STATE OF WASHINGTON
BOARD OF PILOTAGE COMMISSIONERS
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Meeting Minutes – Oil Transportation Safety Committee (OTSC)

January 10, 2024, 10:00am – 12:10pm
Via MS Teams

Attendees:
Jaimie Bever (Chair/BPC), Brian Kirk (Ecology Alternate/BPC), JD Ross Leahy (Ecology Alternate/BPC), Sara Thompson (Ecology Alternate/BPC), Haley Kennard (Ecology Alternate/BPC), Angela Zeigenfuse (Ecology Alternate/BPC), Brittany Flittner (Ecology Alternate/BPC), Blair Bouma, (Pilot/PSP), Leah Harnish (Tug Industry Alternate/AWO), Brian Porter (Tribal/Swinomish), Clyde Halstead (Tribal/Swinomish), Antonio Machado (Oil Industry/WSPA), Rein Attemann (Environment Alternate/WEC), Kyle Burleson (Tug Industry Alternate/AWO), Fred Felleman (Environment/Friends of the Earth), Lovel Pratt (Environment Alternate/Friends of the San Juans), John Robertson (USCG/Advisory), Laird Hail (USCG/Advisory), Jim Peschel (Tug Industry Alternate/Vane Brothers), Bettina Maki (BPC)

1. **Welcome and Approval of the September 14, 2023 OTSC Meeting Minutes**
   OTSC Chair Jaimie Bever welcomed everyone to the meeting. The committee received and reviewed the minutes from the September 14, 2023 OTSC meeting. No requests for revisions were heard. The minutes will be finalized and distributed to the Board.

2. **Workshop #5 Presentation – Agenda Review**
   Jaimie introduced the meeting topics along with review of the agenda: Introduction to filtering of analysis results, review of analysis findings related to escort ideas, and discussion of escort ideas; narrowing escort ideas and information needs and filtering options.

3. **Report Findings**
   JD Ross Leahy (Ecology Alternate/BPC) introduced the findings of the report that would be most beneficial to the rulemaking process. The Tug Escort Risk Model Analysis Report found that:
   - Drift groundings make up a small part of maritime oil spill risk.
   - Tank vessels make up a portion of drift grounding oil spill risk (33-43%).
   - Tug escorts have a preventative effect on drift groundings of tank vessels.

- The expansion of tug escorts to Rosario and connected waters east reduced oil spill risk by 2-3% over the whole study area – 0.0047 drift groundings per simulation year.
- Haro Strait and Boundary Pass, and Admiralty Inlet had the most meaningful reductions in risk when escorts requirements were expanded there – an additional combined 0.0030 per simulation year.
- Escort tug underway time increased 134% when escort requirements were added to Rosario Strait and connected waters; and 263% when requirements were expanded to the rest of study area waters.

4. Filtering of Analysis Results

JD explained that the analysis results presented both in the report and in the slides are a result of looking the whole study area for all covered vessel types, which provides the most holistic look at prevention using escort tugs. Also looking at the possibility of those escort tugs as tugs of opportunity for other vessel types. However, the model is flexible enough that data can be looked at in more than one way, which we call "filtering". The idea is to use analysis results to inform rulemaking and use filtered data for additional analysis. Filtering could be a helpful tool for rulemaking.

Available filtering variables include:

- Zones included in the risk change calculation.
- Vessel types included in risk change calculation.
- Laden status of escorted vessel.
- Deadweight tonnage (DWT) of escorted vessel.
- With or without anchoring potential.
- With or without tugs of opportunity.
- With or without tethering.

The purpose of a filter is deeper evaluation of the tug escort ideas under consideration, which will yield different perspectives on the same simulation results. The rulemaking team can request filters from the modeling team as needed. It is important, however, to be selective, as each filter will take a certain amount of work. JD suggested 5-10 filters as a reasonable number.

JD then walked the group through an example of a filter. The example is found on slide 6 of the presentation slide deck.

