



The Wind Hits The Fan

*An Abundance of Water and an Abundance of Wind
Energy Results in an Abundance of Litigation*

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Idaho State Bar

Environment and Natural Resources Law Section

Northwest Energy Law: A Primer



“Whenever I'm caught between two evils, I take the one I've never tried.”
-- Mae West

The Investor-Owned Model



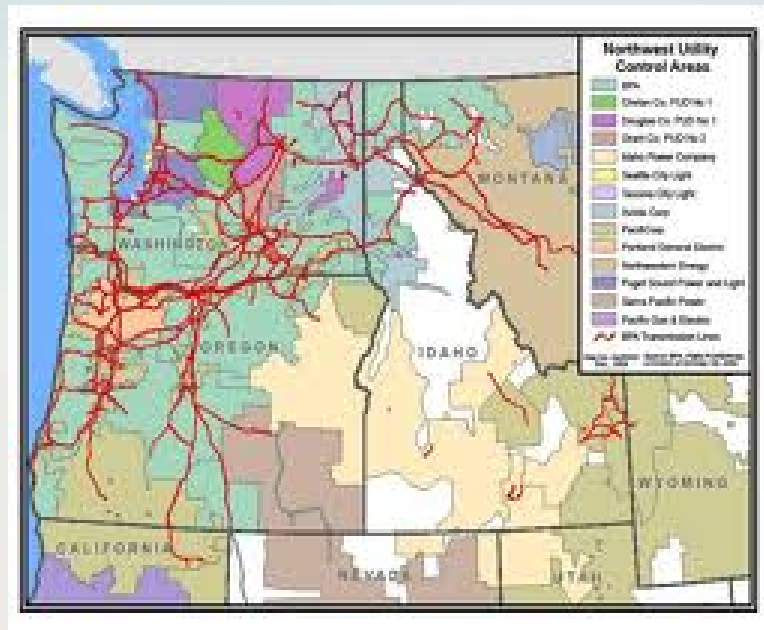
- Vertically-Integrated Monopolies
- State Regulation of Retail Rates
- Federal Regulation by FERC

The Public Power Model



- Public Preference
- Public Ownership
- Governance by Electeds
- The New Deal and BPA

The BPA System



“Open Access” and Retail Deregulation

- PURPA
- Energy Policy Act of 1992
- FERC Order No. 888
- Public Power and “FERC Lite” Provisions

