

Should Agriculture be Involved in Watershed Planning?

Phil Brink, CCA Ag Water NetWORK Consulting Coordinator

Updated, December 2019

Watershed management planning brings together all local water users to discuss individual water-related needs. Through the planning process, water users cooperatively evaluate local water resources, prioritize problem areas and secure funding to implement solutions that help protect and improve existing uses, including agricultural, and support healthy rivers and streams.

The collaboration that goes into developing a watershed plan better positions local water users to effectively deal with increased demand in the face of diminished water availability. Watershed planning and implementation can bring many benefits to agriculture. Some examples are included below.

River channel and irrigation diversion improvement

Recent channel and bank improvements on the Colorado River near Kremmling – which included narrowing the river in places and restoring riffles, runs and pool sequences – have greatly improved irrigation water diversion and fish habitat. The improvements are part of a larger effort called the Colorado River Headwaters Project which will create a channel that re-connects the river above and below Windy Gap Reservoir dam near Granby, enabling fish and the aquatic organisms they feed on to move freely up and down the river.



Irrigation ditch system assessment

In 2018 and 2019, a group of three conservation districts in the Glenwood Springs / Rifle area conducted an inventory of ditch systems in the middle Colorado watershed from Glenwood Canyon down to Debeque above Grand Junction. The work is part of a study of consumptive uses – agriculture and municipal – which the conservation districts are leading. A consulting company was hired to assess the infrastructure of over 100 ditch systems, noting the condition of the ditch and individual diversions and head gates, and taking photos and GPS readings. Now completed, the assessment information has been provided to irrigators within the districts to help them prioritize where improvements are most needed and begin the process of scoping projects and securing funding.

Stream hydrology analysis

An evaluation of a river or stream's hydrology will help reveal the timing, volume and source of flows throughout the year and better enable planning around multi-benefit improvements. How much do irrigation return flows supplement stream flow volumes in late summer and fall? What would happen to return flows if flood or furrow irrigated fields were equipped with high efficiency sprinkler or drip systems? And how would a lack of field runoff and deep percolation affect other downgradient water right holders? A comprehensive hydrological analysis will answer these and other questions. In some cases, changes in irrigation diversion timing can provide water for fish and recreation and income to the irrigation water right holder(s) without substantially reducing forage or crop yield.

Wildfire risk assessment and mitigation

A Colorado Wildfire Risk Assessment released in November 2018 by the State Forest Service found the number of people living in areas at risk to wildland fire increased by almost 50 percent between 2012 and 2017. About 2.9 million people now live in Colorado's wildland-urban interface – the area where human improvements are built close to, or within, natural terrain and flammable vegetation. Just five years earlier the number was 2 million people.

In addition to the potential loss of life and property, catastrophic wildfires typically result in severe soil erosion and corresponding sedimentation and blockage of irrigation and drinking water infrastructure. Water quality is also affected, impacting all water users including wildlife and aquatic life.

Most of Colorado's residents derive at least part of their drinking water from forested areas. Watershed management planning can include prioritizing areas where forest thinning, fire prevention, and restoration activities are most needed to protect irrigation, drinking water, and other uses.

Funding & technical assistance for agricultural water improvements

Through the watershed management planning process, funding for irrigation water diversion and delivery infrastructure and source water protection (fire, flooding) can be obtained from a wider range of sources as long as projects are multi-benefit in nature. For example, a diversion dam replacement can also incorporate a fish passage and stream channel and embankment improvement, which helps aquatic life, water quality, and irrigators alike. Because the project benefits multiple uses, it can garner more funding and reduce the cost to irrigators.



Previously installed practices benefiting agriculture have included new or upgraded river diversion structures with fish access, ditch lining or piping, stream channel and riparian area restoration, wildfire mitigation and restoration, river bank stabilization, and phreatophyte removal.

CCA watershed planning outreach initiative

In 2019, Colorado Cattlemen's Ag Water NetWORK initiated a statewide outreach effort to help raise understanding and awareness about the value and benefits of watershed planning for agricultural producers. Training workshops were also held for ag-oriented individuals interested in representing agricultural priorities as they engage with other water stakeholders on local watershed management planning efforts. To inform and guide the outreach and training, we conducted a survey of agricultural producers to determine their familiarity with watershed management plans. The results are shown at www.agwaternetwork.org.

The Ag Water NetWORK will be continuing outreach and training efforts in 2020 with funding from the Colorado Water Conservation Board. If you represent a conservation district, irrigation company, Basin Roundtable or watershed / stream management planning initiative and would like to pursue outreach and training focused on the agricultural community, please contact Phil Brink at CCA's Ag Water NetWORK at (720) 887-9944 or phil@brinkinc.biz.