



# **Predators and Prey**

**1995 through 2010  
in the WSCC**

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# Opening the Crystal Ball

- Fundamentals
- Replacing Plants With Wires
- Firm Price forecasts
- Spot Price Forecasts
- Woolly Mammoths



# Fundamentals

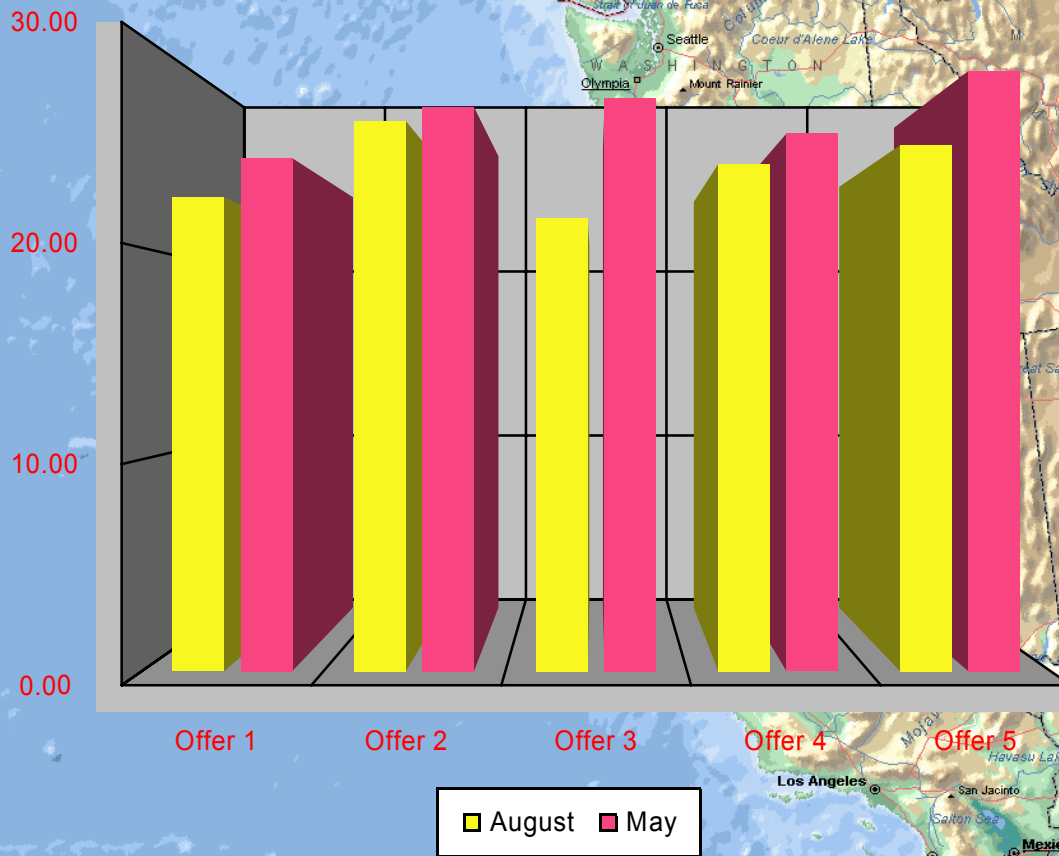
- The WSCC is in vast surplus by any traditional measurements
- Interregional transfers are a major source of generation cost reductions
- Our marginal fuel -- natural gas -- is also plummeting in price.