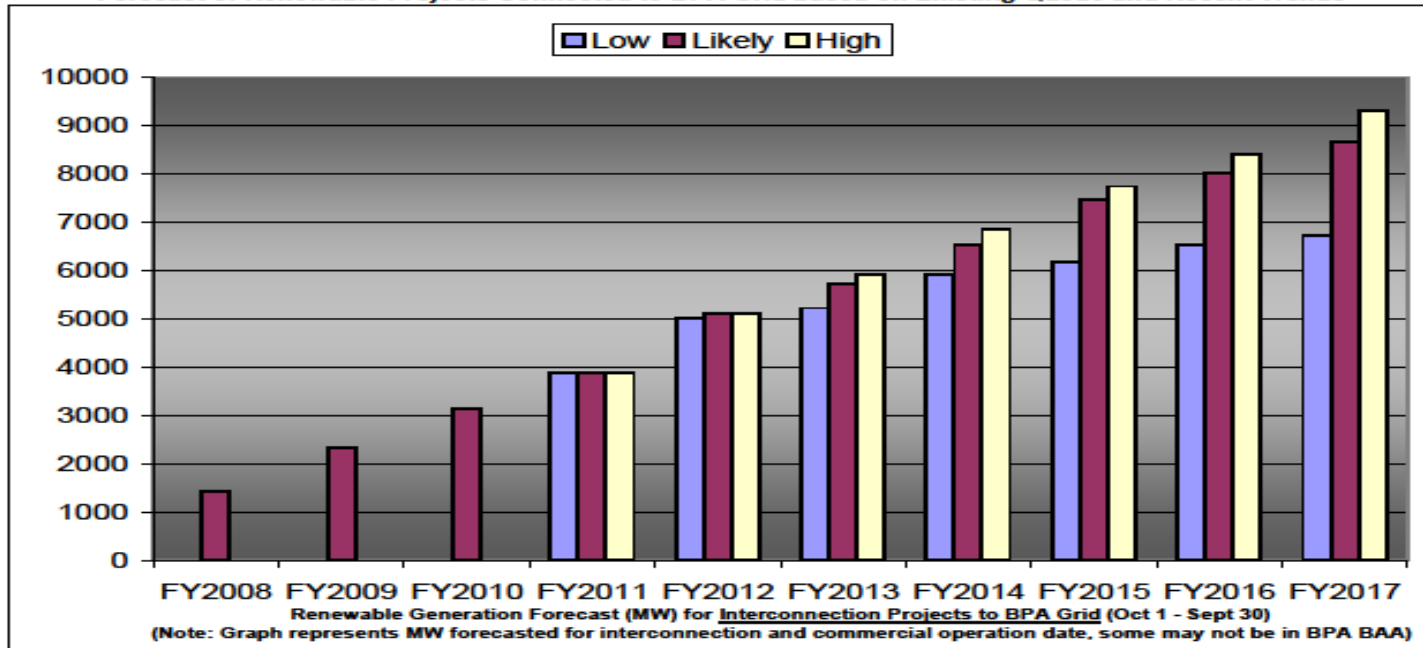


“Too Much of a Good Thing Can Be Taxing”
-- Mae West

Northwest Wind Explodes



Forecast of Renewable Projects Connected to BPA Grid based on Existing Queue and Recent Trends



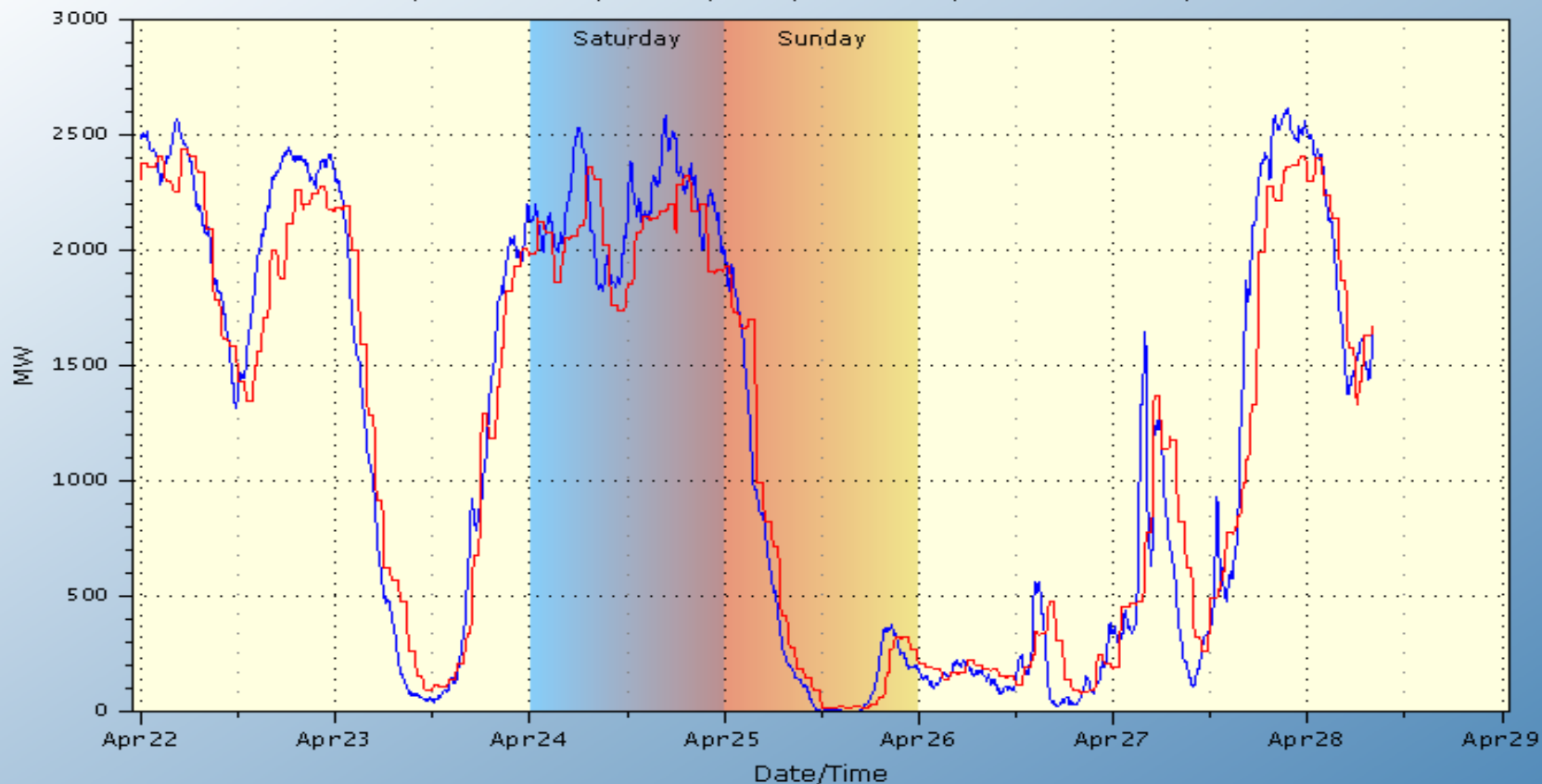
NOTES:

1. Projections beyond FY12 may be impacted or delayed due to a need for Transmission system expansion.
2. Projected totals based on previous experience and present growth factors including Production Tax Credits and RPS Demand.
3. Generation shown is interconnected to BPA-T; amount within BPA Balancing Authority Area is not estimated.

