Moving Forward on Agricultural Water Conservation in the Colorado River Basin

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AGRICULTURAL WATER CONSERVATION through COLLABORATION

6 IN-DEPTH CASE STUDIES

- Agricultural water conservation in the CRB is a formidable legal, economic, socio-cultural, and other disseminate of obstacles.
- Agricultural water conservation is defined and pursued in multiple ways.
- Agricultural water conservation is not just an ag issue, but involves diverse stakeholders (and potential supporters).
- Our research examines six in-depth cases of collaboration already underway across the CRB to mount ag water conservation barriers.

1. Grand Valley Water Management Plan (Colorado)


Purpose: Protect/recover endangered fish species while balancing use and development of existing water rights.

Conservation activities: Continued infrastructure improvements including installation of check structures, fish screens and passages, monitoring technology, and others.

Benefits: Group ESA compliance maintaining existing irrigation uses. Diversions reduced by 36,463 AF/year from 2002-2003, benefiting endangered fish and habitat.

2. Yuma Mesa Irrigation and Drainage District-Central Arizona Groundwater Replenishment District pilot following program (Arizona)

Participants: YMD and CAHDD

Purpose: Conserve water that can increase dwindling Lake Mead levels and help forestall future shortages.

Conservation activities: Voluntary, rotational falling of a maximum of 1,500 acre-feet in YMD. Lebanon continue to maintain fields & ditches. Endorsed and is protected from residential development.

Benefits: Guaranteed payments to farmers. Soil regeneration in fallowed fields. Estimated 50,000 AF/ year to be stored in Lake Mead.

3. Palo Verde Irrigation District (NV/ AZ) Following program (California)

Participants: Palo Verde Irrigation District, Metropolitan Water District of Southern California

Purpose: Non-permanent transfer of agricultural water for urban use between 2005-2010.

Conservation activities: Rotational voluntary following by individual farmers with monitoring. Mitigation Plan and Community Improvement Board address loss of water rights.

Benefits: Participating farmers receive one-time and continuing payments. Water rights security protected. MWD has received 25,000 – 110,000 AF/year of transferred water for urban use.

4. Super Ditch (Colorado)

Participants: Lower Arkansas Valley Water Conservancy District, Southeastern Colorado Water Conservancy District and seven ditch companies between Pueblo Reserve and John Martin Reservoir

Purpose: Develop alternatives to buy & dry water transfers through collective leasing of ag water to municipalities and other users, inspired in part by PVD/MWD experience.

Conservation activities: Three-tiered leasing approach to rotational following on varying hydrologic conditions. In 2015 lower deals will deliver 500 AF from 1,228 fallowed acres to cities of Fowler, Security & Fountain under CWCB Pilot Program.


5. McVeigh Ditch (Colorado)

Participants: Colorado Water Trust, Western Rivers Conservancy, Colorado Water Conservation Board (State water agency)

Purpose: Enhance Little Cimarron River minimum flows while preserving ag water use.

Conservation activities: 1.5 shares of CWT-owned McVeigh Ditch water transferred to CWCB Flow Restoration Use for split of full-basin irrigation and minimum flows.

Benefits: Enhancing stream flows while preserving agricultural use.

Research questions:

- what has brought diverse stakeholders together around ag water conservation?
- how do they deal with differences in conceptualizing conservation?
- how do they confront conservation as formidable obstacles?
- what lessons emerge from their experiences?

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ENGAGEMENT and RESEARCH with Agricultural Stakeholders

How are producers examining irrigation efficiency tools?

Evaluation of Irrigation Management Tools to Achieve Optimal Crop Production and Water Use

Focus on connecting the relationship between diversions and irrigation management.

Understanding what happens here ...

... to inform decisions about ...

… what happens here.

On-Farm Comparisons of Traditional Versus Improved Irrigation Approaches

Project sites were expanded in 2015. Sites are focused on yield, quality, and water budget comparisons. There are sites near Delta, CO comparing alfalfa and corn, comparing punt sprinkler vs furrow and drip tape vs furrow, respectively. There are also sites near Hotchkiss, CO comparing grass hay on pivot vs furrow.

In addition, there are sites near Montrose, CO and Gunnison, CO where big sprinkler and automated flood systems are being developed.

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