Board of Pilotage Commissioners Tug Escort Rulemaking (Chapter 363-116 WAC) State Environmental Policy Act Draft Environmental Impact Statement

Recreation Discipline Report

Washington State Board of Pilotage Commissioners

Washington State Department of Ecology

Olympia, WA

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Acronyms and Abbreviations

AIS	Automatic Identification System
АТВ	Articulated tug barge
BC	British Columbia
BLM	Bureau of Land Management
BPC	Washington State Board of Pilotage Commissioners
CFR	Code of Federal Regulations
CPROS	Comprehensive Parks, Recreation, and Open Space Plan
CPRP	Comprehensive Parks and Recreation Plan
CPUE	catch per unit effort
DNR	Washington State Department of Natural Resources
DOH	Washington State Department of Health
DOL	Washington State Department of Licensing
DWT	deadweight tons
Ecology	Washington State Department of Ecology
EIS	Environmental Impact Statement
ESHB	Engrossed Substitute House Bill
FORs	functional and operational requirements
FY	fiscal year
NAP	Natural Area Preserve
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCA	Natural Resource Conservation Area
OPA	Oil Pollution Act of 1990
OTSC	Oil Transportation Safety Committee
PSHSC	Puget Sound Harbor Safety Committee
PWWA	Pacific Whale Watch Association
RASS	Recreational Assets of Statewide Significance
RCO	Washington State Recreation and Conservation Office
RCW	Revised Code of Washington
SCUBA	Self-Contained Underwater Breathing Apparatus
SEPA	State Environmental Policy Act
SMP	Shoreline Management Program
SOC	Standard of Care
SRKW	Southern Resident killer whale

US	United States of America
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

Summary

This Discipline Report is produced by the Washington State Department of Ecology (Ecology) as part of the development of an Environmental Impact Statement (EIS) as required pursuant to the State Environmental Policy Act (SEPA).

The Board of Pilotage Commissioners (BPC), in consultation with Ecology, is conducting a rulemaking to amend Chapter 363-116 of the Washington Administrative Code (WAC), Pilotage Rules. The rulemaking will consider 2019 legislative changes made to Chapter 88.16 of the Revised Code of Washington (RCW) (Pilotage Act) through the passage of Engrossed Substitute House Bill (ESHB) 1578. The rules will be designed to achieve best achievable protection, as defined in RCW 88.46.010, and will be informed by other considerations in ESHB 1578. The BPC and Ecology determined that the rulemaking may have significant adverse impacts on the environment and are developing an EIS.

This Recreation Discipline Report describes the existing conditions and potential impacts to recreation resulting from the four rulemaking alternatives: Alternative A (No Action), Alternative B (Addition of Functional and Operational Requirements (FORs), Alternative C (Expansion of Tug Escort Requirements), and Alternative D (Removal of Tug Escort Requirements). The study area for the recreation element includes the EIS Study Area which encompasses the rulemaking alternative boundaries and potential areas for tug escort commute to and from the alternative boundaries.

The following recreation-related topics were analyzed:

- Current water-based recreation within the EIS Study Area (e.g. fishing, shellfishing, boating, whale watching, etc.)
- Changes to recreational opportunity or access as a result of the alternatives
- Changes to recreational quality as a result of the alternatives
- Impacts of an oil spill to water-based recreation

Significant and unavoidable adverse impacts to recreation were not identified for any of the alternatives. Table 1 summarizes anticipated impacts on recreation.

Table 1. Recreation impacts summary.

Change in Activity	Resulting Impact on Recreation	Comparison to Alternative A	Mitigation	Significant and Unavoidable Adverse Impact?
Alternative A: No Action			T	T
Continued operation of escort tugs throughout the EIS Study Area.	Continued potential for occasional interaction between water-based recreation and escort tugs with minimal to no impact anticipated.	N/A	Escort tugs will continue to comply with laws and regulations related to vessel traffic safety and best practices around whales. Escort tugs are encouraged to comply with voluntary standards of care (light, noise, safety) and best management practices (including noise reduction programs).	No
Target vessels continue to have escort tugs within the rulemaking area. Alternative B: Addition of Fur	Continued very low risk of oil spills from a target vessel drift grounding (186-year event) that would significantly impact recreation.	N/A equirements	Escort tugs will continue to comply with laws and regulations related to oil pollution prevention, preparedness, and response.	No
Continued operation of escort tugs throughout the EIS Study Area.	Continued potential for occasional interaction between water-based recreation and escort	Same as Alternative A	Same as Alternative A.	No

Change in Activity	Resulting Impact on Recreation	Comparison to Alternative A	Mitigation	Significant and Unavoidable Adverse Impact?
	tugs with minimal to no impact anticipated.			
Target vessels continue to have tug escorts within rulemaking area, with added FORs.	Minor, unquantified decrease in risk of oil spill from target vessel drift grounding that would significantly impact recreation, due to FORs.	Same as for Alternative A.	Same as for Alternative A. FORs may further reduce spill risk.	No
Alternative C: Expansion of T	ug Escort Requirements			·
Increase in escort tug underway time (by 2.41%) and shift in escort tug commute and escort locations.	Continued potential for occasional interaction between escort tugs and water-based recreation.	Minor shift in location of escort tug traffic and potential interactions with recreation. More frequent but still transitory interactions likely in the expansion area.	Same as for Alternative A.	No
Target vessels have tug escorts within the expanded rulemaking area, with added FORs.	Decrease in risk of a target vessel drift grounding that would significantly impact recreation. Risk reduction concentrated in the expansion area.	Lower risk of catastrophic spill that would significantly impact recreation, particularly in the expansion area.	Same as for Alternative A. FORs may further reduce spill risk.	No
Alternative D: Removal of Tug Escort Requirements				
Elimination of escort tug activity associated with target vessels throughout the EIS Study Area.	Elimination of interaction between water-based recreation and the escort tugs associated with target vessels.	Elimination of any potential impacts to recreation from target vessel escort tugs.	N/A	No

Change in Activity	Resulting Impact on Recreation	Comparison to Alternative A	Mitigation	Significant and Unavoidable Adverse Impact?
Target vessels no longer have tug escorts within the rulemaking area.	Increase in risk of an oil spill from a target vessel drift grounding that could significantly impact recreation.	11.84% increase in oil spill risk across the EIS Study Area, 90.5% increase in risk in the rulemaking area. Potential for long-term impacts to recreation as a result of this type of spill are likely.	Target vessels will also continue to comply with existing oil pollution prevention, preparedness, and response regulations.	Yes

1.0 Introduction

1.1 Background

The Board of Pilotage Commissioners (BPC), in consultation with the Washington Department of Ecology (Ecology), is conducting a rulemaking to amend Chapter 363-116 of the Washington Administrative Code (WAC), Pilotage Rules. The rulemaking will consider 2019 legislative changes made to Chapter 88.16 of the Revised Code of Washington (RCW) (Pilotage Act) through the passage of Engrossed Substitute House Bill (ESHB) 1578. The rules will be designed to achieve best achievable protection, as defined in RCW 88.46.010, and will be informed by other considerations in ESHB 1578.

The rulemaking will:

- Describe tug escort requirements for the following vessels (referred to as "target vessels" throughout this report) operating 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:
 - $\circ~$ Oil tankers of between 5,000 and 40,000 deadweight tons (DWT).
 - Articulated tug barges (ATB) and towed waterborne vessels or barges greater than 5,000 dwt that are designed to transport oil in bulk internal to the hull.
- Specify operational requirements for tug escorts, where they are required.
- Specify functionality requirements for tug escorts, where they are required.
- Consider the existing tug escort requirements applicable to Rosario Strait and connected waterways to the east, established in RCW 88.16.190(2)(a)(ii), including adjusting or suspending those requirements, as needed.
- Describe exemptions to tug-escort requirements, including whether certain vessel types or geographic zones should be precluded from the escort requirements.
- Make other changes to clarify language and make any corrections needed.

This rulemaking could potentially increase or decrease tug escort activity and the risk of oils in Puget Sound. The BPC and Ecology therefore determined that the rulemaking may have significant adverse impacts on the environment. The BPC and Ecology issued a Determination of Significance on February 22, 2023, which initiated development of an Environmental Impact Statement (EIS) as required under RCW 43.21C.030 (2)(c) pursuant to the State Environmental Policy Act (SEPA). At the same time, Ecology also issued a formal scoping notice as required through the SEPA process. Ecology conducted an EIS Scoping Meeting on March 21,

Note: Unless specified otherwise, the following terminology applies throughout this EIS:

- **"Tug escort"** refers to the act of a tug escorting a target vessel that is specifically affected by this rulemaking.
- "Escort tug" refers to the tug that conducts escorts of target vessels. Underway time for an escort tug includes active escort time and time spent commuting to and from an escort job.

2023 to invite comments on the scope of the EIS and a comment period was open from February 22 through April 8, 2023.

The BPC and Ecology have agreed to act as co-lead agencies under SEPA and share lead agency responsibility for the EIS. The elements of the environment to be included in the EIS were preliminarily identified in the scoping notice. This Discipline Report serves as the detailed analysis of an element identified for inclusion in the EIS and will serve as supporting documentation to the EIS.

