

Vessel Encounter Module Webinar

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Ecology Staff:

Brian Kirk, *Prevention Section Manager*

Adam Byrd, *Research and Information Technology Unit Supervisor*

Alex Suchar, *Expert Model and Analysis Scientist*

JD Ross Leahy, *Maritime Risk Modeling Specialist*

Justine Asohmbom, *Shorelines and Stormwater Education Manager*

Rachel Assink, *Washington Sea Grant Hershman Fellow*

Attendees:

Arthur Grunbaum, *Friends of Grays Harbor*

Bettina Maki, *WA Board of Pilotage Commissioners*

Brianna Snider, *Canadian Coast Guard*

Brien Flanagan, *Schwabe, Williamson & Wyatt*

Casey Dick-Wyatt, *Tsawout First Nation*

Chris Wills, *Port of Longview*

Christopher Burns, *Jamestown S'Klallam Tribe*

Dan Smiley, *Washington State Maritime Cooperative*

Dena Horton, *Pacific Northwest Waterways Association*

Don Noviello, *Washington State Department of Fish and Wildlife*

Don Pettit, *OR Department of Environmental Quality*

Dustin Johnson, *Columbia River Pilots*

Ed Bowlby, *Clallam County Marine Resources Committee*

Gary Greene *Tombolo Mapping Lab*

Laird Hail, *US Coast Guard*

Jaimie Bever, *WA Board of Pilotage Commissioners*

Jeff Pelton, *Transport Canada*

John Fu, *US Coast Guard*

John Veentjer, *Marine Exchange of Puget Sound*

John Wright, *Polar Tankers*

Julia Ratcliffe, *BC Ministry of Environment and Climate Change Strategy*

Kate Mickelson, *Columbia River Steamship Operators' Association*

Kelly Stratton, *Trident Seafoods*

Kris Faucett, *Lund Faucett*

Lanna Hodgson, *International Ship-Owners Alliance of Canada*

Liz Wainwright, *Maritime Fire and Safety Association*

Lovel Pratt, *Friends of the San Juans*

Mark Toy, *WA Department of Health*

Marla Steinhoff, *NOAA*

Martin Teachout, *Trident Seafoods*

Melba Salazar-Gutierrez, *Auburn University*

Mike Moore, *Pacific Merchant Shipping Association*

Paul Devries, *BC Coast Pilots Ltd*

Paul McCollum, *Port Gamble S'Klallam Tribe*

Rein Attemann, *Washington Environmental Council*

Ross McDonald, *Sause Bros.*

Russell Shrewsbury, *Western Towboat Co.*

Salma Abdel-Raheem, *The Whale Museum*

Shayne Cothorn, *WA Dept of Natural Resources*

Sheri Tonn, *WA Board of Pilotage Commissioners*

Tessa Coulthard, *Clear Seas Centre for Responsible Marine Shipping*

Todd Hass, *Puget Sound Partnership*

Tom Ehrlichman, *Swinomish Indian Tribal Community*

Tony Parkin, *Islands' Oil Spill Association*

Tami Allen, *Bainbridge Island Police Department*

The following summary notes are not intended to be a transcript but rather a review of the question and answer session that took place at the end of the webinar. Participant questions and comments are shown in bold text followed by Ecology responses.

What about collisions with bridges or other man-made structures like refinery docks? (Paul McCollum)

Brian Kirk: The encounter module will identify potential allision and powered grounding situations, in addition to potential collision situations. We'll discuss allisions and powered groundings, as well as drift groundings, later in the model development process. Today's discussion focuses on the current state of development work, which is focused on encounter methods for potential collisions.

If you are trying to identify the potential locations of accidents as part of your encounter model criteria, it would seem wise to include the entire radius of anchor swing for ships at anchor, rather than limit an anchored ship "location" to a single point of anchorage (which I understood you to say earlier was your operating assumption in the vessel movement module segment). Total swing diameter for a ship of 250m could be as much as 1140m. (Tom Ehrlichman)

Brian Kirk: This will be part of the consideration when determining potential allision encounters. Right now, we're focused on encounters between two moving vessels.

How transferable will the finished model be at completion? I am interested in whether the model will be able to be used in Grays Harbor and Willapa Bay. (Arthur Grunbaum)

Brian Kirk: The model is being designed for use in all Washington waters. Model development is currently focused on the Salish Sea, because this is the location of the first two analysis projects assigned by the Legislature. Future development could include adapting the model for use in other areas, such as Grays Harbor.

