



Emerging Energy Transportation Risks

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Spill Prevention, Preparedness, and
Response Program
Department of Ecology



Emerging Energy Transportation Risks

Spills Program - Prevention Section

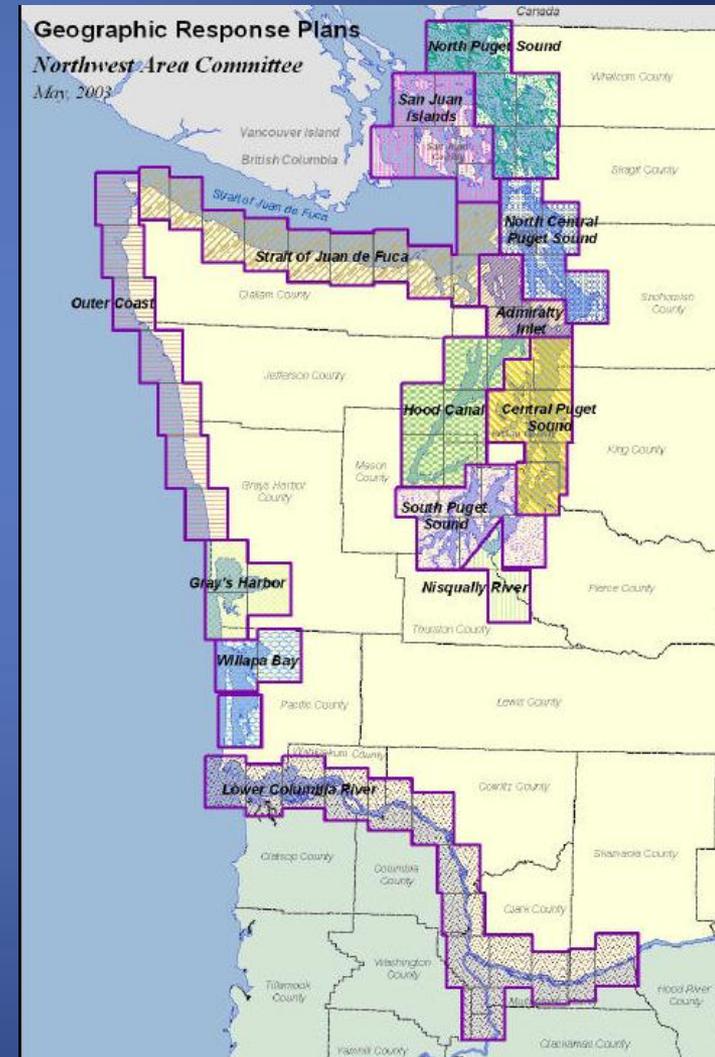
- Vessel Inspections
- Oil Transfer Inspections
- Pre-boom Requirement



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Spills Program - Preparedness Section

- Contingency Plan Approval
- Industry Drill Program
- Response Contractor Approval
- NW Area Contingency Plan
- Geographic Response Plans



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Spills Program - Response Section

