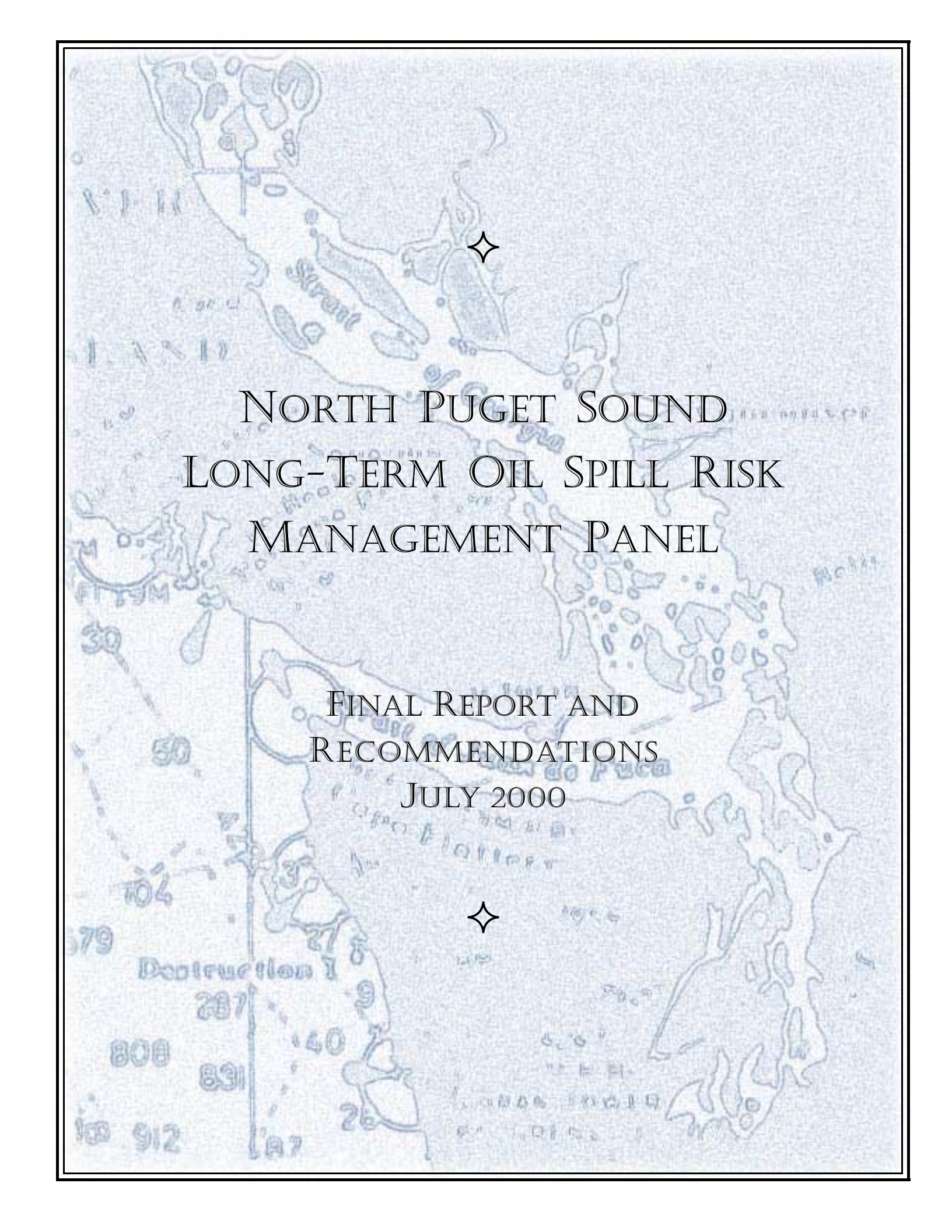

North Puget Sound Long-Term Oil Spill Risk Management Panel

Final Report and Recommendations

July 2000

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125°
124°
123°
122°
49°
48°
47°
STRAIT OF GEORGIA
Port Alberni
Nanaimo
Valdes I
Pt Grey
Vancouver
Lulu I
Pitt River
Fraser River
CANADA
UNITED STATES
Pt Roberts
Blaine
Cherry Point
Ferndale
Saturna I
Duncan
Bellingham
Mt. Modeste
VANCOUVER ISLAND
Survey Mt.
Mt. Muir
Victoria
Haro Strait
Rosario Strait
Anacortes
Deception Pass
STRAIT OF JUAN DE FUCA
Cape Flattery
Cape Alava
Pillar Pt
Mt. Mueller
Port Angeles
Admiralty Inlet
Whidbey Island
PUGET SOUND
Everett
Edmonds
SEATTLE
Bremerton
Hood Canal
Tacoma
Olympia
CANADA
VANCOUVER ISLAND
PACIFIC OCEAN
Loran Station Spring Island
Lookout I
Nanaimo
Victoria
Strait of Juan de Fuca
Cape Flattery
Destruction I
LORAN TOWER PT GRENVILLE
50°

I. Executive Summary

In August 1999 the U.S. Secretary of Transportation and the Governor of Washington State signed a Memorandum of Understanding (MOU) [Appendix 1] that established a long-term oil spill risk management panel for the waters encompassed by the Olympic Coast National Marine Sanctuary, the Strait of Juan de Fuca, and Puget Sound north of Admiralty Inlet. The Panel was established as a federal advisory subcommittee under the Navigation Safety Advisory Council (NAVSAC) and was composed of stakeholders from the region representing fishing, transport, environmental, geographical, and general public interests. The MOU recognized the value and environmental sensitivity of the region's waterways and acknowledged the extensive damage that would be done if a major oil spill were to occur.

The Panel first met in September 1999 and concluded in July 2000. NATIONAL CENTER ASSOCIATES of Vashon, Washington and selected staff of the Tacoma based CONFLICT RESOLUTION, RESEARCH AND RESOURCE INSTITUTE, INC. were selected to facilitate-mediate the Panel's process. The Panel was tasked with the development of a comprehensive, long-term oil spill risk management plan by building on previously completed risk assessment information. A Scope of Work [Appendix 6] was prepared consistent with the MOU and served as the Panel's guiding document. The Scope of Work detailed the basic methodology to be used along with specific topical areas to be covered during development of the plan. In retrospect, the original Scope of Work was quite ambitious and perhaps overly optimistic given the composition of the Panel and the short time frame available to complete the work.

The Panel sought to apply a risk-based decision-making process, with a goal of systematically identifying risk, establishing acceptable risk levels and developing appropriate risk mitigation strategies. A 4-step work plan was developed to review the existing safety system, identify measures to address any agreed upon "gaps" in the system, assess the effectiveness of these measures, then prioritize them accordingly. However, because of the complexities of this international waterway and existing safety regime and the difficulties in quantifying ecological sensitivities and values in a time frame responsive to Panel needs, plus the widely varying opinions on each of these factors, this approach to developing a risk management plan was not possible. In particular, the Panel was unable to reach consensus[1] on what an acceptable level of safety, or conversely what an acceptable level of risk was, and therefore, was unable to define specific gaps except in general terms.

Furthermore, because of the widely diverse makeup of the Panel membership, the first several meetings were largely utilized to establish an agreed upon evaluation process and a work plan; and then to educate, present and discuss data including necessary background information. The Panel did not conduct a full risk assessment, nor did it perform a thorough critique on previous studies, or works that addressed risk and risk assessments in the study area. However, the Panel did spend a significant amount of time reviewing the validity of previous work in order that it would be appropriately considered during development of the

[1] Under the Panel's procedural rules [Appendix 5] agreement to any recommendation required either complete consensus, or at most, no more than two dissenting votes.

Panel's recommendations. The Panel did not endorse previous studies, and some Panel members were highly critical of various aspects of these studies.

Recognizing that this background work had consumed a great deal of time and a daunting task remained ahead, the Panel necessarily changed the work plan. Development of a comprehensive long-term risk management plan remained the ideal Panel goal, yet it was not considered attainable given time and budget constraints. Accordingly, the Panel decided to abbreviate the Scope of Work, and focus on the identification of risk reduction measures that addressed specific accident types and causes. Additionally, in recognition that a spill could still occur, the issue of spill response was also addressed.

The culmination of this work was the Panel's development of:

- A set of twenty-four consensus recommendations varying in scope and degree of significance aimed at improving marine safety. Each recommendation presented in Section VI is linked to the accident type and accident cause that it addresses, as well as the identification and description of the point at which it interrupts the error chain.[2]
- A set of documents capturing the essence of several additional challenging issues that did not achieve Panel consensus are presented as Other Measures Considered in Section VII. For each of these substantive issues for which consensus was not reached there is value in reporting the arguments in favor and opposed to specific recommendations.

These products represent the culmination of many months of valued efforts and discussions by Panel members. The Panel discussed each recommendation in detail, and a final vote was taken to determine whether a consensus had been reached. During these discussions Panel members developed a better appreciation of the technical issues and perspectives of the broader community. Under the Panel's procedural rules unanimous consensus of any recommendation was the goal, but acceptance was achieved if there were no more than two dissenting votes.

The twenty-four recommendations produced by the Panel address a broad spectrum of maritime safety concerns and intervene at every stage of the error causal chain. Each of the five accident types considered (collision, powered grounding, drift grounding, structural failure, and fire) and the five accident causes considered (human and organizational error, conflicting operations, physical environment, vessel control, and positional information) were addressed to some extent by one or more of the recommendations. The recommendations put forward constitute incremental safety enhancements, but by themselves or as a whole do not constitute a comprehensive long-term risk management plan.

Although consensus recommendations were not achieved on some of the more contentious issues, a broad appreciation for the complexities of these topics was gained. Most of the disagreement centered on the level of effectiveness and in particular whether the

[2] A six-stage error causal chain is used throughout this report to illustrate the flow of events that can result in a vessel accident, which might lead to an oil spill. See p. 11.

recommendations costs were justified. Additionally, Panel members held dissenting views on the sufficiency of the technical substance that was considered and debated. Some Panel members felt the substance was lacking while others maintained the material presented and debated was thorough, complete, and resolved. The term resolution cannot be successfully applied to these issues. Accordingly, an attempt to capture this discussion has been included in the Other Measures Considered.

In summary, the recommendations would:

1. Establish a near-miss reporting system
2. Evaluate the marine safety regulatory baseline
3. Maintain the adequacy of the current marine safety regulatory baseline
4. Continue to develop marine safety Standards of Care (SOC)
5. Improve SOC for bridge team communications
6. Review the U.S. – Canada marine safety/environmental protection comparability analysis
7. Assure effective communications with local Marine Resource Committees (MRC)
8. Improve scope and effectiveness of inspection programs
9. Establish an education program for small vessels
10. Expand U.S. – Canada Cooperative Vessel Traffic System participation
11. Establish a trans-boundary process for maritime safety issues in Haro Strait and adjacent waters
12. Encourage towing vessel operators to meet industry standards
13. Develop a SOC for steering gear testing
14. Develop a SOC for offshore routing
15. Develop a SOC for planned maintenance
16. Develop a SOC for firefighting capability
17. Strengthen the partnership with Tribal Nations
18. Support the States/BC taskforce west coast offshore vessel traffic project
19. Support the Port Access Route Study (PARS)
20. Implement the Universal Automatic Identification System (UAIS)
21. Develop a SOC for anchor use
22. Expand the Olympic Coast National Marine Sanctuary “Area to Be Avoided” (ATBA)
23. Develop a SOC for vessel towing arrangements
24. Review oil spill response issues

Other Measures Considered were:

1. Establish a Regional Citizens Advisory Committee (RCAC)
2. Extend pilotage requirements westward to the entrance of the Strait of Juan de Fuca
3. Change Traffic Separation Scheme (TSS) from voluntary to mandatory for some vessels
4. Establish a fully developed Harbor Safety Committee
5. Deploy a year-round federally funded dedicated rescue tug at the entrance to the Strait of Juan de Fuca
6. Require tug escorts for high-risk vessel transits through the Strait of Juan de Fuca and Haro Strait

The Panel was successful at bringing together a widely diverse group of stakeholders and establishing a constructive dialogue. Considerable debate occurred over identifying and assessing the level of existing maritime risk and appropriate level of risk mitigation measures. Nonetheless, there was full Panel realization of a universally shared commitment for maritime safety and environmental protection in the Pacific Northwest.

II. Endorsements/Non-Endorsements of Final Report

The signature page identifies those that endorse this final report of the North Puget Sound Long-Term Oil Spill Risk Management Panel. Six organizations did not endorse the report, and the views of individual Panel members appear in Appendix 16.

Endorsements

American Waterways Operators, Pacific Region

Canadian Coast Guard

North Pacific Fishing Vessel Owners' Association, Vessel Safety Program

Office of Environmental Management City of Seattle

Pacific Coast Shellfish Growers

Puget Sound Pilots

Puget Sound Steamship Operators Association

U.S. House Representative (D)

Washington Public Ports Association

Washington State House Representative (D)

Washington State House Representative (R)

Washington State Senator (R)

Western States Petroleum Association – Refining

Western States Petroleum Association – Shipping

Non-Endorsements

Clallam County Board of Commissioners

Makah Tribal Council

People for Puget Sound

San Juan County Board of Commissioners

Washington Environmental Council

Washington State Senator (D)

A. Endorsements of Final Report

The following Panel members represent organizations that endorse the text of this final report:

Robert Baldwin
Marine Representative, Western States Petroleum Association – Shipping

Kurt Beckett
Representing US Congressman Norm Dicks (D)

Paul Blau
Board member,
Pacific Coast Shellfish Growers Association

Captain William Bock
President, Puget Sound Pilots

John Bush
Representing the
Washington Public Ports Association

Gary Chandler
Washington State Representative (R)

Mike Cooper
Washington State Representative (D)

Leslie Hughes
Executive Director, Vessel Safety Program,
North Pacific Fishing Vessel Owners' Association

Harry Hutchins
Executive Director, Puget Sound Steamship Operators Association

Susan Keith
Director, Office of Environmental Management,
City of Seattle

Jerry McMahon
Vice President, Pacific Region,
American Waterways Operators

Dan Riley
Northwest Regional Manager,
Western States Petroleum Association – Refining

Pablo Sobrino
Director, Marine Programs, Canadian Coast Guard

Dan Swecker
Washington State Senator (R)

B. Non-Endorsements of Final Report

The following Panel members represent organizations that did not endorse this report:

Carole Boardman
County Commissioner,
Clallam County Board of Commissioners

Kathy Fletcher
Executive Director,
People for Puget Sound

Karen Fraser
Washington State Senator (D)

Andy Palmer
Representing the
Washington Environmental Council

Rhea Miller
County Commissioner,
San Juan County Board of Commissioners

Gordon Smith
Member,
Makah Tribal Council

III. Introduction

A. Memorandum of Understanding

In August 1999 U.S. Secretary of Transportation, Rodney Slater, and Washington Governor, Gary Locke, signed a Memorandum of Understanding (MOU) [Appendix 1] agreeing to develop a long-term oil spill risk management plan for the North Puget Sound area. The MOU acknowledged:

- The value and environmental sensitivity of the coastal resources encompassed by the Olympic Coast National Marine Sanctuary, Strait of Juan de Fuca, and Puget Sound north of Admiralty Inlet.
- The extensive damage that would be done to the State's economy, natural resources, and quality of life if these resources were ever affected by a major oil spill.
- Risk management analysis as an effective means of identifying and providing a sound basis for managing the risks in the marine transportation system.

Accordingly, there was an agreement that an inclusive process, in consultation with interested parties, would provide an effective means for developing a long-term oil spill risk management plan for area waters. Specifically, the U.S. Coast Guard and the Washington State Department of Ecology agreed to work in partnership as co-chairs of a subcommittee of the federal Navigation Safety Advisory Council (NAVSAC). This subcommittee, or "Panel," was designed to represent a cross section of diverse commercial, industrial, and public interests, with the goal of developing a long-term oil spill risk management plan for area waters. The MOU was the foundation for this Panel's work.

B. Risk-Based Decision-Making

The goal of risk-based decision-making is to systematically identify and document risks, establish associated acceptable risk levels or risk sensitivities, and develop appropriate risk mitigation or minimization strategies.

The study of risk and risk management is extremely complex with many comprehensive books written on the topic. There is no attempt here to address this topic in detail, but because risk terminology is an integral part of understanding the issues and recommendations, the following basic terms and concepts are provided as a foundation for discussions in other sections:

Risk

Risk is defined as the product of the probability of a hazard or undesired outcome occurring, times the consequence of occurrence (i.e., risk = probability x consequence).

Risk Assessment

Risk assessment is the process of identifying and evaluating the hazards; including the characterization of risks by probability, consequence, and sensitivity to change. Risk assessment generally answers the questions:

- What can go wrong?
- What is the likelihood that it will go wrong?
- What are the consequences if it does go wrong?

Risk Management

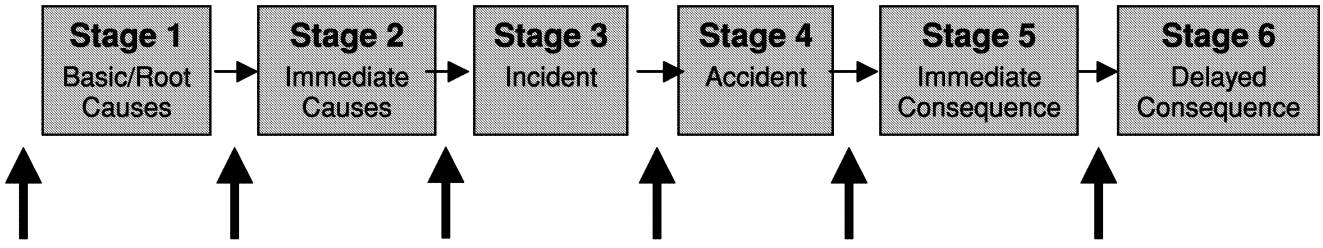
Risk management builds on risk assessment, and focuses on the most effective or cost-effective means of preventing situations and event sequences that contribute to accidents and the resulting losses. Risk management includes the identification, evaluation, and selection of risk mitigation or minimization efforts. Risk management answers the following questions:

- What can be done to prevent accidents and to minimize their consequences?
- What alternatives are available, and what tradeoffs must be made?
- How effective are the risk reduction safeguards?
- What are the impacts of current decisions on future operations?

C. Error Causal Chain[3]

A six-stage (error) causal chain shown below is used throughout this report to illustrate the flow of events that can result in a vessel accident, which might lead to an oil spill. The key to risk mitigation in a system such as the marine transportation system is to manage risk by introducing appropriate risk-reduction interventions for each type of accident at each point in the error chain so as to prevent such a cascade.

Error Causal Chain and Points of Intervention



During the process of identifying and evaluating measures aimed at interrupting the causal chain it was helpful to subdivide these measures into the two broad categories as defined below:

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[3] Grabowski, Martha. "Risk Assessment and Management in the 21st Century Marine Transportation System." TR News July-August 1999, p. 15. The original causal chain was modified slightly for use in this report.

Accident Types

Accident is defined as an unwanted or unintended event with undesirable consequences. The *accident types* used in this report are drawn from the Volpe Report,[4] they are collision, drift grounding, powered grounding, structural failure, and fire.

Accident Causes

Accident causes used in this report are broadly defined categories that contribute to or cause accidents. These causes were also drawn from the Volpe Report and include human and organizational error, conflicting vessel operations, physical environment, vessel control, and positional information.

D. Previous Work

The Panel spent a great deal of time considering the available risk assessment information and breadth of detailed, and at times, complex data and supporting information related to the marine transportation system and environmental sensitivities in the study area. Panel members had differing views regarding the validity of some of these reports and what they concluded. There was no attempt made to reach a consensus on the meaning and significance of these reports and presentations, instead each Panel member used the information presented to shape the formulation of his or her own recommendations and concerns.

The Panel was specifically directed by the Governor and Secretary not to repeat or formally evaluate the work of previous risk assessment studies. Rather, Panel members were asked to consider all available existing information, and then use it in conjunction with their own data, experience, and opinions to formulate a risk management plan. The Panel's methodology for developing a plan is discussed in Section IV-C.

E. The Panel

Letters of invitation were sent to prospective Panel members in September 1999. Panel members were drawn from a diverse group of concerned stakeholders throughout the study area. Panel composition was intended to be inclusive of the broad set of constituent groups present in the study area. Panel membership was comprised of representatives from the organizations listed below:

1. Puget Sound Steamship Operators Association
2. North Pacific Fishing Vessel Owners' Association

---

[4] Volpe National Transportation Systems Center, "Protection Against Oil Spills in the Marine Waters of Northwest Washington State," Department of Transportation, Cambridge, July 1997.

3. Western States Petroleum Association – Shipping
4. Western States Petroleum Association – Refining
5. Washington Public Ports Association
6. Puget Sound Pilots Association
7. American Waterways Operators
8. Makah Tribal Council
9. Washington Environmental Council
10. People for Puget Sound
11. Shellfish Grower's Association
12. Clallam County Government
13. San Juan County Government
14. Seattle City Government
15. Washington State Senator (Democrat)
16. Washington State Senator (Republican)
17. Washington State Representative (Democrat)
18. Washington State Representative (Republican)
19. U.S. Congressional Staff
20. Canadian Coast Guard

Each member of the Panel brought a wide range of substantive issues, expertise, and concerns to the discussions. Appendix 2 is a detailed list of Panel members and their affiliation. Appendix 3 lists their interest statements.

IV. WORK OF THE PANEL

A. Panel Process

The Panel was established to act in an advisory capacity and to provide collective recommendations regarding potential improvements to marine safety and environmental protection in the north Puget Sound region. These recommendations will be given to the Secretary of Transportation through the Navigation Safety Advisory Council (NAVSAC) and to the Governor of the State of Washington. The Panel meetings were governed by the procedural rules required under the Federal Advisory Committee Act (FACA). Every effort was made to conform to these requirements.

In order to ensure a fair and equitable Panel process, a facilitation/mediation resource group, NATIONAL CENTER ASSOCIATIONS of Vashon, Washington was utilized. Also selected staff from CONFLICT RESOLUTION, RESEARCH AND RESOURCE INSTITUTE, INC. of Tacoma, Washington assisted with preliminary arrangements, and attended all Panel meetings.

Panel meetings were open to the public, but in order for the Panel to efficiently conduct its business, meetings were not considered to be an open public forum. Usually on two occasions during each day of Panel deliberations, members of the public were given an opportunity to address the Panel. This input was important to the Panel's decision-making process.

Composition

Panel membership was determined through a cooperative process between the co-chairs with the desire that Panel membership would reflect the intent of the MOU, and that private and public interests would be included.

The composition of this Panel was unique in that it consisted predominantly of policy makers representing key stakeholders and not technical maritime experts. This reality afforded both an opportunity as well as a difficulty for the Panel. In a positive light this makeup ensured that issues of concern to stakeholders were brought to the forefront and discussed. Panel members were empowered to make decisions on behalf of their organizations. Interests and concerns identified by the members can be found in Appendix 3 and are important in that they illustrate both the similarities and the diversity present within the Panel, and highlight some of the difficulties faced in order to reach consensus on proposed measures. It was necessary to spend sufficient time to ensure all Panel members had a minimum baseline of information on each topical issue, sufficient time to express their concerns with the data and rationale, and ample time to struggle with developing and passing substantive recommendations.

Meetings

Panel sessions were scheduled for two full consecutive days each month with the meeting agendas published in advance. The Panel met each month from September 1999 until July

2000, in Seattle, Olympia, and Port Angeles. Rather than composing detailed and lengthy minutes for each Panel session, abbreviated minutes (Summary Notes) were prepared and reviewed. Meetings from February 18 forward were also tape-recorded by the Department of Ecology in order to ensure a complete record.

Procedural Rules

The Panel initially spent a considerable amount of time establishing the procedural protocol for its work. Under these procedural rules, agreement to any Panel initiative including the marine safety recommendations required either complete consensus, or at most, no more than two dissenting votes. Equity, inclusion and ownership of the process were emphasized to assure the greatest level possible of substantive satisfaction of the Panel members. In its initial meetings the Panel members agreed that the following documents set the foundation and provided guidance for its work:

- Memorandum of Understanding on the Development of a Long-Term Oil Spill Risk Management Plan for the North Puget Sound Area (MOU) [Appendix 1]
- North Puget Sound Long-Term Oil Spill Risk Management Panel of the Coast Guard's Navigation Safety Advisory Council (Purpose, Scope and Process Document) [Appendix 4]
- North Puget Sound Long-Term Oil Spill Risk Management Panel Procedural Agreements 9/24/99 [Appendix 5]

Based on these documents, and as directed by the MOU, the co-chairs developed and the Panel agreed to a North Puget Sound Oil Spill Risk Management Panel Scope of Work [Appendix 6]. This Scope of Work included a number of agreed principles, among them:

- Recognition that a cooperative and coordinated approach to marine safety is essential to effective oil spill prevention and response programs.
- Acknowledgment that the Panel was comprised of representative stakeholders with differing perspectives and values, and that the key to success would be to consider these perspectives in a comprehensive manner while striving to find common ground.
- Agreement that the Panel would employ a risk-based approach in making its decisions on how best to manage the oil spill risk (both in terms of probability and consequence) from commercial vessels operating in the region.
- Recommendations of additional oil spill risk reduction measures would be clearly linked to the stage of the risk event error causal chain and specify at which points intervention is made.
- Concurrence that the Panel would draw upon available studies, as well as other available information, and interpret their findings as necessary to formulate recommendations, but that the Panel would not redo these studies.

B. Guiding Principles

Common Purpose

The purpose of the Panel as stated in the Purpose, Scope and Process Document:

> "The goal of the Long-Term Oil Spill Risk Management panel is to draft a plan that evaluates the existing safety system and makes recommendations regarding ways to improve marine safety in the North Puget Sound region. The panel will bring together a wide array of community representative and stakeholder interests and will build on previous studies and all available information. This public process is designed to be a consensus-building effort that provides advice on any necessary maritime safety improvements."[5]

In pursuing this goal, the Panel co-chairs strove to ensure that a cooperative and inclusive approach was used to ensure that a credible risk management plan that reflected the consensus of the Panel would be developed.

International and Tribal Participation

Although the MOU was signed between the State of Washington and the U.S. Department of Transportation, it was imperative that representatives from Canada participate on the Panel due to the various existing agreements between the United States and Canada, the international nature of the waterway being reviewed, and the scope of potential recommendations. The Canadian Coast Guard, responsible for marine safety operations, and Transport Canada Marine Safety, responsible for marine safety regulation and inspection, were invited. The Canadian Coast Guard accepted the representation for both agencies.

While not a part of the Panel's deliberative process there was recognition of the States/BC Task Force and its work aimed at ensuring uniformity of policies along the west coast. In any case, the Panel acknowledged the need for both the U.S. and Canada to work closely together to ensure that the regulations of the two countries were compatible, and thus to the extent possible, afford the mariner a seamless transit through the waters of both countries.

Similar to Canada, the participation of Tribal representatives was considered an essential element of the Panel's deliberations. Members of the Makah Nation were active, valued participants in the Panel process.

Presentations

A substantial portion of the first half of the Panel sessions (September 1999-February 2000, sessions 1-12) focused on a series of technical presentations. The Panel also reviewed pertinent studies including additional presentations from various parties of interest. These studies and presentations are briefly described in the Summary Notes of the various meetings

[5] See Appendix 4, p. 1, par. 1.

and all accompanying documents are on file. A summary of the presentations can be found in Appendix 7.

There were a number of presentations that reviewed completed studies. These tended to generate a great deal of discussion and/or disagreement among Panel members. There was no attempt made to reach a consensus on the meaning and significance of these reports and presentations, instead each Panel member used the information presented to shape the formulation of his or her own recommendations and concerns.

Scope of Work

The Panel was charged with employing a risk-based approach to develop a comprehensive management plan on how best to manage the oil spill risk (in terms of both probability and consequence) from commercial vessels operating in or transiting through the region. As stated above, the Panel was to utilize existing studies and information, and not repeat work done previously by other groups.

The following outline taken from the Scope of Work [Appendix 6], and based upon the U.S. Secretary of Transportation's determination in November of 1998 [Appendix 10], lists the topical areas that the Panel hoped to address fully and effectively:

- Waterways Management (Collision Avoidance, Traffic Separation Scheme Improvements, Port Access Routing Study)
- Port State Control Program Improvements (Integration of State and Federal Inspection Resources, Cooperative U.S./Canadian Programs)
- Port Access Routing Study
- Human and Organizational Error Countermeasures (Fatigue Prevention, Improved Communications, Pilotage)
- Collision, Drift Grounding and Powered Grounding Prevention (Dedicated Tug, Tug Escorts, International Tug of Opportunity System (ITOS))
- Response Capabilities (Boom Deployment Capabilities, Allocation of Response Assets, Dedicated Response Vessel, Internationally Seamless)

The Scope of Work was quite expansive, the issues complex and contentious, and not all of the work items were fully addressed.

C. Risk Management

Work Plan

A Work Plan approach consistent with the Scope of Work was adopted by the Panel as the method for moving forward and building on Secretary Slater's focus on five broad categories of additional measures.

As part of the Work Plan approach, and given the Panel's limited time frame, the Panel adopted a risk-based evaluation process to promote an efficient, documented, and timely process. The intent was that this approach would be incorporated into any plan used to facilitate the Panel's work.

The Panel agreed that an effective oil spill risk management plan needed to ensure that appropriate intervention measures were introduced between the various stages of the error causal chain. The Panel's task was to determine whether measures were already in place, what they were, whether any significant gaps existed, and what the most effective way of filling those gaps should be in order to manage risk in the system.

Initially risk mitigation measures were addressed as either Tier I (those that lent themselves to consensus) or Tier II (more complex issues). Based on the length of time it took to reach consensus on the Tier I issues, it became apparent that a similar process would be too lengthy for the Tier II issues, and that a deviation from this process would be necessary to ensure a timely completion of the process.

Therefore, in an attempt to take an effective and efficient step forward while still abiding by the framework established in the guiding principles, the Panel adopted a change in its work approach as proposed by the facilitators-mediators. During the February meeting each Panel member was asked to develop a set of recommendations to enhance marine safety by further addressing each of the accident types and oil spill response measures. Each Panel member developed their own individual topical recommendations by focusing on their own primary interests and by using the information presented to the Panel. These proposals were in turn consolidated by the facilitators-mediators into a matrix that was sorted into the various risk categories. This set of matrices became the framework for subsequent discussions, and was the foundation for the development of the final recommendations.

Recommendations

The twenty-four recommendations that appear in Section VI of this report are the culmination of much effort and discussion on the part of Panel members. The Panel discussed these proposed recommendations in detail, and a final vote was taken to determine whether a consensus had been reached. In accord with the Panel's approved procedural agreements, at a minimum, consensus minus two was required to pass a recommendation.

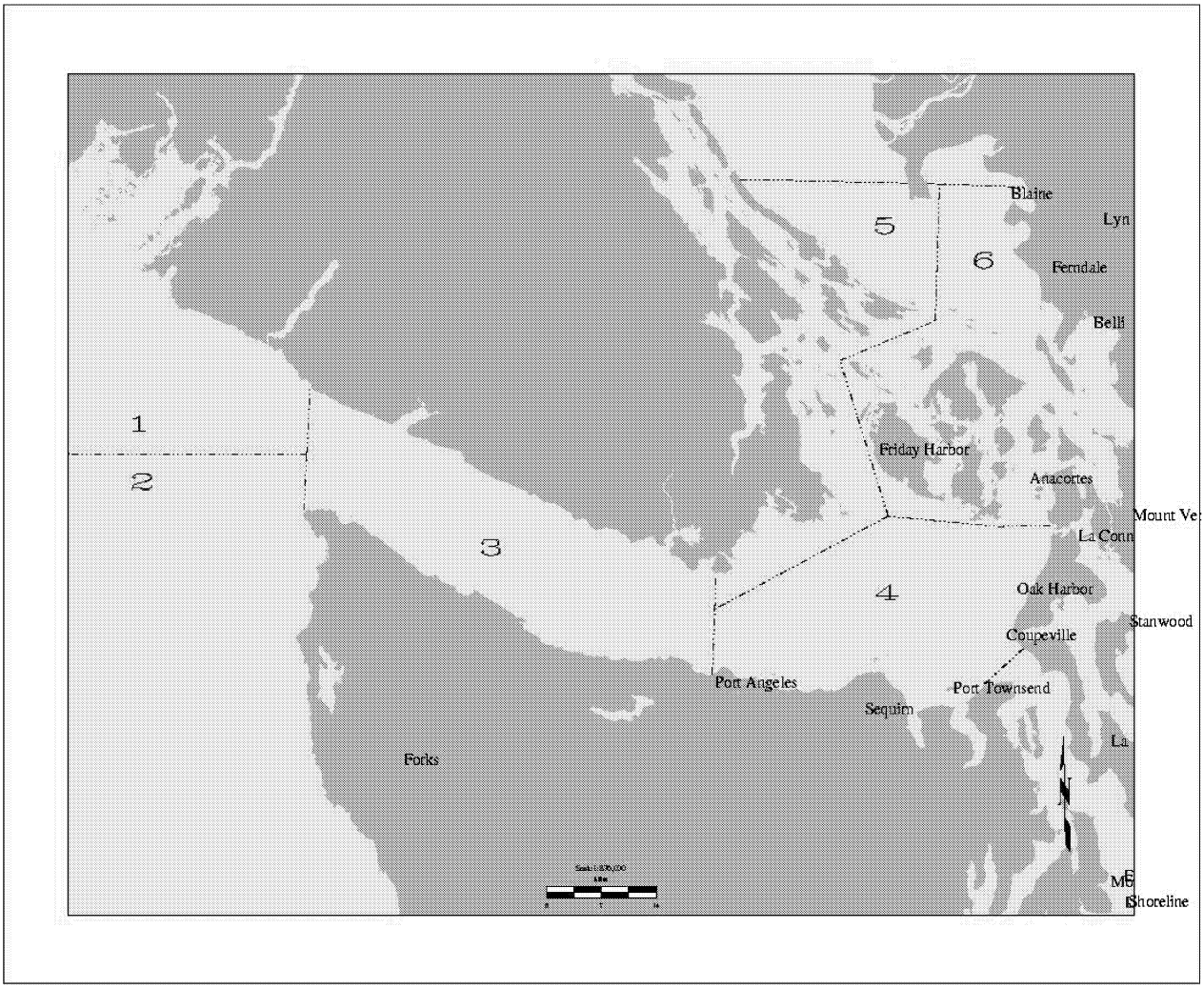
During the discussion of several recommendations it became apparent that the Panel either lacked the expertise, had insufficient information due to the complexity of the topic, or was unable to reach consensus due to data and/or value disputes. These topic areas and attendant discussions are captured in the Other Measures Considered, Section VII of the report.

