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What Happened While it Was Down?
The Columbia-Snake River Extended Lock Outage
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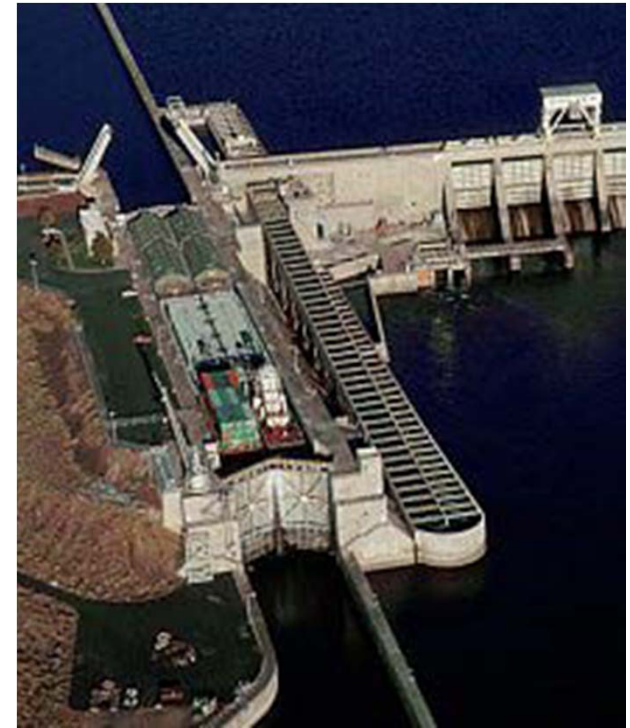
WHAT HAPPENED WHILE
IT WAS DOWN?
*THE COLUMBIA-SNAKE RIVER
EXTENDED LOCK OUTAGE*

Freight Policy Transportation Institute



Transportation Disruption (Investment) Study

- Purpose
 - ▣ Evaluate the economic and environmental impacts
 - ▣ Determine
 - Historical use of the river system
 - Preparations of industry and government entities
 - Impacts of the outage
 - Return of traffic to the river system
 - ▣ Produce a guide for other planned disruptions



Industry Impacts of the Lock Outage

□ Phase III

□ Objectives

- To learn how the actors were impacted
- To describe the major commodity movements by rail and truck during the lock outage

□ Data Sources

- Shippers, government divisions, industry personnel and ports
- U.S. Army Corps of Engineers' Waterborne Commerce Statistics Center



Rail and Truck Movements, December 2010 - March 2011 (Lock Outage)

- Data Sources

- Industry representatives

- Most notable finding: most products were transported by truck or a combination of truck and rail

- Most industries planned to only use rail

- Inexpensive and can transport large volumes

- Due to the convenience of truck

- Industries chose to send their goods to alternative markets

- Short distances and small loads



Rail and Truck Movements, December 2010 - March 2011 (Lock Outage)

Commodity	Mode	Tonnage
Gasoline	Truck and Rail	184,192
Distillate Fuels	Truck and Rail	276,287
Fertilizers	Rail	1,500
Forest Products	Truck and Rail	58,283
Sand, Gravel and Stone	---	0
Iron Ore and Steel Waste	Rail	9,000
Smelted Products	---	-
Wheat	Truck and Rail	45,648
Corn, Rye, Barley, Rice and Oats	Truck	212
Agricultural Products	Truck and Rail	31,194
Waste Materials	Truck	68,250

Barge Movements, December 2010 – March 2011 (Lock Outage)

- **A portion of the river worked:** from the pool west of The Dalles to Portland

- Bonneville Lock and Dam

- Downriver:

- A total of 377,000 tons were shipped downriver

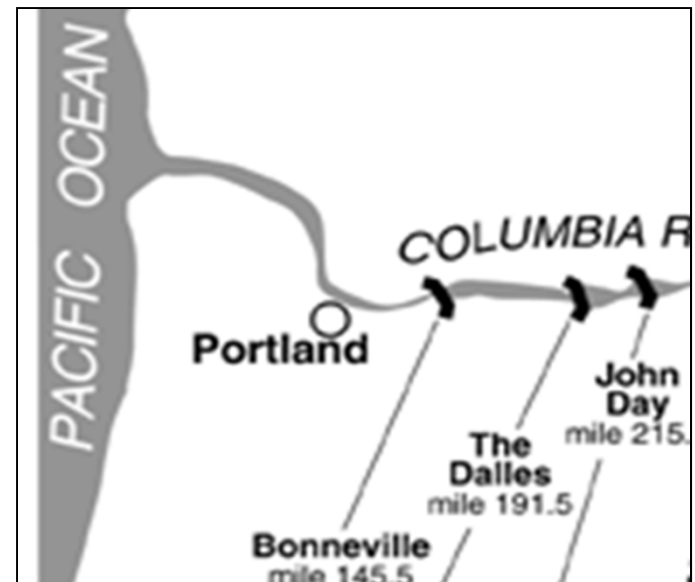
- 79% below average

- 4 major commodities

- Wheat; forest products; sand, gravel and stone; and smelted products

- Manufactured equipment and machinery traveled upriver

- Gate leaves constructed for The Dalles Lock and Dam



Pacific Northwest Wheat Case Study

□ Background

- ▣ Wheat is the largest volume commodity that moves on the Columbia-Snake River
 - 75 percent of all downriver movements
 - The Pacific Northwest has a 3 pronged transportation system