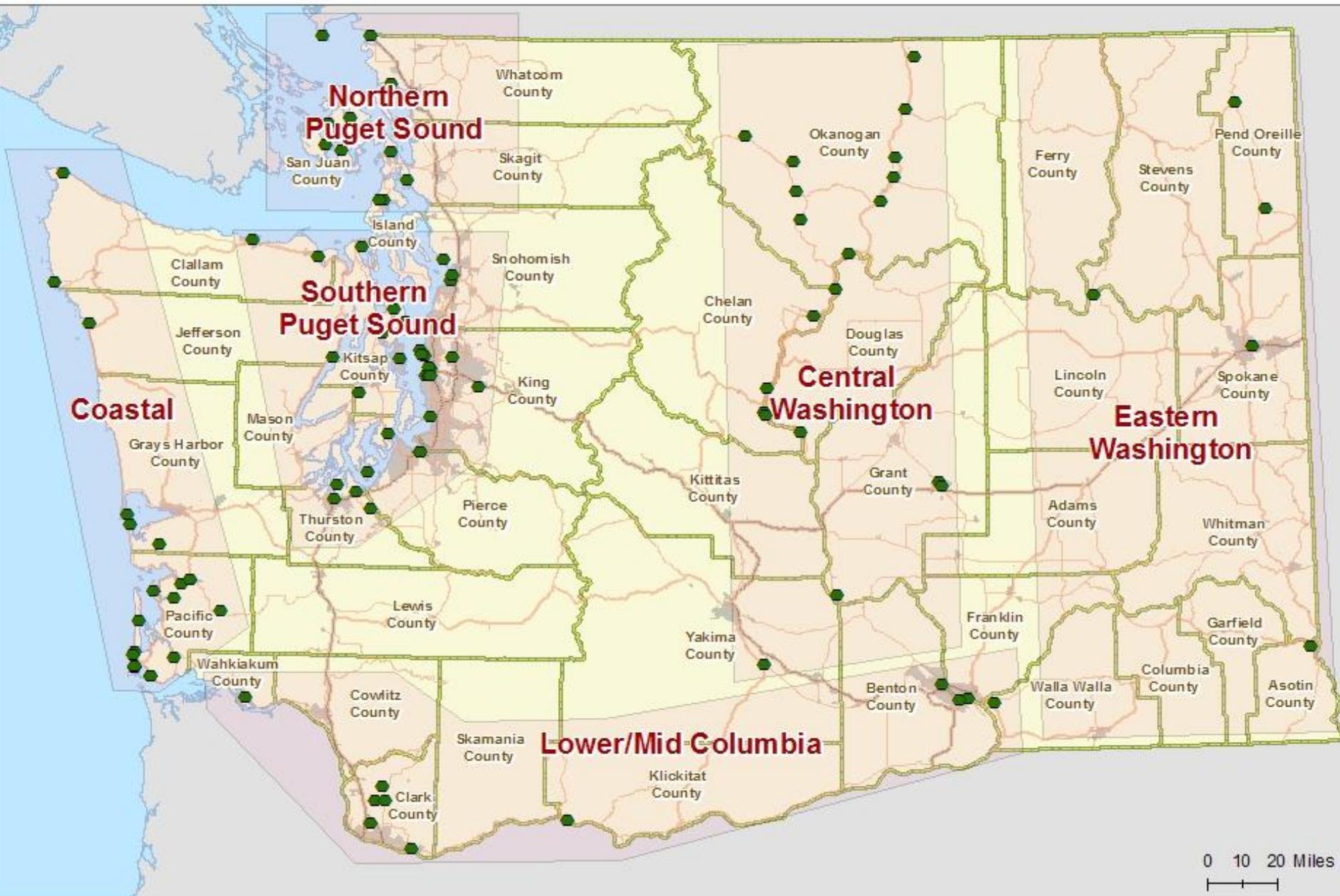


- Oil, hazmat and drug lab cleanup
- Investigation and Enforcement
- NRDA/Restoration
- Training