Jim Peschel (Tug Industry Alternate/Vane Brothers) commented, via the chat function, that "all Vane oil barges have anchors and live-aboard crews. So, JD's statement about towed oil barges is not accurate. As one of the two bunker delivery companies in the Salish Sea, this data should be amended". JD thanked Jim for his comment and responded that his statement that towed oil barges are not able to anchor referred to the assumptions that were used in the model for the report. The report data and the model do not allow towed oil barges to anchor. This, as people have pointed out, is not all together accurate. JD further explained that the data could be looked at with the filtering approach that allows all towed oil barges to anchor to see how the results

change. If that's something that the rulemaking team would like to examine, then that's something the modeling team can explore as a possible filter to produce.

John Robertson (USCG/Advisor) asked for clarification whether the filter function could be used to address Jim Peschel's comments or if the data was static. JD responded that yes, the team can allow them to anchor through filtering. JD clarified that if any vessel, including towed oil barges, has a loss of propulsion in the simulation, they drift all the way to ground. The model then considers if a tug of opportunity was nearly or if they were able to self-repair, etc. Those types of filters can be turned off and on. The model evaluated the ability to anchor during the simulation, but analysis results did not include anchoring outcomes for towed oil barges in the report.

5. Escort Ideas: 1 – Pre 2020 Escort Regime

JD explained that his role in addressing the ideas is to go back to the report and determine how the results can inform each idea. He then reviewed Idea 1:

- Remove RCW requirement for escorts in Rosario and waters east
- No escort requirement for:
    - Barges
    - ATBs
    - Oil tankers less than 40,000 DWT

The Report found that if escort requirements are removed from Rosario and connected waters east, analysis results imply a potential **increase** in risk (for the whole study area) of:

- 2.3% (drift groundings)
- 3.1% (oil volume at risk)
- 2.6% (oil outflow)

Fred Felleman (Environment/Friends of the Earth) asked for clarification regarding the last slide adding that by removing this requirement, there was an increase in risk of 2.3 for drifts, 3.1 for oil, but that the report did not look at tows being disconnected, a line breaking, or drift grounding of just a barge. It just looked at loss of propulsion of the vessel itself. JD confirmed that the model and analysis was only looking at oil spill risk from loss of propulsion events. There were assumptions made in the model including that when a tug towing a barge lost propulsion, the model considered the barge itself without the ability to anchor. It did not consider any kind of attachment to a tug.

Fred asked if the reverse was true: implementation improved those scenarios. JD confirmed that yes, the primary finding was the reduction, and an increase was the implication of taking it away. Fred then asked if the increase in risk was a finding in the report, to which JD replied no, adding that it was not one of the research questions. Fred expressed that this was a problem because the legislature was not going to see the result. JD responded that the report did not consider removing the tugs, only adding. But then the rulemaking team asked what the analysis results could say about the removal, and this slide is what can be inferred from the analysis results. r.

Sara Thompson (Ecology Alternate/BPC) then opened up the floor for further discussion regarding this idea.

Blair Bouma (Pilot/Puget Sound Pilots) mentioned that the percentage changes were statistical information; a percent of a tiny number. He wondered if there was a way to process the information into a probability or something more tangible for processing and decision making. Sara responded that the absolute numbers were included in the future idea slides. But were not available because Idea 1 was not included in the report. She did say that it was feasible to work those numbers if the team requests it, adding that the reason the numbers were framed "per simulated year" was because the simulated year keeps happening repeatedly. JD confirmed that that type of framing is included in the report. He cautioned, however, that there was no real calibration or validation of the model results on an absolute basis, because there were so few data points. Blair clarified that he was arguing yes for relative numbers, not necessarily the absolute number or result.

