
Todd Hass, PhD 1

1Puget Sound Partnership

*Updated from presentation given with Chad Bowechop and Fred Felleman at BC Ministry of the Environment: “Land Based Spill Preparedness and Response Symposium” - March 2013
About PSP

The Puget Sound Partnership has legislative mandate to recover the health of Puget Sound by 2020

– Also: “independently assess and advise Washington State’s oil spill programs”

– Consensus from PSP Oil Spill Work Group to use maritime risk assessments and develop/apply risk reduction measures (NTA C8.1.2)
Funding for Vessel Traffic Risk Assessment...

—US Environmental Protection Agency

• Approved Makah Tribe’s proposal to update with 2010 VTOSS data
• $200K to PSP to advance risk assessment and update VTRA
Past & Present VTRA collaboration...

Puget Sound Harbor Safety Committee (HSC) contributed judgment by expert mariners for the BP-Cherry Point VTRA study completed by GWU et al. in 2008...study released and presented to HSC in April 2012

Makah Tribal Council retained GWU via late-summer grant to researchers; updating the VTRA baseline traffic scenario from 2005 to 2010 and extending offshore
PSP Oil Spill Work Group & HSC overlap considerably; **formed VTRA Steering Committee** in Fall 2012

- Integrating State and Federal regulatory agencies, Tribes, Industries and Stakeholders into a VTRA update **process**
- Agreed that GWU VTRA is the common language by which region evaluates relative maritime traffic risk systemwide
Others involved...

**PSP and PSHSC** co chair the Steering Committee.

**USCG, Ecology and Makah** are the agency leads, guiding the update process.

---

### Puget Sound Partnership VTRA Steering Committee

**Co-Chairs:**
- Todd Hass, Puget Sound Partnership
- John Veentjer, Puget Sound Harbor Safety Committee

**Federal, State and Tribal Leads [representing]:**
- Chip Boothe (alternate Jon Neel), Washington State Department of Ecology
- Kiley Ross and R.E. McFarland, US Coast Guard [Sector Puget Sound and District 13, respectively]
- Chad Bowechop (alternate Fred Felleman), Makah Nation [native American Tribes]

**Core Steering Committee Members:**
- Mark Homeyer, Crowley Maritime [tug and barge]
- Del Mackenzie, Puget Sound Pilots [pilots]
- Mike Moore, Pacific Merchant Shipping Association [shipping/steamship lines]
- Vince O’Halloran, Washington State Labor Council (alternate Lori Provinc) [labor]
- Mike Doherty, Clallam County [Washington Association of Counties]
- Jeff Shaw, Polar Tankers (alternate Frank Holmes, Western States Petroleum Association) [petroleum industry]
About the model:
(1) Collaborative vs adversarial analysis in environmental policy
Busenberg (1999) compared approaches to two technically intensive maritime oil trade policy disputes
• Adversarial (debate) approach led to “distorted communication” and **stalemate**
• Collaborative approach gave all stakeholders oversight of joint research team—promoting mutually credible results and **resolution**
About the model:

(2) Past VTRA (van Dorp and Merrick 2009) quantified contribution of different interventions on reducing spill risk (oil outflow)

Risk reduction measures

Tug escort = ↓61.7%
Double hull = ↓23.6%
1-way zone = ↓6.3%

Figure 14. Total average annual oil outflow (in m³) separated by persistent oil (PO) and non-persistent oil (NPO) by VOI's, IV's and scenarios.
About the model: (2) continued...

Risk Management of a Causal Chain

- Situations
  - Maritime Simulation
- Incidents
  - Incident Data
- Accidents
  - Expert Judgment
- Oil Spill
  - Oil Outflow Model

Kaplan’s (1997) Risk Definition

\[ R = \{< s_i, l_i, x_i >\}_c \]
VTRA “2010” – Status

• Makah phase ended: GWU delivered final report/analysis with VTOSS 2010 data (NTA 8.1.1)
• PSP phase 1, modeling (3*) “What if?” scenarios
• VTRA SC directed researchers to simulate the projected traffic from the following potential projects:
  • Kinder Morgan pipeline expansion in B.C.
  • SSA Marine Gateway Pacific Terminal near Cherry Point, WA
  • Delta Port, Neptune, etc. expansion in B.C.
VTRA Steps

Past (winter):

• Researchers extended classes of Focus Vessels, now includes cargo and bulk carriers (overall: FV=20%, IV=80% of exposure time)
• Now 1000s of actual routes/segments and VTOSS data scrubbed
• VTRA SC obtains/shares the best available data projections on projects to be simulated
Present (spring/summer):

- Researchers simulate project-based changes in traffic (+>1500 trips/year) & note changes in ship interactions
- VTRA SC proposes mitigation measures to be simulated in model
- Researchers produce report on results with review by VTRA SC
VTRA Next Steps

Long term (fall):

• Report/results used in revised **Risk Management Strategy** for Puget Sound
  – Changes to Harbor Safety Plan, SOCs, BMPs, etc.
  – Regulatory changes considered by USCG, ECY (note that 2012 USCG Authorization Act calls for study of Canadian oil sands risks by June 2013)
  – Northwest Area Committee and its “2013-Emerging Risks Task Force” translate and use findings for contingency planning, GRPs, etc.
More info:

- todd.hass@psp.wa.gov; (206) 280 1588
The **Puget Sound Partnership** has legislative mandate to recover the health of Puget Sound by 2020

- Also: “independently assess and advise Washington State’s oil spill programs”
- Latest consensus from PSP Oil Spill Work Group to use maritime risk assessments and develop/apply risk reduction measures (NTA C8.1.2)
PSP Oil Spill Work Group

• Unique role to date:
  – Building consensus to set priorities in advancing unresolved and emergent oil spill policy issues for WA State (agencies), especially Puget Sound

• AA captures focus for Puget Sound in prevention, preparedness and response thru June 2014
  – All OSWG vetted NTAs on track (Strait notwithstanding)
  – PSP lead owner for VTRA NTA

Q1: Where would Work Group add value to other issues?
Q2: How/when to ID issues beyond 2014?

• Other emergent issues [existing forums]:
  – Derelict vessels [PS Derelict Vessel Task Force]
  – New modes/risks in oil transportation (e.g., rail) [NWAC emerging risks task force]
    • Grays Harbor
    • Columbia River
PSP Oil Spill Work Group

• Q: Should we keep name “PSP Oil Spill Work Group” (Cross-Partnership OSWG) or other?

• Q: Should we consider including other members (local government/LIO, rail, etc.)?