S. Enyeart As of: 9/12/2011

Producing Variable Output

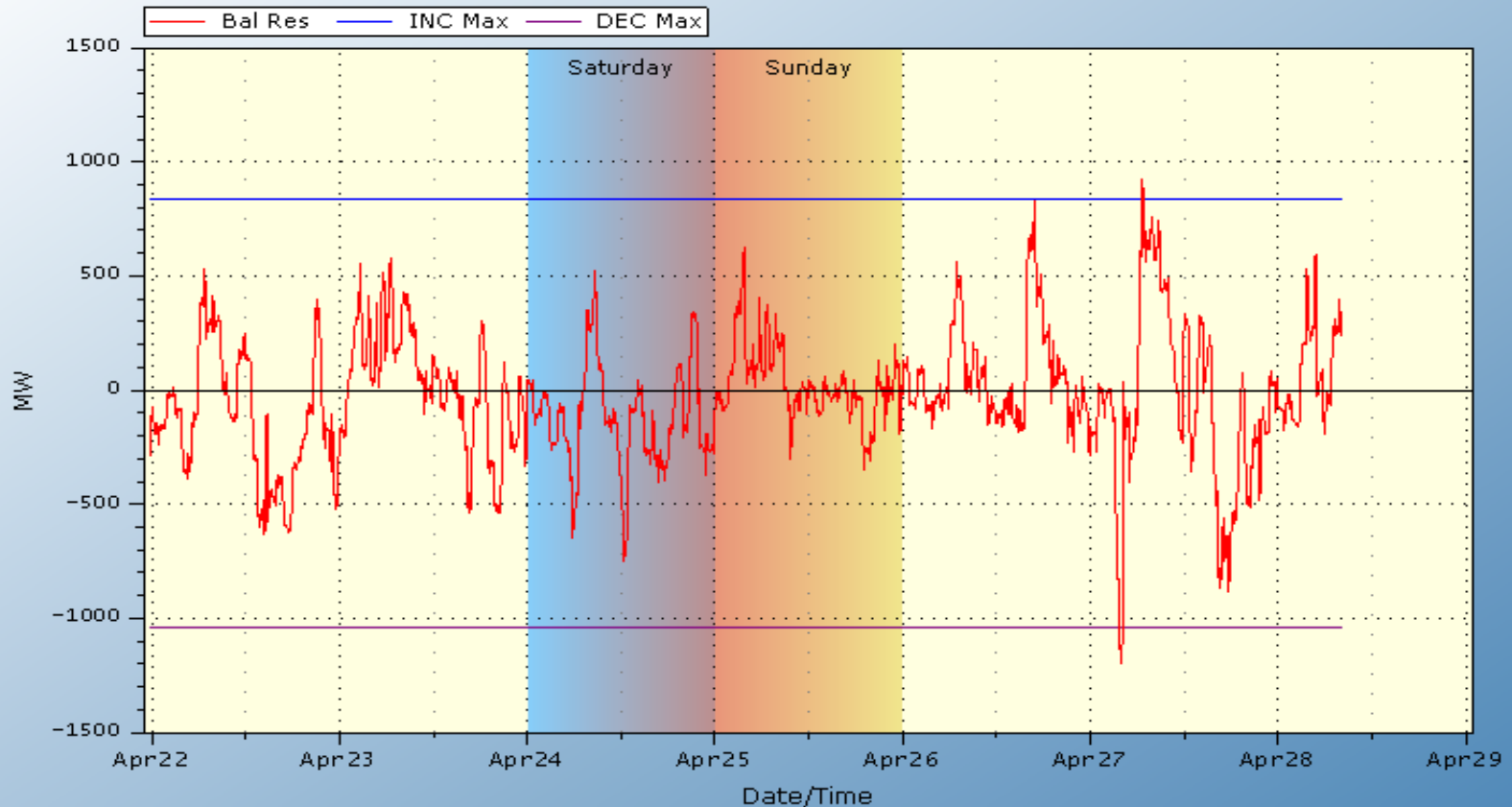
BPA Balancing Authority Total Wind Generation and Wind Basepoint, Last 7 days
22Apr2010 - 29Apr2010 (last updated 28Apr2010 08:11:35)



Based on 5-min readings from the BPA SCADA system for points 79687, 103349
Balancing Authority Wind Generation in Blue, Wind Basepoint in Red; Installed Wind Capacity=2780 MW
BPA Technical Operations (TOT-OpInfo@bpa.gov)

... and Big Demands on Reserves

BPA Balancing Reserves Deployed, Last 7 days
22Apr2010 - 29Apr2010 (last updated 28Apr2010 08:16:35)