Spill Response Equipment Cache Locations

Legend

- Equipment Locations
- Regions



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Northwest Area Committee

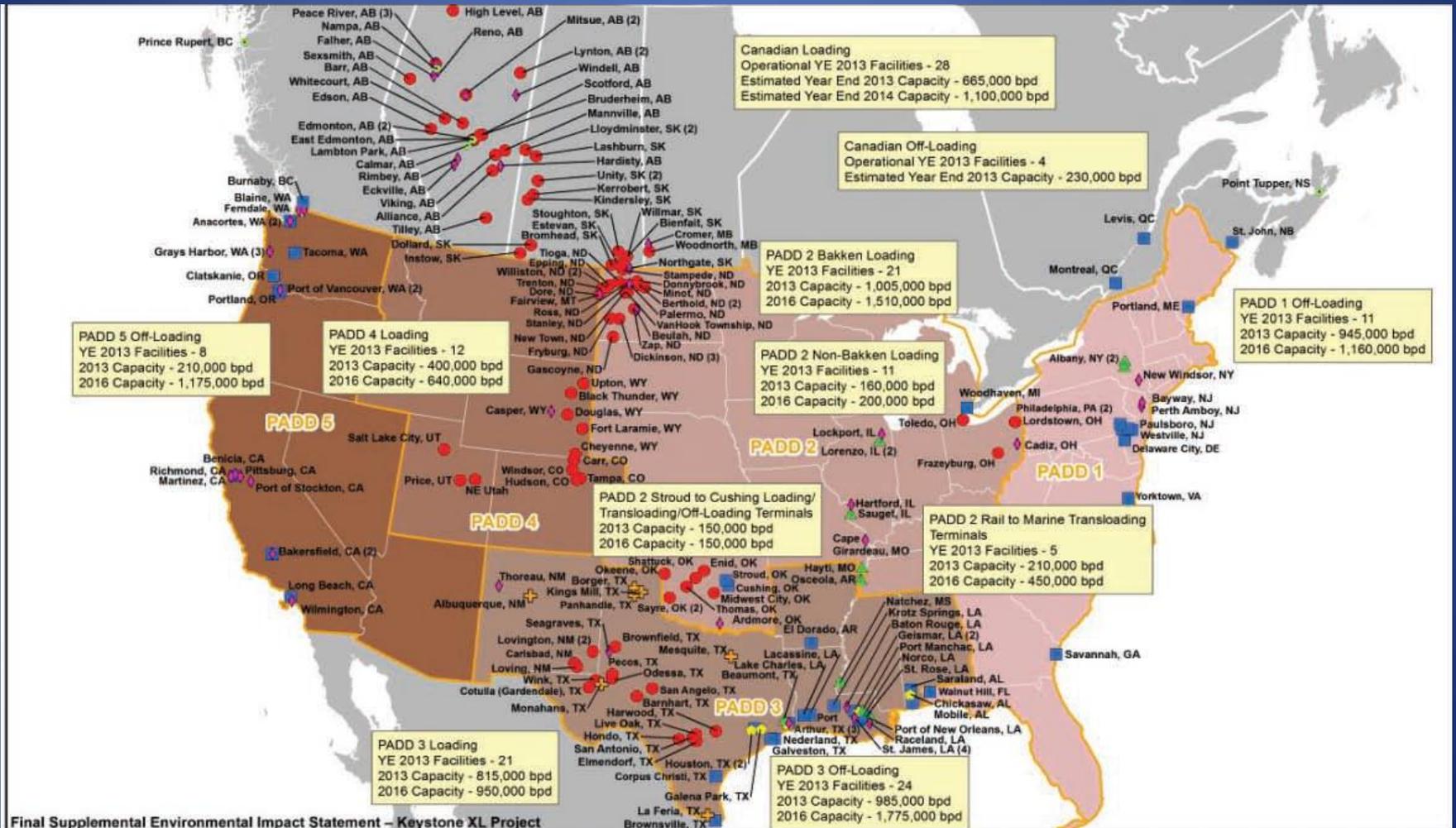
Mission

- Protect public health and safety and the environment.
- Ensure coordinated, efficient, and effective support of the federal, state, tribal, local, and international responses to significant oil and hazardous substance.
- Respond to incidents within the Pacific Northwest Region as mandated by the National Contingency Plan (NCP).
- Area Plan Task Forces
 - Emerging Risks (2013)
Final Report:
<http://rrt10nwac.com/Files/FactSheets/131217071637.pdf>
 - Heavy Type V Oils
 - Crude by Rail



