Arkansas Basin Roundtable
Meeting of April 14, 2010
Meeting Notes

Roundtable Business

Chairman Barber called the meeting to order at 12:35 pm. Members and visitors introduced themselves. Twenty one (21) members were present. There are 41 roundtable members at this time, so 21 is a quorum, 31 is a 75% majority. The agenda was reviewed.

Public Comment: none

A motion was made by Alan Hamel and seconded by Tom Verquer to approve the minutes of the March meeting. The motion passed unanimously.

The June meeting will be a joint meeting with the Gunnison Basin Roundtable. The meeting will be Monday, June 7th at 12:30 pm, rather than the regularly-scheduled date of June 9th.

Subcommittee Updates

DSS Update - Lindsay Griffith, from Brown and Caldwell, Project Manager.
The last month was very productive, and was spent working on Needs Assessment. Lindsay encouraged RT members to fill out a questionnaire today if they had not filled one out up to this point. Have been conducting interviews, and assessing data that is already available.

Education/Outreach Committee Update – Perry Cabot
The first public outreach forum has been scheduled for June 3rd, from 1:00 – 5:00 pm. It will be held at the Pikes Peak Room at the Leon King Service Center, 1521 Hancock Expressway, in Colorado Springs. The meeting is designed to report the progress of the Arkansas Basin Roundtable to its larger constituency, and will be open to the public.

Needs Assessment Committee Update/CWCB – Jay Winner
Balance in Basin Funds, as of April 2010, is around $200,000. Grant applications are welcome and requested, but we need to see real projects that include matching funds.
The next meeting will be April 28th, and the committee is expecting to review two applications.

Non-Consumptive Needs – SeEtta Moss
The committee met with Bob Leaverton and discussed issues related to forest health. Most of the Pikes Peak/San Isabel Forest is diverse enough that the pine bark beetle hasn't totally devastated the forest. Will be having meetings and discussing that further.

IBCC Report

No IBCC meeting has been held since the last Roundtable meeting. Statewide Fund stands at 2,500,000. If successful in September, another $2,000,000 will become available. For the upcoming year, $6,000,000 has been appropriated.
Wayne brought up a matter which had been discussed at the IBCC, about whether roundtables that have not yet finished their Needs Assessment should still be able to receive funds from the program. A straw poll was taken, and roundtable members were in consensus that roundtables should be required to have 'kept their side of the bargain' and performed the tasks set out for them in order to continue to receive funding.
Sal Pace's proposed legislation regarding Ag transfers was discussed from the perspective of the IBCC.

WSRA Grant Update

Water Leasing – Super Ditch Company - Grant Update – Leonard Rice Engineers – Gregg Ten Eyck and Heath Kuntz
Task D: Engineering Analysis of Potential Injury in Change of Water Rights
The Super Ditch Company is an organization for irrigators to voluntarily lease water for temporary use by cities, water districts, and other water users while retaining water ownership and maintaining irrigation in the Valley.
Who is participating in the Super Ditch? Members are irrigators under the following:

Fort Lyon Canal
Catlin Canal
Otero Canal
Oxford Farmers Ditch
Rocky Ford Highline Canal
Holbrook Canal
Bessemer Ditch

Participants will agree to fallow some of their irrigated land, probably on a rotating schedule. The historical consumptive use associated with that land will become available to lease.
How will it work?
A change of water rights case will be necessary to establish the historical consumptive use available from fallowing of individual farms. Exchanges from the canal headgates to delivery or storage locations will be necessary.
A water rights change case will require terms and conditions to avoid injury. Typical terms and conditions include:

Replacement of return flows in time, location and amount.
Measurement and accounting
Revegetation/farming practices for fallowed lands
Arkansas Rive Compact compliance
Ditch company operations
Retained jurisdiction
Volumetric limits

Current assumptions used in the exchange modeling are:

- Between 65% and 85% of the irrigators under those canals will participate (25% on Bessemer),
- Rotational fallowing will be on a one-in-three year to one-in-four year schedule
- Water will be exchanged/delivered to lessees at Pueblo Reservoir

Exchanges will require terms and conditions to avoid injury.
For example:
Respecting existing exchanges and RICDs
Division Engineer approval
A preliminary estimate of the water available has been made, using:
H-I Model assumptions to estimate CU of participating parcels
2009 daily point flow exchange model (1979-2008 period of record)
25% participation of Bessemer
This estimate shows:

Wet Year (1985)	78,000 Historical CU available, af	53,000 Exchanged to Pueblo, af
Median (1996)	66,000	22,500
Dry Year (2002)	14,500	3,600

How will Super Ditch avoid injury?
Transfers limited to historical consumptive use
Exchanges operate in priority
Terms and conditions included in decrees
The Lower Ark is in the process of applying for 11,000 – 15,000 af storage in Pueblo Reservoir.

