

Minutes of the Yellowstone River Compact Commission Technical Work Group  
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Sheridan, WY

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**(Action items are shown in BOLD)**

- A. Introductions: Sue started the meeting and everyone introduced themselves.
- B. Sue recapped the 4 objectives that the Yellowstone Commission had directed the Technical Work Group to explore at their December 3, 2002 Commission meeting:
- 1) Better understanding of the forecasting methods used by the NRCS and the NWS
  - 2) Share information about the hydrology and general characteristics of the basin
  - 3) Explore timing/efficiency issues among storage and direct flow uses in the basin.
  - 4) Determine if there are and "Next Steps" or recommendations to be made from the Technical group to the full Commission.

Keith Kerbel added that he felt the Commission had asked us to look at how good are the forecasts that are used and can they be improved. We should also be looking at whether we require more gages in the basin or are the ones we have in best locations. Keith also challenged the group to look on a more basin-wide view rather than just thinking about the stateline.

- C. Agency Reports of the information they collect:

USGS

Bob and Wayne went through handouts (attached) showing the location of active and non-active streamflow gages and also noted which were annual versus those only operated seasonally. There was a lot of discussion regarding the location of these gages and where they were situated relative to the diversion and storage facilities in Wyoming. Roy reiterated the importance of maintaining long-term streamflow gages and recommended that this Work Group send a strong message to the Commission that streamflow data collection is important to any improvement in our forecasting abilities in the basin.

### NRCS

Roy and Dave described the process for forecasting the runoff volumes for Tongue River at Dayton and the inflow to Tongue River Reservoir. Roy also takes the seasonal volume forecasts and tries to estimate the timing of that volume runoff into a hydrograph. The NRCS Forecast Center in Portland is reviewing their forecast models for several river basins across the west, and there is an interest in getting more accurate diversion and other water operations information such that the volume forecasts can be more accurate and so some timing projections can be included to estimate a “operational hydrograph forecast”. Dave and Roy also discussed the SNOTEL network in the basin and described NRCS’s long-term goal of converting all snow courses to SNOTEL sites. There was much discussion on how to improve the accuracy of the forecast into Tongue River Reservoir, **and it was decided that the Technical Group should ask the Commission to send a letter to Ed Burton, State Conservationist for Wyoming requesting that 3 additional forecast points be added by Portland. The three stations are Big Goose near Sheridan, Little Goose near Big Horn, and Goose Creek near Acme. Keith and Roy will draft a letter for consideration by the group.**

### NWS

Keith Meier discussed that the National Weather Service has the responsibility for publishing flood warnings and has an alert network. The NWS has a River Forecast Center in Kansas City that covers the Missouri River Basin. The NWS and the NRCS have joint forecast points and do coordinate such that the volume estimate at the forecast points should be the same from the 2 agencies. Keith pointed out that the El Nino effects are weakening and that could lead to more precipitation in the Yellowstone river basin.

### State Agencies

Mike described the types of diversion and additional streamflow data that are collected by the Hydrographer-commissioners in Wyoming. The state began in 1975 to publish the data in the Hydrographer Reports. These are currently only available in hard copy, but the State Engineer's Office is working on getting a database in place such that these diversion, streamflow and reservoir contents data will be archived and searchable and available on the SEO web page. Mike stated that the reservoirs in Wyoming generally fill

under “normal” hydrologic conditions and the carryover amounts this winter are better than a year ago. The reservoirs have about 30% carryover this year. Jim asked Mike about the number of stock and other reservoirs in the Basin. **Wyoming agreed to send Montana a listing of the reservoirs in the Tongue River basin which fall under the Safety of Dams criteria.** This list will be sent to Keith Kerbel, Jim and Roy.

### General Discussion

Roy has been developing a table at the end of the water year to show how near the forecasts came to the runoff that was actually experienced at the forecast point. He agreed to share this information at the Commission meetings. Although, if the Commission continues to meet in early December, the USGS may not be completed with their streamflow reviews for that water year and the data may still be provisional. It was also discussed that a narrative water year re-cap should be included in the Commission’s annual report. The Technical Work Group agreed that these discussions are very helpful and that we should plan to do this each spring. A tentative date of April 14, 2004 was selected and each participating agency will be asked to come prepared to get into more detail in their areas of expertise at the next meeting.

Art Hayes handed out copies of a Resolution being presented to the Montana Legislature that would request an interim study regarding Montana’s share of water in the Yellowstone River tributaries. The Resolution was to be considered in committee the following week, but given the state of the budget in Montana, it was not known whether the resolution would receive the necessary support.

### Recommendations to the Commission

**Emphasize the importance of long-term streamflow and climatic/snow data collection.**

**Send a letter to the NRCS requesting 3 additional forecast sites.**

**Invite the NRCS to come to the Commission meetings and present information on how the forecasts compared to actual runoff.**

**Include a Water Year summary in the Commission’s annual report.**

**Continue to hold these agency Technical discussions in the spring to share information and get into more detail on the data collected in the river basins tributary to the Yellowstone River.**

Sue Lowry  
5/9/03