The BPC is conducting the rulemaking process concurrently with the EIS development and works closely with Ecology to coordinate the public involvement process. The rulemaking effort includes regular public involvement workshops that are designed to share information with stakeholders, Tribal government representatives, and the public. The BPC also appointed the Oil Transportation Safety Committee (OTSC) as an advisory committee of subject matter experts representing different areas like the regulated industry, Tribal governments, and environmental groups. The OTSC meets regularly to develop recommendations for the BPC, and the BPC makes the final decisions related to this rulemaking.

1.2 Rulemaking Alternatives

Through the rulemaking public involvement process, the BPC developed rulemaking alternatives for consideration in the EIS. The BPC has proposed four reasonable¹ rulemaking alternatives to be analyzed in the EIS. This Discipline Report analyzes the impacts associated with the four proposed rulemaking alternatives: Alternative A (No Action), Alternative B (Addition of Functional and Operational Requirements (FORs), Alternative C (Expansion of Tug Escort Requirements), and Alternative D (Removal of Tug Escort Requirements). The proposed rulemaking alternatives are summarized below and are shown in Figure 1.

Alternative A. No Action. Under Alternative A, the existing tug escort regulations would continue in effect with no changes.

Alternative B. Addition of Functional and Operational Requirements. The existing tug escort regulations would continue with the addition that escort tugs² operating under the rule would need to meet the following three functional and operational requirements:

- 1. Pre-escort conference: Prior to beginning the escort, the escort tug and the target vessel need to coordinate and discuss safety measures and other standard requirements.
- 2. Minimum horsepower (hp): Escort tugs must meet minimum hp requirements based on the DWT of the escorted vessel:
 - Escort tugs must have 2,000 hp for vessels greater than 5,000 and less than 18,000 DWT
 - Escort tugs must have 3,000 hp for vessels equal to or greater than 18,000 DWT and less than 40,000 DWT.
- 3. Propulsion specifications: To ensure sufficient propulsion, escort tugs must have a minimum of twin-screw propulsion.

¹ As defined in Chapter 197-11-786 WAC.

Alternative C. Expansion of Tug Escort Requirements. This alternative would maintain the geographic scope of the current tug escort regulations and extend them to the northwest (See Fig. 1 below). The expansion would add 28.9 square miles to the existing area where tug escort requirements apply. The expansion area would begin at the northern boundary of the existing tug escort requirement. Alternative C also includes the three functional and operational requirements described in Alternative B.

Alternative D. Removal of Tug Escort Requirements. This alternative would remove the current tug escort requirement for the target vessels within the rulemaking boundaries.



Figure 1. Proposed rulemaking alternatives.

As required by ESHB 1578, Ecology developed a risk model to simulate vessel traffic patterns and oil spill risk. The model was based on historical automatic identification system (AIS) data from 2015-2019 and was used to inform the 2023 Analysis of Tug Escorts for Tank Vessels. For the current EIS effort, Ecology used the model to 1) simulate the tracks of escort and assist³ tug traffic, based on 2015-2019 historical AIS data, and 2) simulate the current volumes of escort and assist tug traffic along these tracks while accounting for tug escort requirements that went into effect in 2020.

The model produced 1,000 annual simulations of escort and assist tug traffic. To represent current conditions and Alternative A, Ecology selected the simulation output with the highest amount of escort tug traffic (i.e., the "worst case scenario") to ensure that the EIS does not undercount potential environmental impacts and to account for other potential near-term

³ Escort tugs are often referred to as "escort/assist tugs" in this analysis because the same vessels typically perform both escorting and assisting work. Ecology used the model to simulate traffic for both escorting and assisting work; however, only escorting work would be affected by the rulemaking alternatives.

growth in vessel traffic (e.g., traffic from the Trans Mountain Expansion). For Alternative C, Ecology modified the Alternative A simulated traffic outputs to account for the proposed changes in tug escort requirements under that alternative.

Ecology used 2023 historical AIS data (i.e., not simulated) to represent all vessel categories other than escort and assist tugs, with some adjustments to account for recreational and fishing vessels not equipped with AIS. Traffic for these other vessel categories did not require simulation because it would not change based on the rulemaking alternatives.

The simulation outputs are used here to show the differences in underway time for escort tugs^{4,5} under Alternative A and Alternative C. Figure 2 and Figure 3 show the results of these simulations, compiled to indicate the total minutes per year (min per yr) of target vessel escort tug underway time⁶ within each one-square-kilometer grid cell. Figure 4 depicts the change in escort tug underway time between Alternatives A and C. Escort tug activity under Alternative B would not be expected to be meaningfully different than activity under Alternative A, and Alternative D would result in zero target vessel tug escort activity. Refer to the Transportation Discipline Report for details on the methodology behind these simulation results.

⁴ Escort tug underway time includes time spent traveling to an escort job, time while escorting a target vessel, and time spent traveling from an escort job.

⁵ Unless specified otherwise, the terms "escort tug" and "tug escort" refer to the subset of overall tug escort activity or underway time associated with the escort of target vessels that are specifically affected by this rulemaking. It includes both active escort and commute time.

⁶ Escort tug underway time includes time spent traveling to an escort job, time while escorting a target vessel, and time spent traveling from an escort job.



Figure 2. Simulated escort tug underway time under Alternative A.



Figure 3. Simulated escort tug underway time under Alternative C.



Figure 4. Simulated change in escort tug underway time between Alternative A and Alternative C. An additional accessible version of this map is available in Appendix M.

1.3 Resource Study Area

The study area for recreation includes water-based recreation occurring within the EIS Study Area, with a focus on the rulemaking area boundaries where target vessel escort tug traffic is projected to be most concentrated. The EIS Study Area and the rulemaking area are shown in Figure 5 below. For analysis of impacts of a spill on recreation, areas outside of the EIS Study Area may be discussed.



Figure 5. Boundary of the EIS Study Area.

1.4 Resource Description

This Recreation Discipline Report describes existing recreation in the EIS Study Area, and the impact of each alternative on recreational opportunities and quality. This report evaluates the potential impact of these resources from each of the rulemaking alternatives. The assessment focuses on these sub-elements:

- Current water-based recreation within the EIS Study Area
- Changes in recreational opportunities as a result of the alternatives (including oil spill risk)
- Changes in recreational quality as a result of the alternatives (including oil spill risk)

During the scoping phase of the EIS development, Ecology requested public input on the elements to include in the EIS analysis. This included recreation. Ecology did not receive comments from the public, Tribes, and/or the Oil Transportation Safety Committee about concerns with recreation impacts.

1.5 Regulatory Framework

Table 2 identifies the laws, plans, and policies relevant to the evaluation of impacts to recreation in the study area. Additional narrative descriptions for the major regulatory components are included in subsections for each regulatory body, following Table 2.

Regulation, Statute, Guideline	Description
Federal	
Executive Order 12962	Requires that Federal agencies work to improve aquatic resources to support increased recreational fishing opportunities.
33 CFR 165.1301	Establishes USCG safety and security zones for the waters of Puget Sound and Northwest Washington Navigation Area. Strongly encourages fishers to maintain a listening watch on the Puget Sound Vessel Traffic Services, keep gear out of the traffic separation scheme to facilitate vessel movement, and other geographic restrictions and gear lighting requirements.
33 CFR 165.1313	Establishes a security zone of 500 yards around all tank ships in the Puget Sound regardless of their activity.
Antiquities Act of 1906	The Antiquities Act gives the president the authority to designate National Monuments for historic landmarks, historic and prehistoric structures, or other objects of historic or scientific interest. In 2013, the San Juan Islands was designated as a National Monument and is managed by the Bureau of Land Management.
Tribal	
Various	Tribes may manage recreation on their Reservation lands in different ways. The exercise of fishing, hunting, and harvesting rights by Tribal members is not considered

Table 2. Relevant laws, plans, and policies related to recreation.

Regulation, Statute, Guideline	Description
	recreational and is addressed in the Tribal Resources Discipline Report (Appendix K).
State	
RCW 77.65.615 and Chapter 220-460 WAC	The statute establishes a commercial whale watching license. The WAC establishes whale watching vessel operational requirements including areas closed to whale watching, limits on the number of vessels and time of whale watching and compliance obligations.
Chapter 220-300 WAC	WDFW Regulations governing recreational fishing and shellfish harvest in Washington waters. Includes catch record requirements, seasons, gear, and management and reporting.
WAC 332-30-151	Outlines DNR's authorities and goals with managing some aquatic lands as reserves for educational, environmental, or scientific purposes.
Chapter 75A.05 RCW	Outlines the authorities and regulations of Washington State Parks, including park acquisition and management, underwater parks, water trails, youth conservation corps, and various conservation areas.
Local	
Whatcom County Shoreline Management Plan	Implements the Shoreline Management Act at the local level for Whatcom County. Includes specific regulations for recreational use of the shoreline and nearshore waters.
Skagit County Shoreline Management Plan	Implements the Shoreline Management Act at the local level for Skagit County. Includes specific regulations for recreational use of the shoreline and nearshore waters.
San Juan County Shoreline Management Plan	Implements the Shoreline Management Act at the local level for San Juan County. Includes specific regulations for recreational use of the shoreline and nearshore waters.

