EMERGENCY RESPONSE TOWING VESSEL ANALYSIS

Response to comments on scope of work

February 1, 2022

DEPARTMENT OF
ECOLOGY
State of Washington

Contents

Comments from Tribes

T-1: Swinomish Indian Tribal Community, Tom Ehrlichman

Comment T-1-1

This model and the two analysis projects are important to the Swinomish Indian Tribal Community and treaty fishing tribes in general, because they are designed to serve as the basis for new rulemaking by the Board of Pilotage Commissioners on vessel safety. We can also anticipate that your analysis will be utilized in legislative and other public policy forums where it is important to characterize risk and evaluate new safety measures. It is important to reaffirm the context for the work that you are doing in support of the Board's rulemaking. Because your work is designed to lead to rulemaking, we believe it must necessarily be guided by the goals of that rulemaking outlined in ESHB 1578: . . . the board of pilotage commissioners must also design the rules with a goal of avoiding or minimizing additional underwater noise from vessels in the Salish Sea, focusing vessel traffic into established shipping lanes, protecting and minimizing vessel traffic impacts to established treaty fishing areas, and respecting and preserving the treaty-protected interests and fishing rights of potentially affected federally recognized Indian tribes. ESHB 1578, § (3)(6) (now codified at RCW 88.16.260) (emphasized added). We appreciate that you and your staff have conducted your work on the oil spill risk model in a way that demonstrates you are mindful of this nexus with the goals of the rulemaking.

Response to T-1-1

Thank you for the comment.

Comment T-1-2

To assist you further in that regard, we offer the attached evaluation prepared for the Swinomish Indian Tribal Community by a respected international maritime risk firm, Nash Maritime. As we have discussed, it has been Swinomish's intent that the Nash analysis support your work by offering an outside, peer review of methods described to date. Their analysis is complimentary of your model construct and offers suggestions to ensure that the model remain as flexible as possible, to answer the kinds of questions that must be answered when "protecting and minimizing vessel traffic impacts to established treaty fishing areas."

Response to T-1-2

Thank you for providing the preliminary review of the oil spill risk model conducted by Nash Maritime. The recommendations will be considered in the model development process.

Comment T-1-3

As you have acknowledged in your two descriptors for the Scope of Work, the risk model evaluated in the Nash Maritime paper serves as the underpinning of the Tug Escort and ERTV analyses captioned above. We would go so far as to say that the most critical component underlying these Scope of Work descriptors is the model. Accordingly, the Scope of Work descriptors should be amended to include a scope of work and timeline for completion of the model. We encourage you to revise your scope of work for the model to include study of the issues identified in the attached report. One of the recommendations in the attached is that the scope of work and timeline for the model include a specific event in the future in which you display the workings of the initial model (in sample video displays), so that functionality can be discussed and adjusted in response to comments by tribes and stakeholders.

We trust that the other recommendations for transparency and functionality in the Nash Maritime report will be given your full consideration.

Response to T-1-3

The Tug Escort Analysis will use the Ecology Oil Spill Risk Model currently under development. The model development team will continue to conduct outreach events and other communications regarding progress, decisions and timelines.

Comment T-1-4

The Scope of Work for the ETRV includes a discussion of how oil spill risk is distributed when different variables are adjusted. In line with the foregoing discussion of the rulemaking goals, we request that the Scope of Work be modified to include a statement that one of the variables to be adjusted to analyze risk would be the amount of oil or petroleum product on board vessels when transiting Rosario Strait or connected waterways, including those in transit and those at anchor. This will necessarily require development of the means to quantify historical levels of oil or product on board vessels in transit or at anchor. We understand the complexities involved in the assessment of that variable, but it is a key concern in the areas where oil/petroleum product transport is highest – those connecting waterways between Anacortes and Ferndale. As we have discussed, this is prime fishing area for Swinomish and other treaty fishing tribes. In order to portray risk accurately, Ecology will have to solve this analytical question.

Response to T-1-4

We intend to include assumptions regarding the laden status and estimated quantity of oil aboard simulated covered vessels.

Comments from Organizations

O-1: Friends of the San Juans, Lovel Pratt

Comment O-1-1

Ecology's analysis should utilize and build upon the April 2021 report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia which addressed these research questions:

1) Throughout the study area, how much time may be available for an ERTV to arrive at a disabled ship before the ship grounds, considering winds and currents?

2) Considering four focus areas around San Juan County, what is the probability that an¬† ERTV could arrive before a ship drifting from the typical shipping route grounds?

Response to O-1-1

The Vessel Drift and Response Analysis will help inform the design of our study.

Comment O-1-2

These additional research questions were identified (and we understand that Rosario Strait will be included in Ecology's analysis):

- What are the variations in drift times to grounding under different tidal current regimes (ebb, flood, spring, and neap)?
- What are the variations in drift times to grounding under different wind regimes (wind direction and strength)?
- What are the variations in drift times to grounding for different vessel types (vehicle carrier, bulk carrier, etc.)?
- What is the probability that an ERTV could arrive before a vessel drifting from the typical ship route grounds in a Rosario Strait focus area?

Response to O-1-2

Ecology's Oil Spill Risk Model, currently under development, will include a momentum and drift sub-model to account for vessel movements after loss of propulsion events. This mechanistic approach includes current, wind, and vessel form factors. Based on the estimated time to ground, we will assess the ability of an ERTV to effectively respond under a number of scenarios.

Comment O-1-3

It was also noted that "additional studies may be required to determine the characteristics and capabilities of an ERTV necessary to successfully perform emergency towing of the ships commonly transiting in these waters. This research could also consider the towing procedures best suited to this operating environment."

Response to O-1-3

ERTV capability will be addressed by our research question: "How do key design characteristics of emergency towing vessels affect oil spill risk?" Ecology will review literature on emergency towing procedures and vessel design, but will not conduct new analysis of these topics as part of this study.

Comment O-1-4

The draft research question, “Tank vessel escort scenarios,” should be deleted. This research question would include evaluating the effectiveness of tugs that are escorting laden tank vessels per federal and/or state/provincial law. This research question would evaluate the effectiveness of diverting tugs that are escorting laden tankers, requiring these tugs to leave their escort duty in order to respond to an active casualty on another vessel. This research question appears to rely on some kind of discretionary authority on the part of the USCG and/or Transport Canada. Without clear regulations on both sides of the border that would allow for this, it would not be appropriate to include this research question. If it is deemed appropriate, a research question could be added to evaluate the availability and effectiveness of tugs that are not escorting laden tankers (also known as tugs of opportunity) for response to a casualty.

Response to O-1-4

The presence or absence of escort tugs in the study area is an important factor in evaluating the effectiveness of an ERTV. For instance it is likely that escort tugs could respond to a nearby loss of propulsion event. They may respond while underway to or from an escort job, or during an escort job. As such, we think it important to include various potential tank vessel escort scenarios in this analysis.

Comment O-1-5

This report to the Legislature should include peer reviews to ensure the accuracy and validity of Ecology’s internal work product. The report should also include a comparison with the report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia.

Response to O-1-5

Ecology will consult with tribes and stakeholders throughout the analysis project, and remains committed to a transparent process. Ecology does not intend to conduct, or contract for, formal peer review in advance of submission of the report to the legislature. Ecology is interested in future opportunities to develop papers about the oil spill risk model and analysis projects, for submittal to peer-reviewed journals and refereed conferences.

Comment O-1-6

There are recent changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways that this study should account for, including:

1) Significant increases in recreational boating traffic. The San Juan Islands are a top recreational boating destination. Recreational boats are a source of risk of accidents and oil spills from large commercial ships. The USCG Captain of the Port reports to the Puget Sound Harbor Safety Committee regularly include incidents that are caused by recreational vessels interfering with the safe passage of commercial

vessels, in violation of Rule 10. In 2018, Washington State had 195,631 active registered recreational boats, and in 2021 there are 241,739. This is an increase of 46,108 registered recreational boats or 23.5%.)

2) Increases in barge traffic will result from the recent Port of Bellingham Marine Highway Designation, M-5 Coastal Connector, which will increase barge traffic between Bellingham, Washington; Southern Oregon; and San Diego, California.

3) Increases in oil transfer operations at anchorages in the connected navigable waterways have more than doubled the volume of oil transferred at the anchorage areas near Vendovi Island from 2018 to 2020/2021. See Ecology's June 2021 Vessel Activity Synopsis (that analyzes 2018 vessel activity in the WA State and BC waters of the Salish Sea up to the 49th parallel), pages 49-50: The 'Anchor - Vendovi Island' transfer location, which encompasses the Jack Island North, South; Vendovi Island East, South; and Williams Point ATB anchorage locations, had the third highest oil transfer volumes with over 4 million gallons transferred there in 2018. Compare the 2018 data with the June 30, 2020 – June 30, 2021 ANT (Advance Notice of Transfer) data for "Anchor - Vendovi Island" that shows the volume of total transfer operations at 9,681,479 gallons.

Response to O-1-6

1. Our vessel traffic simulations rely upon AIS data. Our model development team is looking at ways to account for non-AIS traffic in the study area.
2. Potential changes in vessel traffic will not be included in model simulations for this analysis. The current iteration of the model relies upon vessel behaviors present in historical AIS data. We anticipate building in this functionality in the future. This analysis will include an investigation and discussion of changes in tug of opportunity availability related to potential increases in tanker traffic resulting from the TransMountain pipeline expansion.
3. Analysis will include assumptions about the frequency of vessel bunkering. Ecology maintains a database of oil transfers in Washington waters that will be used to determine these assumptions.

Comment O-1-7

Addition to question 3 variables: "Tidal current regimes (ebb, flood, spring, neap) Wind regimes (wind direction and strength)"

Response to O-1-7

Current and wind are incorporated into the Oil Spill Risk model in the Momentum and Drift sub-model. This will be used to estimate time adrift after a loss of propulsion event.

Comment O-1-8

Add research question: "What characteristics and capabilities of an ERTV are necessary to successfully perform emergency towing of the ships commonly transiting in these waters?"

Response to O-1-8

We will include the following research question: "How do key design characteristics of emergency towing vessels affect oil spill risk?"

Comment O-1-9

Add research question: "What towing procedures are best suited to this operating environment?"

Response to O-1-9

An assessment of towing procedures is out of scope for this analysis.

Comment O-1-10

Add to outreach section: "Ecology will provide documentation of engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways."

Response to O-1-10

Ecology's report to the legislature will describe consultation and outreach conducted during the project.

Comment O-1-11

Add Peer Review Section: "Ecology will consult and/or contract with vessel traffic accident and oil spill risk modeling and analysis professionals for at least three peer reviews of this analysis."

Response to O-1-11

Ecology will consult with tribes and stakeholders throughout the analysis project, and remains committed to a transparent process. Ecology does not intend to conduct, or contract for, formal peer review in advance of submission of the report to the legislature. Ecology intends to look for opportunities to publish articles in peer reviewed journals related to the oil spill risk model in the future.

Comment O-1-12

Add to deliverable section: "The report to the legislature will include the documentation of engagement with Tribes, the peer reviews, and a comparison of this analysis with the April 2021 report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia."

Response to O-1-12

Ecology's report to the legislature will describe consultation and outreach conducted during the project. The report will include information about the methodology and data used in analysis.

Comment O-1-13

If the ERTV analysis uses a model that includes 2018 or other historic vessel traffic data, Ecology should consider whether increases in recreational boating, barge, and bunker barge vessel traffic have and/or will occur and whether the model should be modified accordingly. This analysis should include these changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways.

Response to O-1-13

Traffic simulations will be based on vessel traffic behavior in historical AIS traffic data. Hypothetical traffic levels will not be included in simulations for this analysis.

O-2: Puget Sound Pilots, Blair Bouma

Comment O-2-1

As a general concept, adding an ERTV to the San Juan Island archipelago would certainly reduce the risk of an oil spill to some degree. The question is, to what degree, and how could the positioning and specifications (such as speed, bollard pull etc.) of such a vessel be optimized for maximum effectiveness? The DOE model should be able to provide relative comparisons to answer the question of positioning and specifications.