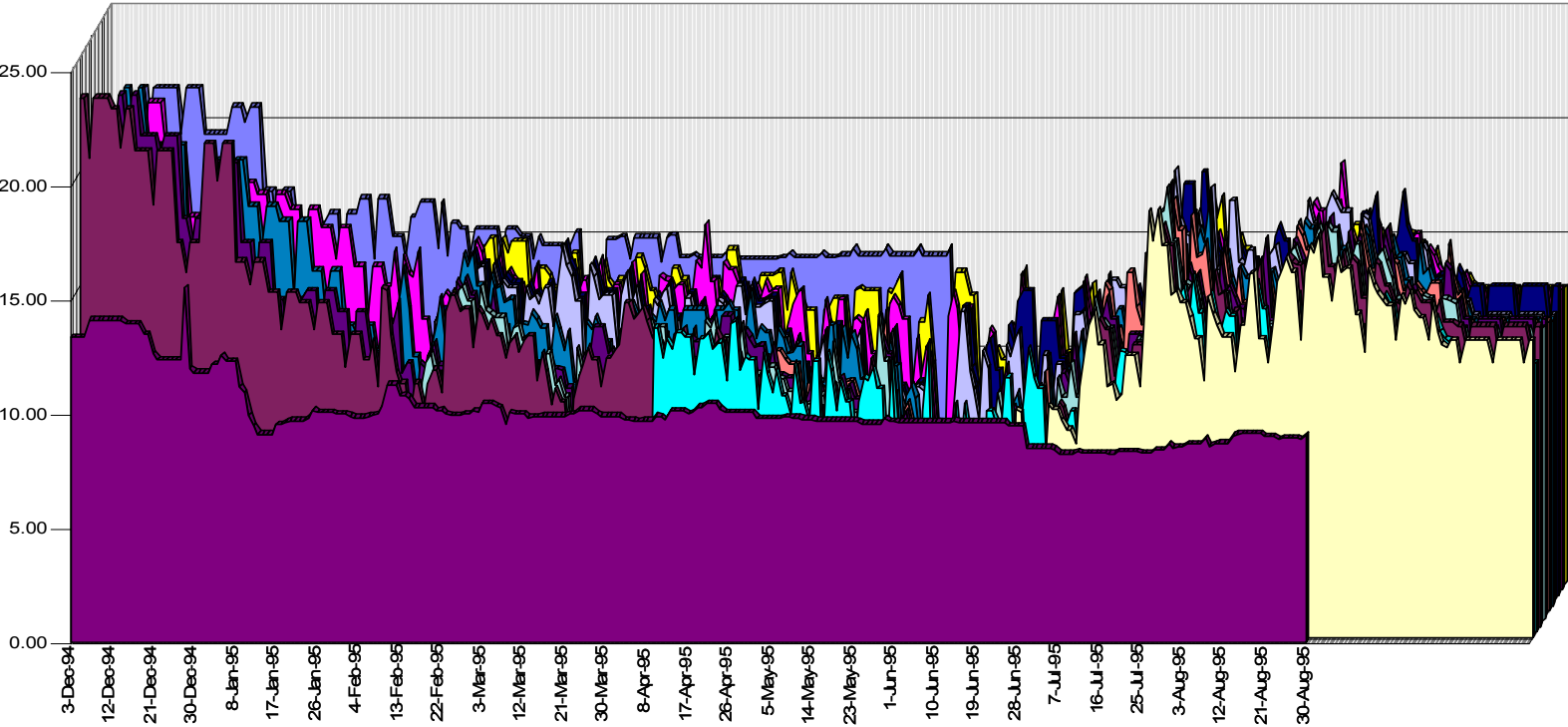
# WSCC Bulk Power Report

WSCC 3A Reported Load Resource Balance				
MW	1994		1995	
	SUMMER	WINTER	SUMMER	WINTER
Internal Demand	113596	110452	116357	112922
Standby Demand	0	0	0	0
Total Internal	113596	110452	116357	112922
Direct Control	1795	4	1804	4
Interruptible	2239	2337	2645	2735
Net Internal	109562	108111	111908	110183
Total Capacity	138200	141097	139542	142252
Inoperable	104	855	104	855
Net Operable	138096	140242	139438	141397
NUGs	9865	9912	10488	10340
Scheduled Imports	256	236	366	346
Full Responsibility Imports	256	236	366	346
Scheduled Exports	205	172	205	172
Full Responsibility Exports	205	172	205	172
Adjustment	0	0	0	0
Net Capacity	148012	150218	150087	151911
Planned Outage	6850	7700	5927	7131
Net Capacity	141162	142518	144160	144780
Balance: Net Capacity Less Net Internal	31600	34407	32252	34597