Based on 5-min readings from the BPA SCADA system for points 108043,108044,108045
BPA Technical Operations (TOT-OpInfo@bpa.gov)

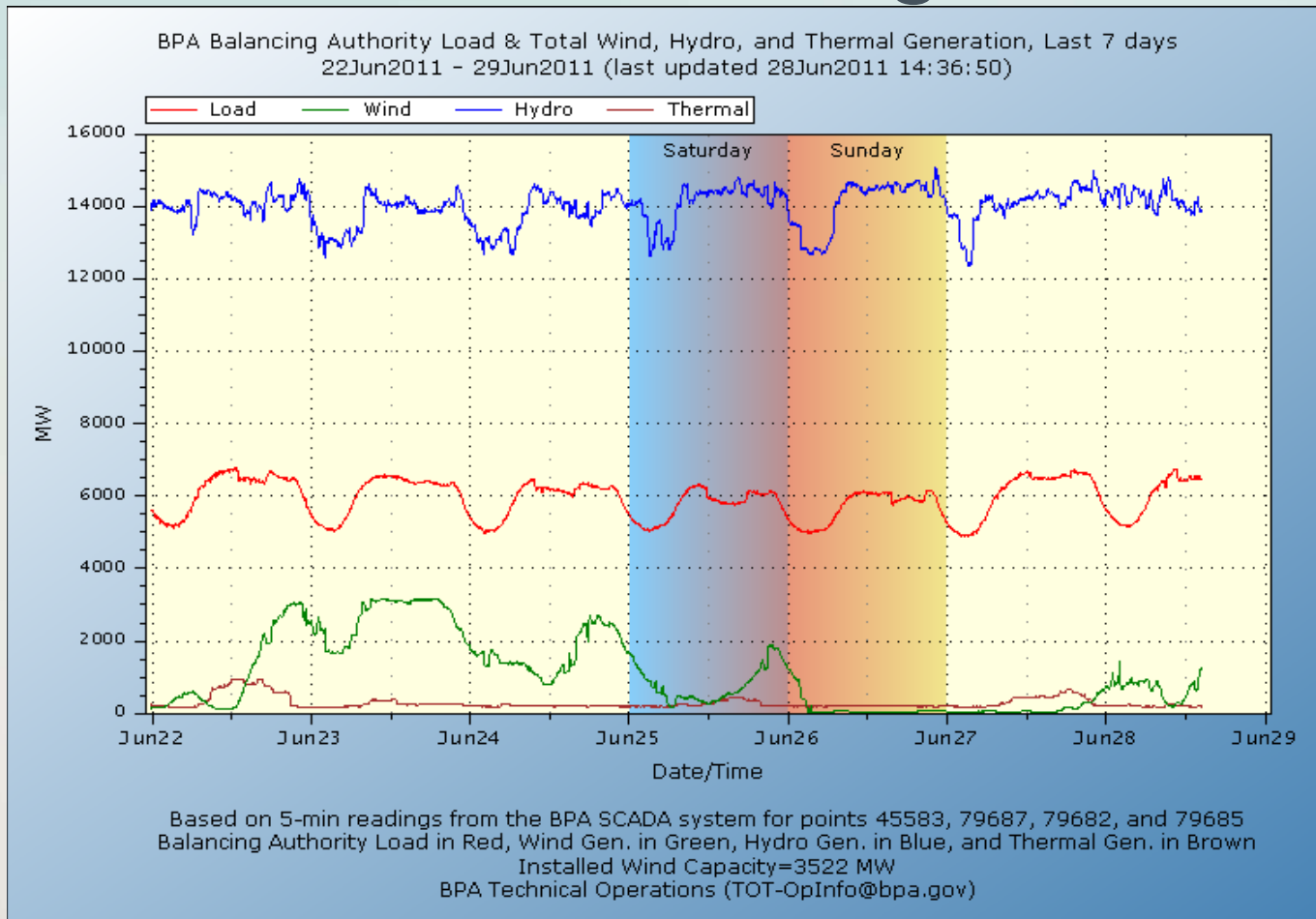
Big Water. . .



And Big Wind. . .



