

## Hermosa Creek Workgroup

Meeting #5 Summary

Aug. 5, 2008

---

Facilitator Marsha Porter-Norton reviewed the meeting agenda and presented the meeting summary for Meeting 4 on July 1, 2008. Both were approved with no changes.

Marsha reviewed handouts available at the meeting, which included a copy of an article from the *Durango Herald* about reintroduction of the native Colorado River cutthroat trout.

Marsha said Win Wright, a Durango hydrologist who attended the first meeting of the Hermosa Workgroup, had e-mailed her in response to questions about erosion and runoff posed by the workgroup, as described in previous meeting summaries. He advised her that when the Animas River runs orange, the source is usually soils in the Silverton area where mining took place in the past. When the river is maroon, the cause is usually mud runoff. He also said that streamflow gauges, such as one that the Hermosa Workgroup had said might be needed just below the National Forest boundary, are indeed expensive but that he could install such a gauge less expensively than others could. The point was made that there are many options for installing a stream gauge both from private businesses and from the USGS.

Marsha said that the Hermosa Creek Initial Information Sheet is in its second phase and soon will be available on the Web site, [ocs.fortlewis.edu/riverprotection](http://ocs.fortlewis.edu/riverprotection). If there are any changes or additions, let her know.

**Hermosa Creek Fish Reclamation Project:** Jim White, an aquatic biologist with the Colorado Division of Wildlife (“DOW”), gave a presentation on the Hermosa Creek Fish Reclamation Project. He said the project goal is to restore the native Colorado River cutthroat trout to the headwaters of Hermosa Creek. A very long-range goal is to establish connections with populations of the native trout in the East Fork of Hermosa Creek to create a meta-population of the species.

Jim said the Hermosa Creek headwaters where the trout will be restored extend from Grace Hill Mine to the vicinity of Hotel Draw.

The native Colorado River cutthroat trout has declined over the years as a result of over-harvesting, habitat changes, and stocking of non-native trout that breed with and/or compete with the native fish. Only 13 percent of the Colorado River cutthroat trout’s historic habitat is currently occupied by the native species. A rangewide conservation agreement and strategy for cutthroat trout involving mostly Colorado, Utah and Wyoming, the Tri-State Colorado River Cutthroat Trout Conservation Agreement, was signed in 1999 to ensure long-term viability of the species and to head off any federal listing under the Endangered Species Act. If the fish were listed as an endangered species, it could mean that Hermosa Creek would be designated as critical habitat, which could affect ranching, recreation and other uses in the area.

Jim said the Colorado River cutthroat trout are the fish that were here 200 years ago, and the DOW would like to see them restored.

Hermosa Creek was chosen for a restoration effort for a number of reasons. It is historic Colorado River cutthroat trout range, although non-native fish or hybrid trout now occupy the stream. It has a unique drainage pattern ringed by limestone outcroppings that create waterfalls so there are remnant native populations in some headwaters reaches. Also, Hermosa Creek is “productive” water that grows large fish

because the limestone provides minerals necessary for skeletal growth. Hermosa Creek is accessible by road, which facilitates transporting fish and constructing barriers in the stream, and it lies mostly on public land.

Brook and rainbow trout were stocked in Hermosa Creek over the years. In the past, any cutthroat was considered a native cutthroat, so those that were stocked were typically hybrids or non-native species. The result is that native cutthroat have been replaced by other species. Samples taken in 2004 and 2007, the last two sample years, found that 80 percent of the fish in the creek were brook trout, which are technically a char rather than a trout. Brook trout spawn in the fall and thus are able to out-breed the native cutthroats; in addition, they are more aggressive in competing for food.

Natural barriers in the creek and its tributaries will keep non-native species from invading the headwaters after the project. Some cutthroat trout may swim downstream after the reintroduction and hybridize with rainbow trout, but the non-natives will not be able to move upstream.

Key to the effort is establishing a man-made fish-migration barrier across a steep, narrow stream section. Such a barrier was constructed by the Forest Service in November 2007 just below Hotel Draw, but it was subsequently destroyed during high waters. It will be rebuilt, but the exact date is not known. It will have to be studied carefully to establish what went wrong the first time so the new barrier will be more durable.

