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February 27, 2008

BRIEFING MEMORANDUM

TO: Council Members

FROM: Jim Ruff, Manager, Mainstem Passage and River Operations

SUBJECT: March 2008 Runoff Forecast and Power Supply Status

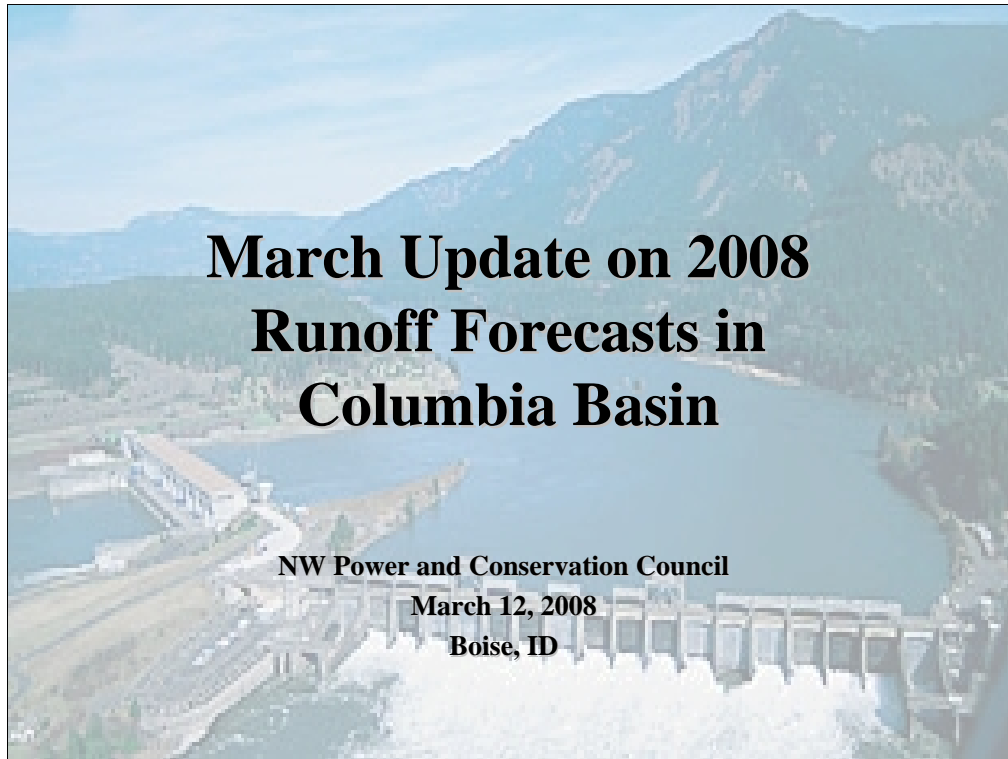
Purpose

The purpose of this presentation will be to provide the Council with updated water supply forecasts for selected sites in the Columbia River Basin and to discuss the long-range temperature and precipitation forecasts for the region over the next three months.

March 2008 Water Supply Forecasts

The NOAA Northwest River Forecast Center's official March water supply forecasts will be presented to the Council at its March 12, 2008 meeting in Boise, Idaho. As you know, the Northwest River Forecast Center will not have compiled and released its official March runoff forecasts for the Columbia River Basin prior to the February 28 packet deadline. Accordingly, an updated memo and slides will be sent to Council members as soon as the final March water supply forecasts become available on or about March 7, 2008. Based on the February mid-month forecasts, staff expects the March water supply forecasts to be slightly higher than those in February due to precipitation levels across the basin this month.

