



Friends *of the* San Juans

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RE: Comments on the Green Apple Renewable Fuels Project Draft Transportation Study

Dear Ms. Bommarito and Ms. Keenen,

Thank you for considering these comments on the Green Apple Renewable Fuels Project (project) Draft Transportation Study (study). Please note that these comments do not address project-related transportation impacts to Tribes and First Nations and Tribal Treaty Rights, which should be thoroughly and appropriately addressed in the SEPA review process.

Friends of the San Juans finds deficiencies, inconsistencies and/or errors in the study on these topics:

1. Phillips 66 Marine Traffic Data
2. Marine Study Area and Vessel Traffic Route(s)
3. Vessel Traffic Data
4. Articulated Tug Barges
5. Marine Vessel Traffic Accident and Spill Risk
6. Current and Projected Marine and Rail Traffic Data
7. Cumulative Impacts Analyses
8. Future Use of Rail Facility Expansions
9. Future Use of Project Infrastructure
10. Southern Resident Killer Whales

1) Discrepancies in Phillips 66 Ferndale Refinery’s vessel traffic data needs to be addressed and accurate data must be included in the study.

Given that the Green Apple Project and the Phillips 66 Ferndale Refinery would share the same marine terminal, it is imperative that the Department of Ecology and Whatcom County receive accurate and consistent data on vessel traffic from both the project proponents and Phillips 66 in order to accurately evaluate the environmental impacts of this proposed project.

Table 2-2: Phillips 66 Ferndale Refinery Vessel Activity, 2018 (PDF page 10) includes 49 inbound and 349 outbound shipments for a total of 398. The SEPA Environmental Checklist included in the Revised SEPA Mitigated Determination of Nonsignificance issued on August 20, 2019 by Whatcom County to the Phillips 66 Ferndale Refinery includes a table that “summarizes the number of vessels and barges handling crude and fuel oil across the Phillips 66 marine terminal from April 2017 through May 2019.” (See page 17 of 21.) The 2018 data includes 169 barges and 47 ships for a total of 216 (page 18 of 21).

This study should include the correct marine traffic data for the Phillips 66 Ferndale Refinery in order to conduct an adequate environmental review and accurately evaluate the cumulative impacts from project-related vessel traffic and the existing and projected Phillips 66 vessel traffic.

2) The Marine Study Area needs to be clearly defined and include the project’s entire vessel traffic route(s), including vessel traffic routes to/from project-related anchorage area(s).

The study states (introduction, PDF page 7), “The most likely destination for a substantial share of refined products is California, due to the state’s stringent renewable energy and carbon emission requirements.” However, Figure 2-1: Green Apple Project Study Area and Section 2.1.1.1 Waterways does not include the project’s vessel traffic route to California along the outer coast of Washington State, Oregon, and California. These outer coast areas are included in the proposed revision of the Critical Habitat Designation for Southern Resident Killer Whales.¹

I have heard from project proponents that Canada is also a destination for the project’s refined products. If so, the project’s Marine Study Area should also include the vessel traffic route(s) to Canadian markets.

Figure 2-1: Green Apple Project Study Area (PDF page 8) includes several terminals and refineries that are not listed in Section 2.1.1.2 Ports. The study states (PDF page 9):

¹ Endangered and Threatened Species: Critical Habitat for the Southern Resident Killer Whale Distinct Population Segment Proposed Rule, issued by the National Oceanic and Atmospheric Administration (NOAA). <https://www.regulations.gov/document?D=NOAA-NMFS-2014-0041-0278>

Although outside the study area, the major ports of Seattle and Tacoma in the United States and Vancouver in Canada generate considerable vessel traffic throughout the Salish Sea.

However, the Port of Vancouver (BC, Canada) is clearly visible in Figure 2-1. All vessel traffic going to and from the Port of Vancouver and other Canadian ports within the Salish Sea (e.g., Port of Nanaimo) that are included in Figure 2-1 transits in close proximity to Cherry Point. In addition, the project proposal states that Georgia Strait, Boundary Pass, and Haro Strait will be the project's primary vessel traffic route, which is the same route used by vessel traffic to and from the Port of Vancouver and other Canadian ports. Section 3.3.1.1 Impacts on Vessel Operation and Safety states (PDF page 27):

Based on Table 3-3, proposed project-related activity could theoretically increase large vessel traffic in Rosario Strait by up to 12.3 percent, if all Project vessels used that waterway. Realistically, the Rosario Strait would only typically be used for trips between the Project site and Puget Sound, a movement that is expected to comprise only a small portion of total Project vessel activity; therefore, actual Project activity is unlikely to reach these levels in Rosario Strait.

