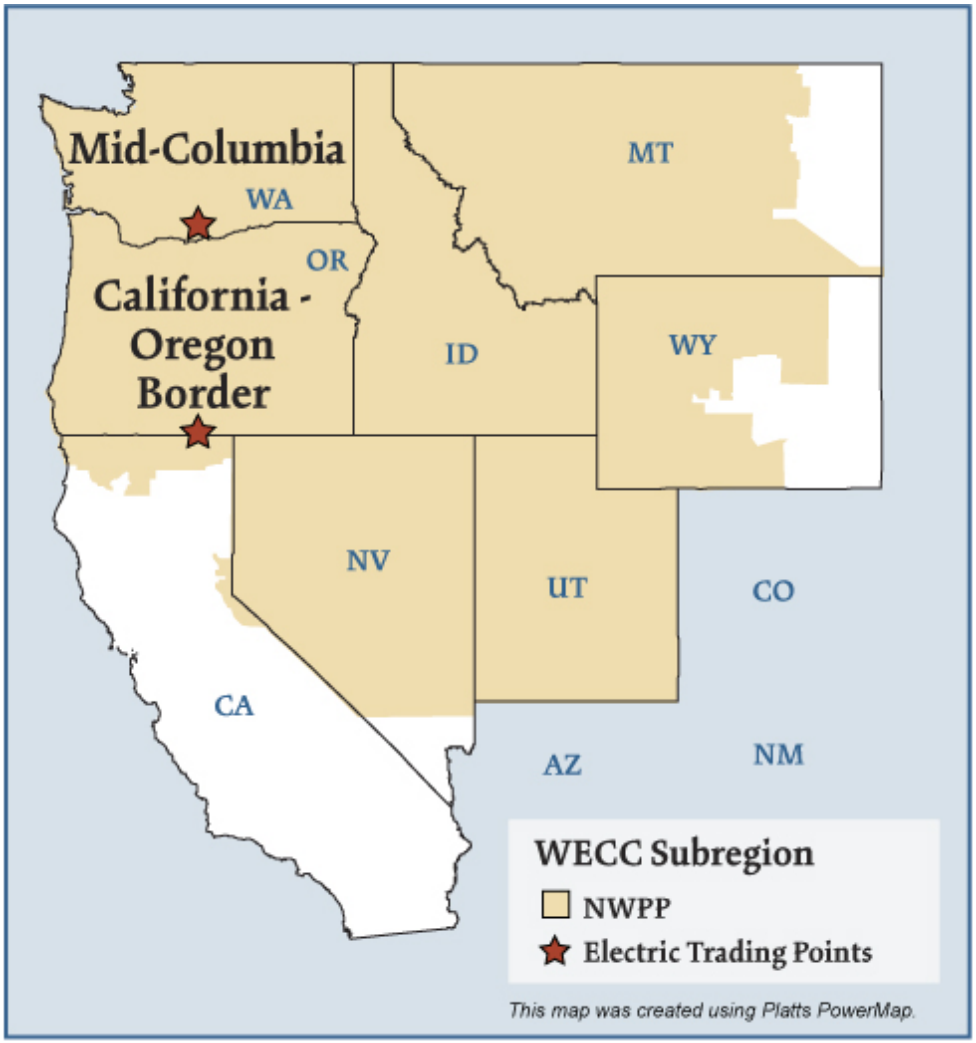
Northwest Electric Market



Overview

Geography

States covered: All or most of Washington, Oregon, Idaho, Utah, Nevada, Montana, Wyoming and part of California.

Reliability region: Northwest Power Pool Area (NWPP) sub-region of the Western Electric Coordinating Council (WECC).

Balancing authorities: See page 5.

Hubs: California-Oregon Border (COB), Mid-Columbia (Mid-C)

RTO/ISO

None

Generation/Supply

Marginal fuel type: Hydro and natural gas

Generating capacity (winter 2005): 57,120 MW

Capacity reserve (winter 2005): 16,822 MW

Reserve margin (winter 2005): 42%

When taken together, hydro, fossil fuels, nuclear energy, and renewable resources, were adequate to provide electricity in excess of in-region needs.

Updated May 3, 2007

Demand

Peak demand: 36,519 MW (2005)

Peak demand growth: 3.5% (2004–2005)

Prices

Annual Average of Daily Bilateral Day Ahead On-Peak Prices

Platts "Palo Verde" Index

2004: $50.09/MWh

2005: $67.39/MWh

2006: $57.59/MWh

2007: $61.74/MWh

Interconnections/Seams

Generation suppliers export excess power to the rest of the West and particularly to California.

Focal Points

BPA in the Market: The Bonneville Power Administration (BPA) is the largest wholesale power supplier in the Northwest, according to the agency. BPA meets approximately 40 percent of the region's firm energy supply from resources under its control, primarily the federal hydroelectric dams in the Northwest.

BPA has agreements to sell power from federal hydropower generation in the Northwest and from certain nonfederal power plants, such as Energy Northwest's nuclear plant, Columbia Generating Station. BPA sells most of its power at cost-based rates to regional public power and municipal utilities, electric cooperatives, and direct service industries (such as aluminum smelters). After meeting its regional commitments, BPA sells surplus power to other Western market participants at market prices.

Severe Heat Wave: In late July 2006, a severe heat wave resulted in 100+ degree temperatures over much of the West - and greater than 110 degrees in some areas. Northwest utilities urged consumers to conserve. From July 17 through July 25, various peak load records were set by utility customers (e.g., Idaho Power and NorthWestern Energy) which is notable since the Northwest overall is typically a winter-peaking area. Control areas managed by Portland General Electric, Pacificorp, and Puget Sound Energy declared NERC Energy Emergency Alert levels 1 and 2 (for Puget Sound Energy, level 1 only), meaning all resources were in use and/or load management procedures were in effect. Although a concurrent fire in eastern Oregon threatened power lines in the Idaho-Oregon area, no curtailment of non-firm load was called. Power prices in the Northwest bilateral markets rose to over $350/MWh on July 24, the date that CAISO declared a Stage 2 Emergency - CAISO's call for critical conservation due to very tight power supplies in its control area.

