

Changing Risk Picture in the Pacific Northwest



Entrance from BC

Roberts Bank, CAN

KM pipeline expansion

Cherry Point

Entrance to Strait of Juan de Fuca

Entrance to Grays Harbor

Aberdeen/Hoquiam

Entrance to Columbia River

Port of St. Helens: Port Westward

Longview

Oil from mid west by trucks and rail

Port of Morrow, OR

Coos Bay, OR

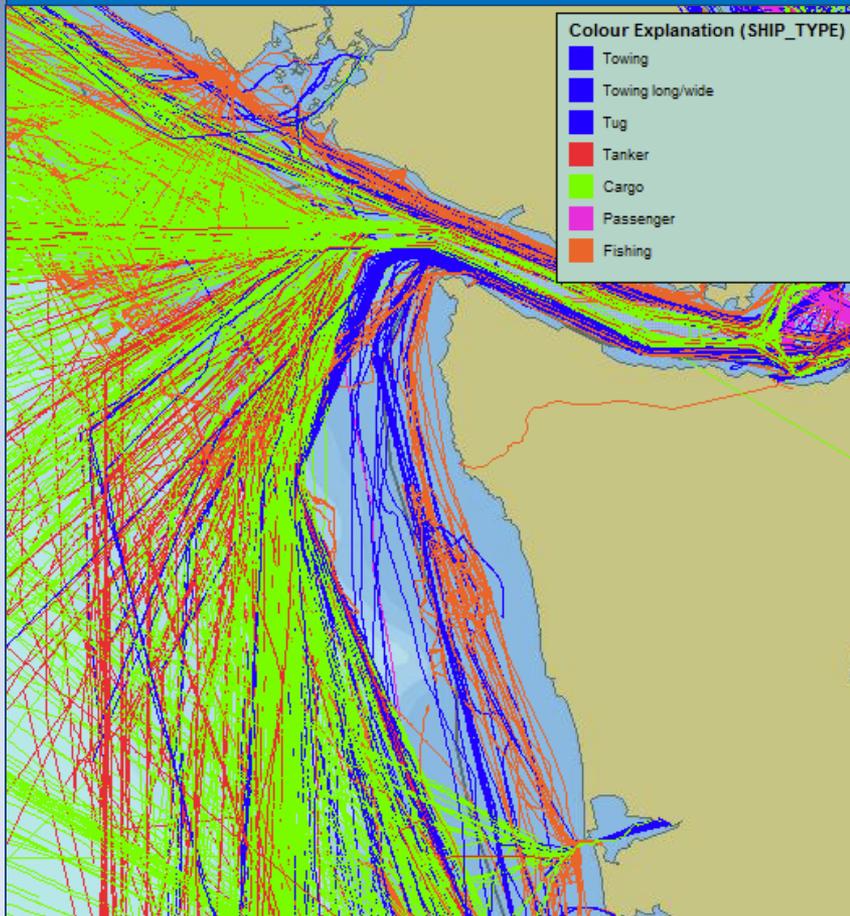
Washington

Idaho

Oregon

Ensuring Safe Marine Transportation and Handling of Oil in Washington

**Olympic Coast National Marine Sanctuary (OCNMS)
Area To Be Avoided (ATBA) & Strait of Juan de Fuca
All Vessel Traffic: Dec 2012 – Jan 2013**

