South Fork Republican River Water Users’ Meeting

Background on the Republican River Compact

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David Barfield, Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
Republican River Compact (1943)

- Compact was formed as a prerequisite for federal flood control and irrigation projects
- Three States: Kansas, Colorado and Nebraska
- Approved by the States, Congress
- Allocates 100 percent of the basin’s water supply among the states, by tributary
- Requires each state to stay within allocation
- If one state uses too much, the downstream state is shorted

Republican Compact Allocation Method

- The negotiators estimated the Basin’s “virgin water supply” and allocated 100% of it to the States by major tributary (sub-basins).
  - Nebraska: 234,500 acre-feet (AF)
  - Colorado: 54,100 AF
  - Kansas: 190,300 AF divided between:
    ▪ Northwest KS tributaries: 52,300 AF
    ▪ KS main stem, 138,000 AF
Year Issue

1980s - 1990s Nebraska begins to overuse its share. Kansas seeks to address concerns via the Compact Administration

1998 Kansas files suit in U.S. Supreme Court. Nebraska asserts that the Compact does not include groundwater.

2000-2002 Court rules that groundwater pumping impacts to streamflow must be accounted for; States negotiate comprehensive settlement

2003 U.S. Supreme Court approves settlement

Settlement includes clear compact compliance requirements and jointly developed groundwater model/accounting methods

Compact Enforcement History
Final Settlement Stipulation (FSS)

- Clearly defines how compact compliance will be measured
- Adopts RRCA Groundwater Model to determine groundwater depletions to streamflow
- Flexibility provided consistent with terms of compact and needs of the states
  - Multi-year flexibility: 5 year normal vs. 2 year water-short compliance tests
  - Tributaries: a state cannot use a downstream state’s specific allocation

![Map of South Fork of the Republican River](image)
Colorado’s Five-Year Average Allocation and CBCU (Values in Acre-Feet)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Allocation</th>
<th>Computed Beneficial Consumptive Use</th>
<th>Imported Water Supply Credit</th>
<th>Allocation - (CBCU - IWS Credit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>21,420</td>
<td>33,470 NA</td>
<td>(12,050)</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>21,540</td>
<td>33,670 NA</td>
<td>(12,130)</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>25,040</td>
<td>35,460 NA</td>
<td>(10,420)</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>21,090</td>
<td>30,760 NA</td>
<td>(9,670)</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>24,590</td>
<td>32,980 NA</td>
<td>(8,390)</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>22,750</td>
<td>32,910 NA</td>
<td>(10,160)</td>
<td></td>
</tr>
</tbody>
</table>

Total of years 2003 to 2007 (52,930)
Colorado non-compliance and actions

- Colorado overused its allocation more than 50,000 AF for the 5-year period 2003-2007 and continues to overuse
- Colorado first retired surface water projects; used CREP to retire groundwater pumping
- As these actions provided insufficient, in 2008, rather than cut groundwater pumping further, Colorado proposed to built an “augmentation pipeline” to offset depletions.

Augmentation Issues

- Since 2008, Kansas has not been able to approve Colorado’s augmentation proposal since:
  - it facilitates replacing Colorado’s South Fork overuse on the North Fork,
  - it fails to determine the augmentation credit using the groundwater model, and
  - it lacks sufficient operational limits, more
- This dispute has been arbitrated twice.
- The arbitrator largely found for Kansas.
South Fork allocations

- Total virgin water supply: 57,200 acre-feet (AF)
- Colorado allocation: 25,400 AF (44.4%)
- Kansas allocation: 23,000 AF (40.2%)
- Nebraska allocation: 800 AF (1.4%)
- “Unallocated” (reserved for mainstem): 8000 AF (14%).

Colorado South Fork Non-compliance

Compliance for the South Fork Republican Sub-basin (Values in Acre Feet)*

<table>
<thead>
<tr>
<th>Basin</th>
<th>Allocation</th>
<th>Unallocated Supply</th>
<th>Imported Water Supply Credit</th>
<th>Total Available Supply</th>
<th>Computed Beneficial Consumptive Use</th>
<th>Available Supply - CBCU</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>10,540</td>
<td>3,300</td>
<td>NA</td>
<td>13,760</td>
<td>15,920</td>
<td>(2,160)</td>
</tr>
<tr>
<td>2004</td>
<td>10,690</td>
<td>3,370</td>
<td>NA</td>
<td>14,060</td>
<td>16,800</td>
<td>(2,740)</td>
</tr>
<tr>
<td>2005</td>
<td>12,230</td>
<td>3,850</td>
<td>NA</td>
<td>16,080</td>
<td>18,660</td>
<td>(2,580)</td>
</tr>
<tr>
<td>2006</td>
<td>9,240</td>
<td>2,910</td>
<td>NA</td>
<td>12,150</td>
<td>15,050</td>
<td>(2,900)</td>
</tr>
<tr>
<td>2007</td>
<td>10,220</td>
<td>3,200</td>
<td>NA</td>
<td>13,440</td>
<td>15,050</td>
<td>(2,170)</td>
</tr>
<tr>
<td>Average</td>
<td>10,570</td>
<td>3,330</td>
<td>NA</td>
<td>13,900</td>
<td>16,410</td>
<td>(2,510)</td>
</tr>
</tbody>
</table>


Bonny Reservoir issues

- To address its non-compliance on the South Fork, Colorado drained Bonny Reservoir.
  - Inflows into Bonny Reservoir have been in long-term decline, reducing its use and long-term viability.
  - While this action provides temporary benefits to Kansas, Kansas long-term concerns remain.
South Fork disputes

- Kansas cannot agree to Colorado’s current proposal because it hides more than half of Colorado’s actual pumping depletions to the stream, without any reduction in groundwater pumping, which threatens to further diminish flows into Kansas.
- Bonny operation and evaporation issues
Questions