Republican River Compact Administration
Work Session
Burlington, CO
July 26, 2005

1. Status of Study on Non-federal Reservoirs and Land Terracing

2. Letter to State Conservationists

3. Status of Lower Republican River Appraisal Study

4. Engineering Committee

    a. ~~Accounting for 1995-2003~~ 2
    b. Accounting for 2004
    c. Other

5. Plan of Study for Ground Water Irrigation Recharge

6. CREP Programs in Nebraska and Colorado

7. USDA Farm Bill 2007 (Modified CREP)

8. Status of Implementation of the Settlement Agreement

9. Review of Minutes for 2004

    a. June 9, 2004 43rd Annual Meeting
    b. January 12, 2005 Special Meeting

10. Rule addition Proposal Regarding Interstate water transfers

11. Principia Mathematica contract

12.* George Austin discussed error in Lovewell area computations & wanted permission to change Compact Values. See group of tables at end of this packet.

Burlington, Colorado July 26, 2005
RRCA Worksession - see agenda

(1) Gordon Aycock - cons. study update report
  a have instrumented some 32 reservoirs, Developing Database
  b are the original terraced + dams still functional
  c UNL water balance models (Pot field model ...)
- Sappa Creek in KS + other areas in NE is being mapped w/ GIS process
- Walked perimeter of wetted area & the apparent normal pool elevation. Will walk them each time so an area capacity table can be generated.
- 6 terrace fields will be studied for water flow
- Ideally 400-500 terraced fields would be closely studied - perhaps the local NRCS specialists could be asked to help through a letter to the State Conservationist. A letter
☆ has been drafted for Commissioners to consider,
- "ortho quads" is a term Gordon used, they are using a quad by quad method - Orthophoto quads
? - What about the history of terrace installation over time by county? Missing records can be a problem + there is a privacy issue
- 2009 completion target

(2.) ☆ Commissioners will sign a request letter on July 27 at mtg.

(3.) - Lower Rep. River Appraisal Study - Jack Wergin complete + published in 2005 - see later in notes (3 cont.)

(4) Engineering Committee Report
  (a) Harlan Split language proposal - ☆ This would be an amendment to the Accounting procedures

b. 1995 - 2002 Accounting update excersise
George Austin proposed a change in the
below state the Lovewell information

c. Accounting for 2004

d. Other - [redacted] Principia Mathematica - 2 model
CDs given to Roger ← runs

10 tasks from Last year - Rundown by Ken Knox
- Willem has developed the user manual for the model - still needs review
- Eng. Corps still needs to develop a manual on RRCA Accounting

Discussion ensued on whether official endorsement is needed for the GW model users Manual
"How to run the Programs" - Willem's description of manual
☆ Patterson - "let Engineering Committee attach it to their report." Ken Knox will add that.

To be continued. . . .

③ cont. - $1.5 million for furthering study into plan of action to conserve/store more water needs to be introduced through Moran(KS) + Osborne (NE)

⑤ Plan of Study for Ground Water Irrigation Recharge
background by Pope & followed by Scott Ross with handout from George Austin

Scott Ross - inconsistencies of applying numbers for recharge is alleged by Scott Ross, i.e. irrigation recharge methodology

RRCA groundwater irrigation recharge plan of study
Kansas Discussion Draft: July 25, 2005

Note: In response to the Engineering Committee's encouragement to make the study purpose as clear as possible, the study effort has been renamed from a study of irrigation efficiency to a study of groundwater irrigation recharge.

Background/Scope of issue:

During the development of the RRCA groundwater model, each state used independent approaches to the development groundwater pumping and recharge datasets based on the best data available for each state (see *Republican River Compact Administration, Ground Water Model*, June 30, 2003). In many cases, that data was limited, esp. for the historic period of record.

- Colorado developed its groundwater irrigation pumping estimates based primarily on estimates of irrigated acreages, crop distributions, and crop irrigation requirements with additional reductions for observed deficit irrigation. Values used for irrigation recharge are based on these pumping estimates and assumed irrigation efficiencies by system type, with reductions for spray loss. Since 2001, Colorado has used these methods and will likely continue.
- Kansas developed its estimates of groundwater irrigation pumping using a combination of approaches, reported water use for the recent record (1989 to 2000) and an approach similar to Colorado for the earlier record. Kansas' method for estimating recharge from groundwater irrigation is currently the same as Colorado, except recharge rates were different. Since 2001, Kansas has relied exclusively on reported water use to derive its pumping estimates. Recharge estimates are based on systems types and assumed system efficiencies with adjustments for spray loss. These methods will continue to be used until better methods can be developed.
- Nebraska's estimates of groundwater pumping were based largely on power records although they also utilized meter records from the Upper Republican NRD. Pumping rates were based on well registrations, which were further complicated by the addition of co-mingled lands. Historically, estimates of groundwater irrigation recharge in Nebraska have trended from 30% (up to 1970) to 20% (year 2000), reflecting the shift in irrigation systems and practices. Since 2001, Nebraska has estimated irrigation recharge at 20% of pumping, with an increasing reliance on metered pumping.