Jim said re-establishing the native Colorado River cutthroat trout in Hermosa Creek will require chemically treating the headwaters with rotenone, a botanical fish pesticide (piscicide), to kill the fish currently in the headwaters, although some fish may be salvaged and moved to below the fish-migration barrier before the treatment. After the treatment with rotenone, the waters will be detoxified. Then, by electrofishing, DOW biologists will verify that all fish have been killed. Finally, the headwaters will be restocked with the native trout.

Jim said the use of rotenone is controversial because it is a toxin and no one likes the idea of poisoning fish. However, it appears to be the best method available to establish a site where the cutthroat trout can be reintroduced. Electrofishing has been tried but with little success.

Rotenone will be applied at a rate of 2 parts per million for about two hours. It will take about two days to kill all the fish. The treated water travels downstream to the migration barrier. Potassium permanganate is applied at the barrier to detoxify the waters. The creek is monitored downstream through the use of fish in live cages. Fish will be placed upstream of the barrier and their health will be monitored for 24 hours to make sure the stream has been successfully detoxified. If all goes well, Colorado River cutthroat trout from a genetically pure brood stock originally collected from the Piedra River Basin will be reintroduced upstream from the barrier about six weeks after the treatment.

The weaknesses in the plan, Jim said, are the barrier itself, which must be in good shape, and the complexity of the drainage. With a drainage so complex, the treatment might have to be applied twice.

He explained that rotenone is an organically derived pesticide made from a tree root. It works only on gill-breathing animals, blocking the biochemical pathway to oxygen use at the cellular level. It degrades within about 48 hours. Rotenone is considered very safe for humans; it does not cause cancer, birth defects, reproductive dysfunction or genetic mutations. It does not harm birds or other wildlife that may eat the killed fish. It will kill invertebrates in the water, but they usually recolonize from areas downstream

within six weeks.

Jim noted that Hermosa Creek has been named an Outstanding Water of the State of Colorado by the Water Quality Control Commission and said the use of rotenone will not affect this listing, nor does the designation mean rotenone cannot be employed.

In answer to questions, Jim said the mainstem and all tributaries above the migration barrier would be treated under the project, which will probably take place in 2009. The Hermosa Creek Fish Reclamation Project would be one of the biggest such projects in the state, at least in the southwest region. Some other projects are in the planning phase but the Hermosa Creek project is the farthest along except for one in the San Miguel drainage. The goal under the Tri-State Agreement is to treat 2 1/2 miles of stream in the San Juan Basin by 2010, and if the Hermosa Creek project is completed, that would fulfill that goal. One mile of stream in the headwaters of Deep Creek was treated recently in preparation for reintroduction of native Colorado cutthroat trout.

The long-term goal of providing a link with the East Fork of Hermosa Creek would require another barrier lower on the stream. That goal is a long way off, Jim said. The East Fork was treated in 1992 and the Colorado cutthroat trout there remain genetically pure.

Jim repeated that projects such as this one can be controversial and any help the Hermosa Workgroup can provide in educating the public would be a benefit. He said, because the native cutthroats are susceptible to over-harvesting, there probably will be a catch-and-release policy regarding them, at least initially. But the project will not change the recreational values of Hermosa Creek below the migration barrier; anyone wanting to catch brook trout there will still be able to do so.

Ty Churchwell of Trout Unlimited says TU endorses the program.

**Values statement:** The Hermosa Workgroup discussed the draft values statement and revised it to read as follows:

*The Hermosa Creek Area is exceptional because it is a large, intact (unfragmented) natural watershed containing diverse ecosystems (fish, plant and wildlife) over a broad elevation range, while supporting a variety of multiple uses, including recreation and grazing, in the vicinity of a large town.*

The values of Hermosa Creek's accessibility and multiple access points will be added to the Initial Information Sheet.

Marsha said the values statement will provide guidance as the workgroup discusses tools to protect values. The group agreed, by consensus, to adopt the values statement.

**Next meeting:** *The next meeting of the Hermosa Workgroup will be Tuesday, Sept. 2, from 6:30 to 8:30 p.m., at the Durango Recreation Center. On the agenda will be a discussion of which tools to consider using to protect Hermosa Creek's values. A tools document has been e-mailed to Hermosa Workgroup members and is also available on the Web site.*