Northwest Power and Conservation Council

January 8, 2007

MEMORANDUM

TO: Council Members

FROM: John Fazio, Senior Power System Analyst
Jim Ruff, Manager, Mainstem Passage and River Operations

SUBJECT: 2007 Runoff Forecast and Power Supply Status

January 2007 Final Water Supply Forecasts

On January 8, 2007, the NOAA Northwest River Forecast Center in Portland released its "final" runoff forecast for the Columbia River Basin. The final January runoff forecast has updated snow pack and precipitation information. At the January 17, 2007 Council meeting, staff will present Columbia Basin runoff information and hydroelectric system analysis based on the final runoff forecast.

The water supply forecasts for the upcoming spring-summer period, in Table 1 below, were taken from the January "final" forecasts for various sites in the Columbia River Basin, and assume normal precipitation throughout the subsequent forecast period. As indicated in the table, the January "final" water supply forecast for the Columbia River at The Dalles is near average. The lowest runoff forecast occurs for inflows to Brownlee at only 82 percent of normal, with the highest runoff forecast in the Yakima River at 126 percent of normal.

Table 1
January Early Bird Runoff Volume Forecasts

River and/or Station	Forecast Period	Runoff Forecast, in Maf	Percent of Average
Columbia R. at Grand Coulee	April-Sept.	63.7	100
Libby Reservoir inflow	April-August	6.46	103
Hungry Horse Reservoir inflow	April-Sept.	2.03	96
Brownlee Reservoir inflow	April-July	5.2	82
Salmon R. at Whitebird, ID	April-July	5.83	100
Grande Ronde R. at Troy, OR	April-July	1.15	90
Dworshak Reservoir inflow	April-July	2.78	105
Lower Granite Res. inflow	April-July	20.2	94
Yakima R. near Parker, WA	April-Sept.	2.41	126
John Day R. at Service Creek	April-Sept.	0.805	93
Columbia R. at The Dalles, OR	April-August	91.3	98

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Power Supply Status for 2007

Currently, the region has an annual energy surplus of about 2,400 average megawatts based on critical water conditions and assuming that generation from regional uncontracted independent power producers (IPP) would be available to Northwest utilities.

The power supply's adequacy, based on the Council's recently adopted resource adequacy energy standard, is assessed by adding a 1,500 average megawatt planning adjustment to the load/resource balance estimate. Doing that yields a value of 3,900 average megawatts, which is well above the energy standard target of zero. Even discounting the 2,700 average megawatts of IPP generation, the region would still be 1,200 average megawatts above the target. Thus, the risk of curtailment due to an inadequate power supply continues to be minimal throughout 2007.

This year's forecast, however, is for close to average water conditions, which means that the hydroelectric system should produce nearly 4,000 average megawatts more energy than under critical water. This is good news for the region because it means that more expensive thermal generation can be displaced with hydroelectric power.

It is not clear at this time whether last year's additional court-ordered bypass spill or some other level of additional spill will be implemented this year. Any increase in spill will reduce the expected hydroelectric generation and consequently reduce the expected resource surplus. However, the power supply will remain adequate because the region currently has a large resource surplus. If and when a proposal is made to implement additional spill, staff will assess the energy loss and cost.

River flows at both Lower Granite and McNary are likely to be close to their 50-year averages for the spring and summer periods. Reservoir elevations are projected to be at their biological opinion elevations at the end of August or September.

A more detailed analysis, based on the final January forecast, will be provided at the Council meeting.