1.5.1 U.S. Coast Guard

The U.S. Coast Guard (USCG) is the federal agency responsible for vessel traffic management. This includes many federal requirements that apply to recreational boaters. These requirements include but are not limited to equipment requirements, operating procedures, interaction with maritime law enforcement, vessel safety, and emergency communications (U.S. Coast Guard, 2023). The USCG also manages and regulates the movement of larger commercial vessels (see Appendix B Transportation: Vessel Traffic Discipline Report for more details). By ensuring that these larger vessels move in safe and predictable ways in established shipping lanes, smaller recreational vessel movement is also safer.

1.5.2 Federal Land Managers in the EIS Study Area with Recreation Access

The Bureau of Land Management (BLM) and the U.S. Fish and Wildlife Service (USFWS) both manage lands and waters within the EIS Study Area that are used for recreation. The BLM is

part of the Department of Interior and manages public lands for a various, including recreation. The BLM manages the San Juan Islands National Monument, which is within the EIS Study Area and overlaps with the boundaries of the alternatives. Designated in 2013, the Monument is described as a site of "world-class recreation for residents and visitors" (BLM, n.d.). The USFWS also manages the San Juan Islands National Wildlife Refuge in the EIS Study Area. The USFWS is also part of the Department of the Interior and is responsible for managing recreation in the National Wildlife Refuge System. The USFWS primary mission is the conservation and management of fish, wildlife, plants, and habitats. The San Juan Island National Wildlife Refuge is mostly closed to recreational opportunities, except for campsites on Matia and Turn Islands (USFWS, n.d.).

1.5.3 State Land Managers in the EIS Study Area with Recreation Access

Washington State also manages public lands with a recreation focus in the EIS Study Area. The primary land and recreation managers in the EIS Study Area are the Washington State Department of Natural Resources (DNR) and Washington State Parks. The DNR manages state trust lands for the benefit of Washingtonians, including generating revenue to fund schools and other state programs. A component of this includes managing recreational opportunities including hunting, camping, and other recreational activities on state trust lands. The DNR also manages state aquatic lands for public access and recreational shellfish harvesting. There are several DNR-managed lands in the EIS Study Area. Washington State Parks manages designated state park lands for recreation and public enjoyment. Recreational activities on State Park land include hiking, recreational fishing, shell fishing, and seaweed harvest, camping, as well as visitor and retreat centers.

1.5.4 Washington State Department of Fish and Wildlife

The Washington State Department of Fish and Wildlife (WDFW) conserves and protects the state's fish, wildlife, and ecosystem resources while providing sustainable opportunities for recreational and commercial harvest, as well as other recreational opportunities. WDFW's authority includes management of recreational fishing, shellfishing, hunting, and wildlife viewing statewide. The WDFW maintains hunting, fishing, and shellfishing licenses as well as a license program for whale watching. The WDFW sets recreational fishing seasons and regulations and coordinates with federal and Tribal fishery managers to manage Washington's fisheries (See Appendix K Tribal Resources Discipline Report for more information).

2.0 Methodology Summary

For the recreation analysis, a brief descriptive overview of current water-based recreational activities in the EIS Study Area is provided. Ecology reviewed available local, state, and federal agency plans and studies related to recreational activity, as well as data on recreational activity where available.

Ecology also reviewed the results of vessel activity simulations, which estimated the existing annual underway minutes for escort tugs and how escort tug underway times are projected to change under the rulemaking alternatives. Then, Ecology reviewed the changes in escort tug activity (duration of underway time, locations, and pathways of activity) simulated under each of the four alternatives, and considered how those changes in tug escort activity would impact recreation. Impacts of an oil spill on recreation are also considered and discussed. We then evaluated impacts to recreation qualitatively for each alternative.

The EIS focuses on significant adverse impacts, with some information on moderate adverse impacts. Direct, indirect, and cumulative impacts from the four alternatives will be considered. Elements of the environment without significant adverse impacts will be summarized more briefly than elements with significant adverse impacts. Table 3 outlines the impact indicators used to assess significance for recreation. Ecology used the associated thresholds to determine whether there would be an adverse impact and whether the adverse impact would be significant.

Indicator	Significance Threshold
Changes to access or quality of recreational opportunities	The proposed rulemaking would result in long-term or permanent loss of recreational opportunities and/or a permanent reduction of recreational quality.

Table 3. Significance thresholds for impacts to recreation.

3.0 Technical Analysis and Results

This section describes the affected environment for recreation resources within the EIS Study Area. It also describes the anticipated impacts of the modeled changes in escort tug underway time on recreation for each of the four alternatives. It includes a qualitative discussion of potential impacts to recreational opportunity and recreational quality for each of the four alternatives. This section also identifies mitigation measures that could avoid, minimize, or reduce the potential impacts and determines if there would be significant and unavoidable adverse environmental impacts.

3.1 Affected Environment

3.1.1 Water-Based Recreation in Washington State

Recreation on or near the water occurs throughout Washington State, including within the EIS Study Area. The Recreation and Conservation Office (RCO) Outdoor Recreation Inventory Dashboard (RCO, 2023b) identifies 1,991 recreation points that offer boating access, fishing access, or water access throughout the state, most of those concentrated in and around the shorelines of the Puget Sound and the EIS Study Area. Outdoor recreation in Washington State is growing and is expected to continue to grow, along with the population of the state (RCO, 2019). The State's RCO regularly surveys residents on their outdoor recreational activities and develops Statewide Recreation and Conservation Plans. In 2023, RCO identified the top 20 outdoor recreation activities based on resident surveys (RCO, 2023a). Two of the top 20 activities are water-based: "swimming in natural settings" in which 61 percent of respondents participate, and "paddle sports (whitewater, canoes, kayaks, stand up paddle boards, rowing)," in which 52 percent of respondents participate, a 28 percent increase over the previous survey in 2017 (RCO, 2023a).

The RCO also identified twelve "foundational" recreational assets in a 2019 report (RCO, 2019). Of these twelve recreation types, four have an explicit water connection: boating, fishing, paddling, and swimming.⁷ The report also summarizes both geographic gaps in access to specific types of recreation, as well as qualitative gaps and future needs for each recreation type. Challenges and gaps identified for water-based activities include:

- Private land ownership and water access
- Lack of systemic reservation system for public moorage
- Reduced fishing opportunities due to fewer fish, length of seasons, and catch limits
- Lack of coordination for paddle ports facilities (water trails, camp sites, etc.)
- Lack of long-term leases of state-owned aquatic lands
- Preserving public access sites in the face of intense development

⁷ SCUBA Diving, although not a foundational recreational activity, was also reviewed in the report. Identified gaps include better site maintenance, beach access, and facilities. No gaps or issues related to vessel traffic were included.

None of the water-based activities identified interaction with vessel traffic or impacts associated with vessel traffic as a gap or concern. Based on an additional survey conducted in 2023, the RCO describes survey respondents as "overwhelmingly satisfied with their outdoor recreational pursuits" (RCO, 2023a).

The RCO survey also found that water-based activities are typically practiced in local or state parks or from federal public lands (RCO, 2023a). Using the RCO Outdoor Recreation Inventory Dashboard, we identified the following parks that are water adjacent and/or have water access and are within or adjacent to the alternatives' boundaries (see Figure 6 below). We included those parks that are adjacent to the boundaries of the rulemaking alternatives, because this is where escort tug traffic associated with target vessels is most concentrated. Washington State Parks also track annual visitation numbers to state parks (Washington State Parks, 2023); visitation numbers for state parks for 2023 are included below, where available. The Washington Department of Natural Resources (DNR) also manages state lands with recreation in this area. DNR is in the early stages of developing an Outdoor Access and Recreation Strategic Plan for its state lands, however no drafts were yet available when this was drafted. The DNR also develops "landscape" level plans for recreation management for some areas, but none of those areas are within the study area for this element.



Figure 6. Map of federal, state, and locally owned recreation areas with water access around the rulemaking area.