Response to O-2-1

ERTV positioning and characteristics will be included in this analysis. We will assess the effect of an ERTV on oil spill risk from covered vessels under a variety of scenarios.

Comment O-2-2

The findings of the Nuka study commissioned by San Juan County provided valuable information regarding where to station an ERTV for Haro Strait and Boundary Pass for the most effective response. Because the study area required by EHB 1578 includes Rosario Strait and connecting waters, the DOE will need to expand on the study area used by the Nuka team to include these additional waters which will, of course result in different finding from the Nuka study. Due to the geographic separation of Haro Strait/Boundary Pass from Rosario Strait, the response time will be significantly higher which may prove unsatisfactory. In this case, it may be necessary to consider employing two ERTVs, one for each waterway, to keep the response times in an effective envelope. The DOE model should be used to analyze this larger area as well as the effectiveness of one vs. two ERTVs.

Response to O-2-2

The analysis will include a variety of staging areas for an ERTV. We will assess the impact to the geographic spread of risk under the various staging scenarios. ESHB 1578 states that we should assess "an emergency response towing vessel serving Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways..."

Comment O-2-3

It is unnecessary to study ERTV interaction with the currently escorted tank vessels as these vessels already have effective emergency coverage from their escorts. The study should specifically focus on every other type of non-escorted vessel as these present a higher risk exposure. These vessels should include: tank vessels not escorted under current regs, tank vessels in ballast, container vessels, bulkers, general cargo, roll-on/roll-off etc.

Response to O-2-3

Our analysis will include oil spill risk from all covered vessels in the study area. In the event that a simulated tank vessel under escort loses propulsion, the escort tug will perform rescue towing operations. In this analysis, the simulated ERTV will engage in emergency towing operations for non-escorted covered vessels.

Comment O-2-4

ERTV Characteristics: The model should be able to directly study/compare ERTV speed and bollard pull capability and could also indirectly study towing vessel equipment by how various tow-gear configurations effect the response time and therefore success rate in an emergency operation. It is suggested that this aspect of the study would include input from towing industry experts with experience/credibility in emergency towing.

Response to O-2-4

We anticipate that the model will directly incorporate ERTV speed. Due to modeling constraints, simplifying assumptions regarding time to connect and time to control will need to be made. We expect to address detailed tug design and equipment characteristics through a review of the existing literature.

The model is best suited for macro level review of ability of an ERTV to respond in time to disabled vessels, given the frequency of incidents, the location of the ERTV, and the direction and speed of the drifting vessel. The model will not be well suited to a detailed analysis of the interactions and dynamics of specific tug configurations on likelihood of a save.

O-3: American Waterways Operators, Bradley Trammell

Comment O-3-1

First, AWO urges the Department of Ecology to use the association and its members as a resource as it considers the many factors that will inform its recommendations. AWO members have extensive practical experience as both the service providers and theoretical service recipients of the existing ERTV stationed in Neah Bay. An AWO representative has always served on the ERTV Compliance Group Board, and we have been involved in questions of ERTV funding since the inception of the system.

Response to O-3-1

Thank you for your comments. We plan to conduct an extensive outreach process and hope for industry participation.

Comment O-3-2

While AWO recognizes some key distinctions between the geographical locations and risk management benefits of the proposed interior Puget Sound ERTV and the existing Neah Bay resource, we want to highlight some structural similarities. While the initial plan for the Neah Bay ERTV funded the program through state resources, the state-funded system was short-lived. For many years, the costs of the program have been borne by industry through an imperfect system that allocates theoretical oil spill risk of a vessel and then splits costs between tank and non-tank vessels based on the perceived risk. Under this system, tank vessels generally pay more for the Neah Bay ERTV than non-tank vessels. While this appears rational given that tank vessels are carrying oil as cargo, there has not been a cargo oil spill from a vessel allision, collision, or grounding in Puget Sound in decades, and safety management regimes for tank vessels are sometimes more robust than for non-tank vessels. The fair apportionment of ERTV costs must be more carefully considered as these costs impact efficiencies and trade competition.

Response to O-3-2

The focus of this project is on evaluating the degree to which different ERTV scenarios would reduce oil spill risk for covered vessels. This is required by RCW 88.46.250. Consideration of funding is out of scope for this analysis.

Comment O-3-3

In addition to probable risk profile asymmetry in cost assessment, there has also been a "free rider" question as vessels calling in Canada received the risk mitigation benefit but may not pay for the service. In an era of intense competition between Canadian ports and our own Northwest Seaport Alliance, Ecology should not institute a program that picks economic winners by conferring benefits on marine business activity that impairs Washington's standing in international maritime trade.

Response to O-3-3

Thank you for your comment.

Comment O-3-4

The rationale behind emergency rescue towing vessels is well understood – to rescue a vessel in distress (typically) when the vessel loses power or steering. This raises obvious questions:

1. Are there examples of vessels losing propulsion, steering or other critical systems inside Puget Sound where a responding vessel would have prevented a marine casualty?

2. Could a strengthened vessel of opportunity system provide equivalent risk mitigation to a dedicated ERTV?

Response to O-3-4

1. We have not yet determined the date range and geographic scope of accident data to include in our calculated hazard probabilities. These decisions and uncertainties will be communicated through the outreach process.
2. This analysis will consider tugs of opportunity.

Comment O-3-5

Several conditions seem to argue against the establishment of an additional ERTV inside Puget Sound – specifically a) the presence of numerous large towing vessels in the subject area and b) recent legislation mandating expanded towing vessel escorts in Puget Sound for tank vessels. These shifts in risk mitigation resources appear to substantially reduce spill risk without the cost of dedicated stand-by resources.

Response to O-3-5

Thank you for your comment

Comment O-3-6

...strongly encourages Ecology to consider carefully the risk mitigation benefit threshold for determining whether another dedicated ERTV is warranted for Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways. A second ERTV in that area might reduce some risk but questions still persist about whether other systems could provide the same reduction, how to equitably apportion the costs, and how the system can be structured to truly account for the actual risk involved with each particular type of payee vessels. These are questions that must be answered as the agency considers its scope of work under RCW 88.46.250 Subsection 2

Response to O-3-6

The focus of this project is on evaluating the degree to which different ERTV scenarios would reduce oil spill risk for covered vessels. This is required by RCW 88.46.250. Consideration of funding and benefits compared to alternate intervention strategies are out of scope for this analysis.

O-4: Pacific Merchant Shipping Association, Mike Moore

Comment O-4-1

The "Emergency Response Towing Vessel Analysis Scope of Work" should logically focus on identifying the need for an ERTV. This requires identifying specific scenarios where all other mitigation measures fail to avoid an oil spill from a drift grounding.

Response to O-4-1

The legislature directed Ecology to perform an analysis of potential changes in oil spill risk from an ERTV serving the waters of Haro Strait, Boundary Pass, and Rosario Strait. The specific language is found in RCW 88.46.250.

Comment O-4-2

Here are several key inputs that to our knowledge have yet to be studied or evaluated with any academic rigor: Tugs of opportunity availability in the area of study - this has been dismissed by those that support an additional ERTV but the International Tug of Opportunity system created in the 90's has expanded with the use of AIS and additional tugs for assist and escort work and is extremely relevant given the available data demonstrates all internal water tug assists have been conducted by such tugs.

Response to O-4-2

Tugs of opportunity will be considered in this analysis.

Comment O-4-3

Validation that a tug response does not require open ocean towing capability but rather the ability to help successfully control a vessel that has suffered some reduction (or loss) of propulsion and/or steering such that a grounding is avoided.

Response to O-4-3

Tug characteristics will be assessed outside model scenarios. This will primarily be a review of the existing literature on emergency towing.

Comment O-4-4

Tug presence evaluation must consider status quo of escort/assist tugs plus tugs engaged in other activities that are in the area, repositioning, staged awaiting next job or otherwise available. Additional tug saturation/availability due to increased tug escorts must be fully considered as tugs have to be positioned, repositioned or staged for each escort job in addition to escorting while tethered or untethered. This should include additional tug escorts recently implemented in Washington State waters as well as the upcoming implementation of tug escorts associated with the Trans Mountain expansion project in Canada. The specifics of the Canadian tug escort regime will greatly increase tug presence in the Haro/Boundary area as well as Georgia Strait and the Strait of Juan de Fuca. This tug escort regime is likely to split the transit into the involvement of two tugs with a handoff point. This dynamic will significantly increase tug presence and will by definition involved tugs designed to escort or respond to a vessel in need.

Response to O-4-4

We intend to consider tugs of opportunity and various tug escort requirements for tank vessels.

Comment O-4-5

The study should include all mitigation strategies that the master/pilot can implement when a vessel has suffered some reduction/failure in propulsion and/or steering. The momentum involved in the transit allows for actions that are different than simply allowing a vessel to drift with the current and wind until grounding. Failure to maneuver the vessel to reduce risk would involve a failure to perform their duties which is extremely unlikely. So, appropriately positioning of the vessel with the available momentum in the tide/current and wind conditions of various scenarios and with various vessel types, sizes and loaded conditions is a key mitigation measure that must be considered. In concert with this is identifying areas in various transit scenarios where a vessel could be best positioned to allow for more response time of a tug or to allow for successful anchoring. This of course, will depend on many issues including but not limited to the location of a propulsion and/or steering issue, tide/current, wind, sail area, loaded condition and the type/size of the vessel.

Response to O-4-5

Current, wind, and ship form factors are incorporated into the Oil Spill Risk model in the Momentum and Drift sub-model. This will be used to estimate time adrift after a loss of propulsion event.

Crew actions in response to any emergency are complex but we intend to include three specific crew actions in response to a loss of propulsion event. First, we will develop a self-repair time distribution based on BPC Marine Occurrence reports on loss of propulsion events. Second, our momentum and drift model includes an initial course change option to avoid immediate hazards. Third, we intend to include emergency anchoring if certain depth profile parameters are met. The model and associated functions are still being developed but further details will be available during the outreach process.

Comment O-4-6

Engineering analysis of the energy and shoreline/grounding type needed to result on penetration of a protectively located fuel tank under various scenarios. Protectively located fuel tanks on non-tank vessels are no longer on the bottom or side of a vessel but internally located typically athwart ship significantly reducing the percentage of the hull in any close proximity to fuel tanks. A collision energy analysis was done during the Blue Ribbon Task Force in Washington State in the 90's assessing collision scenarios involving ferries and cargo ships; I can provide some background on this issue.

Response to O-4-6

Thank you for your comment. At this time, we are planning to use a mechanistic approach for oil outflow estimates from grounded tankers. We anticipate using a statistical approach for other covered vessel types. The model is still under development and we plan to have further outreach on our approach to this and similar issues.

Comment O-4-7

Confirmation that there have been zero drift grounding incidents that led to an oil outflow from any cargo (or cruise) vessel calling at a Puget Sound port in history. The scope of study should evaluate why that outcome was produced and what mitigation factors were key to the avoidance of a drift grounding caused oil spill including but not limited to master/pilot actions to position the vessel, self-repair, anchoring, tug of opportunity response to stand by, tug of opportunity response putting a line up on the vessel and the specifics involved in each.

Response to O-4-7

While this analysis is primarily based on simulations within a modeling environment, our report will provide historical context and a discussion of the current marine safety systems in place in the study area. Detailed analysis of individual incidents is beyond the scope of this study.

Comment O-4-8

Validation that no matter where an additional ERTV would be located, that multiple areas in the study area would involve a quicker response by a tug of opportunity.

Response to O-4-8

Tugs of opportunity will be considered in this analysis.

Comment O-4-9

There should be analysis of the probability differences of propulsion and/or steering issues in any particular area within the study area or confirmation that such location would be random.

Response to O-4-9

The probability of propulsion and steering failures will not be geographically dependent.

O-5: San Juan County, Jamie Stephens

Comment O-5-1

There are nine Tribes with usual and accustomed treaty rights in San Juan County. The ERTV analysis report should document Ecology's engagement with Tribes that have Treaty Rights in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.