Furthermore, Table 3-3 uses outdated vessel traffic data from 2015.

Table 2-1: Salish Sea Vessel Call Data via US Water, All Ports, 2018 (PDF page 10) does not show the increase in vessel traffic going to/from the Port of Vancouver. According to Ecology's Vessel Entries And Transits for Washington Waters VEAT data (the source of the data in Table 2-1), when C & P (cargo and passenger) vessels bound for Canadian ports via Strait of Juan de Fuca is combined with tank ships bound for Canadian Ports via Strait of Juan de Fuca the increase from 2011 to 2018 is 22% (from 2,470 to 3,025 entering transits). According to Ecology's 2018 Vessel Entries and Transits for Washington Waters VEAT data, of the total C & P and tanker inbound transits via Strait of Juan de Fuca, 62% was bound for Canadian ports and 38% was bound for US ports. From the Port of Vancouver's webpage <https://www.portvancouver.com/about-us/>:

The Port of Vancouver is about the same size as the next five largest Canadian ports combined. Home to 27 major terminals, the port is able to handle the most diversified range of cargo in North America: bulk, containers, breakbulk, liquid bulk, automobiles and cruise. As the country's gateway to over 170 trading economies around the world, the port handles \$1 of every \$3 of Canada's trade in goods outside of North America. Enabling the trade of approximately \$200 billion in goods, port activities sustain 115,300 jobs, \$7 billion in wages, and \$11.9 billion in GDP across Canada.

3) The description of existing vessel traffic needs to include current data that is both comprehensive and relevant to the project proposal.

The study states (Section 3.1.1 Transportation Scenario, PDF page 25):

Vessel deliveries of renewable feedstock would use nominal 80,000 bbl (approximately 3.36-million-gallon) capacity vessels. Vessel shipments of renewable diesel would use nominal 150,000 bbl (approximately 6.3-million-gallon) capacity vessels.

This description implies that the project will primarily use Articulated Tug-Barges (ATBs) to receive renewable feedstock and transport renewable diesel.

The transportation study relies on data from the VTRA [Vessel Traffic Risk Assessment] 2015 Final Report Updating the VTRA 2010 (VTRA 2015)² for passageline data. The passageline data does not include all the relevant data and is also outdated. In addition, the VTRA 2015's passage line vessel count data analysis by departing zone is not consistent with the study's statement that (2.1.2 Existing Vessel Traffic, PDF page 11), "Marine traffic counts in the study area over the 5 years from 2011 to 2015 were stable, with annual variations, but no significant increases or decreases."

The passageline vessel count data by departure from location zone and vessel type shows that ATB departures from Cherry Point increased by 70 ATBs in 2015 from 2010.³ If all project vessels were ATBs, this single project would more than double the increase in ATB traffic that occurred from 2010 to 2015.

Current passageline data is available from the Marine Exchange and should be included in this study. Passageline data for the anchorage areas that would be used by this project should also be included. The VTRA 2015 shows that ATB departures from Vendovi increased by almost 100 in 2015 from 2010.⁴

4) The project's reliance on ATBs should be specifically evaluated with regard to accident and spill risks and associated adverse environmental impacts.

