Water Availability Task Force Meeting

March 17, 2011

February (Mar. 1) SWSI Report

Sarah Reinsel, P.E.

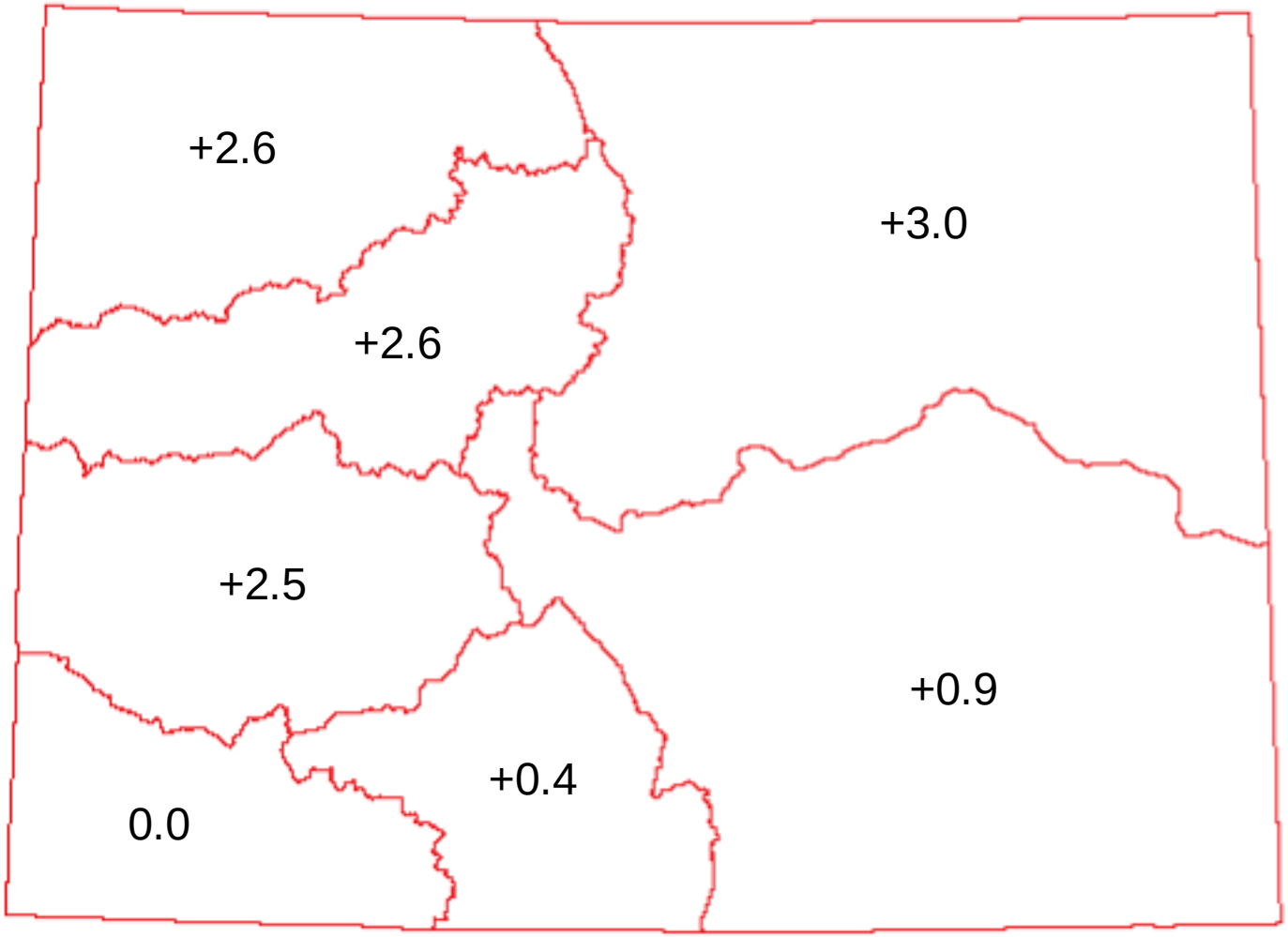
Colorado Division of Water Resources

Winter SWSI

- For the winter period of November – April, the SWSI value is calculated by the Natural Resources Conservation Service (NRCS)