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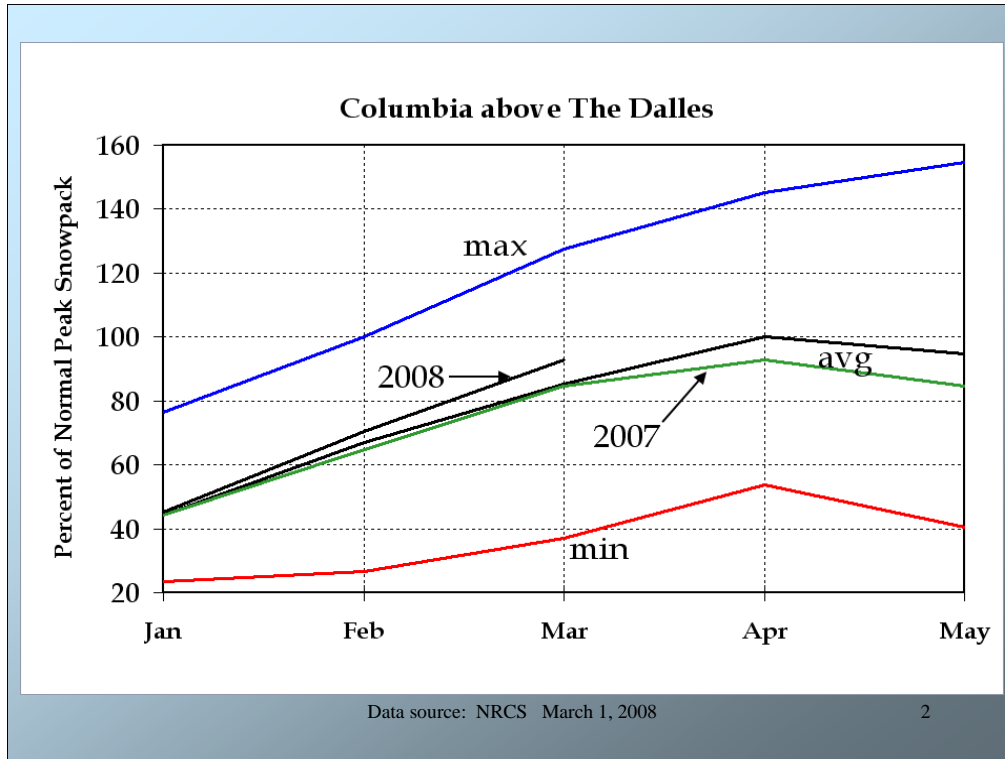


General Summary: The March update for expected spring & summer runoff and streamflows in CRB shows improvement in most areas of basin.

Altho precip during Feb. was somewhat below avg, SWEs generally improved by 2 to 8 percent during the month. This was due mostly to continued cool temps., which allowed snow to be retained at mid- to low elevs and increases in snowpack at higher elevs.

Seasonal (Oct thru Feb) precip was: 109% of normal for Columbia above GCL, 114% of normal for Snake R abv IHR, and 109% normal for Columbia abv TDA.