# Typical West Coast Prices

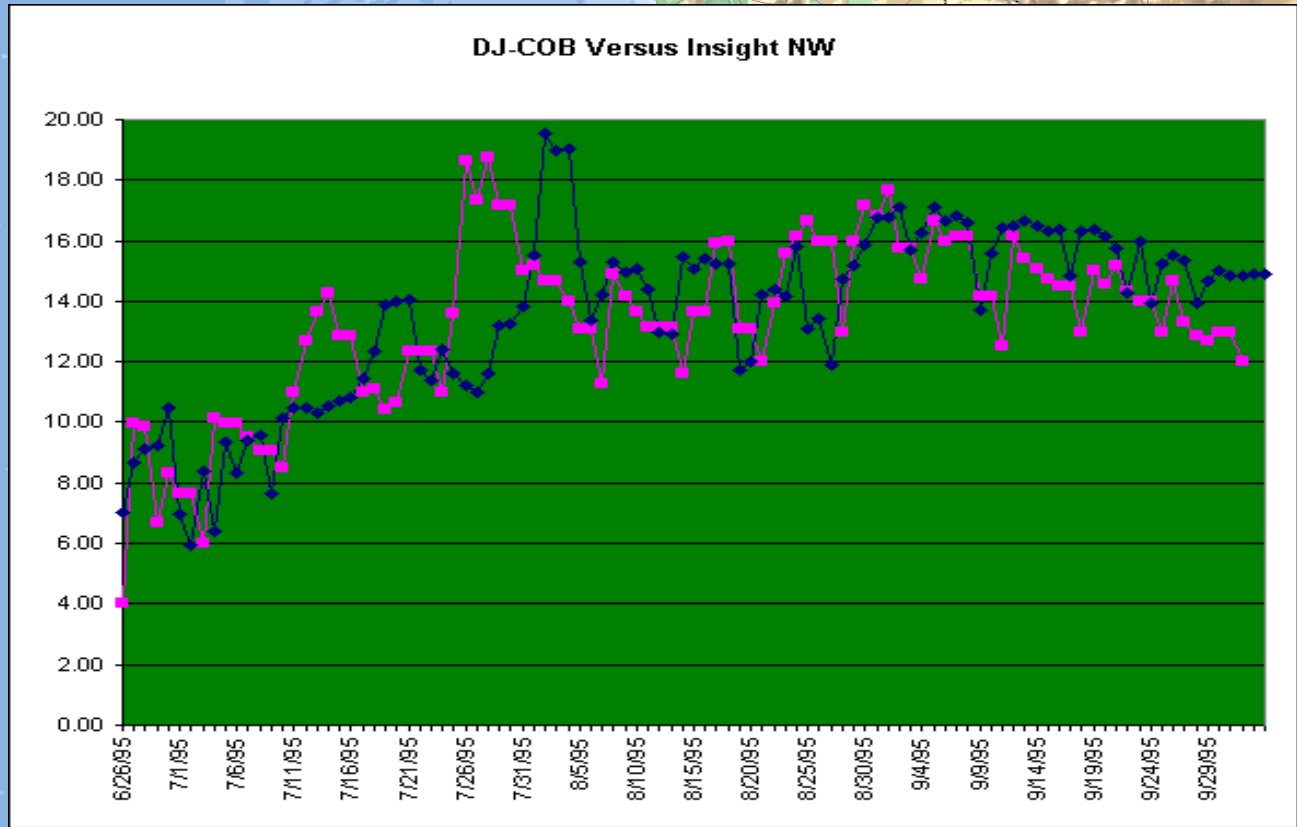


# West Coast Spot Prices

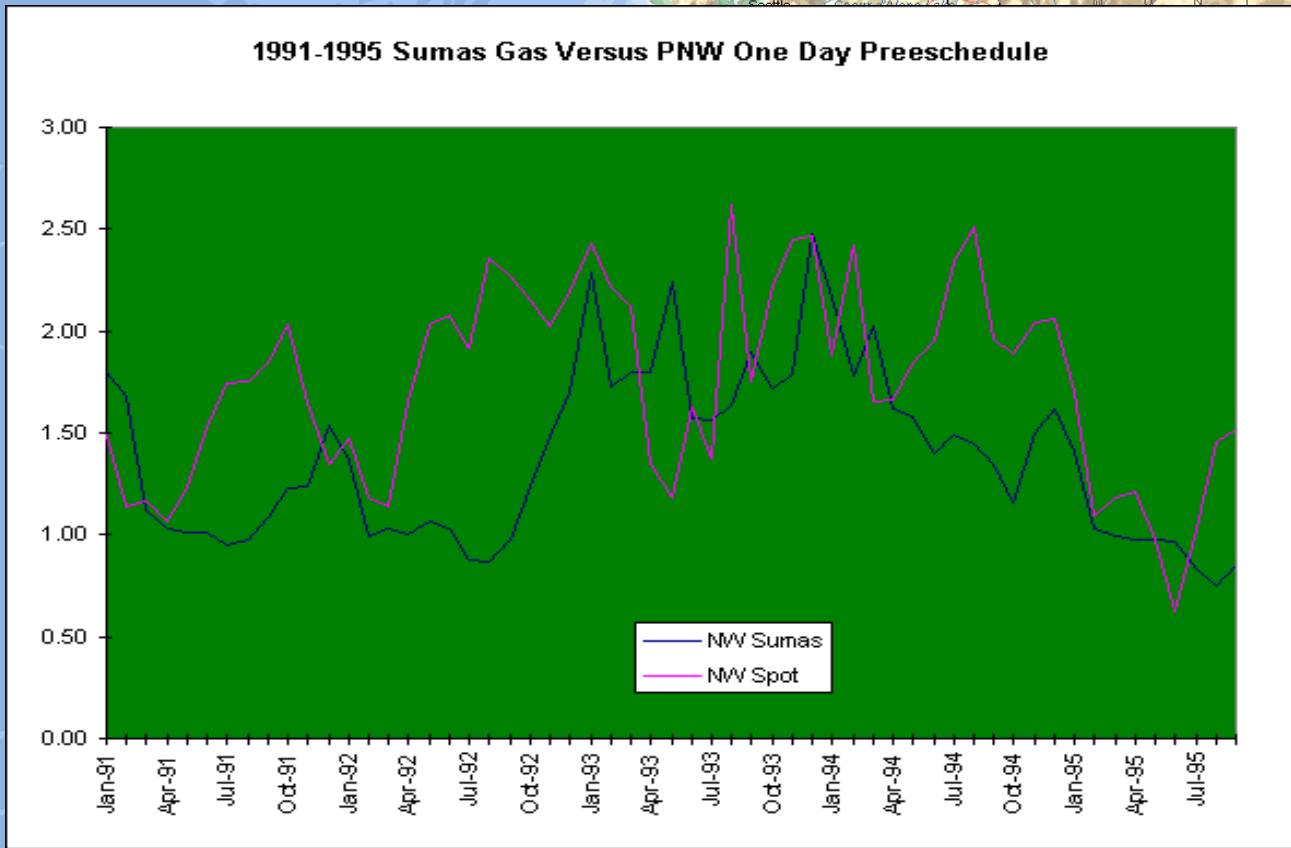


Sumas	Mid-Columbia	Central Rockies	NW/N. Rockies	COB/NOB
N. California	Midway	S. California	Mead	Palo Verde
Inland SW	Four Corners	Canada		

# COB Versus Spot Prices



# Daily Spot Versus Sumas Gas





A topographic map of the Western United States, showing state boundaries and major cities. A red line is drawn across the map, starting from the Pacific Northwest (near Seattle/Olympia) and extending south through California to the Southwest (near Phoenix/Mexicali). The line appears to follow a major power transmission corridor. The title "Plants and Wires" is overlaid in large white text on a black background.

