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Subject: Republican River Compact Implications briefing paper
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Attachments: [Republican River Compact Implications briefing paper.doc](#)

My two cents.

BUREAU OF RECLAMATION

BRIEFING FOR: SSLE

DATE: October 14, 2010

PURPOSE OF PAPER: Summarize the impacts of operations of Red Willow Dam/Hugh Butler Lake on the Republican River Compact, Frenchman-Cambridge Division, Pick-Sloan Missouri Basin Program (SOD)

CURRENT STATUS: The operating level of Hugh Butler Lake (the reservoir impounded by Red Willow Dam) was restricted to elevation 2553 (approximately the top of dead pool elevation) on December 7, 2009, after discovery and investigation of significant cracks in the embankment. The reservoir level is restricted to this elevation pending implementation of permanent risk reduction actions. All inflows to Hugh Butler Lake are being passed through the reservoir as a result of the restriction.

BACKGROUND: Preliminary analysis on the effects of Hugh Butler Lake on Republican River Compact (Compact) accounting indicates that returning Hugh Butler Lake to normal historic operations will not provide a Compact benefit to Nebraska. In general, returning Hugh Butler to normal historic operations will:

- increase Nebraska's share of consumptive use due to the increase in reservoir evaporation losses,
- increase Nebraska's consumptive use due to Red Willow canal diversions and use of Hugh Butler storage water,
- decrease Nebraska's allocation by decreasing the amount of stream flow passing the Compact gaging station on Red Willow Creek.

Additional analysis would be required to determine the impacts of returning Hugh Butler Lake to historic operations to the groundwater accounting.

The construction of Red Willow Dam and Hugh Butler Lake was a part of the overall development of the Republican River Basin under the Pick-Sloan Missouri Basin Program and as envisioned under the Compact. It is somewhat difficult to assign a dollar value (plus or minus) to the project from a Compact perspective. The impact of the project is reflected in the Compact allocation of water in the three states.

POSITION OF INTERESTED PARTIES: The historic operations of Red Willow Dam and Hugh Butler Lake were considered in the Republican River Compact. The current restricted operations do provide some positive impact to the Nebraska's overall Compact obligations, but the impacts are difficult to quantify. The potential Compact implications should not be addressed in the Modification Report for Red Willow Dam.

RECOMMENDATION: Do not attempt to quantify the Republican River Compact implications of Red Willow Dam and Hugh Butler Lake operations in the Modification Report.

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