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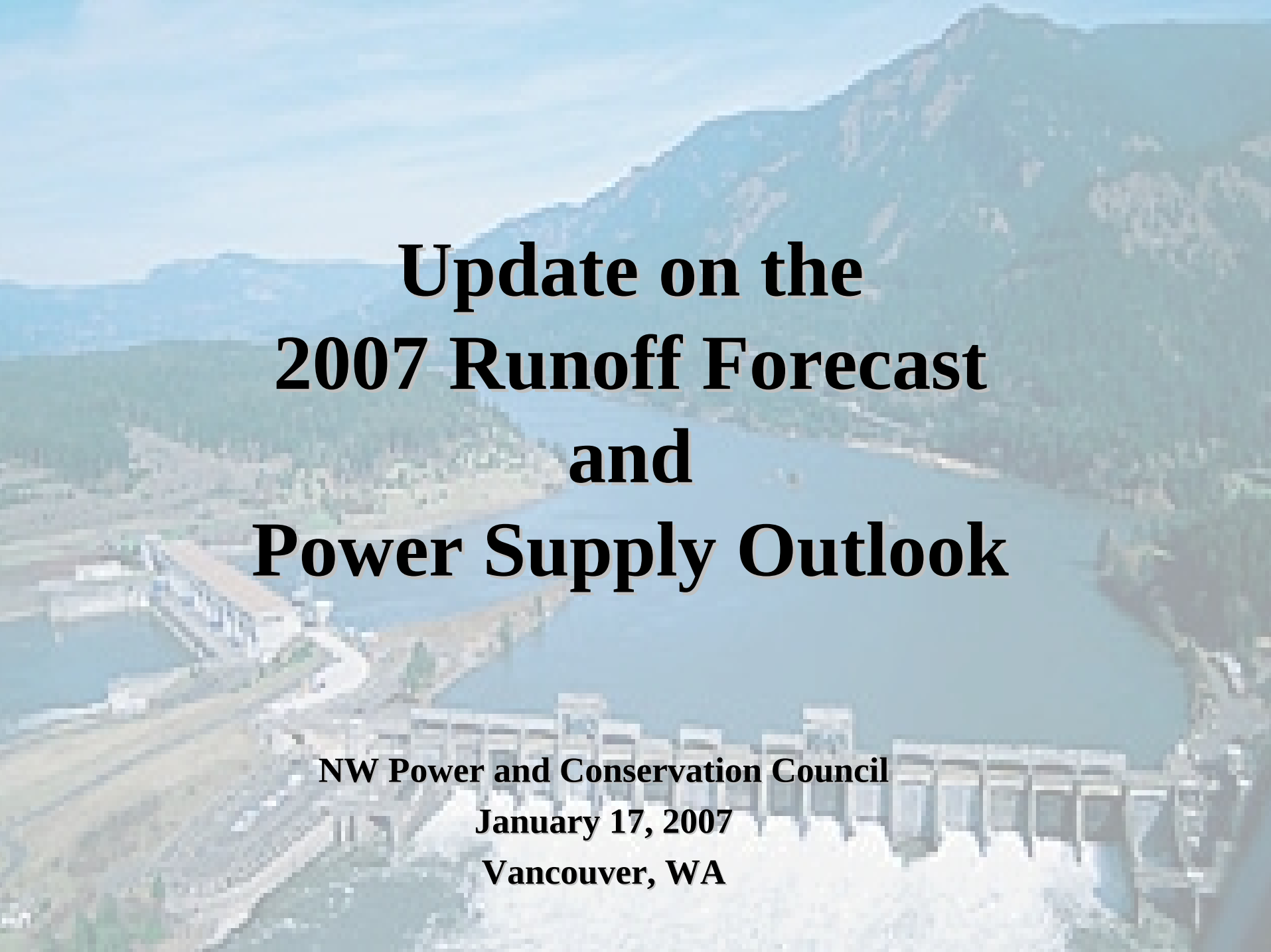