PRESENTATION

SWSI Update of Ag Demand to the Year 2050 – Todd Doherty, CWCB; Meg Frantz, with AECOM; Hal Simpson, CDM; Nicole Rowan, CDM

***1. <u>CWCB Assistance with Basin Needs Assessment</u>* –** Todd Doherty

M&I Demands

CWCB staff have gathered comments on M&I Demands to 2050 report
CWCB will respond to comments and revise report, available May/June 2010
Report will be included as appendix to statewide update of consumptive and non-consumptive needs – November 2010

Nonconsumptive Focus Areas Mapping

CWCB staff have gathered feedback on report
CWCB will respond to comments and revise report

Report will be included as a section in the statewide update of consumptive and non-consumptive needs – November 2010

Nonconsumptive Projects and Methods

CWCB will examine past studies:

- existing studies and plans by "ISF recommending entities"
- Watershed restoration plans and flood DSS for identified restoration projects
- Other relevant restoration and quantification studies, plans and processes
- Other WSRA funded studies or Basin Roundtable studies.

Information will be summarized by focus area

Results will be included in the statewide update

Agricultural Shortages

CWCB will update the agricultural shortages from SWSI 1.

CWCB will summarize results of Yampa WSRA study.

CWCB will review information with roundtables second quarter 2010

Information will be included in statewide update – Nov 2010

CWCB will also review the Alternative Agricultural Transfer Methods Grant Projects

Consumptive Gap Analysis

CWCB will update M&I gap analysis from SWSI 1 using updated IPP database

CWCB will update agricultural shortages statewide

CWCB will review information with roundtables second quarter 2010

Information will be included in report updating consumptive and nonconsumptive needs statewide – Nov 2010

Report Summarizing Needs Assessment should be complete by November 2010

2. ***Agricultural Demands*** **–** Meg Frantz

Current agricultural acres

Current agricultural demands

Current agricultural shortages

Range of 2050 irrigated acres

Climate change effects on agricultural demands

Suggested Approach – Future Demand and Supply without Climate Change

Same approach as SWSI II – adjust current demand recently developed for revised acreage

Irrigation demand (IWR) proportional to acreage

Non-irrigation demand proportional to acreage

Suggested Approach – Future Demand and Supply with Climate Change

Use CRWAS results in Colorado River Basins

Treat other basins (east slope) qualitatively

No downsized climate models from CRWAS for east slope

Front Range Study currently in draft form

Irrigated Lands Mapping – a bigger challenge in the Arkansas Basin (no DSS yet)

Irrigated Acres Sources

Division of Water Resources Division 2, Landsat, National Land Cover Data

Discussed the methods used to gather this information. Results listed below:

Current Agricultural Acres, Demands and Shortages by Water District

Water District	Irrigated Acres	Irrigation Water Requirement (Acre-Feet)	Supply Limited CU (Acre-Feet)	Shortage (Acre-Feet)	Percent Shortage
WD10-Fountain Creek	4,843	9,865	4,715	5,150	52.2%
WD11-Arkansas: Headwaters to Salida	10,414	24,832	13,327	11,505	46.3%
WD12-Arkansas: Salida to Portland	5,874	14,920	8,007	6,913	46.3%
WD13-Wet Mountain Valley	18,136	38,756	20,800	17,956	46.3%
WD14-Arkansas: Portland to Fowler	90,290	222,398	106,296	116,102	52.2%
WD15-Saint Charles	1,159	2,101	1,406	695	33.1%
WD16-Cucharas River	1,497	3,372	2,256	1,116	33.1%

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Current Agricultural Acres, Demands and Shortages by Water District