V. Background Research and Data

A. Waterway Description

The study area encompasses the Olympic Coast National Marine Sanctuary, the Strait of Juan de Fuca, and Puget Sound north of Admiralty Inlet. A number of studies previously completed provide a detailed description of the waterways in this area. Several of these studies are cited in the reference section. The segments used by the Panel to describe the waterway are identical to the breakdown used in the Volpe Study. A brief description of the physical characteristics and environmental sensitivities for the segments are provided below.

The Study Area[6]



[6] Chart provided by the Washington State Department of Ecology, Spills Program.

General Overview of the North Puget Sound Area

Approximately 11,000 vessels moved through the Strait of Juan de Fuca in 1999. The federal cost-benefit study[7] estimated that approximately 15.1 billion gallons of crude oil, refined products and bunker fuel oil will be moved in and out through the Straits in 2000. By the year 2025 the volume is projected to increase to 19.2 billion gallons. About 7.6 billion gallons of this total volume will be crude oil imported to Puget Sound area refineries. Additional crude oil is exported from Canada's Port of Vancouver, and 2.8 billion gallons of refined products will be exported from Puget Sound.

Other indicators of the increasing importance of trade to the region's economy include:

- The Delta Port expansion just north of the international border in the Strait of Georgia, British Columbia
- The proposed Gateway Terminal near Cherry Point in Washington's Strait of Georgia
- Potential Pacific-Rim trade expansion resulting from China receiving most favored trading status

Washington Public Ports Association's 1999 Marine Cargo Forecast projects that "total waterborne tonnage through Puget Sound ports is expected to increase by 42% to nearly 121.6 million tons in 2020, compared with 85.6 million tons in 1997." The report further found that the "total container traffic through the Puget Sound ports of Seattle and Tacoma is expected to grow by 131% from 2.6 million TEUs in 1997 to 6 million TEUs in 2020." (See Washington Public Ports Association and Washington State Department of Transportation, 1999 Marine Cargo Forecast, March 1999.)

In spite of these projections, historical evidence indicates that the number of Puget Sound vessel transits has been relatively stable over the last few years. Arguments were also put forward that future trade expansion will be largely accommodated by larger state-of-the-art container ships rather than by increased transits of older, smaller cargo ships.

According to the November 1999 Federal Regulatory Assessment – Use of Tugs to Protect Against Oil Spills in the Puget Sound Area, the average size of tankers is expected to increase from 96,000 deadweight tons (DWT) to 108,000 DWT by 2025. All single hull tank ships and barges will be phased out by 2015 in compliance with U.S. federal law.

Other vessel traffic indicators pertinent to the study area are that the greater Puget Sound area constitutes the third largest naval port complex, supports one of the highest per capita recreational boat ownerships, and is home to the largest passenger/car ferry system in the nation.

The North Puget Sound waterway also supports a wide range of highly beneficial and valuable uses that are important to the area's quality of life including commercial fisheries,

[7] USCG, "Regulatory Assessment - Use of Tugs to Protect Against Spills in the Puget Sound Area" (Federal Cost-Benefit Analysis on Tug), consultant report by Designers and Planners, and Herbert Engineering, 1999.

treaty fisheries, tribal subsistence shellfish harvest, salmon and shellfish aquaculture, commercial shipping, petroleum transportation, activities associated with major ports, military activities, archeological and historic sites, private property, natural resource existence values, recreational activities, and tourism.

Segments 1 and 2: Outer Coast and Approaches

The entrance to the Strait of Juan de Fuca includes Duncan and Duntze Rocks and Tatoosh Island off of Cape Flattery, as well as numerous offshore sea stacks south of the cape. The remote and relatively pristine outer coasts of Washington State and the province of British Columbia contain rocky headlands, small islets, off-lying shoals and long stretches of broad beach.

The coast contains economically important fishery and wildlife resources, first nation and tribal lands, Pacific Rim and Olympic National Park, Olympic Coast National Marine Sanctuary, wildlife refuges, designated wilderness areas, and other parks.

The area is well known for unstable weather that can pose significant challenges to vessels transiting the area, especially in winter. Navigational challenges include poor visibility from rain and fog (including summer fog), strong southwesterly winter winds that create a lee shore, large waves associated with local winds, and high ocean swells generated by distant North Pacific storms.

The relative severity of conditions at the entrance to the Strait are indicated by:

- Visibility reduced to less than 0.6 mile about 55 days per year.
- Currents at the entrance can reach a maximum of 1.5 knots on the flood tide and 2.5 knots on the ebb tide.
- According to the NOAA Coast Pilot,[8] "from October through March, winds at the Pacific entrance to the Strait of Juan de Fuca blow mostly out of the SE through SW. Gales blow on 4 to 6 days per month."[9]

The effects of the California current and wind on regional coastal currents tend to give a predominantly northwest flow in winter and a southeast flow in the summer. This current pattern would have a significant effect on the trajectory and long distance transport of a major coastal oil spill should one occur. According to values derived in the Washington State damage compensation table, the northern outer coast contains the most valuable marine natural resources in Washington State. Wildlife resources placed at risk during major oil spills include marine mammals (whales, porpoises, sea otters, seals and sea lions), marine birds, salmon and other marine fish, and the pristine environment of the National Park's inter-tidal zone. According to the NOAA Sanctuary Environmental Impact Statement (EIS),

[8] NOAA, "U.S. Coast Pilot-7, Pacific Coast: California, Oregon, Washington, Hawaii," 1997.
[9] *Ibid.,* A gale is a storm where the wind speed exceeds 33 knots (39 MPH).

"the seabird colonies of Washington's outer coast are among the largest in the continental United States."

A coastal oil spill would disrupt cultural activities of first nation people and tribes, and clean-up efforts would damage fragile shoreline archeological sites.

Segments 3 and 4: Strait of Juan de Fuca

The Strait is bounded to the west by Cape Flattery; the north by Vancouver Island and the Gulf and San Juan Islands; the south by the Olympic Peninsula; and to the east by Whidbey Island. The southern coastline of the Strait generally consists of high banks, rocky prominent features, and low sandy points and spits. The southern coast of Vancouver Island consists primarily of densely wooded gradually rising hills. The area includes substantial fishery and wildlife resources, state and provincial parks, a protected marine area, and Tribal lands.

The western Strait is approximately 10 to 15 miles wide and is generally free of offshore hazards beyond the 10-fathom depth contour. Tidal currents in the Strait generally parallel the coastline, and can exceed 2 knots. Maximum ebb in the eastern Strait is 4 knots, and current directions are more variable than the central Strait.

The Strait contains extremely valuable and environmentally sensitive habitats such as the Olympic Coast National Marine Sanctuary, Dungeness National Wildlife Refuge, Sequim and Discovery Bays in the U.S., and Race Rocks off Vancouver Island. Aquaculture is important to the area's economy, and is very sensitive to oil spills.

Segments 5 and 6: San Juan Islands (Including Haro and Rosario Straits)

This segment consists of the waters between Canada and the United States bounded on the west by Vancouver Island and on the east end by Bellingham Bay. The rocky coasts are irregular with many islands, headlands, and off-lying reefs. Haro Strait and Boundary Pass combined are approximately 37 miles of confined waters, which provide the primary passage from the Strait of Juan de Fuca to the Strait of Georgia for traffic to and from Vancouver, B.C. and other Canadian ports.

There are heavy tiderips off Discovery Island on the ebb tide. The narrowness of Haro Strait, the sharp turns at Turn Point and East Point, and strong tidal currents and winds combine to pose particular navigational challenges. Near the east end of Boundary Pass the current runs in surges on ebb tide and forms eddies. Maximum currents are 3.2 knots in Haro Strait and 3 knots in Boundary Pass. Substantial currents also occur between the San Juan Islands and in Rosario Strait.

This area includes substantial fishery and wildlife resources, state and provincial parks, Makah Tribal lands, wildlife refuges, and marine protected areas. The San Juan Islands contain valuable marine natural resources and some of the most expensive private waterfront land in Washington State.

Examples of extremely valuable and vulnerable shallow embayments include Padilla, Fidalgo and Samish Bays at the eastern boundary. These and other bays contain eelgrass beds that are nursery areas for a wide variety of species. They are also important resting and nesting areas for waterfowl on the Pacific flyway.

Some of the small more remote rocky islands contain important sea bird rookeries. The resident and transient killer whale pods that frequent the area may be particularly susceptible to the effects of spills.

Because the historical U.S. oil spill records of Haro and Rosario Straits do not include a large spill of heavy oil suddenly released (e.g., due to a collision or powered grounding), there is a concern about underestimating the probability and consequences of such an event. The high volumes of traffic going to and from Vancouver, particularly of freighters with their large volumes of bunker fuel, lack of double hull and redundant systems, combined with the narrowness of the passages, strong currents, rocky bottom and shorelines, may increase risk beyond what may be inferred from the historical record. Some of these same factors may increase the possibility that if a spill were to occur in this area it could be of large volume.

B. Waterway Risk

The Panel was unable to reach consensus on what an acceptable level of safety, or conversely what an acceptable level of risk was, and therefore, was unable to define gaps in other than very general terms.

Volpe Report[10]

To the extent possible, the Panel considered all work done to date on marine oil spill risk in the greater Puget Sound area. The Panel referenced extensively the most comprehensive work to date on marine oil spill risk in the greater Puget Sound waterway: the 1997 Volpe Report.

As a scoping document, the Volpe Report is "an initial characterization of the hazards which can cause oil spills by ships underway and the environmental sensitivity to such spills." It is "one step in a larger, iterative process in which refined methods and new data can be added and waterway safety periodically reviewed."[11] As the report states, "This study brings the Coast Guard and the Department of Transportation to the threshold of the risk management phase."[12]

The goal of the Panel was to draw conclusions about “risk” and about “gaps” in spill prevention efforts in the North Puget Sound portion of the larger area reviewed in the Volpe Report.

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[10] Volpe National Transportation Systems Center, "Protection Against Oil Spills in the Marine Waters of Northwest Washington State," Department of Transportation, Cambridge, July 1997.
[11] *Ibid*., p. xii
[12] *Ibid*., p. 4

Relative Risk Among Waterway Segments

The Volpe Report assessed only the relative risk of an oil spill among segments of the entire greater Puget Sound waterway.

This relativistic approach should not mask the fact that even if certain factors suggest high risk for relatively smaller spills in central Puget Sound, that in no way diminishes the absolute risk of larger spills in the northern segments of the waterway. The Memorandum of Understanding placed the focus for the Panel on the northern segments.

The Volpe Report concludes that the "highest" oil spill risk is in central Puget Sound from Admiralty Inlet to Tacoma. Behind its hierarchical listing of relative risk (emphasized in its graphical representations), the text of the Volpe Report states that the risk is at that same "highest" level in most if not all of the northern waterway segments. Moreover, the report stresses that there is very modest variation in the level of oil spill risk in these segments.

It was also noted during Panel deliberations that segmenting the waterway introduces a certain artificial distinction between the segments. For example, the risk of oil spill consequences to the marine and shoreline environments at the entrance of the Strait of Juan de Fuca near "J" buoy is not significantly less just east of an artificial line subdividing the ocean approaches (Segments 1 and 2) from the western Strait proper (Segment 3).

Risk in Rosario Strait and the San Juan Islands

The Volpe Report finds that this segment is at "highest" risk of a major oil spill with high accident likelihood, and spill consequence ratings "despite highly rated spill response capability and relatively benign conditions." The report further states: "This suggests that shipping safety there may need re-examination, in spite of a strong regime of local safety measures. "[13]

Risk in Haro Strait

The Volpe report states that Haro Strait "should ... be considered at roughly the [same] risk" as Rosario Strait and the San Juans, e.g. the "highest" risk.[14]

The Volpe authors were handicapped in their assessment of risk in this and other segments by the absence of Canadian accident data. Therefore, the report called for a re-assessment of this segment when such data is available to update the risk model, while in the meantime, urging it be considered as at "highest risk."

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[13] *Ibid.*, p. 89 [There will be fewer tug escorts in these waters over the next 14 years as double-hulled tankers phase-in. The Volpe Report observes that, "While more capable vessels may arguably have less need for escort, fewer escort tugs in the waterway will have other implications. Emergency response requires the availability of tugs and/or other vessels for assistance ..." for all types of vessels. p. 95]

[14] *Ibid.,* p. 89

Risk in the Ocean Approaches

According to the Volpe Report, "The open ocean approaches to the Strait of Juan de Fuca ... fall into the next highest risk category."

Having suggested that this area of congested and conflicting traffic coupled with severe environmental conditions is at somewhat lower risk than Rosario and Haro Straits, the Volpe authors add that "the relative probability of an accident leading to a serious oil spill may be underestimated here because physical conditions and the converging and crossing nature of the deep draft vessel traffic are indicators of such low probability events."[15]

Risk in the Western Strait of Juan de Fuca

The Volpe Report states that the western Strait has an "average" overall risk rating.

The waters of the western Strait of Juan de Fuca and the open ocean approaches are subdivided into three separate segments. The Volpe Report does not account for an oil spill in one segment spreading into an adjacent segment. The Report does note that its expert panel gave its highest accident risk rating in the entire greater Puget Sound waterway to the Southern ocean approach.[16] A 1995 Canadian risk assessment found the entrance of the Strait of Juan de Fuca is the most likely place for a spill.[17]

Incomplete Accident Data

The U.S. and Canadian Coast Guards should devote higher priority to sharing and reconciling this fundamentally important data, lack of which seriously impairs fundamentally important risk assessment to characterize accident and oil spill risks in the waterway.

Secretary of Transportation's Determination

In a Federal Register notice published on November 24, 1998 [Appendix 10] the U.S. Secretary of Transportation stated:

> "Based on the findings in the Volpe Center's report, I hereby determine that the many existing elements of the region's marine transportation system comprise a safe system. While there are always areas for improvement—and we should always be looking into means for improving safety—the Volpe report shows that the Puget Sound area has an excellent system now."

The secretary added:

> "Based on the findings in the Volpe Center's report—and upon consideration of input received through public workshops and a public meeting we held subsequent to the release of the Volpe Center's report—I hereby find that the

[15] *Ibid.,* The Volpe authors note that the geographic distribution of major vessel oil spills reported by DOE is noteworthy for its concentration in this area.
[16] *Ibid.,* p. 89, Table 6-1
[17] *Ibid.,* p. 67

potential for collisions, power groundings, and drift groundings warrant consideration of specific additional measures to further mitigate their risks."

C. Incident History

General Overview of the North Puget Sound Area

Historically, spills over 10,000 gallons have generated over 90% of the total volume of spilled oil, which was the result of vessel groundings, collisions, and allisions. There has been a marked reduction in both the number of spills and the volume of oil spilled since 1990 as a result of heightened industry awareness following the Exxon Valdez spill, an expanded regulatory framework, and increased oversight by the state of Washington and U.S. Coast Guard.

The Washington Department of Ecology presented the Panel with an evaluation of incident and spill data that has been analyzed over a five-year period [Appendix 14]. Similarly, the U.S. Coast Guard presented some of its incident and spill data [Appendix 15], but clearly indicated that more could be done to enhance the ability to manipulate the data as an effective risk characterization tool. These presentations generated valuable discussions among the Panel, and helped some members frame their perspective on "acceptable risk" and potential "gaps" in the safety system.

Although agreement could not be reached on quantifiable conclusions relative to this data, several general observations were made. Incidents that could lead to a vessel drift grounding tend to occur at points where vessels conduct propulsion shifts or change fuels. Plus the risk of collision is heightened in those areas where congestion exists or where vessel crossing situations may occur.

Segments 1 and 2: Outer Coast and Approaches

The area west of the entrance of the Strait of Juan de Fuca has a relatively high incidence of propulsion loss [Appendix 14].

The outer coast is the area where some of the largest oil spills in Washington State have occurred (see: Oil Spills in Washington State – A Historical Analysis.[18]). The most significant coastal spills off the Washington coast during the last 20 years include:

- The 1988 collision between the ocean-towing tug *Ocean Service* and the tank barge it was towing, the *Nestucca,* following a tow wire break in heavy seas. The *Nestucca* released 231,000 gallons of heavy fuel oil north of the entrance to Grays Harbor.
- The 1991 collision of the *Tuo Hai* grain carrier with the *Tenyo Maru* fish-processing vessel. The *Tenyo Maru* sank with over 400,000 gallons of oil onboard and the loss of one crewmember.

[18] Department of Ecology, "Oil Spills in Washington State: A Historical Analysis," Washington State Department of Ecology, Olympia, WA, 1997.

Of special interest to the Makah Tribe is the oil spill from the Navy vessel *General M.C. Meiggs*. The drift grounding casualty occurred just south of Cape Flattery in 1972 when the wire snapped that was towing the *Meiggs*. The vessel grounded and broke in half on the rocky coast. According to NOAA records, 2.3 million gallons of heavy fuel oil was released. This was the largest recorded oil spill in Washington history exceeding the United Transportation barge 1.2 million gallon coastal oil spill that occurred in 1964.

Segments 3 and 4: Strait of Juan de Fuca

Incident data indicates that there is a risk from drift groundings in the vicinity of the Port Angeles Pilot Station where vessels are slowing down in preparation for taking on a pilot.

- The most significant spill in the Straits during the last 20 years was the 1985 *Arco Anchorage* tank ship that resulted in a 239,000 gallon crude oil spill. The spill occurred while the vessel was anchoring, and has been classified as a powered grounding.

Segments 5 and 6: San Juan Islands (Including Haro and Rosario Straits)

A powered grounding is more likely to occur in the restricted waters of Haro and Rosario Straits than in the more open regions of Puget Sound.

The 2 most significant spills during the last 20 years in these segments include:

- The 1988 over loading, foundering and subsequent sinking of the tank barge *MCN 5* releasing 70,000 gallons of heavy oil into Rosario Strait near Shannon Point.
- The 1994 powered grounding of the tank barge *No. 101* releasing 27,000 gallons of diesel fuel in the Rosario Strait area.

D. Marine Transportation System Safety

The current marine safety and environmental protection system can be described as a multi-layered safety net. Each level of this net, like interventions in the error causal chain, may be responsible for preventing the undesired outcome of a marine accident. The entities that make up this safety net include the ship's crew, the vessel operator and their management team/system, the classification society and their inspectors, the flag state and associated inspection regime, the port state with attendant inspection system, and, in Washington, the state inspection system. In addition to the layers listed above, an active system of waterways management is in place that further mitigates risk.

This report does not capture in detail the role of each of these entities, but it is important to recognize that each has a role in the safe operation of a ship sailing the waters of the study area. In general terms, it is incumbent upon the ship's crew to be trained to perform their jobs in a professional manner. The vessel operator must support the crew through well-reasoned maintenance and operational programs. The classification society must be vigilant in their role, and government inspection programs must be accurate, appropriate and effective to avert safety deficiencies from becoming accidents.

Regulatory Regime

The regulatory safety regime is comprised of several layers of regulations or standards at the international, national, state and local levels. To varying degrees, the rules covering commercial vessel safety and marine environmental protection pertain to all vessel traffic throughout the study region. The brief synopsis of the regulatory regime presented below is not intended to be inclusive. Rather the goal is to provide a sense of the scope of rules imposed upon commercial vessels. Also, it is important to note that the level of regulatory imposition varies considerably by vessel type. Generally speaking, the level of regulation imposed is linked to the level of risk associated with the particular vessel's operations with the objective of ensuring the risk is reduced.

The U.S. Supreme Court upheld federal supremacy in many aspects of tank vessel regulatory jurisdiction in its decision on the *INTERTANKO* vs. *Locke*[19] (Washington State) lawsuit. However, the Court confirmed the validity of state regulations in the areas of spill response, financial responsibility, and spill prevention measures related to waterway peculiarities.

International

By international agreement, the International Maritime Organization (IMO) establishes regulations that govern vessels of signatory nations while they are outside the waters of their own nation. These regulations cover a wide array of topics, and heavily influence the overall level of safety achieved. International regulations that apply to vessel safety and pollution prevention in the study area include:

a) International Convention For The Safety Of Life At Sea (SOLAS), 1974

b) International Load Line Convention (ICLL), 1966

c) International Convention For The Prevention Of Pollution From Ships, 1973 As Modified By The Protocol Of 1978 (MARPOL 73/78), Annexes I-V

d) International Regulations for Preventing Collisions At Sea, 1972 (COLREGS)

e) International Convention Relating To Intervention On The High Seas In Cases Of Oil Pollution Casualties, 1969

f) Convention On The Prevention Of Marine Pollution By Dumping Of Wastes And Other Matter, 1972, "London Dumping Convention"

g) International Convention on Standards of Training Certification and Watchkeeping, 1978 (STCW)

h) International Labor Organization Convention No. 147, The Convention Concerning Minimum Standards in Merchant Ships (ILO 147)

i) International Safe Management Code (ISM)

[19] International Association of Independent Tanker Owners (INTERTANKO) vs. Gary Locke, Governor of Washington; Supreme Court of the United States; 98-1706, March 6, 2000.

j) International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC)

This list is by no means comprehensive, but it reflects the majority of substantial regulations currently in place at the international level. Enforcement of these regulations is the responsibility of those nations who are signatories to the conventions.

United States

The U.S. Coast Guard is the marine safety and regulatory enforcement agency of the federal government, and is charged with implementing and enforcing both international and national regulations. Significant relevant federal statutes include:

a) Oil Pollution Act of 1990 (OPA 90)

b) Clean Water Act of 1977 (CWA)

c) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986

d) Deep Water Port Act

e) Hazardous Material Transportation Act (HMTA)

f) Hazardous Materials Transportation Uniform Safety Act (HMTUSA)

g) Marine Protection, Research and Sanctuaries Act of 1972

h) Ports and Waterways Safety Act (PWSA) as amended by the Port and Tanker Safety Act of 1978

i) Rivers and Harbors Act of 1899

While the above list is not intended to be inclusive, this body of laws establishes the Coast Guard's authority over vessels operating in U.S. waters. The U.S. Coast Guard implements these mandates by adopting rules codified in the Code of Federal Regulations (CFR). The most significant regulations that apply to vessel standards and safety as well as oil spill planning, prevention and response can be found in Titles 33, 46 and 49 of the CFR.

Canada

The responsibility for marine safety in Canada resides with two agencies, Transport Canada Marine Safety and the Canadian Coast Guard. Transport Canada Marine Safety is primarily responsible for incident prevention that includes vessel risk screening and inspections. Transport Canada utilizes the Paris MOU, Tokyo MOU as well as the Canada Shipping Act for guidance and authority to conduct inspections of vessels. They also utilize the extensive set of international standards listed above.

The Canadian Coast Guard is the primary agency that oversees their vessel traffic management issues. Their traffic management is carried out by the Marine Communications and Traffic Services branch, which are full participants under the Cooperative Vessel Traffic

Services Agreement (CVTS). The Canadian Coast Guard is the lead agency responsible for the overseeing all pollution response incidents including oil spills.

State of Washington

Washington State is an active participant in regulating the maritime industry and responding to marine pollution incidents.

Significant relevant state statutes include:

a) Oil and Hazardous Substance Spill Prevention and Response – RCW 90.56

b) Vessel Oil Spill Prevention and Response – RCW 88.46

c) Transportation of Petroleum Products – Financial Responsibility – RCW 88.40

d) Pilotage Act – RCW 88.16

e) Water Pollution Control – RCW 90.48

f) Hazardous Waste Cleanup – Model Toxics Control Act – RCW 70.105D

The Department of Ecology is Washington State's lead agency for oil spill prevention and response. In response to its statutory mandate, the Department of Ecology adopted regulations and developed programs that augment similar programs established at the federal level. Both the state and federal programs emphasize environmental protection, but with the state having more of a local focus.

Waterways Management

Waterways management is a term used to describe a broad range of activities carried out by the U.S. Coast Guard and other organizations within the study area. Activities include vessel traffic management and pilotage as well as many activities conducted under the broad authorities of the Captain of the Port (COTP).

The Cooperative Vessel Traffic Service (CVTS) operated by the Canadian and U.S. Coast Guard is a key element of waterways management. The system provides coverage for predictable and safe movement of vessel traffic from outside the western entrance, through the Strait of Juan de Fuca, including Haro, Rosario and Georgia Straits, as well as the lower Puget Sound. The CVTS manages deep-draft vessel traffic as well as barges, passenger vessels and fishing vessels. Tofino Traffic recorded that VTS traffic volumes approach 15,875 vessel movements annually at the entrance to the Strait of Juan de Fuca.

In addition to active management there are several vessel routing mechanisms in place. These include the Area-to-be-Avoided (ATBA) off the west coast of Washington as well as the Traffic Separation Scheme. This system has been adopted by the International Maritime Organization (IMO), and applies to vessels operating in both U.S. and Canadian waters. There is also a Tanker Safety Area within a 2-mile arc centered on Turn Point Light (Haro Strait). Loaded tankers of 40,000 DWT or greater are required to make passing

arrangements, where possible, prior to meeting, overtaking, or crossing ahead of any other vessels transiting this area.

In addition to the vessel traffic system, pilotage is compulsory for most vessels inland of Victoria and east of Port Angeles in U.S. and Canadian waters. The boarding stations for the pilots are off of Victoria Harbor for Canadian pilots and off of Port Angeles for U.S. pilots. Additionally, while in U.S. waters, single-hull, laden oil tankers are required to have a 2-tug escort east of Dungeness Spit.

The Captain of the Port exercises authority in a broad array of circumstances to ensure that port and waterway safety is maintained. The COTP can direct vessels to take specific actions through the issuance of a COTP order. Vessels can be detained from leaving port or denied entry if they fail to comply with applicable regulations and international standards. The broad authorities given to the COTP by the Ports and Waterways Safety Act can be used in support of the development of Standards of Care as a non-regulatory means of improving marine safety.

When this broad array of regulatory and management layers are brought to bear on vessels there is a substantial safety net in place. While this array provides a high level of safety, there is always room for, and a desire to implement, appropriate improvements that reduce the potential for accidents to occur.

E. Spill Response and Salvage

Response capabilities differ between the segments in the study area. Rapid deployment and good weather conditions are crucial for successful recovery of oil from any spill. Deployment of spill response equipment is complicated by the remoteness of many areas particularly the outer coast and western Strait of Juan de Fuca. In addition to remoteness, harsh weather and sea conditions can also complicate oil recovery efforts and reduce recovery rates.

The Panel initially set out to conduct a comprehensive review of the adequacy of spill response capabilities within the study area. However, given the complexity of the topic, the limited time available, and the existence of other forums such as the Northwest Area Committee, spill response was discussed only in general terms. There were several general recommendations developed as a result of these discussions.

The Panel also had brief discussions regarding the need for improved coastal salvage capability. The federal On-Scene-Coordinator's report on the *New Carissa* oil spill in Oregon found that that salvage capability was lacking nationally and specifically during the *New Carissa* event.

F. Presentations

The first several Panel sessions were spent presenting complex background data and general information to Panel members. See Appendix 7 for a list of these presentations. Additionally, various Panel members distributed a great deal of material, those handouts are listed in Appendix 8. There were several presentations that addressed completed studies or topical areas that generated a great deal of discussion and disagreement. There was no attempt to reach consensus on the conclusions put forward during these presentations, nor can this report be regarded as a validation of these studies. Information was presented and discussed in a direct manner that allowed Panel members to evaluate, weigh, and use the information as deemed to be appropriate and effective.

The following summarizes some of the concerns over gaps, weaknesses, or assumptions regarding the ITOS Evaluation and the Regulatory Assessment—two studies that provoked much Panel discussion.

ITOS Evaluation[20]

During the fall of 1999 the U.S. Coast Guard conducted an evaluation of the International Tug of Opportunity System (ITOS). The study was designed to reduce uncertainty over what percentage of the time an ITOS transponder equipped tug was within the same waterway segment as a vessel, such that it could render assistance if that vessel experienced difficulties. The study made no attempt to evaluate the adequacy of tug horsepower, crew capability or hook-up capabilities.

The Panel agreed that the ITOS system does provide an incremental improvement in safety, and the ITOS evaluation provides valuable information to decision-makers.

Federal Regulatory Assessment (Cost-Benefit Analysis)[21]

The Regulatory Assessment was a federal commissioned report designed to conduct a cost-benefit analysis of the ITOS system, a dedicated rescue tug, and extended tanker tug escorts. This analysis investigated several options of the cost to benefit ratio of a dedicated rescue tug and extended single or double tug tanker escorts. The report was generally well received by the Panel with the following exceptions:

- The cost-benefit analysis was conducted in accord with the guidelines required for federal cost-benefit reports utilizing the ratio of cost to barrel of oil not spilled. The "barrel of oil not spilled" is the source of a great deal of disagreement from various Panel members who are disappointed that the study's guidelines prevented assessing a monetary value attached to the damage and loss to the environment, private property, businesses, as well as recreation, tourism, cultural values, the quality of life, and the area's image as a whole. In an effort to bring additional insight to the Panel on the economic benefits accrued by

[20] Analysis of the Geographic Coverage Provided by the International Tug of Opportunity System From November 1998 - May 1999, Commandant (G-MSE-1) U.S. Coast Guard, August 30, 1999.

[21] USCG, "Regulatory Assessment - Use of Tugs to Protect Against Spills in the Puget Sound Area" (Federal Cost-Benefit Analysis on Tug), consultant report by Designers and Planners, and Herbert Engineering, 1999.

spill prevention, the Department of Ecology commissioned DF Dickens Associates Ltd. to complete a brief report entitled "Oil Spill Consequences: Costs of Selected Spills" [Appendix 13].

- Some Panel members criticized the report and felt that the data on probability of spills was inaccurate and misleading. Some members felt that it may have "exaggerated," while others believe that it may have "underestimated" the probability of major spills.

VI. Recommendations

A. Intervention Summary

There was no attempt made to prioritize these recommendations. However, in keeping with the basic tenants of risk management, the recommendations were loosely ordered in accordance with the sequence as they would interrupt the error causal chain, as shown below.

Stage 1 — Basic/Root
Stage 2 — Immediate
Stage 3 — Incident
Stage 4 — Accident
Stage 5 — Immediate Consequence
Stage 6 — Delayed Consequence

RECOMMENDATION		**Point of intervention prior to stage:**					
		1	**2**	**3**	**4**	**5**	**6**
1	Near Miss Reporting System	●	●	●			
2	State Regulatory Baseline Analysis	●	●	●	●		
3	Adequacy of Current Regulatory Baseline	●	●	●	●		
4	Standard of Care (SOC)-General	●	●	●	●		
5	SOC-Bridge Team Communications	●	●	●	●		
6	Review of Comparability Analysis	●	●	●	●	●	●
7	Effective Communications w/ Local Marine Resource Committees	●	●	●	●	●	●
8	Improve Scope and Effectiveness of Inspection Programs		●	●			
9	Education Program for Small Vessel Operators		●	●			
10	Expansion of CVTS Participation Requirements		●	●			
11	Trans-Boundary Process for Marine Safety Issues		●	●	●		
12	Towing Vessel Standards		●	●	●		
13	SOC-Steering Gear Testing		●	●	●		
14	SOC-Offshore Routing		●	●	●		
15	SOC-Planned Maintenance		●	●	●		
16	SOC-Firefighting		●	●	●		
17	Partnership with Tribal Nations		●	●	●	●	●
18	Support States/BC Oil Spill Task Force			●	●		
19	Support for PARS			●	●		
20	Implementation of UAIS			●	●		
21	SOC-Anchors			●	●	●	
22	ATBA-Applicability, Size, Compliance				●	●	
23	SOC-Vessel Towing Arrangements				●	●	●
24	Response-Area Committee Action Items					●	●

B. Recommendation Matrix

The following matrix summarizes the accident types, accident causes, and areas of geographic coverage for each recommendation.