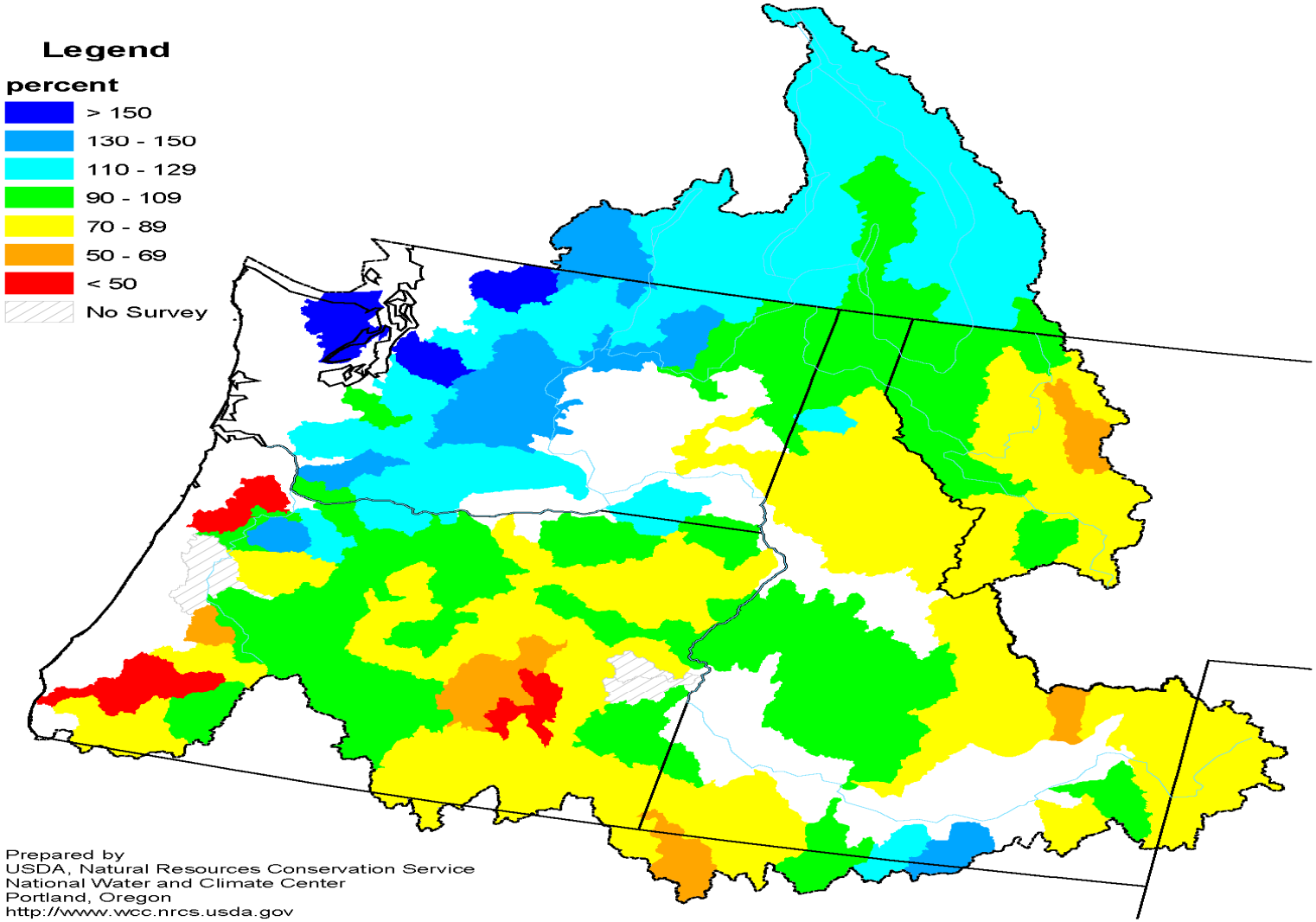
Update on the 2007 Runoff Forecast and Power Supply Outlook