Jim Peschel (Tug Industry Alternate/Vane Brothers) circled back to his anchor comment. He asked for clarification that the model could consider the safety equipment that barges have purposefully put in place to be safer vessels. And that now the model is saying with an escort tug there is less chance of a drift grounding, even though the barges already have the equipment. He wondered how that could be reconciled. He added that before adding more traffic, congestion, underwater noise, and noise pollution, shouldn't the barges use the safety equipment already installed? Sara responded that a filter could be requested to turn anchoring on for barges, as well as the other variables mentioned earlier. Sara confirmed with Blair that his message was to keep the results in relative values but to try to make them easier to compare and relate to. Blair agreed with this language.

Fred Felleman (Environment/Friends of the Earth) offered that the model was confounded by the Washington State's excellent oil spill record, adding that low probability but high consequence was in play. He reminded everyone that a big event can ruin a decade, adding that when talking about volume or outflow, it's important to look at when something goes wrong given the size of the vessels and angles of collision, etc. He asked about the oil outflow metric reduction and balancing that with the very difficult estimate of probability vs. something more in the world of physics related to volume of outflow. What about a more absolute number based on calculations for outflow? JD responded that neither oil volume at risk or oil outflow relies on a physics-based model to estimate the kinetic forces involved, or tank puncturing for example. The metrics are relying on different data sets that try to look at different aspects of risks but neither calculate outflow. Outflow is based on historical spill sizes seen in the record. Most are small, a handful are large. The oil volume at risk metric relies on oil capacity as its primary input. Where you see that value diverge from the other two metrics are in areas frequented by the larger tank vessels. Fred asked about using absolute numbers for the volume of oil is moving through the strait. JD responded that alternative ways to think about risk that were not included in the report could possibly be incorporated into the rulemaking discussion. Fred suggested that more foundational work is

needed. For example, why Rosario Strait? Shouldn't the legislature and public have a sense of the volume of oil running through? Is that referenced anywhere? Sara responded that it was not part of the analysis report but that the data was something that could be obtained from another report or transfer data. She concluded that it was a good suggestion.

John Robertson (USCG/Advisor) thought it was important, from his perspective, to consider potential impacts of tug traffic. In taking a holistic approach to considering Idea 1, it might be a good to get the numbers as well to compare all of them.

Sara Thompson (Ecology Alternate/BPC) asked for input about whether Idea 1 was an option that the rule team should continue investigating. Blair Bouma (Pilot/Puget Sound Pilots) responded that, from his professional experience, he believed there was enough historical information to indicate that going back to the pre-2020 escort regime was probably not the best option. Fred Felleman (Environment/Friends of the Earth) reiterated that knowing the volumes at risk would help answer the question. He added that looking at the impacts was what he assumed the group would be doing, not necessarily removing it.

Jim Peschel (Tug Industry Alternate/Vane Brothers) added that, speaking for the cetaceans, removing this option would reduce underwater noise.

Jeff Slesinger (Tug Industry Alternate/Delphi Maritime) said that he felt this question was premature, and that, fundamentally, the bigger picture was getting lost. The legislature assigned the reduction of the risk to SRKW. The group continues to struggle with translating that relative into something absolute, which is what people are expecting. They want an absolute solution with absolute numbers. All other aspects of the wheel of input have yet to be considered. More information is needed. He concluded that it seems that the team is being pushed to narrow things down prematurely. Sara responded that some narrowing it down is in part due to the rulemaking process and the need to have some language for SEPA consideration, which will then look at things like noise, pollution, impacts on tribal fishing, etc. For the other inputs, the team will be looking at more resources at the next OTSC meeting and Workshop 6. She added that the report did what a modeling report should do.

Sara Thompson (Ecology Alternate/BPC) wrapped up this Idea by acknowledging that there were mixed feelings about removing it. She suggested keeping it for now and looking at the next.

Fred Felleman (Environment/Friends of the Earth) brought up the underwater noise issue relaying that his assumption was that adding tugs would create a significant increase in noise but when reading the Quiet Sound report, there were far smaller impact implications than the faster moving freighters and otherwise. So, unless there is an analysis, this is truly a premature option. Sara responded that the current group of options needed to be narrowed down for the SEPA process. There were too many at the moment.