Response to O-5-1

Ecology will consult with potentially affected federally recognized tribes and other federally recognized tribes with potentially affected interests. Ecology's report to the legislature will describe consultation and outreach conducted during the project.

Comment O-5-2

Ecology's analysis should utilize and build upon the April 2021 report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia, which addressed these research questions:

1) Throughout the study area, how much time may be available for an ERTV to arrive at a disabled ship before the ship grounds, considering winds and currents?

2) Considering four focus areas around San Juan County, what is the probability that an ERTV could arrive before a ship drifting from the typical shipping route grounds?

Response to O-5-2

The Vessel Drift and Response Analysis will help inform the design of our study.

Comment O-5-3

These additional research questions were identified (and we understand that Rosario Strait will be included in Ecology's analysis):

- What are the variations in drift times to grounding under different tidal current regimes (ebb, flood, spring, and neap)?
- What are the variations in drift times to grounding under different wind regimes (wind direction and strength)?
- What are the variations in drift times to grounding for different vessel types (vehicle carrier, bulk carrier, etc.)?
- What is the probability that an ERTV could arrive before a vessel drifting from the typical ship route grounds in a Rosario Strait focus area?

Response to O-5-3

Ecology's Oil Spill Risk Model, currently under development, will include a momentum and drift sub-model to account for vessel movements after loss of propulsion events. This mechanistic approach includes current, wind, and vessel form factors. Based on the estimated time to ground, we will assess the ability of an ERTV to effectively respond under a number of scenarios.

Comment O-5-4

It was also noted that "additional studies may be required to determine the characteristics and capabilities of an ERTV necessary to successfully perform emergency towing of the ships commonly transiting in these waters. This research could also consider the towing procedures best suited to this operating environment."

Response to O-5-4

ERTV capability will be addressed by our research question: "How do key design characteristics of emergency towing vessels affect oil spill risk?" Ecology will review literature on emergency towing procedures and vessel design, but will not conduct new analysis of these topics as part of this study.

Comment O-5-5

The draft scope of work proposed research question, “Tank vessel escort scenarios,” should be deleted. This research question would include evaluating the effectiveness of tugs that are escorting laden tank vessels per federal and/or state/provincial law. This research question would evaluate the effectiveness of diverting tugs that are escorting laden tankers, requiring these tugs to leave their escort duty in order to respond to an active incident on another vessel. We do not support research of this option for the following reasons:

- This action appears to rely on some kind of discretionary authority on the part of the USCG and/or Transport Canada. It would need to be premised on clear regulations on both sides of the border that would allow for this mobilization in the timeframe expected for a dedicated ERTV (20 minutes); and
- Maintain the safety level for the laden tank vessel. Reducing safety for laden tank vessels as provided by escort requirements per federal and/or state/provincial law is not an acceptable risk mitigation measure for the threat posed by unescorted vessels

Response to O-5-5

The presence or absence of escort tugs in the study area is an important factor in evaluating the effectiveness of an ERTV. For instance, it is likely that escort tugs could respond to a nearby loss of propulsion event. They may respond while underway to or from an escort job, or during an escort job. As such, we think it important to include various potential tank vessel escort scenarios in this analysis.

Comment O-5-6

A research question could be added to evaluate the availability and effectiveness of tugs that are not escorting laden tankers (also known as tugs of opportunity) for response to an incident, as previously studied in Availability of Tugs of Opportunity in Canada’s Pacific Region by the Clear Seas Centre for Responsible Marine Shipping.

Response to O-5-6

Tugs of opportunity will be considered in this analysis.

Comment O-5-7

The report to the Legislature should include peer reviews to ensure the accuracy and validity of Ecology's internal work product. The report should also include a comparison with the April 2021 report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia.

Response to O-5-7

Ecology will consult with tribes and stakeholders throughout the analysis project, and remains committed to a transparent process. Ecology does not intend to conduct, or contract for, formal peer review in advance of submission of the report to the legislature. Ecology is interested in future opportunities to develop papers about the oil spill risk model and analysis projects, for submittal to peer-reviewed journals and refereed conferences.

The Vessel Drift and Response Analysis will help inform the design of our study.

Comment O-5-8

There are recent changes in vessel traffic in Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways that this study should account for, including:

1) Significant increases in recreational boating traffic. The San Juan Islands are a top recreational boating destination. Recreational boats contribute to the risk of accidents and oil spills from large commercial ships. The USCG Captain of the Port's reports to the Puget Sound Harbor Safety Committee regularly include incidents that are caused by recreational vessels interfering with the safe passage of commercial vessels, in violation of Rule 10.4 In 2018 Washington State had 195,631 active registered recreational boats, and in 2021 there are 241,739. This is an increase of 46,108 registered recreational boats or 23.5%.

2) Increases in barge traffic will result from the recent Port of Bellingham Marine Highway Designation, M-5 Coastal Connector, which will increase barge traffic between Bellingham, Washington; Southern Oregon; and San Diego, California.

3) Increase in oil transfer operations at anchorages in the connected navigable waterways more than doubled the volume of oil transferred at the anchorage areas near Vendovi Island from 2018 to 2020/2021. See Ecology's June 2021 Vessel Activity Synopsis (that analyzes 2018 vessel activity in the WA State and BC waters of the Salish Sea up to the 49th parallel): The 'Anchor - Vendovi Island' transfer location, which encompasses the Jack Island North, South; Vendovi Island East, South; and Williams Point ATB anchorage locations, had the third highest oil transfer volumes with over 4 million gallons transferred there in 2018.7 Compare the 2018 data with the June 30, 2020 – June 30, 2021 Advance Notice of Transfer data for 'Anchor – Vendovi Island' that shows the volume of total transfer operations at 9,681,479 gallons.

If the ERTV analysis uses a model that includes 2018 or other historic vessel traffic data, Ecology should consider whether increases in recreational boating, barge, and bunker barge vessel traffic have and/or will occur and whether the model should be modified accordingly. This analysis should include these changes in vessel traffic in Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways.

Response to O-5-8

1. Our vessel traffic simulations rely upon AIS data. Our model development team is looking at ways to account for non-AIS traffic in the study area.
2. Potential changes in vessel traffic will not be included in model simulations for this analysis. The current iteration of the model relies upon vessel behaviors present in historical AIS data. We anticipate building in this functionality in the future. This analysis will include an investigation and discussion of changes in tug of opportunity availability related to potential increases in tanker traffic resulting from the TransMountain pipeline expansion.
3. Analysis will include assumptions about the frequency of vessel bunkering. Ecology maintains a database of oil transfers in Washington waters that will be used to determine these assumptions.
4. Traffic simulations will be based on vessel traffic behavior in historical AIS traffic data. Hypothetical traffic levels will not be included in simulations for this analysis.

Comment O-5-9

Addition to question 3 variables: "Tidal current regimes (ebb, flood, spring, neap) Wind regimes (wind direction and strength)"

Response to O-5-9

Current and wind are incorporated into the Oil Spill Risk model in the Momentum and Drift sub-model. This will be used to estimate time adrift after a loss of propulsion event.

Comment O-5-10

Add research question: What characteristics and capabilities of an ERTV are necessary to successfully perform emergency towing of the ships commonly transiting in these waters?

Response to O-5-10

We will include the following research question: "How do key design characteristics of emergency towing vessels affect oil spill risk?"

Comment O-5-11

Add research question: What towing procedures are best suited to this operating environment?

Response to O-5-11

ERTV capability will be addressed by our research question: "What qualitative impacts do different ERTV characteristics have on oil spill risk?" Ecology will review literature on emergency towing procedures and vessel design, but will not conduct new analysis of these topics as part of this study.

Comment O-5-12

Add to outreach section: "Ecology will provide documentation of engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways."

Response to O-5-12

Ecology's report to the legislature will describe consultation and outreach conducted during the project.

Comment O-5-13

Add Peer Review Section: "Ecology will consult and/or contract with vessel traffic accident and oil spill risk modeling and analysis professionals for at least three peer reviews of this analysis."

Response to O-5-13

Ecology will consult with tribes and stakeholders throughout the analysis project, and remains committed to a transparent process. Ecology does not intend to conduct, or contract for, formal peer review in advance of submission of the report to the legislature. Ecology intends to look for opportunities to publish articles in peer reviewed journals related to the oil spill risk model in the future.

Comment O-5-14

Add to deliverable section: "The report to the legislature will include the documentation of engagement with Tribes, the peer reviews, and a comparison of this analysis with the April 2021 report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia."

Response to O-5-14

Ecology's report to the legislature will describe consultation and outreach conducted during the project. The report will include information about the methodology and data used in analysis.

O-6: Trans Mountain, Stephanie Snider

Comment O-6-1

Trans Mountain-related marine shipping has operated safely and responsibly for more than 65 years. In keeping with the regime's focus on safety, there will be additional risk control measures to be implemented for the Trans Mountain Expansion Project (TMEP). One key measure will be the expanded use of escort tugs for loaded tankers. Loaded tankers are already escorted from the Port of Vancouver to Race Rocks through Boundary Pass and Haro Straits under current regulations. However, post TMEP, tankers loaded at Westridge Marine Terminal will be escorted by large, modern and highly capable tugs for the entire passage from the Port of Vancouver to the western entrance of the Juan de Fuca Strait.

Response to O-6-1

Thank you for your comment.

Comment O-6-2

With operations based out of Southern Vancouver Island, these tugs with skilled crews will also have spill response capacity onboard. Although primarily focused on ensuring the safety of Trans Mountain tankers, the presence of these tugs will bring significant new tow capability to this region and are expected to raise the level of marine safety and emergency response, benefitting the shared waters of the Salish Sea.

Response to O-6-2

Thank you for your comment.

O-7: Washington Environmental Council, Rein Attemann

Comment O-7-1

This report should document Ecology's engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.

Response to O-7-1

Ecology will consult with potentially affected federally recognized tribes and other federally recognized tribes with potentially affected interests. Ecology's report to the legislature will describe consultation and outreach conducted during the project.

Comment O-7-2

Ecology's analysis should utilize and build upon the April 2021 report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia which addressed these research questions:

1) Throughout the study area, how much time may be available for an ERTV to arrive at a disabled ship before the ship grounds, considering winds and currents?

2) Considering four focus areas around San Juan County, what is the probability that an ERTV could arrive before a ship drifting from the typical shipping route grounds?

Response to O-7-2

The Vessel Drift and Response Analysis will help inform the design of our study.

Comment O-7-3

These additional research questions were identified (and we understand that Rosario Strait will be included in Ecology's analysis):

- What are the variations in drift times to grounding under different tidal current regimes (ebb, flood, spring, and neap)?
- What are the variations in drift times to grounding under different wind regimes (wind direction and strength)?
- What are the variations in drift times to grounding for different vessel types (vehicle carrier, bulk carrier, etc.)?
- What is the probability that an ERTV could arrive before a vessel drifting from the typical ship route grounds in a Rosario Strait focus area?

Response to O-7-3

Ecology's Oil Spill Risk Model, currently under development, will include a momentum and drift sub-model to account for vessel movements after loss of propulsion events. This mechanistic approach includes current, wind, and vessel form factors. Based on the estimated time to ground, we will assess the ability of an ERTV to effectively respond under a number of scenarios.

Comment O-7-4

It was also noted that “additional studies may be required to determine the characteristics and capabilities of an ERTV necessary to successfully perform emergency towing of the ships commonly transiting in these waters. This research could also consider the towing procedures best suited to this operating environment.”

Response to O-7-4

ERTV capability will be addressed by our research question: "How do key design characteristics of emergency towing vessels affect oil spill risk?" Ecology will review literature on emergency towing procedures and vessel design, but will not conduct new analysis of these topics as part of this study.