NW Power and Conservation Council

January 17, 2007

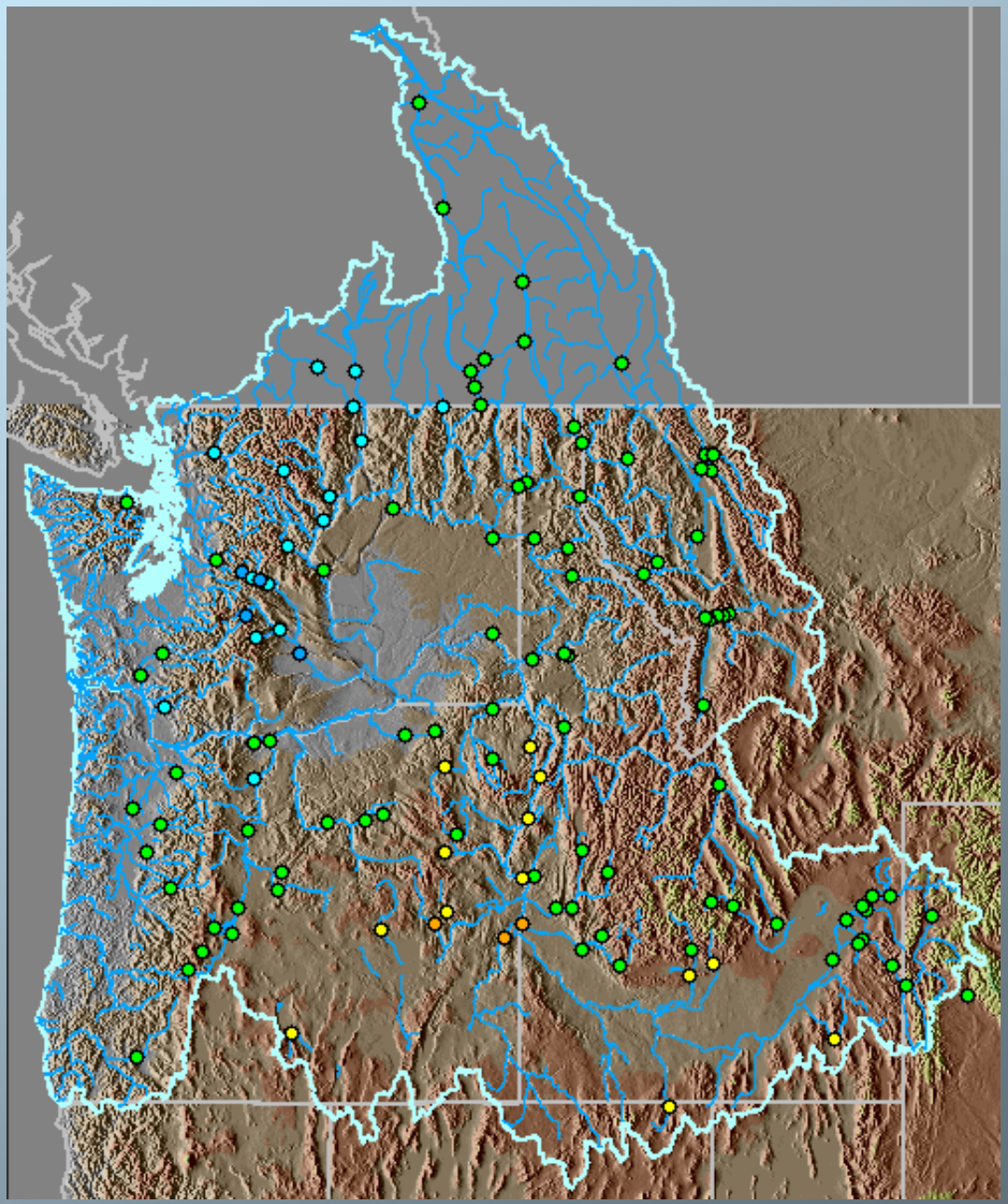
Vancouver, WA

Columbia River Mountain Snowpack as of January 1, 2007



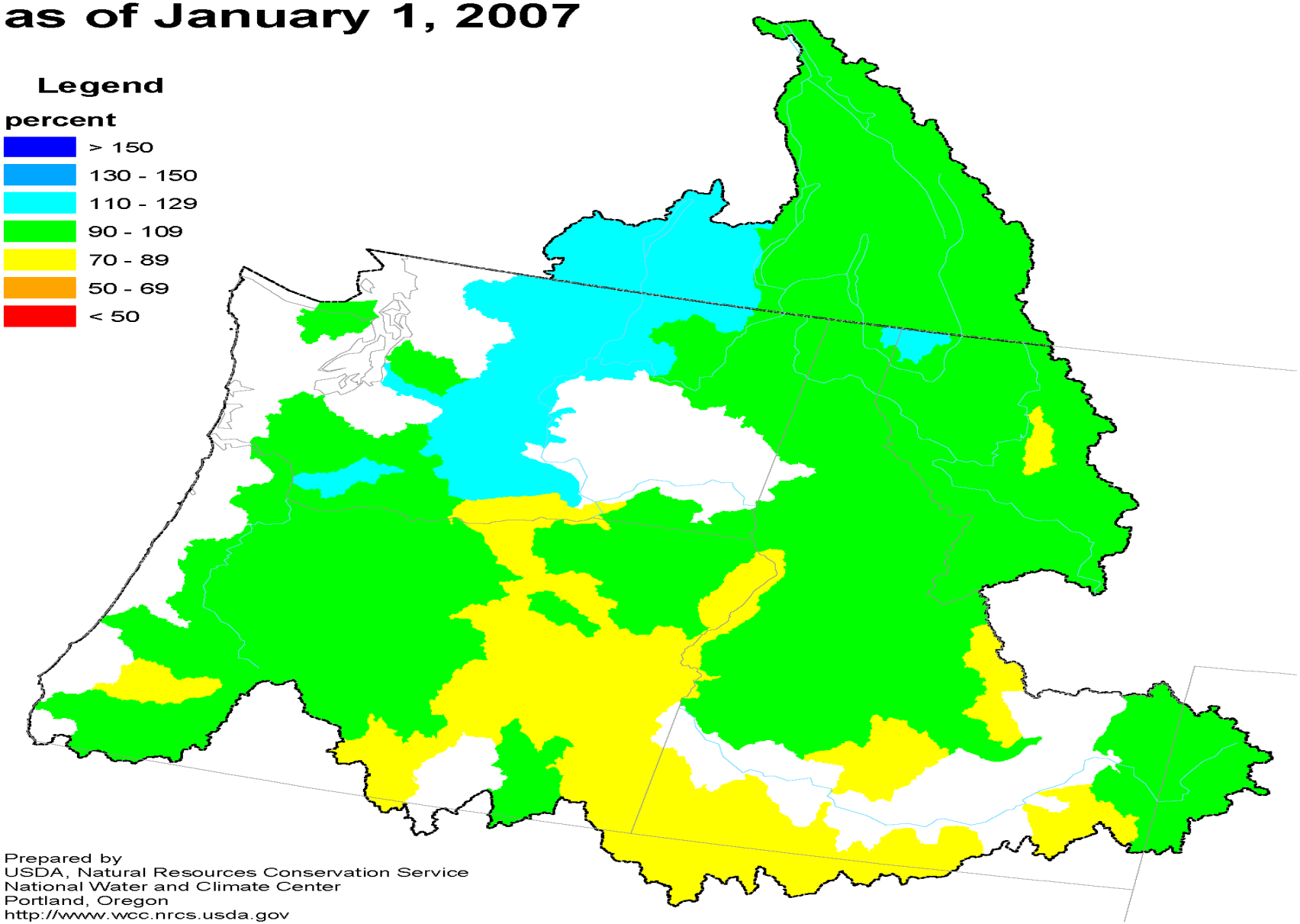
Water Supply Forecast

1/08/07



Source:
NW River Forecast Center

Pacific Northwest
Spring and Summer Streamflow Forecasts
as of January 1, 2007



Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Snake River Runoff Forecasts

River and/or Station	Forecast Period	Forecast, in Maf	Percent of Avg.
Brownlee Reservoir inflow	April-July	5.2	82
Salmon R. at Whitebird	April-July	5.83	100
Grande Ronde R. at Troy	April-July	1.15	90
Dworshak Reservoir inflow	April-July	2.78	105
L. Granite Reservoir inflow	April-July	20.2	94

Columbia River Runoff Forecasts

River and/or Station	Forecast Period	Forecast, in Maf	Percent of Avg.
Columbia R. at Gr. Coulee	April-Sept.	63.7	100
Libby Reservoir inflow	April-Aug.	6.46	103
H. Horse Reservoir inflow	April-Sept.	2.03	96
Yakima R. near Parker	April-Sept.	2.41	126
John Day R at Service Ck.	April-Sept.	0.805	93
Columbia R. at The Dalles	April-Aug.	91.3	98

1/08/07 January-July Runoff Forecast at The Dalles Dam (Millions of Acre Feet)