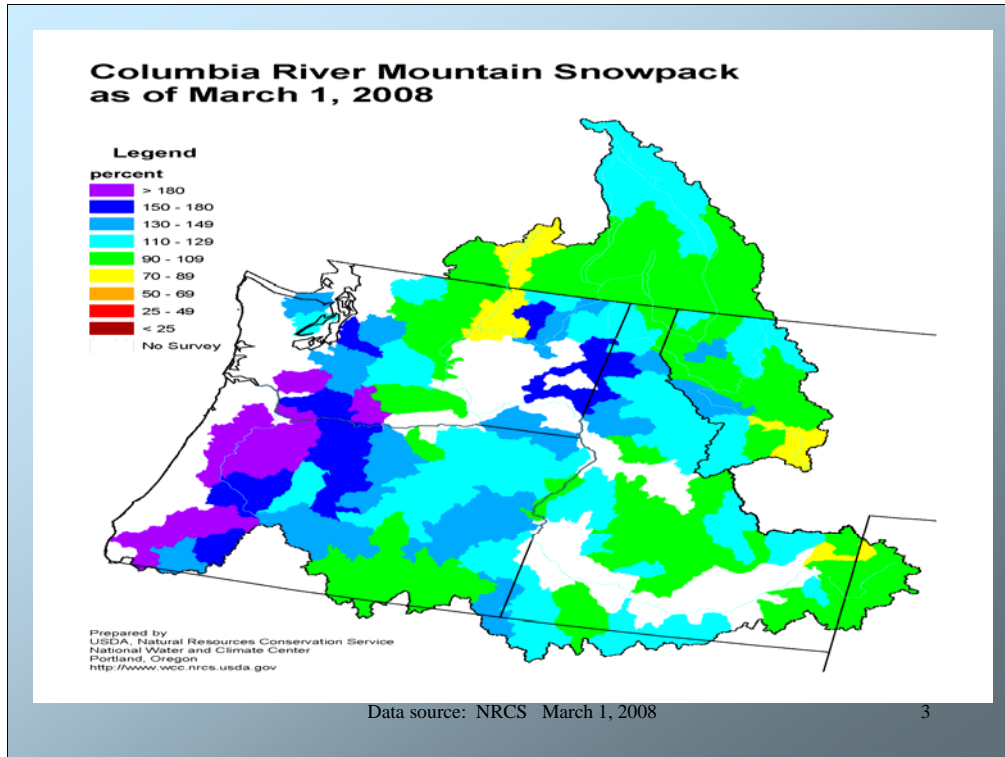
Precip during Feb. was 92% of normal for Columbia abv GCL, 94% of normal for Snake R abv IHR, and 89% normal for Columbia abv TDA.



Overall, snow conditions in the Columbia Basin just keep getting better. This year the cumulative snowpack for CRB has continued to build; as of March 1st it is 109% of normal, compared to 99% last year at this time and 105% last month.

The Canadian snowpack increased from 103% on February 1 to 110% on March 1, a welcome addition. For the Columbia basin abv GCL, the snowpack is 107 percent of average, compared to 105 percent last year and 103 percent on Feb 1st. The Snake Basin snowpack (abv IHR) is at 110 percent of average, compared to 82 percent last year and 112 percent last month.

A recent warming trend has allowed some of the lowest elev snow to melt away; however, abv 3000 ft. SWEs have continued to increase in most areas of the basin.

