It's expensive to treat each acre, and that needs to be taken into account when someone says resources aren't available to do monitoring.
- People need to understand how budget cuts and a shift in focus have affected the BLM. Even with volunteers and partnerships there is still a need for commitment from staff.
- When someone has data and can input that into the monitoring data, it's a good idea to do so in order to consolidate information.

Jim said as a follow-up he will be asking the BLM offices to pull different data together now that they have the format ready.

Jim asked whether this direction is acceptable to follow, and there was consensus that it is.

**Next steps:**

→DRRP will continue to work on this.

→Anyone who needs more information should talk to Jim, Daniel or Peter.

**State of the transects:** Nikki Grant-Hoffman of the Grand Junction FO discussed transect monitoring, a type of watershed-wide monitoring being done by the Science and Monitoring Subcommittee. She said rapid monitoring helps answer the question: Did we meet our goals? Watershed-wide monitoring, which is slower, looks more at patterns:

How did we meet the goals? What treatments worked best, where? How and how often did we succeed or fail?

The watershed-wide monitoring occurs on 40 sites that were selected in 2010. At these sites, point-intercept vegetation monitoring occurs along transects to provide a scientific estimate of vegetation cover. They are also taking photos, doing soils analysis and planning to couple that with treatment data.

She noted that DR-RAP had ecological goals for items such as tamarisk relative cover (“relative” means of the part of the site that has vegetation), native species, and non-native species. She said categories to evaluate where a site is are:

1. Meeting DR-RAP goals – site restored
2. Meeting goals but lacking in total vegetation cover
3. Meeting tamarisk goals
4. Not meeting tamarisk goals

She compared the status of the 40 sites at the beginning point; in 2010; and in 2012. At the beginning point, 78% were not meeting tamarisk goals and just 7% qualified as “meeting DR-RAP goals – site restored”. By 2012, 65% were not meeting tamarisk goals and 17% qualified as “meeting DR-RAP goals – site restored”.

She said of the 40 sites, only 20 have received active treatment. Of the sites that were actively treated, the percent not meeting tamarisk goals dropped from 70 to 40, while the percent meeting DR-RAP goals rose from 10 to 30. She concluded that the effort is moving toward meeting tamarisk goals. She said the work takes time and the picture will become clearer when there is data from the third year.

Justin Marler, formerly with the Tres Rios FO, said he made several observations during his work:

- In areas that have a secondary input of water, tamarisk treatment tends to be less successful.
- Tamarisk cut-stump treatments are more successful in the fall than in late spring.
- Treatments are more successful on older tamarisks than young ones.
- It is important for land managers to examine an area before the conservation corps comes in, because if the tamarisk is removed, any secondary weeds will explode and it’s necessary to be ready to do active revegetation.

Peter said tributaries contribute to the presence of healthy trees such as cottonwoods. Tributaries are both opportunities and threats. He agreed that in the presence of secondary weeds, tamarisk removal creates a problem. This fact is informing how to approach the work.

Sparky Taber, with the Grand Junction BLM FO, agreed that large tamarisk is easier to eliminate, mainly because of the beetle, and the most challenging tamarisk to treat is small-diameter trees close to water. He said he is encouraged to see that during drought years like 2012 when the river was low, muddy sandbars that in the past would have been

a carpet of tamarisk have about 90% less, thanks to the beetle. The combination of actions being taken is very encouraging.

Barbara Hawke of The Wilderness Society said intensive monitoring is good and should have high priority for funding. Restoration is growing in importance because of climate change and other factors. Having information on what works will be critical to many other efforts.

**Awards:** Bruce Rittenhouse, resource-group supervisor with the BLM Colorado State Office, spoke by phone from Lakewood. He explained that the Dolores River is part of America's Great Outdoors, an interagency project to try to get young people outdoors. One river in each state was chosen for the AGO. The Interior Department is presenting a plaque to each of the AGO projects. Jim displayed the plaque and suggested it be a traveling award because the partnership has no headquarters. It was agreed that the different field offices can take turns displaying it.

Mike Wight, river-restoration director with the Southwest Conservation Corps and chair of the Outreach/Education Subcommittee, said last fall the partnership started recognizing people who have had a big impact on DRRP, and this year they want to recognize Justin Marler, who has been serving as a liaison between crews in the Tres Rios and the Uncompahgre FOs. He was a seasonal employee but recently became a permanent range tech with the Columbine Ranger District. Justin thanked the partnership and said he has learned a lot.