Balancing Authorities in the Northwest Electric Market

Balancing Authority	NERC Acronym
Alberta Electric System Operator	AESO
Avista Corp.	AVA
Bonneville Power Administration	BPAT
British Columbia Transmission Corporation	BCHA
Idaho Power Company	IPCO
NorthWestern Energy	NWMT
PacifiCorp-East	PACE
PacifiCorp-West	PACW
Portland General Electric Company	PGE
PUD No. 1 of Chelan County	CHPD
PUD No. 1 of Douglas County	DOPD
PUD No. 2 of Grant County	GCPD
Puget Sound Energy	PSEI
Seattle Department of Lighting	SCL
Sierra Pacific Power Company	SPPC
Tacoma Power	TPWR
Western Area Power Administration - Upper Great Plains West	WAUW

Source: *NERC (www.tsin.com)*

Updated February 7, 2007

Supply and Demand Statistics for the Northwest

Supply Demand Statistics			
	2003	2004	2005
Winter Generating Capacity MW	54,802	57,101	57,120
Winter Peak Demand MW	35,456	39,710	40,298
Winter Reserves MW	19,346	17,391	16,822
Winter Reserve Margin:	55%	44%	42%
Annual Load (GWh):	219,582	223,148	234,153
Annual Net Generation GWh	NA	NA	NA

Source: Derived from *WECC* data.

Updated February 2, 2007

1039

Annual Average Bilateral Prices

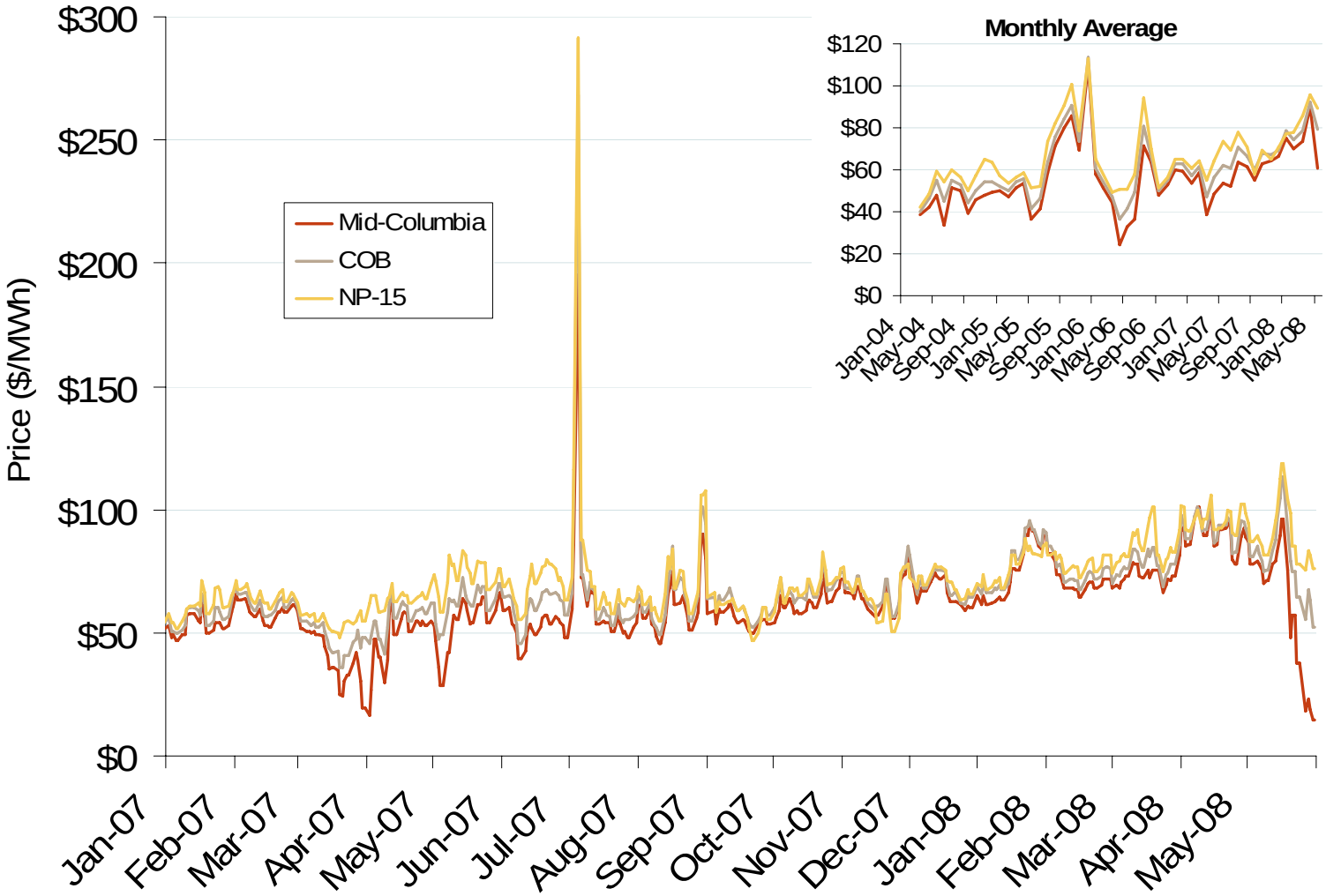
Annual Average Day Ahead On Peak Prices ($/MWh)				
	2005	2006	2007	5 Years
Mid-Columbia (Mid-C)	$62.95	$50.18	$56.57	$50.97
California-Oregon Border (COB)	$66.95	$55.58	$62.14	$55.62

Source: Derived from *Platts* data.