6. Escort Ideas: 2 – 2023 Escort Regime

Jaimie announced Idea 2:

- Maintain RCW requirement for escorts of barges, ATBs, and oil tankers less than 40,000 DWT in Rosario and waters east
- No escort requirement outside of Rosario and waters east for:
    - Barges
    - ATBs
    - Oil tankers less than 40,000 DWT

The Report found that:

- Drift Grounding Metric across the whole study area for all vessel types:
    - 2.3% decrease
    - .0047 fewer grounding per simulated year (1 in 44 drift groundings potentially prevented)
- Oil Volume at Risk Metric:
    - 3.1% decrease
    - 22,430 gallons less per simulated year
- Oil Outflow Metric
    - 2.6% decrease
    - 1.5 gallons less per simulated year

Fred Felleman (Environment/Friends of the Earth) asked for the definition of "study area". JD responded that the study area was almost identical to the Washington waters inland of a line from New Dungeness Light to Discovery Island Light. He then clarified that the study area was not the same as BPC's Geographic Zones. The study area included Hood Canal, which the zones did not.

In Scenario 2, escorts were newly required in three zones, that collectively make up Rosario and waters east. Each of these zones saw small percentage reductions in oil spill risk. The zones include:

- Bellingham Channel (6% risk reduction), Sinclair Island, and Waters East
- Guemes Channel (2% risk reduction) and Saddlebags; and
- Rosario Strait (3 to 9% risk reduction)

7. Question from Last OTSC Meeting

At the September 14, 2023 OTSC, Fred Felleman asked the following question: What is the percentage reduction in risk (and absolute reduction) for Rosario Strait; Bellingham Channel, Sinclair Islands and waters east; Guemes Channel and Saddlebags combined, for each metric, when comparing Scenario 1 to Scenario 2?

- Reduction in drift grounding risk: 5.50% (-0.0007 drift groundings, absolute reduction)

- Reduction in oil volume at risk: 3.11% (-8,779 gallons, absolute reduction)
- Reduction in oil outflow: 3.89% (-0.4054 gallons, absolute reduction)

Fred Felleman (Environment/Friends of the Earth) suggested this was the question the legislature asked to be analyzed. JD responded that the comment was duly noted and that the legislature required the results be presented by zone and required the BPC to develop the zones. Sara reminded everyone to consider variables and filter options and that this was a good example with what can be done with them. She encouraged everyone to bring ideas to future workshops.

Blair Bouma (Pilot/Puget Sound Pilots) clarified that the slide was showing only the vessels impacted by the RCW change regarding Rosario Strait and connected waters east, but in the context of all traffic.

Sara Thompson (Ecology Alternate/BPC) summed up this idea. The previous slides showed that maintaining Rosario and waters east maintained the 2-3% reduction in oil spill risk metric across the whole study area for all vessel types. Out of the zones, Rosario Strait had the highest reduction in risk as a result of tug escorts at 3-9% followed by Bellingham Channel, Sinclair Island, and Guemes Channel and Saddlebags and the combined Rosario and waters east zone reduction risk 3-6%. Sara suggested that this would be a good time to open the filter lens on what would be valuable.

Jeff Slesinger (Tug Industry Alternate/Delphi Maritime) wondered if there was a way to use real data from the last three years to compare reality to the simulated results. Sara responded that that would be new research that Ecology would need resources to pursue. Jeff added that it would be one opportunity to calibrate the accuracy of the model, to use it going forward. Sara said that if there was future direction for that, they would need more data resources.

Leah Harnish (Oil Industry Alternate/WSPA) asked about the differences between Ideas 1 and 2 because she noticed they have the same percentage in change for all three metrics. Sara explained that she asked the modeling team to create some information for Idea 1 since the report did not contain that information. Idea 1 is just the reverse of Idea 2. One is an increase in risk, and one is a decrease in risk.