Comment O-7-5

The draft research question, “Tank vessel escort scenarios” should be deleted. This research question would include evaluating the effectiveness of tugs that are escorting laden tank vessels per federal and/or state/provincial law. This research question would evaluate the effectiveness of diverting tugs that are escorting laden tankers, requiring these tugs to leave their escort duty in order to respond to an active casualty on another vessel. This research question appears to rely on some kind of discretionary authority on the part of the USCG and/or Transport Canada. Without clear regulations on both sides of the border that would allow for this, it would not be appropriate to include this research question. If it is deemed appropriate, a research question could be added to evaluate the availability and effectiveness of tugs that are not escorting laden tankers (also known as tugs of opportunity) for response to a casualty.

Response to O-7-5

The presence or absence of escort tugs in the study area is an important factor in evaluating the effectiveness of an ERTV. For instance, it is likely that escort tugs could respond to a nearby loss of propulsion event. They may respond while underway to or from an escort job, or during an escort job. As such, we think it important to include various potential tank vessel escort scenarios in this analysis.

Comment O-7-6

This report to the Legislature should include peer reviews to ensure the accuracy and validity of Ecology’s internal work product. The report should also include a comparison with the report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia.

Response to O-7-6

Ecology will consult with tribes and stakeholders throughout the analysis project, and remains committed to a transparent process. Ecology does not intend to conduct, or contract for, formal peer review in advance of submission of the report to the legislature. Ecology is interested in future opportunities to develop papers about the oil spill risk model and analysis projects, for submittal to peer-reviewed journals and refereed conferences.

The Vessel Drift and Response Analysis will help inform the design of our study.

Comment O-7-7

There are recent changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways that this study should account for, including:

1) Significant increases in recreational boating traffic. The San Juan Islands are a top recreational boating destination. Recreational boats are a source of risk of accidents and oil spills from large commercial ships. The USCG Captain of the Port reports to the Puget Sound Harbor Safety Committee regularly include incidents that are caused by recreational vessels interfering with the safe passage of commercial vessels, in violation of Rule 10. In 2018, Washington State had 195,631 active registered recreational boats, and in 2021 there are 241,739. This is an increase of 46,108 registered recreational boats or 23.5%.)

2) Increases in barge traffic will result from the recent Port of Bellingham Marine Highway Designation, M-5 Coastal Connector, which will increase barge traffic between Bellingham, Washington; Southern Oregon; and San Diego, California.

3) Increases in oil transfer operations at anchorages in the connected navigable waterways have more than doubled the volume of oil transferred at the anchorage areas near Vendovi Island from 2018 to 2020/2021. See Ecology's June 2021 Vessel Activity Synopsis (that analyzes 2018 vessel activity in the WA State and BC waters of the Salish Sea up to the 49th parallel), pages 49-50: The 'Anchor - Vendovi Island' transfer location, which encompasses the Jack Island North, South; Vendovi Island East, South; and Williams Point ATB anchorage locations, had the third highest oil transfer volumes with over 4 million gallons transferred there in 2018. Compare the 2018 data with the June 30, 2020 – June 30, 2021 ANT (Advance Notice of Transfer) data for 'Anchor – Vendovi Island' that shows the volume of total transfer operations at 9,681,479 gallons.

Response to O-7-7

1. Our vessel traffic simulations rely upon AIS data. Our model development team is looking at ways to account for non-AIS traffic in the study area.
2. Potential changes in vessel traffic will not be included in model simulations for this analysis. The current iteration of the model relies upon vessel behaviors present in historical AIS data. We anticipate building in this functionality in the future. This analysis will include an investigation and discussion of changes in tug of opportunity availability related to potential increases in tanker traffic resulting from the TransMountain pipeline expansion.
3. Analysis will include assumptions about the frequency of vessel bunkering. Ecology maintains a database of oil transfers in Washington waters that will be used to determine these assumptions.

Comment O-7-8

If the ERTV analysis uses a model that includes 2018 or other historic vessel traffic data, Ecology should consider whether increases in recreational boating, barge, and bunker barge vessel traffic have and/or will occur and whether the model should be modified accordingly. This analysis should include these changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways.

Response to O-7-8

Traffic simulations will be based on vessel traffic behavior in historical AIS traffic data. Hypothetical traffic levels will not be included in simulations for this analysis.

Comment O-7-9

Addition to question 3 variables: "Tidal current regimes (ebb, flood, spring, neap) Wind regimes (wind direction and strength)

Response to O-7-9

Current and wind are incorporated into the Oil Spill Risk model in the Momentum and Drift sub-model. This will be used to estimate time adrift after a loss of propulsion event.

Comment O-7-10

Add research question: "What characteristics and capabilities of an ERTV are necessary to successfully perform emergency towing of the ships commonly transiting in these waters?"

Response to O-7-10

We will include the following research question: "How do key design characteristics of emergency towing vessels affect oil spill risk?"

Comment O-7-11

Add research question: "What towing procedures are best suited to this operating environment?"

Response to O-7-11

ERTV capability will be addressed by our research question: "How do key design characteristics of emergency towing vessels affect oil spill risk?" Ecology will review literature on emergency towing procedures and vessel design, but will not conduct new analysis of these topics as part of this study.

Comment O-7-12

Add to outreach section: "Ecology will provide documentation of engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways."

Response to O-7-12

Ecology's report to the legislature will describe consultation and outreach conducted during the project.

Comment O-7-13

Add Peer Review Section: "Ecology will consult and/or contract with vessel traffic accident and oil spill risk modeling and analysis professionals for at least three peer reviews of this analysis."

Response to O-7-13

Ecology will consult with tribes and stakeholders throughout the analysis project, and remains committed to a transparent process. Ecology does not intend to conduct, or contract for, formal peer review in advance of submission of the report to the legislature. Ecology intends to look for opportunities to publish articles in peer reviewed journals related to the oil spill risk model in the future.

Comment O-7-14

Add to deliverable section: "The report to the legislature will include the documentation of engagement with Tribes, the peer reviews, and a comparison of this analysis with the April 2021 report, Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia."

Response to O-7-14

Ecology's report to the legislature will describe consultation and outreach conducted during the project. The report will include information about the methodology and data used in analysis.

Appendix: Original Comment Letters

DYKES EHRLICHMAN LAW FIRM

Land Use, Real Estate, & Environmental Law

September 30, 2021

Mr. Carlos Clements, Program Manager
Spill Prevention, Preparedness, and Response
Washington Department of Ecology
carlos.clements@ecy.wa.gov

Via Electronic Mail

Mr. Brian Kirk, PMP
Prevention Section Manager
Washington Department of Ecology
bkir461@ecy.wa.gov

Re: Combined Comment Letter on Two Ecology Projects Under ESHB 1578:

- Scope of Work for Analysis of Tug Escorts; and
- Scope of Work for Analysis of Emergency Response Towing Vessel

Dear Carlos and Brian:

Thank you for the courtesy your office and staff have shown to staff for the Swinomish Indian Tribal Community during your ongoing study of vessel traffic risk in the Salish Sea. We look forward to continued dialog with you at the staff level as your work proceeds. At some point, we will work with you to arrange a formal government-to-government consultation between Director Watson and Swinomish Chairman Steve Edwards consistent with the outreach requirements of ESHB 1578.

At this time, at the staff level, we want to offer you our comments and input on your work to create a new oil spill risk model, and to create a scope of work for the associated two projects described above (Analysis of Tug Escorts and a proposed Emergency Response Towing Vessel (ERTV)). This comment letter incorporates various attachments, including the paper commissioned from Nash Maritime.

This model and the two analysis projects are important to the Swinomish Indian Tribal Community and treaty fishing tribes in general, because they are designed to serve as the basis for new rulemaking by the Board of Pilotage Commissioners on vessel safety. We can also anticipate that your analysis will be utilized in legislative and other public policy forums where it is important to characterize risk and evaluate new safety measures.

It is important to reaffirm the context for the work that you are doing in support of the Board's rulemaking. Because your work is designed to lead to rulemaking, we believe it must necessarily be guided by the goals of that rulemaking outlined in ESHB 1578:

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Sequim, WA 98382
(425) 268-5553
tom@dykesehrlichman.com

> . . . **the board of pilotage commissioners must also design the rules with a goal of** avoiding or minimizing additional underwater noise from vessels in the Salish Sea, focusing vessel traffic into established shipping lanes, **protecting and minimizing vessel traffic impacts to established treaty fishing areas, and respecting and preserving the treaty-protected interests and fishing rights of potentially affected federally recognized Indian tribes.**

ESHB 1578, § (3)(6) (now codified at RCW 88.16.260) (emphasized added). We appreciate that you and your staff have conducted your work on the oil spill risk model in a way that demonstrates you are mindful of this nexus with the goals of the rulemaking.[1]

To assist you further in that regard, we offer the attached evaluation prepared for the Swinomish Indian Tribal Community by a respected international maritime risk firm, Nash Maritime. As we have discussed, it has been Swinomish' intent that the Nash analysis support your work by offering an outside, peer review of methods described to date. Their analysis is complimentary of your model construct and offers suggestions to ensure that the model remain as flexible as possible, to answer the kinds of questions that must be answered when "protecting and minimizing vessel traffic impacts to established treaty fishing areas." We look forward to discussing their conclusions and recommendations with you in a staff-level meeting in the near future.

The analysis by Nash Maritime is also offered in the context of your immediate request for comments on Scope of Work. As you have acknowledged in your two descriptors for the Scope of Work, the risk model evaluated in the Nash Maritime paper serves as the underpinning of the Tug Escort and ERTV analyses captioned above. We would go so far as to say that the most critical component underlying these Scope of Work descriptors is the model. Accordingly, the Scope of Work descriptors should be amended to include a scope of work and timeline for completion of the model. We encourage you to revise your scope of work for the model to include study of the issues identified in the attached report.

One of the recommendations in the attached is that the scope of work and timeline for the model include a specific event in the future in which you display the workings of the initial model (in sample video displays), so that functionality can be discussed and adjusted in response to comments by tribes and stakeholders. We trust that the other recommendations for transparency and functionality in the Nash Maritime report will be given your full consideration.

Swinomish would also like to see the Scope of Work for the Tug Escort Analysis dedicate a portion of the analysis to an evaluation of how additional tug escorts would generate additional new vessel trips through treaty fishing areas. As discussed in multiple forums, risk reduction and mitigation measures often generate more vessel traffic, however well-intentioned. The report could include an assessment of the degree to which tribal fishermen already experience conflicts between tug transits and the laying of treaty fishing tribe gear for crab and salmon harvest.

[1] In the interests of a thorough summary of the legislative intent, we note that Section 1 of ESHB 1578 recognized that, among the community interests harmed by an oil spill, the spill could "violate the treaty interests and fishing rights of potentially affected federally recognized Indian tribes."

The Scope of Work for the ETRV includes a discussion of how oil spill risk is distributed when different variables are adjusted. In line with the foregoing discussion of the rulemaking goals, we request that the Scope of Work be modified to include a statement that one of the variables to be adjusted to analyze risk would be the amount of oil or petroleum product on board vessels when transiting Rosario Strait or connected waterways, including those in transit and those at anchor. This will necessarily require development of the means to quantify historical levels of oil or product on board vessels in transit or at anchor.[2] We understand the complexities involved in the assessment of that variable, but it is a key concern in the areas where oil/petroleum product transport is highest – those connecting waterways between Anacortes and Ferndale. As we have discussed, this is prime fishing area for Swinomish and other treaty fishing tribes. In order to portray risk accurately, Ecology will have to solve this analytical question.

The Swinomish Indian Tribal Community remains committed to working with you to refine the oil spill risk modeling tools in a manner that ensures risks to treaty fishing interests from oil spills and vessel traffic are fully and accurately depicted.

Thank you for your attention to these comments and the attached report from Nash Maritime. If we can answer any questions concerning these suggestions, please call me (425) 268-5553 or Jim Jannetta (225) 313-4316.

Very truly yours,

Tom Ehrlichman

cc: Mr. Joe Williams, Swinomish Indian Tribal Community
Mr. Alex Hess, Department of Ecology alex.hess@ecy.wa.gov
Mr. James Jannetta, Office of Swinomish Tribal Attorney
Ms. Melody Allen, Office of Suquamish Tribal Attorney
Ms. Saza Osawa, Office of Tulalip Tribal Attorney
Mr. Ed Rogers, Nash Maritime
Mr. Andrew Rawson, Nash Maritime

[2] See Nash Maritime report, attached, at Page 12.