Federal-Owned Public Land and Parks Adjacent to Alternatives:

- The USFWS San Juan Islands National Wildlife Refuge (only Matia and Turn Islands open to the public)
- The BLM San Juan Islands National Monument (some public access)
- National Oceanic and Atmospheric Administration (NOAA)/Ecology Padilla Bay National Estuarine Reserve

State-Owned Public Land and Parks Adjacent to Alternatives (includes annual visitor data for Washington State Parks):

- Patos Island Marine State Park (4,418 visitors, 2023)
- Sucia Island Marine State Park (89,263 visitors, 2023)
- Clark Island Marine State Park (6,200 visitors, 2023)
- Moran State Park (930,499 visitors, 2023)
- Doe Island Marine State Park (3,270 visitors, 2023)
- James Island Marine State Park (9,597 visitors, 2023)
- Deception Pass State Park (3,440,392 visitors, 2023. Note: Deception Pass State Park was the most visited state park in 2023.)
- Burrows Island Marine State Park (818 visitors, 2023)
- Larrabee State Park (587,161 visitors, 2023)
- Ebey's Landing State Park Heritage Site (286,574 visitors, 2023)
- Fort Casey Historical State Park (533,809 visitors, 2023)
- Birch Bay State Park (868,401 visitors, 2023)
- Bay View State Park (242,205 visitors, 2023)
- DNR State Trust Land Blakely Island
- DNR Cypress Island NRCA and NAP (boat access only)
- DNR Lummi Island Natural Resource Conservation Area
- DNR Blanchard State Forest
- DNR Samish Island
- WDFW Milltown Island Wildlife Area
- WDFW Skagit Wildlife Area Samish Unit
- WDFW Skagit Wildlife Area South Padilla Bay Unit
- WDFW Skagit Wildlife Area Telegraph Slough Unit
- WDFW Skagit Wildlife Area Guemes Island Unit
- WDFW Skagit Wildlife Area Sinclair Island Unit
- WDFW Whatcom Wildlife Area Lummi Island Unit

County and Local Parks Adjacent to Alternatives

- Sharpe Park (Skagit County)
- Agate Beach County Park (San Juan County)
- Lily Point Marine Park (Whatcom County)
- Point Roberts Park (Whatcom County)
- Lighthouse Marine Park (Whatcom County)
- Maple Beach Tideland (Whatcom County)
- Monument Park (Whatcom County)
- Whatcom Wildlife Area Point Roberts Unit (Whatcom County)
- Blaine Marine Park (Whatcom County)
- Semiahmoo County Park (Whatcom County)
- Point Whitehorn Marine Reserve (Whatcom County)
- Teddy Bear Cove Park (Whatcom County)
- Swantown Lake (Island County)
- Washington Park (City of Anacortes)
- Cap Sante Park (City of Anacortes)
- Kiwanis Waterfront Park (City of Anacortes)
- North Bay Open Space and Marine Drive Trail (City and Port of Bellingham)
- Little Squalicum Park (City of Bellingham)
- Zuanich Park (Port of Bellingham)
- South Bay Trail (City of Bellingham)
- Boulevard Park (City of Bellingham)
- Marine Park Fairhaven (Port of Bellingham)
- Padden Lagoon (City and Port of Bellingham)
- Post Point Treatment Plant Open Space (City of Bellingham)
- Woodstock Farm (City of Bellingham)
- Guemes Mountain (Skagit Trust Land)
- Aiston Preserve (Lummi Island Heritage Trust)
- Pigeon Point (Whatcom Land Trust)
- Young's Park (Skagit County)

3.1.2 Recreational Fishing and Shellfishing

Recreational fishing is a popular water-based recreation activity in Washington State that has the potential to interact with additional tug escort requirements. Recreational fishing is managed by the Washington State Department of Fish and Wildlife (WDFW). Recreational shellfishing is jointly managed by WDFW and the Washington State Department of Health (DOH) to ensure shellfish safety as well as resource management. In 2022, a WDFW survey found that a total of 1.2 million people (residents and non-residents) participated in fishing in Washington State with 68 percent of that occurring in saltwater (Deynze, 2024). The WDFW splits Washington State waters into 13 marine areas for the purposes of fisheries management. Marine Area 7 (San Juan Islands) and a portion of Marine Area 6 (East Juan de Fuca Strait) are the WDFW Marine Areas that cover the rulemaking area and the adjacent waters (see Figure 7 below). They are defined as follows:

- Marine Area 6 (East Juan de Fuca Strait): From Low Point east to the Partridge Point Point Wilson line north to the line from Trial Island (near Victoria B.C.) Vessel Traffic
 Separation Buoy "R" Smith Island to the Lawson Reef Buoy to Northwest Island to the
 Initiative 77 marker on Fidalgo Island.
- Marine Area 7 (San Juan Islands) All marine waters north of the Trial Island line described under Area 6 to the United States-Canada boundary.

The WDFW identifies three public fishing piers and two "major recreational fishing areas" (Lawrence Point and Rosario Strait) within the rulemaking area boundary, with no additional public fishing piers or major fishing areas within the expansion area (see Figure 7). There are additional public fishing piers and WDFW major fishing areas within the EIS Study Area along or near possible tug escort commute routes.



Figure 7. Map of marine areas for recreational fishing in and adjacent to the rulemaking area, including major fishing areas identified by WDFW for recreational fishing by boat and from the shore.

Recreational shellfish beaches exist throughout the EIS Study Area and within the rulemaking area. Within the Alternative A boundary, recreational shellfish beaches are located at:

- Southern end of Lummi Island and other shorelines on the island
- Most of the eastern shorelines of the San Juan Islands adjacent to Rosario Strait (Orcas, Blakely, Decatur, and Lopez Islands)
- Clark Island and Barnes Island
- Most shorelines of Cypress Island and Strawberry Island
- Teddy Bear Cove Park, Chuckanut Bay, Post Point, Larrabee State Park, Samish Island Recreation Area, Bay View State Park, March Point Recreation Area, Washington Park, and Deception Pass State Park
- Saddlebag Island

The expansion area (Alternative C) would also include recreational shellfishing beaches on Matia, Sucia, and Patos Islands.

The WDFW releases sports (recreational) fisheries catch reports. The latest published year of data is from the 2021 "License Year" (April 1, 2021, through March 31, 2022), published in 2023 (Kraig & Scalici, 2023). The entirety of the data for this report was published after the 2020 requirements for tug escorts for target vessels in Rosario Strait and Waters East were implemented and reflect the current state of the affected environment. For a comparison of recreational fishing to pre-2020 requirements, see Alternative D below.

Both licenses and catch records are required for recreational fishing in Washington waters. In 2021, WDFW sold 1,251,439 recreational fishing licenses statewide. A summary of catch report data by Marine Area and species is included below.

Fishery	Total Caught	User Trips
Salmon	12,754	12,193
Marine Fish	2,858	Not listed
Clams and Oysters (Sequim Bay)	Clams: 11,202 lbs.	2,843
	Oysters: 28,292	
Spot Shrimp (27 days)	23,190 lbs.	4,577
Spot Shrimp (Discovery Bay, 2	2,486 lbs.	601
days)		
Dungeness Crab (Port Angeles	Summer: 142,648 lbs.	Not listed
Harbor, Dungeness and Sequim	Winter: 23,691 lbs.	
Bays, Discovery Bay)		

Table 4. Marine Area 6 catch report data for license year 2021

Fishery	Total Caught	User Trips
Salmon	4,614	9,338
Marine Fish	6,460	Not listed
Clams and Oysters (Birch Bay)	Clams: 112,182 lbs.	20,661
	Oysters: 3,692	
Clams and Oysters (Drayton	Clams: 446 lbs.	215
West)	Oysters: 437	
Spot Shrimp (24 days)	65,582 lbs.	12,005
Dungeness Crab (Gulf of Georgia,	Summer: 454,146 lbs.	Not listed
North of San Juan Islands,	Winter: 55,321 lbs.	
Bellingham Bay, Samish Bay, San		
Juan Islands, Anacortes)		

Table 5. Marine Area 7 catch report data for license year 2021

3.1.3 Recreational Boating

Recreational boating for fishing, sightseeing, and recreation is popular in the EIS study area, particularly in and around the San Juan Islands (San Juan County, 2023). Recreational vessels with a motor or a sail are required to register their vessels on an annual basis with the Washington State Department of Licensing (DOL). Vessels or watercraft that are strictly human powered (canoes, kayaks, paddle boards, etc.) are exempt from this requirement and other exemptions apply (WA DOL, 2025). The DOL releases fee distribution reports for vessel registration and the most recent available year of data is from fiscal year (FY) 2016. In 2016, there were 199,672 registered vessels in Washington State (WA DOL, 2016). Approximately 65 percent of all registered recreational vessels are registered in counties with shorelines adjacent to the rulemaking area (Whatcom, Skagit, and San Juan Counties). Recreational vessel registration by county for all counties with shorelines in the EIS Study Area is below.

In addition to the water-based recreation studies referenced above, the RCO has previously studied recreational boating activity (Duda et al., 2007). In this study, King County (18.4 percent) was by far the most frequent boating location, followed by Pierce, Snohomish, Clark, and San Juan (4.3 percent). San Juan County was a top boating location for sail boaters but not for any other recreational vessel types. It is also one of the counties with the lowest reported incidence of recreational boating for fishing, which was also lowest among sail boaters. While this study did find some reports of congestion being a constraint for recreational boaters, it was primarily concentrated around recreational boat launches, mostly described as a minor problem, and is unlikely to be affected by this rulemaking.