Updated March 7, 2008

1040

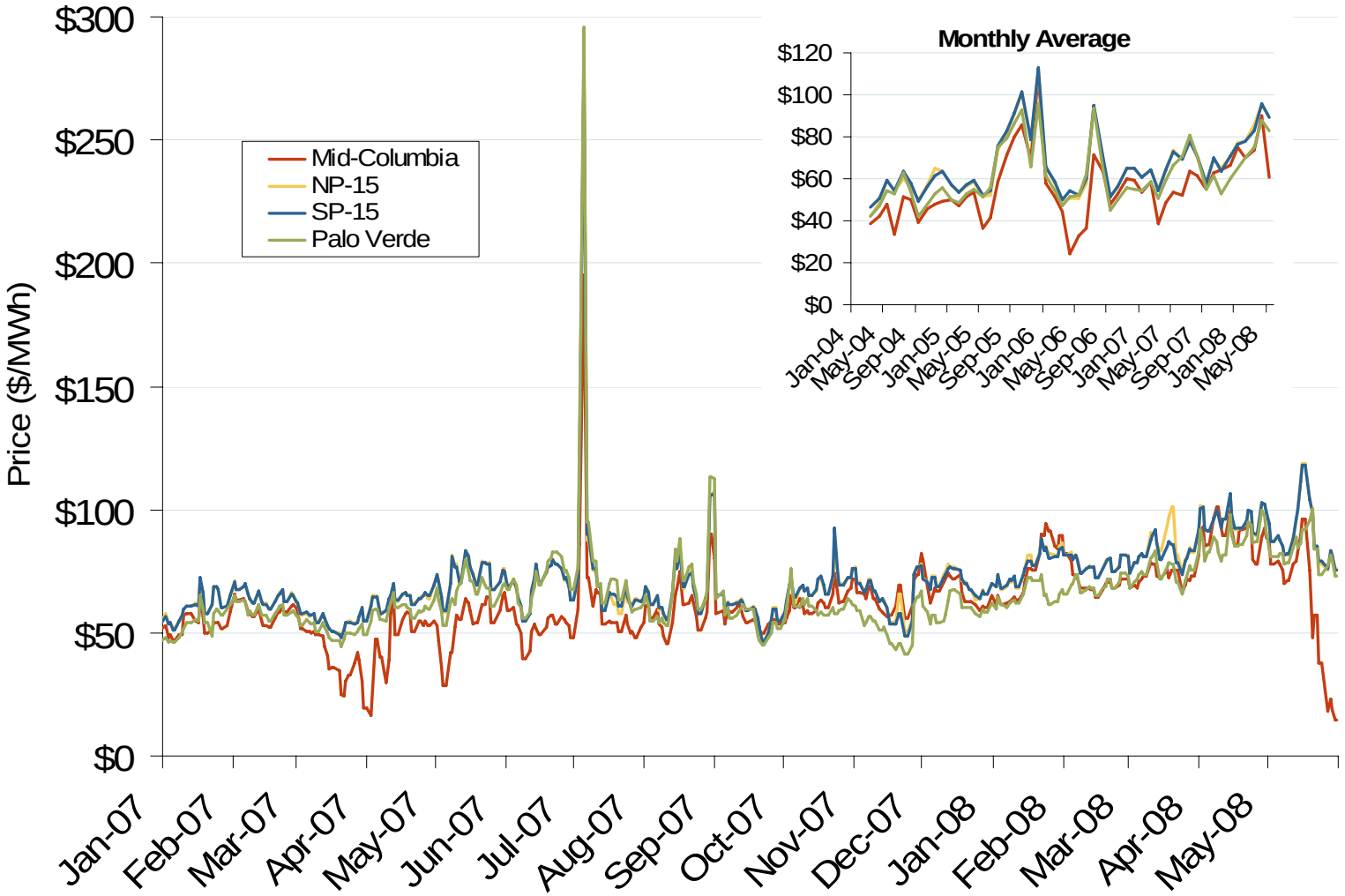
Northwestern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated June 6, 2008