In reviewing the resulting estimates of recharge by state, there is a significant disparity, with Nebraska's current recharge estimates being significantly higher. The need to address these differences is reinforced at this point with new controls in Nebraska, which provide for multi-year allocations, likely resulting in higher application efficiencies and more frequent deficit irrigation, both are expected to reduce irrigation recharge.

Proposal

The RRCA will create a groundwater irrigation recharge committee to review this issue over the coming year and bring recommendations to the RRCA at the next annual meeting. In addition to members of the engineering committee, each state will recruit one or more experts in irrigation systems (likely from their universities extension and research staff) to assist in the study effort. This committee will be charged as follows:

- Review the methods of estimating groundwater irrigation pumping and recharge used in the development of the RRCA groundwater model and currently used in the annual updates with emphasis on current practices.
- Survey the current literature and consult with irrigation management specialists to determine methods to estimate irrigation recharge. This review shall include but not be limited to, methods based on irrigation efficiencies by system type. A range of reasonable values shall be developed by the committee.
- Make recommendations on recharge rates to estimate groundwater irrigation recharge in the RRCA groundwater model.

Essentially the proposal is to put together to study with Eng. Cmte. + University types to make literature review, discuss methodology & then come back & make recommendations

(Pope says right now we essentially 1 - net pumping ≈ recharge. Nebraska is different)

Ross - more deficit irrigation with allocations mean our current model processes will become out dated.

Patterson - isn't that what a model recalibration is for?

Pope: Recharge as a percent of pumping will go down as a result of increased deficit irrigation triggered by new allocations in the NRDs.

Patterson - lets continue to gather more data and look at recalibrating the model. Changing methods for part of model computations may not result in valid model outputs.

☆ Simpson - Have in Eng. Committee tasks to come back with a full recommendation for next mtg in 2006

(6) CREP Report (EQIP too)

Nebraska: 31,600 acres applied in Republican Basin - 10-15 years
~9,000 acres in EQIP - 4 years

Legislature approved cost share for CREP

Pope - What happens to water saved - can it be used by someone else?

Waterbase Contract - increased reservoir storage accounting by WBZ. Canal can't use water elsewhere

Nat. Flow transfer to instream flow permit in the absence of a storage right

Colorado - Scott Richrath worked on it

30,000 irrigated land
5,000 dry land
} hopefully the sign-up by November

Tiered matrix; 1-mile from stream gets preference as well as permanent retirement

Rep. River Water Conserv. District is going to provide 15% local cost share + 5% in-kind contribution credit

After 15 years the Colorado folks can go dryland, but can't go irrigated again

(7) USDA Farm Bill 2007 (modified CREP) -

i.e. to allow dryland so local economies are not so potentially impacted

Scott Rae - If you also add habitat management you could get wildlife folks on board too.

(8) Status of Implementation of the Settlement Agreement

(9) a few more changes

(10) RRCA Regulation No. ____. Permitting a new appropriation of water in one state to be beneficially consumed in another State.

See handout

Engineering Cmte will use attorneys to finalize this.

Pope: Have you forcast what it will take to get into compliance by 2007?

Patterson: by 2006 50K + 20K acres should be signed up
CREP EQIP

We have 3 allocation programs to clamp down on pumping

Fanning: new rules 14.5 → 13.5
transfers more difficult

Smith: base allocation 13 inches (39 over 3 yrs.)
certified acres 312,000 acres
70% 16.3" 2003
metered
90% 14.4" 2004
gravity operators will struggle
Transfers restricted (~8 on 1000 acres)

Thorburn: Limited irrigated acres
maintain mound
certified acres 192,000 acres (225,000 acres on well reg.)
assessors are accurate

Draft 7-25-05

RRCA Regulation No. _____. Permitting a new appropriation of water in one state to be beneficially consumed in another state.

Any new application to divert water in the Republican River Basin in one state to be put to beneficial consumptive use in another state shall meet the following requirements:

1. A new appropriation that has a point of diversion proposed to be located in an area under a moratorium, closure, or other regulation limiting the development of new appropriations, shall be approved only if the new beneficial consumptive use to be authorized will be offset by a decrease in beneficial consumptive use under an existing water right in the same state & sub-basin that the beneficial use will occur.