Friends of the San Juans
360.378.2319
www.sanjuans.org
P.O. Box 1344
Friday Harbor, WA 98250

September 21, 2021

Alex Hess
Maritime Risk Lead
Spills Prevention Section
Spill Prevention, Preparedness, and Response Program
Washington State Department of Ecology
PO Box 47600
Olympia, WA, 98504-7600

Sent via comment portal: https://sppr.ecology.commentinput.com/?id=sQPq7 and email: alex.hess@ecy.wa.gov

Dear Mr. Hess,
Thank you for the opportunity to comment on Ecology's draft scope of work for an analysis of an Emergency Response Towing Vessel (ERTV) serving Haro Strait and Boundary Pass, Rosario Strait and connected navigable waterways, as required by ESHB 1578.

Friends of the San Juans represents thousands of members and works with tribal and governmental agencies and diverse stakeholders, including citizens, committees, , and other nonprofit organizations in the transboundary region of the Salish Sea to protect and restore the San Juan Islands and the Salish Sea for people and nature—since 1979. In 2001, Friends of the San Juans was a co-petitioner that led to the federal listing of the Southern Resident Killer Whales as an endangered species under the Endangered Species Act (ESA). The protection and recovery of the Southern Residents continues to be one of our top priorities. Preventing oil spills is crucial to the protection of this critically endangered species, the entire Salish Sea ecosystem, and the health and well-being of the surrounding communities.

Friends of the San Juans respectfully acknowledges and honors the fact that this beautiful place we call home is comprised of the ancestral lands, waters, and natural resources of the Coast Salish peoples. The Coast Salish peoples have cared for and stewarded the San Juan Islands and the Salish Sea since time immemorial — and continue to do so — and we honor their inherent, aboriginal, and treaty rights that have been passed down from generation to generation. This report should document Ecology's engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.

At the 2016 Salish Sea Oil Spill Risk Mitigation Workshop, of the 24 prevention-focused risk mitigation measures for reducing and further preventing oil spills from vessel traffic in the Strait of Juan de Fuca and the Salish Sea, pre-positioning a multi-mission ERTV for Haro

Strait/Boundary Pass was prioritized as the #3 risk mitigation measure.[1] San Juan County, following Ecology's advice, then completed two reports to make a business case for additional investment in oil spill prevention measures by positioning an ERTV in San Juan County: the *Oil Spills Consequences Assessment for San Juan County* (prepared by Earth Economics) and the *Emergency Response Towing Vessel Cost Evaluation* (prepared by Northern Economics). San Juan County then contracted with Nuka Research and Planning Group, LLC, which partnered with the University of Washington Salish Sea Modeling Center at the Puget Sound Institute for the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*. This report concluded that an ERTV located in Roche Harbor, WA or Sidney, BC would have the best chance of arriving in time to rescue more than 80% of the cases modeled.[2]

The San Juan Ecosystem Protection and Recovery Plan identifies investment in an ERTV to reduce the risk of a spill at Boundary Pass/Haro Strait on the north and west sides of San Juan County as a priority risk mitigation measure. The Governor's Southern Resident Orca Task Force Recommendation 24: Reduce the threat of oil spills in Puget Sound to the survival of Southern Residents, includes the implementation detail, "support the requirement for a stationed emergency response towing vessel (rescue tug) in a location to minimize response time in Haro Strait and other navigation lanes with the highest tank vessel traffic."[3]

Ecology's analysis should utilize and build upon the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia* which addressed these research questions:

1) Throughout the study area, how much time may be available for an ERTV to arrive at a disabled ship before the ship grounds, considering winds and currents?
2) Considering four focus areas around San Juan County, what is the probability that an ERTV could arrive before a ship drifting from the typical shipping route grounds?

These additional research questions were identified (and we understand that Rosario Strait will be included in Ecology's analysis):

- What are the variations in drift times to grounding under different tidal current regimes (ebb, flood, spring, and neap)?
- What are the variations in drift times to grounding under different wind regimes (wind direction and strength)?

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[1] Spill Prevention, Preparedness and Response Program, Washington State Department of Ecology. December 2016. 2016 Salish Sea Oil Spill Risk Mitigation Workshop Summary Report. Publication no. 17-08-005. https://apps.ecology.wa.gov/publications/documents/1708005.pdf. Accessed 9-15-2021.

[2] Tim Robertson et al. April 2021. Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia. Page ii. https://www.sanjuanlio.com/wp-content/uploads/2021/04/Vessel-Drift-and-Response-Analysis-Inland-Waters-SJC-Apr21.pdf. Accessed 9-15-2021.

[3] Cascadia Consulting Group. November 2019. Southern Resident Orca Task Force Final Report and Recommendations. Pages 83-84. https://www.governor.wa.gov/sites/default/files/OrcaTaskForce_FinalReportandRecommendations_11.07.19.pdf. Accessed 9-15-2021.

- What are the variations in drift times to grounding for different vessel types (vehicle carrier, bulk carrier, etc.)?
- What is the probability that an ERTV could arrive before a vessel drifting from the typical ship route grounds in a Rosario Strait focus area?

It was also noted that "additional studies may be required to determine the characteristics and capabilities of an ERTV necessary to successfully perform emergency towing of the ships commonly transiting in these waters. This research could also consider the towing procedures best suited to this operating environment."[4]

The draft research question, "Tank vessel escort scenarios" should be deleted. This research question would include evaluating the effectiveness of tugs that are escorting laden tank vessels per federal and/or state/provincial law. This research question would evaluate the effectiveness of diverting tugs that are escorting laden tankers, requiring these tugs to leave their escort duty in order to respond to an active casualty on another vessel. This research question appears to rely on some kind of discretionary authority on the part of the USCG and/or Transport Canada. Without clear regulations on both sides of the border that would allow for this, it would not be appropriate to include this research question. If it is deemed appropriate, a research question could be added to evaluate the availability and effectiveness of tugs that are not escorting laden tankers (also known as tugs of opportunity) for response to a casualty.

This report to the Legislature should include peer reviews to ensure the accuracy and validity of Ecology's internal work product. The report should also include a comparison with the report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*.

There are recent changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways that this study should account for, including:

1) Significant increases in recreational boating traffic. The San Juan Islands are a top recreational boating destination. Recreational boats are a source of risk of accidents and oil spills from large commercial ships. The USCG Captain of the Port reports to the Puget Sound Harbor Safety Committee regularly include incidents that are caused by recreational vessels interfering with the safe passage of commercial vessels, in violation of Rule 10.[5] In 2018, Washington State had 195,631 active registered recreational boats, and in 2021 there are 241,739. This is an increase of 46,108 registered recreational boats or 23.5%.[6]

[4] Tim Robertson et al. April 2021. Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia. Page 27. https://www.sanjuanlio.com/wp-content/uploads/2021/04/Vessel-Drift-and-Response-Analysis-Inland-Waters-SJC-Apr21.pdf. Accessed 9-15-2021.

[5] U.S. Department of Homeland Security. United States Coast Guard. Navigation Rules. Pages 22-24. https://www.navcen.uscg.gov/pdf/navrules/navrules.pdf. Accessed 9-17-2021.

[6] Washington Sea Grant's Recreational Boat Fleet table that shows the number of active registered vessels moored in each county by the county in which it is registered for 2018: https://public.tableau.com/shared/88ZTD5939?:display_count=y&:origin=viz_share_link&:embed=y

2) Increases in barge traffic will result from the recent Port of Bellingham Marine Highway Designation, M-5 Coastal Connector, which will increase barge traffic between Bellingham, Washington; Southern Oregon; and San Diego, California.[7]
3) Increases in oil transfer operations at anchorages in the connected navigable waterways have more than doubled the volume of oil transferred at the anchorage areas near Vendovi Island from 2018 to 2020/2021. See Ecology's June 2021 *Vessel Activity Synopsis* (that analyzes 2018 vessel activity in the WA State and BC waters of the Salish Sea up to the 49th parallel), pages 49-50:

> The 'Anchor - Vendovi Island' transfer location, which encompasses the Jack Island North, South; Vendovi Island East, South; and Williams Point ATB anchorage locations, had the third highest oil transfer volumes with over 4 million gallons transferred there in 2018.[8]

Compare the 2018 data with the June 30, 2020 – June 30, 2021 ANT (Advance Notice of Transfer) data for 'Anchor – Vendovi Island' that shows the volume of total transfer operations at 9,681,479 gallons.

If the ERTV analysis uses a model that includes 2018 or other historic vessel traffic data, Ecology should consider whether increases in recreational boating, barge, and bunker barge vessel traffic have and/or will occur and whether the model should be modified accordingly. This analysis should include these changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways.

Thank you for your attention to these comments. Please see attached recommended changes to the scope of work.

Sincerely,

Lovel Pratt

Lovel Pratt
Marine Protection and Policy Director

And 2021: https://public.tableau.com/views/MooragebyRegistered/MooragebyRegistered?:language=en-US&:increment_view_count=no&:embed=y&:embed_code_version=3&:loadOrderID=0&:display_count=y&publish=yes&:origin=viz_share_link. Accessed 9-17-2021.

[7] US Department of Transportation Maritime Administration. August 19, 2021. *U.S. Department of Transportation Announces a New Marine Highway and Six Marine Highway Designations*. https://www.maritime.dot.gov/newsroom/press-releases/us-department-transportation-announces-new-marine-highway-and-six-marine. Accessed 8-20-2021.

[8] Spill Prevention, Preparedness and Response Program, Washington State Department of Ecology. June 2021. Maritime Activity in the Northern Puget Sound and Strait of Juan de Fuca. Publication 21-08-008. https://apps.ecology.wa.gov/publications/documents/2108008.pdf. Accessed 9-17-2021.

Requested changes to the draft scope of work using strike-out deletions (~~example~~) and underlined additions (<u>example</u>):

Analysis Objective
The analysis objective is to quantitatively assess whether an emergency response towing vessel serving Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways will reduce oil spill risk from covered vessels.

Research Questions

- How is oil spill risk distributed geographically in the study area? How does an ERTV serving the study area change this risk distribution?
- How is oil spill risk distributed across covered vessel types? How does an ERTV serving the study area change this distribution?
- How do the following variables change these distributions?
    - ERTV stationing locations
    - Levels of vessel traffic
    - ~~Tank vessel escort scenarios~~
    - <u>Tidal current regimes (ebb, flood, spring, and neap)</u>
    - <u>Wind regimes (wind direction and strength)</u>
- What qualitative impacts do different ERTV characteristics have on oil spill risk?
- <u>What characteristics and capabilities of an ERTV are necessary to successfully perform emergency towing of the ships commonly transiting in these waters?</u>
- <u>What towing procedures are best suited to this operating environment?</u>

Outreach
Ecology will consult with tribes and stakeholders and conduct outreach activities throughout the project to include a mixture of webinars, informational briefings, technical discussions, and informal discussions. <u>Ecology will provide documentation of engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.</u>

<u>Peer Review</u>
<u>Ecology will consult and/or contract with vessel traffic accident and oil spill risk modeling and analysis professionals for at least three peer reviews of this analysis.</u>

Deliverable
Ecology will report findings to the legislature by September 1, 2023. <u>The report to the Legislature will include the documentation of engagement with Tribes, the peer reviews, and a comparison of this analysis with the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*.</u>

PUGET SOUND PILOTS
Protecting Puget Sound Since 1935

September 28, 2021

Alex Hess
Maritime Risk Lead
Spills Prevention Section
Spill Prevention, Preparedness, and Response Program
Washington State Department of Ecology
PO Box 47600
Olympia, WA, 98504-7600

Re: Comments Regarding ERTV Analysis – Scope of Work.