. . . Produces Too Much of a Good Thing

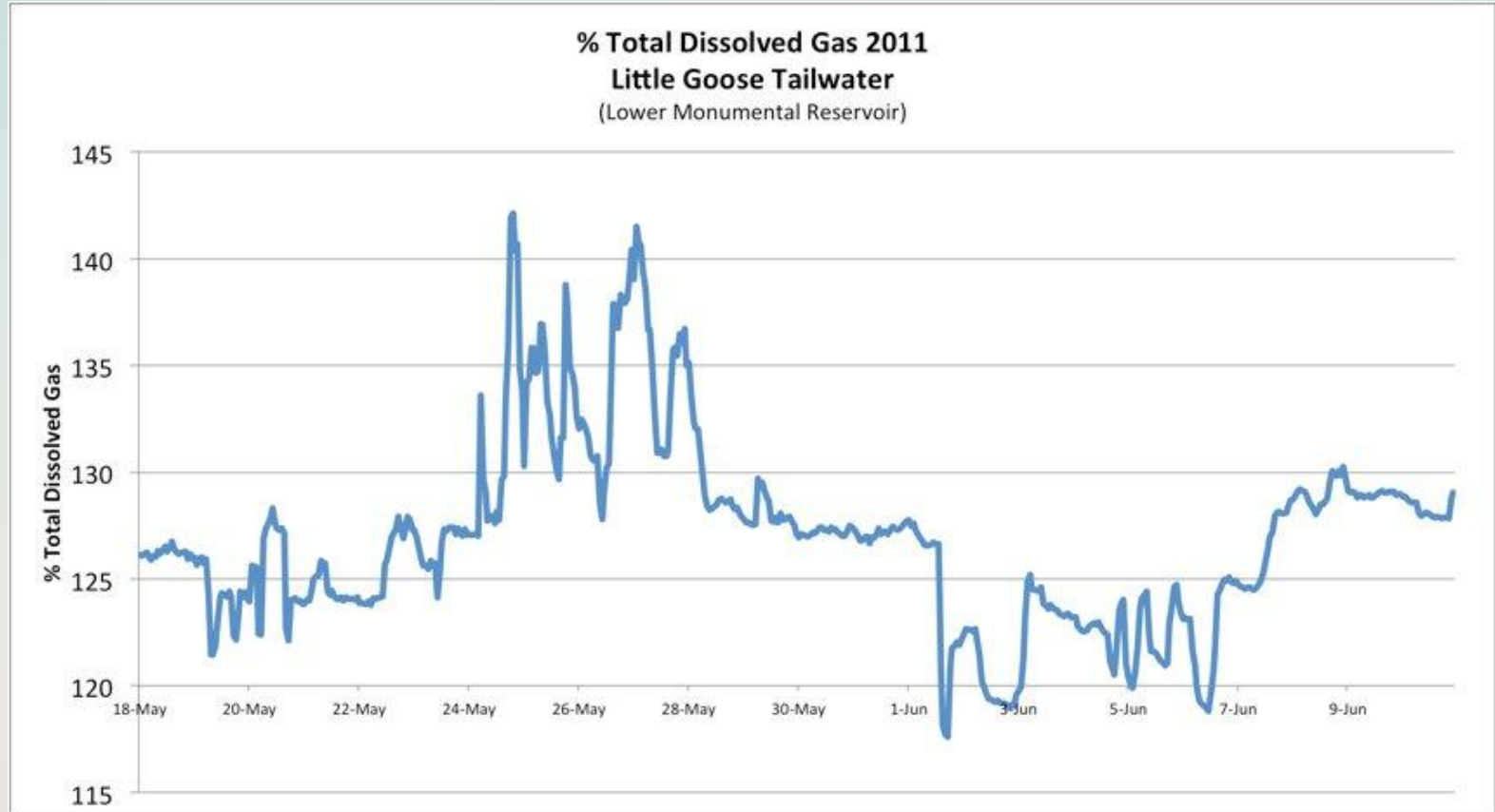




Forcing Spill....