2. The decrease in existing beneficial consumptive use shall be equal to or greater than the proposed beneficial consumptive use on an annual basis and from an existing water right that:

   A. Is from the same source of water supply;
   B. Is not abandoned or forfeited, and is in good standing in the state in which the existing point of diversion is located; and
   C. Does not exceed the annual quantity of water authorized by the state where the existing point of diversion is located.

3. The computed (stream depletion) beneficial consumptive use of the proposed appropriation and for the offsetting water right for purposes of compact accounting shall be determined by using the RRCA groundwater model. The beneficial consumptive use of the offsetting water right shall be based on the average annual legal beneficial consumptive use by the existing water right for the five full calendar years immediately preceding the date of the application. The beneficial consumptive use of the proposed water right shall be determined by assuming that the water right will be fully exercised every year.

4. The new appropriation shall meet all of the requirements imposed by the state in which the proposed point of diversion will be located, and the state in which the beneficial consumptive use and the offset will occur.

5. The following procedure shall be used for approving a new appropriation of water which will be diverted in one state and put to beneficial use in another state:

A. Within 30 days of the receipt of a complete application which proposes to divert water in one state which is proposed to be put to beneficial consumptive use in another state, copies of the application and any pertinent attachments shall be provided to other states by the state in which the application is made.
B. The state in which the proposed point of diversion will be located shall provide the applicant with the requirements that must be met in order to obtain approval. The applicant shall also be notified that joint approvals by the other state(s) and the RRCA will be required.
C. The applicant shall provide each affected state and the RRCA with all of the data needed to evaluate and process the application.
D. The applicant shall first receive the approval of: (i) the state in which the point of diversion will be located, and (ii) the state in which the beneficial consumptive use will and the offset will occur, contingent upon approval by the RRCA. The applicant shall then submit those contingent approvals to the RRCA at least 30 days prior to a RRCA meeting.
E. (i)The state in which the proposed point of diversion will be located shall permit the point of diversion, the maximum annual quantity of water that may be diverted, and the maximum instantaneous rate of diversion. (ii) The state in which the proposed beneficial use and offset will occur shall approve the: (1) authorized place of use, (2) any necessary terms, conditions, and limitations for applying the water to beneficial use as necessary to protect the public interest, (3) the annual quantity of beneficial consumptive use that will be used to offset the new appropriation, and (4) the terms and conditions for diversion of any water use authorized by that water right that will not be used as an offset.
F. The RRCA shall consider any complete application presented for approval or denial at least 30 days prior to a RRCA meeting.
G. The new appropriation shall not be allowed until it is approved by: (i) the state in which the proposed point of diversion is located, and (ii) the state in which the beneficial consumptive use will occur and the offset right is located, and (iii) the unanimous action of the RRCA.

6. As provided in Article IV.C.1 of the FSS, streamflow depletions are assessed to the State in which the beneficial consumptive use occurs.

flow meters 90%
observation wells
new wells can only serve certified acres

Clements – 1st year is going
split allocation (183) west 36"
(83) east 33"
gravity irrigators may suffer
pivots should be OK
330,000 certified acres
NO Transfers
100% metered

Patterson – 1¢ tax allowed by legislature
per $100

$150K LRNRD
$110K URNRD
$155K MRNRD

Districts do spot checks + will do readings annually + provide repair service

5% reduced pumping target (1998-2002)

Colorado summary –
3000 acres signed up
would like to get 30,000 acres in '06 – '07
District will offer incentives to sfc. projects on N. Fk
Looking for rain.

Kansas – KS Bostwick is short
your 1st two years are not looking good

(11) Continue contract with Principia Mathematica - Add 20
☆ Nebraska hasn't paid yet for current year (2004)

Worksession
Agenda 12

Year	Lovewell Net Evaporation Republican	White Rock	Total	Below Lovewell Consumptive Use Republican	White Rock	Total	Year	Net evap AF
1995	170	3010	3180	13650	110948	124598	1995	1645
1996	310	2400	2710	27383	21023	48406	1996	851.8
1997	370	2540	2910	19733	22875	42608	1997	2114
1998	1200	860	2060	2063	19598	21661	1998	265.1
close → 1999	1280	1510	2790	36750	1688	38438	1999	1945.5
2000	900	3430	4330	30938	17760	48698	2000	4122.2
2001	320	1970	2290	19440	22905	42345	2001	-220.9
2002	880	2660	3540	24375	14085	38460	2002	2740.8