Fred Felleman (Environment/Friends of the Earth) referred to Jeff's calibration comment. He asked for clarification that the model considered data from the COVID year, which was included in the initial analysis about vessel traffic numbers. How were those data use in the calibration, being that it was an anomaly year? And how did the Vessel Traffic Synopsis inform the model? JD responded that they looked at that report initially for its findings and underlying work around laden status. But they didn't end up relying on anything from the report.

Sara reiterated the question: what variables would the OTSC like to see turned on or off to determine the value of Idea 2? Only zones that makeup Rosario & connected water east, and only vessel types impacted and targeted? Fred said yes to both (reference the example

slide). Aside from the anchoring request, Sara asked if there were any other filters they should consider.

Rein Attemann (Environment Alternate/WEC) asked for clarification regarding the filters. Was there only one option for filters at a time? Or can there be several options in one filter? JD responded that changes could be made in rows. And many sets of changes make up one filter.

Blair Bouma (Pilot/Puget Sound Pilots) said that of this list, it would be good to toggle the tug of opportunity on or off, same with tethered or not. And maybe a variable related to speed. JD reminded everyone what the tethering function is part of the model. It allows 15 minutes to connect and 15 minutes to control when under escort. Blair expressed concerns about the time to connect and control parameters s and that perhaps further attention was needed. Live data from escort drills could be used to get more accurate times. Blair offered to provide that data. He added that it is happening much faster. A grounding would occur in 3-4 minutes, and it's avoided completely by being escorted and tethered. He recognized the model won't drive all the decision making, but he believes it's important to keep in this perspective. JD responded that they could change the assumptions as a part of the filtering exercise, such as the time. He also cautioned that any filter selected for production should have a clear goal around what is hoped to be gained from looking at those results.

Laird Hail (USCG/Advisor) mentioned that the current legislation exempts bunkering activities. He wondered what effect that would have on the filters. JD responded that the way the model handled bunkering, was via a dependent vessel approach. Instead of modeling bunker movements based on historical data, they simulated bunker barge movements based on estimation of frequency of bunkering by vessels that require bunkering at different locations across the study area. The model dispatched the bunker barges to and from those areas. Therefore, the model knew they were bunker barges because the model had created them.

Fred Felleman (Environment/Friends of the Earth) asked for clarification regarding Captain Bouma's point about tethering in that the value was underestimated because the action was more instantaneous and the value of the tug of opportunity was overstated because they may be present, or they may not. Fred asked if the model was assigning 30 minutes to see the benefit of a tug of opportunity. JD responded no, that was the value of an escort tug. Every tug in the model had the same parameters of arriving at the stricken vessel and then needing 15 minutes to make a connection and 15 minutes to arrest the movement of the vessel. JD believed Captain Bouma was stating than an escort tug could do that much faster in his experience.

Fred then asked about the value of a tug of opportunity. JD responded that Captain Bouma also mentioned tugs of opportunity, sometimes there is one and sometimes there isn't. That was not how they modeled tugs of opportunity. What they did use was a selection of vessels in the area that could operate as tugs of opportunity. The model assumes that vessels engaged in coastal towing were almost always engaged with a laden barge. Therefore, they

were not included as potential tugs of opportunity. The other tugs, escort and assist, if they were around, they were available to help. In terms of where they were in any given moment, the model determines that by simulating their transits. Those simulated transits are similarly simulated like the bunker barge transits just mentioned. They are dependent vessel transits.

Fred suggested a tug of opportunity filter for Rosario and waterways east was not realistic given the size limitations of the waterways. Sara Thompson (Ecology Alternate/BPC) thanked Fred, assuring that his recommendations were noted. Because there were only 30 minutes left in the meeting to get through the next 3 ideas, she suggested moving on.