ATBs could pose greater risks than tankers due to different tug escort and crew requirements. Tug escorts are required for all laden oil tankers of 40,000 DWT or greater, but are not currently required for laden ATBs. The project includes the proposed use of Rosario Strait only for trips between Cherry Point and Puget Sound, which would be a small portion of the project's total vessel activity. The VTRA 2015 OAE-RMM (Risk Mitigation Measure) evaluated the use of tug escorts for laden oil barges and ATBs east of Port Angeles. This analysis showed a 14.7% reduction in accident risk in the entire VTRA study area. The recently enacted State legislation [ESHB 1578](#) (Reducing threats to southern resident killer whales by improving the safety of oil transportation) includes the implementation of tug escort requirements for laden ATBs and barges in Rosario Strait and connected waterways east by September 1, 2020. The project's proposed use of Georgia Strait, Boundary Pass, and Haro Strait instead of Rosario Strait will

² Van Dorp, Johan Rene and Jason Merrick (2016) VTRA 2015 Final Report Updating the VTRA 2010: A Potential Oil Loss Comparison of Scenario Analyses by four Spill Size Categories. Prepared for: Washington State Department of Ecology, 255 pp.

http://www2.seas.gwu.edu/~dorpjr/VTRA_2015/REPORTS/VTRA%202015%20ECOLOGY%20FINAL%20REPORT%20-%2001_09_17.pdf

³ Ibid. Figure 2-13. Summary of AIS passage line vessel count data analysis by departing zone. C: ATBs, page 72.

⁴ Ibid. Figure 2-13. Summary of AIS passage line vessel count data analysis by departing zone. C: ATBs, page 72

negate the requirement for project-related ATBs to use tug escorts, although, by December 31, 2025, additional WA State waters in the Salish Sea could require laden ATBs to have tug escorts.

The Congressional Research Service report, *The Coast Guard's Role in Safeguarding Maritime Transportation: Selected Issues*, states that "ATBs are sometimes referred to as "rule breakers" within the maritime industry because they operate with smaller crews. ... [A]n ATB typically has a crew of 6 to 12, versus 21 to 28 for a tank ship."⁵

For example, these reports and media accounts provide more information on ATB incidents and accidents in the study area and the Pacific Northwest region:

- Neah Bay Rescue Tug Response Summary ID# 17026, ATB Commitment / 650-6 Loss of propulsion (total), Loss of Elec Power
https://fortress.wa.gov/ecy/coastalatlas/storymaps/spills/spills_sm.html?&Tab=nt2
- Neah Bay Rescue Tug Response Summary ID# 22109, ATB Corpus Christi / Petrochem Supplier, ATB connection pin problem
https://fortress.wa.gov/ecy/coastalatlas/storymaps/spills/spills_sm.html?&Tab=nt2
- Marcon International, Inc. May 2010 Tug Boat Market Report re. ATB *Corpus Christi*
http://www.marcon.com/library/market_reports/2010/tg05-10.pdf
- National Transportation Safety Board Marine Accident Brief Grounding of Articulated Tug and Barge Nathan E Stewart/DBL 55
<https://www.nts.gov/investigations/AccidentReports/Pages/MAB1738.aspx>
- "Canadian Coast Guard on scene after fuel-loaded barge splits away from tug in Queen Charlotte Sound" by Charlie Smith, The Georgia Strait, November 26, 2017
<https://www.straight.com/news/1000351/canadian-coast-guard-scene-fuel-loaded-berge-splits-away-tug-queen-charlotte-sound>
- "Fuel Barge Breaks Free from American Tug Off British Columbia" by Mike Schuler, gCaptain, November 27, 2017 <https://gcaptain.com/fuel-berge-breaks-free-american-tug-off-british-columbia/>

5) Significant revisions are needed on the analysis of project-related spill risk and the project's cumulative impacts related to changes in marine vessel traffic and accident and spill risk.

Section 2.1.4 Vessel Spill Risk and Section 3 Impact Assessment relies upon the VTRA 2015.

While this vessel traffic risk assessment provides an excellent analysis, it is out of date.

According to a June 21, 2017 RBN Energy blog post:⁶

LPG export volumes out of Ferndale have risen sharply since Petrogas and its co-owners took over more than three years ago. In 2013, exports of propane and butane from Petroleum Administration for Defense District 5 (the U.S. West Coast) — with Ferndale

⁵ Frittelli, John (June 28, 2017) Congressional Research Service Report - The Coast Guard's Role in Safeguarding Maritime Transportation: Selected Issues. Pages 2-3. <https://fas.org/sgp/crs/homsec/R44566.pdf>

⁶ RBN Energy. June 21, 2017. *Floating Bridge - West Coast Alternatives For Exporting LPG To Asian Markets*.