105 Maf or
98 % of Average

95% Confidence Range
From 78 to 132 Maf

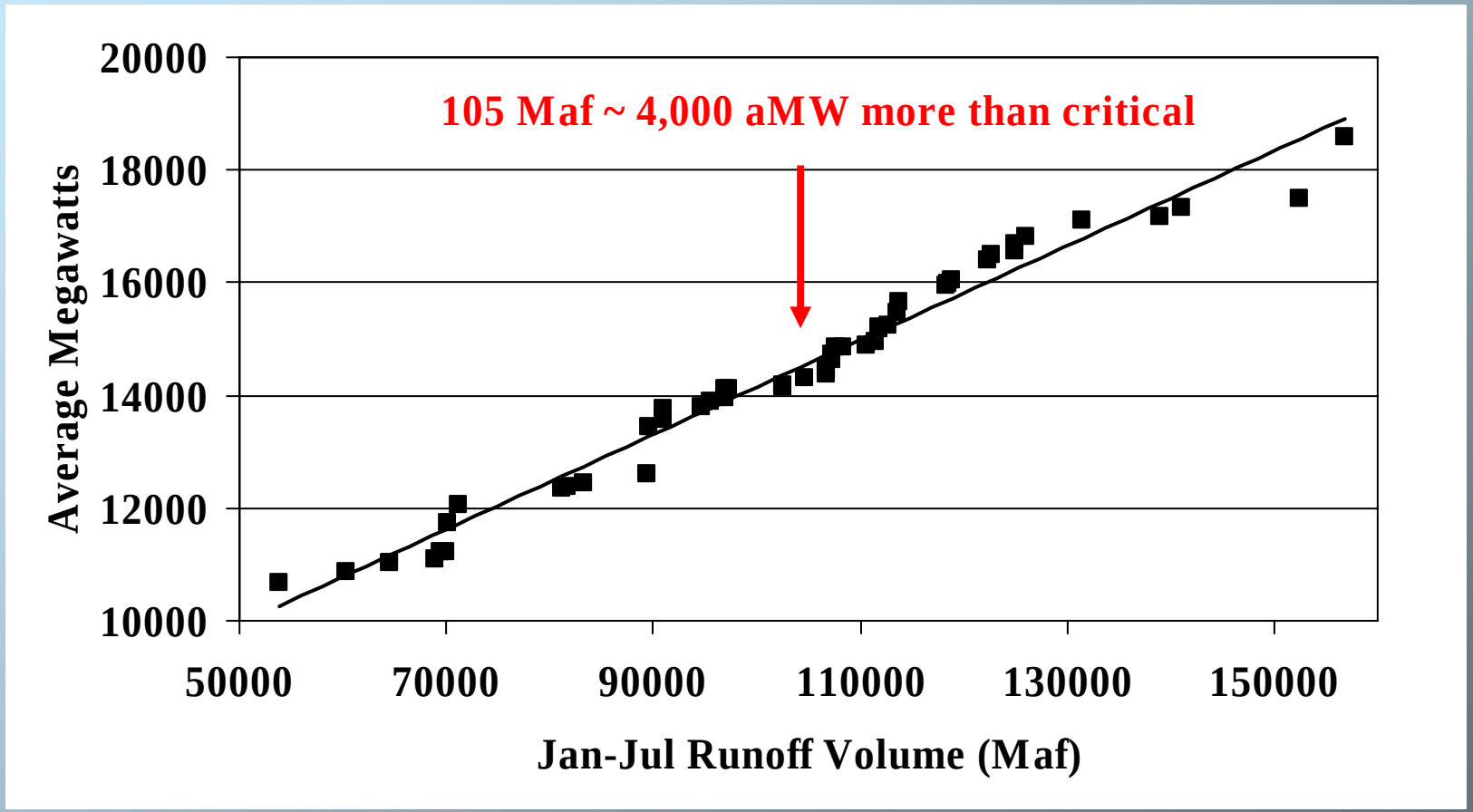
Resource Adequacy

- Energy surplus = 3,900* average megawatts
- Target = 0
- Winter Capacity Reserve Margin = 41%
- Target = 25%
- Summer Capacity Reserve Margin = 28%
- Target = 19%

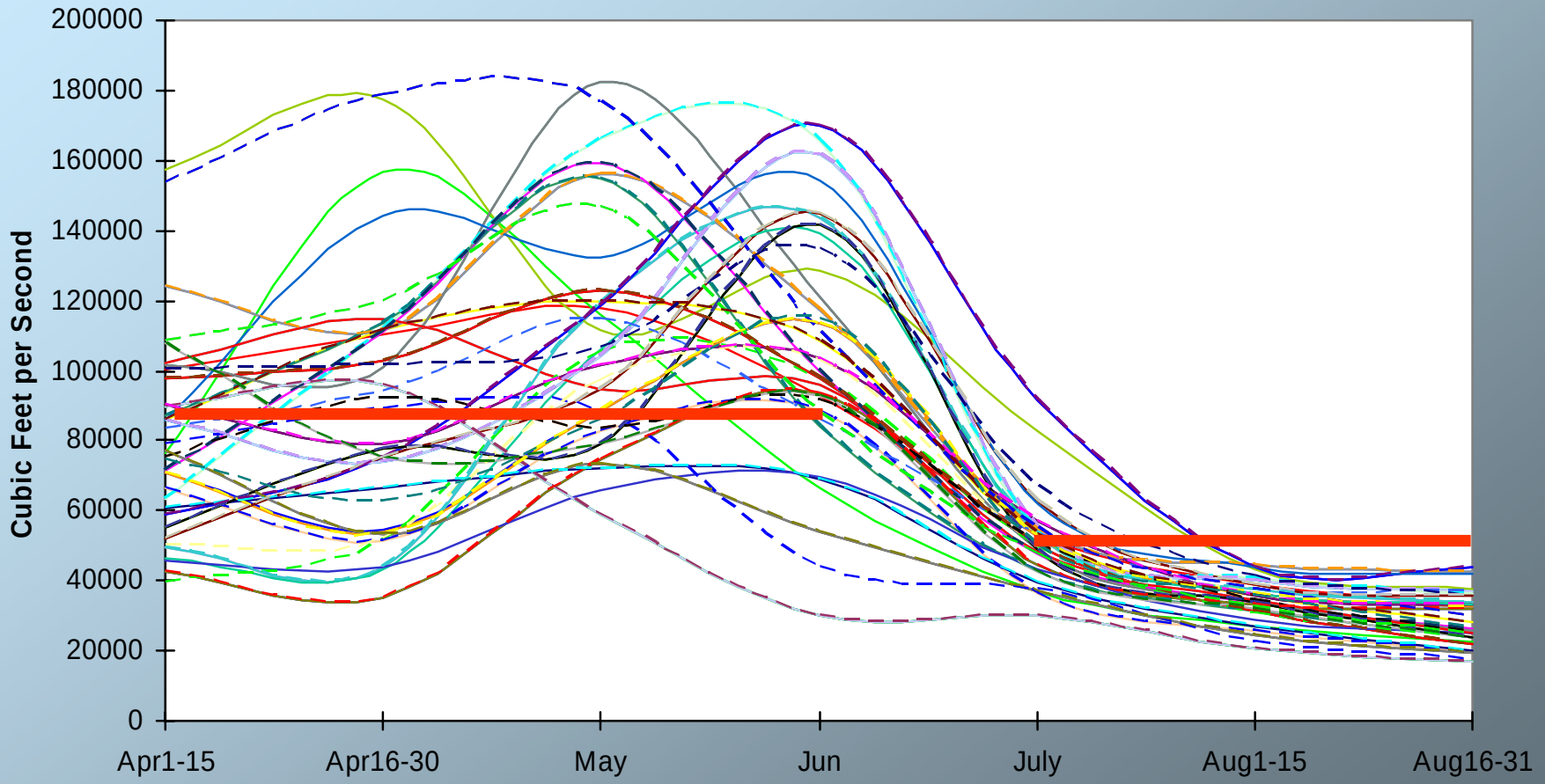
*Surplus is based on critical water generation and includes a 1,500 average megawatts planning adjustment.