**Applying recent research and field experience towards future revegetation Changes in vegetation patterns and channel dynamics along the Dolores River over 75 years:** John Sanderson of The Nature Conservancy said researchers including Cynthia Dott of Fort Lewis College have shown there have been big changes to cottonwood, willow, etc., in the post-McPhee era. Recently, several researchers including John conducted a study examining the entire length of the river from McPhee to the Colorado River confluence, excluding canyons (a total of about 106 miles). They quantified cottonwood cover, bare surfaces, ag lands, and other type of cover, and compared current conditions to the river in 1937, the time of the earliest aerial photos.

John said the dam has reduced average peak flows by about 3,000 cfs and there have been real ecological consequences. The study found major changes in the Big Gypsum Valley, with the channel becoming narrower and straighter, and in other places, such as just below McPhee. Some other findings were:

- Cottonwood cover is approximately 70% greater today than in 1937.
- The river channel is about 40% narrower.
- Bare surfaces have almost disappeared. They are important because that's where young cottonwoods get established.
- Changes were not uniformly distributed but were variable up and down the river.
- The tributaries seem to maintain some desirable features such as bare surfaces and broad channels.

His recommendations were:

**Research**

- transects to monitor channel form
- data collection around large flood
- role of tributaries in maintaining dynamics

**Restoration**

- allow passive restoration in dynamic sites
- emphasize active restoration in static sites
- consider channel restoration to restore disturbances (physical work)

**Active revegetation on tamarisk sites:** BLM ecologist Amanda Clements of the Uncompahgre FO discussed how to restore native vegetation once tamarisk and secondary weeds are removed. She said the FO started small in order to learn lessons. Some questions they had to deal with were: How much native vegetation is sufficient? How do you get seed to germinate and establish? What are the most effective planting approaches?

She noted that planting often is not successful. For instance, a 2008 willow planting on the Gunnison River yielded less than 5% survival. In contrast, a 2009 cottonwood containerized planting showed 65-80% survival (second year).

The Uncompahgre FO did plantings on 12 pilot plots of a half-acre each across four areas. They tested three different types of tamarisk treatment, seven different native riparian shrubs and trees, and factors such as timing, type of planting, soil salinity, and whether active tamarisk-resprout treatment had been done. They found evidence that survival is affected by:

- timing (spring better than fall)
- type of planting (quart to one-gallon container better than small tube, long stem, cuttings)
- species (skunkbush, sumac, privet were best species)
- salinity level (best if under 1 mmhos/cm 1:2 dilution test)
- tamarisk-treatment type (beetle-only was best vs. hydroaxe and hand-cut. For hydroaxe the best survival rate was 23%, for hand-cut the best was 56%, for beetle-only 95%.)

She said there was no evidence that survival was affected by site (boat ramp, river road, bridge, Highway 141) or carefully applied tamarisk-resprout treatment.

Regarding cottonwood establishment, the FO found that the best survival conditions were with spring planting of containerized cottonwoods in willow zone (59% survival).

The adaptive management response for the UFO included:

- Plantings do best in a cool, moist microclimate with partial shade.
- Remove tamarisk only as much as needed to allow access.
- Continue to completely remove tamarisk where fuel loading is a threat.

- Focus on sumac and privet for revegetating tamarisk-dominated areas, but only plant where the existing native shrub/tree cover is less than 5% of the stand.
- Identify and avoid areas with high salinity.
- Cottonwoods do best in the willow zone.

**Cottonwood-planting techniques:** Sparky Taber of the Grand Junction FO discussed techniques used in a Dec. 12 cottonwood-pole-planting project near Gateway. They used wild-cut Fremont cottonwoods, farm-grown Fremont trees from Gateway seed, and some wild-cut narrowleaf. A total of 163 trees were planted. Each tree was planted deep enough to penetrate the water table and all were tagged according to species and other detailed information. The trees were caged to protect them from beaver and cattle. Five permanent groundwater-monitoring wells were installed.

As of April 30, 2013, of the 163 trees planted, all were alive, but 12 were “on life support”. Some sustained frost damage but seemed able to cope. Sparky said the narrowleaf cottonwoods were doing well, even at the low elevation. He thinks they will know a lot more by August.