Dear Mr. Hess & Team,

Puget Sound Pilots would like to submit the following comments to the Research Questions proposed by the DOE in the Analysis of Emergency Response Towing Vessel – Scope of Work. As a general concept, adding an ERTV to the San Juan Island archipelago would certainly reduce the risk of an oil spill to some degree. The question is, to what degree, and how could the positioning and specifications (such as speed, bollard pull etc.) of such a vessel be optimized for maximum effectiveness? The DOE model should be able to provide relative comparisons to answer the question of positioning and specifications. The following suggestions should help shape the questions to focus on root technical issues behind the questions:

- The findings of the Nuka study commissioned by San Juan County provided valuable information regarding where to station an ERTV for Haro Strait and Boundary Pass for the most effective response. Because the study area required by EHB 1578 includes Rosario Strait and connecting waters, the DOE will need to expand on the study area used by the Nuka team to include these additional waters which will, of course result in different finding from the Nuka study. Due to the geographic separation of Haro Strait/Boundary Pass from Rosario Strait, the response time will be significantly higher which may prove unsatisfactory. In this case, it may be necessary to consider employing two ERTV's, one for each waterway, to keep the response times in an effective envelope. The DOE model should be used to analyze this larger area as well as the effectiveness of one vs. two ERTVs.

- It is unnecessary to study ERTV interaction with the currently escorted tank vessels as these vessels already have effective emergency coverage from their escorts. The study should specifically focus on every other type of non-escorted vessel as these present a higher risk exposure. These vessels should include: tank vessels not escorted under current regs, tank vessels in ballast, container vessels, bulkers, general cargo, roll-on/roll-off etc.

- ERTV Characteristics: The model should be able to directly study/compare ERTV speed and bollard pull capability and could also indirectly study towing vessel equipment by how various tow-gear configurations effect the response time and therefore success rate in an emergency operation. It is suggested that this aspect of the study would include input from towing industry experts with experience/credibility in emergency towing.

In addition to the above comments, Puget Sound Pilots continues to offer our services and input to assist the OTSC and DOE in developing the model, designing the exercises, and interpreting the results.

Respectfully,

Capt. Blair Bouma (OTSC Member)

Puget Sound Pilots

cc:

The American Waterways Operators

755 Winslow Way East
Suite 105B
Bainbridge Island, WA 98110

PHONE: 203.980.3051
EMAIL: ccostanzo@americanwaterways.com

Charles P. Costanzo
General Counsel & Vice President – Pacific Region

September 30, 2021

Mr. Alex Hess
Maritime Risk Lead Spills Prevention Section
Spill Prevention, Preparedness, and Response Program
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Re: Emergency Response Towing Vessel Analysis - Scope of Work under RCW 88.46.250 Subsection 2.

Dear Mr. Hess:

The American Waterways Operators is the national trade association for the tugboat, towboat, and barge industry, a vital segment of America's transportation system. Sixteen AWO member companies are headquartered in Washington, and many more operate tugboats, towboats, tank barges and deck barges in Washington waters. Towing vessels move tens of millions of tons of freight every year on Washington waterways, reducing congestion on the state's highways and railroads while producing fewer pollutants than trucks and trains. In addition, harbor and ship assist tugboats perform shipdocking, tanker escort, and fueling services in Washington's harbors and ports. The tugboat, towboat, and barge industry provides the nation with a safe, secure, low-cost, environmentally-friendly means of transportation.

In the past AWO has worked collaboratively with the Department of Ecology on a range of transportation matters to better inform Ecology about maritime operations and safety practices within our industry. AWO served as a member of the 2013 Oil Spill Rulemaking Advisory Committee and the 2016 Columbia River Vessel Traffic Management and Safety Assessment Working Group and provided significant input to Ecology's study modeling and assessment report to the state legislature. In 2018, AWO helped to inform the work of the Southern Resident Killer Whale Task Force. AWO has also served on the Board of Pilotage Commissioners' Oil Transportation Safety Committee that was charged with providing guidance on the implementation of towing vessel escort laws under Washington ESHB 1578. It is in this spirit of collaboration that I comment today on the quantitative assessment and scope of work for an emergency response towing vessel (ERTV) serving Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways codified now in RCW 88.46.250

Subsection 2.

First, AWO urges the Department of Ecology to use the association and its members as a resource as it considers the many factors that will inform its recommendations. AWO members have extensive practical experience as both the service providers and theoretical service recipients of the existing ERTV stationed in Neah Bay. An AWO representative has always served on the ERTV Compliance Group Board, and we have been involved in questions of ERTV funding since the inception of the system.

While AWO recognizes some key distinctions between the geographical locations and risk management benefits of the proposed interior Puget Sound ERTV and the existing Neah Bay resource, we want to highlight some structural similarities. While the initial plan for the Neah Bay ERTV funded the program through state resources, the state-funded system was short-lived. For many years, the costs of the program have been borne by industry through an imperfect system that allocates theoretical oil spill risk of a vessel and then splits costs between tank and non-tank vessels based on the perceived risk. Under this system, tank vessels generally pay more for the Neah Bay ERTV than non-tank vessels. While this appears rational given that tank vessels are carrying oil as cargo, there has not been a cargo oil spill from a vessel allision, collision, or grounding in Puget Sound in decades, and safety management regimes for tank vessels are sometimes more robust than for non-tank vessels. The fair apportionment of ERTV costs must be more carefully considered as these costs impact efficiencies and trade competition.

In addition to probable risk profile asymmetry in cost assessment, there has also been a "free-rider" question as vessels calling in Canada received the risk mitigation benefit but may not pay for the service. In an era of intense competition between Canadian ports and our own Northwest Seaport Alliance, Ecology should not institute a program that picks economic winners by conferring benefits on marine business activity that impairs Washington's standing in international maritime trade.

The rationale behind emergency rescue towing vessels is well understood – to rescue a vessel in distress (typically) when the vessel loses power or steering. This raises obvious questions:

1. Are there examples of vessels losing propulsion, steering or other critical systems inside Puget Sound where a responding vessel would have prevented a marine casualty?

2. Could a strengthened vessel of opportunity system provide equivalent risk mitigation to a dedicated ERTV?

Several conditions seem to argue against the establishment of an additional ERTV inside Puget Sound – specifically a) the presence of numerous large towing vessels in the subject area and b) recent legislation mandating expanded towing vessel escorts in Puget Sound for tank vessels. These shifts in risk mitigation resources appear to substantially reduce spill risk without the cost of dedicated stand-by resources. On the other hand, AWO recognizes the commercial benefit to the towing industry from the establishment of additional emergency

rescue towing vessels, as AWO members typically operate these resources. AWO members welcome the opportunity to serve as vital protection for marine safety and the environment.

At this time, AWO does not have a position whether a second dedicated ERTV in Washington waters is wise or not. However, AWO strongly encourages Ecology to consider carefully the risk mitigation benefit threshold for determining whether another dedicated ERTV is warranted for Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways. A second ERTV in that area might reduce some risk but questions still persist about whether other systems could provide the same reduction, how to equitably apportion the costs, and how the system can be structured to truly account for the actual risk involved with each particular type of payee vessels. These are questions that must be answered as the agency considers its scope of work under RCW 88.46.250 Subsection 2.

AWO stands ready to help the state carefully consider the usefulness of a second dedicated ERTV. Please do not hesitate to contact us anytime during this process.

Sincerely,

Charles Costanzo
General Counsel and Vice President – Pacific Region

Pacific Merchant Shipping Association

Thank you for the opportunity to comment.

My name is Captain Mike Moore, Vice President of the Pacific Merchant Shipping Association whose membership includes ocean carriers, container terminal operators, tug companies as well as vessel agents serving both tank and non-tank vessels.

By way of relevant background, I retired at Captain of the Port Puget Sound and was very involved in the discussions around the ERTV at Neah Bay when it was part time funded by the public sector during winter months. I also implemented a policy requiring the nearest suitable tug to be used when a vessel had reduced operational capabilities, primarily related to reduction or loss of propulsion and/or steering. This was implemented via Captain of the Port or Administration Orders (under OPA 90) and the nearest suitable tug requirement was fully complied with using tugs of opportunity. In addition, I gathered stakeholders to start the Puget Sound Harbor Safety Committee which produced the first Harbor Safety Plan including Standards of Care one of which involved tugs and tethering. I currently serve as President of the Emergency Response Towing Vessel Compliance Group for the tug stationed at Neah Bay and jointly negotiated the service contract and fully agreed upon fee structure for both tank and non-tank vessels in partnership with the tank sector led by the Western State Petroleum Association. We have provided compliant coverage for enrolled vessels since 2010.

The "Emergency Response Towing Vessel Analysis Scope of Work" should logically focus on identifying the need for an ERTV. This requires identifying specific scenarios where all other mitigation measures fail to avoid an oil spill from a drift grounding. Here are several key inputs that to our knowledge have yet to be studied or evaluated with any academic rigor:

* Tugs of opportunity availability in the area of study - this has been dismissed by those that support an additional ERTV but the International Tug of Opportunity system created in the 90's has expanded with the use of AIS and additional tugs for assist and escort work and is extremely relevant given the available data demonstrates all internal water tug assists have been conducted by such tugs.

* Validation that a tug response does not require open ocean towing capability but rather the ability to help successfully control a vessel that has suffered some reduction (or loss) of propulsion and/or steering such that a grounding is avoided.

* Tug presence evaluation must consider status quo of escort/assist tugs plus tugs engaged in other activities that are in the area, repositioning, staged awaiting next job or otherwise available.

* Additional tug saturation/availability due to increased tug escorts must be fully considered as tugs have to be positioned, repositioned or staged for each escort job in addition to escorting while tethered or untethered.

* This should include additional tug escorts recently implemented in Washington State waters as well as the upcoming implementation of tug escorts associated with the Trans Mountain expansion

project in Canada. The specifics of the Canadian tug escort regime will greatly increase tug presence in the Haro/Boundary area as well as Georgia Strait and the Strait of Juan de Fuca. This tug escort regime is likely to split the transit into the involvement of two tugs with a handoff point. This dynamic will significantly increase tug presence and will by definition involved tugs designed to escort or respond to a vessel in need.

* The study should include all mitigation strategies that the master/pilot can implement when a vessel has suffered some reduction/failure in propulsion and/or steering. The momentum involved in the transit allows for actions that are different than simply allowing a vessel to drift with the current and wind until grounding. Failure to maneuver the vessel to reduce risk would involve a failure to perform their duties which is extremely unlikely. So, appropriately positioning of the vessel with the available momentum in the tide/current and wind conditions of various scenarios and with various vessel types, sizes and loaded conditions is a key mitigation measure that must be considered. In concert with this is identifying areas in various transit scenarios where a vessel could be best positioned to allow for more response time of a tug or to allow for successful anchoring. This of course, will depend on many issues including but not limited to the location of a propulsion and/or steering issue, tide/current, wind, sail area, loaded condition and the type/size of the vessel.

* Engineering analysis of the energy and shoreline/grounding type needed to result on penetration of a protectively located fuel tank under various scenarios. Protectively located fuel tanks on non-tank vessels are no longer on the bottom or side of a vessel but internally located typically athwart ship significantly reducing the percentage of the hull in any close proximity to fuel tanks. A collision energy analysis was done during the Blue Ribbon Task Force in Washington State in the 90's assessing collision scenarios involving ferries and cargo ships; I can provide some background on this issue.

* Confirmation that there have been zero drift grounding incidents that led to an oil outflow from any cargo (or cruise) vessel calling at a Puget Sound port in history. The scope of study should evaluate why that outcome was produced and what mitigation factors were key to the avoidance of a drift grounding caused oil spill including but not limited to master/pilot actions to position the vessel, self-repair, anchoring, tug of opportunity response to stand by, tug of opportunity response putting a line up on the vessel and the specifics involved in each.

* Validation that no matter where an additional ERTV would be located, that multiple areas in the study area would involve a quicker response by a tug of opportunity.

* There should be analysis of the probability differences of propulsion and/or steering issues in any particular area within the study area or confirmation that such location would be random.

I am happy to have a follow up discussion to further explain any of the above comments or to review past reviews of these issues.