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Emerging Risks



Final Supplemental Environmental Impact Statement – Keystone XL Project

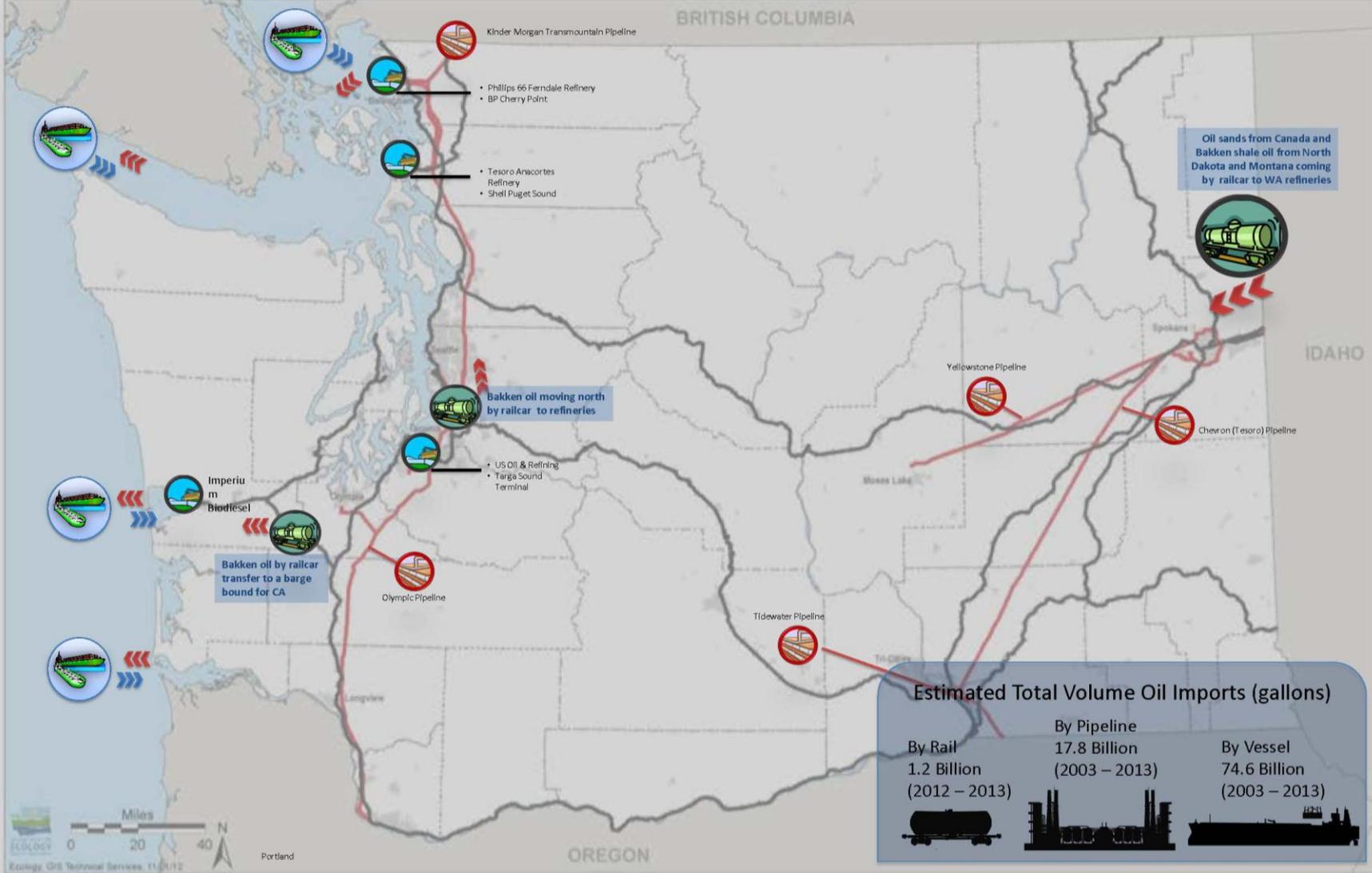
Existing Terminals

- Crude by Train Loading
- Crude by Train Off-Loading
- ▲ Rail to Barge

Planned or Potential Terminals

- ⊕ Loading Capacity Unknown
- ◆ Terminal Planned/Under Development
- Potential Terminal