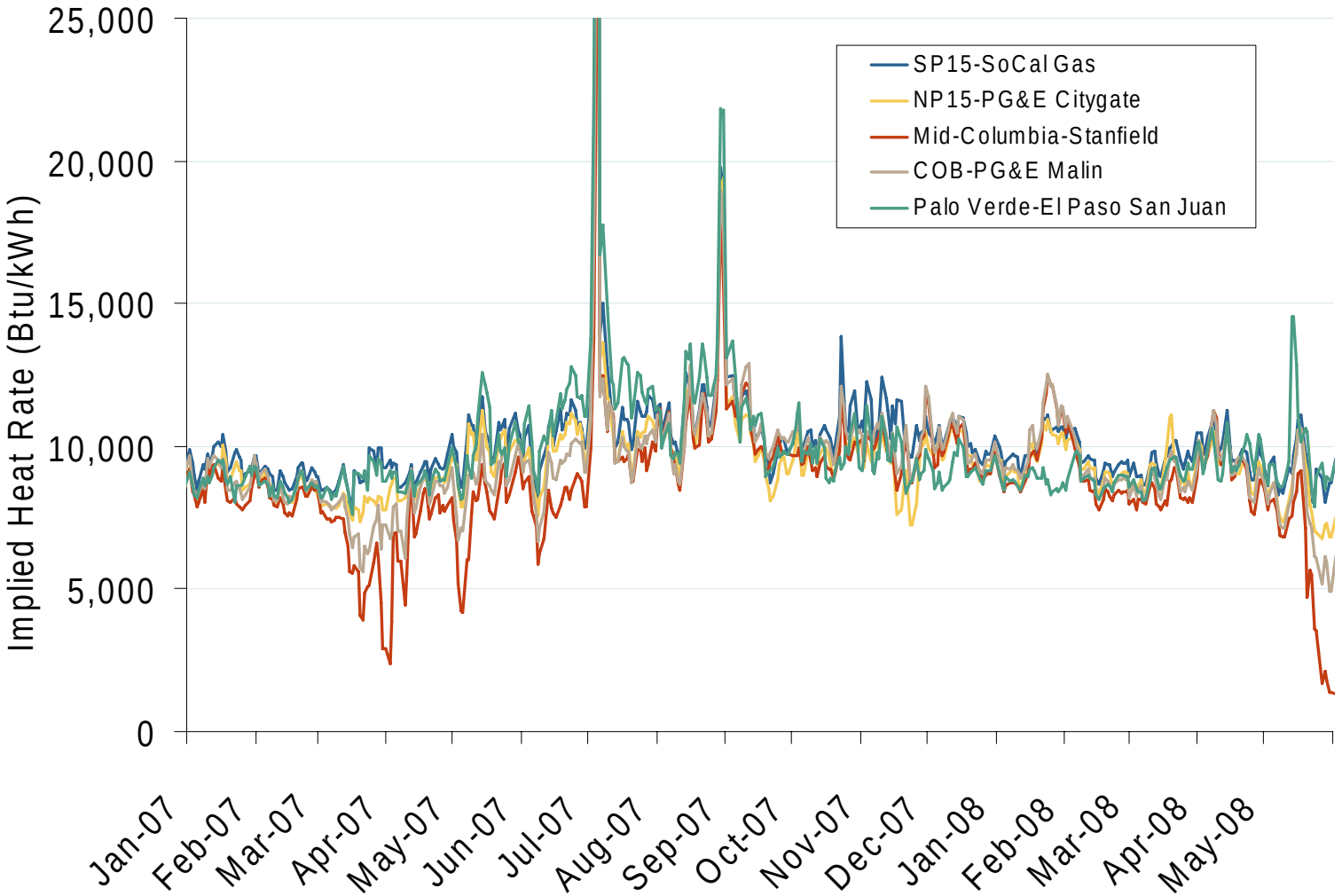
Western Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated June 6, 2008