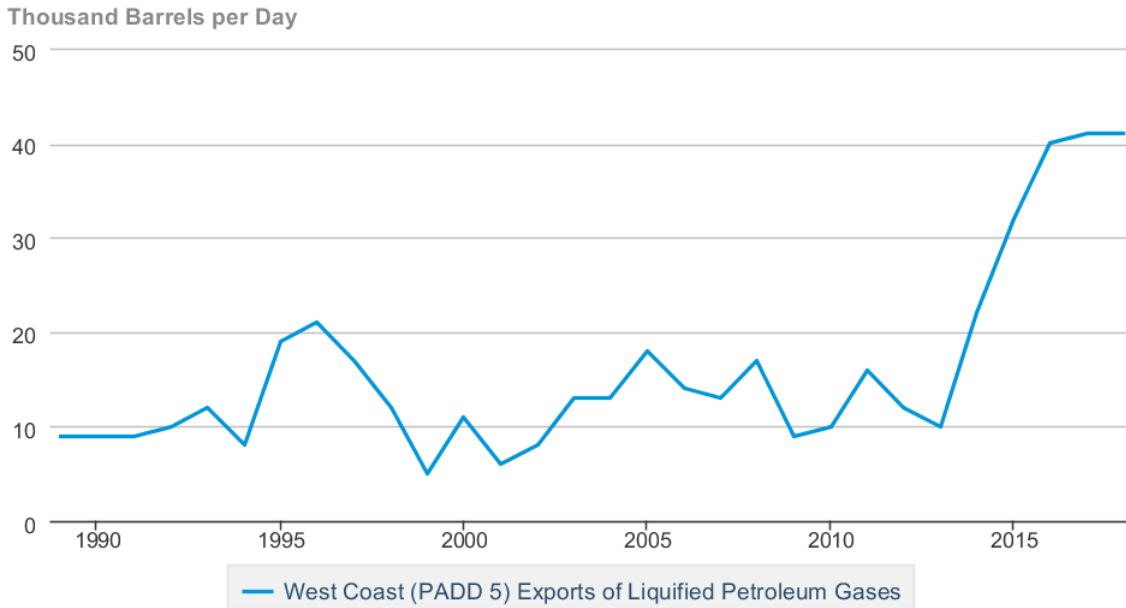
<https://rbnenergy.com/floating-bridge-west-coast-alternatives-for-exporting-lpg-to-asian-markets>

Accessed 06/22/2017

being the only LPG export terminal in PADD 5 — averaged only 10 Mb/d, but they increased to 22 Mb/d in 2014, 32 Mb/d in 2015 and 41 Mb/d in 2016, according to EIA.

The US Energy Information Administration data shows that the increase in exports from 32 Mb/d in 2015 to 41 Mb/d in 2016 have been maintained in 2017 and 2018.⁷

West Coast (PADD 5) Exports of Liquefied Petroleum Gases



 Source: U.S. Energy Information Administration

The VTRA 2015 does not address LPG carriers, and further, does not include a model for the potential consequences of an accident that involves an LNG tanker. Thus, LNG tankers for the purposes of the VTRA 2015 study are minimally modeled for traffic impact as cargo focus vessels only.

A thorough analysis of project-related vessel traffic interactions with the neighboring Petrogas LPG export vessel traffic, and associated risks of accidents and accident consequences should be specifically addressed in the environmental review of this project. LPG carriers, like LNG carriers, could require additional naval architectural analyses to assess the consequences of accidents with these vessels.

Further, the VTRA 2015 analyzes the risk of accidents and oil spills from collisions, allisions and groundings, and does not address the risk of spills from oil transfer operations. The transportation study should be revised to include risk analyses using current data, including risk analyses for over water transfer operations that include bunkering activities.