compare

Lovewell Computations for Calendar Year 1995

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
1994	Dec	1578.66			0			190	24870
1995	Jan	1580.69	145	0.41	0	3400	6		
1995	Feb	1581.86	207	0.12	0	2210	4415		
1995	Mar	1582.35	372	1.31	0	10	21896		
1995	Apr	1582.82	594	2.07	0	10	3366		
1995	May	1587.00	665	7.21	0	390	5020		
1995	Jun	1585.53	1339	1.86	3536 1045	2050	10684		
1995	Jul	1581.09	1339	1.28	7657 3216	21270	26294		
1995	Aug	1578.22	1078	3.76	6369 5342	28690	19124		
1995	Sep	1579.68	519	2.56	607 20886	15110	2152		
1995	Oct	1580.47	507	0.67	0	0	12		
1995	Nov	1580.68	406	0.57	0	0	12		
1995	Dec	1581.08	189	0.43	0	0	8 3979		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

		EOM CC Storage	EOM WR Storage
Consumptive Use below Lovewell Assigned to River	13650	0	31300
Net Evaporation Assigned to River	170		

By George Austin, 5/8/2003

Lovewell Computations for Calendar Year 1996

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
1995	Dec	1581.08			0			0	31300
1996	Jan	1581.45	158	0.42	0	0	6		
1996	Feb	1581.79	195	0	0	0	12		
1996	Mar	1582.15	388	0.67	0	0	12		
1996	Apr	1582.57	874	2.4	105	0	18		
1996	May	1585.48	1210	5.19	4,875	401	25		
1996	Jun	1582.05	1382	0.61	2,207	12710	24		
1996	Jul	1581.86	1261	5.14	14,724	17825	25		
1996	Aug	1581.04	934	2.35	13,192	15786	25		
1996	Sep	1581.75	652	3.18	3,747	1722	18		
1996	Oct	1581.44	343	0.77	0	0	12		
1996	Nov	1583.34	357	5.89	0	0	11281		
1996	Dec	1582.44	172	0.04	0	0	4640		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

Consumptive Use below Lovewell Assigned to River	27382.5	EOM CC Storage	EOM WR Storage
Net Evaporation Assigned to River	310	2030	33160

By George Austin, 5/8/2003

Lovewell Computations for Calendar Year 1997

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
1996	Dec	1582.44			0			2030	33160
1997	Jan	1582.88	168	0.04	0	0	6		
1997	Feb	1583.47	219	1.14	0	0	11		
1997	Mar	1583.98	407	0.17	0	0	12		
1997	Apr	1583.76	564	2.87	0	0	2690		
1997	May	1584.09	1030	1.81	2,476	647	1460		
1997	Jun	1586.31	1280	3.24	4,180	6284	2684		
1997	Jul	1580.14	1437	2.98	7,180	25196	430		
1997	Aug	1577.80	736	1.8	8,609	15148	25		
1997	Sep	1578.47	572	1.54	3,731	2162	17		
1997	Oct	1580.17	454	2.64	3,626	0	13		
1997	Nov	1580.63	403	1.12	0	0	12		
1997	Dec	1581.63	198	1.22	0	0	6		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

		EOM CC Storage	EOM WR Storage
Consumptive Use below Lovewell Assigned to River	19732.5	5160	27680
Net Evaporation Assigned to River	370		

By George Austin, 5/8/2003

Lovewell Computations for Calendar Year 1998

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
1997	Dec	1581.63			0			5160	27680
1998	Jan	1582.29	169	0.42	0	169	6		
1998	Feb	1583.17	219	0.87	0	219	6		
1998	Mar	1584.25	394	3.18	0	394	1162		
1998	Apr	1583.65	720	5.34	0	720	18389		
1998	May	1583.48	908	1.15	0	908	2613		
1998	Jun	1581.40	1122	3.09	4743	1122	24		
1998	Jul	1580.78	721	4.58	12,076	721	25		
1998	Aug	1578.75	729	1.06	7,876	729	15		
1998	Sep	1579.42	630	1.74	3,877	630	12		
1998	Oct	1579.58	367	1.8	0	367	12		
1998	Nov	1580.51	395	2.95	0	395	12		
1998	Dec	1580.92	197	0.03	0	197	12		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

		EOM CC Storage	EOM WR Storage
Consumptive Use below Lovewell Assigned to River	2062.5	29790	1070
Net Evaporation Assigned to River	1200		