Implied Heat Rates at Western Trading Points

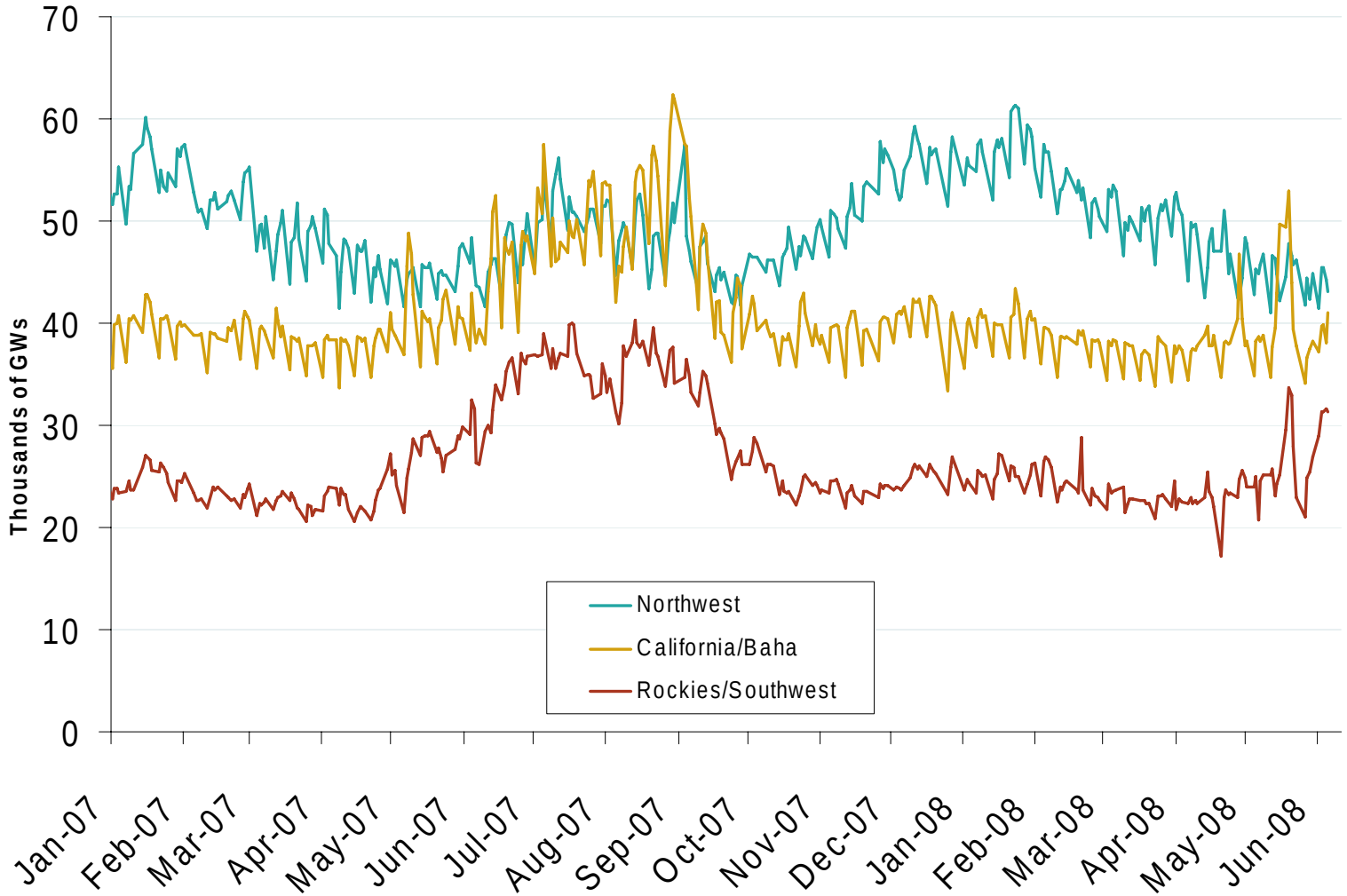


Source: Derived from *Platts* data

Updated June 6, 2008

1142

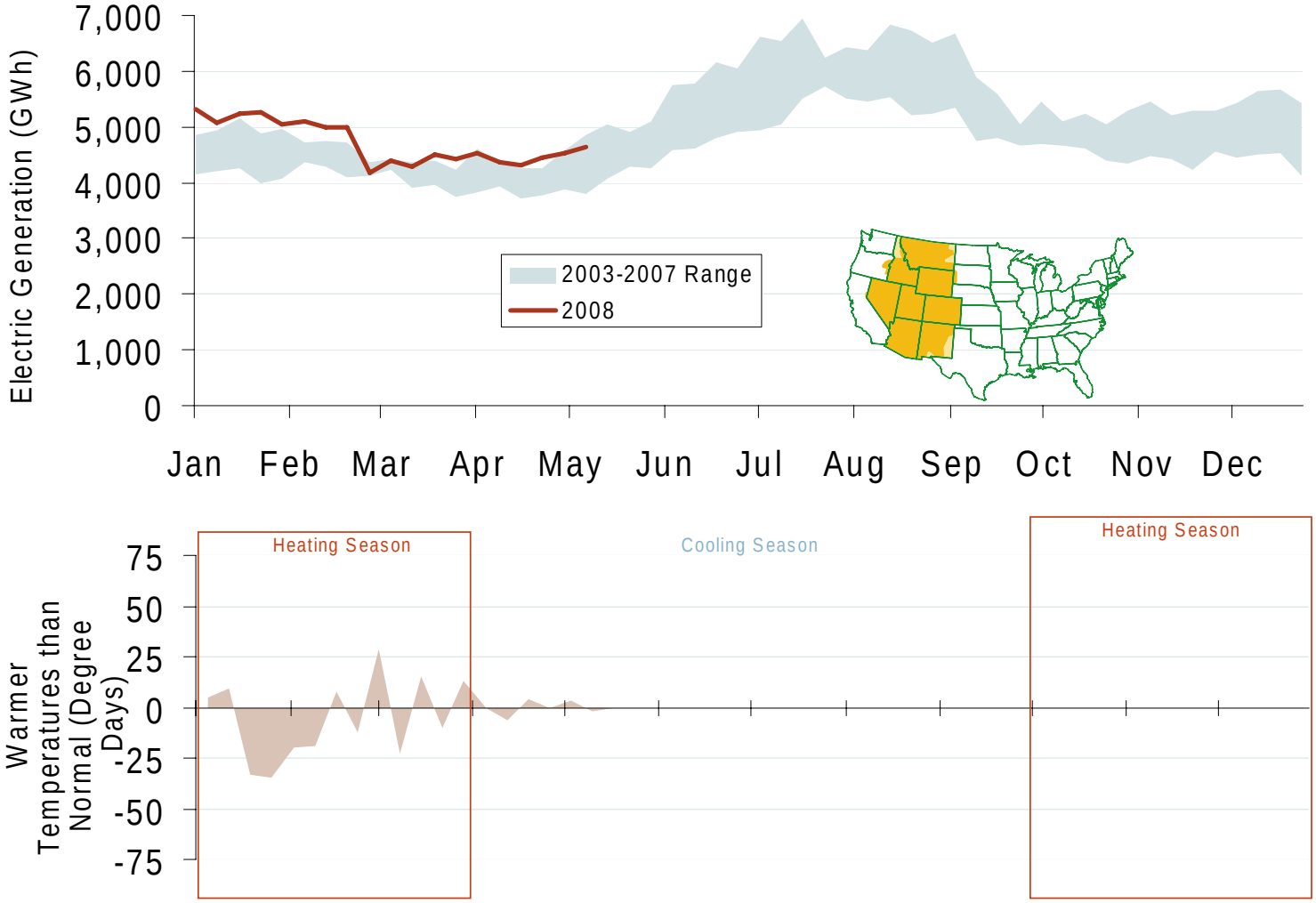
Western Daily Actual Peak Demand



Source: Derived from WECC Daily Report data available at http://wecc.biz. Data shown is generally Sunday through Thursday due to limitations of daily reports.