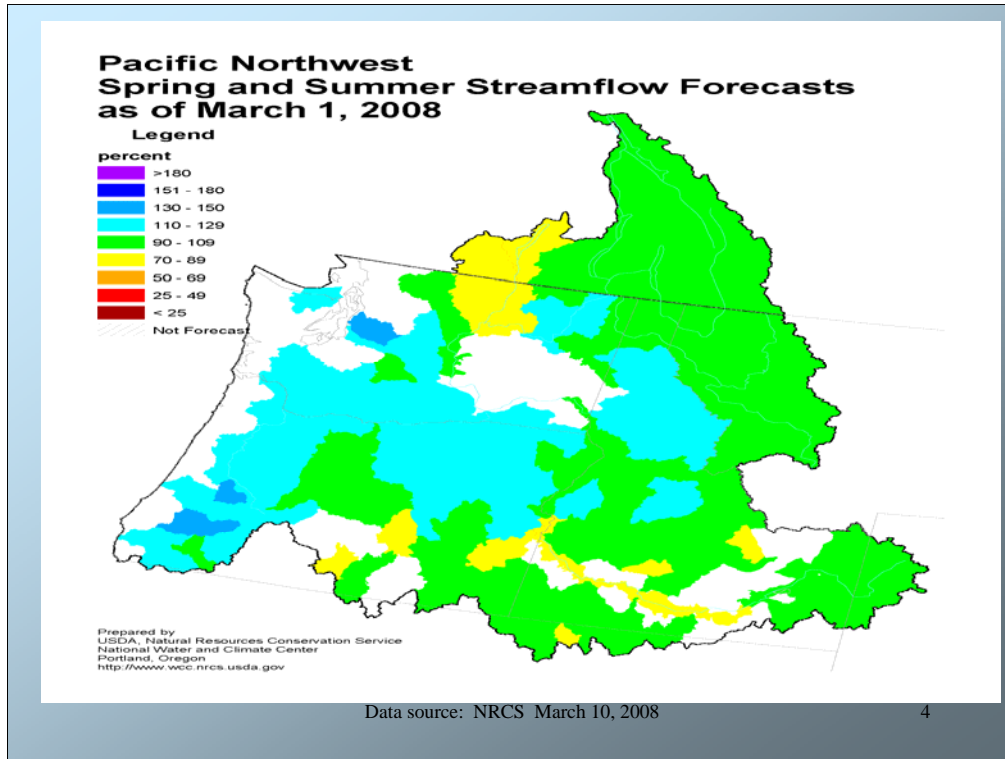


The highest March 1st SWEs are in the Cascades, ranging from 150% of avg in NW WA to 180% of avg in OR Cascades (purple).

For example, at Govt. Camp in N OR Cascades (elev 3900 ft) had 46 inches of snowfall during month of Feb, which is similar to its avg seasonal snowfall level. Mt. Hood site (elev 5400 ft) has 172 inches (14.3 ft) of snow on ground, (most in state) with a SWE of 139% of avg.

Lowest March 1st SWEs occur just east of Cascades in Similkameen drainage in BC (84%), the Kettle basin (86%), the Hoback drainage in Wyo., the upper Clark Fork (90%), and the Okanogan Basin in eastern WA at 93% of avg.

Most areas in CRB now have SWEs in the 105 to 115% range. Good news is snowpack in B.C. has improved during Feb. Except for those areas just mentioned, the 2008 snowpack for the Columbia Basin continues to look good to very good.



With slightly blw avg precip and improvements in SWEs over most of the CRB, runoff forecasts have improved from Feb. 1st levels.

Some of highest streamflow forecasts (115 to 125% level) this month are for the Grande Ronde, Innaha, Umatilla, upper John Day, Hood, Sandy & Clackamas rivers in eastern OR; the Yakama R in eastern WA, the Spokane river in ID & WA; and the Clearwater, MF Salmon and Weiser rivers in ID.

Lowest March 1st runoff forecasts are for the mainstem Snake River from Kinghill to BRN Dam at 70-85%; the Okanogan, Similkameen (81%) and Methow (89%) rivers in northern WA; and Owyhee reservoir inflow (88%)

Most basins in CRB are forecasted to have runoff in 90% to 120% range.

Snake River Runoff Forecasts

River and/or Station	Forecast Period	Forecast, in Maf	Percent of Avg.
Brownlee Reservoir inflow	Apr-Jul	5.50	87
Salmon R. at Whitebird	Apr-Jul	6.15	105
Grande Ronde R. at Troy	Apr-Jul	1.50	118
Dworshak Reservoir inflow	Apr-Jul	2.92	110
L. Granite Reservoir inflow	Apr-Jul	23.0	107

Data source: NOAA-RFC 3-07-08

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This chart shows selected SR Basin runoff forecasts from NOAA-RFC. Already mentioned blw avg runoff forecast for the mainstem SR abv BRN.

Note DWR Reservoir inflows are expected to be 110% of avg, an improvement of 5% from Feb; and SR at LWG Dam is forecasted to be 107% of avg, a 4% improvement from last month.

Columbia River Runoff Forecasts

River and/or Station	Forecast Period	Forecast, in Maf	Percent of Avg.
Columbia R. at Gr. Coulee	Apr-Sep	65.0	102
Libby Reservoir inflow	Apr-Sep	6.62	100
H. Horse Reservoir inflow	Apr-Sep	2.04	96
Yakima R. near Parker	Apr-Sep	2.25	117
Umatilla R. near Pendleton	Apr-Jul	0.17	116
John Day R at Service Ck.	Apr-Sep	0.99	114
Columbia R. at The Dalles	Apr-Aug	94.3	101
Willamette R. at Salem	Apr-Sep	5.44	113