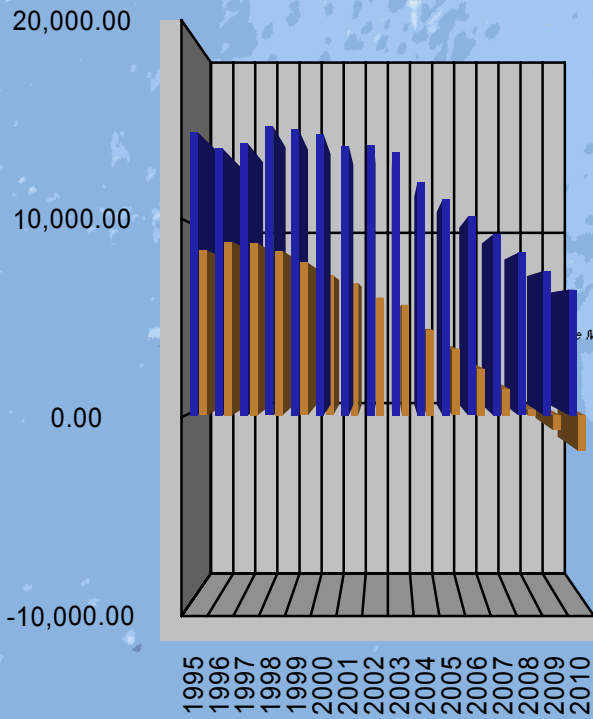
# Plants and Wires

- The WSCC splits naturally into winter peaking and summer peaking regions
- Although both subregions currently are surplus, full utilization of diversity eliminates plant construction through to 2010