⁷ U.S. Energy Information Administration
<https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MLPEXP52&f=A>

Section 3.3.1.2 Spill Risk focuses on large spills defined as greater than 15,725 barrels. The focus on the VTRA 2015 data on the probability of spills greater than 15,725 barrels negates the impacts that result from smaller spills. For example, the ConocoPhillips owned Polar Texas tanker that spilled over 1,000 gallons (23.8 barrels) of oil on October 13-14, 2004 resulted in the oiling of 21 miles of Puget Sound beaches and \$2.2 million in spill response costs.⁸ For the spill volume of 6.3 – 6,290 barrels, the VTRA 2015 shows an 85.8% likelihood of at least one spill in the VTRA 2015 study area in the next 25 years, 54.2% in the next 10 years and 7.5% in any single year. As stated previously, the VTRA 2015, does not include the current and currently projected traffic data that this study needs to address in a revised accident and spill risk analysis.

Section 1 Introduction states (PDF page 6):

This study does not include modeling of vessel traffic, or marine or land spill risk.

Separate from the Green Apple Project, Phillips 66 prepared spill modeling for existing products from the Ferndale Refinery.

This study should be required to include modeling of project-related vessel traffic and both marine and land spill risk as compared with the Phillips 66 Ferndale Refinery's spill modeling referenced above. The Phillips 66 Ferndale Refinery's spill modeling should also be included in this study.

6) The study needs to be revised to include current data on current and projected marine and rail traffic and corresponding cumulative impacts analyses.

As stated in the environmental coalition comment letter, the environmental review process must include a cumulative impacts analysis of all current and projected increases in vessel and rail traffic along all the proposed project's traffic routes.

7) A cumulative impacts analysis is needed specifically for the Green Apple project-related vessel traffic and the vessel traffic associated with the Phillips 66 Ferndale Refinery's new Logistics Flexibility Project to manufacture the new IMO 2020-compliant fuels.

A revised SEPA MDNS was issued on August 20, 2019 by Whatcom County to the Phillips 66 Ferndale Refinery to construct a new 300,000 crude oil storage tank and a new 80,000 fuel storage tank to manufacture low-sulfur marine fuels. This proposed project requires the Refinery to be able to completely segregate low-sulfur fuel oil (and the low-sulfur crude oil used in its production) from higher sulfur fuel oil and crude oil.

⁸ Seattle Times. Originally published October 13, 2006 at 12:00 am and updated October 14, 2006 at 12:08 am. *Oil company to pay fine for Puget Sound spill: ConocoPhillips will pay a \$540,000 fine to the state, stemming from a 2004 oil spill into Puget Sound between Tacoma and Vashon Island that was linked to a company oil tanker.* <https://www.seattletimes.com/seattle-news/oil-company-to-pay-fine-for-puget-sound-spill/> Accessed 11-5-2019.

The project would introduce a new product line; International Maritime Organization (IMO) 2020-compliant fuels. The Phillips 66 Ferndale Refinery clearly states that this project will increase vessel traffic in a September 23, 2019 letter from Jolie Rhinehart, Phillips 66 Ferndale Refinery Manager, to the US Department of Transportation:⁹

Because SB5579 has forced Phillips 66 to drastically reduce the volume of Bakken crude oil it can receive via rail, Phillips 66 intends to obtain crude oil from other sources that can be substituted for low-sulfur Bakken crude oil in the production of IMO 2020-compliant fuel. Presently, the only crude oils that have similar low-sulfur quality comparable to Bakken crude oil are from Russia, Saudi Arabia, and West Africa, which are received by the Ferndale Refinery at its marine terminal. In addition, although these foreign crude oils are of similar quality in terms of sulfur content, their relatively significant distance from the Ferndale Refinery will likely result in (as compared to Bakken crude oil): increased transportation emissions; increased vessel traffic in the Salish Sea; increased transportation costs; and crude oil input interruptions for the refinery.

Even if (as Phillips 66 Ferndale Refinery representatives have stated in contradiction to the letter above) there is no increase in vessel traffic associated with the manufacture of the new IMO 2020-compliant fuels, the change in the tank vessels transporting crude oil to the refinery should be addressed in a cumulative impacts analysis. For example, the tankers that would be used to transport low-sulfur crude oil from Russia, Saudi Arabia and West Africa would not be the same US flagged tankers that transport Alaska North Slope crude.

8) The use of the project's rail facility expansions should be clearly defined.