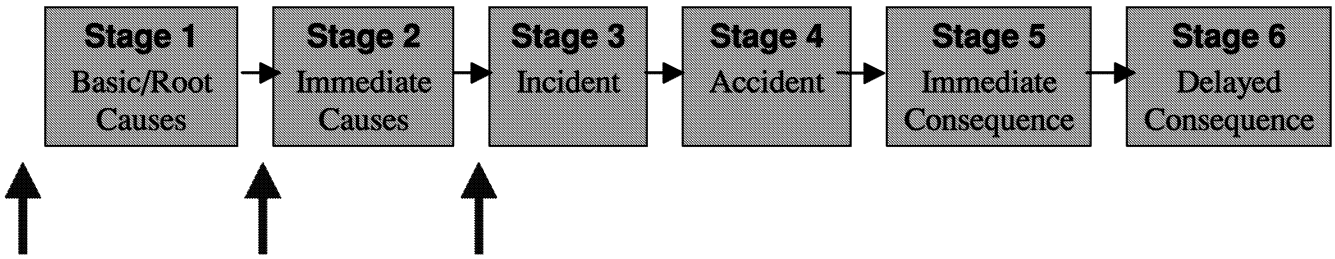
	Accident Type					Accident Cause					Geographic Coverage					
Recommendation	Collision	Drift Grounding	Powered Grounding	Structural Failure	Fire	Human/Organizational Error	Conflicting Operations	Physical Environment	Vessel Control	Positional Information	1 – North Approach	2 – West Approach	3 – Strait of Juan de Fuca	4 – PA to Admiralty Inlet	5 – PA to Victoria/Haro	6 – San Juan Is/Rosario
1	●	●	●			●	●	●	●		●	●	●	●	●	●
2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4	●	●	●	●	●	●	●		●		●	●	●	●	●	●
5	●		●						●					●	●	●
6	●	●	●	●	●	●			●	●			●		●	●
7								●			●	●	●	●	●	●
8	●	●	●	●	●	●	●				●	●	●	●	●	●
9	●					●	●				●	●	●	●	●	●
10	●					●	●				●	●	●	●	●	●
11											●	●	●	●	●	●
12	●	●	●			●	●		●		●	●	●	●	●	●
13	●	●	●	●		●			●		●	●	●	●	●	●
14	●	●				●	●					●				
15	●	●				●	●	●	●		●	●				
16				●	●	●					●	●	●	●	●	●
17											●	●	●			
18	●	●					●		●		●	●				
19	●	●	●			●	●			●	●	●	●	●	●	●
20	●						●			●	●	●	●	●	●	●
21		●				●		●	●				●	●	●	●
22		●		●				●	●	●	●	●				
23		●		●		●			●		●	●	●	●	●	●
24											●	●	●	●	●	●

Recommendation No. 1 – Near Miss Reporting System

Action: The Panel strongly supports the concept of a "near-miss" marine reporting system. The U.S. government should enact legislation that allows the establishment of a credible, comprehensive and publicly available international "near-miss" marine reporting system, inclusive of liability and anonymity protections together with adequate funding for program start-up and maintenance. Additionally the U.S. government should actively seek the participation of the Canadian government to ensure the efficacy of this system.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: Numerous databases exist which collect a wide variety of information on the marine transportation system, however, information regarding "near-miss" incidents is lacking in these databases. Collection of "near-miss" information expands these databases and improves the comprehensiveness of information available for making risk-based decisions. Collection of "near-miss" data is seen as the best way to identify both recurring events which are precursors to actual accidents, as well as root causes. The data will assist in identification of problems early in the causal chain and will assist in the development of initiatives that identify root causes and help to prevent accidents from occurring.

The U.S. Coast Guard is in the process of developing a "near-miss" marine reporting system called the International Maritime Information Safety System (IMISS). Coordination concerning the prototype testing of this system is currently on going between the U.S. Coast

Guard, the Maritime Administration (MARAD) and National Aeronautics and Space Administration (NASA).

Concurrently, the U.S. Coast Guard is seeking congressional support for legislation to establish and operate this system on a national basis. Key provisions of this legislation would be anonymity protections, appropriate relief from legal liability to those who report and funding support. These provisions are key to the success of the reporting system as evidenced by the model developed and being used by the aviation industry.

Recommendation No. 2 – State Regulatory Baseline Analysis

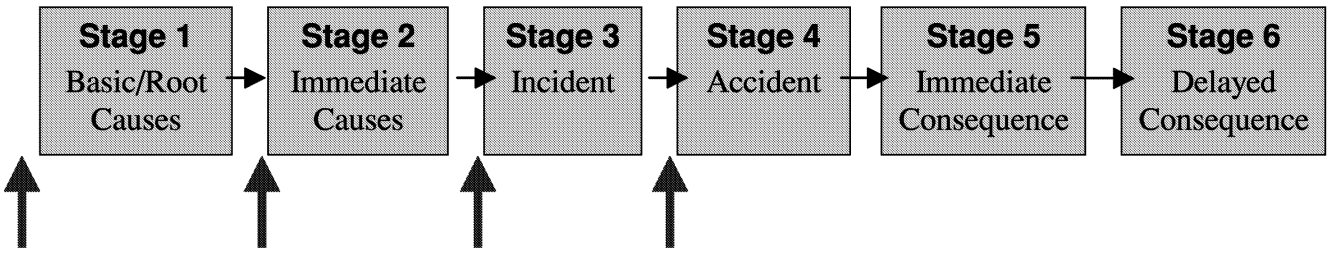
Action: In accordance with the U.S. Supreme Court's interpretation of the states' role pursuant to OPA-90, the executive and legislative branches of the State of Washington should evaluate existing programs and policies to determine whether they need improvement regarding:

a) imposition of liability or other spill response requirements related to discharge or substantial threat of discharge of oil; and

b) the application of state regulations to ports and waterways based on peculiarities of Washington's local waters, local circumstances such as depth and narrowness of a channel, severe or impairing weather conditions, environmental sensitivities, or other idiosyncratic features.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: Oil spill prevention and response is a partnership between the federal and state governments that is recognized by the federal Clean Water Act, OPA 90, and other federal laws. OPA 90 specifically preserves the authority of the states to impose additional liability or requirements with respect to the discharge of oil or other pollution by oil, or with respect to any removal activities in connection with such a discharge (OPA section 1018(a)(1)).

The U.S. Supreme Court in the INTERTANKO Decision specifically stated the following about the role of states:

a) "We have upheld state laws imposing liability for pollution caused by oil spills. See Askew vs. American Waterways Operators, Inc., 411 U.S., at 325. Our view of OPA's savings clauses preserves this important role for the States, which is unchallenged here." (citing *U.S.* vs. *Locke*, et al)

b) "Useful inquiries include whether the rule is justified by conditions unique to a particular port or waterway. See id., at 175 (a Title I regulation is one "based on water depth in Puget Sound or on other local peculiarities"). Furthermore, a regulation within the State's residual powers will often be of limited extraterritorial effect, not requiring the tanker to modify its primary conduct outside the specific body of water purported to justify the local rule. Limited extraterritorial effect explains why Ray upheld a state rule requiring a tug escort for certain vessels, id., at 171, and why state rules requiring a registered vessel (i.e., one involved in foreign trade) to take on a local pilot have historically been allowed, id., at 159-160. Local rules not pre-empted under Title II of the PWSA pose a minimal risk of innocent noncompliance, do not affect vessel operations outside the jurisdiction, do not require adjustment of systemic aspects of the vessel, and do not impose a substantial burden on the vessel's operation within the local jurisdiction itself." (citing *U.S.* vs. *Locke*, et al)

Both of these areas of policy are significant contributors to incentives for safe operation and practices conducive to safe operation. The State of Washington should implement its role as responsibly as possible. Current policies regarding these matters were put in place some years ago, and should be reviewed for their adequacy in view of changing times and new circumstances resulting from the INTERTANKO Decision.

(The Supreme Court's decision refers to *U.S.* vs. *Locke* (98-1701) and *INTERTANKO* vs. *Locke* (98-1706))

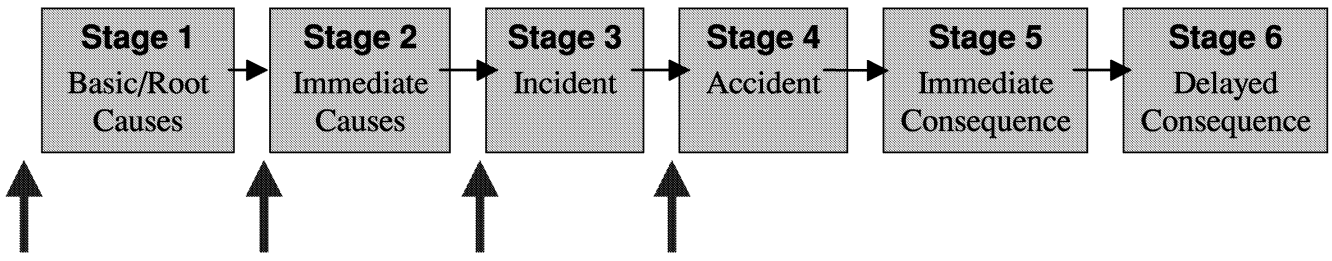
Recommendation No. 3 – Adequacy of Current Regulatory Baseline

Action: The level of marine safety provided by the existing multi-jurisdictional regulatory regime has been brought into question in the wake of the Supreme Court's INTERTANKO decision.[22] In order to ensure that marine safety regulations provide an adequate level of environmental protection the federal government in consultation with the State of Washington should take appropriate measures to;

a) review the existing marine safety regime and identify any gaps in safety (regulatory and/or enforceability);
b) ensure that pre-Supreme Court decision baseline protection levels are, at a minimum maintained; and
c) ensure regulations are enforced through maintenance of, or increases in, federal/state inspection forces.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: The marine safety regime that exists in the study area includes regulations and policies established and enforced at the local, state, national and international levels. These

[22] International Association of Independent Tanker Owners, INTERTANKO vs. Gary Locke, Governor of Washington; Supreme Court of the United States; 98-1706, March 6, 2000.

regulations, taken in total, form a complex and intertwined safety net that works in concert to prevent accidents and mitigate risk. The recent Supreme Court decision regarding the INTERTANKO suit changed the role of the Washington State regulations in this system and brings into question the status of the post-decisional baseline level of safety.

While an agreement has not been reached on the degree, if any, to which this regulatory "gap" exists there is full agreement that any degradation of the regulatory baseline resulting from the Supreme Court's INTERTANKO decision is unacceptable.

A comprehensive comparison of Washington State regulations and the national/international regulations must be done to identify areas were there may have been gaps created in the regulatory "safety net" as a result of the Supreme Court's INTERTANKO decision. In turn, any level of safety provided by measures lost as a result of the court's decision should be replaced with protective measures pursued through the regulatory process at the federal or international level.

Regardless of the nature of the regulatory gap, the ability to enforce the standards in place, must, at a minimum, be maintained to ensure compliance. Whether the regulations are established and enforced at the sate or federal level, an adequate inspection force is necessary. The comments in the rationale section of Recommendation No. 8 regarding an adequate inspection force apply in this instance as well.

The regulatory system established by the Canadian government is unaffected by the Supreme Court decision and any potential disparity between Canadian and U.S. marine safety regulations is addressed in Recommendation No. 6.

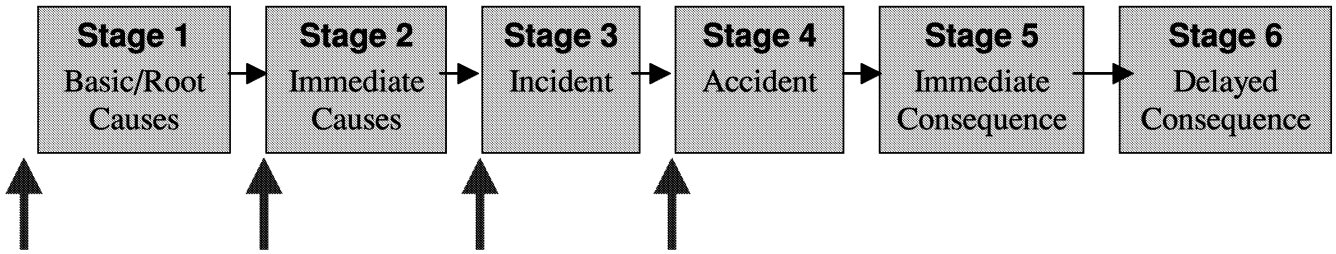
Until identification of any regulatory gap is complete it is not possible to identify which accident types or causes will be affected or where along the causal chain an intervention will occur.

Recommendation No. 4 – Standard of Care (SOC)-General

Action: The U.S. Coast Guard Captain of the Port should continue to work with the Washington Department of Ecology, Transport Canada Marine Safety, maritime industry, Puget Sound Marine Committee and appropriate stakeholders to develop and implement additional Standards of Care as expeditious and appropriate supplements to regulatory requirements to promote and further enhance safety in commercial maritime operations in a timely manner.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Standards can be written to address/mitigate any of the accident types or causes, but with an emphasis on intervening early in the causal chain. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

Standards of Care (SOC) are developed by the Captain of the Port and while non-regulatory in nature, have the full backing of the broad authorities of the COTP found in the Ports and Waterways Safety Act. These SOC typically add specificity to the more general regulatory

standard and are developed with input from appropriate stakeholders. They are disseminated to the industry in a variety of ways including; agents, pilots, vessel operators, professional organizations, web sites, direct mail, as well as presentations to industry. Once put into place a SOC represents a prescriptive set of actions which represent good marine practice. Failure of a vessel's crew to abide by these steps may result in actions being taken by the COTP to ensure that all appropriate risk mitigation measures are in place. Depending on the circumstance and the timing of notification these steps may include, denial of entry, boarding, detention, tug escort, and or pursuit of a violation case.

Standards of Care have proven effective in providing consistent guidance to vessel operators, and have been used by Coast Guard Captains of the Port and Harbor Safety Committees to successfully address risk in their ports. Some Standards of Care have been initiated in Puget Sound over the last year, but opportunities exist for further appropriate use of this tool. Recommendations 7, 12, 16 and 21-24 are made to highlight those opportunities the Panel wishes to emphasize.

Recommendation No. 5 – SOC-Bridge Team Communications

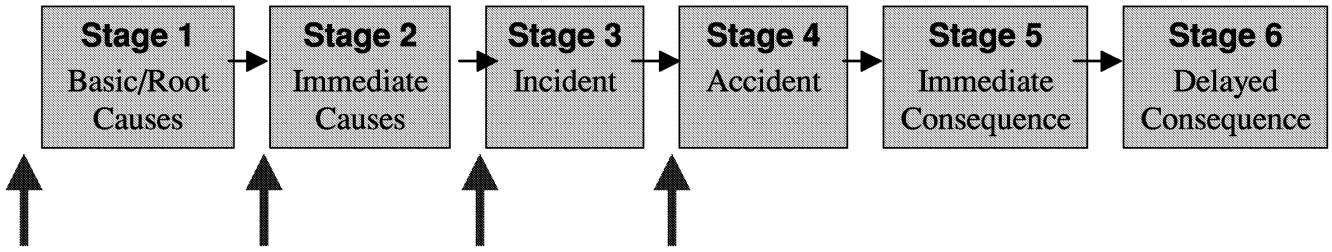
Action: The U.S. Coast Guard, in consultation with Transport Canada Marine Safety, and appropriate stakeholders, should establish and implement a Standard of Care that addresses expectations for effective bridge team communications. At a minimum, this bridge team communication standard should require a vessel master to:

a) immediately notify the local pilot whenever maneuverability of the vessel has been adversely affected; and

b) identify to the pilot onboard, any bridge team member who is not proficient in English.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

Effective bridge communications are not just an issue of English proficiency. Rather successful communications involve both the transmission and reception of information pertinent to the safe navigation of the vessel. Communications whether ship-to-ship, ship-to-

shore, or among a bridge team, are essential to the safe navigation of a vessel, especially through narrow channels and congested waterways.

STCW 95 requires each officer in charge of a navigational watch to maintain English proficiency necessary to perform navigational duties including communication with other ships and coast stations. It also requires the ability to perform duties with a multi-lingual crew including use and understanding of the Standard Marine Navigational Vocabulary. STCW does not, however, require all on-bridge communications to be in English. Such communication can be problematic when local experts are brought aboard to pilot a vessel with a foreign crew if some crew members on the bridge are not proficient in English.

The incident that occurred in New Orleans, LA with the M/V *Brightfield* is an illustration of how a failure by the crew to effectively communicate information regarding a condition that adversely affected the maneuverability of the vessel to the pilot can result in a significant accident. In the *Brightfield* incident the crew was aware of mechanical problems with the vessel but failed to communicate this to the pilot. This allowed the causal chain to proceed uninterrupted and a major allision occurred as a result.

Pilots must be able to communicate effectively with the vessel's bridge team, and must be continuously informed of the maneuvering capability of the vessel. Bridge team communications can quickly be addressed by adopting a Standard of Care aimed at interrupting the causal chain prior to the accident.

Recommendation No. 6 – Review of Comparability Analysis

Action: The U.S. Coast Guard, in consultation with Transport Canada Marine Safety and the Canadian Coast Guard, should initiate a thorough review and update of the "Marine Safety and Marine Environmental Protection Comparability Analysis" completed in 1994. Every effort should be made to gain public participation while working through existing channels such as the Joint Coordinating Group (JCG). This process should address regulatory differences pertaining to commercial shipping, and ensure that a uniform marine safety regime achieving the highest common standard is applied to all commercial vessels operating in the internationally shared waters between the United States and Canada in the study area.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
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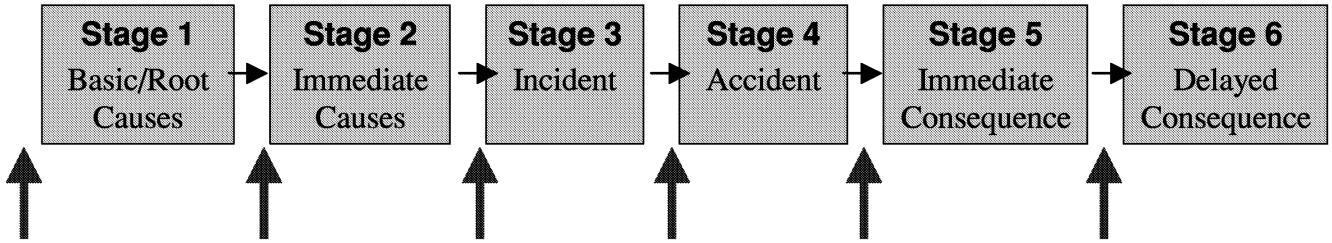
Accident Causal Chain and Points of Intervention



Rationale: The nature of the shared boundary between the U.S. and Canada make it imperative that the two nations maintain parity in their respective safety regimes for deep draft commercial vessels. Failure to strive for comparable safety standards could result in the lesser standards (lowest common denominator) influencing the level of safety in the shared waters.

In 1994, the U.S. Coast Guard and Canadian Coast Guard completed a Marine Safety and Marine environmental Protection Comparability Analysis. The purpose of the analysis was to determine if there exists a comparable degree of marine safety and marine environmental

protection between the two nations. Both Coast Guards' concluded in the analysis that broad overall comparability existed.

Six years have elapsed since this comprehensive overview was completed and both nations have continued to update and modify their respective regulations during this time. A review of the current level of comparability is necessary to identify any areas were comparability may no longer exist.

The causal chain may be broken at any point depending upon where, if any, lesser regulatory standard is identified.

Recommendation No. 7 – Effective Communications with Local Marine Resource Committees

Action: The U.S. Coast Guard and Washington Department of Ecology should ensure that effective communication links with both the Northwest Strait Commission and established local Marine Resource Committees are in place.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
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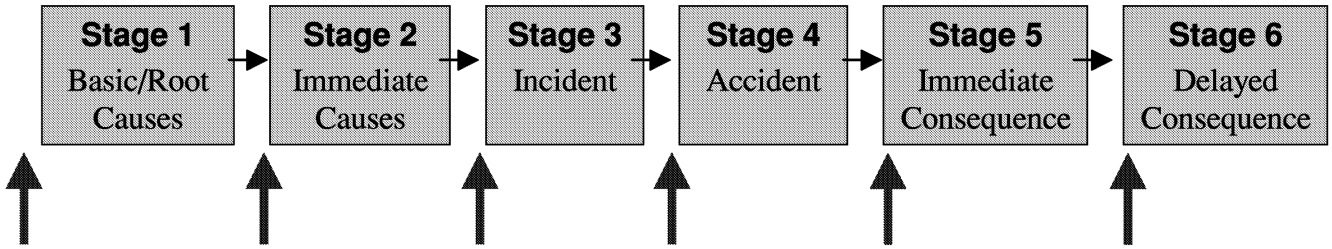
Accident Causal Chain and Points of Intervention



Rationale: Local Marine Resource Committees (MRC's) have recently been established under the auspices of the Northwest Strait Commission and are designed to focus on the unique nature and needs of each county's near-shore marine resources. They have been established in Clallam County, Jefferson County, San Juan County, Islands County, Whatcom County, Skagit County, and Snohomish County. These committees should be recognized by already established planning and response groups as well as in the planning documents so that they can become established members of the response community.

These committees should serve as a natural conduit for advice and input to the U.S. Coast Guard and the spill response section of the Washington DOE regarding issues and conditions that are unique to the local area. Information from the local MRC's can help regulatory agencies better understand conditions which influence the root causes of local marine incidents. Effective communication between regulatory agencies and the MRC's could provide a vital resource and information link to assist with the mitigation of immediate and delayed consequences of local marine accidents and should be actively pursued by all parties.

Recommendation No. 8 – Improve Scope and Effectiveness of Inspection Programs

Action: The U.S. Coast Guard and Washington Department of Ecology, in consultation with Transport Canada Marine Safety, should improve and update the scope and effectiveness of existing vessel inspection programs by:

a) continuing to refine targeting protocols to ensure vessels that pose the highest risks are inspected;

b) continuously reviewing and enhancing inspection checklists to ensure they address appropriate risk factors;

c) maintaining or expanding national/state inspection forces; and

d) publicizing significant enforcement actions, as well positive industry actions to deter sub-standard vessel operators and promote safety improvements.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
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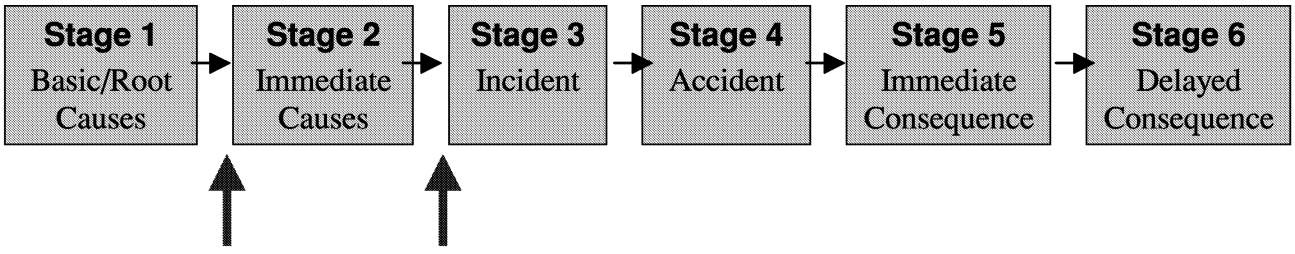

Rationale: Vessel inspection programs have, in general, proven to be an effective means of reducing human, operational and organizational error, as well as shipboard system failures onboard vessels. Vessel inspections verify/ensure compliance with applicable maritime laws and regulations as well as identify any deficiencies in crew training and qualifications.

Inspections of vessels help identify conditions that might otherwise go undetected, thereby interrupting the accident causal chain at various points prior to the actual accident occurring. These programs are most effective when they are continually updated and executed by an adequate work force.

The U.S. Coast Guard has developed and operates an extensive Port State Control program that targets vessels based on risk and boards more frequently those vessels found to be at increased risk. The Captain of the Port may require additional safety measures or deny entry to any vessel that is found to present an unacceptably high level of risk. The State of Washington also has in place a risk-based targeting program for vessels. Likewise the Canadian government exercises port state authority and utilizes the Tokyo MOU for guidance and direction of their boarding program. Coordinating efforts in the realm of Port State control will produce the greatest return on the investment in the shared waters encompassed by this study area.

All inspection programs would benefit from increased number of inspectors affording the opportunity to expand the number and/or scope of vessel boardings. Agencies should review their current staffing levels to ensure adequate resources exist to enforce applicable marine safety regulations.

Public notice of significant enforcement actions against sub-standard operators can be an effective deterrent by both highlighting the potential ramifications of substandard operations to other operators and negatively influencing the decision of a potential vessel charterer. The current boarding programs operated by the U.S. and Canada recognize the poor performance records of certain vessel operators as well as flag states and classification societies and incorporate this information into the risk-based decision process. In the United States this information is made freely available to the public.

Recommendation No. 9 – Education Program for Small Vessel Operators

Action: Washington State and the U.S. Coast Guard should establish a comprehensive educational program to ensure that unlicensed operators of small vessels have fundamental boating skills and seamanship knowledge. Options to be reviewed should range from seeking opportunities to increase attendance at existing courses to establishing statewide recreational boater requirements similar to those in effect in Canada.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
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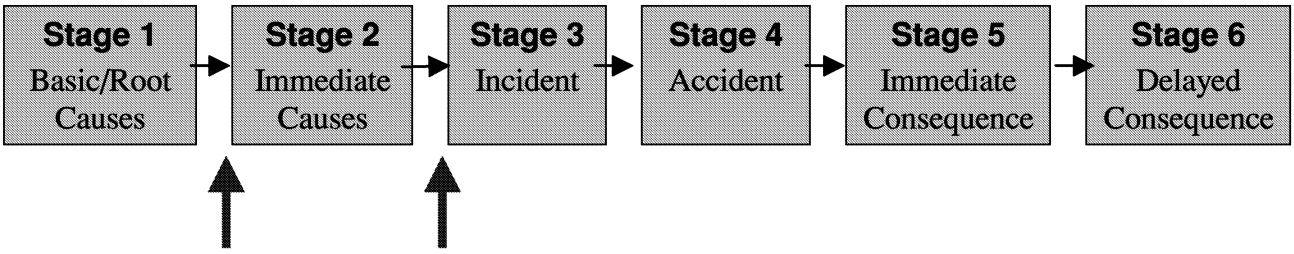
Accident Causal Chain and Points of Intervention



Rationale: Despite the existence of several boating safety programs aimed at improving the level of knowledge of recreational boaters regarding the rules of the road and their responsibilities while on the water, conflicts between small vessels operated by unskilled and/or uninformed personnel and deep draft vessels continue to occur.

The expanding volume of vessel traffic competing for space on the same waterway increases the likelihood of conflicts between large deep draft vessels and small commercial, fishing and recreational vessels. Conflicting vessel operations make navigation more difficult for the deep draft vessels and increase the likelihood of reactionary radical course and/or speed changes with an attendant potential for accidents such as collision.

There are several mechanisms in place to prevent operational conflicts and educate the recreational boater.

- "Rules of the road" establish a common base for steering and sailing vessels so as to minimize the potential for conflicting operations. Formalized as International Regulations for Preventing Collisions at Sea, 1972 (COLREGS 72), these rules apply to all sizes of recreational and commercial vessels operating in navigable waters, including Haro Strait and the Strait of Georgia.
- Cooperative Vessel Traffic Management System actively manages vessels larger than 40M, and passively manages vessels larger than 20M. As this system is geared toward the management of larger vessels, it does directly influence smaller vessels also identified as a concern.
- Education sources for safe boating operations include: a Washington State Parks and Recreation Commission pamphlet entitled "Washington Boating Basics – A Guide to Responsible Boating", and boating safety courses offered by the U.S. Coast Guard Auxiliary and the U.S. Power Squadron.
- Canada addresses the need for universal boater education by operating a National program that teaches recreational vessel operators fundamental marine skills and knowledge.

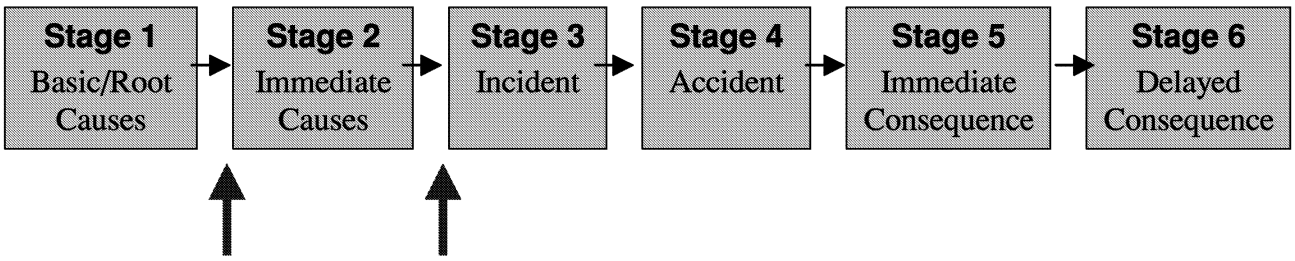
In conclusion, conflicts between small and large vessels are believed to stem, at least in part, from a lack of understanding of fundamental seamanship skills and marine knowledge on the part of some small vessel operators. Improving the knowledge level of unlicensed small vessel operators addresses both the root and immediate causes that result in conflicting vessel operations.

Recommendation No. 10 – Expansion of CVTS Participation Requirements

Action: The U.S. Coast Guard should review the current requirements for vessel participation in the US/Canadian Cooperative Vessel Traffic System (CVTS) with an eye toward aligning more closely with Canadian requirements. In an effort to reduce potentially conflicting operations all vessel traffic greater than 20 meters in length should be required to actively participate in the CVTS.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 – Northern Approach
Drift Grounding	Conflicting Operations	2 – Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: The current U.S. regulations (33 CFR 161) that pertain to CVTS mandate that all vessels greater than 40 meters in length, towing vessels greater than 8 meters and vessels certificated to carry greater than 50 passengers for hire, while engaged in trade, actively participate in the traffic management system. Active participation requires that vessels participate in the Vessel Movement Reporting System (VMRS) and make regular movement reports to the CVTS watchstander. Vessels greater than 20 meters are passive participants in the system which requires that they monitor the frequency used by CVTS, either VHF Ch. 5A (outer Strait) or VHF Ch. 14 (Puget Sound).

Canadian regulations differ from the U.S. in that they require all vessels greater than 20 meters in length to actively participate in the CVTS.

Those commercial vessels that are not required to actively participate in the traffic management system have the potential to negatively effect the ability of other vessels, which are participating in the system, to safely navigate the waterway. The movements of vessels not participating in the CVTS can be unpredictable and may result in conflicting operations with an attendant increase in the likelihood of a collision. Furthermore, different standards for participation in US/Canadian waters may result in confusion from lack of uniformity.

Expanding the requirement for active participation to all vessels greater than 20 meters will improve communication and predictability of vessel movements thereby reducing the likelihood of vessel collisions. Increasing the level of vessel traffic management through active participation in CVTS will reduce the possibility for human error and conflicting vessel operations and correspondingly intervene early in the casual chains.