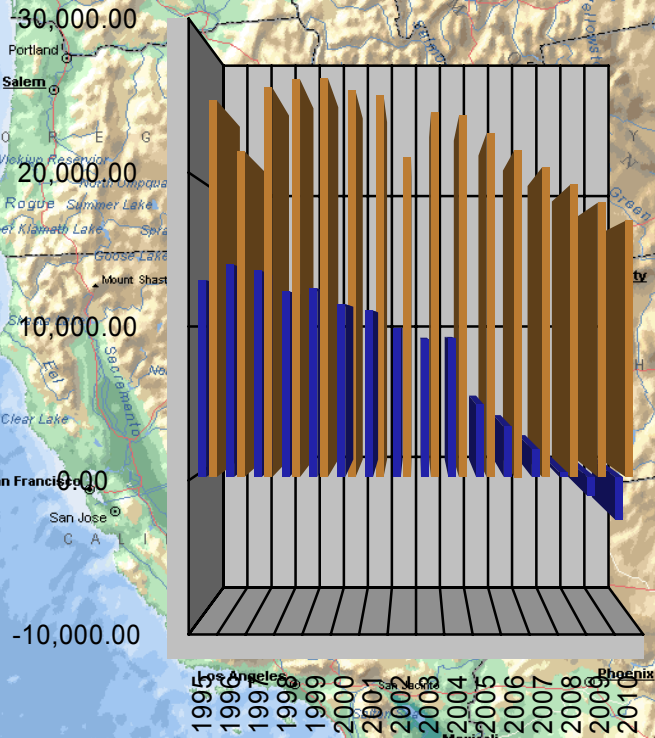


# Seasonal Diversity

## Northwest



## Southwest





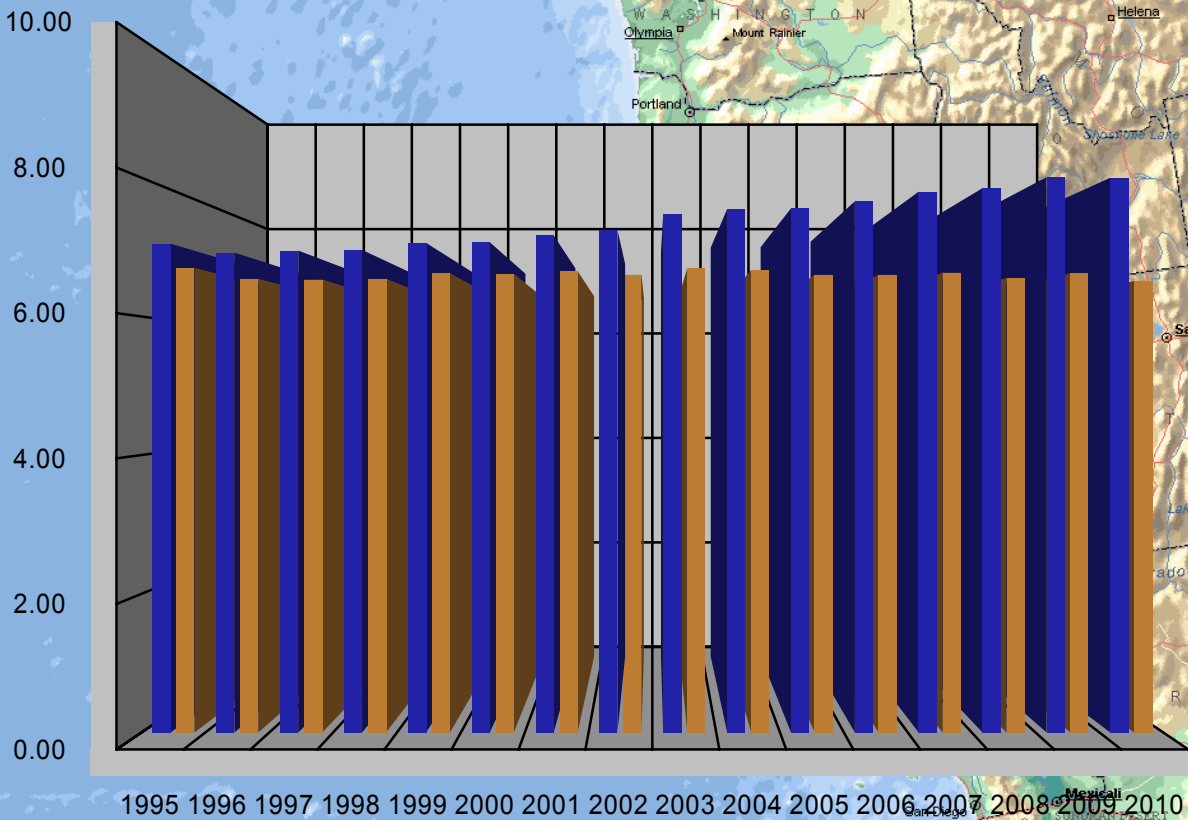


# Long Run Forecasts

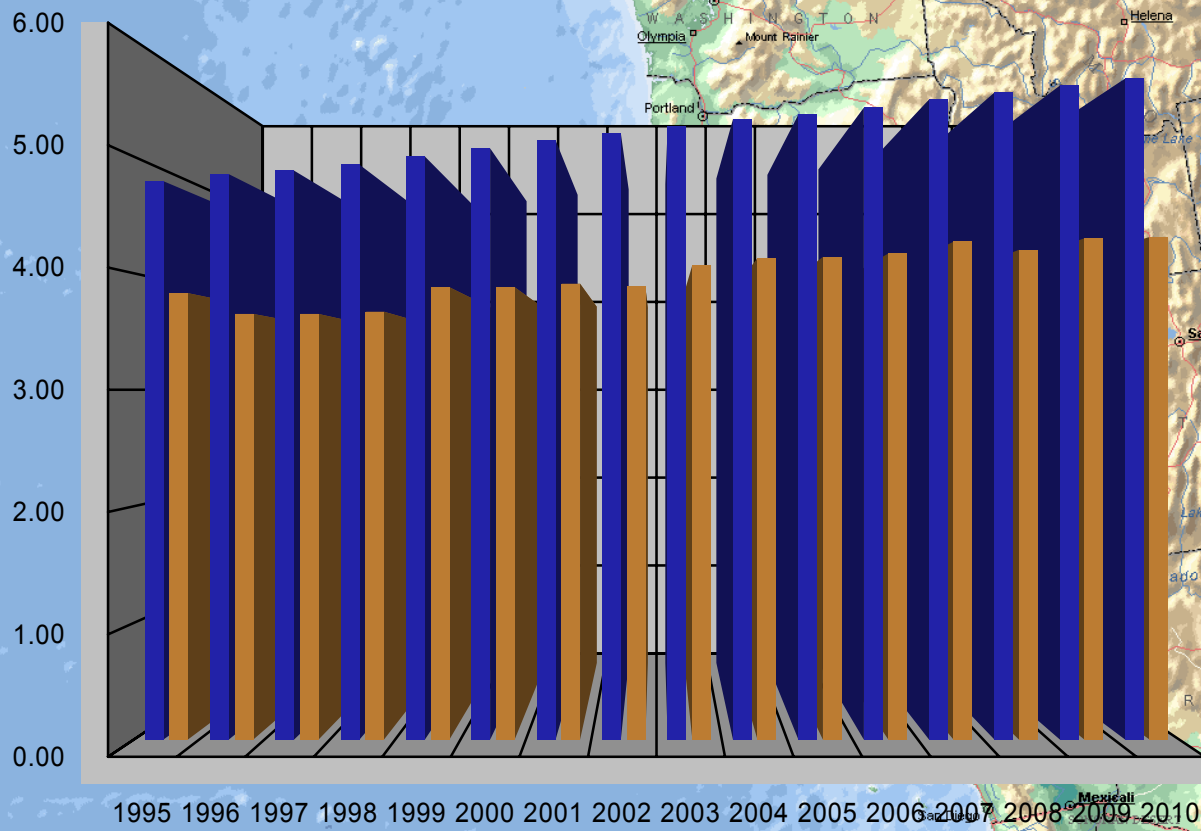
- We use the Energy Information Administrations long run forecasting data base as a departure point
- Our competitive forecasts adjust the EIA data for more competitive spot markets and plant availabilities
- These forecasts do not assume any general asset write downs or disallowances -- they only reflect competitive efficiencies