Photo credit: Dan Wheat, Capital Press, July 7, 2011

Pushing TDG Limits



Producing Gas Bubble Disease

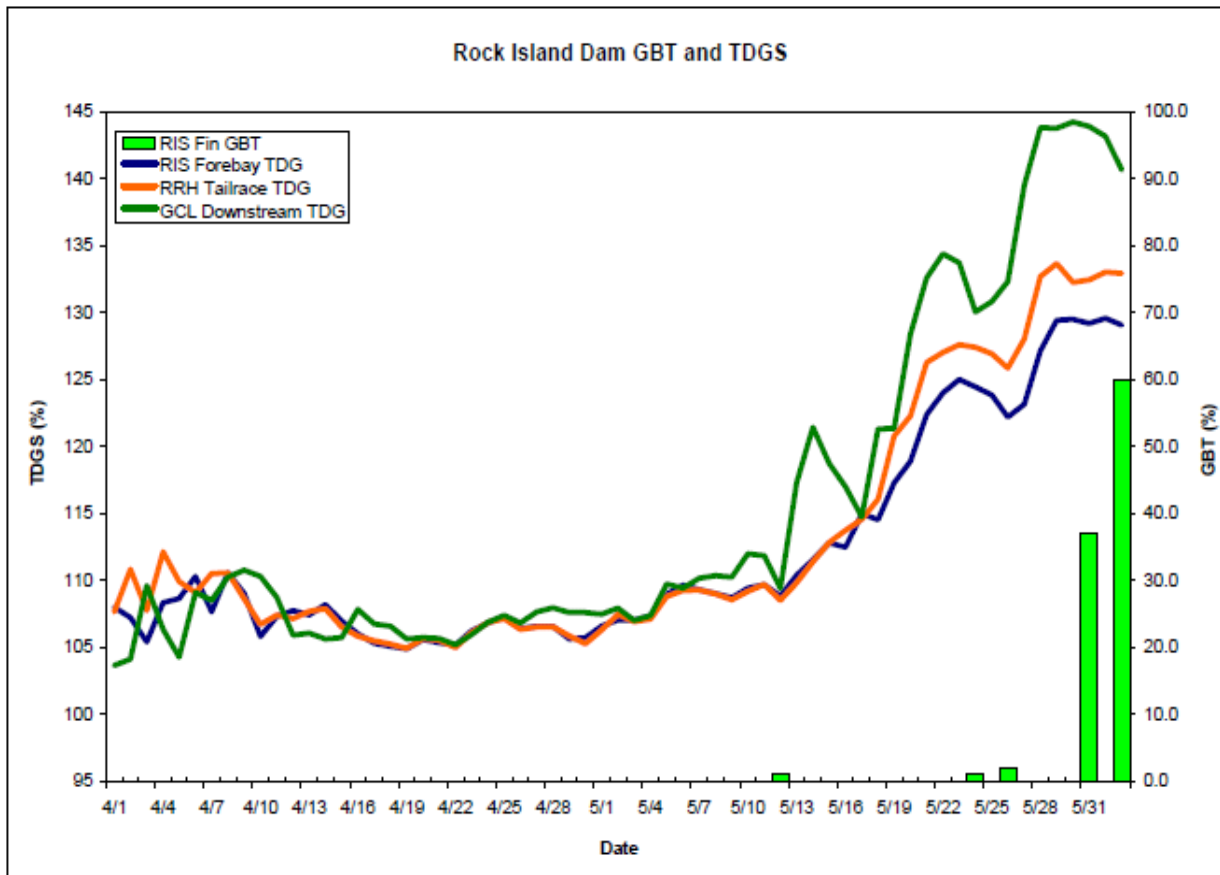


Figure 1. Percent of fish examined at Rock Island Dam showing signs of fin GBT with associated dissolved gas saturation levels in the Rock Island Dam forebay, the Rocky Reach Dam tailrace, and downstream of Grand Coulee Dam.

...Threatening Sensitive Species



Forcing BPA To React

- “Environmental Redispatch” Policy
 - ❖ No violation of dissolved gas limits
 - ❖ No negative pricing
 - ❖ Reduce thermal generation to minimum
 - ❖ Order curtailments of wind generation when necessary

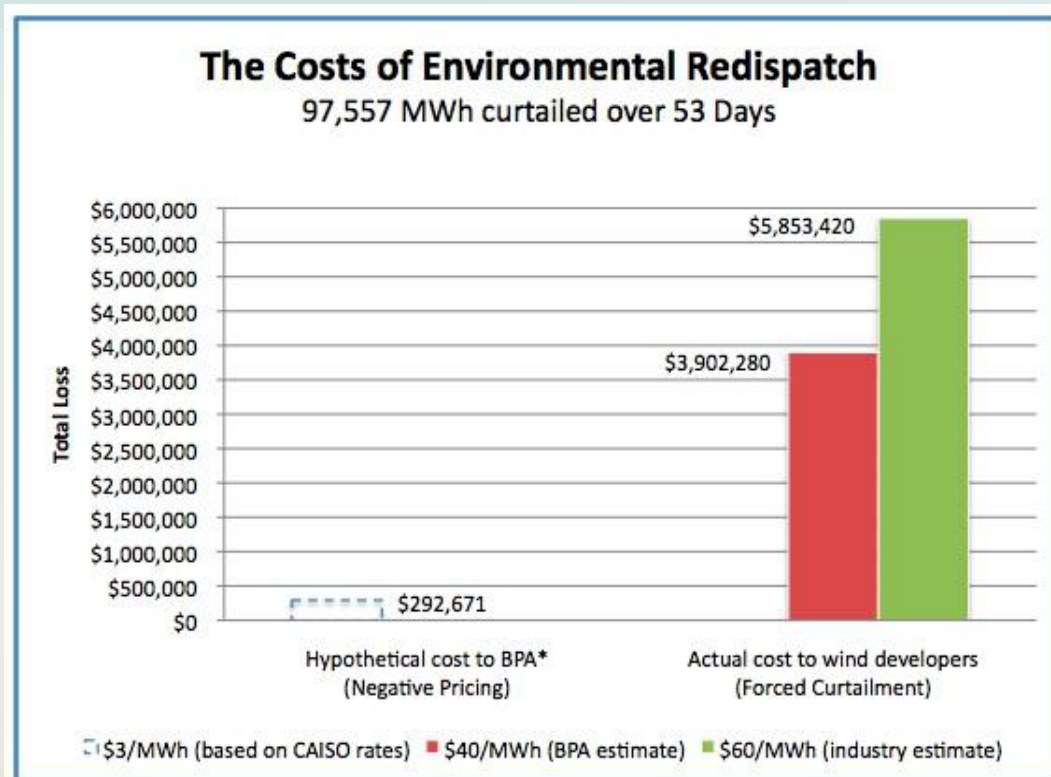
. . . And Forcing Wind Curtailments

- Ordered reduced wind output starting 5/18
- Cutbacks around 7% of output
- Total curtailments: ~ 100,000 MWh
- Extremely costly to wind generators
 - ❖ “If the wind blows, money flows”
 - ❖ \$38 per MWh, as high at \$121/MWh