Recommendation No. 11 – Trans-Boundary Process for Maritime Safety Issues

Action: The U.S. Coast Guard, Canadian Coast Guard and Washington Department of Ecology should establish a trans-boundary public process of appropriate stakeholders to comprehensively review prevention of, and response to, the risk of both oil and hazardous material spills in the shared waterways of Haro Strait, Boundary Pass and adjacent waters.

a) Recommendations pertaining to traffic management issues should be referred to the Joint Coordinating Group (JCG).

b) Recommendations pertaining to oil and hazardous material response measures should be referred to the Northwest Area Committee and the Canadian Environmental Response Regional Advisory Council.

c) Recommendations pertaining to other risk mitigation measures should be directed to the appropriate federal, national or state agencies.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
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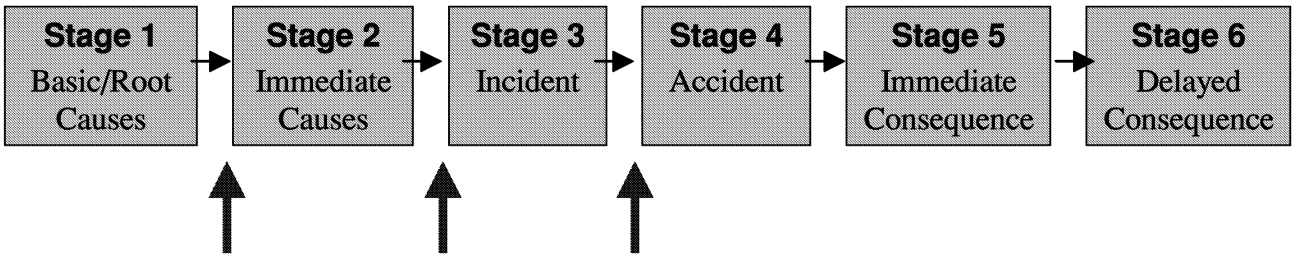
Accident Causal Chain and Points of Intervention



Rationale: Haro Strait and Boundary Pass are the primary channel for vessels transiting to and from Vancouver, B.C. and other Canadian ports. The waterway is relatively confined and is bounded on both sounds by archipelagos that are home to diverse and varied marine life. Each year there are approximately 3000 transits of deep draft vessels. Bulk cargo

vessels comprise the largest portion of this traffic, however towboats with barges as well as passenger vessels use the area with increasing frequency. During the summer months the volume of traffic grows primarily due to recreational vessels.

This stretch of water is unique in several regards which place it at high risk for accidents caused by collisions, powered groundings, or drift groundings. These include the narrowness of the waterway (1 NM at its narrowest point), occurrence of localized fog banks, absence of established traffic lanes, strong currents and eddies, large volume of small vessel traffic (including commercial whale watching vessels), and a greater than 90 degree turn with obstructed visibility. Because of the confluence of these characteristics this waterway is at higher risk than surrounding waterways and merits specific risk mitigation measures.

The waterway straddles the U.S. Canadian border and the Canadian Coast Guard as part of the Cooperative Vessel Traffic System (CVTS) handles traffic control. Accordingly, the JCG is the appropriate governing cross border mechanism for addressing traffic management and risk mitigation measures.

Implementation of other traffic management measures aimed at breaking the causal chain early in the sequence will reduce the likelihood of incidents, which result in oil spills in the region.

Recommendation No. 12 – Towing Vessel Standards

Action: The U.S. Coast Guard, American Waterway Operators, other industry groups and their Canadian counterparts should work to encourage all commercial tank barge towing vessel operators to meet the highest industry wide standards, such as the AWO Responsible Carrier Program and/or the ISM/ISO standards within the study area. The U.S. Coast Guard, in consultation with Transport Canada Marine Safety, should review current policies toward towing vessels and develop a program which targets sub-par operators and ensures a uniformly high level of safety.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
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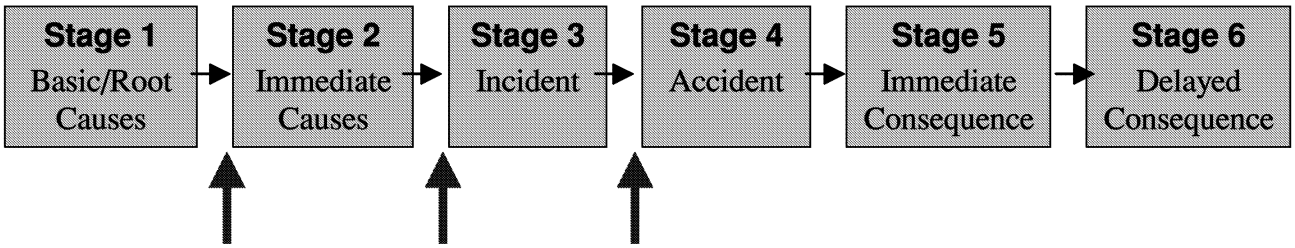
Accident Causal Chain and Points of Intervention



Rationale: In the Puget Sound region, all types of vessel traffic can be found transiting the waterways. Tow boats and their tows make up a significant percentage of overall vessel traffic. The national accident rate for tow boats, particularly when towing tank barges is unacceptably high. Furthermore tank barges carry a substantial quantity of oil and pose a relatively high risk to the marine environment.

The current level of risk posed by tank barge tows depends in part on the business practices and operating standards of individual companies. Some companies have chosen to adopt self-imposed standards beyond any regulatory mandate, which improve safety and reduce risk. The American Waterway Operators has developed a Responsible Carrier Program that

establishes a heightened level of safety aboard vessels operated by member companies. This program offers a starting point for regulatory agencies to begin to encourage all towing companies to conform to uniformly high standards. This program should focus on operators who fail to meet industry standards.
The current U.S. regulatory regime does not require inspection of most towing vessels. However, tank barges are inspected under 46 CFR Subchapter D and the operator of any towboat greater than 26 feet in length must possess an appropriate Coast Guard license.

Increasing the standards that tank barge tows are subjected to will intervene in the causal chain in the early stages by reducing the likelihood of human error, conflicting operations and loss of vessel control as possible causes of collisions, drift groundings, or powered groundings.

Recommendation No. 13 – SOC-Steering Gear Testing

Action: The U.S. Coast Guard, in consultation with Transport Canada Marine Safety, should develop a Standard of Care which details appropriate additional actions to be taken by vessel's crew in preparation for entering port or confined waters such as testing, inspection or manning of the vessel's steering. The establishment of a local Standard of Care will provide more specific guidance and improve the consistency and completeness of such actions beyond that required by regulation while also serving as a valuable reminder to vessel crews and highlighting practices unique to the waters throughout the study area.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
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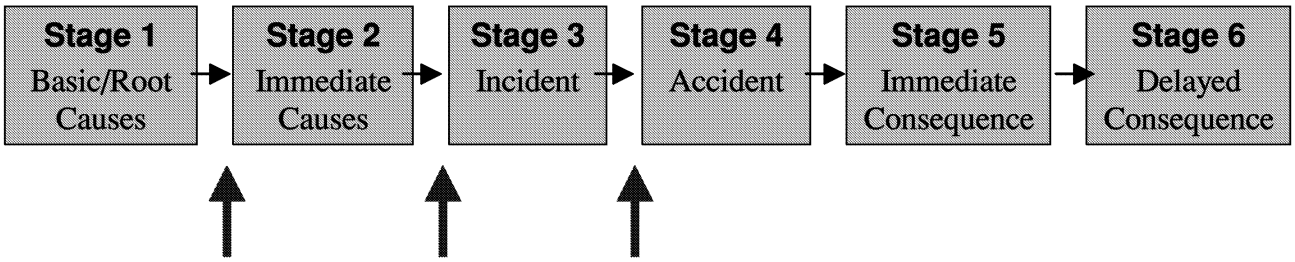
Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

Vessels are usually designed with redundant critical systems and other precautions so that a mechanical failure does not result in a loss of vessel control that can result in a casualty. Nevertheless, systems do fail. As a result, law and convention both require testing of all systems, including the steering gear, prior to a vessel's entry into port. In this way, a system

deficiency can be identified and repaired while still in the relatively less hazardous environment of the open ocean.

Failure of the crew to adequately prepare their vessel prior to entering confined waters could result in the loss of steering control too late to avoid a collision or powered grounding. Accordingly, the safe maneuvering of a vessel through navigationally challenging waters would involve the establishment of prudent precautionary actions.

This Standard of Care could be an effective non-regulatory method of capturing and implementing good marine practices related to testing of a vessel's steering gear thereby mitigating the risk of collision and grounding and intervening at a point early in the causal chain.

Recommendation No. 14 – SOC-Offshore Routing

Action: The U.S. Coast Guard, in consultation with Transport Canada Marine Safety, and appropriate stakeholders, should develop a Standard of Care that establishes an offshore route for all dry cargo vessels traveling to or from ports to the south such that vessels will join or depart the western extension of the Traffic Separation Scheme at a point well offshore of Cape Flattery consistent with the limits of the Area To Be Avoided (ATBA) and other offshore routing initiatives.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
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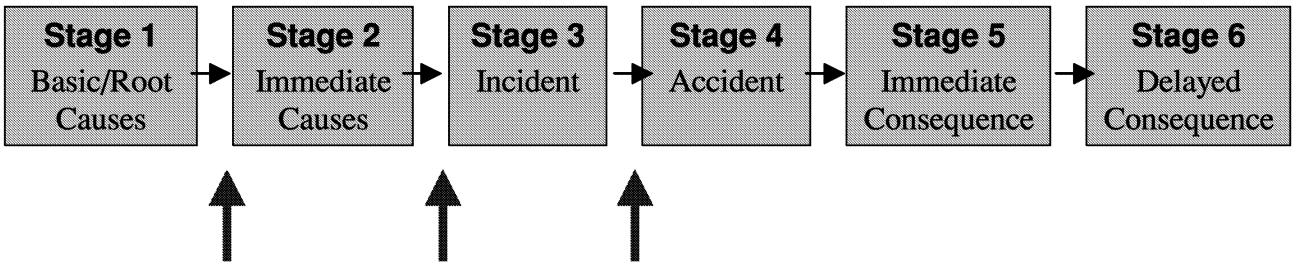
Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

The coastline of western Washington is unique in its diversity and environmental sensitive. Any measure which increases the buffer between vessel traffic and the coast will reduce the probability of an oil spill that affects the shoreline. Routing measures which keep vessels a greater distance offshore as they make the approach to the traffic separation scheme will increase the orderliness of the approach and reduce the likelihood of operational conflicts. In

addition the increased distance provides more time for responding resources to prevent a vessel from drifting aground and mitigates the risk of an accident that results in an oil spill affecting the outer coast.

The Olympic Coast National Marine Sanctuary is currently protected by an Area-To-Be-Avoided (ATBA) which requests that tank vessels voluntarily remain west of this area. The ATBA in its current configuration does not apply to cargo vessels, but compliance with this recommendation would coincidentally have the affect of expanding the applicability of the ATBA to cargo vessels.

Routing of cargo vessels to a point 35 miles west of the "J" buoy would keep them well clear of the existing or expanded ATBA boundaries (as proposed in the Port Access Route Study) and offers an increased level of protection. In addition to this proposal this Panel has recommended that the applicability of the ATBA be expanded to all deep draft vessels and that a review of the effectiveness of voluntary compliance with the ATBA be made. Further, these issues are under review by the State/BC Oil Spill Task Force, Offshore Routing Study and the proposed recommendation would necessarily have to be coordinated with any offshore routing measures resulting from this study.

Recommendation No. 15 – SOC-Planned Maintenance

Action: The U.S. Coast Guard, in consultation with Transport Canada Marine Safety, and appropriate stakeholders, establish a Standard of Care which addresses planned maintenance aboard large commercial vessels while operating in the waters of the study area.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 – Northern Approach
Drift Grounding	Conflicting Operations	2 – Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
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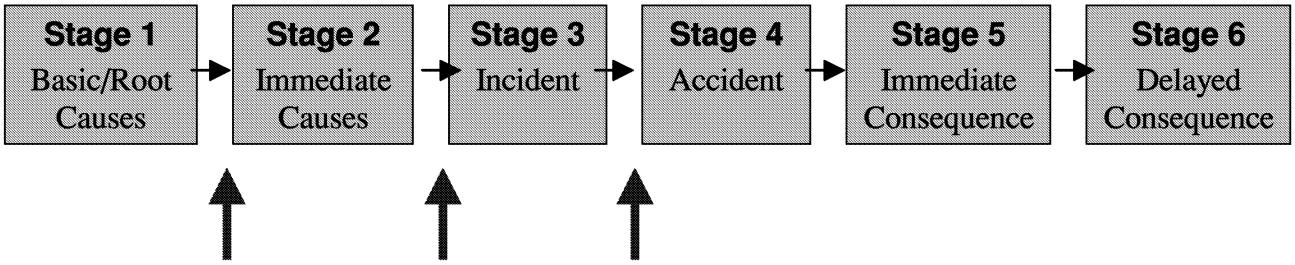
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

A number of vessels have opted to perform vessel maintenance involving critical systems such as the propulsion plant while operating in the waters of the Strait of Juan de Fuca. Such operations may result in a loss of control of the vessel for a length of time. While these maintenance events are intentional on the part of the vessel crew, they may not reflect sound decision-making and good marine practice. In many instances the maintenance may take considerably longer than planned. What begins as 15 minutes of drifting can easily turn into several hours with the vessel at risk of drifting aground. Such planned maintenance is an ill-

advised risk-based decision that fails to place appropriate significance on the environmental sensitivity in the area and chooses convenience over prudent seamanship.

The prudent mariner should conduct maintenance of this type while at sea, while safely anchored or while at berth so that time delays do not place the vessel in imminent danger. The Standard of Care should address appropriate measures to ensure that vessel maintenance that results in a loss of control of the vessel is performed with adequate safety measures in place. This might include requiring vessels to be, no closer than 12 miles from shore, clear of the traffic lanes, at anchor, or have standby tugs in the immediate vicinity.

The goal of this recommendation is to communicate to mariners that vessel maintenance, which results in an intentional loss of control capabilities of the vessel, is unacceptable in the study area. This recommendation intervenes in the casual chain by ensuring that appropriate risk factors are included in decisions by the vessel crew, and ensuring that the vessel is not placed in a condition which could result in a collision or drift grounding.

Recommendation No. 16 – SOC-Firefighting

Action: The U.S. Coast Guard and the Washington State Department of Ecology, in consultation with the Canadian Coast Guard and appropriate stakeholders, should develop a detailed Standard of Care which ensures that onboard fire fighting equipment is functional and the vessel's crew is trained as a proficient team such that together they are capable of effectively suppressing a shipboard fire.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
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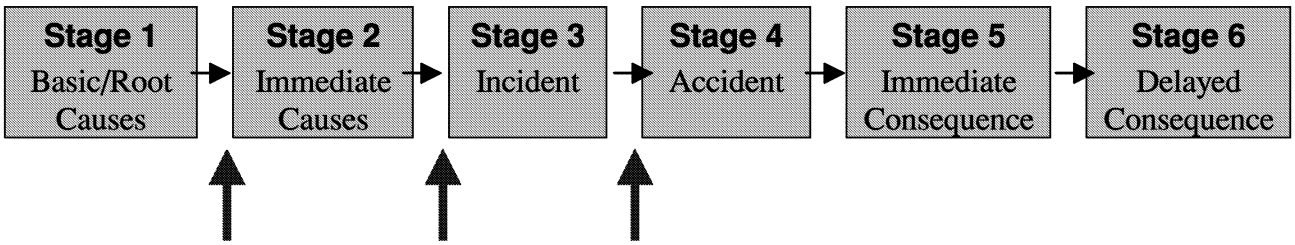
Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

Shipboard firefighting is heavily regulated, with international and national (both Canadian and US) standards existing which address the types and configuration of firefighting equipment aboard vessels. Both U.S. regulation and the Safety of Life at Sea (SOLAS) Convention address fire protection, detection and extinction in a great deal of detail. In addition, the International Convention on Standards of Training Certification and Watchkeeping (STCW) provide detailed guidance on the conduct of onboard fire drills.

Recognizing this, the fact remains that a vessel fire can result in the loss of propulsion or steering aboard the vessel, which could in turn result in an oil spill.

Equipment requirements vary depending on the size of the vessel and the type of cargo carried. The installation of firefighting equipment alone does not ensure that a fire will be successfully extinguished. The essential elements in successful fire suppression are that the equipment and vessel crews perform as intended

While prevention of a fire in the first place is the priority, should one occur the priority becomes suppression of the fire as quickly as possible. Quick identification of the source of the fire, isolation of the space, and then deployment of fire suppression equipment is crucial to quick fire suppression. In spite of national and international regulations, not all vessel crews maintain firefighting equipment properly or are adequately trained and familiar with the firefighting equipment aboard their vessels. In these cases the opportunity for containing the fire can be lost. The effect of this can be propulsion and/or steering loss that leaves the vessel at risk of grounding and causing an oil spill.

Vessels that are targeted for boarding under the Port State initiatives of U.S. and Canada are checked for the adequacy of firefighting and other safety equipment. In all cases the vessel's crew is required to perform a fire drill in the presence of the inspectors. Frequently these drills highlight deficiencies in equipment or the professional competence of the vessel's crew. Drills assist in the identification of substandard conditions.

A standard of care that details the expectations for fire drills and crew competency in regard to firefighting should improve the ability of the crew to be prepared for a fire onboard and quickly and effective suppress it. Identification of a clear set of guidelines and expectations with regard to firefighting readiness will mitigate the potential for accidents should a fire occur and reduce the likelihood of human error. Although not the focus of this Panel, in addition to oil spill prevention, this measure would have direct safety of life at sea benefits.

Recommendation No. 17 – Partnership with Tribal Nations

Action: Tribal , state, and national governments should look for every opportunity to build upon existing partnerships in the interest of enhancing marine safety and protection of natural marine resources in ways that honor government to government relationships.

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Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
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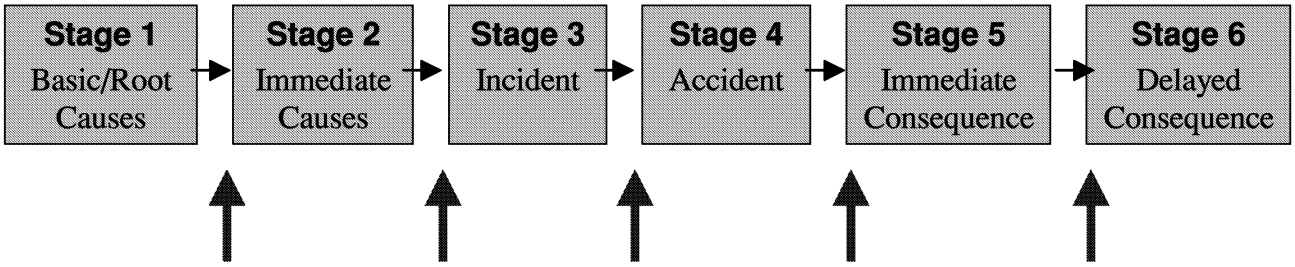
Accident Causal Chain and Points of Intervention



Rationale: Marine habitats within the Olympic Coast National Marine Sanctuary are considered a state and national treasure and are vital to the economic, social, and cultural survival of tribes that reside on the Olympic peninsula. Tribes, such as the Makah people, are afforded sovereign nation status with a unique and vested interest in preserving their natural heritage. In recognition of their interests and treaty rights, the Tribes, along with the U.S. and State Governments, are considered trustees of natural marine resources located within their treaty-protected areas. Moreover, they possess knowledge and interests that are critical to effective planning efforts for, and actual responses to, marine accidents. A quick and effective response with clearly identified common goals can best be realized with the Tribes as full and active participants in all phases of the planning and response process.

The Makah currently participate in the Northwest Area Committee, which is the group that develops plans for oil spill response and maintains the Area Committee Plan.

There is always room to improve cooperation and communication between Tribal governments and federal and state agencies with responsibilities in oil spill planning and response. To this end the U.S. Coast Guard and the Washington State Department of Ecology must actively seek opportunities to improve this relationship. The time to establish and nurture these relationships is before an accident occurs as early cooperation and team building can potentially interrupt the causal chain at all intervention points.

Recommendation No. 18 – Support States/BC Oil Spill Task Force

Action: The U.S. Coast Guard and State of Washington should reduce the risk associated with offshore marine transportation through the efforts of the joint USCG PACAREA and States/BC Oil Spill Task Force *West Coast Offshore Vessel Traffic Risk Management Project*. Specifically, this project work group is urged to recommend measures that would help prevent vessel casualties from becoming incidents, and provide more time for rescue/assist vessels to reach disabled vessels thereby preventing an incident from becoming an accident.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
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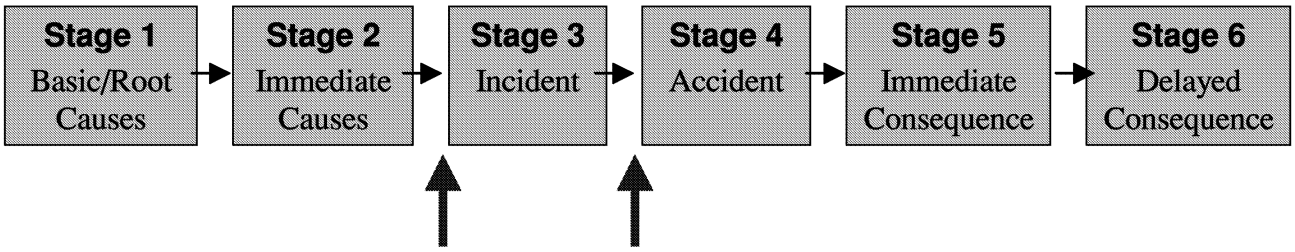

Rationale: In 1998, the U.S. Coast Guard Pacific Area and States/BC Oil Spill Task Force formed a workgroup to evaluate and recommend appropriate changes to offshore vessel traffic management for the purpose of reducing the risk of vessel collisions and/or drift groundings off the U.S. and Canadian Pacific coast. Using the model from the Monterey Bay National Marine Sanctuary Offshore Vessel Routing Measures Project as a basis, the workgroup is examining alternative offshore vessel routing with the goal of reducing the risk of vessel collisions and/or drift groundings.

Routing vessels of varying risk of an oil or hazardous materials spill at specified distances from shore would improve marine safety by providing rescue/assist vessels more time to

respond to a disabled vessel, thereby preventing it from drifting aground. Additionally, the stratification of traffic would reduce the potential for conflicting operations by vessels traveling at different speeds, thereby preventing collisions.

Such improvements in vessel traffic management help prevent accidents and increase intervention opportunities early in the causal chain prior to the escalation of an incident to an accident.

The workgroup is fully aware of the routing alternatives being considered in the U.S. Coast Guard's Port Access Route Study (PARS) for the Straits of Juan de Fuca, and is committed to ensuring compatibility of it's recommendations with those that will be forthcoming from PARS.

Recommendation No. 19 – Support for PARS

Action: The U.S. Coast Guard should:

a) expedite completion of it's Port Access Route Study (PARS) for the Straits of Juan de Fuca and adjacent waters;

b) promptly implement vessel routing measures which will add order and predictability to the marine transportation system while increasing the buffer between commercial vessels and the land. Specifically, the Panel supports issue/recommendation Nos. 1-3, 4a-f, 5, 7a-c, 8b-d, 10a, and 11a as proposed in the Federal Register [see Appendix 9]; and

c) ensure there is complete international coordination of the proposed modifications.

Accident Type	Accident Cause	Geographic Coverage
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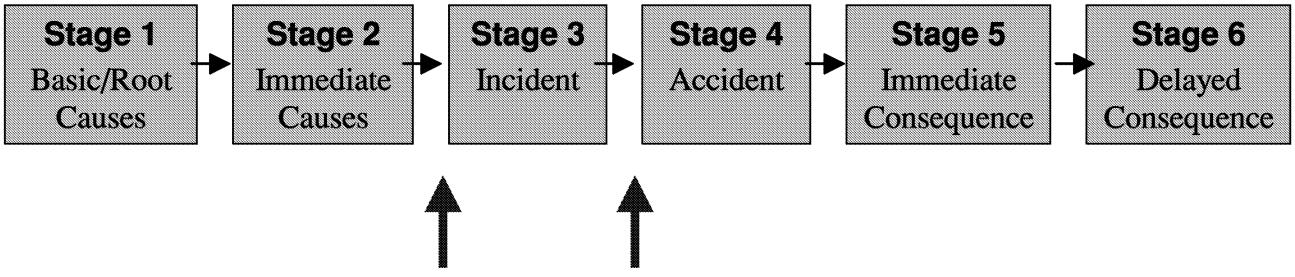

Rationale: In January 1999, the U.S. Coast Guard initiated a Port Access Route Study (PARS) for the purpose of evaluating the continued applicability of and need for modifications to the current vessel routing measures in and around the Strait of Juan de Fuca. The joint U.S. and Canadian Coast Guard/Transport Canada review concluded that existing waterways management measures could be modified to realize reduced vessel accident risk, improved order and predictability of the marine transportation system, and improved efficiency of vessel traffic management.

The proposed revision of vessel routings will add order and predictability to diverse segments of vessel traffic, thereby reducing the potential of collision from conflicting vessel operations. In addition, the re-routing of vessels further offshore will provide vessels with a larger buffer to land and other vessels, thereby minimizing the potential for drift and powered groundings, also providing more time for emergency tow vessels to respond to a disabled vessel.

These measures will break the causal chain both by preventing accidents and allowing greater opportunity for intervention to prevent escalation of an incident into an accident.

Residual concerns regarding PARS recommendations can and should be addressed through the public review process.

Recommendation No. 20 – Implementation of UAIS

Action: Implementation of a Universal Automatic Identification System (UAIS) is considered an effective tool for both ship-to-ship collision avoidance and ship-to-shore vessel traffic management. Accordingly, the U.S. and Canadian Coast Guards should promote the expeditious establishment of UAIS transponder/receiver technical standards and vessel carriage requirements by the International Maritime Organization (IMO).

Accident Type	Accident Cause	Geographic Coverage
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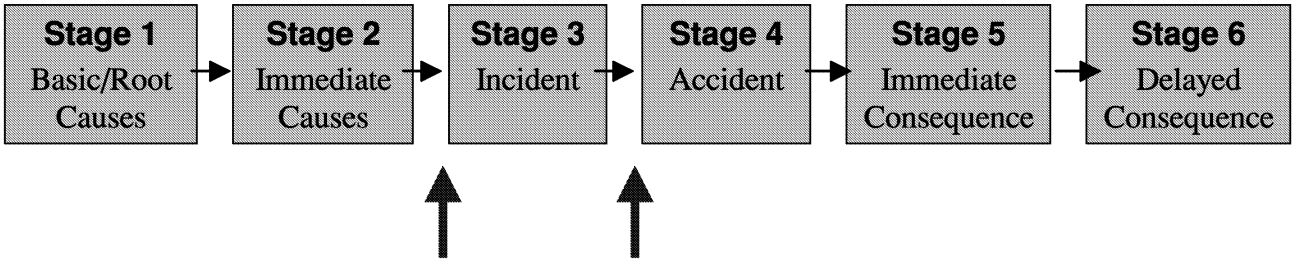


Rationale: The carriage of a Universal Automatic Identification System (UAIS) represents a dramatically improved method of displaying important collision avoidance information on the bridge of a ship. UAIS provides real-time, highly accurate vessel identification and positional information that is not degraded by weather or sea conditions; can "see around corners"; requires NO user interaction to acquire/track the contact; and eliminates all ambiguity in determining the identity of a contact of consequence. These features are considered extremely important in promoting timely and effective conflict resolution especially during low visibility meeting situations.

There are also significant advantages from a vessel traffic management perspective. With a traditional radar-based Vessel Traffic Service (VTS), it is not practical to provide radar coverage of the entire Area of Responsibility (AOR). For example, there is no radar coverage

within the San Juan Islands, Hood Canal, and the waters south of Tacoma. With UAIS, the VTS will be able to "see" significant traffic throughout the entire AOR, providing value to a larger geographic area.

Introduction of UAIS will also minimize the need for the VTS watchstanders to provide lengthy traffic advisories to vessel bridge crews. Relieved of this communication burden, the Pilot/Master will be free to focus more on the safe navigation of the vessel.

Uniform use of UAIS would improve the accuracy, timeliness and availability of vessel information, thereby preventing incidents through improved collision avoidance, also provide information that will enable vessel operators and traffic managers to respond more effectively in order to prevent escalation of an incident to an accident.

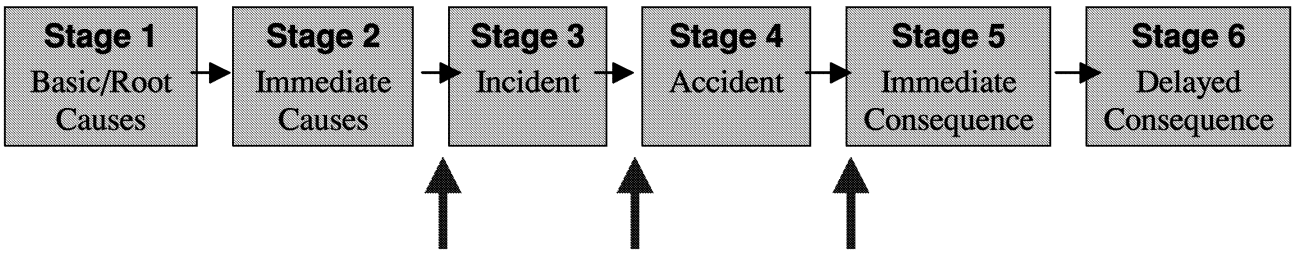
At the present time there are viable non-UAIS-based systems operating within Puget Sound. However, it appears unlikely that these systems will meet UAIS technical transmit standards. For UAIS to be successful, it is imperative that transmission, reception and display standards be harmonized so that the system works equally well in all areas of the world. This desired outcome can only be accomplished by working through the IMO.

Recommendation No. 21 – SOC - Anchors

Action: The U.S. Coast Guard, in consultation with Transport Canada Marine Safety and in conjunction with appropriate stakeholder groups, should develop a Standard of Care addressing under what conditions vessels should have anchors "ready for letting go" when operating within the waters of the study area.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

System failures may leave vessels adrift and at risk of grounding. These circumstances tend to develop unexpectedly and leave the crew with a short time window for taking appropriate action. Many vessels entering the Strait have their anchors in various states of readiness, which may or may not allow for quick deployment of the anchor.

Upon notification of this type of a system failure the Captain of the Port will require that tugs be dispatched to assist the drifting vessel. Depending on the location of the vessel casualty

and the location of the vessel it may be some time before a rescue resource is on-scene. In the interim there are actions the crew can take to mitigate the potential for a drift grounding. Vessels which have their anchor prepared for "letting go" are able to deploy this effective resource much more rapidly than if the anchor remained housed in the at-sea state.

The term "ready for letting go" can be interpreted in many different ways. Accordingly one goal of the Standard of Care developed under this recommendation should be to establish sufficient guidelines and details so that various classes of vessel enter the Northern Strait with anchors in an appropriate state of readiness.

While the goal is to prevent the initial incident which resulted in a loss of control of the vessel, the anchor in many instances is a measure that the vessel is able to deploy to check the progress of its drift. While the waters in and around Puget Sound may be too deep to make anchoring effective in many cases, that is not true in all areas and in no way reduces the effectiveness of this relatively simple measure to interrupt the causal chain.

Recommendation No. 22 –
ATBA – Applicability, Size, and Compliance

Action: The U.S. Coast Guard, in cooperation with the National Oceanic and Atmospheric Administration (NOAA) Marine Sanctuary Division should:

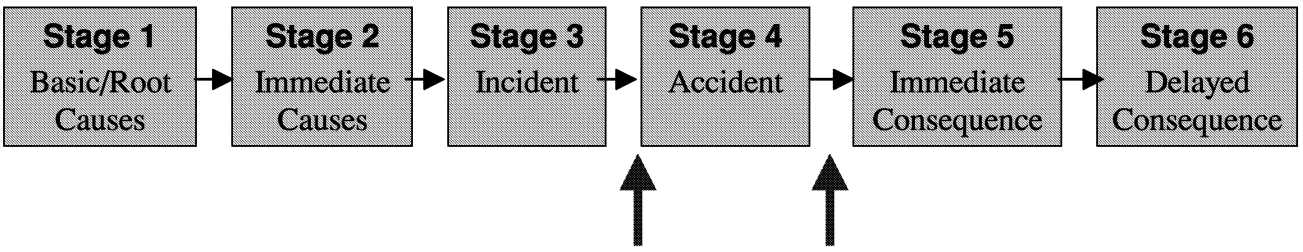
a) Continue to review the level of compliance with the voluntary Area-To-Be-Avoided (ATBA) and evaluate its effectiveness;

b) Expand the size of the ATBA westerly and northerly as proposed in the preliminary PARS proposals contained in the Federal Register [Appendix 9]; and

c) Expand the applicability of the ATBA from only tank vessels and barges carrying petroleum or hazardous materials in bulk, to other deep draft vessels.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: The Olympic Coast National Marine Sanctuary (OCNMS) currently advises operators of tank vessels or barges carrying petroleum oil or hazardous materials in bulk to voluntarily remain outside the established boundaries of the ATBA. Accordingly other types of deep draft vessels, which also carry potentially significant quantities of fuel oil, are not precluded from transiting through the ATBA.

A recent review of vessel traffic transiting the ATBA found compliance of excluded vessels to be in excess of 95%. Such a high level of voluntary compliance has been attributed to the aggressive education/outreach efforts of the OCNMS and U.S. Coast Guard Captain of the Port. These monitoring programs should remain in place to ensure future compliance with the ATBA. The question of whether to change the compliance mechanism from voluntary to mandatory is the subject of review under the PARS and the Offshore Routing Study being conducted by the State/BC Oil Spill Task Force.