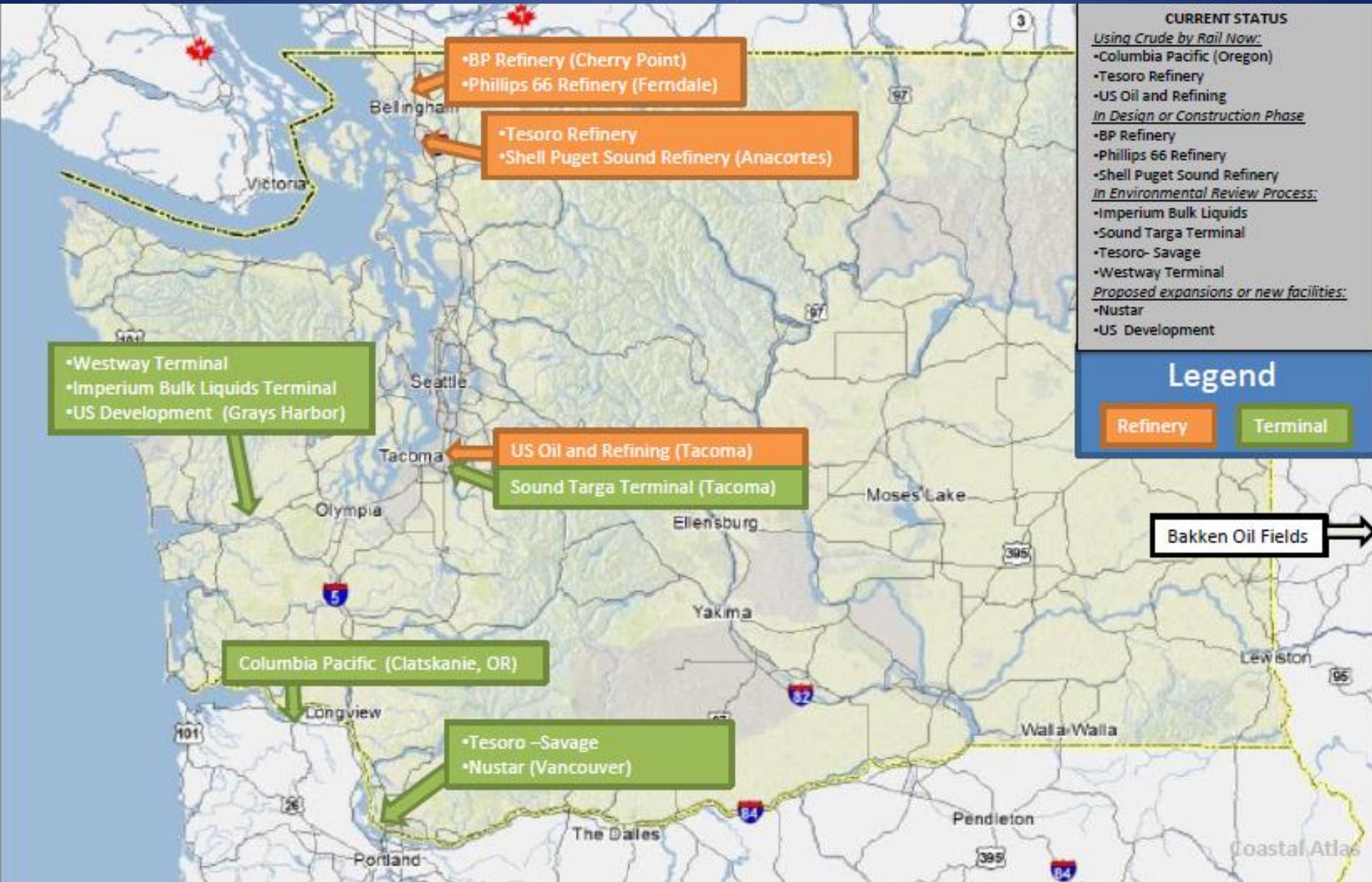
Data Assumptions

- Shipping 2008-2013: Aggregated data from the Advanced Notice of Transfer (ANT) system
- Shipping 2003-2007: Data reported to WSPA by industry (2004 is an estimate based on 2003 and 2005 data because reporting to WSPA is done every other year)
- Pipeline 2003 – 2013: Aggregated data reported by industry to the Washington State Department of Commerce (Data is from the Transmountain Pipeline)
- Rail 2012-2013: Estimate based on a number of factors including
 - o Data on vessel transfers from ANT system
 - o Total estimated throughput for Washington State refineries
 - o Estimated pipeline throughput for each refinery
 - o Predicted volumes transported by rail as reported by refineries
 - o Estimated increases in total crude transported through Washington

Estimated Annual Oil Imports (barrels)

* 1 barrel = 42 gallons

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Vessel	185,785,000	174,216,856	180,675,000	178,156,500	170,820,000	164,501,163	165,234,154	132,649,298	147,038,612	140,975,573	136,857,556
Pipeline	18,460,391	30,783,144	25,998,188	31,141,392	38,900,433	42,342,972	38,075,318	47,925,823	51,830,000	49,417,963	49,170,819
Rail	0	0	0	0	0	0	0	0	0	12,123,256	16,971,625



CURRENT STATUS

- Using Crude by Rail Now:
- Columbia Pacific (Oregon)
 - Tesoro Refinery
 - US Oil and Refining
- In Design or Construction Phase
- BP Refinery
 - Phillips 66 Refinery
 - Shell Puget Sound Refinery
- In Environmental Review Process:
- Imperium Bulk Liquids
 - Sound Targa Terminal
 - Tesoro- Savage
 - Westway Terminal
- Proposed expansions or new facilities:
- Nustar
 - US Development

Legend

- Refinery
- Terminal

•BP Refinery (Cherry Point)
•Phillips 66 Refinery (Ferndale)