8. Escort Ideas: 2a – 2023 Escort Regime, Targeted to Specific Vessel Types

Jaimie introduced Idea 2a:

- Maintain Rosario and waters east RCW requirement for escorts for some or all:
    - Barges
    - ATBs
    - Oil tankers less than 40,000 DWT
- Maintain Rosario and waters east RCW requirement for escorts for some or all:
    - Barges
    - ATBs
    - Oil tankers less than 40,000 DWT

In Scenario 2, escorts were newly required for five vessel types:

- ATBs
    - 13% risk reduction
    - 1 in 8 drift groundings prevented
    - A reduction of 0.0001 drift groundings per simulation year
- Towed oil barges
    - 9% risk reduction
    - 1 in 12 drift groundings prevented
    - A reduction of 0.0003 drift groundings per simulation year
- Tankers
    - 6-7% risk reduction
    - 1 in 14 drift groundings prevented
    - A reduction of 0.0004 drift groundings per simulation year

Each of these vessel types saw a reduction in oil spill risk.

Fred Felleman (Envionment/Friends of the Earth) ask for clarification that these results were looking at variables in Rosario Strait as they affect the entire study area. Sara Thompson (Ecology Alternate/BPC) responded yes, none of the filters that had been discussed today were applied to the results. He then wondered how the results were concluded. JD clarified that it was for the whole study area. Fred suggested that it should be clear that the results are looking at changes in behavior in one small waterway on the entire waterway. He also asked how much data was in direct relationship with the frequency of the vessels transiting. JD responded that this was a good point adding that there were graphs and discussions in the report around

frequency and relative contribution based on vessel types. There was not an obvious benefit in zones that didn't see tank vessel traffic mostly. One other way to look at the results that is traffic level agnostic, is the drift grounding rate. This is not presented today but is in the report for any given loss of propulsion event, for each scenario.

Clyde Halstead (Tribal Alternate/Swinomish) wondered if the difference in operating hours for various vessels was considered. JD responded that the team would make a note about the interest in looking at that and whether it could be captured in a filter.

Sara Thompson (Ecology Alternate/BPC) reviewed her notes so far on the filtering ideas reporting that the ones showing the most interest were targeting specific vessels in specific zones. She asked if there were any concerns about that being the primary approach and for feedback.

Fred Felleman (Environment/Friends of the Earth) added the negative impacts, noise, pollution, etc. would also be contrasted to that benefit analysis.

9. Escort Ideas: 3 – Escorts for Specific Vessels in Specific Zones – 1:40

Jaimie introduced Idea 3:
[Insert applicable vessel type] may not operate in [insert waterway zone], to the extent that these waters are within the territorial boundaries of Washington, unless they are under the escort of a tug.

In Scenario 3, escorts were newly required throughout the rest of the study area:

- In absolute terms, Haro Strait and Boundary Pass saw the biggest reduction in risk across all risk metrics:
    - 0.0015 decrease in drift groundings
    - 1,790.3 decrease in oil volume at risk
    - 0.35 decrease in oil outflow
- Admiralty Inlet was a close second at:
    - 0.0015 decrease in drift groundings
    - 1,736.7 decrease in oil volume at risk
    - 0.29 decrease in oil outflow

JD clarified further that Scenario 3 meant that they required escorts for ATBs, tank barges, and tank ships under 40,000 DWTs in every zone in the model. Then they looked at the benefit compared to just escorts in Rosario Strait. The results depicted two zones showing the most benefit: Haro Strait/Boundary Pass and Admiralty Inlet.

Fred Felleman (Environment/Friends of the Earth) inquired if that meant they didn't look at the benefit of an escorting tugs through Admiralty Inlet, which was probably the next highest risk zone. JD responded that Fred was correct. They didn't run a simulation that just required expanding to Admiralty Inlet. Fred then suggested that the results were diluted by the misuse of the entire study area to which JD responded that he was mistaken. While

Fred's earlier comment was correct, the results for Scenario 3 were presented by zone. JD pointed to the slide showing just the results for Admiralty Inlet. However, they did not look at results by vessel type by zone.