The PARS recommends modifying the approach lanes to the Strait, and expanding the ATBA in a northerly and westerly direction. These changes would keep transiting vessels further offshore and increase the available response time in the event of a propulsion or steering casualty, thereby increasing the protection of the following: the usual-and-accustomed areas of the Makah, Hoh, Quileutte, and Quinault Tribes, Olympic National Park, Needles Point, Flattery Rocks, and Copalis National Wildlife Refuge.

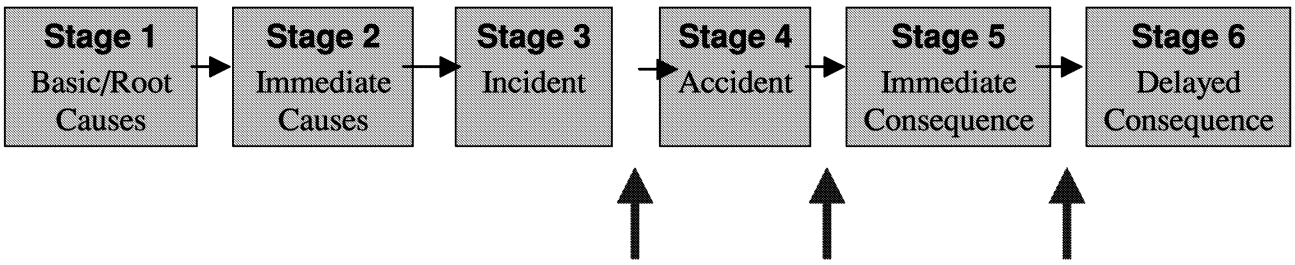
Deep draft vessels can carry large quantities of fuel which pose a risk of an oil spill to the areas listed above. Expanding the applicability of the ATBA to include commercial vessels carrying significant quantities of fuel oil moves these vessels further offshore, increasing the time available to respond to a propulsion or steering casualty, and decreasing the potential for a drift or powered grounding.

Recommendation No. 23 –
SOC – Vessel Towing Arrangements

Action: The U.S. Coast Guard, in consultation with Transport Canada Marine Safety, should develop a Standard of Care for the officers and crew to be knowledgeable and capable of setting up towing arrangements and ensuring that the configuration has the strength to safely undertake the tow.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
Powered Grounding	Physical Environment	3 – Strait of Juan de Fuca
Structural Failure	Vessel Control	4 - PA to Admiralty Inlet
Fire	Positional Information	5 - PA to Victoria/Haro St.
		6 - San Juan Islands/Rosario St.

Accident Causal Chain and Points of Intervention



Rationale: Standards of Care are a recognized method of capturing and implementing good marine practice and sound port customs that have developed over time. Using this methodology allows lessons learned to be capitalized upon quickly by making timely adjustments to the appropriate Standard of Care. Furthermore sufficient flexibility exists such that Standards of Care can be tailored to unique or geographic-specific concerns.

The ability of a towing vessel to effectively render assistance to a vessel in distress depends upon a number of factors including the capability of the crew to prepare for the tow, the strength and configuration of the "disabled" vessels towing arrangement. Preparations made by the vessel requiring towing assistance will ensure that towing vessels can quickly and effectively undertake the tow.

Vessels from many different countries utilize the waters found in the study area. Although international standards apply to all vessels, each vessel may be built to differing standards

depending on the flag state and which classification society the vessel owner decided to utilize. While these "class" standards determine an adequate level of structural integrity aboard vessels the towing configuration may not be sufficiently detailed. The disabled vessel must be prepared to be taken under tow quickly. There are steps that can be taken by the vessel crew to increase the ease with which a vessel can be taken under tow. These preparations include elements such as proper rigging of tow equipment and that the points of attachment are of adequate strength.

A Standard of Care that addresses specific steps that a vessel crew should take to ensure maximum readiness for towing is essential to a rapid and effective response to a vessel adrift. Preparing the vessel for the likelihood of towing increases the ability to check the vessels progress if it is adrift and reduces the chances of the crew making an error that would diminish the chances of successfully taking the vessel under tow.

This recommendation assists rescue resources with timely and rapid intervention in the event of a vessel casualty, breaking the causal chain at points after the accident.

Recommendation No. 24 –
Response – Area Committee Action Items

Action: The U.S. Coast Guard, Canadian Coast Guard, and Washington Department of Ecology, should utilize appropriate resources, such as the Northwest Area Committee and Canadian Regional Advisory Council to review the following response issues:

a) establish performance based drill and exercise criteria to assess the effectiveness and timeliness of existing response strategies contained in current industry response plans;

b) distribution of spill response equipment and identification of areas where response capabilities can/should be improved. Areas of interest include open water recovery in Haro Strait/Boundary Pass and the San Juan Islands, near-shore response for highly sensitive embayments (e.g. Padilla Bay, Mud Bay, and Hunter Bay in the San Juan Islands), as well as offshore and the approaches to the Strait of Juan de Fuca, including the current placement of the Higher Volume Port Line;

c) completeness and accuracy of emergency response vessel inventory, particularly towboats;

d) the adequacy of Area Committee policy for involving county elected officials and emergency management personnel in the unified command; and

e) training and use of local volunteers for various aspects of spill response and appropriate role in the Incident Command Structure (ICS);

f) salvage and firefighting contingency plans.

Accident Type	Accident Cause	Geographic Coverage
Collision	Human and Organizational Error	1 - Northern Approach
Drift Grounding	Conflicting Operations	2 - Western Approach
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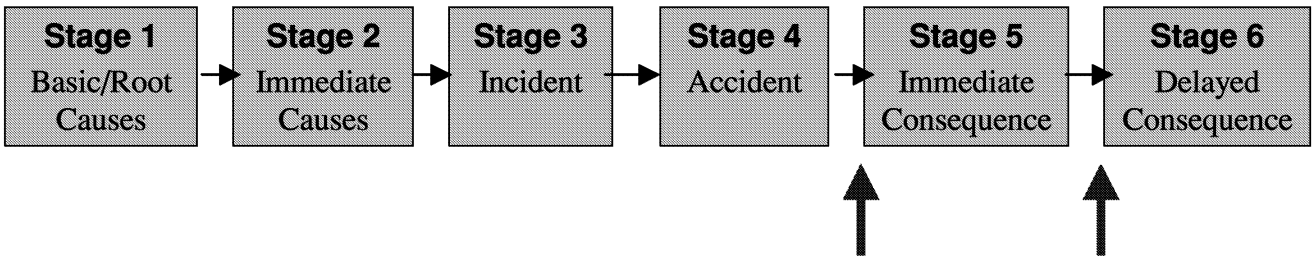
Accident Causal Chain and Points of Intervention



Rationale: Prevention of an oil spill is the first priority. However, should a spill occur, adequate response resources must be readily available for an effective and timely response. The Oil Pollution Act of 1990 (OPA 90) provided for the establishment of Area Committees and charged them with the development and maintenance of an Area Contingency Plan (ACP). The ACP builds on the National Contingency Plan and addresses local environmental sensitivities as well as resources and strategies.
The North West Area Committee is comprised of a broad section of the spill response community, regulatory agencies and marine industry.

The Canadian Regional Advisory Committee (RAC) is a council legislated in the Canada Shipping Act and the members are appointed by the Commissioner of the Coast Guard. They are volunteers who represent the marine community and are mandated to advise the Minister on spill response preparedness in the Pacific region.

The Panel recognizes the value of ongoing spill response exercises that analyze spill response readiness, and identify successes and areas of potential gaps in the response system. One such pertinent and timely exercise is the Western Strait Response Table Top Exercise conducted August 30, 1999. A report of this exercise is attached in Appendix 11.

There are several geographic areas that might benefit from increased proximity of spill response equipment. Haro Strait and the offshore region are two areas that may have insufficient timely coverage of oil spill response equipment. In recommending a review of the current placement of the Higher Volume Port Line, the Panel intends no pre-judgment on the merits.

The Area Contingency Plan contains a list of available response resources which includes an inventory of towboats. Many, but not all of these towboats participate in the International Tug of Opportunity System (ITOS). The ITOS system allows the Captain of the Port and other interested parties to know the location of participating towing vessels. In the event of an accident this information is essential to dispatching the closest and most appropriate rescue resource. However the quality of passive information such as that captured by the Area Contingency Plan should be reviewed and updated to ensure it is as accurate as possible.

There is an active and interested group of environmental activists and concerned citizens in and around the study area. In the event of a spill this group will actively seek involvement in the response and clean-up. In the event of a significant oil spill the Federal On Scene Coordinator (FOSC) will establish an Incident Command Structure (ICS) which will be staffed by spill response personnel from a wide variety of agencies and industry. While there are liability and qualification issues surrounding assignment to some areas of the clean up, there may be opportunities for pre-spill training in other areas, such as wildlife rescue and rehabilitation. The North West Area Committee should review the status of volunteers and local public officials in the Integrated Command Structure (ICS) and seek solutions that will ensure that they will play a meaningful role in a spill response while ensuring that liability and qualification issues are addressed.

Firefighting and salvage assistance may not be sufficient to stage an effective response. In particular the lack of large salvage resources may be problematic in most areas of the country as highlighted on the West Coast during the 1999 grounding and salvage of the M/V *New Carrisa* off the coast of Oregon.

Success with any of the above measures will intervene at points in the causal chain after an accident has occurred.

VII. Other Measures Considered

During the development of the recommendations there were several topics for which it became apparent that consensus would not be reached in accordance with Panel's procedural agreements [Appendix 5]. There were a number of reasons why this was true with conflicting views on the gap (or need) for the measure, time constraints, lack of expertise and the technical complexity of the topic being the primary reasons. These Other Measures Considered capture issues that were discussed extensively by the Panel but were not passed. The format used is designed to provide a balanced view and capture both the supporting and opposing view.

The votes recorded for Other Measures Considered are included to show the balance of pro and con positions. Although Panel co-chairs were counted as members present for quorum, they did not vote. All recommendations (Section VI) were passed in accordance with the panel rules, i.e., consensus minus two being an affirmative vote.

Other Measure Considered No. 1 – Regional Citizens Advisory Committee

Issue: Should a securely funded, adequately staffed Regional Citizens Advisory Committee (RCAC), similar to the Prince William Sound Regional Citizens Advisory Council, be established in Puget Sound?

Discussion: The Oil Pollution Act of 1990 (OPA90 Section 5002) provided for the establishment of citizen advocacy groups known as Regional Citizens Advisory Committees (RCAC's). The OPA90 legislation called for an advisory group in Prince William Sound that consisted of representatives from commercial fishing organizations, aquaculture associations, environmental organizations, recreational organizations, and Alaskan Native groups. This RCAC was designed to provide advice and recommendations to the oil association on port operations, policies and practices. Furthermore, in addressing other RCAC's the OPA 90 legislation specified the make up of committee membership plus a number of other criteria that must be met as part of establishment.

At the time of the passage of OPA 90 there was an organization already in existence called the Alyeska Citizens Advisory Committee. The legislation, in recognition of this group and the fact that they did not meet specific RCAC requirements, provided for an Alternative Voluntary Advisory Group. This alternative group is the model utilized in the current Prince William Sound Regional Citizens Advisory Committee. An alternative group of this nature should satisfy the basic intent of the RCAC provision in OPA 90, but does not have to meet all the specific requirements.

In addition to specifying the establishment of the RCAC, the OPA 90 legislation provided a secure funding mechanism. The funding source for the Prince William Sound RCAC is the Aleyska Corporation. Finally, OPA 90 intended that the concept of regional citizens advisory committees be reviewed for effectiveness, and institutionalized if they were found effective.

Position in Support of Issue: RCAC's are the ideal forum for citizen's to promote environmentally safe operations of the marine industry and to combat industry, government and public complacency regarding marine environmental protection. The Prince William Sound Advisory Committee promotes safe operations of the oil industry through the work of four volunteer technical committees: Port Operations and Vessel Traffic Systems Committee, Oil Spill Prevention and Response Committee, Scientific Advisory Committee and Technical Operations, and the Environmental Monitoring Committee. The existing system of advisory committees in Puget Sound provides few opportunities for citizens to fully participate and influence the decision-making process. To ensure that all interests are included prior to a decision being made it is essential that a group of interested citizens with no affiliation with

the marine industry have a forum to voice their concerns as equal partners in the decision-making process.

While industry reaps the benefits of their commercial activities it is the citizen who must bear the burden of any accident. The result is that those who are the most likely to be directly effected by a large oil spill are the least able to participate in planning and prevention decisions. It is for this reason that the inability of citizens to participate in and influence the decision-making process is unacceptable. Effective and equitable decisions can only be made with input from all stakeholders, including citizens. This is best done through a citizen organization established to provide direct input.

The issues to be considered by a citizen's advisory groups are potentially larger than just local marine safety issues. Other pollution prevention issues associated with other industries, such as pipeline safety, are ideally suited for this type of citizen committee and could be melded into one.

A secure source of funding is essential to the establishment and success of a RCAC in the study area. The Prince William Sound RCAC is currently funded by Alyeska. In 1989 the president of Alyeska, Bob Malone, said, "There's no doubt in my mind that RCAC has added value to both the response and prevention side of what we are doing in Prince William Sound." While there is not a sole industry such as Alyeska from which to easily draw money in this region, this is not an insurmountable problem and should be addressed as part of the process that establishes this committee. The value provided by the establishment of a citizen's group, such as a RCAC, easily justifies the cost.

Position Opposed to Issue: There is a desire by some parties to form a Regional Citizens' Advisory Council similar to the Alternative Program to OPA 90 which exists in Prince William Sound. It is the view of those opposed to the forming of a Puget Sound RCAC that a more effective partnership can be forged through the likes of Harbor Safety Committees.

The Alaska program is by its nature largely "problem seeking" rather than "problem solving," often with no apparent benefit. While there have been many unquestionable and noteworthy improvements, the Alaskan alternative program falls short of achieving the mechanism envisioned by OPA 90 to foster long term partnerships of industry, government and local communities.

Citizen influence through involvement in discussion and development of issues that affect them is essential, proper and encouraged. However, Harbor Safety Committees with broad stakeholder participation are a more efficient alternative to the Alaska citizen council model. The latter does not fully embrace certain organizational fundamentals, such as:

- Desire to partner through consensus as a result of constructive dialogue.

- Membership largely limited to elected officials who are more likely to place matters in context with broader issues that concern the affected community.
- Insist the organization speak and act as a unified voice.
- Equitable funding among all beneficiaries and tied to genuine need.
- Ability to see itself as an advisory group, not as a quasi-regulator.

Successful partnering means that interested parties must be content with reaching middle ground, and the best forum for this has proven to be Harbor Safety Committees and the like. A Harbor Safety Committee, or its similar equivalent, is more appropriate to accommodate vast differences between Puget Sound and Prince William Sound. In Puget Sound there are several industries engaging in trade throughout the region, many of them from foreign countries. Additionally, the region is large and diverse, and many different geographic areas have unique and different interests. In Puget Sound there are already numerous entities with marine and environmental safety as their primary concern including the Northwest Area Committee, the Puget Sound Marine Committee, and numerous environmental advocacy groups. Further, there is currently no mechanism to fund a Puget Sound RCAC. Identification of an equitable funding sources is problematic as the industry in the study areas is quite diversified and not concentrated into a single entity as in Prince William Sound.

The measurable benefit of a Puget Sound RCAC is unclear. The purpose and structure for the Prince William Sound RCAC is very different for what is needed and proposed for Puget Sound. The differences between Prince William Sound and the study region are sufficient in number to conclude that the appropriateness and effectiveness of an RCAC for the study area are not warranted. There are already forums in place. Most significant is the Puget Sound Marine Committee that, with certain modifications to membership, would adequately serve the needs of the area, and ensure that a comprehensive risk-based approach to marine safety and environmental protection occurs.

Vote: Discussion occurred, action tabled and later withdrawn by the proponents.

Other Measure Considered No. 2 – The Study of Extension of Pilotage Requirements

Issue: Should the Washington State Board of Pilotage Commissioners and the Washington State Legislature conduct a study to determine if extending pilotage westward to the entrance to the Strait of Juan de Fuca is warranted?

Discussion: The current pilotage regulations require that most deep draft vessels embark a pilot in the vicinity of Port Angeles for those vessels bound for ports in the United States, and off Victoria for vessels bound for Canadian ports. The topic of extended vessel pilotage requirements is very complex and a limited amount of time was available to pursue the entire breadth of Panel topics. Accordingly, a conclusion was reached that this issue could not be addressed in sufficient detail to allow for a definitive recommendation. The Panel voted unanimously not to recommend extending pilotage, however a recommendation was introduced to request a study of the issue to be conducted by the Washington State Board of Pilotage Commissioners and the Washington Legislature.

The issue of geographic extension of pilotage requirements beyond current standards has been raised periodically in this region. Pilotage was one of 6 measures put forward by the Thirteenth Coast Guard District in a Federal Register notice dated May 22,1990. Five of these measures were referred back to the Coast Guard Headquarters staff for inclusion in the Oil Pollution Act of 1990 rulemaking, but the pilotage issue was not considered for rulemaking. In addition, the States/BC Oil Spill Task Force recently completed an in-depth study of pilotage issues. Although the complete rationale is perhaps not clear, in each case there has been no decision to support the extension of pilotage.

The Volpe report as well as the Port Access Route Study identified the entrance to the Strait of Juan de Fuca and the Port Angeles rotary as segments of the waterway that are at a relatively high risk of vessel collisions. U.S. pilots currently board vessels just east of Port Angeles and assist with pilotage through local waters enroute to its final destination within Puget Sound. Canadian pilots board Canadian bound vessels just south of Victoria BC and help pilot the vessel to various ports.

Position in Support of Issue: Extension of the pilotage requirement mitigates the risk of vessels transiting the waters of the Strait of Juan de Fuca with a focus on preventing collisions and powered groundings by breaking the causal chain at points prior to an incident. Under the current pilotage system, vessels transit approximately 70 nautical miles through the Strait of Juan de Fuca without the benefit of a pilot. This is reportedly the only major U.S. shipping lane left unprotected by lack of pilotage. While these vessels are crewed by licensed and qualified crews, they may not possess specific knowledge regarding the unique

characteristics of the waterway. Pilots bring local expertise and knowledge as well as good communications skills to these vessels.

While neither pilots nor ship crews are immune from human error, together they are less likely to make mistakes of a human nature than the vessel's crew alone. Crews whose communications skills are hampered by language difficulties directly impact the risk of a transit. The pilots' familiarity with both the waterway and the traffic management system, as well as their known English speaking capability, make them less likely to have a human error induced accident. This is an effective means for reducing the inherent risk posed by a lack of familiarity with local waters.

Furthermore, pilots are well versed on the particular requirements of the Cooperative Vessel Traffic System (CVTS). Embarking/disembarking pilots in the vicinity of the "J" buoy will improve the ability of vessel traffic managers to communicate with vessels throughout their transit of the Strait of Juan de Fuca.

Considering that a large percentage of the ships visiting U.S. waters are foreign-flag vessels, and considering the potentially wide range of training and expertise among their crews, West Coast pilots carry a critical burden of responsibility regarding safe vessel transits.

The potential benefits of extending pilotage merit further review.

Position Opposed to Issue: The extension of vessel pilotage requirements west to Cape Flattery brings with it a number of complications; some of which act to dramatically increase the level of risk at the western entrance to the Strait, some are pilot safety concerns, and some have logistical and cost implications. When analyzing the cost to benefit ratio of this measure these issues must be considered.

Professional mariners are required by international standards to be fully proficient in navigation, and can reasonably be expected to successfully navigate the Strait of Juan de Fuca to Port Angeles. The Strait is a relatively wide, straight and deep body of water with an established pro-active Vessel Traffic Management System.

The identified heightened risk for the entrance to the Strait in the Volpe Report was primarily attributed to congestion and conflicting vessel operations.. The process of embarking and disembarking a pilot typically requires some maneuvering and speed changes on the part of the vessel. Movement of the pilot station west would require this maneuvering to take place at the natural convergence point, which is an area already identified as having conflicting vessel operations.

The U.S. Coast Guard considered this option as one of six potential safety measures for the Strait of Juan de Fuca in 1990. Boarding pilots at the mouth of the Strait was the only option considered more hazardous than beneficial, and was dropped from further consideration. It was further demonstrated by the supportive testimony of professionals how vessels

maneuvering to provide a safe lee for boarding or discharging pilots posed confusing meeting or crossing situations for other vessels without the benefit of an established "rotary" such as exists at Port Angeles.

Although compelling in 1990, these thoughts are much more relevant today with the addition of the ATBA and Olympic Coast National Marine Sanctuary to the maneuvering area. The CVTS Port Access Routing Project includes four slow traffic lanes in addition to the normal navigational lanes and TSS, which would funnel more meeting and crossing traffic into the confusion created by vessels having to maneuver in order to embark or disembark pilots.

The weather and sea conditions found at the western entrance to the Straits are frequently hazardous enough to cause safety concerns during the pilot embarking/disembarking process. Whether pilot boarding is accomplished by using the traditional pilot boat or by using a helicopter, there are dangers associated with this endeavor that must necessarily be mitigated.

An experimental helicopter based pilot boarding program is underway on the Columbia River Bar. The experiment is developing a stream of experience that can be analyzed in the future to determine the benefits, if any. The preliminary evaluation from the vessel managers is that helicopter operations are prohibitively expensive and provide no apparent benefit.

In addition to the hazards and disadvantages noted above, the static discharge sparks generated by helicopter operations render helo/tanker operations extraordinarily hazardous.

Extension of the pilotage requirement would also result in a number of logistical issues. The increased length of the trip would likely mean that one pilot would not be able to make the entire transit due to work hour restrictions. This fact would require that either a second pilot exchange would have to take place at the current pilot boarding area off of Port Angeles, or a second pilot would have to be embarked initially at the entrance to the Strait. Each of these options have increased cost and safety concerns, and may not address the congestion off Port Angeles that has also been identified as a concern. Since vessels entering the Strait are bound for both U.S. and Canadian ports, the coordination of U.S. and Canadian pilots would also create logistical and trade problems.

In summary, the USCG was correct in 1990 in not pursuing this item, and no further study is warranted.

Vote:

Members present:	16*
Yes:	6
No:	6
Stand aside:	2

*Includes the Panel's two non-voting co-chairs.

Other Measure Considered No. 3 – Mandatory versus Voluntary TSS

Issue: Should the Traffic Separation Scheme (TSS) within the study area be changed from voluntary to mandatory for some vessels?

Discussion: In the study area joint waterway management is accomplished through the Cooperative Vessel Traffic System (CVTS) which is operated by both the Canadian and U.S. Coast Guards. The CVTS utilizes radar and radio coverage to manage vessel traffic. In addition to the CVTS there are other vessel routing measures and traffic management tools. The Traffic Separation Scheme (TSS), comprised of routing measures such as traffic lanes, separation zones, and precautionary areas, is a central component of this system.

The current traffic management plan provides compulsory participation in the CVTS for certain size vessels. However, adherence to the TSS is voluntary. Compliance with this latter system is assured by VTS watchstanders who use authority vested in them by 33 CFR 161.11 to issue "VTS Direction" requiring specific vessels to use the TSS. Despite this practice, there is a general perception that a mandatory TSS is better than a voluntary system.

The issue is currently under analysis by the U.S. Coast Guard as part of the Port Access Route Study (PARS).

Position in Support of Issue: Changing the use of the TSS to a mandatory system will increase safety in the waterway by improving predictability of vessel movements, reducing the potential for human error and ensuring that non-compliant vessels are subject to full legal liabilities. Although largely anecdotal, there are indications that the establishment of a mandatory TSS would ease related enforcement actions. Furthermore, there is a sense that an operator's concern over potentially heightened liability levels associated with deviation from a mandatory TSS would serve as a deterrent to unsafe operations.

The appropriate parameters for which vessels should be required to participate is best determined as part of the Port Access Route Study. In this regard, the CVTS has indicated that larger deep draft vessels capable of maintaining a speed of 12 knots are the most appropriate users of the TSS. If these vessels are currently complying with the voluntary TSS then making the TSS mandatory for those vessels should not be any additional burden.

The Canadian Coast Guard, through a modification to Rule 10 of the International Regulations for Preventing Collisions at Sea, requires all vessels greater than 20 meters in length to follow the TSS when it is safe to do so. A similar modification to the COLREGS in

U.S. waters would improve comparability of traffic management practices between the two nations by eliminating this non-uniformity.

When it is necessary, VTS should have the authority to direct vessels not to use the lanes.

Position Opposed to Issue: The current voluntary TSS is reported to have nearly full compliance for those vessels for which compliance is desired. Accordingly, if the ultimate desire is to gain compliance to enhance traffic order and predictability, then a regulatory standard has been proven unnecessary to gain vessel compliance.

The voluntary TSS offers the greatest level of flexibility to both mariners and traffic managers, and establishes an appropriate level of safety. If the TSS is made mandatory for all vessels currently participating in the CVTS it could result in increased risk (decreased safety) by increasing the number of vessels in the lanes, some of which operate at widely disparate speeds.

Although the Canadians have a mandatory TSS system they do not aggressively enforce this provision. They have found that the provision results in the mixing of vessels with large disparate speeds and increases the likelihood of conflict. Therefore, there is no need to establish a mandatory system that would limit the abilities of the traffic managers to effectively address vessel risk in the waterway.

Vote:

Members present:	15*
Yes:	0
No:	7
Stand aside:	6

*Includes the Panel's two non-voting co-chairs.

Other Measure Considered No. 4 – Harbor Safety Committee

Issue: Should the U.S. Coast Guard and Washington Department of Ecology, in cooperation with appropriate stakeholders, work to establish a fully developed Harbor Safety Committee?

Discussion: Several committees currently exist in the study area that address issues pertaining to the marine transportation system. However, each has a real or perceived difference in focus with the result being that not all stakeholders are actively engaged on issues of importance. In many ports Harbor Safety Committee-like organizations have been developed. Successful committees generally combine the expertise of local users and constituents with the legal authority of the appropriate government agencies to develop effective management plans for addressing issues within the waterway. These committees are not focused solely on deep draft commercial traffic, but look more broadly and address the needs of all vessel operators as well as environmental and other concerns.

The current committee in the Puget Sound region that most closely resembles a Harbor Safety Committee (HSC) is the Puget Sound Marine Committee (PSMC). PSMC was initiated by the marine industry and is comprised primarily of stakeholders representing that industry and regulatory agencies.

Position in Support of Issue: This particular recommendation resulted from a potpourri of Panel members proposals of how to address the need and value of citizen participation. The utilization of the concept of a Harbor Safety Committee seemed to be an effective forum for integrating the numerous proposals.

Harbor Safety Committees (HSC's) are typically composed of a diverse group of interested stakeholders, and can include environmental advocacy groups, the port authorities, shipping interest, passenger vessel operators, fishing industry, recreational boaters, waterfront development interests, county and city representatives, as well as others. These committees address not only issues associated with port and waterway growth and traffic expansion, but also environmental issues, economic viability, and long term plans for development of both waterways management and infrastructure. Examples of issues that would be appropriate for the HSC to address would be: waterfront growth and congestion associated with increasing vessel traffic, traffic routing concerns over confined waterways (ex. Haro or Rosario Strait), vessel controls which incorporate weather parameters, extension of pilotage, tug escorts, as well as many other topics of concern. These committees are uniquely positioned to identify areas of increasing or changing risk, and then identifying risk management strategies that address stakeholder concerns and mitigate the risk.

PSMC is a valuable and useful committee whose contributions are in no way diminished by the concept of a fully realized Harbor Safety Committee. PSMC may very well be an excellent foundation for realization of a fully developed Harbor Safety Committee. The HSC

will provide a broader more representative forum for continuing the discussion of many of the issues that have been identified but not pursued during this Panel process.

Development of a Harbor Safety Committee in this region is crucial to ensure that an adequate and appropriate avenue exists for stakeholders to voice their concerns, and a way to actively implement solutions. Development and fostering these relationships are critical to the ongoing health and viability of this diverse and unique waterway.

Position Opposed to Issue: The Puget Sound Marine Committee (PSMC) is a Harbor Safety Committee. PSMC is a valued and productive committee that contributes meaningfully to a myriad of complex issues that face the maritime community. For example, PSMC took the lead and developed a comprehensive protocol for the exchange of ballast water to minimize the threat of introduction of non-indigenous species into the waters of Puget Sound.

During the course of discussion on this issue it was obvious that PSMC could work to expand its membership to be more inclusive of several stakeholder groups. PSMC would welcome the interest and commitment of a broader group of people who could help the committee evolve and provide even better service.

Formation of the HSC under the auspices of a government agency is severely limiting. PSMC, as a private organization funded on an "ability to pay" basis, is afforded a flexibility and freedom to act that would be lost with a Harbor Safety Committee set up under the constraints that government agencies impose on organizations. Examples of limitations are membership mandates, procedural rules and funding. PSMC is working well in its current configuration. Changing the guidelines for this committee would eliminate the flexibility and procedures that have proven themselves to be effective.

David Schneidler presented the following perspective: Initially there was confusion about the role of the Puget Sound Marine Committee (PSMC) as a Harbor Safety Committee. Helpful and positive suggestions were advanced to help insure localized issues could be identified and receive the expert attention they deserve. There was consensus that local issues may well be addressed within the context of Marine Resource Committees (where these exist) or such other local mechanisms as may be appropriate. PSMC could then be accessed as a vehicle to coordinate studies and recommendations, help identify and define appropriate measures, institute recommended actions, and promulgate expectations. The existing close working relationship between PSMC, U.S. Coast Guard, Washington State Department of Ecology, and other diverse stakeholder groups that comprise PSMC, confirms its role as Puget Sound's Harbor Safety Committee.

Vote:

Members present:	18*	*Includes the Panel's two non-voting co-chairs.
Yes:	0	
No:	10	Four Panel members offered no response.
Stand aside:	2	

Other Measure Considered No. 5 – Dedicated Rescue Tug

Issue: Should the United States and Canadian governments enhance the International Tug of Opportunity System (ITOS) by funding the deployment of a dedicated rescue tug for the international waterway at the entrance of the Strait of Juan de Fuca and adjacent ocean waters?

Position in Support of Issue: A dedicated rescue tug should be available year-round at Neah Bay[23] to ensure that an adequate tug is available at all times to respond to a drifting vessel (and other types of incidents) in the Western Strait of Juan de Fuca and coastal waters of Washington and British Columbia, and to decrease response time.

Funding arrangements for this recommended rescue tug must be economically neutral for commerce to and from ports in the United States and Canada. Commercial transits through the shared waters of the Strait of Juan de Fuca are approximately equal to ports in the United States and Canada. Therefore, the U.S. and Canada should share equally in funding this rescue tug. This proposal should be a matter of priority in discussions between the U.S. State Department and Canada. Deployment of a dedicated rescue tug is urgent; therefore, until Canada funds its share the U.S. Government should fund it fully.

Many funding arrangements have been discussed. However, via the recent U.S. Supreme Court decision[24] the U.S. federal government has asserted its constitutional primacy over safety regulation in these waters, thus successfully preempting certain Washington State maritime safety laws. The U.S. government also has solemn Treaty obligations to the Makah Tribe and other Indian tribes in this region whose culture and economy is dependent upon the utmost protection of the marine and coastal environment and their usual and accustomed fishing grounds from the devastation of oil spills. Important federal assets of great national value would be damaged by any oil spill, including the Olympic National Marine Sanctuary, the coastal strip of Olympic National Park, and numerous national wildlife refuges. These federal responsibilities and the urgency of achieving a practical permanent deployment of a rescue tug, justify that the greatest portion of the U.S. share of the cost of this rescue tug should be borne by the federal government.

Trade through Puget Sound ports benefits not only this state but also the entire nation. Approximately 80% of the relative volume of cargo originates or terminates beyond the boundaries of the State of Washington to the direct benefit of the people of the other 49 states. This fact should be recognized in the funding formula for a dedicated rescue tug.

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[23] There are currently physical limitations on the size of vessel that can operate from Neah Bay during certain low tides. This recommendation is based on the size of rescue tug deemed necessary to meet the mission. Priority should be given to dealing with any physical limitations of the harbor.

[24] *United States* vs. *Locke*, No. 98-1701, decided March 6, 2000.

The continuity of rescue tug coverage is paramount. The U.S. federal government and the State of Washington should employ all possible means to assure the sustained availability of appropriations as recommended here.

The primary mission of this dedicated rescue tug is to arrest the drift of a disabled vessel to prevent a pollution event. As long as its primary mission is not jeopardized, the tug should be equipped and available to provide other emergency rescue services and early assistance in oil spill response. These services include:

- Providing intervention support for the Coordinated Vessel Traffic Service
- Assist in search and rescue efforts
- Marine firefighting
- Early oil spill response

The specifications for a suitable tug should be addressed by a group of experts convened by the U.S. Coast Guard and Washington Department of Ecology. These experts should include those recommended by local government, industry and environmental groups.
The annual operational cost for a suitable rescue tug meeting these requirements ranges from $3,500,000 to $7,000,000 including amortization.[25] The higher figure is the most probable. Cost includes charter of a stand-in replacement tug during periods when the dedicated rescue tug is out of service for general maintenance, repair and annual dry-docking, or on a specific rescue assignment.