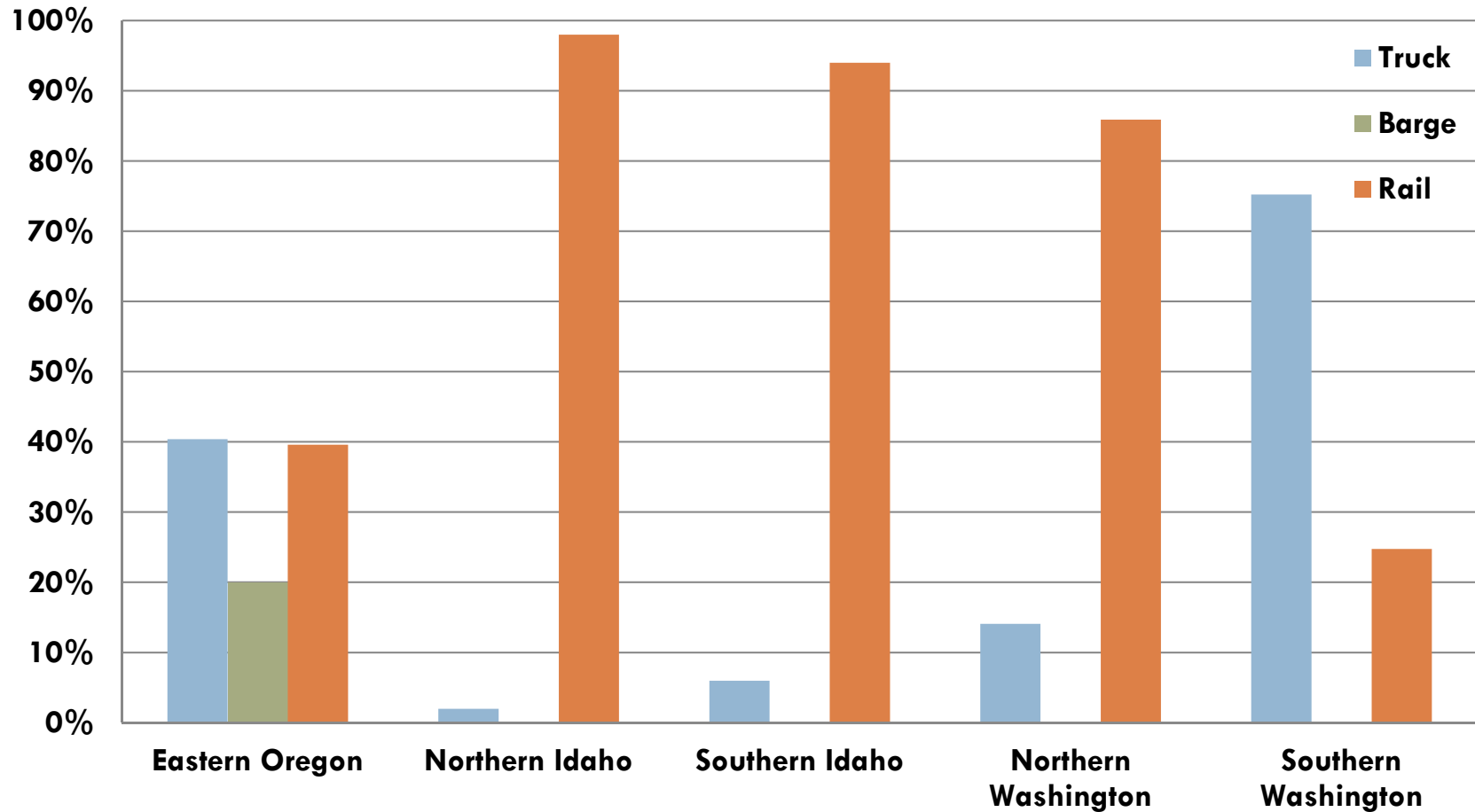
□ Purpose

- ▣ To capture the options and decisions of wheat elevator managers
- ▣ To provide a baseline scenario to compare changes brought on by the lock outage

Bushels of Wheat Shipped by Survey Respondents, Dec 2010 – Mar 2011

Region	Total Bushels Shipped	Actual Percentage of Bushels Shipped	Typical Percentage of Bushels Shipped
Eastern Oregon	9,680,000	27%	12%
Northern Idaho	2,430,000	7%	16%
Southern Idaho	1,620,000	5%	3%
No. Washington	20,320,000	57%	34%
So. Washington	1,430,000	4%	35%
Pacific Northwest	35,480,000	100%	100%

Percentage of Wheat Shipped via Various Modes, Dec 2010 – Mar 2011



Percentage of Wheat Shipped Via Various Transportation Modes

Region	Average Truck	Outage Truck	Average Barge	Outage Barge	Average Rail	Outage Rail
Eastern Oregon	1.0%	40.4%	91.8%	20.0%	7.2%	39.6%
Northern Idaho	0.3%	2.0%	78.9%	0.0%	20.8%	98.0%
Southern Idaho	33.3%	6.0%	21.7%	0.0%	45.0%	94.0%
No. Washington	14.0%	14.1%	14.6%	0.0%	71.4%	85.9%
So. Washington	0.9%	75.3%	97.5%	0.0%	1.6%	24.8%

December - March



Shipping Rates for Wheat by Survey Respondents, Dec 2010 – Mar 2011

Region	Average Rate in Cents per Bushel (to Portland)		
	Truck	Truck-Barge	Rail
Eastern Oregon	\$0.56	\$0.30	\$0.54
Northern Idaho	\$1.50	-	\$0.74
Southern Idaho	\$0.76	-	\$0.90
No. Washington	\$0.45	-	\$0.55
So. Washington	\$1.34	-	\$0.58
Pacific Northwest	\$0.92	\$0.30	\$0.66

Rates before the lock outage:

Truck - \$0.89
(3.4% ↑)

Rail - \$0.65
(1.5% ↑)

Wheat Industry Impacts

- Wheat Industry
 - Increased truck and rail shipments
 - Total shipments decreased by 1.6 million bushels
 - High prices and demand during Fall 2010
 - Waited for locks to open
 - Some firms expressed concern with rail service
 - 4 elevators halted all wheat shipments
 - Truck and rail were too expensive
 - Shipped in anticipation of lock outage
 - Barge shipments in summer and fall: 32% above average
 - 1 elevator in Oregon had barge access
 - Willamette Valley production



Shipping Impacts and Activities

Barge Line Impacts

- ❑ Laid off employees
- ❑ Reduced employees' work hours
- ❑ Continued service below The Dalles
- ❑ Barging tugs were called to Portland

Rail Line Impacts

- ❑ Increased cargo loads (going east and west)
- ❑ Increased employees' hours to handle large loads and increased railcar numbers
- ❑ Increased fuel and employees' costs