•Tesoro Refinery
•Shell Puget Sound Refinery (Anacortes)

•Westway Terminal
•Imperium Bulk Liquids Terminal
•US Development (Grays Harbor)

US Oil and Refining (Tacoma)
Sound Targa Terminal (Tacoma)

Columbia Pacific (Clatskanie, OR)

•Tesoro -Savage
•Nustar (Vancouver)

Bakken Oil Fields

CRUDE BY RAIL (CBR) – WORKING FACILITIES AND PROPOSALS – STATUS AS OF 2/10/14

CBR Owner or Proponent	Location	Facility type, system capabilities (type of system, # of offload stations)	Status	Actual or Estimated # of Trains per Day
BP	Cherry Point	Refinery. Loop; 26 offload stations	Receiving oil by rail as of 12/26/13. Whatcom Co. issued MDNS for rail expansion.	1 actual
Imperium	Grays Harbor	Terminal. Ladder; expansion project	Existing biodiesel facility proposed to add CBR capability. Summary judgment remanding MDNS back to Ecology and City of Hoquiam by the SHB 11/12/13	2
NuStar	Vancouver	Terminal. Assume Ladder; 4 existing offload stations, possible expansion to 12 stations.	Proposal to convert 120,000 bbl methanol tank to crude oil tank and add rail offload capability. Ecology submitted comments on environmental checklist to SWCAA 2/6/14.	.3 (2 a week)
Phillips66	Ferndale	Refinery. Ladder; 54 offload stations	In construction with completion anticipated 4 th qtr 2014. Whatcom Co. issued MDNS 4/29/13 for rail expansion.	1
Shell	Anacortes	Refinery. Loop; no information on system yet	Expansion proposed. Starting environmental review process.	2
Targa Sound	Tacoma	Terminal. Ladder; 12 existing offload stations, 36 planned.	DNS issued 12/2013 for rail expansion by City of Tacoma. Still completing permitting.	2
Tesoro	Anacortes	Refinery. Ladder; 100 offload stations.	Receiving Bakken oil since 9/2012. Skagit Co. issued MDNS 10/2011 for rail.	1 Actual
Tesoro-Savage	Vancouver	Terminal. Loop;	Proposed new site. EFSEC is SEPA lead. In EIS process	8
US Development	Grays Harbor	Terminal. No information on system yet	Proposal still in discussion phase.	2
US Oil	Tacoma	Refinery. Ladder; 64 existing stations, adding 48 additional stations	Receiving oil by rail at 60 stations as of 4/13. Permitting underway for project to increase the size of the rail facility. Construction expected in late 2014.	0.5 (15 trains per month) Actual
Westway	Grays Harbor	Terminal. Ladder; 18 existing offload stations, planned increase to 76 stations	Existing methanol terminal proposed to add CBR capability. Summary judgment remanding MDNS back to Ecology and City of Hoquiam by the SHB 11/12/13	1
TOTAL	State			21.8

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Oil by Rail Incidents – Bakken Crude

June 30, 1992 - Superior, WI

July 6, 2013 - Lac-Mégantic, Quebec

October 19, 2013 - Gainford, Alberta

November 8, 2013 - Aliceville, AL

December 30, 2013 - Casselton, ND

January 7, 2014 - Plaster Rock, New
Brunswick

January 20, 2014 - Philadelphia, PA

April 30, 2014 - Lynchburg, VA



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Federal Jurisdiction Oil by Rail

Federal Railroad Administration

- National railroad safety rules.

Pipeline and Hazardous Materials Safety Administration (PHMSA)

- Issues rules and regulations governing the safe transportation of hazardous materials.

Surface Transportation Board

- Railroad rates, mergers, sales, construction and abandonment.



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Ecology Jurisdiction Oil by Rail

- Lead on spill prevention, preparedness, and response plans.
- Regulates oil transfer facilities but not rail transportation.
- Oversees regulation for construction and operation of oil refineries, storage and handling facilities (air and water permits, GHGs, waste handling, cleanup of contamination, CZM consistency).
- SEPA lead for new proposals to construct facilities that store over 1 million gallons of liquid fuel that do not fall under EFSEC jurisdiction.
- Lead state agency for spill response.