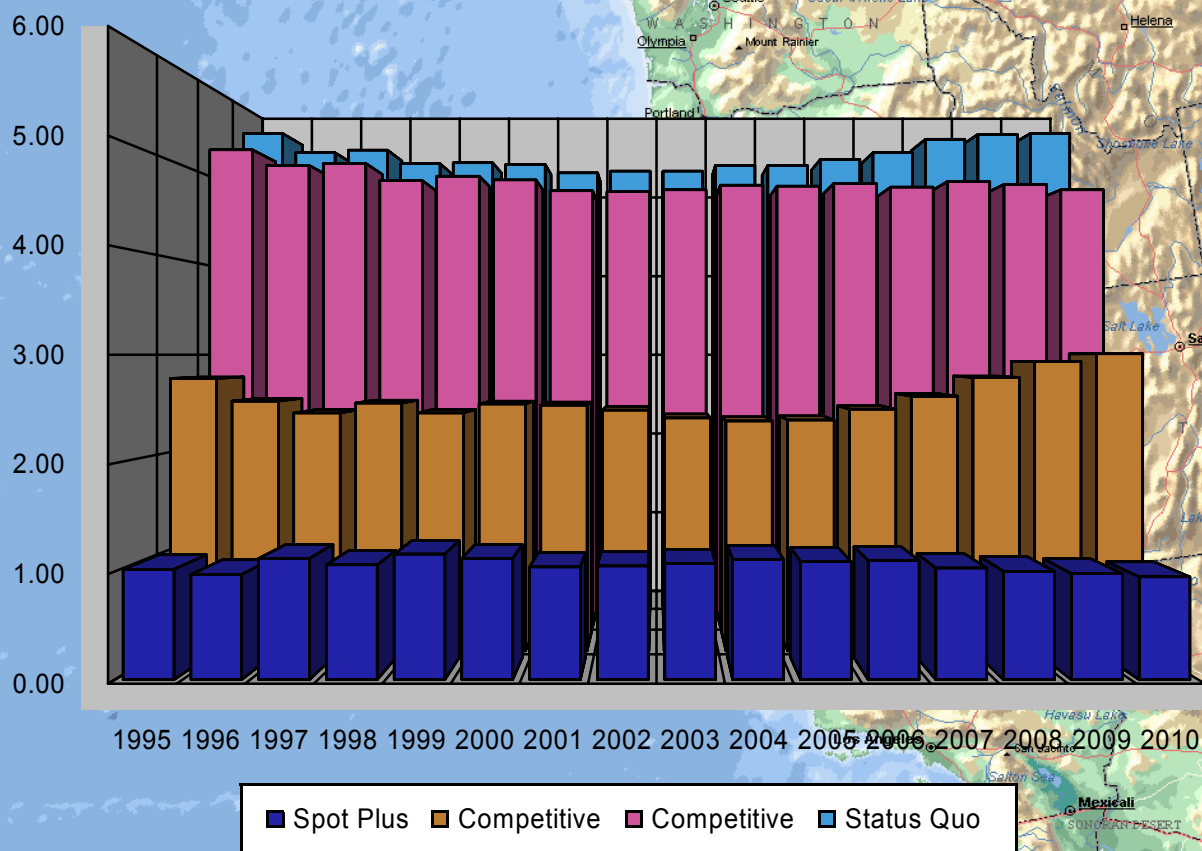
# WSCC Long Run Rates



# Northwest Rates



# Four Industrial Rates





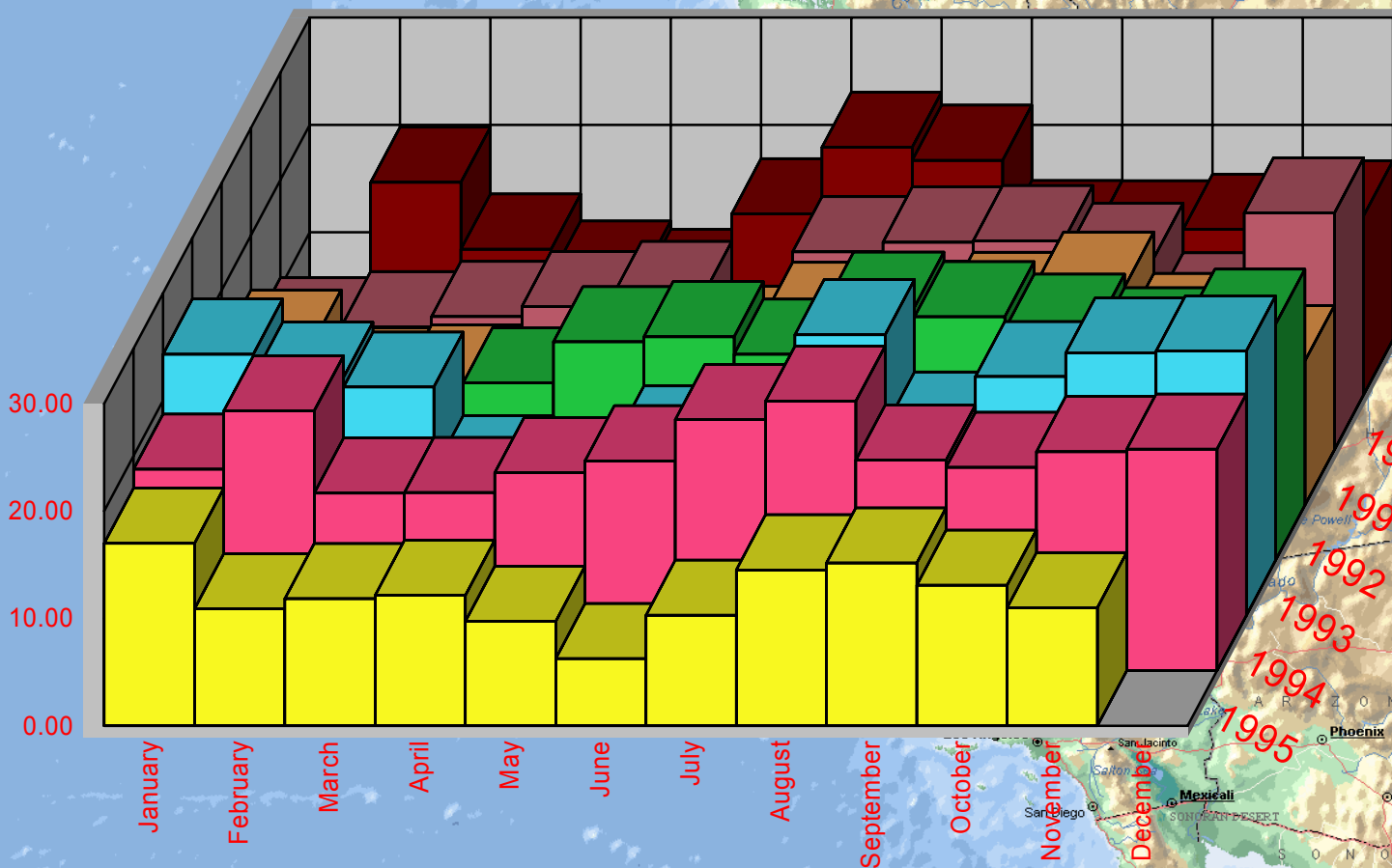
# Short Term Rates



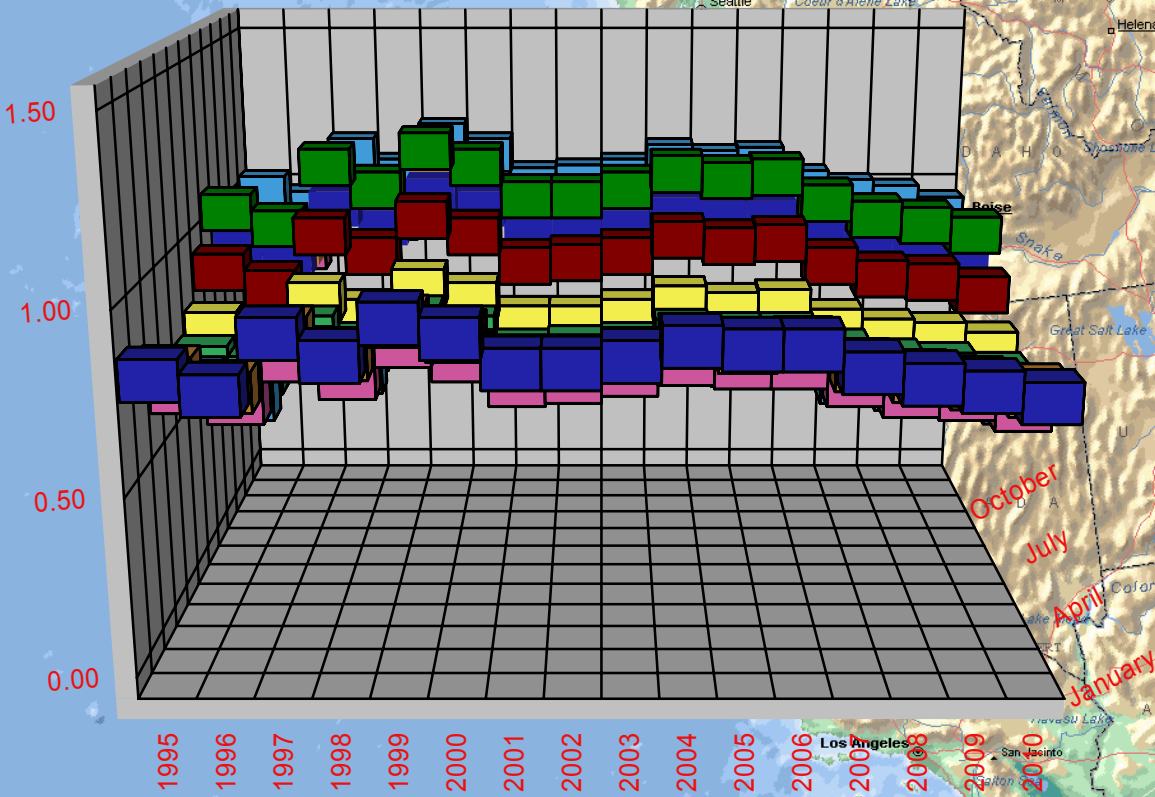
- Short term rates basically reflect alternative fuels -- usually gas
- Departures from gas will continue in the Northwest until interregional transmission can carry the fish flush
- Increasing interregional access will dampen weather related market responses