County	Registered Recreational Vessels	% of Total Registered Recreational
		Vessels
Whatcom	9,903	7.66%
Skagit	7,488	5.79%
Snohomish	21,606	16.72%
King	38,006	29.40%
Pierce	19,527	15.11%
Thurston	7,686	5.95%
Mason	3,832	2.96%
Kitsap	9,164	7.09%
Jefferson	1,967	1.52%
Clallam	3,292	2.55%
San Juan	2,003	1.55%
Island	4,784	3.70%
Total	129,258	100%

Table 6. Registered recreational vessels by county (FY 2016 data)

3.1.4 SCUBA Diving

The WDFW identifies and publishes SCUBA Diving sites throughout the Puget Sound and the Strait of Juan de Fuca. The WDFW lists 70 sites within the EIS Study Area. There are two within the boundary of Alternative A (#33 - Doe Island and #34 - James Island) and two additional at Deception Pass (#37 – Rosario Beach and #38 – Deception Pass), which are adjacent to the southern boundary of Alternative A (WDFW, 2009). There would be one additional site (#26 – Sucia Island) within the boundary of Alternative C. The SCUBA diving usually occurs close to shore, while tugs operate in the established shipping lanes. The SCUBA diving is unlikely to be impacted by the operation of escort tugs.

3.1.5 Whale Watching

The WDFW estimates that in 2022, 6.2 million people participated in "wildlife viewing," with 65 percent of that occurring away from home. A portion of those wildlife viewers likely include whale watching. Under a 2019 law, the WDFW also began issuing Commercial Whale Watch Licenses for entities that meet the state's definition of commercial whale watching (RCW 77.65.615). This includes businesses, operators, and kayak guides. The Pacific Whale Watching Association (PWWA) lists 30 members in Washington and British Columbia (PWWA, 2025), although not all whale-watching operators are PWWA members (The Whale Museum, 2023). The PWWA estimates that its members provide whale watching services to approximately 400,000 people annually (PWWA, 2025).

Soundwatch, a program of The Whale Museum which operates under a National Marine Fisheries Service (NMFS) permit, records whale watching activities and interactions with marine mammals, in particular Southern Resident Killer Whales, within a portion of the EIS Study Area (The Whale Museum, 2023). In 2023, Soundwatch focused its efforts on San Juan Island, Boundary Pass into the Strait of Georgia, and around Patos and Sucia Islands. In 2023, they identified 106 active whale watch vessel operators, increasing the number of vessels they identified in 2022 (The Whale Museum, 2023). The highest density of whale watching effort is largely outside the rulemaking area and concentrated in Haro Strait, Boundary Pass, and the Southwestern shore of San Juan Island. However, some whale watching does occur within the rulemaking area boundaries, which Soundwatch's maps characterize as "sparse" (The Whale Museum, 2023).

Escort tugs are unlikely to encounter a significant number of active whale watching vessels in the rulemaking area as the overlap between their distribution is limited. Furthermore, commercial whale watching vessels are required to carry AIS (WAC 220-460-140), as are tugs. This means that whale watching vessels would be able to see and potentially avoid escort tugs if they choose to. Escort tugs could also directly impact whales, indirectly impacting recreational whale-watching. More information on the impacts of escort tug traffic on whales is covered in the Plants and Animals Discipline Report (Appendix F).

3.1.6 County and Region-Specific Water-Based Recreation Information

County or regional-specific plans for the areas around the rulemaking area have also been assessed in more detail for data, studies, plans, and ordinances on recreational activity. Summaries of relevant recreation information for San Juan County and San Juan Islands National Monument, Whatcom County, Skagit County, and Island County are below.

3.1.6.1 San Juan County and San Juan Island National Monument:

Between 2018-2022, San Juan County experienced an average of 654,266 unique visitors per year (San Juan County, 2023).⁸ Visitor activity peaks in July and August and more than 50 percent of visitors stay for 2 to 4 days (San Juan County, 2022). In 2021, Washinton State Ferries carried a total of 995,430 passenger vehicles and 267,690 foot passengers along San Juan Island routes, most for tourism-based activities (San Juan County, 2022). Residents also point to access to nature and recreational opportunities among reasons they choose to live in the San Juan Islands and have emphasized the importance of maintaining public access to the water, especially for hand-launched, non-motorized boating (San Juan Island Scenic Byway Partnership, 2012). The Washington State Office of Financial Management estimates that average annual visitation to all state parks in San Juan County typically ranges from around 1,300,000 to around 1,600,000 visitor days per year⁹ (San Juan Island Scenic Byway Partnership, 2012). This includes both residents and visitors to the County as well as people passing through the parks. Moran State Park, which has views of the water within the rulemaking area,

⁸ The San Juan County Destination Management Plan includes both seasonal workers and permanent workers who commute to but don't live on the islands as "unique visitors."

⁹ Each visitor to the park on an individual day counts as a visitor day. Because more than one unique visitor goes to the park each day, there can be many more "visitor days" in a year than there are calendar days. See the Scenic Byway Plan for more details.

experiences nearly 700,000 visitor days per year (San Juan Island Scenic Byway Partnership, 2012).

The County Destination Management Plan (San Juan County, 2023) identifies recreational activity in order of popularity:

- 1. Hiking on trails
- 2. Hiking on shorelands*
- 3. Shore marine viewing*
- 4. Picnicking
- 5. Beachcombing*
- 6. Swimming*
- 7. Private kayaking*
- 8. Biking
- 9. Whale boat tour*
- 10. Guided kayaking*
- 11. Private sailing*
- 12. Private whale watching*
- 13. Charter sailing*
- 14. Biking with tour

Seven (out of the ten most popular recreational activities have an explicit connection to water (starred in list above). Both San Juan Island and Orcas Island have their own parks and recreation districts (San Juan County, 2022), but no separate plans.

San Juan Island is also designated as a National Monument and includes lands managed by the Bureau of Land Management (BLM). The Monument Management Plan states that recreation is a mechanism by which the public can be educated about the Monument goals and values, but that it also has the potential to degrade those values (BLM, 2023). Relevant management objectives associated with recreation on BLM lands in the Monument include:

- Facilitate recreational use that is compatible with protecting Monument objects and values.
- Facilitate an experience of quiet and solitude.
- Monitor and conserve natural soundscapes.

There is also specific management direction associated with recreation related to limiting impacts on dark night skies, with specific exemption for the USCG aids-to-navigation. The Management Plan prohibits all recreational access on some of the smaller islands and rocks, prohibits overnight camping on others, and requires permits for group recreational activities.

3.1.6.2 Whatcom County:

The recreation goal for Whatcom County's Shoreline Management Plan (SMP) includes "To provide opportunities and space for diverse forms of water-oriented recreation..." (Whatcom County Code § 23.20.040). The SMP highlights a variety of diverse recreational uses of the shoreline and nearshore environment including but not limited to fishing, clam digging and

shellfish harvesting, boating, swimming, wading, hiking, and walking on the shoreline. County ordinances limit recreational water skiing, wakeboarding, paddleboarding, rafting, and swimming to within 150 feet of shore only (Whatcom County Code § 11.20.010, Whatcom County Code § 11.20.020). The SCUBA diving and snorkeling are restricted to within 100 feet of the shoreline and a dive flag is required (Whatcom County Code § 11.20.030). The SMP also identifies two marine shorelines of statewide significance: Birch Bay from Birch Point to Point Whitehorn, and all other marine waters waterward of extreme low tide (Whatcom County Code § 23.40.020). Additionally, all recreation or access development should be designed to protect the resource base (Whatcom County Code § 23.40.030).

Whatcom County Parks and Recreation manages recreation and conservation for the County and develops the Comprehensive Parks, Recreation, and Open Space Plan (CPROS). Population growth in Whatcom County is higher than the state average (14 percent vs. 10 percent). Visits to trails and parks in Whatcom County are increasing faster than the population is growing (Whatcom County Parks & Recreation, 2024). A 2021 survey of Whatcom County residents focused on recreation found that 95 percent have visited a park and/or participated in a recreation program within the last year (Whatcom County Parks & Recreation, 2024). While the survey revealed broad support for parks and open spaces, one area of lower satisfaction was with existing recreational water access (both salt and freshwater) for hand-launching watercraft with suggestions for specific facilities improvements. The County's CPROS Plan highlights both contaminants from recreational boating activity and from oil transportation hazards as among the greatest risks to estuarine habitats.

3.1.6.3 Skagit County:

The Skagit County Shoreline Management Plan emphasizes public recreational access to and use of shorelines. It encourages that a variety of recreational opportunities be made available to meet public demand (Skagit County Planning Department, 2010). It also identifies that recreational opportunities for the public should be increased on shorelines of statewide significance (Skagit Bay and adjacent area from the Skagit-Snohomish County line to Yokeko Point, Fidalgo Island; Padilla Bay - from March-Point -to William Point, Samish Island; and all other marine waters seaward of extreme low tide) (Skagit County Planning Department, 2010).

Skagit County Parks and Recreation manages recreation in the County and develops the Comprehensive Parks and Recreation Plan (CPRP). The Skagit County CPRP identifies a Water Access Goal of providing opportunities for water access and activities throughout the county. The water access goal is supported by a resident survey referenced in the CPRP, which found that 85 percent of respondents ranked public beaches/water access as somewhat or very important, and 60 percent ranked boat launches as somewhat or very important (Skagit County Parks and Recreation, 2022). Three water-based recreation activities were ranked within the top 20 recreation activities in the county: public beach/water access (3rd), boat launch areas (14th) and small boat facility (20th). The plan identifies eight existing saltwater ramps for boat launches and 17 locations for public saltwater shoreline access, some of which are only accessible by boat (Skagit County Parks and Recreation, 2022). We also see high recreational use in Skagit County, with 93 percent of survey respondents using a park facility within the last 12 months (Skagit County Parks and Recreation, 2022).