Causing Litigation

- *Iberdrola Renewables, et al. v. BPA* (FERC Docket No. EL11-44-000)
- Primary argument: Environmental Redispatch = “undue discrimination”
- FERC Should Force BPA to Comply With Non-Discrimination Requirements of Order No. 888 under FPA § 211 (“FERC Lite”)
- Caught in Limbo Between FERC and Ninth Circuit

... Over the Costs of Having Too Much of a Good Thing



*Less than .05% of BPA power sale profits.

Sources: Northwest Wind Group, BPA, and NIPPC. 2011



“Too Much of a Good Thing Can Be Wonderful!”
-- Mae West

Non-Litigation Solutions

- Improving System Response to Variable Generation
 - ❖ I-TAP
 - ❖ 30-Minute Schedule
 - ❖ Consolidated BAAs
 - ❖ Dynamic Scheduling

Juan de Fuca Cable

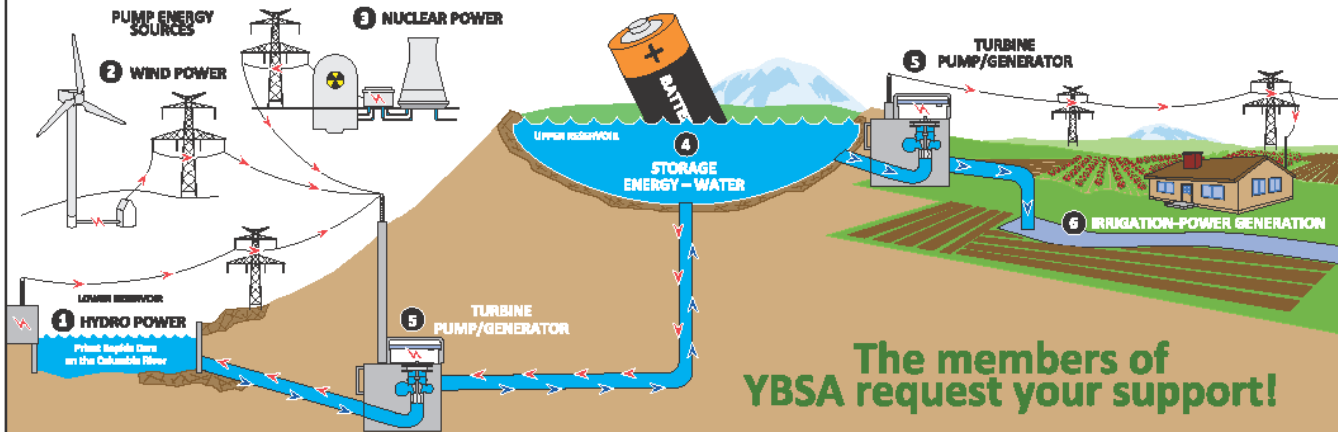
- 550 MW HCDC Light[®]
- ± 150 kV
Bi-directional
- 31 miles Total Length
22 miles Undersea
- Connecting Victoria,
BC, Canada with Port
Angeles, WA, US



Pumped Storage



PUMP-STORAGE SUPPORTS
 LOWER ENERGY COST ~ JOBS ~ COMMUNITY SUSTAINABILITY



The members of
YBSA request your support!



1 HYDRO POWER
 First large dam on the Columbia River



2 WIND POWER
 Wind farms on the Columbia River



3 NUCLEAR POWER
 Energy RW Park at Hanford



4 STORAGE ENERGY - WATER

The reservoir provides the source of storage. Water storage for future basin irrigations and future sources of hydro energy take water to pumped back down to the Columbia River and to the Yakima Basin.