Respectfully submitted,

Captain Mike Moore
Vice President
Pacific Merchant Shipping Association

San Juan County Council

JAMIE STEPHENS – CHAIR

District #3

350 Court Street, No. 1, Friday Harbor, WA 98250

(360) 378-2898

September 30, 2021

Alex Hess
Maritime Risk Lead
Spills Prevention Section
Spill Prevention, Preparedness, and Response Program
Washington State Department of Ecology
PO Box 47600
Olympia, WA, 98504-7600

Sent via comment portal: https://sppr.ecology.commentinput.com/?id=sQPq7 and email: alex.hess@ecy.wa.gov

Dear Mr. Hess,
Thank you for the opportunity to comment on Ecology's draft scope of work for an analysis of an emergency response towing vessel (ERTV) serving Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways which include waters of San Juan County. Improving oil spill prevention and spill response preparedness have been long-standing priorities for San Juan County. The risk of a major oil spill is one of the greatest threats to our economy and environment.

There are nine Tribes with usual and accustomed treaty rights in San Juan County. The ERTV analysis report should document Ecology's engagement with Tribes that have Treaty Rights in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.

At the 2016 Salish Sea Oil Spill Risk Mitigation Workshop, of the 24 prevention-focused risk mitigation measures for reducing and further preventing oil spills from vessel traffic in the Strait of Juan de Fuca and the Salish Sea, pre-positioning a multi-mission ERTV for Haro Strait/Boundary Pass was prioritized as the #3 risk mitigation measure.[1] San Juan County, following Ecology's advice, then completed two reports to implement the Workshop's recommended strategy of a cost/benefit business case for additional investment in oil spill prevention measures by positioning an ERTV in San Juan County: *Oil Spill Risk Consequences Assessment for San Juan County* (prepared by Earth Economics) and the *Emergency Response Towing Vessel Cost Evaluation* (prepared by Northern Economics).

[1] Spill Prevention, Preparedness and Response Program, Washington State Department of Ecology. December 2016. 2016 Salish Sea Oil Spill Risk Mitigation Workshop Summary Report. Publication no. 17-08-005. https://apps.ecology.wa.gov/publications/documents/1708005.pdf

San Juan County then contracted with Nuka Research and Planning Group, LLC, which partnered with the University of Washington Salish Sea Modeling Center at the Puget Sound Institute for the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*. This report concluded that an ERTV located in Roche Harbor, WA or Sidney, BC would have the best chance of arriving in time to rescue more than 80% of the disabled vessel drift cases modeled.[2]

The San Juan Ecosystem Protection and Recovery Plan identifies investment in an ERTV to reduce the risk of a spill at Boundary Pass/Haro Strait on the north and west sides of San Juan County as a priority risk mitigation measure. The Governor's Southern Resident Orca Task Force Recommendation 24: Reduce the threat of oil spills in Puget Sound to the survival of Southern Residents, includes the implementation detail, "support the requirement for a stationed emergency response towing vessel (rescue tug) in a location to minimize response time in Haro Strait and other navigation lanes with the highest tank vessel traffic."[3]

Ecology's analysis should utilize and build upon the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*, which addressed these research questions:

1) Throughout the study area, how much time may be available for an ERTV to arrive at a disabled ship before the ship grounds, considering winds and currents?

2) Considering four focus areas around San Juan County, what is the probability that an ERTV could arrive before a ship drifting from the typical shipping route grounds?

These additional research questions were identified (and we understand that Rosario Strait will be included in Ecology's analysis):

- What are the variations in drift times to grounding under different tidal current regimes (ebb, flood, spring, and neap)?
- What are the variations in drift times to grounding under different wind regimes (wind direction and strength)?
- What are the variations in drift times to grounding for different vessel types (vehicle carrier, bulk carrier, etc.)?
- What is the probability that an ERTV could arrive before a vessel drifting from the typical ship route grounds in a Rosario Strait focus area?

It was also noted that "additional studies may be required to determine the characteristics and capabilities of an ERTV necessary to successfully perform emergency towing of the ships commonly transiting in these waters. This research could also consider the towing procedures best suited to this operating environment."

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[2] Robertson, Tim et al. April 2021. Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia. Page ii. https://www.sanjuanlio.com/wp-content/uploads/2021/04/Vessel-Drift-and-Response-Analysis-Inland-Waters-SJC-Apr21.pdf

[3] Cascadia Consulting Group. November 2019. Southern Resident Orca Task Force Final Report and Recommendations. Pages 83-84. https://www.governor.wa.gov/sites/default/files/OrcaTaskForce_FinalReportandRecommendations_11.07.19.pdf

The draft scope of work proposed research question, "Tank vessel escort scenarios," should be deleted. This research question would include evaluating the effectiveness of tugs that are escorting laden tank vessels per federal and/or state/provincial law. This research question would evaluate the effectiveness of diverting tugs that are escorting laden tankers, requiring these tugs to leave their escort duty in order to respond to an active incident on another vessel. We do not support research of this option for the following reasons:

- This action appears to rely on some kind of discretionary authority on the part of the USCG and/or Transport Canada. It would need to be premised on clear regulations on both sides of the border that would allow for this mobilization in the timeframe expected for a dedicated ERTV (20 minutes); and

- Maintain the safety level for the laden tank vessel. Reducing safety for laden tank vessels as provided by escort requirements per federal and/or state/provincial law is not an acceptable risk mitigation measure for the threat posed by unescorted vessels.

A research question could be added to evaluate the availability and effectiveness of tugs that are not escorting laden tankers (also known as tugs of opportunity) for response to an incident, as previously studied in *Availability of Tugs of Opportunity in Canada's Pacific Region* by the Clear Seas Centre for Responsible Marine Shipping.

The report to the Legislature should include peer reviews to ensure the accuracy and validity of Ecology's internal work product. The report should also include a comparison with the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*.

There are recent changes in vessel traffic in Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways that this study should account for, including:

1) Significant increases in recreational boating traffic. The San Juan Islands are a top recreational boating destination. Recreational boats contribute to the risk of accidents and oil spills from large commercial ships. The USCG Captain of the Port's reports to the Puget Sound Harbor Safety Committee regularly include incidents that are caused by recreational vessels interfering with the safe passage of commercial vessels, in violation of Rule 10.[4] In 2018 Washington State had 195,631 active registered recreational boats, and in 2021 there are 241,739. This is an increase of 46,108 registered recreational boats or 23.5%. [5]

2) Increases in barge traffic will result from the recent Port of Bellingham Marine Highway Designation, M-5 Coastal Connector, which will increase barge traffic between Bellingham, Washington; Southern Oregon; and San Diego, California.[6]

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[4] U.S. Department of Homeland Security. United States Coast Guard. Navigation Rules. Pages 22-24. https://www.navcen.uscg.gov/pdf/navrules/navrules.pdf. Accessed 9-17-2021.

[5] Washington Sea Grant's Recreational Boat Fleet table that shows the number of active registered vessels moored in each county by the county in which it is registered for 2018: https://public.tableau.com/shared/88ZTD5939?:display_count=y&:origin=viz_share_link&:embed=y And 2021: https://public.tableau.com/views/MooragebyRegistered/MooragebyRegistered?:language=en-US&:increment_view_count=no&:embed=y&:embed_code_version=3&:loadOrderID=0&:display_count=y&publish=yes&:origin=viz_share_link. Accessed 9-17-2021.

[6] US Department of Transportation Maritime Administration. August 19, 2021. *U.S. Department of Transportation Announces a New Marine Highway and Six Marine Highway Designations*.

3) Increase in oil transfer operations at anchorages in the connected navigable waterways more than doubled the volume of oil transferred at the anchorage areas near Vendovi Island from 2018 to 2020/2021. See Ecology's June 2021 Vessel Activity Synopsis (that analyzes 2018 vessel activity in the WA State and BC waters of the Salish Sea up to the 49th parallel):

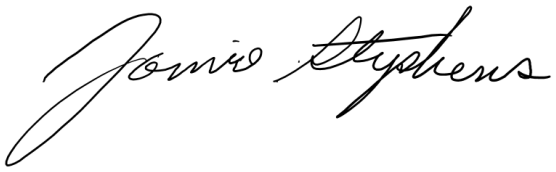
> The 'Anchor - Vendovi Island' transfer location, which encompasses the Jack Island North, South; Vendovi Island East, South; and Williams Point ATB anchorage locations, had the third highest oil transfer volumes with over 4 million gallons transferred there in 2018.[7]

Compare the 2018 data with the June 30, 2020 – June 30, 2021 Advance Notice of Transfer data for 'Anchor – Vendovi Island' that shows the volume of total transfer operations at 9,681,479 gallons.

If the ERTV analysis uses a model that includes 2018 or other historic vessel traffic data, Ecology should consider whether increases in recreational boating, barge, and bunker barge vessel traffic have and/or will occur and whether the model should be modified accordingly. This analysis should include these changes in vessel traffic in Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways.

Thank you for your attention to these comments, also reflected in the attached recommended changes to the scope of work.

Best regards,



Jamie Stephens
San Juan County Council - Chair

Attachment

cc: Representative Debra Lekanoff, 40th Legislative District
debra.lekanoff@leg.wa.gov

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https://www.maritime.dot.gov/newsroom/press-releases/us-department-transportation-announces-new-marine-highway-and-six-marine. Accessed 8-20-2021.

[7] Spill Prevention, Preparedness and Response Program, Washington State Department of Ecology. June 2021. Maritime Activity in the Northern Puget Sound and Strait of Juan de Fuca. Publication 21-08-008. Pages 49-50. https://apps.ecology.wa.gov/publications/documents/2108008.pdf. Accessed 9-17-2021.

ATTACHMENT
REQUESTED CHANGES TO THE DRAFT SCOPE OF WORK
[strike-out deletions and underlined additions]

Analysis Objective
The analysis objective is to quantitatively assess whether an emergency response towing vessel serving Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways will reduce oil spill risk from covered vessels.

Research Questions

- How is oil spill risk distributed geographically in the study area? How does an ERTV serving the study area change this risk distribution?
- How is oil spill risk distributed across covered vessel types? How does an ERTV serving the study area change this distribution?
- How do the following variables change these distributions?
    - ERTV stationing locations
    - Levels of vessel traffic
    - ~~Tank vessel escort scenarios~~
    - Tidal current regimes (ebb, flood, spring, and neap)
    - Wind regimes (wind direction and strength)
- What qualitative impacts do different ERTV characteristics have on oil spill risk?
- What characteristics and capabilities of an ERTV are necessary to successfully perform emergency towing of the ships commonly transiting these waters?
- What towing procedures are best suited to this operating environment?

Outreach
Ecology will consult with Tribes and stakeholders and conduct outreach activities throughout the project to include a mixture of webinars, informational briefings, technical discussions, and informal discussions. Ecology will provide documentation of engagement with Tribes that have Treaty Rights in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.

Peer Review
Ecology will consult and/or contract with vessel traffic accident and oil spill risk modeling and analysis professionals for at least three peer reviews of this analysis.

Deliverable
Ecology will report findings to the Legislature by September 1, 2023. The report to the Legislature will include the documentation of engagement with Tribes and peer reviewers, and a comparison of this analysis with the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*.

Trans Mountain

Thank you for the opportunity to provide comments related to the Emergency Response Towing Vessel Analysis. Please note similar comments are provided to the Escort Tug Analysis scope of work.

Trans Mountain-related marine shipping has operated safely and responsibly for more than 65 years. In keeping with the regime's focus on safety, there will be additional risk control measures to be implemented for the Trans Mountain Expansion Project (TMEP). One key measure will be the expanded use of escort tugs for loaded tankers. Loaded tankers are already escorted from the Port of Vancouver to Race Rocks through Boundary Pass and Haro Straits under current regulations. However, post TMEP, tankers loaded at Westridge Marine Terminal will be escorted by large, modern and highly capable tugs for the entire passage from the Port of Vancouver to the western entrance of the Juan de Fuca Strait.