3.1.7 Recreation and Oil Spills

Oil spills are a concern in Washington due to the volume of oil that is refined and transported through pipelines, rails, and vessels, as well as the expansion of this infrastructure, particularly on the Canadian side of the border. The movement of oil can result in spills due to a variety of factors, from mechanical failures to collisions. Spills from vessels specifically can be caused by groundings, collisions or allisions, refueling, human error, and many other factors. A significant majority (88.4 percent) of oil and non-oil spills to water in Washington State between 2008 and 2018 were less than 25 gallons (Ecology, 2020). Due to the large amount of recreational and fishing vessels that utilize Puget Sound, it is estimated that these sources comprise the largest source of oil pollution even though these spills are generally small in volume (NOAA, 2022). Oil spill impacts are further discussed in Appendix C Environmental Health: Releases Discipline Report.

Escort tugs are best suited to prevent drift groundings, which rarely result in a spill. Based on a review of actual incident data from 2002-2019, Ecology found that there were only two drift groundings in the EIS Study Area, none of which resulted in a spill (Ecology, 2023). Additional information on current oil spill risks and concerns can be found in Appendix C Environmental Health: Releases Discipline Report.

Any release of oils or diesel fuel from target vessels and/or tug escorts from incidents such as drift groundings, collisions, or allisions could have a negative impact on recreational resources within the EIS Study Area. Impacts to recreation, and specifically lost recreational opportunities, are typically evaluated as part of a Natural Resources Damages Assessment under OPA 90 (Horscha et al., 2017). These impacts can include lost access for recreational boating and fishing, and closures of beaches and coastal areas for activities like surfing, swimming, wildlife viewing, and birdwatching (NOAA, n.d.). Closures can occur during the spill, during clean-up, and after the spill until oiled areas are safe for the public. In major spills, like the Deepwater Horizon incident, recreational impacts lasted for well over a year and resulted in \$693.2 million in damages (NOAA, n.d.). For people working in the recreational sector, oil spills can also have economic consequences such as loss of employment, which can have cascading impacts on mental health as well (NOAA, n.d.). Economic impacts of an oil spill will be covered in the Preliminary Regulatory Analysis required by this rulemaking and are not covered here.

Many factors affect the severity and extent of recreational impacts. Variables, such as the location and timing of a spill, the time of year, and the distance from shore, influence the trajectory of oil after a spill has occurred and the resulting recreational impacts. Ecology performed oil spill trajectory modeling for eight worst case spill scenarios at locations that have a relatively higher spill risk. This modeling simulates the trajectory of spills using local currents, tides, wind, and other conditions data. See Appendix C Environmental Health: Releases Discipline Report for more details on the methods and results of this trajectory modeling.

These simulations suggest that recreational resources across most of the northern portion of the rulemaking area could be at risk in the event of a worst case spill event. Under current conditions, recreational resources near Matia, Sucia, and Patos Islands, as well as parts of Lummi Island, the coastline near Cherry Point, and Birch Bay, would be at particular risk from target vessel drift groundings occurring outside the boundary of the current tug escort

requirements. Recreational resources near Guemes Island, Saddlebags and Hat Islands, areas of Samish Island, parts of Chuckanut Bay, Lopez Island, and Burrows Bay could all be at higher risk of oiling from a worst case diesel spill from an escort tug due to current levels of tug escort underway time.

3.2 Alternative A: No Action

3.2.1 Impacts from Implementation

Alternative A represents the most likely future conditions if we make no changes to existing tug escort requirements for target vessels. Tug escort requirements for target vessels would remain in place in the current rulemaking area as established by RCW 88.16.190(2)(a)(ii).

3.2.1.1 General Water-Based Recreation:

Under Alternative A, target vessels are escorted through the rulemaking area 4.21 times per day (128 times per month), for an estimated total of 610,107 underway minutes per year. This is equivalent to approximately 27-28 hours of operating time per day across the entire EIS Study Area. Tugs escorting target vessels account for approximately 0.96 percent of all vessel traffic with AIS.¹⁰ This does not include the numerous smaller recreational vessels that do not require AIS; some studies estimate that recreational vessels account for up to 53 percent of all non-AIS vessel traffic (Serra-Sogas et al., 2021) of all traffic. .

The level of tug traffic under Alternative A has been in place since September 2020. Several studies on statewide recreation have been conducted and published since that time. Waterbased recreation is growing in popularity, and a 2023 report concluded that survey respondents are "overwhelmingly satisfied with their outdoor recreational pursuits" (RCO, 2023a). The same plan, published after the implementation of current tug escort requirements, identified primary barriers to recreation as 1) outdoor recreation areas are too crowded, 2) there is limited access to outdoor recreation areas, and 3) that residents don't have enough time for outdoor recreation. Tug escort requirements have no relation to residents' time for outdoor recreation and no impact on whether recreation areas are crowded. It is possible that a significant amount of vessel traffic in the waterways could impede access to water-based recreational activities. However, escort tug traffic from this rulemaking accounts for less than 1 percent of total AIS traffic under Alternative A and between 4 and 5 individual escort jobs per day. Within the boundary of Alternative A, where escort tug traffic is concentrated, the tugs are frequently escorting an existing and much larger vessel. The addition of a small number of escort tug commutes and tugs transiting adjacent to existing vessel movement is unlikely to meaningfully affect access to outdoor recreation activities.

Additionally, as described in Sec. 3.1 Affected Environment, some counties limit many waterbased recreational activities to within 100-150 feet from shore and other recreational activities like SCUBA diving often take place close to shore. Escort tugs rarely operate this close to the shoreline—only 1.74 percent of underway time is within 150 meters of the shore. When operating this close to the shore, they are almost always traveling slower than 6 knots. Impacts

¹⁰ Historical AIS reference year of 2023

to recreation are unlikely due to the limited nature of potential physical interaction with recreation near the shore and the transitory nature of escort tug movement.

3.2.1.2 Recreational Fishing and Shellfishing:

While there are a limited number of years of recreational fishing and shellfishing data available since the implementation of current requirements, there is no clear change after their implementation. Sales of recreational fishing licenses over the past ten years have trended downwards (See Figure 8). Part of License Year 2020 and all of License Year 2021 occurred under the conditions of Alternative A. The decrease in recreational fishing license sales is likely due to fisheries management dynamics and trends in fishing interest that are unrelated to adding tug escorts. The RCO RASS Report reflects this: challenges related to fishing were identified as fewer fish, shorter seasons, and catch limits (RCO, 2019). No challenges related to vessel traffic were identified. If the conditions of Alternative A did affect recreational fishing and shellfishing access, we would expect to see a decrease in the number of people purchasing recreational licenses in 2020 and 2021 after the tug escort requirements went into place. As Figure 8 below demonstrates, there was no significant change before and after 2020 indicating that tug escort requirements are likely not affecting the sale of recreational fishing licenses.



Figure 8. Number of recreational fishing licenses sold in Washington State (2011-2021). Compiled from the annual Washington State Sport Catch Reports available on the WDFW website.

We can also compare catch per unit effort (CPUE) or fish per trip between a License Year before the requirements went into place, and one from after the new requirements went into place. The CPUE or fish per trip is a ratio of the number of individual angler trips to the amount of fish caught and is an indication of fishing effort. If the addition of tug escort requirements was significantly disrupting recreational fishing activity, we would expect to see significantly lower CPUE or fish per trip after 2020. Table 7 below compares License Year 2018 and License Year 2021, which had similar numbers of licenses sold. While there are some differences between the pre- and post- years in terms of catch per trip, there is not a clear decrease in catch per trip after the implementation of the 2020 requirements. The differences between license year 2018 and 2021 can likely be explained by normal inter-annual variation and fluctuations in catch limits and season timing.

Marine Area and Target Species	License Year 2018 – Catch per Trip	License Year 2021 – Catch per Trip
Marine Area 6 Salmon	0.91	0.66
Marine Area 7 Salmon	0.43	0.49
Marine Area 6 Clams	3.62	3.9
Marine Area 7 Clams	5.15	5.4
Marine Area 6 Oysters	10.24	9.95
Marine Area 7 Oysters	0.20	0.20
Marine Area 6 Spot Shrimp	6.8	5.1
Marine Area 7 Spot Shrimp	5.0	5.5

Table 7. Comparison of catch per unit effort between license year 2018 and license year 2021 for various fisheries in Marine Areas 6 and 7.

While there could be some recreational fishing interactions with escort tugs, interactions with vessel traffic have not been identified as a concern in Ecology's review of available data, unlike our findings with Tribal treaty fishing (See Tribal Resource Discipline Report, Appendix K). Recreational fishers are also not limited to the boundaries of a U&A the way Tribal fishers are, giving them additional flexibility to respond to changing vessel traffic movement. Furthermore, unlike Tribal treaty fishing, marine recreational fishing gear is limited to hook and line angling, forage fish dipnets, and forage fish cast nets in specific Marine Areas (Deynze, 2024). These gear types are smaller and closer to the vessel, so the risk of gear loss and safety concerns is lower. Crab or shrimp pots may be at risk for gear loss from escort tugs, however these are typically placed relatively close to shore or set off docks or similar shoreline features. Under Alternative A, escort tugs only spend 1.74 percent of total underway time within 150 meters of shore, so the potential for interaction with this type of recreational gear is likely to be minimal. People recreationally harvesting shellfish from shore are therefore also unlikely to experience any disruption due to escort tugs under Alternative A.