Data source: NOAA-RFC 3-07-08

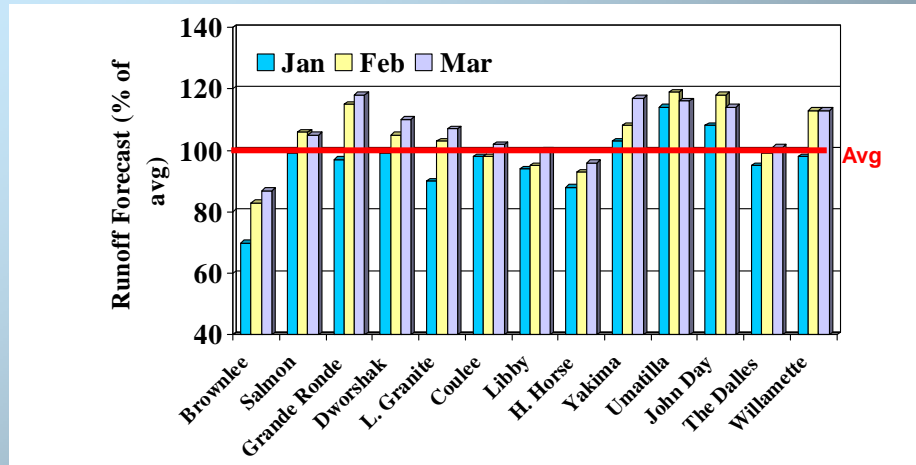
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This chart shows selected March 1st runoff forecasts for selected Columbia R sites. Note the abv avg runoff forecasts for major tribs of the lower Columbia R in 115-120% range.

Both Libby and HHR forecasts, while the lowest on the chart, are now near normal and have increased 3-5% from Feb.

Overall, the Columbia R at TDA is expected to have near normal runoff (101%) over the April-Aug period, which is a slight (2%) improvement from Feb. forecast.