Annual Hydro Generation

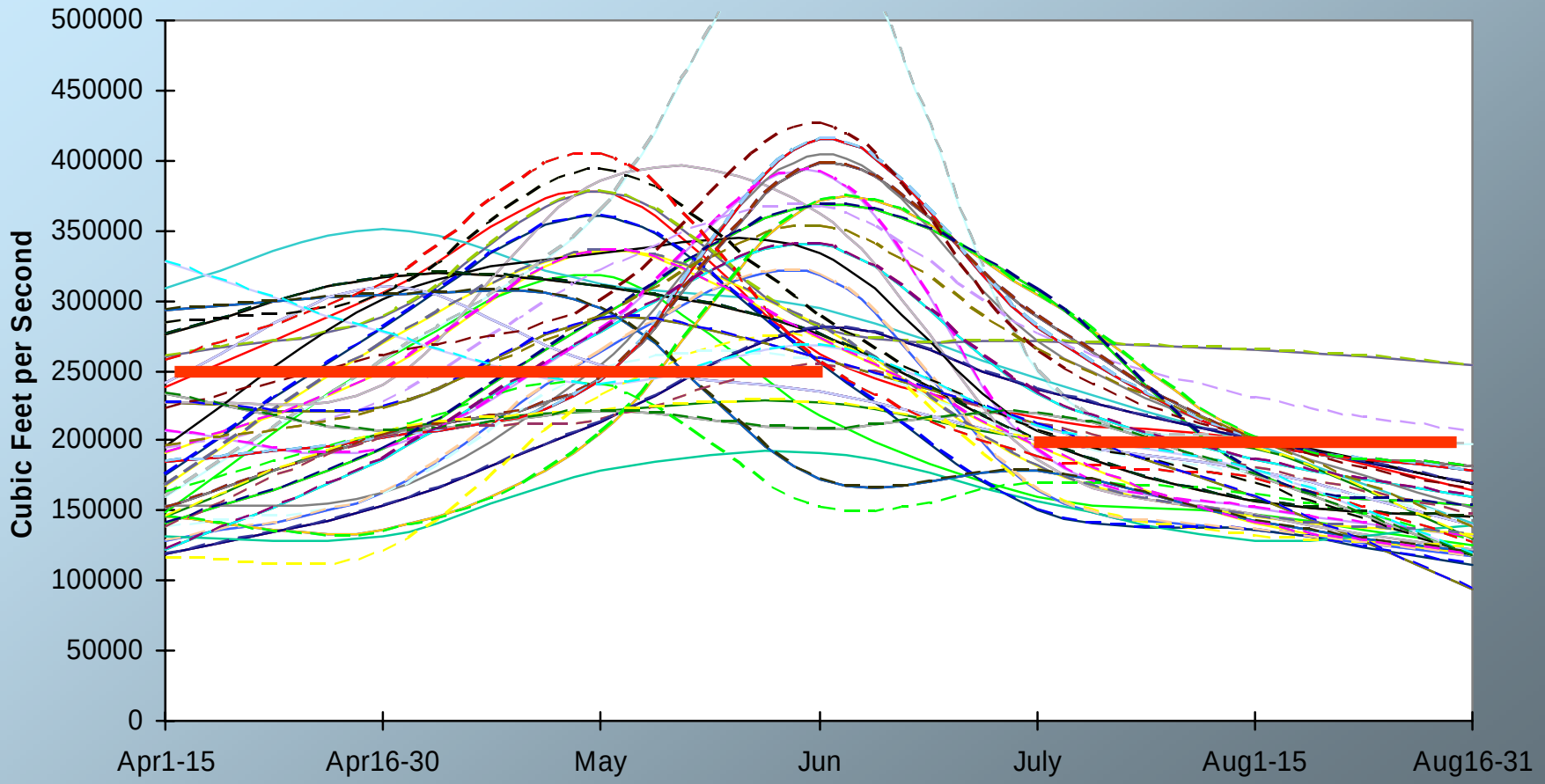
(Regulated Projects Only, 1929-78 Historical Conditions)