**Restoring burn areas:** Justin Marler discussed seeding burn areas. He said one of the biggest challenges in the Tres Rios FO was what do with biomass resulting from tamarisk removal. They chose to burn it after stacking the tamarisk piles high and tight. They actively remediated more than 100 burn areas along the Dolores River and Disappointment Creek. He explained the techniques they employed and said before reseeding, they treated the areas around the burns for knapweed. They began reseeding in late November 2012 and continued into March. At the end of April they did more reseeding, but without the complete remediation treatment. He said they saw some resprouting of grass and achieved success on a dozen different burn areas. Justin said burning tamarisk tends to load soils with salt. They took soil samples from different burn areas; where active remediation was done, they saw a reduction in salt.

He said some lessons learned were:

- Salinity is highly variable. Many factors contribute to it.
- Slash piles should be no more than 20 feet in diameter to reduce salt loading.
- Active soil amending is worthwhile.
- Salt-tolerant seeds should be used. Over-seed, because birds will eat seed.

Discussion: Peter asked about John’s recommendation to focus active restoration on static areas. John said where cottonwoods are successful there are multiple reasons, one of which is you are still getting disturbance and bare surfaces for seeds. Those areas will be good for planting. He said if the channel is heavily locked in and there is dense cover (meaning natural cottonwood recruitment is unlikely), the best way to get future generations of cottonwood is by planting them. One of the key takeaways from Sparky’s results is the need to be really attentive to the planted trees. John said within static places there is a subset of areas that will be amenable to planting, but it will be very labor-intensive.

He was asked whether a map could be developed for land managers showing the best areas for planting. John said he can identify areas he calls “static” but can’t from the remote data extrapolate which of the static areas would be more amenable. John said at many dynamic sites they are seeing multiple age classes of cottonwoods, though perhaps not as many as would be desirable. He said it makes sense to him to not focus restoration efforts on sites where there is already some natural recruitment, but protecting these naturally recruited trees from beaver and cattle would be good.

David Graf of Colorado Parks and Wildlife suggested working on dynamic sites that have potential but don’t show recruitment. He also said connecting dynamic sites so there are seeds blowing up and down the corridor would help natural recruitment.

It was asked whether the partnership has a “cottonwood bias”. It was agreed that, considering cost-effectiveness and habitat, the partnership’s definition of active restoration should probably be broadened, especially for sites that did not support cottonwood.

John said numerous studies have shown that cottonwoods were not everywhere in the past. Photos from 1937 show that people were already cutting cottonwood for wood and actively managing the area, so it is not known what it looked like in 1850.

It was asked whether a takeaway is that tamarisk should not be removed. Amanda said it is often necessary to do some tamarisk removal in order to treat secondary weeds, but removal could be tailored just to meet access needs. She said the beetle has changed the concept of tamarisk treatment. Over time it is slowly killing tamarisk – up to 90 percent of standing biomass in places.

It was asked whether it is better to leave trees intact for shade, or cut them and lay them down. Amanda said leaving them intact it might be good but there is still the question of access. Justin said laying them down inhibits access and encourages knapweed.

### **Bridging social and ecological goals**

**Conservation corps/BLM internship program:** Mike said bridging the gap between social and ecological goals has been a priority of the partnership from its beginning. About a year and a half ago a few people asked whether there might be a way to meet some of these secondary needs using available funding, so they developed an internal program that became the conservation corps/BLM internship program. The goal is to select the “cream of the crop” from the corps and enable them to increase their skills, build their résumé and network with appropriate people so as to earn jobs with land agencies or private contractors. Mike said the program has been a win-win.

Former intern Chris Shea said he worked with the Western Colorado Conservation Corps. In the fall of 2011 he and another corps member started an internship under Sparky and learned techniques of spraying weeds. After their first three months, Sparky asked them to come back next year to help with willow planting. Later, they were trained in hazardous materials, truck driving, radios, first aid and CPR. Chris now has his “B”

sawyer certification. He and the other intern both have received their licenses as qualified herbicide supervisors. Chris is assistant field coordinator for the corps and his goal is to be a wildland firefighter.

Sparky praised the relationship with the corps, calling it phenomenal.