Fred added that his assumption was that through the rulemaking process the entire waterway will be exposed to these additional waterway risks, noise etc., to achieve that benefit in Admiralty Inlet, then it would just affect Admiralty Inlet, not having vessels running all over the place; the unanticipated consequences would be reduced while the benefit would be targeted. JD responded that Fred was right. If one of the alternatives that the rulemaking puts forward is expand to Admiralty Inlet, the result in the model around increase in tug underway time would not be applicable. The rulemaking team would need to evaluate that using other data.

Clyde Halstead (Tribal/Swinomish) for this scenario, said he would like to see review of just Haro and Admiralty for the towing vessels and ATBs, which seem to have the largest benefit with the least harm, along with tug operating hours for that scenario.

Laird Hail (USCG/Advisor) wondered if there had been any conversations with Transport Canada regarding Haro and Boundary. He didn't think that a unilateral change in Haro and Boundary would be wise. It could lead to some significant unintended consequences with two different sets of regulations on two different sides of the border.

Leah Harnish (Oil Industry Alternate/WSPA) wondered, adding on to Clyde's suggestion, if it would be possible to not only break it down by vessel but by vessel impact. In a previous slide deck, it was broken down by how much risk reduction existed in that scenario by vessel, but also looked at percentage of overall vessel inventory. She would be interested in seeing that for all scenarios.

JD moved to his next slide which showed the zones that didn't really see a benefit. For example, going back to Fred's point, Colvos Passage showed a relative benefit, but since it doesn't see a lot of traffic it did not see a large absolute benefit. He explained to Fred that this was where results over the whole study area could be seen.

Leah and Clyde were asking if the zone results could be broken down by vessel type, now that there were zones of interest. Per JD, this seems reasonable. Fred proposed that the probability of the grounding of a bunker barge was a value but because they were not escorted, then the relative number of the benefit was not considered. JD responded that it was the same as container ships. Fred added it was a major underestimate, although appropriate given the restraints put on the analysis. It just doesn't reflect reality. JD disagreed.

Sara reviewed the suggestions for filters she heard for Idea 3: Admiralty Inlet and Haro/Boundary. She didn't hear much about vessel types, so the team will continue to look at all three.

Fred Felleman (Environment/Friends of the Earth) asked, for his clarification, what the escort change meant. Was it expanding the escorts just for that area and the benefit for the entire waterway? JD answered that if escort requirements were expanded to all BPC zones, and then compared to the Rosario scenario, the whole area would see a benefit. But it can be looked at by zone because some have bigger benefits than others. Fred responded that if they ended up adopting the analysis he is suggesting, which is only looking at the benefit of those vessels in the Rosario and east zone, and then comparing that to the benefits of just the Admiralty Inlet Zone or Haro/Boundary. Otherwise, it is not an apples-to-apples comparison.

At this point, Jaimie, due to the time, paused the conversation to move onto the ending slides and with the plan to circle back to Idea 4.

10. Escort Ideas: 4 – Escorts for all Applicable Vessels in all Zones

Jaimie introduced this idea will the following example language:
Oil tankers of between five thousand and forty thousand deadweight tons; articulated tug barges that are designed to transport oil in bulk internal to the hull and greater than five thousand deadweight tons; and towed waterborne vessels or barges that are designed to transport oil in bulk internal to the hull and greater than five thousand deadweight tons may not operate in the waters east of the line extending from Discovery Island light south to New Dungeness light and all points in the Puget Sound area, to the extent that these waters are within the territorial boundaries of Washington, unless they are under the escort of a tug.