Range of Flows at Lower Granite



Range of Flows at McNary

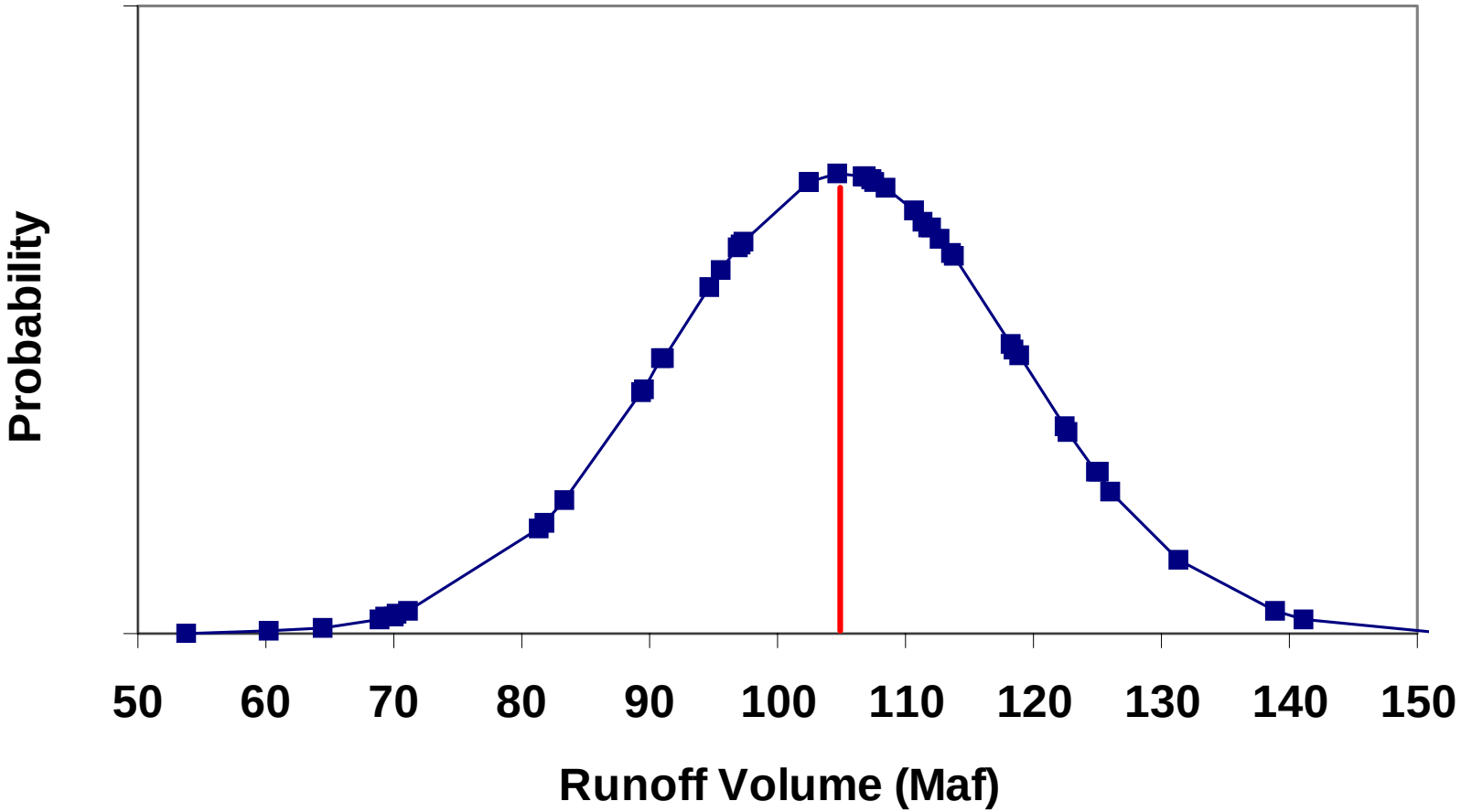


Additional Slides

Projected Average Flows (cfs)

Period	Lower Granite	McNary
Apr 1-15	79,214	195,510
Apr 16-30	86,590	232,719
May	107,744	284,623
June	111,197	312,199
July	51,245	226,989
Aug 1-15	34,547	177,389
Aug 16-31	28,935	149,304

Runoff Volume Distribution for January 8, 2007 Forecast (Mean 105, sigma 13.8)



Range of Energy Production
(Regulated Projects Only)