Water District	Irrigated Acres	Irrigation Water Requirement (Acre-Feet)	Supply Limited CU (Acre-Feet)	Shortage (Acre-Feet)	Percent Shortage
WD17-Arkansas: Fowler to Las Animas	155,482	367,260	185,795	181,465	49.4%
WD18-Apishapa River	1,481	3,319	2,220	1,098	33.1%
WD19-Purgatoire River	17,158	39,858	26,668	13,190	33.1%
WD66-Cimarron River Basin	68,994	136,223	85,147	51,076	37.5%
WD67-Arkansas: Las Animas to Stateline	316,139	691,569	432,268	259,301	37.5%
WD79-Huerfano River	3,152	5,893	3,943	1,950	33.1%
Total	**694,617**	**1,560,366**	**892,847**	**667,518**	**42.8%**

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Discussion of these tables ensued.

Prospective Changes in the Number of Irrigated Acres in Colorado by Year 2050

- History and context
- What will cause the change?
- What direction and magnitude will each influence have on irrigated acreage?
- Net effects and outcomes

Have lost approximately 10% in irrigated acres over the last 20 years in Colorado.

Historical Trends in Irrigated Acres for Colorado (Statewide) – 1987 to 2007

- Water supply in a given year affects number of irrigated acres, but trend is downward...

	Total Land in Farms		Total Irrigated Acres	
	Millions of Acres	Percent Change from Previous Period	Millions of Acres	Percent Change from Previous Period
1987	NA	NA	3.0	NA
1992	34.0	NA	3.2	6.7
1997	32.6	-4.1	3.4	6.3
2002	31.1	-4.6	2.6	-23.5
2007	31.6	1.6	2.9	11.5
Percent change for 1992-2007 period		**-7.0**		**-10.0**

Source: USDA Census of Agriculture, selected years.

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Potential influences on changes for the number of Colorado's irrigated acres:

Urbanization of irrigated lands

Examined existing ration of irrigated lands within urban boundaries
Estimated population density per urbanized area
Change in population from 2008 to 2050
Irrigated Acres Urbanized = Change in Population divided by Population Density x Ratio of Irrigated Lands to Urban Boundary. Will do this by county.

Agricultural to Municipal Transfers

Based on information gathered from CWCB as part of Basin Needs Decision Support System updates
Will project on low and high basis

Draft 2050 Irrigated Acres – Arkansas Basin

Water District	Decrease in Irrigated Acres Due to Urbanization		Decrease in Irrigated Acres Due to Agricultural to Municipal Transfers	2050 Irrigated Acres	
	Low	High		Low	High
WD10-Fountain Creek	2,000	2,500	–	2,343	2,843
WD11-Arkansas: Headwaters to Salida	481	783	–	9,631	9,933
WD12-Arkansas: Salida to Portland	2,972	3,851	–	2,023	2,902
WD13-Wet Mountain Valley	1,216	1,529	–	16,607	16,920
WD14-Arkansas: Portland to Fowler	1,942	2,676	–	79,614	80,348
WD15-Saint Charles	187	235	–	924	972
WD16-Cucharas River	112	160	–	1,337	1,385

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Draft 2050 Irrigated Acres – Arkansas Basin

Water District	Decrease in Irrigated Acres Due to Urbanization		Decrease in Irrigated Acres Due to Agricultural to Municipal Transfers	2050 Irrigated Acres	
	Low	High		Low	High
WD17-Arkansas: Fowler to Las Animas	2,765	3,627	–	151,855	152,717
WD18-Apishapa River	12	31	–	1,450	1,469
WD19-Purgatoire River	686	947	–	16,211	16,472
WD66-Cimarron River Basin	6	20	–	68,974	68,988
WD67-Arkansas: Las Animas to Stateline	1,252	1,606	–	314,533	314,887
WD79-Huerfano River	112	160	–	2,992	3,040
Total	**13,745**	**18,125**	–	**668,494**	**672,874**

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Demographic factors

Baby boomers as heads of farm households
Next generation less interested in continuing to farm
Who will take over the farm?

Assumption: Farmers will sell to neighbors or corporate operations – Ag operations will continue in some form. Demographic factors will contribute to ag transfers, easements, etc.