The study is unclear on whether or not project-related infrastructure expansions at the Phillips 66 rail facility could be utilized to expand capacity at the Phillips 66 Ferndale Refinery. Any additional allowable uses of the project's rail facility expansion should be explicitly made public in this study to ensure adequate environmental evaluation and appropriate mitigations/conditions for all proposed and potential future uses. The study states (section 1.2 Project Description PDF page 6):

The Project would include an expanded rail receiving facility adjacent to the existing rail facility at the Phillips 66 Ferndale Refinery. This expansion would consist of approximately 30 rail-unloading spots, up to two new renewable diesel rail-loading spots, and up to four new renewable propane loading spots, along with new unloading pumps and dedicated piping.

The study needs to be updated with current rail data (both current and projected) and analysis of that data. Currently, the rail data in the study only goes up to 2015, which precedes the June 3, 2016 oil train derailment along the Columbia River in Mosier, OR and also precedes the major

⁹ September 23, 2019 letter from Jolie Rhinehart, Phillips 66 Ferndale Refinery Manager, to the US Department of Transportation re: the Pipeline and Hazardous Materials Safety Administration (PHMSA) Notice: Hazardous Materials: Washington Crude Oil By Rail-Vapor Pressure Requirements (PHMSA-2019-0149-4120)

changes in the oil supply markets that have occurred as global and regional oil prices have fluctuated dramatically over the past three years.

Induced rail shipments pose significant threats to public safety from explosions, leaks, and/or spills. Washington State agencies have recently produced EISs for the Shell oil by rail project and the Vancouver Energy project. Rail shipments of new feedstocks and any potential for expanded rail capacity at the Phillips 66 refinery should be similarly assessed in this study.

9) A cumulative impacts analysis of existing and projected (including project-related) vessel impacts is needed to evaluate potential project-related impacts to Southern Resident Killer Whales and their designated critical habitat.

Section 2.1.5 Vessel Speed and Noise and Section 3.3.1.3 Vessel Noise do not commit project-related vessels to any impact mitigations beyond that which is required by law. It is unclear whether the appropriate scientists participated in the drafting of this study and/or the proposed project's Biological Assessment. The study states, (Description of Impacts, PDF page 30) "Potential impacts from Project vessel traffic on biological resources are evaluated in the Biological Assessment as part of the Project's compliance with the ESA." However, this evaluation cannot be conducted without a cumulative impacts analysis of existing, project-related, and all other projected vessel traffic, including vessel noise and vessel presence impacts and potential accident and spill impacts.

The Section Summary of Impacts and Mitigations refers to a non-existent section of the study. The study states (PDF page 32):

As described in Section 3.3.1.3, the renewable feedstock and renewable products carried by Project vessels would behave differently in the marine environment than crude oil or other petroleum products.

However, Section 3.3.1.3 Vessel Noise "evaluates the Project's potential impacts on increased underwater noise as a result of increased vessel traffic during operation" (PDF page 29). There is no analysis of how the renewable feedstock and renewable products carried by project-related vessels would behave differently in the marine environment than crude oil or other petroleum products. The study needs to be revised to include this important analysis, as well as an analysis of what the environmental impacts would be from spills of the project's renewable feedstocks and renewable products.

Finally, the project's new refining infrastructure that would be co-located at the Phillips 66 Ferndale Refinery raises questions about whether or not the refining of other feedstocks (including crude oil or other petroleum products) or the manufacture of products other than renewable diesel could occur. Could Phillips 66, for example, ever contract to use the new infrastructure being proposed by Green Apple? Who would own the new infrastructure (and what conditions would be required for future operations) if Green Apple were to abandon the project in the future? The SEPA checklist materials should clearly address these questions in order to allow for an adequate environmental review. Any additional allowable uses of the

project's infrastructure should be explicitly made public in this study to ensure adequate environmental evaluation and appropriate mitigations/conditions for all proposed and potential future uses.

In conclusion—at best—this draft transportation study is a starting point for a much needed thorough, accurate, and up-to-date evaluation of the risks and potential adverse impacts that could occur from project-related transportation on environmental, cultural, and economic resources.

Thank you for your attention to these comments on the Green Apple Renewable Fuels Project Draft Transportation Study.

Sincerely,

A handwritten signature in black ink that reads "Lovel Pratt". The signature is written in a cursive, slightly slanted style.

Lovel Pratt
Marine Protection Program Director