Industrial Impacts and Activities

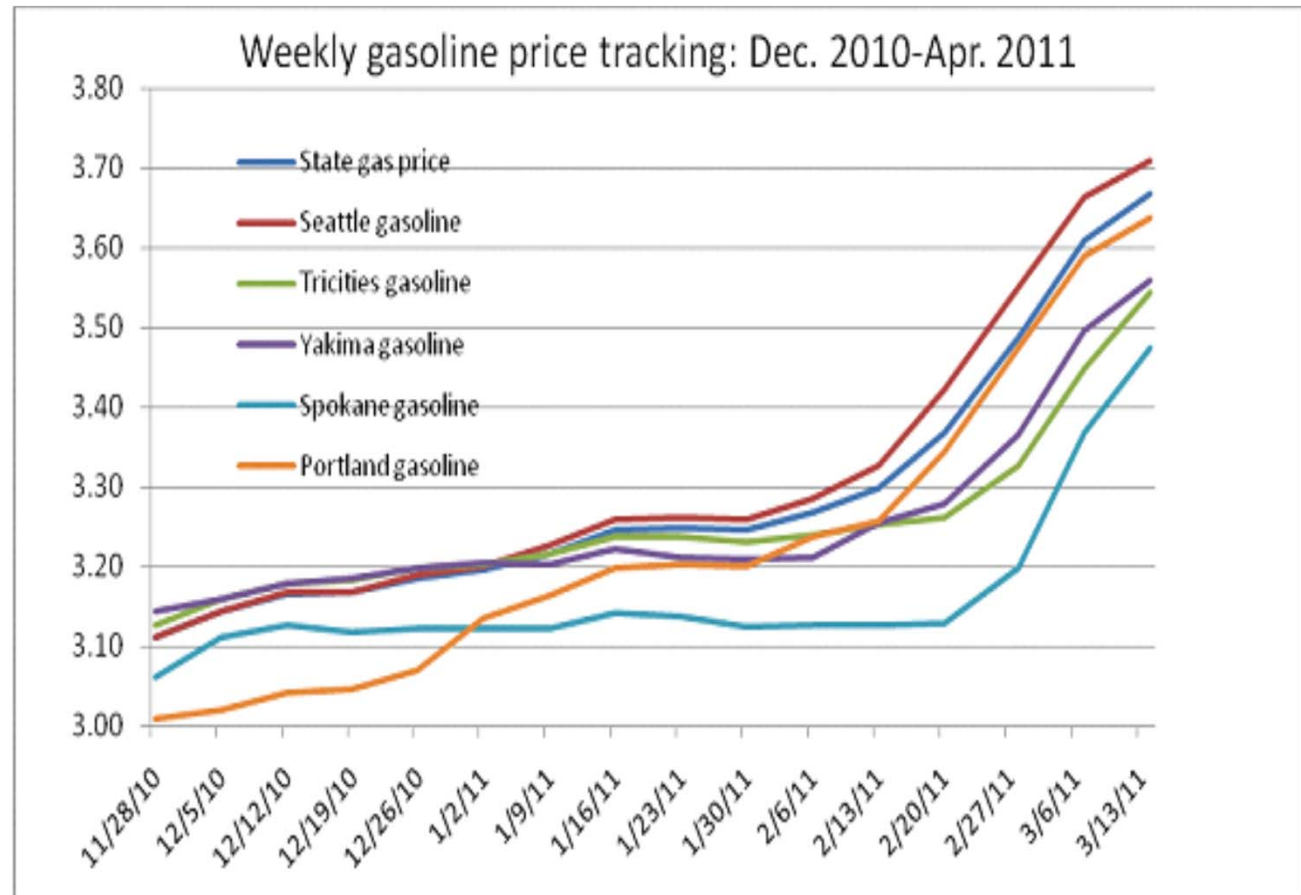
- Petroleum companies
 - Reserved about procedures: proprietary information
 - Shipped about 60% of product by tanker truck
 - More economical and convenient than rail
 - No pipeline use
 - “Smooth sailing”
 - No reported fuel shortages, price gouging or price hikes due to the lock outage



Weekly Gasoline Prices, December 2010 – March 2011

All prices in the Pacific Northwest rose in unison.

Rising gas prices were not an effect of the lock outage, but rather a result of unrest in the Middle East.



Industrial Impacts and Activities

□ Forestry Industry

- Truck and rail transportation (15% by rail)
- Paper firms used forest products from Eastern Washington and from local sources
- Barge lines were able to continue shipments
 - From Bingen, WA
- Barge shipments during the summer and fall were 75% above average
 - Allowed a build up of inventories



The Rest of the Story

- Document the return of traffic to the river
- Calculate total costs to shippers and commodity industries
- Calculate energy and emission impacts of lock outage



Questions?

Check out the
Freight Policy
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Institute's
website!

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