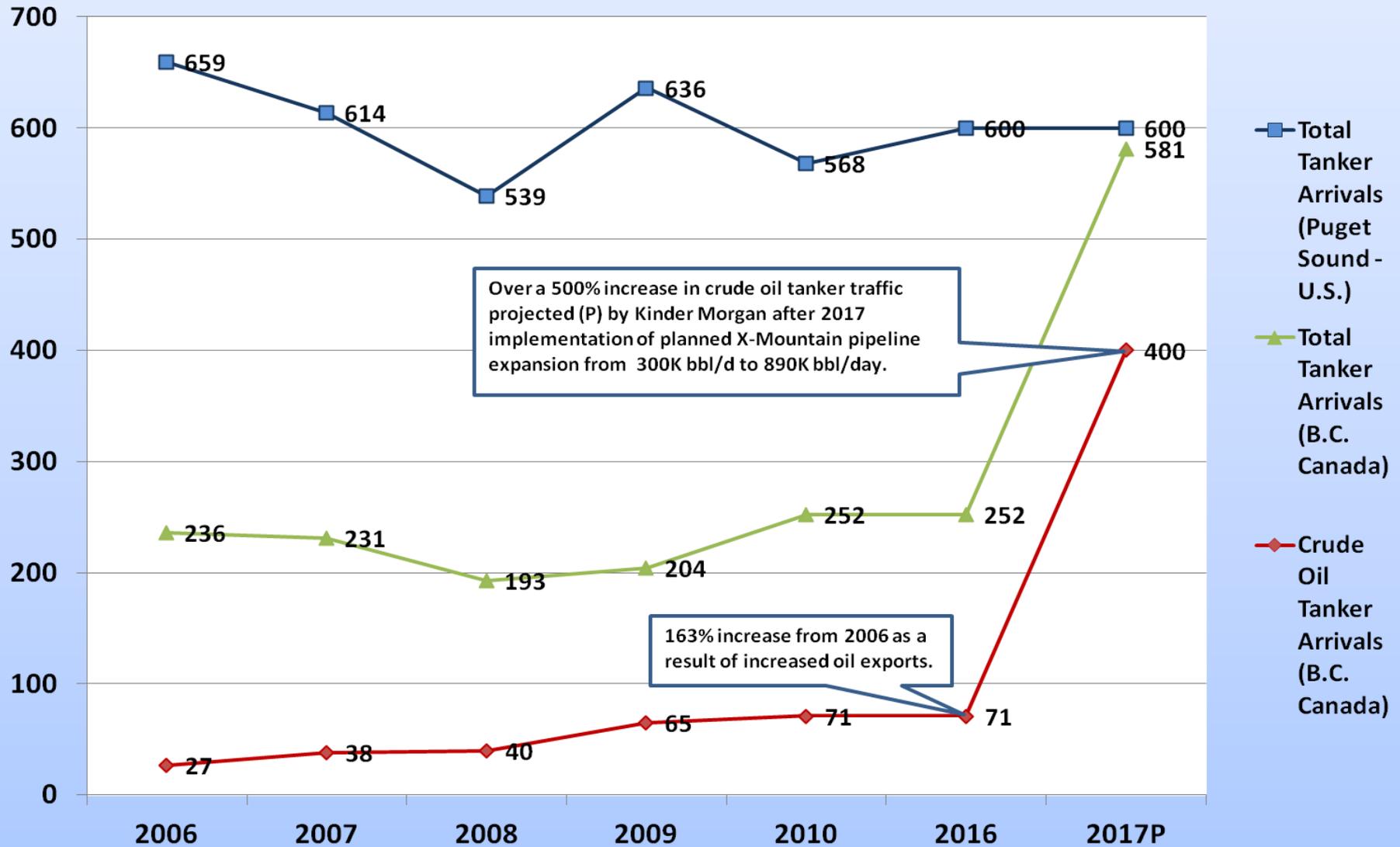


- ❖ 5300 covered vessels enter & transit SJDf yearly:
 - ❖ 2700 destined for WA ports in Puget Sound
 - ❖ 2600 destined for Canadian/BC ports
- ❖ Includes over 800 tanker arrivals:
 - ❖ 75% bound for U.S. refineries
 - ❖ 25% bound for Vancouver B.C.
- ❖ Typical TAPS tanker carries 30 to 40 Million gallons of Crude oil to WA refineries.
- ❖ Nearly 15 billion gallons of oil transferred over WA waters each year
 - ❖ Approx. 7 billion gallons of crude oil alone comes into Washington refineries each year by tanker.
- ❖ Vancouver B.C. crude oil exports increases
 - ❖ ~1.3 billion gallons of crude per year
 - ❖ Double the amount in 2008 (689 Million).
- ❖ Even so, less than 1 gallon of oil is spilled for every 100 Million gallons transferred.
- ❖ OPA-90 & WA laws have greatly enhanced safety and security of our waters:
 - ❖ Influenced amendments to International standards
 - ❖ Double-hulled tankers w/redundant systems the norm
 - ❖ Better Crew staffing, competency & fatigue standards
 - ❖ Contingency Plans & Financial Responsibility Rqmts.
 - ❖ Tanker escorts & Pilotage
 - ❖ Neah Bay Standby Emergency Response Vessel
 - ❖ Enhanced traffic control: buffer zones & separation schemes