Justin Marler said government hiring processes can be difficult, but two of the three interns that worked with him in the 2012 internship program now have jobs with the Forest Service (the third became an organic farmer). He said the interns were very helpful to the Tres Rios FO and accomplished a great deal of work.

Daniel said this program has been in place a couple of years with the Tres Rios and Grand Junction FOs. The DRRP will be talking to the Uncompahgre and Moab FOs to try to establish internships with them.

### **Looking ahead**

**Interpretive trail:** Mike Wight reported on progress on the Gateway Canyons Dolores River Interpretive Trail on the Gateway Canyons Resort. Benches made by Paul Koski of Nucla have been installed. Mike showed some of the signage proposed to be put up. The signs will be disseminated for a final edit in the next few weeks. There will be a dedication ceremony in June at a date to be determined. He hopes people with groups such as DRRP can talk about their efforts. He would also like people to provide live interpretation next to each sign to talk about geology, history, wildlife, plants, and the partnership.

### **Next steps:**

→Those who are interested in helping with interpretation at the dedication should contact him.

→Anyone who is interested in the final edit for the interpretive signs should contact him.

**Funding forecast:** Rusty Lloyd of the Tamarisk Coalition said funding for DRRP for 2009-12 totaled \$3.26 million. Of that, \$620,000 came from state sources, \$821,280 from federal sources, and \$1.82 million from foundations/nonprofits. The projected carryover to 2014 is \$369,500. The 2013 budget is \$1.015 million for implementation, monitoring and education/outreach. There is money in the bank to fund this. However, from this point on, finding funding will become more difficult. The partnership will have to make tougher choices and prioritize.

Rusty said the 2014 budget is \$1.03 million and \$659,500 is still needed. The 2015 budget is \$539,000, none of which has been raised yet. In the future, funds will be needed for maintenance, monitoring, revegetation and other ongoing work.

**2013 implementation work:** Daniel outlined in the implementation work for 2013:

- More than 500 acres will be treated for woody invasives, mostly tamarisk and Siberian elm.

- More than 500 acres will be treated for secondary weeds, mostly Russian knapweed.
- The Tres Rios FO is nearly finished with its last initial tamarisk removals.
- Over 200 acres of active revegetation will be done.
- DRRP has created a new partnership with the Bureau of Reclamation and a landowner on Disappointment Creek, and is working with new landowners in Bedrock and Gateway.

**Workshop:** There will be a plant identification and monitoring training June 20 and maybe 21. Meet at Bedrock General Store. It is free but participants must RSVP to Julie Knudson at [jknudson@tamariskcoalition.org](mailto:jknudson@tamariskcoalition.org).

**Cross Watershed Network (XWN):** Daniel gave a brief presentation on this new network, whose mission is to connect practitioners through information-sharing, collective capacity-building and collaboration across watersheds. The XWN has moved beyond the conceptual phase. Its geographic focus is the arid West, but Daniel said some people on the Front Range are interested in participating. Organizers are developing an outreach plan and will form strategic partnerships with groups such as the Colorado Watershed Assembly. They are developing a two-day workshop in September for peer-to-peer exchange about lessons learned on topics related to riparian restoration. The network's website is [www.crosswatershed.net](http://www.crosswatershed.net).

**Fall DRRP meeting:** Daniel said feedback from the last meeting showed that people want to know where the DRRP is in relation to DR-RAP objectives. The Core Team thought it might be good at the next meeting to look ahead at maintenance, work needed on other tributaries, and additional activities to support social goals.

**Next steps:**

→Anyone who has ideas about that meeting or other things the partnership should consider should contact Daniel or others on the Core Team.

**Announcement:** Roy Smith, statewide coordinator for BLM on water rights, said the BLM is working on a recommendation with Colorado Parks and Wildlife for an instream-flow right on the Lower Dolores between its confluence with the San Miguel River and the town of Gateway. Roy said most of the San Miguel and its flows are protected down to its confluence with the Dolores, and the BLM thinks there is a need to continue down the river. BLM officials have been working on a formal recommendation to the Colorado Water Conservation Board for an ISF to support three native fish species and the riparian community in general. Their draft recommendation is being given to the CWCB.

**Next steps:**

→Anyone interested in knowing more should contact Roy.

→Letters of interest or opposition are appreciated by CWCB, which will vote on the issue in January.