Updated June 11, 2008

Weekly Electric Generation Output and Temperatures
Rocky Mountains Region

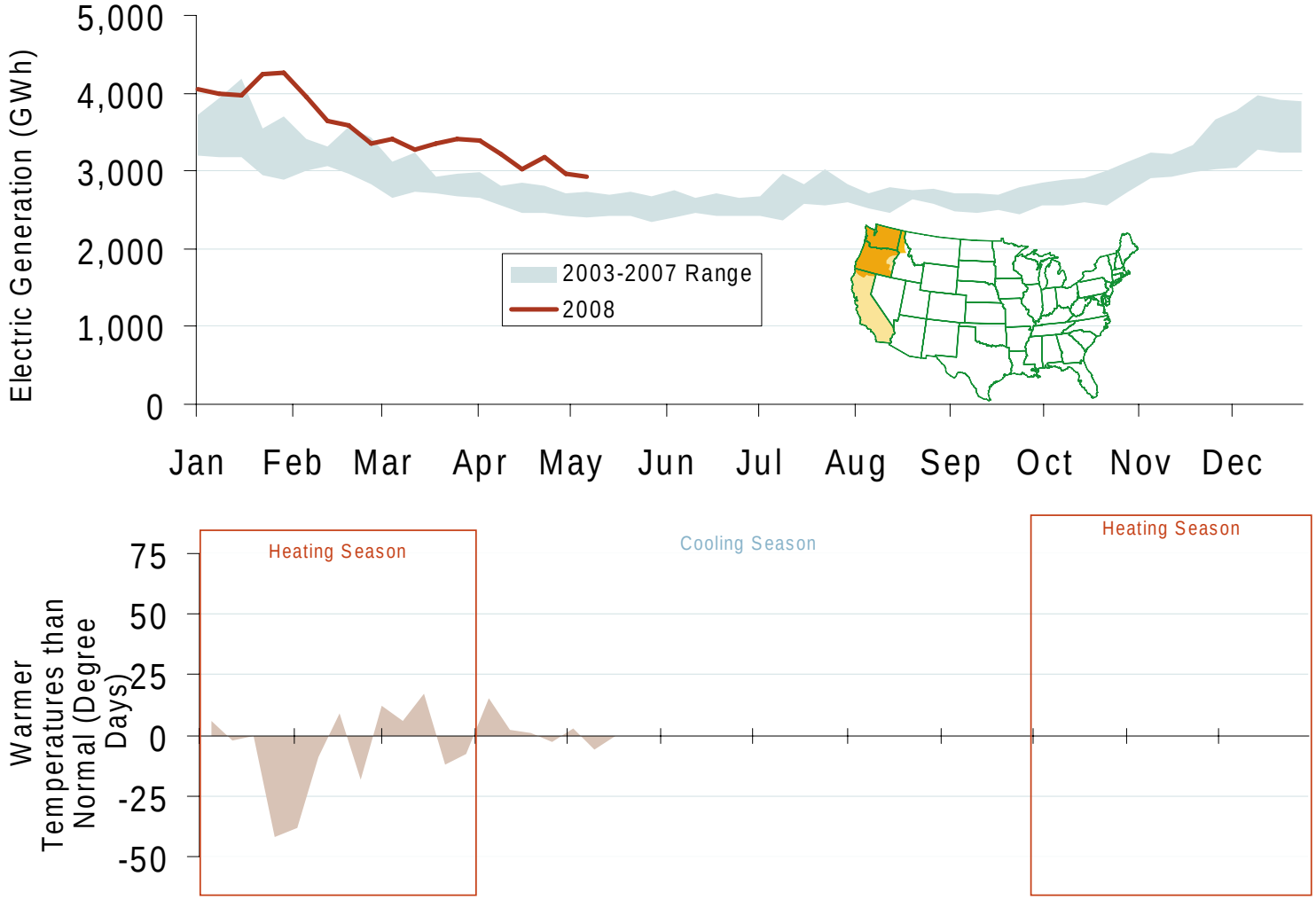


Source: Derived from *EEI* and *NOAA* data.

Updated June 6, 2008

1121

Weekly Electric Generation Output and Temperatures
Pacific Northwest Region



Source: Derived from *EEI* and *NOAA* data.

Updated June 6, 2008

Pacific/Northwest Hydro and Snowpack Levels

	Hydro Generation		Snow Water Equivalent[3]		
	In-State Capacity (MW)[1]	Additional Capacity Created Downstream (MW)[2]	One Year Ago (% of average)	3/31/08 (% of average)	5/5/08 (% of average)
California	10,400	0	30%	98%	74%
British Columbia	10,000	16,200	130%	105%	116%
Idaho	2,700	19,700	40%	106%	122%
Washington	21,500	0	85%	131%	164%
Montana	2,700	16,200	75%	112%	129%
Oregon	9,100	0	55%	159%	177%