Changing Salish Sea Risk Potential by Tank Vessel

- Expansion of Kinder Morgan X-Mountain pipeline
 - Could increase laden crude oil tanker traffic departing from Canadian ports by over 500% - (~400 tankers) between 2016 and 2026.
 - Bitumen Crude Oils may represent increased toxicity and potential for sinking if spilled.
 - May result in fewer crude oil tankers to U.S. refineries due to higher pipeline volumes delivered.
- Expansion of Shale Oil by Rail from Alberta and Bakken oil fields
 - Increasing Crude oil deliveries by rail to U.S. refineries will also potentially change transit routes or reduce volume of oil moved by tanker to U.S. refineries.

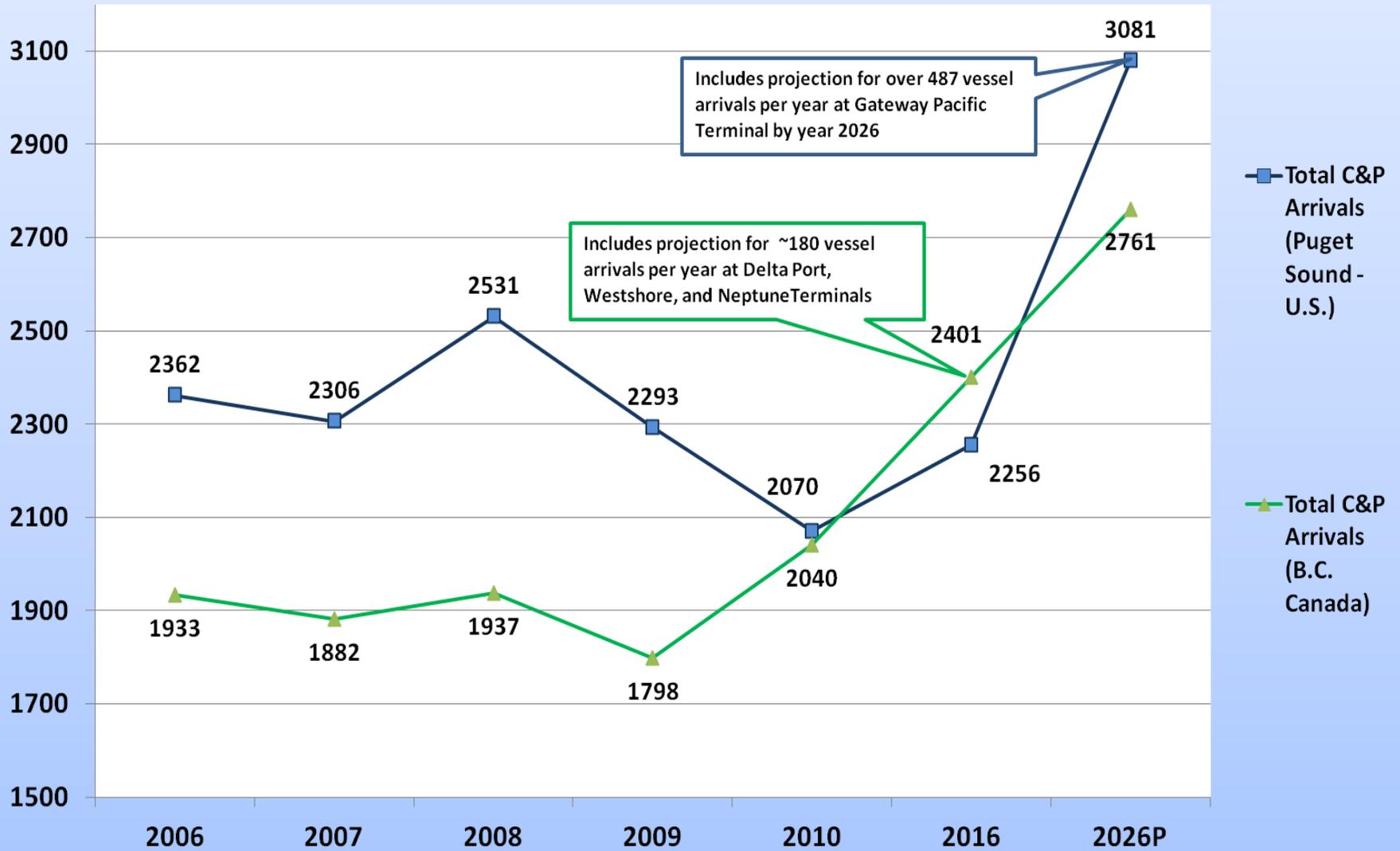
Salish Sea Tanker Traffic United States - Canada