The role and performance of this rescue tug should be routinely evaluated as part of overall assessments of the maritime safety systems of the U.S. and Canada in this region. The permanence of this rescue tug is a critical element in the marine safety system; any decision to remove or reduce this important oil spill prevention asset must be made by affirmative decision, and not by any form of automatic "sunset clause."

This recommendation reflects the unique circumstances and challenges to maritime safety, and oil spill prevention in the Western Strait of Juan de Fuca as well as the Washington and British Columbia coasts.

A dedicated rescue tug stationed at the entrance of the Strait of Juan de Fuca will significantly improve oil spill prevention for both the United States and Canada. It will round out the present coverage by commercial tugs, and place a vessel equipped for arresting drifting vessels (and for other collateral duties) as well as a trained crew at a point readily accessible for incidents developing in the western Strait, the ocean approaches and along the coasts of British Columbia and Washington. It will significantly reduce response times, enabling a tug to reach a drifting vessel far sooner than can be assured in any other way.

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[25] These estimates are based upon the recommendations of the 1994 Emergency Towing System Task Force and on data developed as part of the U.S. Coast Guard's "Regulatory Assessment" [see especially p. 58-59]. Costs in this same range were derived in the 1995 cost-benefit analysis prepared for the Province of British Columbia.

In a cooperative effort between the industry associations of British Columbia and Washington State, the International Tug of Opportunity System (ITOS) has been implemented on a voluntary basis by the shipping industry at its own expense. The system provides transponders on approximately 100 Canadian and U.S. tugs operating in the shared waters. The Marine Exchange and the Cooperative Vessel Traffic System monitor tug activity. Location and physical attributes of tugs operating are displayed for rapid identification of assets in the event of an emergency.

The U.S. Coast Guard evaluated ITOS in a report published in August 1999, and concluded "…(ITOS) provide(s) an incremental improvement to the existing marine safety system."[26] The study emphasized, however, "What is important is the determination of how big a gap there is in tug coverage."[27] Analyzing real-world data, Coast Guard studies show a lower incidence of tugs present in the outer strait when commercial vessels were present than for other portions of the study area, thus revealing an oil spill prevention gap in the waters at the entrance of the Strait and adjacent ocean waters.

The Coast Guard review found that "there is approximately a 15% chance that there is an ITOS tug in the vicinity of the intended operating area of the [proposed] dedicated rescue tug."[28] Assuming that any ITOS tug is available, willing and technically equipped to hook up to and slow the drift rate of a vessel in distress, the study concluded that ITOS eliminates approximately 11% of the risk of a significant oil spill throughout the region and 9% for the offshore approaches.[29]

Using different methodology the Coast Guard's Regulatory Assessment found that "ITOS is expected to reduce the number of drift groundings by approximately 3% in 2000 and 6% in 2025."[30]

There are two gaps in oil spill prevention coverage associated with the outer Strait of Juan de Fuca and ocean approaches:

- The review of ITOS confirms a lower probability of an adequate and available commercial tug of opportunity in the outer Strait and ocean approaches than in any other portion of the study area.
- There are fewer response assets for the containment and recovery of spilled oil in the outer Strait and ocean approaches than in the marine waters further east.

The 1997 Volpe Report concludes: "Environmental sensitivity generally drops as one moves west to east while response efficacy increases."[31]

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[26] "Analysis of the Geographic Coverage Provided by the International Tug of Opportunity System From November 1998–May 1999," U.S. Coast Guard, 30 August 1999.
[27] *Ibid.*, p. 36.
[28] *Ibid.*, p. 16. It is noteworthy that the Executive summary states: "Not addressed in this analysis are issues such as the adequacy of the power of ITOS tugs or their ability to hook up to a vessel in distress".
[29] *Ibid.*, p. 51. These assumptions are not warranted and the risk reduction is thus even less than implied here.
[30] "Regulatory Assessment: Use of Tugs to Protect Against Oil Spills in the Puget Sound Area," prepared for the U.S. Coast Guard, Report No. 9522-002, November 15, 1999, p.47.
[31] "Scoping Risk Assessment: Protection Against Oil Spills in the Marine Waters of Northwest Washington State," published by the John Volpe National Transportation Systems Center, July 18, 1997, p.86. [Cited here as "Volpe Report"]

In the final analysis, each person, each organization and each segment of the shipping industry assesses the maritime oil spill risk at the entrance of the Strait of Juan de Fuca in their own way, reflecting their own interests. It is evident however, that the people of the State of Washington have concluded that current maritime safety measures in this particularly vulnerable and valuable area are not adequate to protect the public interest.[32]

The oil spill risk from commercial vessel traffic in these waters is not static. Both vessel traffic and public concern for the consequences of a large oil spill are increasing. The growth in international trade to and from both the United States and Canada will fuel ever-greater traffic by ever-larger vessels with ever-larger tanks of bunker fuel. While double hull tankers will be phased in for the U.S. oil trade in these waters by 2015, well before that time the greater share of the risk will have shifted to dry cargo vessels simply because of the rapid growth projected in their trade through the Strait.[33] Risk is further elevated by the rapidly growing use of these waters by recreational boats of all kinds.

The people of Washington State and the United States place enormous value on the integrity of this natural environment, as witnessed by the dedication of the outer coastline as part of Olympic National Park and the adjacent offshore area as the Olympic National Marine Sanctuary. Moreover, the serious deterioration of the marine environment, particularly within the Strait and Puget Sound, has called forth a tremendous commitment of public effort and funding. Examples include the listings (completed and pending) of more and more species under the Endangered Species Act – and the significant public sacrifices that will be required to restore these species – as well as the urgency Congress felt in approving and funding the Northwest Straits Initiative.

An overriding factor necessitating placing a response tug in the outer Strait is the treaty obligation of the Federal Government to protect the Usual and Accustomed lands of the tribes in Washington State. There is embodied within the treaty an absolute obligation to the protection of the marine environment.

The deployment of additional towing assets in the greater Puget Sound basin adds to the emergency response capability in the event of a disabled vessel. The greatest potential for an asset reducing a hazard would be in response to a drift grounding.

It is important to note that industry stakeholders are currently contributing to the protection of the marine resources in several ways:

- The tanker industry through taxation and required tug escorts for laden tankers transiting east of Port Angeles, as well as in the additional costs to build and operate double-hulled tankers.

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[32] This is demonstrated by the 1991 state law mandating an emergency towing system at the entrance of the Strait of Juan de Fuca by 1992, by the growing support of state and federal legislators and the elected commissioners of the most affected counties, and by the significant funding devoted to interim tug protection by both the Clinton Administration and the State Legislature.

[33] "Regulatory Assessment: Use of Tugs to Protect Against Oil Spills in the Puget Sound Area," prepared for the U.S. Coast Guard, Report No. 9522-002, November 15, 1999.

- The dry cargo and tanker industries through its voluntary funding of the International Tug of Opportunity System (ITOS).
- Both the dry cargo and oil tanker industries support oil spill response organizations.

Prevention of an oil spill is altogether preferred over spill cleanup efforts that are inherently of limited success and very costly. In addition to the economic, environmental and social benefits to society in general, the shipping industry itself stands to gain from the improved oil spill prevention capability represented by a dedicated rescue tug at the entrance of the Strait in two primary ways:

1. The ship owner involved in an incident which, as a result of the services of a dedicated rescue tug, does not unravel into a major oil spill gains by avoiding huge costs, including liability and punitive damage claims.
2. The shipping industry as a whole gains by avoiding the far more intense regime of operating regulations which would inevitably be imposed upon it in the political aftermath of a major oil spill in these essentially urban waters.

Position Opposed to Issue: The proposal for a tug is fiscally irresponsible where there is not a cost-benefit ratio that supports the expense, regardless of the source of funds.

Using data directly cited in the regulatory assessment performed by Herbert Engineering and basic probability analysis, one reaches a much different position than presented by the authors of that report. It requires making only one assumption: "The value of a dedicated tug is only in the arrest of a drifting vessel."

For collisions and powered groundings a dedicated tug is essentially of little value.

To arrest a drifting vessel the probability of success is determined by the product of the probabilities of the dependent events.

The arguments against the issue rest with the assumption above and the use of three facts from the report:

- 5.5 year return of an oil spill is a 0.18 probability of an incident in any one year.
- 8% of the incidents resulting in an oil spill are from drift grounding.
- Only half of the attempted drift arrests were projected to be successful.

The probability of preventing an oil spill from a successful recovery of a drifting vessel is 0.0072 in any given year, or a return of a successful arrest every 139 years. Accordingly, the probability alone makes the event so remote that the cost-benefit approaches nil.

If the actual incident data for the past 10 years is used the return period of this analysis is even longer.

Comments related to points made in the Tug Recommendation:

- Comments about INTERTANKO are not germane to the discussion of a dedicated tug. The Court's decision had nothing to do with the right of the State or anyone else in placing a dedicated tug.
- In the New Carissa case the first available tug was unable to assist because it could not leave port due to weather. Even if there had been a tug at sea it could neither have prevented the grounding nor been more successful than subsequent efforts to pull the vessel off the beach. To have extracted a single sentence from the Coast Guard Report is a misrepresentation of the facts of the case.
- Without assurance that funding would be from the federal general fund or a partnership with the state there could be no support for the initiative because the industry can not assume this additional cost.
- Once one tug is in place there will be a push for at least two other ports within Washington State. Two or more in Oregon and four or five in California.
- $4.5 m in additional funding for the Canadian Coast Guard would undergo scrutiny as to the best place to be spent.
- The U.S. Coast Guard is also critically short of funds.
- To fill the voids in tug coverage in the outer strait on a continuing basis through the spot chartering of tugs would for practical purposes cost the same as a dedicated tug. ITOS has never professed to be able to cover the outer coast.
- Regarding the issue of trade for the past 10 years, trade to the U.S. West Coast including British Columbia has been growing on a year on year average of about 7 %. California has been growing at greater than 8 %, while the Pacific Northwest (PNW) (Seattle, Tacoma and Vancouver) has grown at approximately 6 %.
- During that same period the number of carriers competing in the Pacific Trade to the PNW has declined by about 30%. Further consolidation of the container industry has taken place as the result of mergers and sailing agreements, which reduce the number of calls. In addition, the ships are newer, larger, and equipped with more modern aids to navigation, computerized radar tracking of traffic and redundant systems. In the general cargo area, forest products have been steady to declining for the past ten years and the projections are for reduced volumes.
- There is no question, within plus or minus about 10 percent year on year, that vessel calls for the past 10 years have not increased. They have remained steady or declined for the combined reasons cited above.

Vote:

Members Present:	19*
Yes:	11
No:	4
Stand Aside:	2

*Includes the Panel's two non-voting co-chairs.

Other Measure Considered No. 6 – Assist for High-Risk Vessel Transits

Proposal from WPPA: Require a tug escort for all Priority 1 Transits (as rated by the Port State or Flag State Control Initiative) from the entrance of the Strait of Juan de Fuca until Port Angeles. At Port Angeles, all vessels in a Priority 1 Transit will be boarded by the Coast Guard for inspection and decision(s) about whether repairs, a continued tug escort, or other measures are warranted. (Currently all tank vessels proceed with tug escorts eastward from Port Angeles.)

1. Use a combination of state and federal funds to supplement the International Tug of Opportunity System (ITOS) during periods when wind speeds exceed 40 knots and there is a Priority 2 Transit. These funds are to be placed in an account under the control of the Coast Guard Captain of the Port, who will use them to charter 4000 hp or greater tug to be underway in the Straits of Juan de Fuca. This tug will be dedicated solely to respond to a drifting vessel. If a vessel loses power, it immediately becomes a Priority 1 Transit, and will be required to take on the tug escort under Part 1 above.
2. Require a tug escort for all Priority 1 Transits and laden tank vessels through Haro Strait where narrow navigation lanes leave little room for error.

Position in Support of Issue: The proposal targets high-risk vessels entering the Strait. It requires further development by the U.S. and Canadian Coast Guards in cooperation with representative public and industry stakeholders, i.e., clarification of an objective "decision tree for action to be taken" is necessary for general acceptance. The USCG currently identifies priority vessels and takes action according to an objective rating system. The WPPA proposal is intended to enhance the current authority, and if necessary expand on the authority.

Specifically the proposal:

- Will target the high-risk vessels entering the Strait.
- Places the cost of protection on the vessels determined through due process to be of high risk.
- Expands tug coverage of the Western Strait and the combined Haro Strait and Boundary Pass.
- Elevates the coverage in Haro Strait often overshadowed by the Strait of Juan de Fuca.
- Acknowledges the potential risk due to some traffic in these western waters of the State.
- Targets the scarce public resources for use on defined gaps.
- Utilizes public funds for the protection of the public good without penalizing the maritime industry in general.

In summary, the proposal is intended as a future work process because in the closing days of the Panel sessions there was insufficient time to fully explore the potential benefits and costs.

Position Opposed to Issue: This recommendation was put forward very late in the Panel's deliberations. Accordingly, it lacks some specificity and was not fully examined by the Panel membership.

The proposal does little to increase actual coverage/availability by any real numbers, and is unlikely to correspond to the random unexpected casualty by a normally sound vessel. Dedicated coverage accounts better for the unforeseen.

The proposal has merit to the extent that it attempts to include a risk mitigation element. However it is unclear and raises more questions than it answers. For example, it does not clearly distinguish what aspects are incremental and which are in place today. Also, it uses undefined terms (e.g. Priority 1 Transits versus Priority 1 Vessels), and Priority 2 Vessel criteria is unknown to the Panel. The paper also pre-supposes that Priority 1 Vessels may be a serious risk which may not be the case.

The paper does not effectively argue in a convincing manner that Item #2 of the proposal is either practical or achievable.

It does not explain how one would anticipate 40 knot winds, and how that threshold was determined as well as what Priority 2 Vessels do while they await a tug to be stationed assuming one is available at short notice. Is the port closed? Do the vessels accumulate offshore, thus adding to risk? Nor is it clear what occurs if a Priority 2 Vessel becomes Priority 1. The paper anticipates escorting, but if power is lost the vessel will actually need to be towed. And will a dedicated tug and a tug escort both be required? In short, the content is lacking specificity on what is being proposed, what its effect would be, and who is responsible for establishing and operating the enhanced system.

Furthermore, there is likely to be some opposition in the legislature of putting Washington State funds under control of a federal agency (USCG).

Finally, there is no clear guarantee of actions or improvements, hence a feeling of unwillingness to invest limited public monies on a limited improvement.

Vote:

Members Present:	19*
Yes:	7
No:	9
Stand Aside:	1

*Includes the Panel's two non-voting co-chairs.

VIII. Appendices

Appendix 1 – Memorandum of Understanding (See pages 3, 10, and 15)

MEMORANDUM OF UNDERSTANDING
On
THE DEVELOPMENT OF A LONG-TERM OIL SPILL RISK MANAGEMENT PLAN FOR THE NORTH PUGET SOUND AREA
Between
THE UNITED STATES DEPARTMENT OF TRANSPORTATION
And
THE STATE OF WASHINGTON

PRINCIPLES of AGREEMENT — This agreement between the United States Department of Transportation and the State of Washington for developing a long-term risk management plan in the North Puget Sound area, is based upon the following principles:

The North Puget Sound area (Olympic Coast National Marine Sanctuary, approaches to and Strait of Juan de Fuca, and Puget Sound north of Admiralty Inlet) contains coastal resources that are environmentally sensitive and extremely valuable. A major or catastrophic oil spill in these waters could cause extensive damage to the environment, and be detrimental to the State's economy and quality of life; and

The United States Department of Transportation and the State of Washington have an interest in and responsibility for protecting the waters of Washington and have had a long history of cooperation in that regard; and

The Parties recognize that mutual cooperation in protecting the marine environment permits the State of Washington and the United States Department of Transportation--particularly the United States Coast Guard--to make better use of available resources thereby providing more effective protection of the marine environment; and

The United States Department of Transportation and the State of Washington wish to enhance government efficiency by entering into a Memorandum of Understanding (MOU) that builds upon the Parties' close working relationship and identifies areas for expanded interaction which will lead to increased safety for the protection of Washington State waters; and

There is agreement between the United States Department of Transportation and State of Washington that an inclusive process, in consultation with interested parties, provides an effective means for developing a long-term oil spill risk management plan for the affected area; and

A long-term oil spill risk management plan would help provide a more predictable operating environment for all marine users and enable Pacific Rim commerce to continue its vital contribution to the region's economy; and

The use of risk management analysis provides the capability to develop the most effective means of identifying and managing the risks in a system; and

2

Cost-benefit analyses provide for a scientific approach to developing regulations and serve as a sound basis for establishing regulations to implement a long-term oil spill risk management plan; and

Environmental and economic implications of actions relating to these waters are of significance to United States and Canadian governments, the State of Washington and stakeholders; and

The International Tug of Opportunity System is a recently established industry initiative designed to improve marine safety in the Puget Sound area;

NOW, THEREFORE, the United States Department of Transportation and the State of Washington agree to work in partnership to the extent permitted by law, pursuant to 14 U.S.C. §141, and available resources to achieve the following objectives:

1) **Risk Management Plan:** Develop and implement a long-term comprehensive oil spill risk management plan for the North Puget Sound area. The Parties will co-chair a panel of the federal Navigation Safety Advisory Council consisting of representatives of a cross-section of public and private interest groups, commercial and industrial interests and individuals, during development of the plan. The panel members will be tasked with providing information in their areas of expertise to the United States Department of Transportation and the State of Washington. It is the intent of both Parties to develop the risk management plan through a credible, inclusive process. Some key elements of the plan development include:

   - **Cost Benefit Studies** – Complete cost benefit studies as necessary prior to possible implementation of regulations in support of the long term oil spill risk management plan. These studies include analysis of tug escorts in Puget Sound area waters, a dedicated rescue tug at the entrance to the Strait of Juan de Fuca, and other measures as deemed appropriate. The outcome of these studies (i.e., whether the measures are cost beneficial or not) will help determine what elements of the plan may be pursued via federal regulations.

   - **Evaluation of the International Tug of Opportunity System (ITOS)** – Complete a comprehensive evaluation of the level of effectiveness of ITOS.

   - **Response Capability** – Use existing mechanisms, including the Northwest Area Committee, to address spill response issues on the outer coast and adjacent areas.

2) **Risk Management Plan Scope of Work:** Establish a detailed scope of work in consultation with interested parties.

3) **International Cooperation:** These undertakings shall be executed in a manner consistent with existing bilateral and multilateral international obligations of the United States, and in close coordination with the Government of Canada, Province of British Columbia, and Canadian stakeholders to ensure that the interests of both countries are considered with the goal of implementing consistent, effective measures.

3

ADDITIONALLY, each Party will appoint an official representative with full authority to act for that Party in all matters relating to implementation of this Memorandum of Understanding.

FURTHERMORE,

1) The Parties hereto wish to acknowledge the existence of a *Memorandum of Agreement on Oil Pollution Prevention and Response Between the Thirteenth Coast Guard District and the State of Washington*, dated April 24, 1995, the purpose of which is 'to ensure that the parties exercise their respective authorities regarding oil spill prevention and response in a cooperative and coordinated manner . . ." and otherwise as provided therein. The Parties hereto reaffirm continued adherence to same and agree that in the event a provision of this Memorandum of Understanding should be construed as conflicting with the *Memorandum of Agreement*, dated April 24, 1995, then the *Memorandum of Agreement* controls.

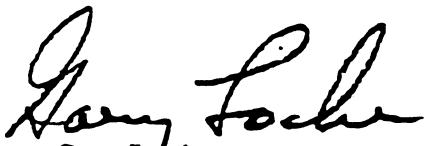
2) This Memorandum of Understanding is intended to provide a means by which the Parties may cooperate to implement the plan development process and achieve a long-term oil spill risk management program. Consistent with this spirit of cooperation, it is not the intent of this Memorandum to settle or address in any manner, differences of opinion that may exist between the Parties as to the extent to which federal law may preempt the State from enacting regulations involving the transport of oil in State waters and the Parties intend to reserve such issues for resolution outside this Memorandum. Of greater importance is the clear agreement by the Parties that the protection of State waters is a high priority and the recognition that they must act in a cooperative and coordinated manner if effective prevention and response efforts are to occur.

3) This Memorandum of Understanding is effective upon the date of signing, and may be terminated by written notice of either Party at any time without notice to any person other than the other Party. The terms of this MOU may be changed at any time by the Parties by a written, signed amendment, hereto, with or without notice to any other person.

FOR THE UNITED STATES DEPARTMENT OF TRANSPORTATION

Rodney E. Slater
Secretary
U.S. Department of Transportation

FOR THE STATE OF WASHINGTON



Gary Locke
Governor
State of Washington

Date: March 15, 1999

Appendix 2 – Panel Membership (See page 13)

Panel Co-chairs

U.S. Coast Guard

Rear Admiral Paul Blayney, USCG
13th Coast Guard District
Commander, Prior to June 2000

Rear Admiral Erroll Brown, USCG
13th Coast Guard District
Commander, After June 2000

Captain Scott Davis, USCG
13th Coast Guard District

Washington State Department of Ecology

Tom Fitzsimmons, Director,
WA Department of Ecology

Joe Stohr, Spills Program Manager,
WA Department of Ecology

Panel Members

Puget Sound Steamship Operators Association

Harry Hutchins, Executive Director,
Puget Sound Steamship
Operators Association

*Cliff Benson, Vice President,
Westwood Shipping Lines

North Pacific Fishing Vessel Owners' Association

Leslie Hughes, Executive Director,
North Pacific Fishing Vessel Owners'
Association, Vessel Safety Program

*Tom Swanson, Port Operations,
Icicle Seafoods

Western States Petroleum Association —Shipping

Robert Baldwin,
Marine Representative,
BP Oil Shipping Co., USA

*Captain Christopher O'Brien,
Port Superintendent,
Alaska Tanker Company, LLC

Western States Petroleum Association —Refining

Dan Riley, Northwest Regional Manager,
Western States Petroleum Association

*Greg Hanon, Comminico

Washington Public Ports Association

John Bush, Senior Director of Operations,
Port of Tacoma

*David Hagiwara, Deputy Executive
Director, Port of Port Angeles

Puget Sound Pilots Association

Captain William Bock, President,
Puget Sound Pilots

*Captain Robert Kromann,
Puget Sound Pilots

American Waterways Operators

Jerry McMahon, Vice President,
Pacific Region, The American
Waterways Operators

*Alternate Panel member

American Waterways Operators Continued

*James Macaulay, Regional Manager,
Pacific Operations & Maintenance,
Crowley Marine Services

Makah Tribal Council

Gordon Smith, Makah Tribal Council

*Chad Bowechop, Makah Nation

Washington Environmental Council

Andy Palmer,
Washington Environmental Council

People for Puget Sound

Kathy Fletcher, Executive Director,
People for Puget Sound

*Doug Scott, Communications Director
People for Puget Sound

Shellfish Grower's Association

Paul Blau, Pacific Coast Shellfish Growers

Clallam County Government

Carole Boardman, County Commissioner,
Clallam County Board of Commissioners

*Shirley Waters Nixon, for Clallam County

San Juan County Government

Rhea Miller, County Commissioner,
San Juan County Board of Commissioners

Seattle City Government

Susan Keith, Director, Office of
Environmental Management

*Tracey Dieckhoner, Office of
Environmental Management

*Alternate Panel member

Washington State Legislature

Senator Karen Fraser (D)

*Senator Harriet Spanel (D)

Senator Dan Swecker (R)

Representative Gary Chandler (R)

Representative Mike Cooper (D)

*Representative Dave Anderson (D)

*Representative Kelli Linville (D)

U.S. Congressional Staff

Kurt Beckett, representing
U.S. Congressman Norm Dicks (D)

Canadian Coast Guard

Pablo Sobrino, Director, Marine Programs

*Don Rodden, Superintendent,
Environmental Response

Additional Staff Support

Department of Ecology

Stan Norman, Manager, Spills Prevention
Jon Neel, Spills Prevention

13th District USCG

Captain John Veentjer
Captain Michael Moore
Lieutenant Commander Linda Fagen

Conflict Resolution, Research and Resource Institute

Maralise Hood, Program Manager

Patricia Punykova, Editor

National Center Associates

William Lincoln, Executive Director
Polly Davis, Deputy Director
Tim Corey, Graphic Facilitator

Appendix 3 – Panel Members Interests and Concerns (See pages 13 and 14)

North Puget Sound Oil Spill Risk Prevention Panel
Interest Statements Offered by Panel Members

The following individual *interest statements* were offered by the Panel members presumably as representative of self as well as their organizational identity as such pertain to the scope and purpose of the Panel. Similarly there is no meaning to the order in which the Panel members are listed.

Why was this exercise of disclosing, sharing, clarifying, and posting of individual and organizational interests important to the Panel's process of collaborative planning and cooperative problem solving? Simply stated *interests* are...

- the basis of conflict, i.e., a sense of real, perceived, or possible competing interests;
- the criterial basis for accepting or rejecting ideas and proposals, e.g., *What specific interests of mine are satisfied and to what degree — in the short term and long term?* **and** *Why would others accept this proposal — what specific interests of theirs would be satisfied?,* and
- the foundation of a durable plan and/or resolution and settlement agreement, e.g., interests are no longer competing or at least to any serious degree.

Consequently, Panel members should refer to the content below as a means (i) to be forever mindful of their own interests and those of others; (ii) to improve understandings of the *whys* of others, e.g., where are they coming from; (iii) to better prepare ideas, concepts, and proposals and their level of acceptability; and (iv) to test the final results to see if primary interests have been met and to what degree — in the short term and long term. All of the above is the foundation of *substantive satisfaction,* one of the three basic ingredients for durable settlements [the other two being procedural and psychological satisfactions].

Interest Statements

Paul Blau
Pacific Coast Shellfish Growers
- economic stability [of self, the constituency, and the industry]
- purity/integrity of the species
- safety [for humans and operations]
- environmental integrity
- love of the environment
- practicality regarding accessibility and the use of shipping lanes
- responsiveness to constituency

Captain Bill Bock
Puget Sound Pilots Association
- marine safety [in transit]
- accessibility [to ports]
- balance/integration of economics and marine and ecological safety
- fairness
- environmental concerns including aesthetics
- accessibility/convenience/safety/appropriateness of recreational usage of the water

Susan Keith
Director, Office of Environmental Management
City of Seattle
- environmental integrity [including the protection of natural resources]
- economic security and viability [eye on impacts]
- value and image of the city
- inclusiveness of the community in the process
- collaboration [as a value and process]
- responsiveness/fairness
- stewardship [of the environment]

Carole Boardman
Commissioner, Clallam County Commission
- environmental integrity
- responsiveness to constituency
- inclusiveness of community
- respect [of people, the area, and concerns and opinions]
- safety [enhancements for spill prevention]
- viability [for appropriate recreational usage/activities]
- fairness [process, people, and product]

Hubert Markishlum

Vice Chair, Makah Nation [with Chad Bowechop]

- full acknowledgement at all levels of Tribal sovereignty
- integrity of Treaty
- cultural identity
- rights related to the natural resources
- sustain ability of natural resources
- wholeness of the environment in terms of respect, usage, and protection

David Schneldler

Port of Seattle,Washington Pubic Ports Association

- responsiveness to constituency
- economic security of Ports
- job security [own]
- economic stability [of customers]
- fairness [process & product for others interests]
- practicality [product]
- respect for the environment

Dan Riley

Northwest Regional Manager
Western States Petroleum Association [facilities]

- value of the environment
- safety [of people, property, and environment]
- environmental integrity/protection
- fairness of the process
- process integrity
- honesty
- accuracy
- integrity of the data
- fact based decision-making
- fairness regarding economics of plan/results

Pablo Sobrino

Director, Marine Programs Canadian Coast Guard

- Canada's sovereignty
- respect [of Canada's institution and rights]
- marine safety
- environmental integrity
- fairness and consistency with regard to mutuality and reciprocity
- standardization/compatibility and harmonization regarding regulations
- data integrity [completeness, accuracy, and relevancy]
- honesty and accuracy/realism with regard to real risk vs. perceived risk
- practicality

Leslie Hughes

Executive Director, Vessel Safety Program
North Pacific Fishing Vessels Owners' Association

- environmental integrity
- honesty/candor
- data integrity
- accuracy
- openness
- recognition of value of marine related industries [legitimate needs, rights, and efforts]
- marine safety
- acknowledgement of process [and its initiators/maintainers]
- efficiency
- fairness [process and product]
- professionalism/competency
- job satisfaction

Harry Hutchins

Executive Director
Puget Sound Steamship Operators Association

- responsiveness to constituency
- balance/fairness/practicality in the relationships between…
  - marine safety
  - environmental safety
  - cost effectiveness
- data integrity [completeness, accuracy, and relevancy]
- integrity of end product [fact based on decision-making]
- fairness/level playing field in competitive trade via shipping [reference to Canada]
- environmental stewardship
- responsible industry
- self-determination [of industry and with accountability]
- acknowledgement of the value of the industry

Karen Fraser

Senator, Washington State Senate

- candidness
- Integrity and credibility of study
- ecological and cultural sensitivity
- economic fairness
- procedural fairness
- practicality
- cooperation
- coordination
- completeness
- inclusiveness
- pertinency/relevancy
- thoroughness

Robert Baldwin
Manager, Marine Affairs [Alaska]
BP Oil Shipping Company [WSPA, Marine]
- health [people, organization, and environment]
- marine safety
- environmental safety
- honesty/realism [mitigate actual risk and not perceived risk]
- credibility [based on sound cost-benefit analysis]
- purity [free of politics]
- integrity [personal, procedural, professional, and organizational]
- practicality [results of product]

Jerry McMahon
Vice President, Pacific Region, The American Waterways Operators [tug and barge]
- responsiveness to constituency
- responsible operators
- safety of humans, property, and environment
- environmental integrity/safety/preservation
- economic security/stability
- fairness [to all parties]
- fairness [process/product]
- accuracy'
- practicality [plan, implementation, and cost effectiveness]

Captain Scott Davis, *Panel Co-chair*
Chief, Marine Response Branch
U.S. Coast Guard. 13th District
Panel Co-chair
- environmental integrity
- public stewardship [local and national]
- marine safety
- fairness
- standardization/consistency of regulations and operations
- effectiveness [use of resources]
- economic viability

Joe Stohr, *Panel Co-chair*
Program Manager Spill Prevention Preparedness
Washington State Department of Ecology
- environmental stewardship
- safety [environmental, marine, and public]
- acknowledgement of State's rights and responsibilities
- responsiveness/'public service
- sense of community equity [in process and results]
- economic vitality
- practicality [in terms of implementation, management, reliability, cost effectiveness, affordability, and fairness]

Rhea Miller
Commissioner San Juan County Commission
- responsiveness to constituency
- environmental integrity
- economic fairness
- economic stability
- integrity of process and resulting product
- aesthetics

Panel Members "Assumed Interest" of Formalized Environmental Group(s)
[invitation to participate declined until interim tug in place and other preconditions are addressed]
- inclusiveness and respect of opinion and organization(s)
- responsiveness/accountability to constituency
- environmental integrity
- data integrity [comprehensiveness. Accuracy, and relevancy]
- completeness [cumulative impacts of risks and options]
- integrity of impact of any cost-benefit analysis [inclusiveness; qualitative as well as quantitative measurement]
- efficiency
- marine safety
- public health and safety
- endangered species [recovery/protection]
- process equity/level playing field
- practicality
- "acceptability of risk" [data/criteria integrity for determination and consequences]
- fairness [of process and results]
- environmental aesthetics

Panel Members "Assumed Interests*" of the General Public
- inclusiveness and "openness"
- responsiveness [to them]
- seriousness and sincerity
- integrity [of process and results]
- environmental soundness and aesthetics
- quality of life in relationship to the Sound
- cost effectiveness
- commitment [follow through]

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* "Assumed Interests" in that (a) the formalized environmental community declines to participate until an interim dedicated tug is in place and other preconditions are addressed [e.g., financial compensation for participation; increase in the number of environmentalists to participate, etc.]; (b) the broader public's concerns also must be constantly before the Panel; and (c) this effort by the Panel to be mindful of so-called "third party impacts" is a means to achieve equity in the final product and to avoid conflict aftermath.