1 Net summer capacity in megawatts by state (EIA).

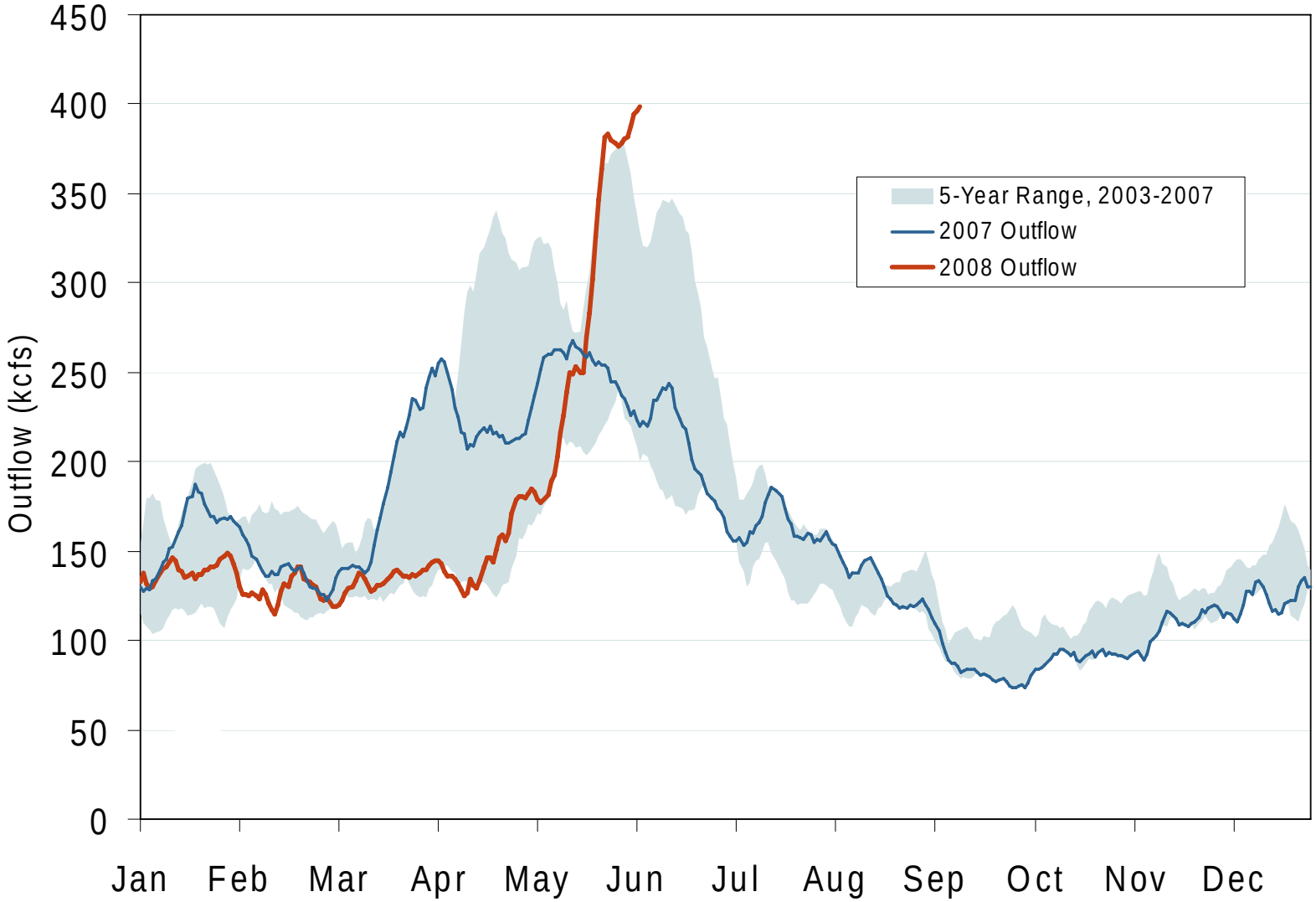
2 Approximate electric capacity created by water flow through the downstream states (EIA and BPA). The capacity estimates reflect the water flow pattern of the series of hydro facilities on the Snake and Columbia Rivers.

3 Snow Water Equivalent, in percent of the historical average for the same date, is the ratio of current snow water daily data (collected by the Natural Resources Conservation Services' Snowtel Telemetry sites) compared to the average snow water for the same day between 1961-1990. Total Hydro Capacity figures by state do not tie precisely to Snow Water Equivalent data due to such factors as snow basin terrain and complex distribution of run-off to neighboring state hydroelectric dams or shared facilities (e.g., Columbia River hydroelectric dams on the border of Washington and Oregon) (Bloomberg).

Updated May 7, 2008

1198

Stream Flow at The Dalles Dam



Source: Derived from *USACE* data.
Trend lines are 7-day moving averages.

Updated June 6, 2008

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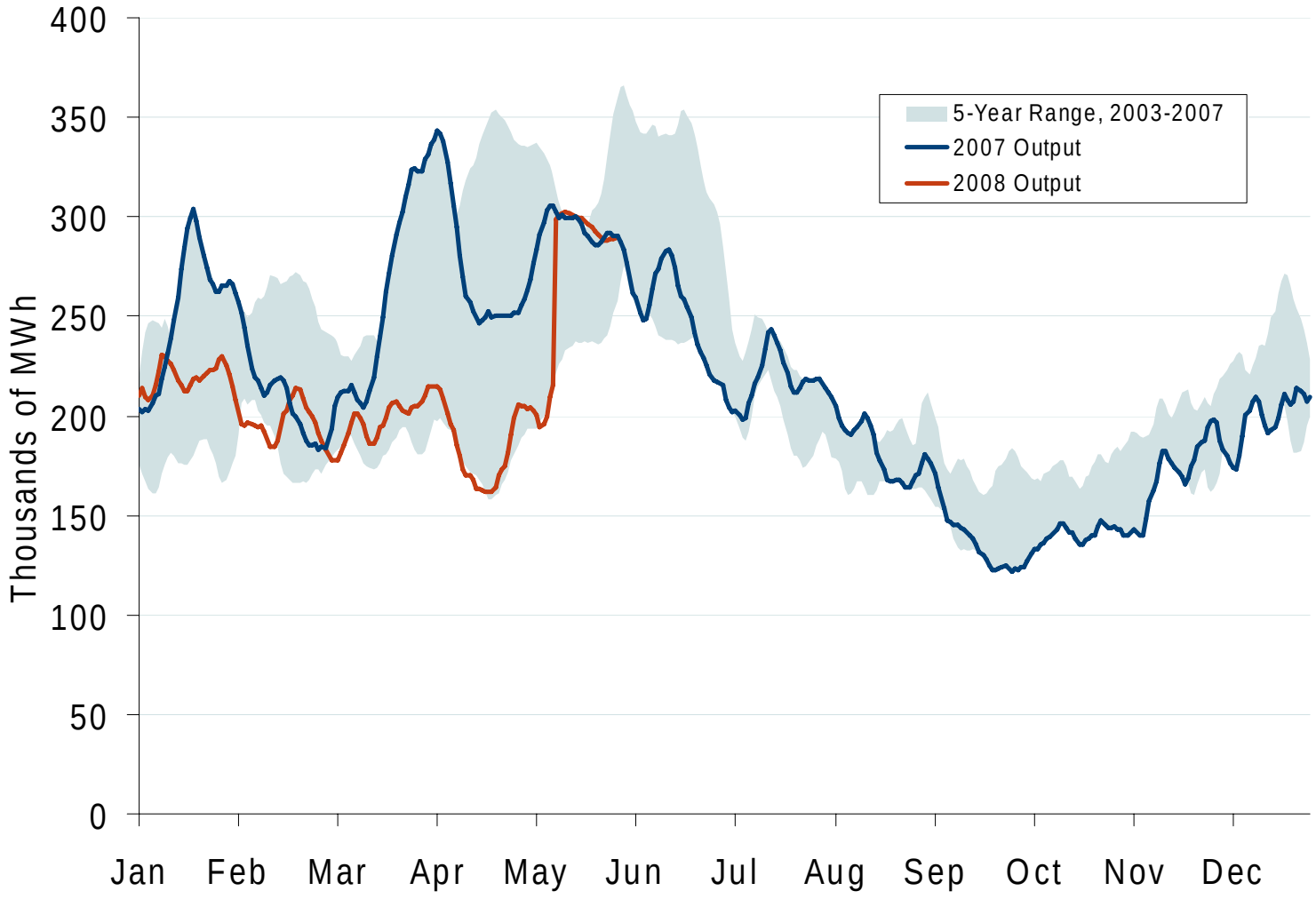
Pacific Northwest Hydroelectric Production