2008 NOAA-RFC Runoff Forecasts (relative to the 30-year averages)

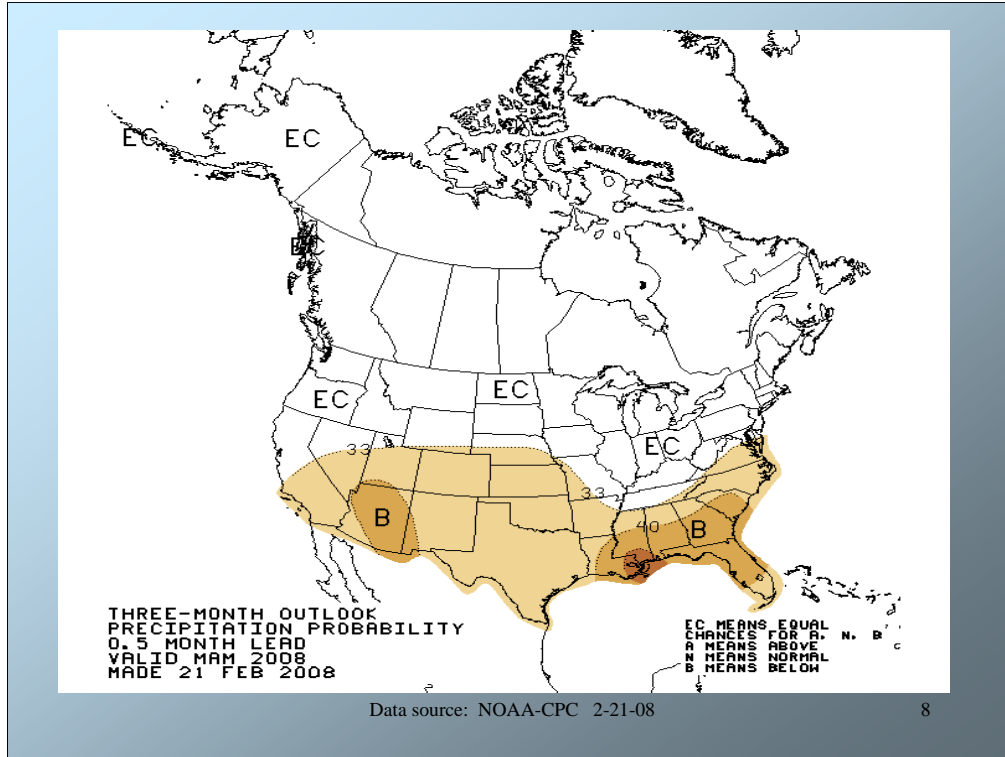


Data source: NOAA-RFC 3-07-08

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This graph compares the Jan, Feb and March runoff forecasts for some major sites in CRB. Note that runoff for nearly all the sites have either increased or remained about the same as the Feb. forecasts, except for the Umatilla and John Day rivers which dropped 3-4% due to melting of low elev snow.

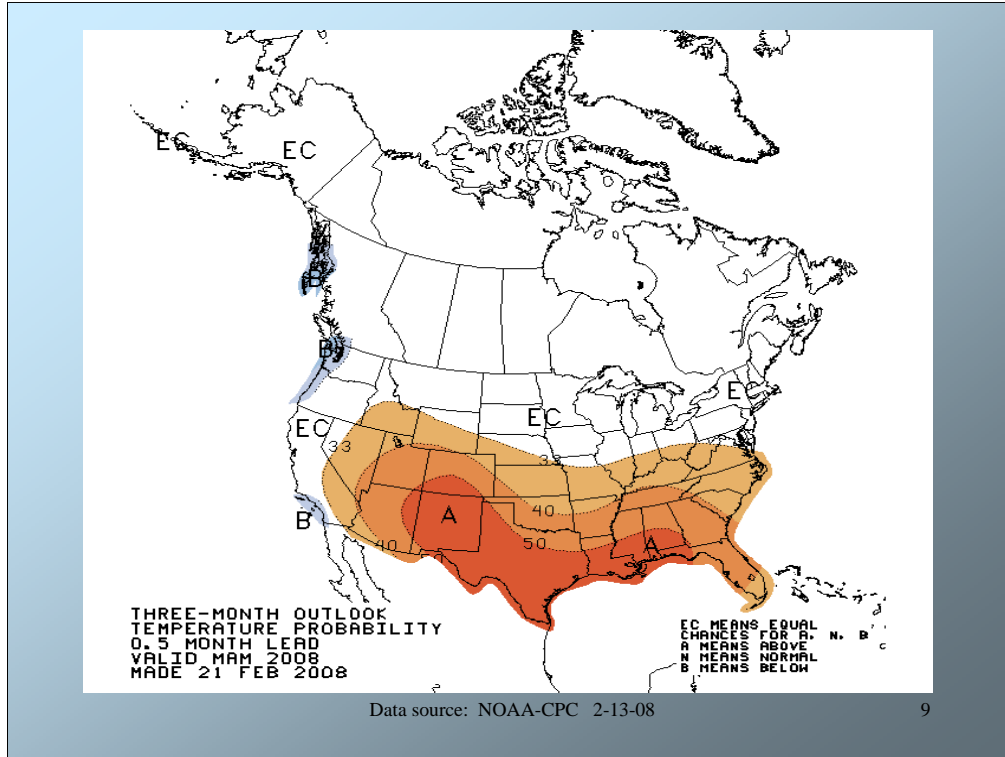
The largest runoff increase is expected for the Yakima River, which jumped 9% from its Feb. forecast (now at 117%).



This is NOAA-CPC's long-range precip forecast for Mar thru May period.

It is based in part on a moderately strong cold ocean event, La Nina, continuing to persist across Pacific Basin. After that it's forecasted that La Nina condition will weaken.

The precip outlook for the Pacific NW for next 3 months calls for equal chances of having above, below or near avg rainfall.



This graph shows the CPC’s long-range temperature forecast for March thru May period.

The combination of long-term warming trends, combined with the cold La Nina influence results in a forecast for the Pacific NW over the next 3 months for equal chances of above, below or near normal temps.

The exception is along the WA & OR coastlines, which have a greater than 33% chance of getting below avg temps.