Current Conditions and Water Supply Outlook for the Colorado River Basin Cameron Bracken, University of Colorado – cameron.bracken@colorado.edu – 2/24/14 Ben Livneh, CU-CIRES Western Water Assessment (ben.livneh@colorado.edu)



Historical context – Runoff in the CRB is tightly controlled by precipitation over a relatively small mountain headwaters area, mostly in western Colorado (*above*). Precipitation in headwaters varies >2-fold from driest to wettest years, with the frequency and location of Pacific jet stream/storm tracks. The precipitation variability gets amplified during conversion to runoff, so that flow at Lees Ferry varies >4-fold from driest to wettest years.



U.S. Drought monitor shows persistently dry conditions. Severity has improved only modestly. The great majority of the CRB is still classified in severe (D1) or worse drought: Colorado, 75% (down from 100%); Wyoming, 30% (down from 100%); and Utah 100%



WY2014 Precipitation/Snowpack - Since October 1, precipitation and snowpack below average through all of the important contributing portions of the basin. The Current Basin Snowpack map from NRCS Western US Seasonal Precipitation shows that conditions have improved significantly for most of the region in the past two weeks. The most recent storms favored the north, while leaving southern Utah, and portions of southwestern Colorado with little or no new snow. As of February 13, SWE is near-normal or above-normal (>90% of median) in every Wyoming basin, all of Colorado except the Rio Grande, and south-central and northern Utah, with the best conditions (>135% of median SWE) in north-central and northeastern Wyoming, and north-central Colorado. Snowpacks are below normal to much below normal in southwestern and southeastern Utah, with the driest basins at around 60% of median SWE.

Spring-Summer 2014 Runoff forecasts – As of February 18th. Significant increases occurred in the areas aforementioned. Model guidance as of mid-February indicates April-July volumes in the 120 to 150 percent of average range in the upper Gunnison, Colorado River Headwaters and upper Green Basin. As of mid-February the Flaming Gorge inflow forecast is for 950 KAF (130% of average), Blue Mesa Inflow is 815 KAF (121% of average), and Lake Powell Inflow 7.7 MAF (108% of average).





Colorado - Lake Powell- Glen Cyn Dam- At (GLDA3) Apr-Jul 2014 Runoff Forecast

Plot Created 2014-02-23 13:43:43, Lastest ESP Run from 2014-02-23, NOAA / NWS / CBRFC Today's 50% ESP forecast changed 0.8 % from yesterday and 17 % from February 1 Forecasts in the observed period include observed values.

Data Current Upper Colorado River Drainage Basin

as of t

Overall - Current conditions are above average in the Upper Basin and below average in the Lower Basin, contributing to spread in the Apr-July runoff forecast. Reservoir storage is still low (Powell is at 39%). The Februrary 1 forecast for April-July inflows to Powell is 7.7 MAF, 108% of the 1981 - 2010 average (this should go up on March 1 given February accumulation).