5 TURBINE PUMP/GENERATOR



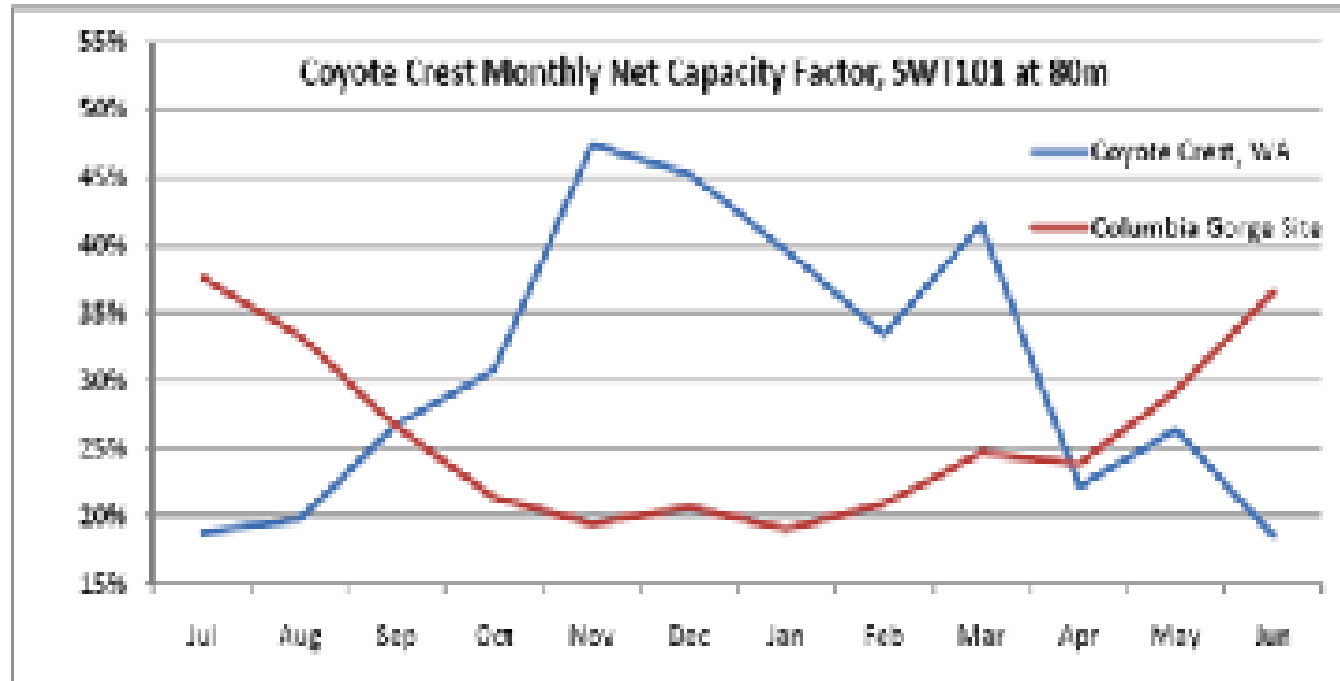
6 IRRIGATION-POWER GENERATION

As irrigation water is needed in the Yakima Basin, water flows from the reservoir through a turbine pump which creates additional hydro power.

PUMP ENERGY SOURCES

These sources of energy generated from hydro, nuclear, and wind would power the pump to pull water from the Columbia River to the reservoir.

Improving Collective Wind Profile



Electric Vehicles



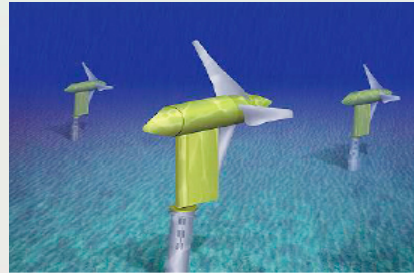
All Renewables Are Not Equal



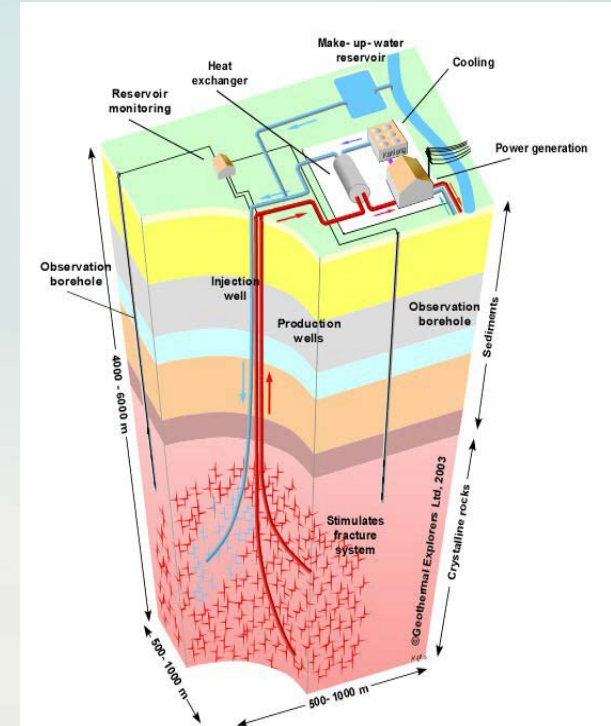
**Low-Impact
Hydro**



Biomass



Tidal



Geothermal

Thank you!

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