By George Austin, 5/8/2003

Lovewell Computations for Calendar Year 1999

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
1998	Dec	1580.92			0			29790	1070
1999	Jan	1581.52	157	0.48	0	0	12		
1999	Feb	1582.06	217	0.18	0	0	11		
1999	Mar	1582.51	379	0.56	0	0	12		
1999	Apr	1583.66	516	3.61	0	0	12		
1999	May	1585.72	1010	5.07	0	361	12		
1999	Jun	1585.23	882	3.17	2,888	5107	14		
1999	Jul	1577.91	1334	1.1	7,234	27394	13		
1999	Aug	1574.04	655	2.67	6,614	14529	12		
1999	Sep	1575.30	486	1.72	4,115	3727	12		
1999	Oct	1575.04	486	0	0	0	12		
1999	Nov	1575.06	288	0	0	0	12		
1999	Dec	1575.32	142	0.52	0	0	6		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

		EOM CC Storage	EOM WR Storage
Consumptive Use below Lovewell Assigned to River	36750	360	17450
Net Evaporation Assigned to River	1280		

By George Austin, 5/8/2003

Lovewell Computations for Calendar Year 2000

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
1999	Dec	1575.32			0			360	17450
2000	Jan	1575.55	122	0.07	0	0	6		
2000	Feb	1576.42	146	1.48	0	0	6		
2000	Mar	1580.80	310	2.11	0	0	12		
2000	Apr	1583.09	699	0.71	0	0	12		
2000	May	1583.08	978	1.09	1,838	2267	12		
2000	Jun	1579.84	1250	2.12	7,668	15253	12		
2000	Jul	1576.24	1042	1.34	16,875	25146	12		
2000	Aug	1573.17	850	0.62	14,631	21582	12		
2000	Sep	1574.40	677	0.96	3,563	680	12		
2000	Oct	1575.99	363	1.53	0	0	12		
2000	Nov	1578.18	331	1.64	0	0	12		
2000	Dec	1579.68	170	0.72	0	0	6		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

		EOM CC Storage	EOM WR Storage
Consumptive Use below Lovewell Assigned to River	30937.5	2790	24800
Net Evaporation Assigned to River	900		

By George Austin, 5/8/2003

Lovewell Computations for Calendar Year 2001

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
2000	Dec	1579.68			0			2780	24810
2001	Jan	1581.18	149	1.04	4,027	0	6		
2001	Feb	1581.40	187	3.01	764	0	11		
2001	Mar	1583.00	355	0.96	0	0	12		
2001	Apr	1583.11	833	1.27	0	0	17		
2001	May	1585.69	1006	9.93	0	0	4519		
2001	Jun	1584.14	1400	2.99	1,324	6214	3773		
2001	Jul	1583.34	1476	5.93	8,933	16703	25		
2001	Aug	1577.25	1023	1.94	4,356	21005	25		
2001	Sep	1578.56	589	3.84	6,713	4086	19		
2001	Oct	1580.47	425	1.69	0	0	12		
2001	Nov	1580.53	405	0.64	0	0	12		
2001	Dec	1580.63	199	0.11	0	0	12		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

		EOM CC Storage	EOM WR Storage
Consumptive Use below Lovewell Assigned to River	19440	2650	27420
Net Evaporation Assigned to River	320		

By George Austin, 5/8/2003

Lovewell Computations for Calendar Year 2002

Input

Calendar Year	Month	Feet EOM El.[1]	Acre-Feet Gross Evap.[1]	Inches Precip.[1]	Acre-Feet CC Inflow[1]	Acre-Feet CC Outflow[1]	Acre-Feet WR Outflow[1]	Acre-Feet EOM CC Storage[4]	Acre-Feet EOM WR Storage[4]
2001	Dec	1580.63			0			2650	27426
2002	Jan	1580.77	161	0.4	0	0	6		
2002	Feb	1581.09	191	0.53	0	0	6		
2002	Mar	1581.41	348	0.56	0	0	12		
2002	Apr	1582.64	741	2.41	3,043	0	17		
2002	May	1584.86	944	4.09	5,469	0	25		
2002	Jun	1582.58	1339	3.36	1,686	8342	24		
2002	Jul	1576.04	1354	0.29	11,413	27560	25		
2002	Aug	1573.67	798	1.71	9,023	15376	25		
2002	Sep	1574.76	588	1.99	2,706	0	23		
2002	Oct	1576.76	244	5.13	0	0	11		
2002	Nov	1578.64	344	0.39	0	0	12		
2002	Dec	1580.04	188	0.02	0	0	12		

[1]Bureau Data
[2]1997 Area-Capacity Tables (Corrected)
[3]USGS Data
[4]From Previous Year's Calculations

Output

		EOM CC Storage	EOM WR Storage
Consumptive Use below Lovewell Assigned to River	24375	2610	25900
Net Evaporation Assigned to River	880		

By George Austin, 5/8/2003