

## PROBLEMS WITH THE ARKANSAS RIVER BASIN WATER BANK PILOT PROGRAM

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This outline notes problems learned about from many generous experts. The value of water increases with increased demand, and the theoretical benefits of water markets and potential gains for agriculture call for understanding problems with the pilot program, beyond the extremely bad luck of starting just as a record drought worsened. Some of the problems can be fixed easily, others will require developing new capacity.

**1. What was transferable:** Does the limit to stored water only, not direct flow rights, exclude too many participants or too much water? It may have been necessary to begin with stored water only until administration with more sophisticated water measurement is adequately funded. It is unclear if a functioning water bank or dry-year options would affect value of water rights. The drought severely limited supply and with uncertainty about how the water bank would work and serious confusion over how deals would be made, there was little will to offer the stored water that was available.

**2. Duration:** The sunset provision for Water Bank Pilot Program (WBPP) limited contracts to 2007, but municipalities wanted much longer terms for "dry-year options" to firm municipal supplies. Bankers also suggest that longer terms would be better for using options to support new investments in farming (e.g. improved irrigation). Municipalities seek "permanence" but may want to avoid finance costs and revegetation requirements, which may be more difficult with changing climate. It is becoming clear that a mix of transfer forms will be wanted, and among them will be short-term spot market transfers.

**3. Timing:** The rule-making compromises on notice and objection prevented quick "spot market" transactions. Without long-term deals, only an odd "middle ground" was left. There is a high volume of ag-to-ag transfer in the Northern Colorado Water Conservancy District, where transfers are not time-constrained because of unusual legal circumstances in trading trans-basin water only. The complicating "in-basin preference" required in 2001 was removed in the 2003 law, but not in the rules.

**4. Geography:** The largest potential demands were from out of the Arkansas Basin but they were prohibited by the 2003 law. That may have prevented interest, despite the lucrative Highline Lease to Aurora. The lack of "mitigation" requirements produced strong social disapproval of sales, and the fear of losing future opportunities in-basin is reasonably founded. Lack of a working market inside the basin may prevent learning about the value of water in the basin, and depress prices paid for water transferred out of the basin.

**5. The Tool and Rules:** Many farmers are said to not use internet, and price negotiations seem to involve using telephone anyway. Conflicting impressions were reported about internet feasibility and desirability. Northern uses an internet bulletin board but not for making deals, only for advertising offers or wants. It was not clear how to work a deal and then use the WB authority, and it was not clear how to work the "in-basin preference" required by the 2001 law. The Highline-Aurora Lease showed some of the potential for support for agriculture, but it was under different authority and very limited in duration, too.

**6. Lack of Market History (Price Discovery):** The "market price" for water in short-term leases, long-term interruptible supply and other new situations is not yet known. Chicken-and-egg problem? Solutions exist, but were not tried. Markets depend on information and on affordable opportunity to deal. Lack of information helps some at the expense of others.

**7. Ditch Company Physical Problems:** Maintaining hydraulic head and sand moving are obvious problems without clear obvious answers. Each ditch has to address this for itself. May require some ditches to participate only "proportionally" – all agree to lease some small percent, for example, keeping enough to work the system. Additional investments may be needed. E.g., Aurora provided additional check dams as part of its lease from the Highline. Some ditches have many headgates off a single lateral, and use fixed splitter or divider boxes while other ditches use adjustable headgates and have few turnouts, so some ditches can more easily transfer water using new institutions.

**8. Ditch Company Accounting and Management Problems:** By-laws, and allocations of assessment and cost have been said to be difficult where some but not all lease. Individual versus group problems can be serious. Because these are private issues internal to business organization, no outside solution is appropriately imposed.

**9. Farm Management Fears:** Some farmers fear interrupting rotations, labor problems, weed problems and soil and salinity management problems and have said interruptible supply cannot work. Others have said drought already interrupts things now and then. Some research gaps have appeared, but no "show-stopper" problems have been discovered. BMPs would help.

**10. Innovation Introduction in Agriculture:** The introduction of this innovation disregarded the century of extension and demonstration experience. This was treated by the legislature as a legal innovation, but it was also an agricultural innovation. Also, there was little public participation in development of the rules as the negotiations were largely conducted with parties threatening litigation; this was a reasonable response to the situation, but further innovations should be better supported to include traditional innovation methods and more public involvement.