- The components used are Snowpack (P_{SP}), Precipitation (P_{PCP}), and Reservoir Storage (P_{RS}), along with each basin's winter weighting factors

Surface Water Supply Index for Colorado



March 1, 2011

Division 1 – South Platte Basin

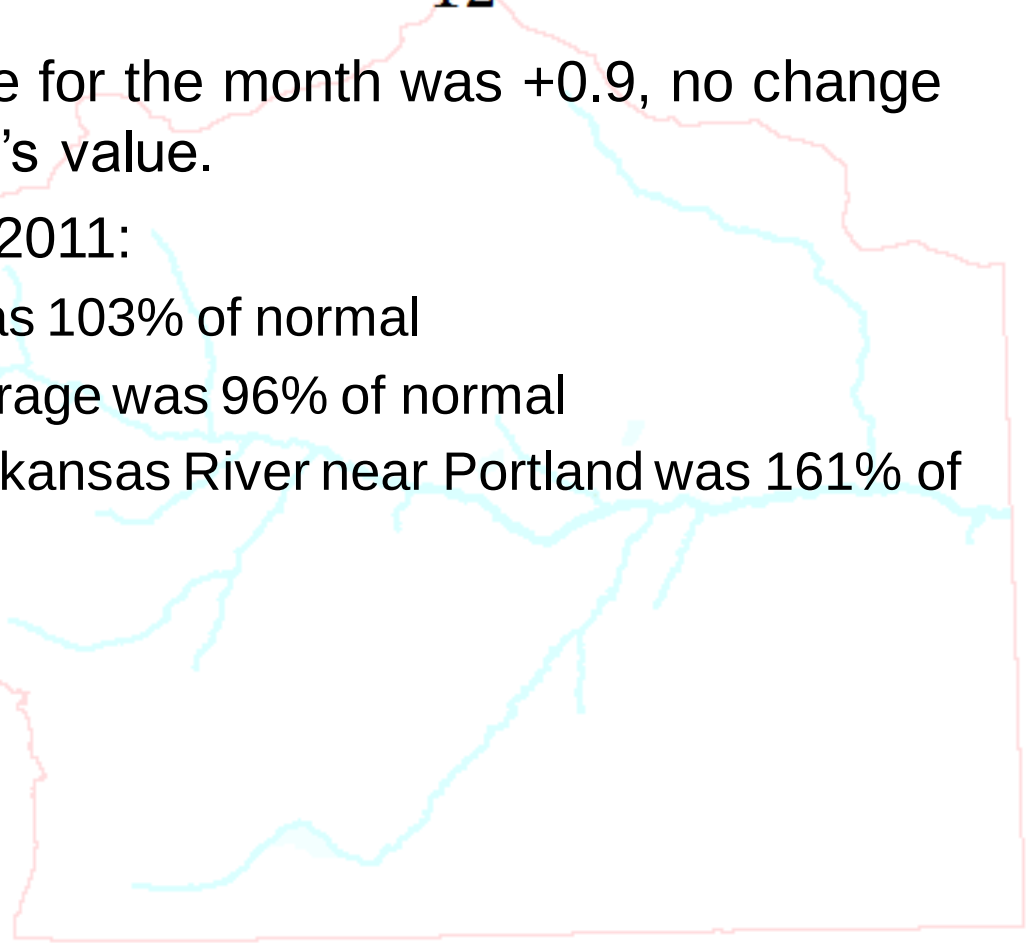
$$SWSI = \frac{(0.27 \times P_{SP}) + (0.18 \times P_{PCP}) + (0.55 \times P_{RS}) - 50}{12}$$

- The SWSI value for the month was +3.0, up 0.1 from last month's value.
- As of March 1, 2011:
  - Snowpack was 123% of normal
  - Reservoir storage was 106% of normal
  - Flow in the South Platte River near Kersey was 90% of normal
- March outlook continues the warm and dry trend.
- If snowpack continues to be above or at average this spring, overall water supply should be good.