- Drift Grounding Metric:
    - 1.8% decrease
    - 0.0035 fewer grounding per simulated year (1 in 57 drift groundings potentially prevented)
- Oil Volume at Risk Metric:
    - 0.1% decrease
    - 103.9 gallons less per simulated year
- Oil Outflow Metric
    - 0.8% decrease
    - 0.4 gallons less per simulated year

These metrics show risk reductions of adding escorts for all applicable vessels in all applicable zones beyond (in addition to) the reductions from the escorts in Rosario and waters east.

- ATBs
    - 14% risk reduction

    - 1 in 7 drift groundings prevented
    - A reduction of 0.0001 drift groundings per simulation year
- Barges
    - 36% risk reduction
    - 1 in 3 drift groundings prevented
    - A reduction of 0.0012 drift groundings per simulation year
- Tankers
    - Chemical
        - 1-2% risk increase
        - No additional drift groundings prevented
        - An increase of 0.0001 drift groundings per simulation year
    - Crude
        - 1% risk increase
        - No additional drift groundings prevented
        - Almost no change
    - Product
        - Almost no change
        - Almost no additional drift groundings prevented
        - Almost no change

Sara Thompson (Ecology Alternate/BPC) mentioned that Clyde Halstead (Tribal/Swinomish) wrote in the chat that he was interested in keeping this option. The benefit would be uniformity of rules throughout the study area. She asked if there were any other comments.

Blair Bouma (Pilot/Puget Sound Pilots) said that because of the diversity of the region, this idea seemed wasteful considering the environmental impact, fuel consumption, etc. He didn't think this was necessary or effective.

Jeff Slesinger (Tug Industry/Delphi Maritime) suggested taking it off the table due to the many other identified issues.

Leah Harnish (Oil Industry Alternate/WSPA) asked if there would be a scenario where the result of Idea 3 was actually Idea 4. If so, she echoed Jeff's comment. Sara said that was a good point.

Rein Attemann (Environment Alternate/WEC), initially, supported Clyde's suggestion. An accident could happen anywhere, and precautions should be taken across the whole area.

11. Upcoming Workshops

Jaimie reviewed the upcoming workshop schedule:

- January 10, 2024 OTSC – Workshop #5
- January 23, 2024 Tribal Meeting #5

- January 25, 2024 Stakeholder Workshop #5
- January 31, 2024 OTSC – Workshop #6
- February 6, 2024 Stakeholder Workshop #6
- February 8, 2024 Tribal Meeting #6

12. Next Workshop, Announcements, and Wrap-up

Sara Thompson (Ecology Alternate/BPC) mentioned that both the narrowing of ideas and continued discussions regarding filtering need to occur at the next couple of meetings.

She then announced that Kim Morley, the Ecology Rule Coordinator for this process, has accepted another position within Ecology. Some other Ecology staff from the Spills Program are helping. She introduced Brittany Flittner who is assisting with rule coordination and, new as of this week, Haley Kennard, Ecology's new Tug Escort Environmental Analysis Coordinator, who will be coordinating the SEPA process. Also, Angela Zeigenfuse, who is assisting Brittany.

Lastly, she summarized what she heard:

- Recommendation to check in with Transport Canada if the decision is to require tug escorts in Haro/Boundary.
- General requests:
    - Validate tethering results with live data
    - Validate model results with past years
    - Keep results in relative values for easy comparison
    - Put things in context by looking at the transits of the vessel types and the oil moved by the vessel types being considered
    - Consider tug escort transit time and how that would increase or decrease with each option; All the considerations that would fall into the SEPA analysis
    - Consider looking at drift grounding rate, which is in the report but not this presentation, which would be more traffic agnostic in review
- Filters:
    - Target vessel types and zones
    - Turn on anchoring for barges
    - Turn on tethering
    - Turn off vessels of opportunity
    - Look at Admiralty Inlet by vessel type
    - Look at Haro/Boundary by vessel type
- All of the ideas will be kept in for now noting that there was some hesitation on Idea 1 and 4

Meeting adjourned at 12:10pm.