Appendix 4 – Purpose, Scope and Process Document (See pages 15 and 16)

North Puget Sound
Long-Term Oil Spill Risk Management Panel
of the Coast Guard's Navigation Safety Advisory Council

I. Purpose

a. Goal

The goal of the Long-Term Oil Spill Risk Management panel is to draft a plan that evaluates the existing safety system and makes recommendations regarding ways to improve marine safety in the North Puget Sound region. The panel will bring together a wide array of community representatives and stakeholder interests and will build on previous studies and all available information. This public process is designed to be a consensus-building effort that provides advice on any necessary maritime safety improvements

b. Memorandum of Understanding (MOU)

The Secretary of Transportation and the Governor of the State of Washington have signed an MOU that expands the existing partnership between the U.S. Coast Guard and the State of Washington Department of Ecology. The MOU also serves as the basis for the creation of this panel and states that the U.S. Coast Guard and the State of Washington Department of Ecology will co-chair the panel.

II. Background

a. Additional Hazards Study

The Coast Guard contracted with the Volpe Center to characterize the hazards that can cause oil spills by ships underway and the environmental sensitivity to such spills. The study divided the waterway into nine segments and evaluated the risk in each by using available statistics and the input from experts in the area. In July 1997, the Volpe National Transportation Systems Center delivered their report, *Protection Against Oil Spills in the Marine Waters of Northwest Washington State*, to the U.S. Coast Guard. The study formed the basis for the Secretary of Transportation's determination in November 1998, that the waterway is relatively safe from the risk of oil spills. The Secretary also identified several suggested improvements that should be evaluated and considered.

b. Current safety system

The existing safety system is comprised of numerous measures implemented by the U.S. Coast Guard, the Government of Canada, the State of Washington and voluntary industry initiatives. Examples include the U.S. Coast Guard Vessel Traffic System; the Canadian Vessel Traffic Service; the U.S. Port State Control System to target substandard foreign vessels; the prohibition against tankers greater than 125K deadweight tons east of Port Angeles; federal and state requirements for tug escorts for laden tankers east of Port Angeles; Traffic Separation Schemes; U.S. Coast Guard inspection of U.S. ships as Flag-State; OPA-90 double hull requirements that are being phased in; OPA-90 requirements for Certificates of Financial Responsibility; State of Washington vessel inspection and

bunkering requirements; federal Area Contingency Plans; State of Washington requirements for tank vessel oil spill prevention plans; the international Area to be Avoided at the Olympic Coast National Marine Sanctuary; the industry-sponsored International Tug of Opportunity System (ITOS); State of Washington pilotage requirements; and the U.S. Coast Guard's Prevention Through People program.

III. Scope

a. Approach

The panel will use an approach based on recognized risk assessment and risk management practices to develop an integrated plan for managing the risk of oil spills due to maritime casualties in the area. The plan development process should include evaluation of a broad range of information about the safety and marine transportation systems along with relevant risk information on hazards, incident history, oil movements, environmental sensitivity, response capability and other information. The panel should address the full range of hazards including collisions, powered groundings, drift groundings, allisions, fires, explosions, loss of stability, and structural failure. The panel should consider all potential measures including international, federal and state regulations, and industry voluntary measures. The final plan should also have the broadest possible community support.

b. Public Involvement

All meetings of the panel will be open to the public. The initial meeting will be announced to the general public in the Federal Register and State Register. Interested members of the public will be encouraged to attend and provided information about meeting dates, agendas and any opportunities for participation. Members of the public may observe all meetings but will only be permitted to participate in the meetings when specifically allowed by the co-chairs on a case-by-case basis. Such participation will be primarily limited to brief oral or written statements.

c. Geographic scope

The geographic scope of the area to be considered by the panel shall be limited to the following:

(1) Entrance and Approaches to the Strait of Juan de Fuca
(2) Strait of Juan de Fuca to Admiralty Inlet
(3) Haro Strait and Boundary Pass
(4) Rosario Strait
(5) Strait of Georgia

IV. Membership

a. Members and alternates

(1) The Commandant of the U.S. Coast Guard will invite panel members.
(2) The Commandant of the U.S. Coast Guard will also invite an alternate for each panel member from a list provided by the respective organization.
(3) Invitations are not transferable.
(4) The following is the current list of organizations with members and designated alternates invited to the panel:
    1) Puget Sound Steamship Operators Association

2) North Pacific Fishing Vessel Operators Association
3) Western States Petroleum Association – Shipping representative
4) Western States Petroleum Association – Refinery representative
5) Washington Public Ports Association
6) Puget Sound Pilots Association
7) American Waterways Operators
8) Makah Tribal Council
9) Washington Environmental Council - Seat #1
10) Washington Environmental Council - Seat #2
11) Shellfish Grower's Association
12) County Government - Seat #1
13) County Government – Seat #2
14) City Government
15) State Senator (Democrat)
16) State Senator (Republican)
17) State Representative (Democrat)
18) State Representative (Republican)
19) U.S. Congressional Staff
20) Canadian Coast Guard

b. Expectations for the Membership

(1) Members are expected to be open-minded and are encouraged to put aside any preconceived solutions to issues that will be discussed by the panel.
(2) Members will be expected to carry out their duties in a professional, respectful way that encourages discussion and an open exchange of ideas and information.
(3) Because there will be a limited number of meetings and continuity is crucial to the effective functioning of the group, members are expected to attend all meetings unless matters of an urgent nature preclude attendance.
(4) If unable to attend a meeting, members should inform one of the co-chairs in advance of the meeting. Co-chairs will provide minutes and other materials covered in the meeting.
(5) Members are expected to represent their organizations. As such, they are expected to maintain close contact with those organizations and members of those organizations, pass information regarding the work of the panel, and solicit and coordinate input from their organizations.
(6) Members are expected to speak on behalf of their organizations and be prepared to discuss and engage in decision-making processes on issues on behalf of their organizations.
(7) Members will be reasonably expected to keep up with any necessary reading and materials provided and/or recommended.

c. Alternates

(1) The Alternate is expected to fill in for the primary panel member should that member have to miss a meeting. In that event, the Alternate will be able to fully participate in the panel meeting and engage in decision-making on all issues on behalf of the primary member.

(2) Alternates are expected to keep up with progress of the panel and materials covered.
(3) Alternates are encouraged to participate as observers for all meetings, including those meetings where the primary panel member is in attendance.

d. Co-chairs and Their Role

The co-chairs are responsible to keep the panel focused and on schedule. In addition, the co-chairs shall:

(1) Guide the collaborative decision-making process;
(2) Ensure that minutes of each meeting are written, distributed, and maintained;
(3) Oversee the professional facilitation-mediation team;
(4) Establish and maintain a schedule;
(5) Arrange for participation by guest resource persons;
(6) Arrange for facilities, equipment, and any necessary supplies;
(7) Oversee preparation of the final report;
(8) Provide for dissemination of information regarding the panel's work.

e. Facilitator-mediator and role

A facilitation-mediation firm is under contract to perform the following functions:

(1) Educate panel members on risk analysis, interest-based collaborative planning and cooperative problem solving, and impasse resolution;
(2) Facilitate and moderate panel discussions;
(3) Assist co-chairs in meeting the panel goals;
(4) Schedule meetings;
(5) Take minutes of all panel meetings;
(6) Work to build consensus within the panel;
(7) Work with sub/working groups to gain closure with recommendations;
(8) Work with individual panel members to ensure accurate and complete communications with respective constituencies;
(9) Work with individual panel members to develop proposals as well as to increase receptivity and to reduce resistance to others' proposals;
(10) Draft reports of the panel, incorporate changes based on reviews by the panel, and draft the final report of the panel

f. Compensation

The federal government will not compensate members of the panel and designated alternates for participating on this panel. Costs associated with per diem, travel, transportation, lodging, and supplies will not be reimbursed by the federal government.

V. Process

a. General

In addition to the elements specified in this tasking, the panel is governed by the rules and operating instructions that apply to the Navigation Safety Advisory Council.

b. Access to information

The panel will have access to all available information in accordance with applicable laws.

c. Ability to invite resource persons

Although panel composition was designed to provide relevant expertise on the issues at hand as well as a balanced representation of the interested parties, additional outside expertise may be needed for specific issues. The panel may request additional speakers to provide information and answer questions.

d. Consensus and voting

(1) The goal of the panel is unanimous consensus.

(2) If unable to obtain unanimous consensus, then "consensus minus two" of those present may be invoked by the co-chairs (with input from the facilitator) as adequate to proceed.

(3) Since the product and recommendations from the panel will be directed to NAVSAC for use by the U.S. Coast Guard and the State of Washington, the co-chairs will not cast votes.

e. Quorum

(1) The goal is to have all members or their designated alternates present at every meeting.

(2) There must be at least 14 panel members or authorized alternates and both co-chairs or their authorized designees present to hold a meeting.

f. Public Outreach

(1) The panel will work with the co-chairs to develop a media communications strategy.

(2) The panel will develop a public outreach strategy.

g. Timetable/schedule

(1) The panel should finalize their report and recommendations and deliver them to the Navigational Safety Advisory Council by 15 June 2000.

(2) Frequency of meetings and overall schedule of meetings shall be determined by the panel.

h. Ongoing Studies

(1) The panel will have the opportunity to review the results of the U.S. Coast Guard Cost-Benefit Analysis and provide its recommendations to the federal government regarding the measures considered in the Cost-Benefit Analysis

(2) The panel will have the opportunity to review results of the CG ITOS evaluation and use that information in their deliberations.

(3) The panel will have the opportunity to provide recommendations on the Port Access Route Study during the comment period for that study and in their final report.

VI. Products

a. Report

The panel will prepare a report that details a Long-Term Oil Spill Risk Management Plan for the North Puget Sound Region.

(1) The plan should include any recommendations for action at the international, federal, state or voluntary levels and should include the assumptions and rationale for the recommendations.

(2) In accordance with the Charter for the Navigation Safety Advisory Council, the plan cannot address any financial or funding issues related to any measures or activities recommended or detailed in the plan.
(3) Minority dissenting views can be noted in the final plan and recommendations. A characterization of the reasoning behind the dissenting view as well as the number of panel members sharing that dissenting view shall accompany this.

b. Submission

The Long-Term Oil Spill Risk Management Plan will be submitted to the Navigation Safety Advisory Council as a recommended course of action. The council will review the plan, may endorse it with or without comments, and forward it with recommendations to the Commandant of the U.S. Coast Guard and the Governor of the State of Washington.

Appendix 5 – Procedural Agreements (See pages 3, 15 and 84)

North Puget Sound Long-Term Oil Spill Risk Management Panel Procedural Agreements *9/24/99*

1. All process participants are limited to authorized persons of organizations which were invited to nominate its primary representatives to be appointed to this Panel or are authorized alternates;
2. The Panel agrees with Article V (Process section) from the Purpose, Scope and Process document with regard to the Panel's decision-making process. In the event of "consensus - 2" decisions the reasons for the dissent will be sufficiently summarized in the record, and the dissenter will have the option of being identified in the record as well. In certain circumstances 'stand aside' is permissible, this is not considered part of "consensus - 2";
3. The Panel agrees that the Purpose, Scope and Process as written will be the operative document of the Panel;
4. With regard to the format of the agreement, the Panel agrees that although the role of the Panel is advisory, it is meant to provide a well thought out written report with specific recommendations to NAVSAC for use by the U.S. Coast Guard and the State of Washington;
5. The Panel agrees that separate caucuses may need to occur during plenary deliberations, but the normal length of a caucus will not exceed 30 minutes;
6. The Panel will abide by common rules of courtesy, and Panel members will not participate in anyway to dehumanize others by word or behavior;
7. The Panel agrees that when the Panel or any Panel members are approached by the news media that responses will be issue oriented, complete, and accurate in contrast to being negative towards any organization or individual, or prematurely judgmental of the process itself
8. At every meeting Panel members will have the opportunity to air concerns regarding the process;
9. The Panel agrees on the following dates, time and place of monthly meetings which may be utilized for either plenary sessions and/or for Work Group meetings should such be established:

Meetings are from 9 am – 5 pm

October 28 & 29	Port Angeles
November 22 & 23	NOAA
December 20 & 21	NOAA
January 20 & 21	Olympia
February 17 & 18	Olympia
March 15 & 16	NOAA
April 12 & 13	NOAA
May 17 & 18	NOAA
June 7 & 8	NOAA
July 6	NOAA

Appendix 6 – Scope of Work (See pages 3, 15 and 17)

Scope of Work

North Puget Sound Oil Spill Risk Management Panel (NPSOSRMP)

In accordance with the Memorandum of Understanding between the State of Washington and the U.S. Department of Transportation, signed by Governor Locke and Secretary Slater, this document, co-authored by the Washington Department of Ecology and U.S. Coast Guard as co-chairs of the NPSOSRMP, is intended to provide panel members with a succinct Scope of Work.

The co-chairs recognize that a cooperative and coordinated approach to marine safety is essential to effective oil spill prevention and response programs, and together embrace the ideal of an inclusive process leading to the development of a credible risk management plan. Accordingly, the North Puget Sound Oil Spill Risk Management Panel's purpose is to act in an advisory capacity to provide collective recommendations to the Panel co-chairs and respective state and federal governments regarding potential improvements to marine safety and environmental protection in the North Puget Sound region. These recommendations will be captured in the form of a North Puget Sound oil spill risk management plan, with the goal of being as comprehensive as possible. The geographic scope is contained in the Panel's operative "Purpose, Scope and Process" document. The panel is to strive to complete their work and submit their plan through the Navigation Safety Advisory Council by mid-June 2000. State and federal governments will in turn use the plan to help make decisions concerning rulemaking.

The Panel is comprised of representative stakeholder decision-makers with differing perspectives and values. The key to the Panels success will be considering these perspectives in a comprehensive manner, while striving to find the common ground. Specifically, the Panel is charged with employing a risk-based approach to make decisions on how best to manage the oil spill risk (both in terms of probability and consequence) from commercial vessels operating in or transiting through the region. The Panel is to draw upon available studies, as well as other available information, and interpret their findings as necessary to formulate recommendations, but the panel is not to redo these studies.

Recommendations of additional oil spill risk reduction measures should be clearly linked to the stage of the risk event error causal chain, specifying at which points intervention is made. While the panel may consider any potential measures, the panel must consider and provide advice on at least those measures that would address the topical areas previously articulated in the Secretary of Transportation's notice of November 24, 1998. These vessel collision, drift grounding and powered grounding prevention and oil spill response capability measures can be summarized in the five broad categories delineated below. The sub-bullets are listed as examples, some of which are being considered independent of this Panel, and are not to be construed as all-inclusive.

- Waterways Management
  - Collision Avoidance
  - Traffic Separation Scheme Improvements
  - Port Access Routing Study
- Port State Control Program Improvements
  - Integration of State and Federal Inspection Resources
  - Cooperative U.S. / Canadian Programs
- Port Access Routing Study Human and Organizational Error Countermeasures
  - Fatigue Prevention
  - Improved Communications
  - Pilotage
- Collision, Drift Grounding and Powered Grounding Prevention
  - Dedicated Tug
  - Tug Escorts
  - ITOS
- Response Capabilities
  - Boom deployment Capabilities
  - Allocation of Response Assets
  - Dedicated Response Vessel
  - Internationally Seamless (Canada)

The following risk-based approach is stipulated as a means to promote an efficient, documentable, and timely process, especially given the established timetable. This approach will be incorporated into any work plan used to facilitate accomplishment of the Panel's purpose.

1. Review the existing marine safety and environmental protection systems. Review previously completed and on-going related studies as well as other available information. Identify any shortfalls or weaknesses (gaps) in the safety system and compare them to the identified risks. In identifying these system gaps, the causal chain provides the framework whereby the gaps can be identified and classified.

2. Determine which gaps can be filled and how they could be filled (what specific measure(s) will address the identified gap). Although not intended to be limiting in any regard or suggest a preference, when developing these measures the panel should identify whether each will use:
   - Added (new) regulatory requirements (imposed on the maritime industry),
   - Strengthened existing regulations (either modifying current regulations or strengthening enforcement actions),
   - Voluntary changes to existing practices, and/or
   - Added (new) federal, state, or locally funded measures.

3. Determine the level of effectiveness of each measure (considering potential risk reduction, feasibility and efficiency) by evaluating, at a minimum, the tradeoffs associated with each of the following topic areas:
   - Safety (increased safety or reduced likelihood),
   - Environmental protection (reduced likelihood and/or consequence),
   - Mobility / Trade (system impacts),
   - Tourism (positive/negative impacts),
   - Cultural (potential impacts), and
   - Economics (direct and indirect costs).

   During this process, further define and/or refine each measure's performance criteria as necessary to fully enable thorough consideration of the tradeoffs. Also when considering a measure's effectiveness, again be mindful of the causal chain and where the measure interrupts that chain.

4. Identify the preferred measures by rank-ordering the identified measures by level of effectiveness. Develop a consensus plan with succinct, well-reasoned recommendations to the state and federal governments.

When considering funding issues keep in mind that the purpose of the Panel is to advise the government on what to do, not on how to implement the plan. Developing a specific funding mechanism for sharing the cost of a particular measure would be inappropriate for the Panel to consider. The state and federal governments and their representatives properly hold implementation responsibilities. Consistent with item 2 above, identifying who should fund a measure would be acceptable, but detailing the mechanics of how much each party should pay and how the money should be collected/managed would not.

Appendix 7 – List of Presentations (See pages 17 and 32)

Presenter	Organization	Topic
Session 3		
Dr. Sharon Christopherson	NOAA SSC	Physical oceanography and climatology as it pertains to risk and oil spill response.
George Galasso	NOAA/National Marine Sanctuary	Marine Sanctuary and environmental values.
Dr. Dick Logan	Dept. of Ecology	Oil spill response capabilities, effectiveness, and environmental sensitivity.
Pablo Sobrino	Director Marine Programs, Canadian Coast Guard	Overview of Canadian regulations and practices and how they contrast with U.S. system.
Captain Scott Davis	Chief, Marine Response Branch, USCG 13th District	Overview of the federal regulatory framework with regard to marine safety and environmental protection.
Captain Michael Moore	Captain of the Port, MSO Puget Sound	Synopsis of functions and programs overseen by the COTP/OCMI.
Stan Norman	State of Washington Department of Ecology (DOE)	Overview of the State of Washington regulations and the role of DOE.
Dan Riley	Northwest Manager Western States Petroleum Association (WSPA)	Showed the video-"Underway."
Robert Baldwin	WSPA/Tankers	Presentation on corporate quality management systems in the shipping world.
Captain Bob Austin	American President Lines	Summary of the most common causes of incidents in the marine system.
Captain Chris O'Brien	Port Superintendent of the Alaska Tanker Company/WSPA	Virtual trip from an oil tanker Captains perspective from Valdez, AK through Puget Sound.
Captain John Emmel	American Waterway Operators	Virtual tour from a tug Captain's perspective from San Francisco to Puget Sound.
Session 4		
David Dickens	DF Dickens Assoc.	Risk Event Error Chain and risk reduction interventions.
Session 5		
Captain Gary Greene	CO of VTS Puget Sound	Overview of VTS mission, coverage area and resources.
Roland Miller	Executive Director of Clean Sound Cooperative Inc.	Response capabilities for oil tankers.
Fred Felleman	Ocean Advocates	Slide show that illustrated the complexity of the marine environment in Puget Sound.
Dr. Jacques White	People for Puget Sound	Presented written critique of Volpe Report.
Robert Lynette	Environmental advocate	Statistics of costs to industry of maintaining tug, critique of ITOS, historical efforts to improve marine safety, and an illustration of safety problems due to lack of English language aboard vessels.
Captain Scott Davis	Chief, Marine Response Branch, USCG 13th District	Presentation of the Port Access Route Study as of 22 November 1999.

Session 7		
Jon Neel and Captain Jack Barfield	DOE	Data presentation on actual spills and relevant incidents.
Session 8		
Bob Bohlman	Director, Marine Exchange of Puget Sound	ITOS overview and live internet hook up.
LT Duane Boniface	USCG-HQ	Presented the results of the USCG's evaluation of ITOS.
CDR Tim Close	USCG	USCG's response to Dr. White's criticism of the Volpe Report. Presented the Regulatory Assessment.
Keith Mitchell	Herbert Engineering Corp.	Presented the results of the Cost-benefit Analysis.
Session 9		
Captain Michael Moore	COTP, MSO Puget Sound	Presentation of Vessel Activity and Oil Spill Pollution Data and Marine casualty data.
Stan Stephens	Prince William's Sound Regional Advisory Council	Brief history of the council's formation, purposes and accomplishments.
Session 11		
Kevin Smith	Marine Insurance Company	Overview of basic insurance issues, types of coverage, P&I Club, OPA90, etc.
Derek Capizzi	National Pollution Funds Center	Overview of the Oil Spill Liability Trust Fund.
Session 12		
David Dickins	DF Dickens Associates, Ltd.	Oil spill consequences and the cost of selected incidents.
Keith Michel	Herbert Engineering Corp.	Response to Karen Fraser's concerns on C/B analysis. Presentation of Allocation of Tug Costs on a "per transit basis."
Session 14		
Dave Schneidler	Chair, Puget Sound Marine Committee.	A description of The Puget Sound Marine Committee.

Appendix 8 – Handouts Distributed to Panel (See page 32)

Sessions 1 & 2

National Center Associates, "Response to DOE RFP, May 9, 1999

List of Panel Members

List of Measures for Further Review

Risk Management Flow Chart

"Scoping Risk Assessment: Protection Against Oil Spills in the Marine Waters of NW Washington State," Volpe Center

"Regulatory Assessment, Use of Tugs To Protect Against Oil Spills in the Puget Sound Area," prepared for The United States Coast Guard, Report No. 9522-002, November 15,1999

"Regulatory Assessment, Use of Tugs To Protect Against Oil Spills in the Puget Sound Area, Technical Appendices," prepared for The United States Coast Guard, Report No. 9522-003, November 15,1999

"Analysis of the Geographic Coverage Provided by the International Tug of Opportunity System From November 1998 – May 1999," Commandant (G-MSE-1) U.S. Coast Guard, August 30, 1999.

"Vessel Entries and Transits for Washington Waters, VEAT '97," Washington State Department of Ecology, WDOE 98-250

"Oil Spills in Washington State: A Historical Analysis," Washington State Department of Ecology, Publication No. 9, Publication No. 97-252, April 1997.

"Prince William Sound, Alaska, Risk Assessment Study," Det Veritas, George Washington University, Rensselaer Polytechinc Institute and Le Moyne College., December 15, 1996.

"Risk Management of Oil Spills in the North Puget Sound," Department of Ecology, February 1999.

"Overview of Maritime Transportation System Safety," USCG, copies of PowerPoint presentation.

"North Puget Sound Long-Term Oil Spill Risk Management Panel of the CG's Navigation Safety Advisory Council"

Sessions 3 & 4

"Washington State Vessel Standards," Stan Norman, Department of Ecology

Marine Operations Manual, Crowley Marine Services, Voyage Routing

General Study Area

North Puget Sound Geographic Response Planning

Canada's Safety Regime (A Brief Overview), Canadian Coast Guard

Canada/U.S. Cooperative Vessel Traffic Service, West Coast Approaches to Juan de Fuca Strait – Revised May 97

Sessions 5 & 6

"Additional Hazards Study," U.S. Department of Transportation, USCG Headquarters, Volpe National Transportation Systems Center

"Assisting Industry to "Keep the Oil in the Container" " Alaska Department of Environmental Conservation, Division of Spill Prevention and Response, Industry Preparedness and Pipeline Program

"Governor's Fuel Accident Prevention and Response Team, Final Report and Recommendations," State of Washington, December 1999

Tank Ship Activity: Puget Sound, Columbia River, and All Washington Waters

Sessions 7 & 8

Preliminary Review of Regulatory Assessment: Use of Tugs to Protect Against Oil Spills in the Puget Sound Area (Report 9522-002, October 5, 1999, by Ernie Nieme, ECO Northwest, Eugene OR

"Regulatory Assessment," USCG Public Meeting, December 10, 1999, Designers & Planners, Inc., Herbert Engineering Corporation

Response to DOE's Comments on ITOS Analysis

"Results of the ITOS Evaluation" LT Duane Boniface, U.S. Coast Guard Headquarters

"Spill and Incident Data," North Puget Sound Oil Spill Risk Management Panel, Department of Ecology, Presentation by Jack Barfield and Jon Neel, December 20, 1999

Sessions 9 & 10

USCG, Captain Michael Moore – Vessel Spill and Incident Data

Sessions 11 & 12

Port Access Route Study; Strait of Juan de Fuca and Adjacent Waters, Department of Transportation, Coast Guard, 33 CFR Part 16 [USCG-1999-4974]

Integrated Tug Barges

1999 transit count by vessel category

"U.S. Coast Guard Plans for Universal AIS," Commander Ken Prime, U.S. Coast Guard, Washington DC

OCNMS Radar Coverage

Tanker by Build Date Report, 1996 – 1999

"Vessel Entries and Transits for Washington Waters, VEAT '99," Washington State Department of Ecology, WDOE 00-08-002

"Cargo and Passenger Vessel Boarding Checklist" Washington State Department of Ecology

"Addressing Risks of Vessel Oil Spills," FWPCA, OPA Title I and the OSLTF

"Fishing Vessel Boarding Checklist" Washington State Department of Ecology

"Oil Spill Consequences: Costs of Selected Incidents, Data Tables" DF Dickens Associates Ltd.

"Oil Spill Consequences: Costs of Selected Incidents, Summary" DF Dickens Associates Ltd.

Sessions 13 & 14

"Benefit-Cost Analysis of Establishing a Dedicated Rescue/Salvage Tug to Serve Canada's Southern West Coast," Hagler-Bailly Consulting, Inc., by David F. Dickins Associates, and by Robert Allan, Ltd, September 1995

Costs of Selected Large Spills Table

"Washington Boating Basics—A Guide to Responsible Boating," Outdoor Empire Publishing, Inc.

Salmon Restoration Costs

Resolution No. 769, North Bend, WA

PSMC member organizations and their representatives

Sessions 17 & 18

"Marine Safety and Marine Environmental Protection Comparability Analysis," 1994 United States Coast Guard and Canadian Coast Guard

Other Handouts

"Ten Years Later… Oil Spill Prevention and Response in the United States 1989-1999," Department of Transportation, United States Coast Guard

Murray/Metcalf Northwest Straits Citizens Advisory Commission

1994 BC/Washington Marine Science Panel

1997 Report on the Status of Indicator Species of Puget Sound.

"Spill Scene" by DOE, Autumn 1999, Vol. 3, #4

Letter to Chair of U.S. Committee on Environmental Quality from People for Puget Sound, October 13, 1999

Letter from Rear Admiral Paul Blayney, USCG, to Tom Fitzsimmons, October 22, 1999

"First Steps Toward 'Tugs Now'" Press release by People for Puget Sound

Letter of October 15, 1999 from Ocean Policy Associates and People for Puget Sound to Governor Locke

"Don't Trade Away Marine Environment" by Fred Felleman, Seattle Times article

Letter from Puget Sound Steamship Operators Association, November 11, 1999, to All Vessel Operators' Personnel and Ships Crew

John F. Ross, "Risk: Where Do The Real Dangers Lie?" Smithsonian Magazine Article, 1966

George Lowden, "Identifying the Factors that Heighten Public Concern Over Oil Spills" IFC Inc., 9300 Lee Highway, Fairfax VA 22031-1207

"Is Complexity Intermixed With Disaster? Ask on January 1" NY Times Article, pg. A21, December 11, 1999

Letter from Ocean Advocates to Seattle Time Editor, December 18, 1999

"The Economic Impacts of Accidents on the Marine Industry" April 1997, by ICF Kaiser Consulting Group Inc., Marine Research Associates, prepared for U.S. Coast Guard

"Comments on ITOS Analysis" WA DOE

Comments on the "Regulatory Assessment: Use of Tugs to Protect Against Oil Spills in the Puget Sound Area" WA DOE

"Risk Assessment and Management in the 21st Century Marine Transportation System" TR News, July-August 1999, #203 Article on p. 13, by Martha Grabowski

"Regulatory Assessment: Use of Tugs to Protect Against Oil Spills in the Puget Sound Area" Report #9522-002, including technical appendices, November 15, 1999, prepared for USCG

Appendix 9 – Federal Register: Port Access Route Study;

Strait of Juan de Fuca and Adjacent Waters; Notice of Preliminary Study Recommenations

(See pages 71 and 77)

Federal Register / Vol 65, No 36 /Wednesday, February 23, 2000 /Proposed Rules 8917

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 167

[USCG-1999-4974] - /8

Port Access Route Study; Strait of Juan de Fuca and Adjacent Waters

AGENCY: Coast Guard, DOT

ACTION: Notice of preliminary study recommendations with request for comments

SUMMARY: The Coast Guard announces preliminary study recommendations of a Port Access Route Study which is evaluating the continued applicability of and the need for modifications to the current vessel routing measures in and around the Strait of Juan de Fuca and adjacent waters The goals of the study are to help reduce the risk of marine casualties and increase vessel traffic management efficiency in the study area Preliminary recommendations indicate that marine transportation safety can be enhanced through several modifications to the existing vessel routing system and limited regulatory changes The Coast Guard solicits comments on the preliminary recommendations presented in this document so we can complete our Port Access Route Study

DATES: Comments and related material must reach the Docket Management Facility on or before April 24, 2000

ADDRESSES: To make sure your comments and related material are not entered more than once in the docket, please submit them by only one of the following means:

(1) By mail to the Docket Management Facility (USCG-1999-4974), U S Department of Transportation, room PL-401, 400 Seventh Street SW , Washington, DC 20590-0001.

(2) By hand delivery to room PL-401 on the Plaza level of the Nassif Building, 400 Seventh Street SW , Washington, DC, between 9 a m and 5 p m , Monday through Friday, except Federal holidays The telephone number is 202-366-9329

(3) By fax to the Docket Management Facility at 202-493-2251.

(4) Electronically through the Web Site for the Docket Management System at http://dms.dot.gov.

The Docket Management Facility maintains the public docket for this document Comments and material received from the public, as well as documents mentioned in this preamble as being available in the docket, will become part of this docket and will be available for inspection or copying at room PL-401 on the Plaza level of the Nassif Building, 400 Seventh Street SW , Washington, DC, between 9 a m and 5 p m , Monday through Friday, except Federal holidays You may also find this docket on the Internet at http://dms.dot.gov.

Additional information and charts showing the recommended changes will be posted on the Thirteenth Coast Guard District Web Site which can be accessed at http://www uscg mil/d13/pars/sjdf.html. If you do not have Web access, then you may obtain the additional information and paper copies of the charts by contacting LT Steve Wheeler at 206-220-7274, e-mail Swheeler@pacnorwest.uscg.mil

FOR FURTHER INFORMATION CONTACT: For questions on this document, contact John Mikesell, Chief, Plans and Programs Section, Aids to Navigation and Waterways Management Branch, Thirteenth Coast Guard District, telephone 206-220-7272, e-mail Jmikesell@pacnorwest.uscg.mil; or George Detweiler, Office of Vessel Traffic Management, Coast Guard, telephone 202-267-0416, e-mail Gdetweiler@comdt.uscg.mil. For questions on viewing or submitting material to the docket, call Dorothy Walker, Chief, Dockets, Department of Transportation, telephone 202-366-9329.

SUPPLEMENTARY INFORMATION:

Request for Comments

We encourage you to participate in this study by submitting comments and related material If you do so, please

include your name and address, identify the docket number for this notice (USCG–1999–4974), indicate the specific section of this document to which each comment applies, and give the reason for each comment. You may submit your comments and material by mail, hand delivery, fax, or electronic means to the Docket Management Facility at the address under ADDRESSES; but please submit your comments and material by only one means. If you submit them by mail or hand delivery, submit them in an unbound format, no larger than 8½ by 11 inches, suitable for copying and electronic filing. If you submit them by mail and would like to know they reached the Facility, please enclose a stamped, self-addressed postcard or envelope. We will consider all comments and material received during the comment period.

Relationship to Other Projects

This notice of preliminary study recommendations with request for comments is not related to the advance notice of proposed rulemaking entitled "Improvements to Marine Safety in Puget Sound-Area Waters" [USCG–1998–4501](64937, November 24, 1998).

Definitions

The following definitions should help you review this notice:

Area to be avoided (ATBA) means a routing measure comprising an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships, or certain classes of ships.

Precautionary area means a routing measure comprising an area within defined limits where ships must navigate with particular caution and within which the direction of traffic flow may be recommended.

Recommended route means a route of undefined width, for the convenience of ships in transit, which is often marked by centerline buoys.

Regulated Navigation Area (RNA) is a water area within a defined boundary for which regulations for vessels navigating within the area have been established under 33 CFR part 165.

Separation Zone or line means a zone or line separating the traffic lanes in which ships are proceeding in opposite or nearly opposite directions; or from the adjacent sea area; or separating traffic lanes designated for particular classes of ships proceeding in the same direction.

Traffic lane means an area within defined width in which one-way traffic is established. Natural obstacles, including those forming separation zones, may constitute a boundary.

Traffic Separation Scheme (TSS) means a routing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes.