Division 2 – Arkansas Basin

$$SWSI = \frac{(0.51 \times P_{SP}) + (0.34 \times P_{PCP}) + (0.15 \times P_{RS}) - 50}{12}$$

- The SWSI value for the month was +0.9, no change from last month's value.
- As of March 1, 2011:
  - Snowpack was 103% of normal
  - Reservoir storage was 96% of normal
  - Flow in the Arkansas River near Portland was 161% of normal



Division 3 – Rio Grande Basin

$$SWSI = \frac{(0.63 \times P_{SP}) + (0.32 \times P_{PCP}) + (0.05 \times P_{RS}) - 50}{12}$$

- The SWSI value for the month was +0.4, no change from last month's value.
- As of March 1, 2011:
  - Snowpack was 91% of normal
  - Reservoir storage was 105% of normal
  - Flow in the Rio Grande near Del Norte was 93% of normal
- Snowpack remained below average throughout the upper Rio Grande basin.
- Very poor snowpack on Sangre de Christo range, with runoff forecasts predicting 40-50% of normal.
- Carryover storage not expected to counteract effects of low runoff.
- Early calls for irrigation water expected.

Division 4 – Gunnison Basin

$$SWSI = \frac{(0.54 \times P_{SP}) + (0.36 \times P_{PCP}) + (0.10 \times P_{RS}) - 50}{12}$$

- The SWSI value for the month was +2.5, up 0.2 from last month's value.
- As of March 1, 2011:
  - Snowpack was 122% of normal
  - Reservoir storage was 111% of normal
  - Flow in the Uncompahgre River near Ridgeway was 95% of normal
- Lower/western parts of the basin received below to well below normal precipitation, with upper/eastern portions of the basin receiving above normal precipitation.
- Generally, basins in the north have the best snowpack with conditions already above average seasonal totals while conditions in the south remain spot on the average.

Division 5 – Colorado Basin

$$SWSI = \frac{(0.51 \times P_{SP}) + (0.34 \times P_{PCP}) + (0.15 \times P_{RS}) - 50}{12}$$

- The SWSI value for the month was +2.6, up 0.3 from last month's value.
- As of March 1, 2011:
  - Snowpack was 127% of normal
  - Reservoir storage was 119% of normal
  - Flow in the Uncompahgre River near Ridgeway was 87% of normal
- Flows have and will continue to increase with rising temperatures, and snowpack remains well above average.
- A 2010 report from the American Rivers group designated the Colorado as the 6th most endangered river in the country, making it a candidate for federal classification as Wild and Scenic. The long-term goal would be to restore in-stream flows to their original state.

Division 6 – Yampa/White Basin

$$SWSI = \frac{(0.60 \times P_{SP}) + (0.40 \times P_{PCP}) - 50}{12}$$

- The SWSI value for the month was +2.6, down 0.2 from last month's value.
- As of March 1, 2011:
  - Snowpack was 130% of normal for the North Platte and 122% of normal for the Yampa/White
  - Flow in the Yampa River near Steamboat was 129% of normal
- Water supply still anticipated to be above average for the spring and summer.
- Snowfall to date continues to provide outstanding opportunity for winter recreation throughout the basin.

Division 7 – San Juan/Dolores Basin

$$SWSI = \frac{(0.54 \times P_{SP}) + (0.36 \times P_{PCP}) + (0.10 \times P_{RS}) - 50}{12}$$

- The SWSI value for the month was 0.0, down 0.1 from last month's value.
- As of March 1, 2011:
  - Snowpack was 99% of normal
  - Reservoir storage was 106% of normal
  - Flow in the Animas River near Durango was 89% of normal
- February precipitation in Durango was 0.57 inches, 35% of the 30-year average.

Questions?