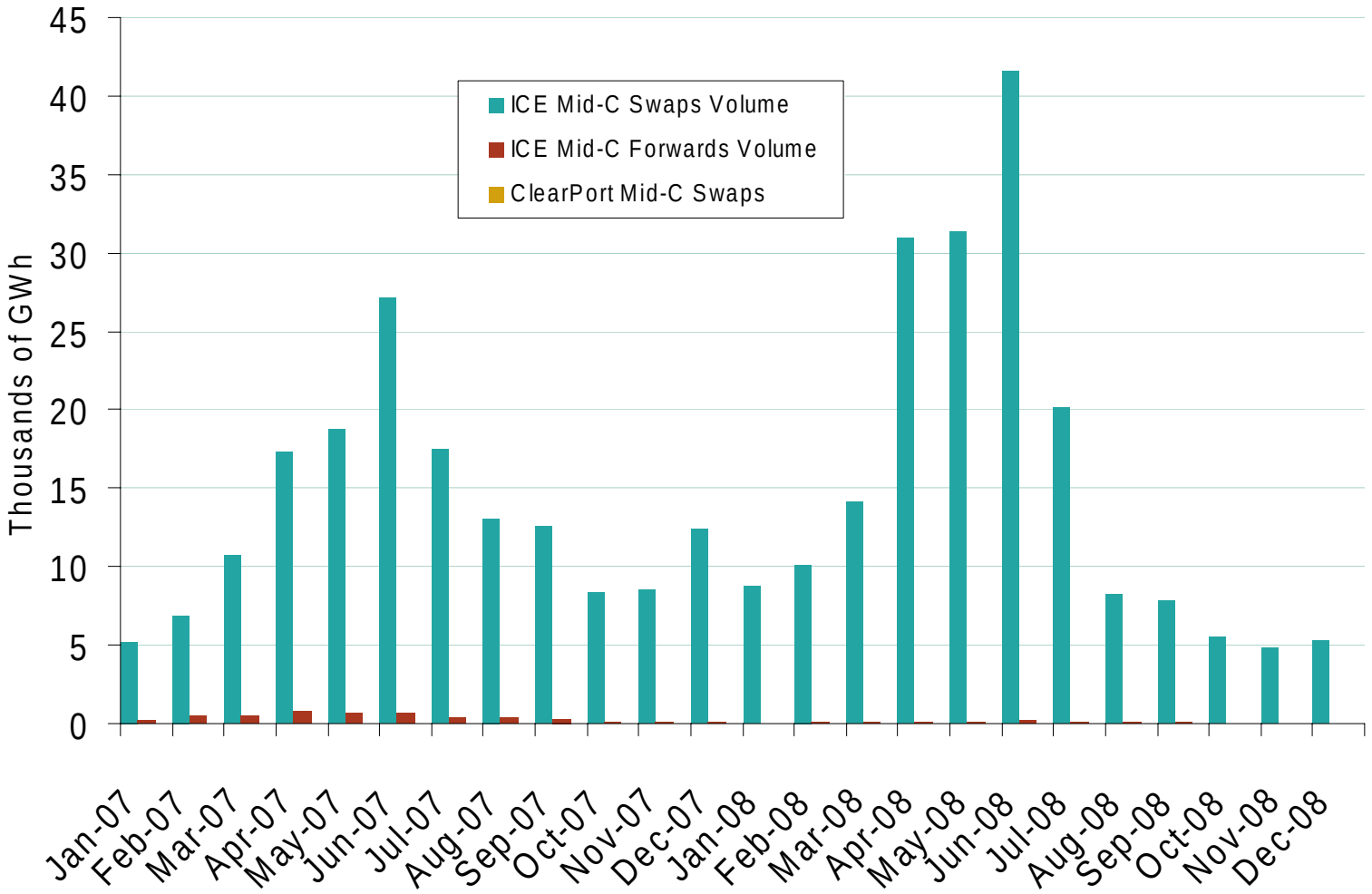


Source: Derived from *USACE* data reflecting the output of the 24 largest facilities.
Trend lines are 7-day moving averages.

Updated June 6, 2008

1106

Mid-Columbia Forward and Swap Volumes



Source: Derived from *ICE* and *Nymex ClearPort* data. ICE on-peak forward (physical) and swap (financial) volumes are for Mid-Columbia and include monthly, dual monthly, quarterly, and calendar year contracts traded for each month. Nymex ClearPort on-peak swaps (financial) volume are for Mid-Columbia and are traded by month.

Updated June 6, 2008 1043