3.2.1.3 Whale Watching

The highest density of whale-watching effort is largely outside of the Alternative A boundary and concentrated in Haro Strait, Boundary Pass, and the Southwestern shore of San Juan Island (The Whale Museum, 2023). However, some whale watching does occur within the boundary of the rulemaking area, which Soundwatch's maps characterize as "sparse." Ecology's analysis of underwater noise did identify some significant impacts for underwater noise under Alternative A (See Plants and Animals Discipline Report, Appendix F). While it is possible that SRKW and other marine mammals could be impacted by this additional noise, most of the recreational whale watching occurs outside of the boundary of Alternative A. Therefore, it is unlikely that the tug escort requirements under Alternative A would significantly impact recreational whale watching.

3.2.2 Proposed Mitigation Measures

The current escort tug requirements themselves mitigate (reduce) the risk of a spill from the target vessels, which are rare-probability events. This reduces the potential for disruption of recreation as a result of a catastrophic spill from a target vessel. While escort tugs themselves could also be a source of pollution, these incidents are also rare, in part due to the existing network of regulatory and voluntary safety measures. Implementation of the required and/or recommended mitigation measures described in this subsection would further reduce the potential impacts to recreation under Alternative A.

Required Mitigation (Rulemaking or Other Existing Regulations)

Escort tugs are currently required to comply with all relevant federal and state vessel traffic safety and oil pollution prevention, preparedness, and response measures, as do the target vessels themselves. Details of these existing safety measures that mitigate risk can be found in the Transportation: Vessel Traffic and Environmental Health: Releases Discipline Reports (Appendices B and C).

Of particular importance to reducing impacts to recreation is the use of the existing shipping lane structure and vessel traffic management system, which is managed by the USCG. This keeps large commercial vessel traffic away from shore where water-based recreation occurs more frequently. It also provides predictability for recreational vessels (fishing, yachts, etc.) that use water further from shore. Ecology's modeled data indicates that escort tugs already spend very little underway time closer than 150 meters from shore. Continuing the use of the existing system will help minimize interactions between escort tugs and recreational activities.

Recommended Mitigation Measures

In order to minimize any potential impacts to recreational whale watching, Ecology recommends that escort tugs limit potential impacts to SRKW and other marine mammals. Escort tugs are encouraged to continue compliance with the existing marine mammal and SRKW-specific laws and best practices outlined in Appendix F Plants and Animals Discipline Report.

3.2.3 Significant and Unavoidable Adverse Impacts:

Because escort tugs are primarily operating within existing shipping lanes and close to major ports and refineries, with only a small portion of total underway time spent within 150 meters from shore, interactions with shore-based and nearshore (e.g. SCUBA diving, tubing) recreation, shore-based recreational shellfishing, and recreational boating are expected to be minimal under Alternative A. The fact that escort tugs operate primarily within the shipping lanes helps recreational fishers and boaters avoid interaction with the tugs, as do the common gear types for recreational fishing in Washington waters. Interactions with whale watching boats are also expected to be infrequent and well-managed by the fact that both the escort tugs and the whale watching boats are required to carry and use AIS. Any potential impacts are likely to be transitory in nature, occur infrequently, and would not result in a long-term or permanent loss of recreational opportunity or reduction of recreational quality. Therefore, there are no significant and unavoidable adverse impacts from escort tug underway time associated with Alternative A.

Under Alternative A, risk of an oil spill from both target vessels and escort tugs is low, meaning that the risk of an oil spill impacting recreational opportunities is also low. Although a worst case spill event that impacts major recreational areas is possible, historical data shows that spills of this magnitude are very low-probability events. The tug escort requirements under Alternative A, along with the existing safety measures outlined in the Mitigation Section above, contribute to the low likelihood of such an event. While possible, permanent impairment of recreational opportunity and/or quality from a catastrophic spill is very unlikely. Therefore, there are no significant and unavoidable adverse impacts from spill risk from target vessels or escort tugs associated with Alternative A.

3.3 Alternative B: Addition of Functional and Operational Requirements

3.3.1 Impacts from Implementation

Alternative B adds functional and operational requirements intended to increase safety and formalize existing best practices. It makes no change to the geographic boundaries described in Alternative A. These functional and operational requirements include 1) minimum either 2,000 or 3,000 hp requirements for the escort tugs based on the DWT of the escorted vessel, 2) minimum of twin-screw propulsion, and 3) a pre-escort conference between the tug and the escorted vessel.

Of the 18 tugs identified in the 2021 Vessel Traffic Trend Study (BPC & Ecology, 2021) as performing target vessel escort work, two are between 2,000 and 3,000 hp. Ecology reviewed the data used in this report and found that the escort tugs between 2,000 and 3,000 were only escorting target vessels under 18,000 DWT. The hp requirement codifies existing industry practices and ensures that tugs have sufficient power to intervene to prevent a drift grounding (and potential subsequent spill). Additionally, all 18 of the identified tugs meet the minimum twin screw propulsion requirement. These two requirements reflect today's industry practices and are therefore unlikely to result in changes to the distribution of escort tugs and their associated impacts. The FORs are intended to increase safety and formalize existing best practices. Alternative B would not be anticipated to have any impact on the type, quantity or frequency of impacts to recreation relative to Alternative A.

Under Alternative B, the FORs could result in a minor but unquantified decrease in the risk of oil spills from target vessels due to drift groundings, but would not be expected to change the existing risk of a diesel fuel spill from escort tug incidents.

3.3.2 Proposed Mitigation

No additional mitigation measures than those included for Alternative A in Section 3.2.2 (Proposed Mitigation Measures) have been identified under Alternative B. Escort tugs would still be required to adhere to the existing vessel traffic safety and oil spill prevention,

preparedness, and response regulations already in place. Ecology recommends that escort tugs and target vessels continue to participate in voluntary best practices and standards of care to reduce impacts to SRKW and other marine mammals (see Appendix F Plants and Animals Discipline Report for additional details).

3.3.3 Significant and Unavoidable Adverse Impacts

As stated in Section 3.3.1 (Impacts), the addition of the FORs would not change the anticipated interaction of escort tugs and recreational opportunities relative to Alternative A. Additionally, Alternative B would not change the predicted frequency or volume of oil spills from escort tugs or target vessels relative to Alternative A. Therefore, Alternative B would not have significant or unavoidable adverse environmental impacts on water quality.

3.4 Alternative C: Expansion of Tug Escort Requirements

3.4.1 Impacts from Implementation

Alternative C maintains the tug escort requirements outlined in Alternative A and expands them northwest towards Patos Island. Alternative C would result in a 2.41 percent increase in escort tug underway time. The net increase in escort tug underway time would occur primarily within and near the expansion area (i.e., in the Strait of Georgia and the Strait of Georgia South Zones). In the Strait of Georgia South Zone, escort tug underway time would increase from 0.02 hours per day to 1.11 hours per day due to the expansion under Alternative C. In the Strait of Georgia Zone, escort tug underway time would increase from 1.88 hours per day to 2.24 hours per day. Escort tug underway time in the rest of the EIS Study Area would decrease slightly or remain the same (see Figure 4). Alternative C also includes the FORs included in Alternative B. We assume that the functional and operational requirements will not meaningfully affect the analysis of recreational impacts. The expansion area is the furthest north region of the EIS Study Area and located away from major population centers. There are several protected islands within the San Juan Island Monument that would experience more escort tug traffic under this alternative. The shift in escort tug underway time has the potential to impact additional recreational areas.

Under Alternative C, modeled escort tug underway time accounts for approximately 0.99 percent of total underway time for all AIS vessel traffic. While this is an increase over Alternative A (0.96 percent of total traffic), escort tugs associated with this rulemaking remain a small contribution to the total vessel traffic in the EIS Study Area. Escort tugs are far outnumbered by recreational vessels.

There are two state parks in the expansion area that could be affected by increased vessel traffic. These are Sucia Marine State Park and Patos Marine State Park. Both parks are only accessible by boat and both experience significant summertime peaks in access for both day use and overnight use. A previous RCO study indicates that many of these vessels are likely to be sailboats (Duda et al., 2007). Approximately 39 percent of the time escort tugs spend near these two parks is likely to be while escorting existing target vessels. Because the escort tugs are so much smaller than the target vessels and are close to them while escorting, this is unlikely to cause an additional impact. When transiting alone, the potential impact of a single

tug on recreation is transitory and much smaller than the impact of a target vessel. Escort tugs may also wait in protected areas, such as Echo Bay on Sucia Island for safety during strong weather prior to meeting their target vessel at the boundary where the requirements begin. However, as recreation in these areas strongly peaks during the summer and more extreme weather conditions are more common in the winter, this is unlikely to have significant impacts on recreational boating. Any impacts to recreational boating from additional escort tug underway time would be transitory by nature and unlikely to permanently impair recreational access or quality.