Have you considered using vessels with full redundancy and independent rudders vs traditional twin screw or single screw vessels. (John Wright)

JD Leahy: We are hoping to include redundancy information as part of vessel characteristics. It may be challenging to find redundancy data, but as the model is currently conceptualized, we would be looking at including those characteristics as factors when it comes to loss of propulsion incidents. We are not currently considering redundancy a factor when evaluating vessel encounters or vessel maneuverability. However, if folks would like to make an argument for a different approach there, we are certainly open to that.

I am participating on behalf of the Swinomish Indian Tribal Community. We are interested in oil spill risk as it relates to the corridor through Guemes channel, Rosario Strait, up into Vendovi anchorages, the Saddlebags area, and transits between March Point and Cherry Point. As a result, how the model handles anchorages is important to us. As you look at the development of the model, the question of how you are treating the anchorages plugs in to each of the model "modules." Would it be useful to have a session dedicated to the anchorages as a holistic question? (Tom Ehrlichman)

JD Leahy: Great suggestion. Having suggestions on topics that people would like to hear more about is very helpful. We will make a note of it, and look at opportunities for doing something like that.

You mentioned how the encounter vessel ship domain could be adjusted for small vessels or high speed craft. Would you also adjust the domain based on geographic location? For example, within a port harbour, vessels may come much closer to each other but are maneuvering safely. (Jeff Pelton)

JD Leahy: Currently, these two ship domain models don't incorporate distance from shore as a factor that would influence the size or shape of the ship domain. That means that when ships operate in more narrow waterways, there are likely to be more encounters, because vessels will pass closer by other vessels. You also mention the safety of the maneuvering. It's important to remember that we are not trying to use encounters as a surrogate for an unsafe situations. Instead, we are using the encounter module to exclude all the movements where there are insufficient vessels for a collision to take place. We are looking at it as a basic building block.

With respect to the anchorages, some of the tug and barge areas don't have any limit on the number of vessels in them. How are you going to handle that type of situation? (Laird Hail)

JD Leahy: While there may not be a codified maximum number of vessels for some anchorages, we can probably come up with a reasonable maximum based on historical usage for a given anchorage. Where we can come up with reasonable, simple, and powerful ways to improve the representativeness of the model, we want to do that. However, there will also be bits and pieces of complexity that we can't necessarily represent. Thanks for bringing this to our attention. We will look at addressing this in a robust way.

On slide 29, you are showing some crossing ahead situations. In places like Elliot Bay, the ferries may cut astern very close. You may have situations that might show as a collision, that really are not. (Laird Hail)

JD Leahy: The ship domain models do allow for some consideration of the behavioral pattern you describe. Ships may pass close astern when one vessel gives way to another to take their stern. To accommodate that, the port quarter portion of these ship domains is the smallest part of the ship domain. This is the quadrant where a give way vessel might pass near. So there is some consideration of that in the model.

The other item to reinforce here, is that we aren't trying to identify dangerous situations necessarily. Just situations where there are more than one vessel involved. Also, we don't have a severity distinction in our encounter model. If it's an encounter, it's an encounter. That means that a close pass by a ferry does not get counted differently than a ferry passing further away, as long as they both meet the basic criteria for an encounter.

The Canadian Marine transportation safety investigation report M20P0092 on the dragging anchor and subsequent collision that took place in Plumper Sound (Gulf Islands) is relevant to today's webinar: <https://www.tsb.gc.ca/eng/rapports-reports/marine/2020/M20P0092/M20P0092.html>. At the last Harbor Safety Committee, there was some discussion of an anchor dragging incident that occurred off Williams Point. Will you be accounting for anchor drag in your model? (Lovel Pratt)

JD Leahy: Since accidents resulting from anchor dragging situations could result in a spill, we will need to incorporate this in the model. How exactly we go about that, we don't know yet.

With the various models you were looking at, do any of those take into account encounters where vessels are under management of a VTS? (Laird Hail)

JD Leahy: The two models that we are looking at do not explicitly take into account the presence of a VTS. I don't believe we saw any encounter models in the literature that did. It certainly was a factor in our thinking, since we do have traffic separation schemes here in the Salish Sea and we will need to be aware of these aspects of the waterway when we look at the results of these models. For instance, for an inbound ship and an outbound ship in the Strait of Juan de Fuca, separated by a separation zone, we don't necessarily want to count their passing as an encounter if they are both operating in their separate lanes, separated by a separation zone.