# Spot Prices By Month



# Pacific Northwest Spot Rates



# 1995 Woolly Mammoth Awards



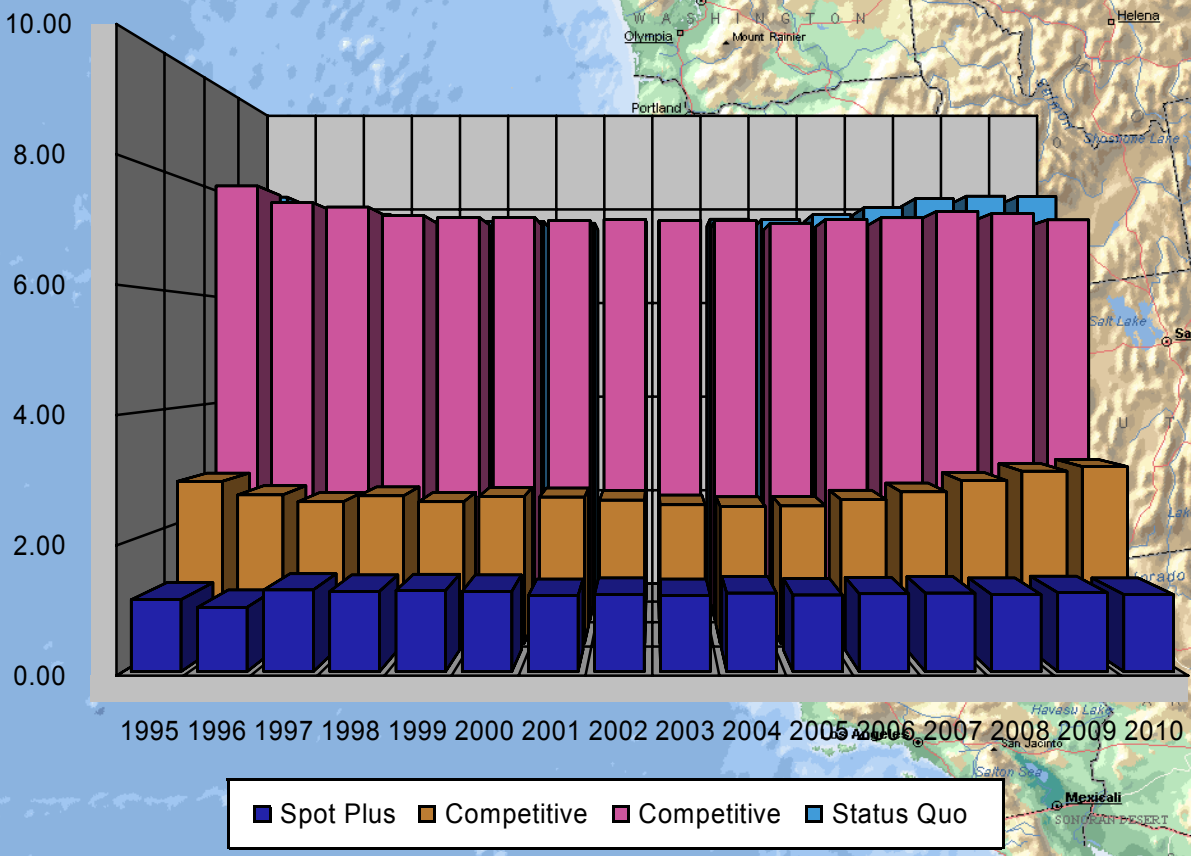


# Woolly Mammoth Awards

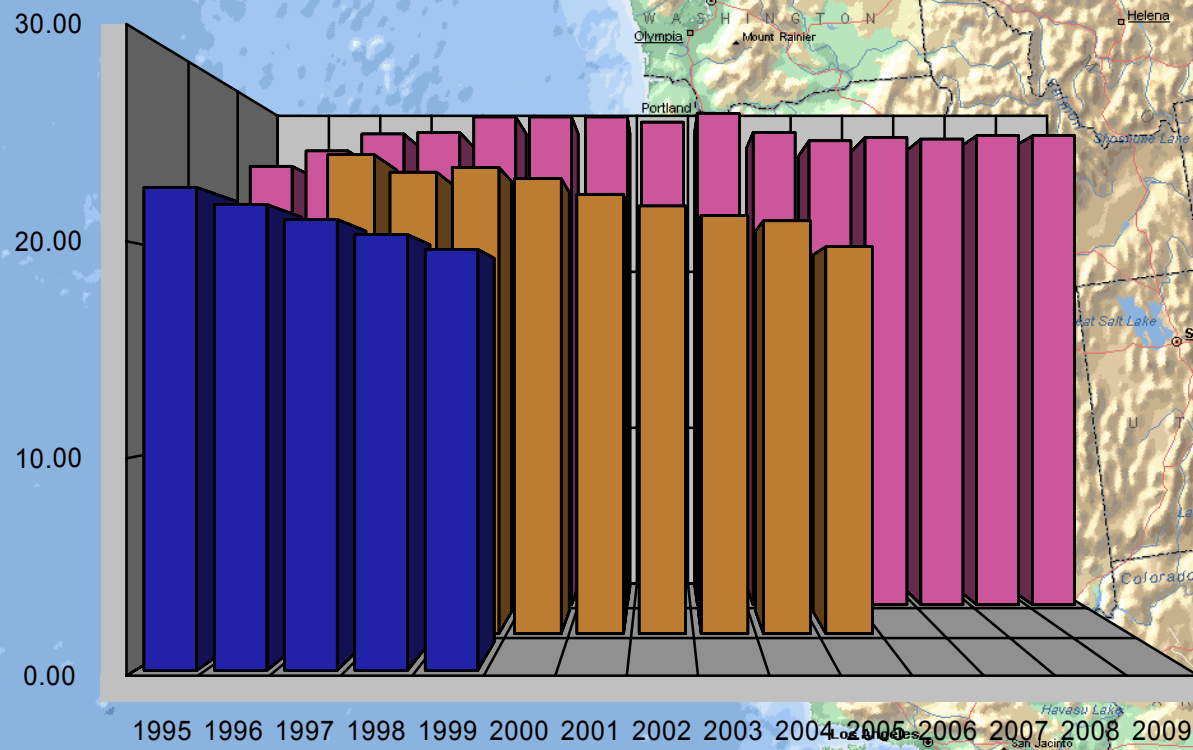
- The Woolly Mammoth Award is presented annually to the utilities facing the most immediate threat of extinction
- The awards this year are awarded to California's three IOUs – PG&E, SCE, and SDG&E -- for their high rates in contradiction of market fundamentals and their own rhetoric
- BPA is honored for offering rates massively inconsistent with their revenue requirements



# California IOU Industrial Rates



# BPA Rates



■ Block Contract   
 ■ 1995 Rate Forecast   
 ■ 1993 Rate Forecast



# Runner-Up Awards

- The Giant Three Toed Sloth Awards go to Pacific Power and British Columbia Hydro
- Pacific get its Sloth for having its major industrial customers give speeches entitled "Where is Fred Buckman?"
- British Columbia Hydro gets their Sloth for pegging the price of non-firm higher than the markets for months at a time