With operations based out of Southern Vancouver Island, these tugs with skilled crews will also have spill response capacity onboard. Although primarily focused on ensuring the safety of Trans Mountain tankers, the presence of these tugs will bring significant new tow capability to this region and are expected to raise the level of marine safety and emergency response, benefitting the shared waters of the Salish Sea.

We can provide more details in follow up if requested. Please contact us at info@transmountain.com or 1.866.514.6700. Details about TMEP are also available at www.transmountain.com.

Respectfully submitted on behalf of,

Bikramjit Kanjilal
Director Burnaby and Westridge Terminals
Trans Mountain

30 September 2021

Alex Hess
Maritime Risk Lead
Spills Prevention Section
Spill Prevention, Preparedness, and Response Program
Washington State Department of Ecology
PO Box 47600
Olympia, WA, 98504-7600

Comments on Scope of Work for Analysis of Emergency Response Towing Vessel (ERTV) by ESHB 1578

Sent via comment portal: https://sppr.ecology.commentinput.com/?id=sQPq7 and email: alex.hess@ecy.wa.gov

Dear Mr. Hess,

Thank you for the opportunity to comment on Ecology's draft scope of work for an analysis of an Emergency Response Towing Vessel (ERTV) serving Haro Strait and Boundary Pass, Rosario Strait and connected navigable waterways, as required by ESHB 1578. The undersigned represent four organizations and our memberships that work on environmental issues in Washington State which include protecting the marine environment of the Salish Sea watershed, wildlife, human health, and public safety.

The undersigned respectfully acknowledge and honor the fact that Haro Strait and Boundary Pass, Rosario Strait and connected navigable waterways are the ancestral waters and natural resources of the Coast Salish peoples. The Coast Salish peoples have cared for and stewarded the Salish Sea since time immemorial — and continue to do so — and we honor their inherent, aboriginal, and treaty rights that have been passed down from generation to generation. This report should document Ecology's engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.

We also would like to express our support for the scoping comment letter submitted by Friends of the Earth.

At the 2016 Salish Sea Oil Spill Risk Mitigation Workshop, of the 24 prevention-focused risk mitigation measures for reducing and further preventing oil spills from vessel traffic in the Strait of Juan de Fuca and the Salish Sea, pre-positioning a multi-mission ERTV for Haro

Strait/Boundary Pass was prioritized as the #3 risk mitigation measure.[1] San Juan County, following Ecology's advice, then completed two reports to make a business case for additional investment in oil spill prevention measures by positioning an ERTV in San Juan County: the *Oil Spills Consequences Assessment for San Juan County* (prepared by Earth Economics) and the *Emergency Response Towing Vessel Cost Evaluation* (prepared by Northern Economics). San Juan County then contracted with Nuka Research and Planning Group, LLC, which partnered with the University of Washington Salish Sea Modeling Center at the Puget Sound Institute for the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*. This report concluded that an ERTV located in Roche Harbor, WA or Sidney, BC would have the best chance of arriving in time to rescue more than 80% of the cases modeled.[2]

The San Juan Ecosystem Protection and Recovery Plan identifies investment in an ERTV to reduce the risk of a spill at Boundary Pass/Haro Strait on the north and west sides of San Juan County as a priority risk mitigation measure. The Governor's Southern Resident Orca Task Force Recommendation 24: Reduce the threat of oil spills in Puget Sound to the survival of Southern Residents, includes the implementation detail, "support the requirement for a stationed emergency response towing vessel (rescue tug) in a location to minimize response time in Haro Strait and other navigation lanes with the highest tank vessel traffic."[3]

Ecology's analysis should utilize and build upon the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia* which addressed these research questions:

1) Throughout the study area, how much time may be available for an ERTV to arrive at a disabled ship before the ship grounds, considering winds and currents?
2) Considering four focus areas around San Juan County, what is the probability that an ERTV could arrive before a ship drifting from the typical shipping route grounds?

These additional research questions were identified (and we understand that Rosario Strait will be included in Ecology's analysis):

- What are the variations in drift times to grounding under different tidal current regimes (ebb, flood, spring, and neap)?
- What are the variations in drift times to grounding under different wind regimes (wind

[1] Spill Prevention, Preparedness and Response Program, Washington State Department of Ecology. December 2016. 2016 Salish Sea Oil Spill Risk Mitigation Workshop Summary Report. Publication no. 17-08-005. https://apps.ecology.wa.gov/publications/documents/1708005.pdf. Accessed 9-15-2021.

[2] Tim Robertson et al. April 2021. Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia. Page ii. https://www.sanjuanlio.com/wp-content/uploads/2021/04/Vessel-Drift-and-Response-Analysis-Inland-Waters-SJC-Apr21.pdf. Accessed 9-15-2021.

[3] Cascadia Consulting Group. November 2019. Southern Resident Orca Task Force Final Report and Recommendations. Pages 83-84. https://www.governor.wa.gov/sites/default/files/OrcaTaskForce_FinalReportandRecommendations_11.07.19.pdf. Accessed 9-15-2021.

direction and strength)?
- What are the variations in drift times to grounding for different vessel types (vehicle carrier, bulk carrier, etc.)?
- What is the probability that an ERTV could arrive before a vessel drifting from the typical ship route grounds in a Rosario Strait focus area?

It was also noted that "additional studies may be required to determine the characteristics and capabilities of an ERTV necessary to successfully perform emergency towing of the ships commonly transiting in these waters. This research could also consider the towing procedures best suited to this operating environment."[4]

The draft research question, "Tank vessel escort scenarios" should be deleted. This research question would include evaluating the effectiveness of tugs that are escorting laden tank vessels per federal and/or state/provincial law. This research question would evaluate the effectiveness of diverting tugs that are escorting laden tankers, requiring these tugs to leave their escort duty in order to respond to an active casualty on another vessel. This research question appears to rely on some kind of discretionary authority on the part of the USCG and/or Transport Canada. Without clear regulations on both sides of the border that would allow for this, it would not be appropriate to include this research question. If it is deemed appropriate, a research question could be added to evaluate the availability and effectiveness of tugs that are not escorting laden tankers (also known as tugs of opportunity) for response to a casualty.

This report to the Legislature should include peer reviews to ensure the accuracy and validity of Ecology's internal work product. The report should also include a comparison with the report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*.

There are recent changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways that this study should account for, including:

1) Significant increases in recreational boating traffic. The San Juan Islands are a top recreational boating destination. Recreational boats are a source of risk of accidents and oil spills from large commercial ships. The USCG Captain of the Port reports to the Puget Sound Harbor Safety Committee regularly include incidents that are caused by recreational vessels interfering with the safe passage of commercial vessels, in violation of Rule 10.[5] In 2018, Washington State had 195,631 active registered recreational boats, and in 2021 there are 241,739. This is an increase of 46,108 registered recreational

[4] Tim Robertson et al. April 2021. Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia. Page 27. https://www.sanjuanlio.com/wp-content/uploads/2021/04/Vessel-Drift-and-Response-Analysis-Inland-Waters-SJC-Apr21.pdf. Accessed 9-15-2021.

[5] U.S. Department of Homeland Security. United States Coast Guard. Navigation Rules. Pages 22-24. https://www.navcen.uscg.gov/pdf/navrules/navrules.pdf. Accessed 9-17-2021.

boats or 23.5%.[6]

2) Increases in barge traffic will result from the recent Port of Bellingham Marine Highway Designation, M-5 Coastal Connector, which will increase barge traffic between Bellingham, Washington; Southern Oregon; and San Diego, California.[7]
3) Increases in oil transfer operations at anchorages in the connected navigable waterways have more than doubled the volume of oil transferred at the anchorage areas near Vendovi Island from 2018 to 2020/2021. See Ecology's June 2021 *Vessel Activity Synopsis* (that analyzes 2018 vessel activity in the WA State and BC waters of the Salish Sea up to the 49th parallel), pages 49-50:

> The 'Anchor - Vendovi Island' transfer location, which encompasses the Jack Island North, South; Vendovi Island East, South; and Williams Point ATB anchorage locations, had the third highest oil transfer volumes with over 4 million gallons transferred there in 2018.[8]

Compare the 2018 data with the June 30, 2020 – June 30, 2021 ANT (Advance Notice of Transfer) data for 'Anchor – Vendovi Island' that shows the volume of total transfer operations at 9,681,479 gallons.

If the ERTV analysis uses a model that includes 2018 or other historic vessel traffic data, Ecology should consider whether increases in recreational boating, barge, and bunker barge vessel traffic have and/or will occur and whether the model should be modified accordingly. This analysis should include these changes in vessel traffic in Haro and Boundary Pass, Rosario Strait and connected navigable waterways.

Thank you for your attention to these comments. Please see attached recommended changes to the scope of work.

Sincerely,

Lovel Pratt
Marine Protection and Policy Director
Friends of the San Juans

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[6] Washington Sea Grant's Recreational Boat Fleet table that shows the number of active registered vessels moored in each county by the county in which it is registered for 2018: https://public.tableau.com/shared/88ZTD5939?:display_count=y&:origin=viz_share_link&:embed=y And 2021: https://public.tableau.com/views/MooragebyRegistered/MooragebyRegistered?:language=en-US&:increment_view_count=no&:embed=y&:embed_code_version=3&:loadOrderID=0&:display_count=y&publish=yes&:origin=viz_share_link. Accessed 9-17-2021.

[7] US Department of Transportation Maritime Administration. August 19, 2021. *U.S. Department of Transportation Announces a New Marine Highway and Six Marine Highway Designations*. https://www.maritime.dot.gov/newsroom/press-releases/us-department-transportation-announces-new-marine-highway-and-six-marine. Accessed 8-20-2021.

[8] Spill Prevention, Preparedness and Response Program, Washington State Department of Ecology. June 2021. Maritime Activity in the Northern Puget Sound and Strait of Juan de Fuca. Publication 21-08-008. https://apps.ecology.wa.gov/publications/documents/2108008.pdf. Accessed 9-17-2021.

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Evergreen Islands

Stephanie Hillman
Northwest Campaign Rep, Our Wild America-Dirty Fuels
Sierra Club

Janet Marino
Program Director
RE Sources

Requested changes to the draft scope of work using strike-out deletions (~~example~~) and underlined additions (<u>example</u>):

Analysis Objective
The analysis objective is to quantitatively assess whether an emergency response towing vessel serving Haro Strait, Boundary Pass, Rosario Strait and connected navigable waterways will reduce oil spill risk from covered vessels.

Research Questions

- How is oil spill risk distributed geographically in the study area? How does an ERTV serving the study area change this risk distribution?
- How is oil spill risk distributed across covered vessel types? How does an ERTV serving the study area change this distribution?
- How do the following variables change these distributions?
    - ERTV stationing locations
    - Levels of vessel traffic
    - ~~Tank vessel escort scenarios~~
    - <u>Tidal current regimes (ebb, flood, spring, and neap)</u>
    - <u>Wind regimes (wind direction and strength)</u>
- What qualitative impacts do different ERTV characteristics have on oil spill risk?
- <u>What characteristics and capabilities of an ERTV are necessary to successfully perform emergency towing of the ships commonly transiting in these waters?</u>
- <u>What towing procedures are best suited to this operating environment?</u>

Outreach
Ecology will consult with tribes and stakeholders and conduct outreach activities throughout the project to include a mixture of webinars, informational briefings, technical discussions, and informal discussions. <u>Ecology will provide documentation of engagement with Tribes that have Treaty Rights or other interests in Haro Strait, Boundary Pass, Rosario Strait, and connected navigable waterways.</u>

<u>Peer Review</u>
<u>Ecology will consult and/or contract with vessel traffic accident and oil spill risk modeling and analysis professionals for at least three peer reviews of this analysis.</u>

Deliverable
Ecology will report findings to the legislature by September 1, 2023. <u>The report to the Legislature will include the documentation of engagement with Tribes, the peer reviews, and a</u>

comparison of this analysis with the April 2021 report, *Vessel Drift and Response Analysis for the Strait of Juan de Fuca to the Southern Strait of Georgia*.