Changing Salish Sea Risk Potential by Cargo Vessel

- Development of Gateway Pacific Terminal (GPT) at Cherry Point & Deltaport and Neptune Terminal Projects
 - GPT activities would represent >8% of overall Cargo vessel traffic within Salish Sea waters at full operating capability
 - Deltaport & Neptune Terminal Projects will represent 33% of cargo shipping increase between 2011 and 2016.
 - The GPT project could represent 41% of the cargo shipping increase between 2016 and 2026.

Salish Sea Cargo & Passenger Vessel Traffic United States - Canada



Risk Mitigating Measures

- Enhanced Investigations Capability.
- Continued focus on current Facility and Vessel Prevention inspections
- Partner with FRA/WSDOT/UTC to ensure railroad risk is understood and managed through existing protocols. Some self-mitigation due to package size

Risk Mitigating Measures U/W

- Existing robust US/Canadian Jointly-operated Vessel Traffic Service; tug escort requirements for laden tankers.
- Harbor Safety Committee Puget Sound: Voluntary Standards of Care
- Vessel Traffic Study to assess risk of vessels calling at Gateway Pacific Terminal.
- Broader Salish Sea Vessel Risk Assessment sponsored by WA Dept of Ecology and Puget Sound Partnership
- Comparability Study mandated by Coast Guard Authorization Act of 2010 may create leverage for system-wide improvements by assessing and encouraging parity between U.S. and Canadian/B.C. standards.
- USCG assessing risk of transporting Canadian Oil Sands by vessel as directed by Coast Guard and Maritime Transportation Act of 2012

Vessel Safety System Comparability

U.S. / Washington	Canada	Gap
Tug Escorts for all loaded tankers in bound and outbound	Tug escorts only for loaded crude oil tankers (outbound)	In Canada, product tankers do not require a tug escort.
Tug escorts required by state and federal law, enforced by USCG and State	Tug escorts thru negotiated voluntary standards, enforced by BC pilots	Essentially None. Rules imposed by Canada's Pacific Pilotage Authority. But, no specific CA law.
One Pilot required on all ships transiting east of Port Angeles	Two Pilots required east of Victoria	None
USCG/STCW Safe Manning: Two licensed officers & Two AB seamen	STCW Safe Manning: Licensed Officer & Two AB	None
Tanker speeds 11 knots in congested waters ; can't exceed tugs	Tanker speeds 10 knots	None
Tanker size limited to 125,000 DWT east of Port Angeles	No tanker size limitation	Larger capacity tankers may transit Canadian waters
Oil Handling Operations boomed prior to transfer	Pre-booming not required	Oil transfers in Canada are not mandated to be boomed
Vessel Traffic Service & Special Operating Areas	Vessel Traffic Service & Special Operating Areas	None. Jointly operated by USCG & CCG
Standby Response Tug required	No Response Tug required	Canada has no response tug Rqmt
Tankers Double hulled	Tankers Double hulled	None

Opportunities for Partnering

- Based on these Studies' findings we may identify and implement appropriate mitigating measures:
 - Improvements to CVTS?
 - New Routing schemes
 - Spill Response/Prevention Capabilities to cope with new hazards?
 - Best Achievable Technology/Protection for spill response
 - Enhanced CANUSPAC relationships and effectiveness
 - Additional Tug Escorts/Standby Emergency Towing Vessels