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UTC Jurisdiction Oil by Rail

- **Rail Crossing safety**
- **Grade Crossing Protective Fund**
- **Support the Federal Railroad Administration**
- **Railroad employee safety**
- **Respond to citizen complaints**
- **Promote public awareness of railroad safety**

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U.S. Department of Transportation Actions

Date	Agency	Action
Ongoing	FRA & PHMSA	Unannounced inspections and testing of crude oil samples
November 20, 2013	FRA & PHMSA	Joint safety advisory published regarding the importance that offerors properly classify and describe hazardous materials being offered for transportation.
January 2, 2014	PHMSA	Crude oil from the Bakken region may be more flammable than traditional crude.
May 7, 2014	DOT	Requires industry report to SERCs with information on trains carrying more than 1 million gallons.
May 7, 2014	FRA & PHMSA	Urges shippers of Bakken crude oil to use tank car designs with the highest level of integrity. Also recommends avoiding use of DOT 111 or CTC 111 tank cars for the shipment of Bakken crude oil.

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Industry – Voluntary Efforts



- **July 2011** – Association of American Railroads (AAR) Tank Car Committee adopts higher tank car standards.
- **November 2013** -Freight railroads urge PHMSA to increase federal tank car safety through retrofitting or phasing out older tank cars.

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Identified Gaps – Ecology

- Lack of prevention and preparedness planning authority for rail
- Oil property characteristics, community and responder safety and current response cleanup technology
- Potential decline in revenue to support Spills Program work
 - Crude coming into our refineries by ship is taxed
 - Crude coming by rail and pipeline is not taxed

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Next Steps

- Vessel Traffic Risk Assessment Recommendations
 - Puget Sound Partnership & Makah Tribe
 - Puget Sound Marine Exchange & US Coast Guard
 - Steering Committee w/ broad representation
- Inland and Marine Risk Assessment
 - Gap Analysis
- Geographic Response Planning

Emerging Energy Transportation Risks

Marine Rail Oil Transportation Study Governor's Supplemental Budget – ESSB 6002

- \$300,000 of the state toxics control account - state appropriation is provided solely for the department to conduct a study of oil shipment through the state.
- The purpose of the study is to assess public health and safety as well as environmental impacts associated with oil transport.
- The study must provide data and analysis of statewide risks, gaps, and options for increasing public safety and improving spill prevention and response readiness.

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Marine Rail Oil Transportation Study State Agency Partners

- Military Department, Emergency Management Division
- Washington State Utilities and Transportation Commission
- Washington State Department of Transportation
- Federal Railroad Administration

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Marine Rail Oil Transportation Study Stakeholders

- Tribes
- Local communities
- Local Emergency Planning Committees
- Environmental Advocacy Organizations
- Oil, rail and shipping industry
- Harbor Safety Committees
- Local fire departments
- Northwest Area Committee/Regional Response Team 10

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Marine Rail Oil Transportation Study Geographic Scope

- Marine
 - Puget Sound, Grays Harbor, and Columbia River.
- Rail
 - Entire oil transportation corridor

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Marine Rail Oil Transportation Study Study Outline

- Current Oil Transportation Picture
- Anticipated Changes to Transportation Picture
- Current Safety Picture
- Anticipated Changes to Safety Picture
- Gap Analysis
- Recommendations
- Risk Communications Strategy

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Marine Rail Oil Transportation Study Deliverables

September 1 – Preliminary Findings

September & October – Stakeholder Meetings

October 15 – Draft Interim Report to Governor

November 1 – 2nd Draft of Interim Report

December 1 – Interim Report to Legislature

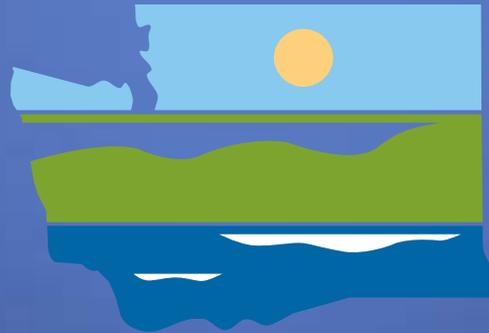
March 1, 2015 – Final Report to Legislature

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More Information:

[www.ecy.wa.gov/programs/spills/oilmovement/
index.html](http://www.ecy.wa.gov/programs/spills/oilmovement/index.html)

Questions?



DEPARTMENT OF
ECOLOGY
State of Washington