Biofuels production

Ethanol will remain the leading biofuel for near and intermediate term (2030) if government support remains.
Cellulosic and algae biofuels a long-term possibility, might benefit Colorado ag processing sector, not irrigated acreage
With solid livestock demand, firming corn prices
Continued increase in corn acreage, less wheat and hay at lower elevations
Continued demand for corn irrigation, emphasis on efficiency with constrained water supply

Assumption: Upward pressure in irrigated acreage, but mostly a trade-off with other crops

Climate Change

Limited clarity or predictability
State likely to be warmer and therefore higher consumptive use; more precipitation variability
More uncertainty for farmers
Earlier runoff and more competition for water
Longer growing season at higher elevations

Assumption: Highly uncertain effect. Might discourage irrigated agriculture, spur to ag water transfers, could benefit West Slope agriculture.

Farm Programs

Always changing, but always there in some form
Much discussion about elimination of particular support program, or adding another
Food production a recognized national strategic resource
Little evidence of significant change

Assumption: No net effect on number of irrigated acres in Colorado

Subdivision of Ag Lands and Lifestyle Farms

Lands preserved from urbanization or ag transfers, depending on circumstances
Less focus on beneficial use of water, less intensity of use
Less actual irrigation
Same water tied to same property

Assumption: Contradictory effects. Difficult to determine net effect on number of irrigated acres. Perhaps limited net change?

Yield and Productivity

Historic gains in productivity generally for agriculture since 1950s
Technological improvements gradual but continuous in equipment and process

Assumption: Continued gradual improvements are likely. Colorado farmers will produce more per acres long-term.

Open Space and Conservation Easements

Wide variety of open space and easement types and landowners
Many cities and counties more active in acquiring open space in 1990s and early 2000s
Net effect of open space acquisition within urban growth boundaries increased development outside urban planning areas, in some cases on irrigated lands.
Some conservation easements protect irrigated acres, help farm viability, and deter development; larger proportion on non-irrigated lands.
Conservation easement activity closely tied to tax breaks and incentives that may be reined in.

Assumption: Rush to purchase open space and put lands with easements transitioning to lower sustainable levels. Will continue to be a factor, although modest in total irrigated acres impacted.

Economics of Agriculture

Range of assumptions from SWSI 2050 population projections:

World food demand increasing from developing countries
Acceptance and enhancement from genetic modification modest over long-term
Trends toward locally produced foods
Irrigated agriculture more resilient segment
Prices generally more firm with usual oscillation
Costs may keep pace with firmer prices, so net income stable
Government policies have a major impact on agricultural economies.

Assumption: Farming, especially irrigated agriculture, will remain a resilient economic sector. Without incentives to reduce this activity, irrigated acreage will remain steady.

3. Preliminary M&I Gap Analysis – Hal Simpson

Methodology

Interviewed largest providers in basin to determine plans, projects, and processes to meet 2050 M&I demands
Aggregated this information at the sub-basin level
Estimate 2050 low, median and high gaps
- need assistance from roundtables to identify additional gaps
Future activity – summarize future methods for meeting needs by major categories

DRAFT M&I Gap Analysis

Used draft info from June Demands to 2050 Report
Will be updated, with new population data, new water usage data, and passive conservation.

Draft M&I Gap Analysis

County	Current Demand (AFY)	2050 Demand (AFY)		2050 Water Needs (AFY)		Identified Projects and Processes (AFY)		Gap Identified in Water Needs Assessment Task Order	Gap Identified by Providers (AFY)	Information/ Real Gap (AFY)	
		Low	High	Low	High	Low	High			Low	High
Upper Arkansas	22,800	41,000	48,500	18,200	25,700	9,500	9,500	7,050	–	8,700	16,200
Urban Counties	159,200	264,700	315,700	105,500	156,500	89,400	97,300	22,600	0	29,600	72,700
Lower Arkansas	8,800	11,400	12,800	2,600	4,000	900	1,100	0	–	1,700	2,900
Eastern Plains	4,600	7,000	7,800	2,400	3,200	2,000	2,000	0	–	400	1,200
South-western Arkansas	6,900	10,700	12,900	3,800	6,000	3,100	3,100	850	–	700	2,900
Total	**202,300**	**334,800**	**397,700**	**132,500**	**195,400**	**104,900**	**113,000**	**30,500**	**0**	**41,100**	**95,900**

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Discussion of possible problems with methodology, findings and assumptions ensued. The meeting adjourned and the discussion was continued.

Review of the next meeting's agenda

Meeting was adjourned at 2:55 pm.

Respectfully submitted,
Jay Winner