The expansion area is within Marine Area 7 for recreational fishing, which is described both in Section 3.1 and above under Alternative A. There are also recreational shellfish harvest areas on Sucia, Patos, and Matia Islands and one WDFW-identified dive site on Sucia Island. While there is potential for conflict between escort tugs and recreational fishing or diving, as described in Alternative A, the location of escort tug movement, the transitory nature of escort tug movement, and the gear types of recreational fishing make this unlikely. Escort tugs remain largely within the designated shipping lanes, so their movements are predictable to recreational fishing boats. Gear types are the same as those described under Alternative A. Under Alternative C, only 1.74 percent of escort tug time is spent within 150 meters of shore, limiting potential impacts to nearshore and shore-based recreational harvest. Even with the increase in escort tug traffic, permanent impacts to recreational access or quality are unlikely to occur.

Whale watching does occur in higher concentrations in the expansion area, particularly in the areas immediately adjacent to Patos and Sucia Islands (The Whale Museum, 2023). Soundwatch data indicates that Bigg's transient killer whales and humpback whales are the primary target species for whale watching effort in this area. Like recreational fishing, whale watching activity also peaks in the summer (May-September) (PWWA, 2025; The Whale Museum, 2023). Most of the time that escort tugs spend near these areas of more concentrated whale watching would be escorting the target vessels within the shipping lanes. Conflict interactions between the target vessels, escort tugs, and the commercial whale watch vessels should be limited because all three vessel types are required to carry AIS.

Ecology's analysis of underwater noise impacts found that underwater noise levels under Alternative C are very similar to underwater noise levels under Alternative A. While there is some overall increase in underwater noise, there is no change to the frequency or duration of exceedances of the 120dB NMFS behavioral threshold. Ecology did find that underwater noise for Alternative C represents a significant impact (See Appendix E Environmental Health: Noise Discipline Report for more information). In Alternative C, there is a higher concentration of whale watching effort in the expansion area close to Sucia and Patos islands. However, Soundwatch still classifies whale watching effort in this area as "sparse," which is the same way most of the current rulemaking area is classified. This area is closest to the modeled noise receiver location (2-Boundary). Ecology found that at this receiver location, tug escorts had no effect on the exceedance of the NMFS behavioral threshold for underwater noise (See Appendix E Environmental Health: Noise Discipline Report for more details). Because Alternative C would not increase harmful levels of underwater noise in the area where whale watching is concentrated, there is unlikely to be a significant impact to recreational whale watching associated with underwater noise.

This alternative further reduces the risk of a target vessel drift grounding within the EIS Study Area and provides clear risk reduction benefits to the expansion area. The addition of the expansion area reduces the risk of a target vessel drift grounding within the EIS Study Area from a recurrence interval of 186 years (Alternative A) to a recurrence interval of 189 years (Alternative C), a decrease of 1.6 percent. Within the Strait of Georgia South Zone, adding tug escort requirements for target vessels reduces the modeled risk of a target vessel drift grounding and oil spill to zero. In the Strait of Georgia Zone, drift groundings are reduced from 7,180-year event (Alternative A) to an 8,024-year event (Alternative C). This region has high levels of recreational activity that could be impacted by a major oil spill from a target vessel. The expansion of tug escort requirements under Alternative C further reduces the probability of such an event occurring, providing a benefit to recreation.

3.4.2 Proposed Mitigation

Mitigation measures for Alternative C include those described under Alternative A in Section 3.2.3 (Proposed Mitigation Measures). Escort tugs would still be required to adhere to the existing vessel traffic safety and oil spill prevention, preparedness, and response regulations already in place. They are encouraged to continue to comply with relevant PSHSC SOCs and best practices around SRKW and other marine mammals. Particularly for any tugs anchoring or waiting at Sucia Island or on the coast near Neptune Beach to await escorted vessels, complying with best management practices to minimize light and operational noise at anchor (PSHSC, 2023; U.S. Coast Guard, 2016) will help minimize impacts to recreation. Adherence to SRKW-related regulations and best management practices outlined in Appendix F Plants and Animals Discipline Report will also help limit impacts to marine mammals, thus limiting impacts to recreational whale watching.

3.4.3 Significant and Unavoidable Adverse Impacts:

Expanding the tug escort requirements may result in localized and transitory impacts to recreation, while also offering additional protection against longer-term impacts to recreation from a catastrophic oil spill from a target vessel. There could be some minor impacts to recreational boating and/or dispersed caping and recreation on remote state parks if escort tugs are waiting for their target vessels in protected bays or near shorelines that are popular for recreation. However, this waiting behavior is more common as a safety measure during bad weather, which is more likely during the winter season when recreational boating is much more infrequent. Both recreational fishing and shellfish harvesting are unlikely to be significantly affected due to the location and predictability of escort tug movement (mostly within established shipping lanes and rarely within 150 meters from shore), the transitory nature of escort tug movement, and the gear types used in recreational fishing.

The existing higher concentration of whale watching in the expansion area is unlikely to be significantly affected by the expansion of tug escort requirements, although some minor impacts are possible. Direct impacts to whale watching vessels are also unlikely as both escort

tugs and commercial whale watching vessels are required to carry AIS. Underwater noise at levels that harm marine mammals in this area appears to be unaffected by the addition of escort tugs in the expansion area near a whale watching hot spot. Therefore, indirect impacts on whale watching from underwater noise are unlikely as well.

Additionally, Alternative C reduces the likelihood of a catastrophic oil spill from a target vessel drift grounding by 1.6 percent across the EIS Study Area. Therefore, Alternative C is unlikely to have significant or unavoidable adverse impacts on recreation.

3.5 Alternative D: Removal of Tug Escort Requirements

3.5.1 Impacts from Implementation

Alternative D removes the existing tug escort requirements for target vessels, eliminating escort tug underway time associated with this proposed rule. This means that any potential impacts to recreation from the escort of target vessels under this proposed rule would be eliminated. We can reasonably assume that most or all of the 18 identified escort tugs would remain within the EIS Study Area but shift to other assisting and/or escort work for larger vessels. While the individual tugs may continue to have interactions with water-based recreation, they would be unrelated to this rulemaking and are not considered in this EIS. This means that while a viewer watching vessel traffic from the Alternative D boundary would still see between 2-3 escort jobs of tankers over 40,000 DWT per day and 24-25 assist jobs per day, they would not see the 4-5 escort jobs of target vessels per day. This is a reduction of -0.96 percent of all AIS traffic. However, removing existing tug escort requirements for target vessels in the EIS Study Area increases the probability of a drift grounding, and potential oil spill, from a target vessel. Under Alternative D, target vessel drift grounding probability increases by 11.84 percent over Alternative A across the EIS Study Area and by 90.5 percent within the boundaries of the rulemaking area. The probability of an oil spill resulting from those drift groundings also increases.

Because the change in risk is limited to just three zones, the rate of change for each of those zones is much higher when assessed individually. For Bellingham Channel Zone, target vessel drift grounding frequency increases by 112.5 percent over Alternative A with the removal of all target vessel tug escort requirements. In Guemes Channel and Saddlebags Zone, target vessel drift grounding frequency increases by 52.7 percent with the removal of all target vessel tug escort requirements. In Rosario Strait Zone, target vessel drift grounding frequency increases by 52.7 percent with the removal of all target vessel tug escort requirements. In Rosario Strait Zone, target vessel drift grounding frequency increases by 204 percent with the removal of all target vessel tug escort requirements. Under Alternative D, potential impacts to recreation as a result of an oil spill from a drift grounding are significantly more likely to occur. As described above, a major oil spill can result in long-term closures of recreational activities. It can also impact plants and animals (See Appendix F Plants and Animals Discipline Report) and water quality (See Appendix D Water Quality Discipline Report) which are foundational to much of the water-based recreation in the EIS Study Area.

3.5.2 Proposed Mitigation:

Alternative D would remove tug escort requirements for target vessels resulting in an overall decrease of 0.96 percent in all AIS vessel traffic. This would minimally reduce recreational

impacts associated with vessel traffic and eliminate any potential minor recreational impacts associated with the escort of target vessels. This eliminates the need to mitigate the impacts of the escort tugs themselves. Target vessels would continue to comply with existing vessel traffic safety and oil prevention, preparedness, and response measures at the federal and state level that currently manage oil spill risk in the EIS Study Area. They are also encouraged to continue to implement voluntary best practices and standards of care. These are described in detail in Appendix C Environmental Health: Releases Discipline Report.

3.5.3 Significant and Unavoidable Adverse Impacts

Alternative D would result in significant and unavoidable adverse impacts to water-based recreation in the EIS Study Area due to the increased risk of major oil spills from target vessels. The increased probability of a potential catastrophic oil spill would be reasonably likely to result in long-term closures of recreation, affecting access to recreation as well as the quality of recreation. Recreation would also be impacted indirectly by significant and unavoidable impacts to plants and animals and water quality, as most water-based recreation relies on both clean water and abundant wildlife for recreational harvest and/or viewing.

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