Vessel routing system means any system of one or more routes or routing measures aimed at reducing the risk of casualties; it includes traffic separation schemes, two-way routes, recommended tracks, areas to be avoided, inshore traffic zones, roundabouts, precautionary areas, and deep-water routes.

Background and Purpose

Why Is the Coast Guard Conducting This Port Access Route Study (PARS)?

A PARS was needed to review and analyze existing vessel routing measures and other traffic management tools currently used at the entrance to and in the Strait of Juan de Fuca and adjacent waters including Haro Strait, Boundary Pass, Rosario Strait, and the Strait of Georgia. Study results were to include recommended changes to these existing measures and tools.

The study area encompasses waters managed jointly by the United States and Canadian Coast Guards. Joint waterway management is accomplished primarily through the Cooperative Vessel Traffic System (CVTS). Under the CVTS Agreement, vessel traffic transiting the study area is managed by Vessel Traffic Centers located at Tofino and Victoria, BC, Canada, and Seattle, WA, irrespective of the International Boundary. The CVTS has active radar and radio coverage of all existing TSSs within the study area, including Boundary Pass and Haro Strait.

In addition to the CVTS, there are other vessel routing measures and traffic management tools in place to enhance navigation safety for vessels transiting the study area. They include, but are not limited to: TSSs, pilotage requirements, RNAs, precautionary areas, VTS special areas, the aids to navigation system, International Regulations for Prevention of Collisions at Sea (COLREGS), and an ATBA. The CVTS uses many of these tools to manage traffic effectively and safely.

Preliminary recommendations include modifications to vessel routing measures in and around the Strait of Juan de Fuca and adjacent waters including Haro Strait, Boundary Pass, Rosario Strait, and the Strait of Georgia. These recommendations also include modifications and/or additions to a number of Vessel Traffic Service Special Areas.

When Did the Coast Guard Conduct the PARS?

We announced the PARS in a notice published in the Federal Register on January 20, 1999 (64 FR 3145). We will finish the PARS after receipt and review of the comments received in response to this notice.

What Data Did the Coast Guard Use To Help Conduct the PARS?

We reviewed various studies and data collected both in-house and by other organizations on vessel traffic patterns and density, and risks associated therewith. U.S. Coast Guard sources included the latest Waterways Analysis and Management System (WAMS) reports for the Strait of Juan de Fuca, Haro Strait and Boundary Pass, Rosario Strait, Strait of Georgia, and Admiralty Inlet. Another data source was the study titled "Scoping Risk Assessment: Protection Against Oil Spills in the Marine Waters of Northwest Washington State," commonly referred to as the "Puget Sound Additional Hazards Study" or the "Volpe Study." U.S. and Canadian VTSs provided vessel traffic data throughout the study area. The Olympic Coast Marine Sanctuary Manager utilized portions of this traffic data to conduct further track analysis in the vicinity of the Traffic Lane Separation Lighted Buoy "J" (Juliet Buoy) and Duntze Rock.

Eleven letters were received in response to the published notice of the study. Another five comments were recorded from oral presentations made at the public meeting we conducted on May 12, 1999 (64 FR 18651, April 15, 1999).

The U.S. Coast Guard met with Canadian Coast Guard and Transport Canada representatives to discuss and define issues. Input was solicited from the maritime industry and other potentially affected parties.

Why Is the Coast Guard Publishing These Preliminary Recommendations?

Because of the lack of a substantive number of comments to the original notice and our strong desire to engage the public in the study process, we decided to ask for comments on the issues and recommendations presented in this notice. Our recommendations are purposely not exhaustive in their characterization of all the concerns and issues we considered. Rather, they provide readers with the essence of proposed modifications and their primary rationale so that readers may help us refine these recommendations and proposals through constructive comments.

What Is the Existing Traffic Management Safety Regime?

For this study, we divided the geographic area into six discrete waterway segments Each segment and its existing traffic management system is briefly described as follows:

1 Entrance to Strait of Juan de Fuca The TSS at the entrance consists of a forked configuration with approaches from the west and southwest Each approach consists of inbound and outbound traffic lanes with a separation zone in its center An ATBA offers protection to critical inshore habitats of the Olympic Coast National Marine Sanctuary that abuts the southern approach of the TSS on its east side The Tofino Vessel Traffic Service (Tofino) manages traffic in this area

2. Cape Flattery to Race Rock. The TSS in this area consists of a one-way westbound and a one-way eastbound traffic lane with a separation zone between them The lanes are of a uniform one-mile width At its western end, these lanes link with the forked approaches to the TSS The TSS is slightly offset to the south of the U.S / Canadian border. This portion of the TSS has a 22°-left dogleg in the inbound lane at 124°W The separation zone north of Twin Rivers flares to about three miles in width, then tapers in either direction to about 1 mile in width Tofino manages traffic in the Strait west of 124°40'W and the Puget Sound Vessel Traffic Service (PSVTS) manages traffic east of 124°40'W

3 Port Angeles Precautionary Area—Race Rocks to New Dungeness and North to Discovery Island. This area includes a 2-mile diameter precautionary area with the Cape Flattery to Race Rocks TSS connecting from the west, a short TSS from Port Angeles connecting from the south, and a longer TSS from Victoria, BC, connecting from the north All connecting TSSs have inbound and outbound traffic lanes with separation zones between them The western TSS provides the lanes leading inbound from and outbound to sea through the Strait of Juan de Fuca The southern TSS directs traffic to and from the pilot station off Port Angeles The PSVTS manages traffic in this area The northern TSS directs traffic to and from the Canadian pilot station off Victoria, BC. Another TSS, leading northeast from the Victoria pilots station, provides a link to Haro Strait The Victoria Vessel Traffic Center (VVTC) manages vessel traffic north and east of Race Rocks The area east of New Dungeness Spit and north to the San Juan Islands contains intersecting TSSs with associated precautionary areas which provide for the orderly flow of traffic between the Strait of Juan de Fuca, Admiralty Inlet, Rosario Strait, and Haro Strait The PSVTS manages traffic in this area

4 Haro Strait and Boundary Pass. There are no formalized traffic lanes for these waters, but the CVTS oversees vessel movements by utilizing full radar and VHF coverage in these joint U S / Canadian waters In addition, the "Turn Point Tanker Safety Area" places operating restrictions on tankers of 40,000 DWT or greater when rounding this partially blind turn VVTC manages traffic in this area

5 Rosario Strait and Guemes Channel. Rosario Strait has a single two-way traffic lane with no separation zone There are circular precautionary areas at the northern and southern entrances to the Strait The northern precautionary area leads to a TSS which routes traffic to and from the Strait of Georgia The southern precautionary area is linked to two traffic lanes One routes traffic to and from the west, and the other routes traffic to and from the south through Admiralty Inlet There are no designated traffic lanes in Guemes Channel The PSVTS manages traffic in Rosario Strait and Guemes Channel Traffic is subject to the VTS Special Area regulations listed under 33 CFR 161 13 and 161 55 These regulations place operating restrictions on certain classes of vessels when meeting, crossing or overtaking other large vessels in these constricted waters

6 Strait of Georgia. The VVTC manages the TSS in the Strait of Georgia. The TSS consists of northbound and southbound traffic lanes with a separation zone between them A break in the TSS between Active Pass and Roberts Bank provides for crossing traffic and traffic to and from Delta Port and the Tsawwassen Ferry Terminal Another break in the TSS at the northern juncture of Boundary Pass provides for ingress and egress to Boundary Pass To the south, between Sucia Island and Alden Bank, the TSS resumes and narrows, continuing to a circular precautionary area off Matia Island and then to its junction with the precautionary area at the north end of Rosario Strait. Northwest of its juncture with Boundary Pass, the northbound traffic lane and most of the separation zone lie in U.S waters The southbound lane lies in Canadian waters Southeast of the juncture with Boundary Pass, the TSS is completely in U.S waters

Study Recommendations

From the information examined, we identified general and geographic-specific issues where waterway safety improvements could be realized Each issue is discussed and recommendations presented Comments are particularly solicited with respect to these recommendations

A. General Issues Relevant to the Entire Study Area

Issue #1: Should compliance with the TSS be mandatory in U.S waters?

Discussion: Participation with the VTS is compulsory for certain classes of vessels; however the actual use of the TSS is not specifically mandated under U S regulations The VTS has the ability, on a case-by-case basis, to require a specific vessel to use the TSS This is accomplished as a "VTS Direction" under 33 CFR 161 11.

Over time, the CVTS has found it desirable to require only larger, deep draft vessels that can maintain a speed of 12 knots or more to use the TSS Experience has shown that almost all of these vessels voluntarily choose to follow the TSS On the rare occasion that a larger, deep draft vessel attempted not to follow the TSS, the CVTS has succeeded in encouraging or directing the vessel to do so

The Canadians, through a modification to Rule 10 of the COLREGS, require all vessels 20 meters or over to follow the TSS when it is safe to do so However, they do not aggressively enforce this provision, considering it not desirable to require smaller and/or slower moving vessels to follow the lanes Mixing vessels of large disparate speeds significantly increases the frequency of vessel interactions.

Recommendation: Do not make the TSS mandatory, as we do not consider regulatory imposition necessary to gain compliance The current system of voluntary usage, combined with persuasion and existing regulatory tools, ensures that those vessels that should be in the traffic lanes actually are

Issue #2: Should all traffic lanes, precautionary areas, and VTS special areas within the Puget Sound Area of Responsibility (AOR) be specified as waters where all or certain provisions of Rule 9 of the International Navigation Rules would apply?

Discussion: Conflicts periodically develop between large vessels following a TSS, narrow channel or fairway, and smaller recreational and fishing vessels Oftentimes, when a deep draft vessel is forced to maneuver even slightly to avoid a smaller vessel in a narrow channel or fairway, the deep draft vessel must then follow a route that is sub-optimal from a navigation safety perspective Also, when a deep draft vessel following a fairway or TSS is

forced to radically maneuver to avoid a smaller vessel, order and predictability are lost in that other surrounding vessels no longer know what to expect from the larger vessel

Rule 10 of the COLREGS prohibits vessels engaged in fishing, sailing vessels, and vessels of less than 20 meters from impeding the safe passage of a power-driven vessel that is following a traffic lane However, Rule 10 does not apply to the numerous precautionary areas that link the lanes together nor to fairways that do not have established traffic lanes Rule 9 prohibits vessels of less than 20 meters, sailing vessels, and vessels engaged in fishing, from impeding the passage of a vessel that can safely navigate only within a narrow channel or fairway The "do not impede" provisions of Rules 9 and 10 enhance the order, predictability, and safety of vessel movements Deep draft vessels would be provided with optimum routing through the TSS

Recommendation: Delineate and specify those waters within the VTS Puget Sound Area of Responsibility (AOR) in which all or certain provisions of Rule 9 of the International Navigation Rules would apply

Issue #3: Should there be one common international frequency for bridge-to-bridge radio communications in the CVTS?

Discussion: Under U S regulations, all vessels 20 meters or over are required to guard VHF channel 13 when in U S waters Channel 13 is the designated bridge-to-bridge radio frequency and is used to make passing arrangements and to clarify vessel intentions There is no comparably designated bridge-to-bridge frequency in Canadian waters The two governments must work together to establish one common bridge-to-bridge frequency, preferably channel 13, for all vessels operating within the CVTS, thus assuring timely and reliable communications between ships

Recommendation: The US and Canadian governments, through the Joint Coordinating Group of the CVTS, should develop internal policies that require the use of channel 13 for bridge-to-bridge communications within the CVTS area

B Geographic-Specific Issues

The following issues are best reviewed and comprehended when read in conjunction with the charts of the proposed changes that are posted on the Thirteenth Coast Guard District Web Site at http://www uscg mil/d13/pars/sjdf.html

Entrance to Strait of Juan de Fuca

Issues #4a through 4f: Should we—

a Extend the TSS at the entrance to the Strait of Juan de Fuca approximately 10 miles further offshore;

b. Center the separation zone at the entrance to the Strait of Juan de Fuca on the International Boundary;

c. Retain multiple approach lanes configured to maintain order and predictability for vessels entering or exiting the Strait;

d Configure these lanes to the greatest extent possible to avoid customary fishing grounds;

e Acknowledge the existence of an informal northwesterly traffic route by creating a new exit lane just north of the Juliet Buoy for vessels headed coastwise to Alaska; and

f Expand the ATBA boundaries to the north and west to provide a greater buffer around Duntze Rock and offshore while still providing a protected route for slower moving vessels?

Discussion: All traffic entering the Strait of Juan de Fuca is funneled into the Strait through one of two short traffic lanes The inbound traffic lane originating from the southwest may bring traffic within 1 mile of Duntze Rock. This convergence near the Juliet Buoy is in close proximity to the rocky shoreline of Cape Flattery, lies within the Olympic Coast National Marine Sanctuary, and funnels inbound southern traffic along the northern/western border of the ATBA

It is customary practice for a large percentage of the slower moving traffic, often tugs and barges and small fishing vessels, to transit inbound and outbound south of the designated traffic lanes when on coastwise voyages to and from the south This practice eliminates the need for slower moving southbound traffic to cross the traffic lanes, and numerous overtaking situations arising from disparate transit speeds However, under the present configuration, this traffic is forced to transit extremely close to Duntze Rock, and may end up infringing on either the ATBA or the inbound traffic lane A similar practice of transiting outside the lanes is observed and condoned for small/slower vessels transiting north of the lanes in Canadian waters.

Traditional commercial and sports fishing areas are in and adjacent to the traffic lanes at the entrance to the Strait Occasionally, fishing vessels in the area create a conflict for vessels following the TSS, particularly during periods of reduced visibility

Both the move of the convergence zone 10 miles to the west and the shift of the entrance point to the north would help create a "buffer zone" between the southernmost TSS lane and Duntze Rock and the nearby ATBA This relocation provides significant sea room for conflict resolution as vessels converge toward the entrance of the Strait, thereby improving order and predictability for each entry and exit lane Moving the northern border of the ATBA to a consistent 7000 yards south of the International Boundary and 4000 yards south of the southernmost edge of the TSS would provide an improved safety buffer for those smaller, slower moving vessels that choose to transit south of the TSS. Continuing this buffer area parallel to the TSS until a point at 124°55′ would allow sufficient room for slower moving vessels to transit without conflicting with inbound traffic steering for the southern approach to the TSS It would also provide a greater margin of safety around the hazards of Duntze Rock and Tatoosh Island

In the development of these proposed changes to the TSS, we considered the location of the traditional fishing grounds off the entrance to the Strait of Juan de Fuca Although it was not possible to completely segregate the TSS from the fishing grounds, the recommended changes minimize potential conflicts and improve the existing configuration.

Our recommendations provide routing order and predictability further offshore thereby reducing conflicts between vessels following the TSS and vessels fishing at the entrance to the Strait

Recommendation: That we implement all actions presented as Issues #4a through 4f.

Issue #5: Should the CVTS agreement be expanded to formally recognize an offshore VTS zone?

Discussion: The United States and Canada administer their respective National Vessel Traffic Management Regulations to the limit of their territorial seas (12 nautical miles) Based on current laws, neither country has the authority to impose a mandatory VTS regime beyond its territorial sea Although VTS jurisdiction does not extend beyond 12 nautical miles, vessels are asked to voluntarily check in with Tofino Traffic Center once north of latitude 48° N or east of longitude 127° W, or within 50 miles of Vancouver Island This is known as the CVTS "Service Area" and represents the existing radar coverage of Tofino Traffic Center Once checked in, vessels are provided with traffic advisories and are actively managed Check-in points are depicted on the navigational charts, and voluntary compliance is in excess of 99%

Recommendation: Do not formally create a VTS offshore zone The CVTS will continue to provide traffic management services on a voluntary basis

Issue #6: Should there be mandatory compliance with the ATBA associated with the Olympic Coast National Marine Sanctuary?

Discussion: The ATBA requests voluntary exclusion of tank vessels or barges carrying oil in bulk or hazardous materials Vessel track lines have been recorded for potential violations of this voluntary program For those vessels found within the ATBA and in violation, there has been a high degree of compliance after receiving letters jointly signed by the Manager of the Marine Sanctuary and the local USCG Captain of the Port.

At this time the State/BC Oil Spill Task Force is conducting an Offshore Routing Study This study will likely recommend coastwise routes that segregate various shipping classes into offshore "lanes" depending on their potential risk to the environment. It will build upon the recommendations of the Monterey Bay National Marine Sanctuary (MBNMS) Vessel Management Study and provide consistency along the entire West Coast The recommended realignment of the TSS at the entrance to the Strait of Juan de Fuca and the minor expansion of the ATBA should be consistent with any recommendations of the Offshore Routing Study

Recommendation: Do not make compliance with the ATBA mandatory Good voluntary compliance currently exists The realignment of the TSS at the entrance to the Strait of Juan de Fuca and the minor expansion of the ATBA discussed previously will make it easier for vessels to voluntarily comply We should continue to market and promote voluntary compliance and closely coordinate the final recommendations of this Port Access Route Study with the Offshore Routing Study

Cape Flattery to Race Rocks

Issues #7a through 7c: Should we—

a Center the TSS exactly on the International Boundary, and standardize the widths of the separation zone and traffic lanes to a consistent 2000 yards;

b. Soften the inbound dogleg off Twin Rivers from 22 degrees to 8 degrees to make it consistent with the International Boundary; and

c Establish IMO "Recommended Routes" north and south of the TSS to formally recognize and accommodate the existing traffic patterns?

Discussion: Commercial fishing activity and patterns in the Strait of Juan de Fuca have changed significantly since the TSS was first designed and implemented Neither PSVTS nor commercial fishing representatives report significant fishing activity in the separation zone. Therefore, the recommended changes to the TSS should not have an unreasonably adverse impact on the fishing industry

In its current configuration, two thirds of the TSS is located on the United States side of the International Boundary The separation zone flares to a maximum width of approximately three miles This TSS alignment reduces the amount of navigable water available to those vessels choosing to transit outbound or inbound south of the TSS, and places inbound traffic following the lanes in closer proximity to land than vessels transiting in the outbound lanes

Centering of the TSS on the International Boundary and reducing the width of the separation zone will reduce the potential for powered groundings on the U S shoreline by creating a larger buffer between the TSS and shore It also creates additional space for the existing in-shore traffic that transits south of the TSS

The Canadian Practice Firing Range (Exercise area WH) is located midway in the Strait, and extends south from the shoreline to the International Boundary This centering change will have minimal impact on the Canadian "WH" firing range, as reported by the Canadian Defense Force

The inbound 22° dogleg in the TSS off Twin Rivers has been identified as an occasional contributor to confusion during overtaking evolutions On extremely rare occasions, the VTS has had to remind vessels to execute the turn Reducing the inbound dogleg in the TSS from 22° to 8° allows the TSS to be centered on the International Boundary This in turn facilitates overtaking situations, and allows for improved traffic flow in the vicinity of Port Angeles Centering the TSS on the International Boundary and reducing the dogleg also creates more sea room for a vessel to recover or for the VTS to contact them should they miss the turn on the inbound leg A complete elimination of the dogleg turn was not feasible because it would have resulted in the TSS being too close to shoal water at certain locations in the Strait

IMO recognition of two-way "recommended routes" north and south of the traffic lanes would formalize existing traffic patterns and provide additional order and predictability Formally establishing recommended routes would also help to preserve the TSS for fast moving, deep draft traffic

Analysis of current traffic patterns in the informal traffic zone south of the TSS revealed that meeting traffic routinely passes starboard to starboard We will encourage vessels within the informal traffic zone to meet starboard to starboard, which we consider safer than the more traditional port to port meeting recommended by the COLREGS Starboard to starboard meeting in the informal traffic zone is preferred because it results in the vessel closest to the TSS proceeding in the same direction as a deep draft vessel traveling eastbound in the inbound lane of the TSS This traffic pattern minimizes the potential of a collision between deep draft vessels following the TSS and outbound vessels following the recommended route We anticipate that vessels using the inshore recommended route would be habitual or repeat users while those choosing to use the TSS would be first time or less familiar users For the recommended routes south of the TSS, we propose formalizing the current practice of vessels meeting starboard to starboard To avoid unnecessary confusion and to maintain international consistency, we also propose prescribing starboard to starboard meetings for the recommended routes north of the TSS

Recommendation: That we implement all actions presented as Issues #7a through 7c

Port Angeles Precautionary Area-Race Rocks to New Dungeness and North to Discovery Island

Issues #8a through 8e: Should we—

a Move the Port Angeles pilot station to a point approximately 1 2 5 miles north and 1 25 miles east of the tip of Ediz Hook;

b Redefine the boundaries of the precautionary area as follows:

1 North of Port Angeles, define the western boundary of the precautionary area by linking the southern edge of the inbound traffic lane and the tip of Ediz Hook.

2 Define the eastern boundary of the precautionary area by linking the southern edge of the inbound traffic lane and the tip of Dungeness Spit

3. Further define the eastern boundary of the precautionary area by linking the southern outbound traffic lane and the northern inbound traffic lane

c Establish a VTS special area within the inbound traffic lane between Angeles Point and the Port Angeles pilots station where a vessel will be prohibited from overtaking another vessel without VTS approval;

d Establish precautionary areas for the turns at Discovery Island and the Victoria pilot station; and

e. Create an inshore buffer by decreasing the width of the TSS leading from the Victoria pilots station to the turn south of Discovery Island while maintaining the same southern boundary of the inbound lane? In addition, we would link the TSS off Discovery Island with the new TSS in Haro Strait.

Discussion: Five TSSs converge at the precautionary areas located to the north and east of Port Angeles Ferries, recreational vessels, piloted deep draft vessels, non-piloted deep draft vessels, tugs and tows, naval vessels, and large and small commercial fishing vessels all interact and compete for space at this convergence point in the traffic scheme The present traffic configuration was designed primarily to deliver inbound vessels to the pilot stations located at Port Angeles and Victoria The impact on vessel safety or other waterway users may have been overshadowed For example, the present configuration does not separate the Port Angeles pilots boarding area from either the through traffic following the TSS or the traffic choosing to follow the informal inshore traffic lanes

The current TSS routing leading to the Port Angeles pilot station has been identified through casualty histories as a substantial cause for concern Vessels bound for the Port Angeles pilots station are required by the TSS to steer almost directly on Ediz Hook Vessels must first execute a 60-degree turn, then slow to varying speeds, which creates different impacts on steerage, to pick up a pilot At this point a vessel may be particularly vulnerable to currents and seas If an engineering failure occurred during this evolution, the vessel would be at risk of a drift or powered grounding on Ediz Hook By moving the pilot station we can minimize the number of sharp turns vessels must make when entering and leaving the precautionary area off Port Angeles. The move also eliminates the requirement for a vessel to steer directly on Ediz Hook while maneuvering to pick up a pilot, and allows through traffic to avoid the pilot boarding area

On the Canadian side, outbound tugs and barges exit the TSS at Discovery Island and head directly for the inshore routes south of Race Rocks cutting across the inbound and outbound TSS lanes south of Victoria Outbound fishing vessels exiting Baynes Channel or passing east of Discovery Island attempt to stay north of the TSS but often infringe upon the lanes near Trial Island, Discovery Island, and the pilot station Creating a buffer zone north of the Victoria TSS allows fishing vessels and other small, slow moving vessels to transit directly between Discovery Island and Race Rocks then inshore north of the TSS.

An issue unrelated to the TSS configuration, is the behavior of unpiloted vessels inbound from sea approaching the Port Angeles precautionary area On occasion, an inbound vessel does not complete overtaking evolutions before entering the precautionary area Results of an incomplete evolution include either imprudent speeds, or a vessel attempting to cross ahead of a vessel it has just passed When this occurs, the VTS often must intervene and issue directions to the vessels Establishing a VTS special area within the inbound traffic lane increases the predictability of vessel movements within the Port Angeles precautionary area by prohibiting overtaking maneuvers.

Recommendation: That we implement all actions presented as Issues #8a through 8e

Haro Strait and Boundary Pass

Issues #9a through 9d: Should we—

a In Haro Strait and Boundary Pass, establish a two-way traffic lane similar to the one presently existing in Rosario Strait;

b Establish a 2-mile diameter precautionary area centered on Turn Point to manage the merging traffic from several secondary channels in the vicinity of Turn Point;

c Designate the U S waters of this precautionary area as a VTS Special Area as defined in 33 CFR 161 13 where VTS users would not be allowed to meet, cross or overtake without the prior permission of the CVTS; and

d Through the Joint Coordinating Group of the CVTS, modify the existing Turn Point Tanker Safety Area to adopt the same special area provisions in Canadian waters?

Discussion: Turn Point is one of the more navigationally challenging areas of Haro Strait and Boundary Pass Transiting vessels must negotiate a blind right-angle turn at varying distances from shore depending on their direction of travel and the presence of strong currents In addition, numerous secondary channels and passages route traffic into Haro Strait in the vicinity of Turn Point

Neither designated traffic routes nor formal vessel routing measures are in effect except for the "Turn Point Tanker Safety Area" This CVTS measure requires loaded tankers of 40,000 DWT or greater to make passing arrangements on channel 11 and to "take every precaution to maintain a safe CPA" when transiting in the vicinity of Turn Point

By establishing a formal traffic lane, the provisions of Rule 10 of the COLREGS would apply Rule 10 directs certain smaller vessels to not impede the passage of a vessel following a traffic lane Establishment of a formal traffic lane and its inclusion on navigational charts will also increase order and predictability by reminding non-participants where to expect fast moving, deep draft vessels

A generous precautionary area at Turn Point will provide vessels maximum flexibility to maneuver as they compensate for the strong currents present. The creation of a VTS Special Area centered on Turn Point will also promote safe marine practices by eliminating the meeting of vessels at a sub-optimal location in the traffic scheme Further, establishing the same provisions in Canadian waters will ensure international uniformity

Recommendation: That we implement all actions presented as Issues #9a through 9d

Rosario Strait

Issues #10a and 10b: Should we—

a Extend the precautionary area "RB" southward into the existing traffic lanes which would eliminate that portion of the separation zone that the large vessels are unable to avoid; and

b Expand the applicability of the existing Rosario/Guemes Channel VTS Special Area regulations contained in 33 CFR 161 55 to include all adjacent waters through which loaded or light tankers have historically transited? These waters would include Bellingham Channel and the navigable channels northeast of Guemes and Sinclair Islands, which connect the refineries at Anacortes and Chery Point.

Discussion: Deep draft vessels often cannot precisely follow the TSS when approaching Rosario Strait from the south Strong currents make it impossible for vessels to avoid the separation zone as they negotiate the slight turns in the TSS just south of precautionary area "RB" We could not eliminate the small turns in the TSS approaching precautionary area "RB" without placing the TSS uncomfortably close to other shoal water We believe the safety of deep draft transits will be enhanced by eliminating a routing measure with which large ships cannot comply and replacing it with a precautionary area "where ships must navigate with particular caution."

The PSVTS Special Area regulations contained in 33 CFR 161 55 are only applicable to certain categories of vessels operating in Rosario Strait and Guemes Channel, and they modify the generic VTS Special Area regulations

contained in 33 CFR 161.13. These Special Area regulations were promulgated in recognition of the size and potential risks associated with tankers transiting Rosario and Guemes Channels en route to the refineries located at Anacortes and March Point However, loaded and light tankers will also occasionally transit Bellingham Channel and the waters northeast of Guemes/Sinclair Island as an alternate route to the refineries or to reach the anchorage at Vendovi Island

Currently, the VTS Special Area regulations do not apply to these secondary navigational channels which are arguably equally or more navigationally challenging than Guemes and Rosario Channels These recommendations would further enhance safety by expanding the Rosario/Guemes Special Area regulations to adjacent waters that have equal or greater risk and are frequented by both loaded and light tankers

Recommendation: That we implement all actions presented as Issues #10a and lob.

Strait of Georgia

Issues #11a and 11b: Should we—

a Modify slightly the existing TSS and establish a set of traffic lanes to align and connect the two TSSs; and

b Establish precautionary areas east of East Point at the junction of the new Boundary Pass traffic lane and Strait of Georgia TSS, and west of Delta Port and the Tsawwassen Ferry Terminal?

Discussion: There has been an increase *in* traffic *from* Delta Port and the Tsawwassen Ferry Terminal which poses a risk of collision as departing vessels enter the TSS and build to sea speed In addition, there is no routing measure connecting the TSS that terminates off Patos Island with the TSS that terminates off Saturna Island Further, these two TSSs are not aligned. Traffic exiting the Strait of Georgia bound for Rosario Strait follows the TSS to its termination before angling back to the north to enter the TSS at Patos Island This vessel routing crowds and creates a possible conflict with traffic southbound for Boundary Pass Finally, there is no precautionary area in the vicinity of East Point, where traffic merges from several directions By providing a contiguous TSS that connects the new Boundary Pass traffic lane with the existing or modified TSS in the Strait of Georgia, and establishing a contiguous TSS connecting the old Patos Island TSS and the Georgia Strait TSS, traffic bound for Rosario Strait could follow the TSS without impeding traffic southbound for Boundary Pass

A new precautionary area southwest of Delta Port will accommodate vessels departing Delta Port and the Tsawwassen Ferry Terminal as they get up to maneuvering speed before and while entering the TSS.

A new precautionary area around East Point will provide logical connection to three converging traffic lanes It will also highlight the need for potential crossing traffic in this area to exercise caution and will provide tankers departing Cherry Point bound for Haro Strait with a predictable and safe location to enter the traffic scheme

Recommendation: That we implement all actions presented as Issues #11a and 11b.

Future Actions

We appreciate the comments we received concerning the PARS Upon receiving your comments concerning this notice of preliminary study results, we will analyze them, and publish a notice of study results in the Federal Register. Any recommended changes to the Code of Federal Regulations will require a notice of proposed rulemaking (NPRM) published in the Federal Register. In addition, any changes to the vessel routing system, ie, TSS, ATBA, and precautionary areas, will require submission to and approval of the International Maritime Organization.

Dated: February 16, 2000.

Joseph J. Angelo,

Acting Assistant Commandant for Marine Safety and Environmental Protection.

[FR Doc.00–4196 Filed 2–22–00; 8:45 am]

BILLING CODE 4910–15–U

Appendix 10 – Federal Register: Notice of the Secretary of Transportation's Determination and the Department's Next Steps on Marine Transportation Safety in Puget Sound-Area Waters (See pages 17 and 25)

Federal Register / Vol 63, No 226 / Tuesday, November 24, 1998 / Notices 64983

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

[OST–1997–3286]

Notice of the Secretary of Transportation's Determination and the Department's Next Steps on Marine Transportation Safety in Puget Sound-Area Waters

AGENCY: Office of the Secretary, DOT

ACTION: Notice

SUMMARY: On April 28, 1996, the White House issued the Department of Transportation (DOT) Action Plan to Address Vessel and Environmental Safety on Puget Sound-Area Waters One element of this Action Plan committed DOT to assess the marine safety system in Puget Sound-area waters to determine whether any hazard scenarios warrant consideration of additional casualty prevention or response measures Secretary Rodney E Slater signed this determination on November 17, 1998 The determination and DOT's related announcement of next steps regarding additional measures are printed in an appendix to this notice Several of the measures discussed in the announcement on additional measures will be pursued in partnership with the State of Washington A Memorandum of Understanding formalizing this partnership is under development Pursuant to the announcement on additional measures, an Advance Notice of Proposed Rulemaking on "Improvements to Marine Safety in Puget Sound-Area Waters" appears in the "Proposed Rules" section of this issue of the **Federal Register**

FOR FURTHER INFORMATION CONTACT: Stephen M Shaprio, Office of the Assistant Secretary for Transportation Policy, U S Department of Transportation (P–130), 400 7th Street S W , Room 10309, Washington, DC 20590, telephone (202) 366–4866.

Issued in Washington, D C , on November 17, 1998

Eugene A Conti, Jr ,

Assistant Secretary for Transportation Policy

Appendix—Determination of the Safety of the Marine Transportation System for Puget Sound-Area Waters

On April 28, 1996, the White House issued the Department of Transportation (DOT) Action Plan to Address Vessel and Environmental Safety on Puget Sound-Area Waters This Action Plan consists of three elements The first element is to establish criteria for and facilitate the development of a private sector system to provide timely emergency response to vessels in distress in the Strait of Juan de Fuca and the waters near the Olympic Coast National Marine Sanctuary The Coast Guard submitted reports to Congress in January and December of 1997 on the development of the voluntary International Tug of Opportunity System (ITOS) as required under the 1995 Alaska Power Administration Asset Sale and Termination Act (Public Law 104–58) As of October 1998, eighty-six U S and Canadian tugs operating in the region have been fitted with location transponders and are actively participating in ITOS

The second element—the subject of this statement—is to determine the adequacy of all vessel safety and environmental protection measures in Puget Sound-area waters In November 1996 letters to Senator Murray, Congressman Dicks, and Governor Lowry—and in a December 1997 **Federal Register** notice (62 FR 68348)—we interpreted this provision as requiring our review of the overall marine safety regime in Puget Sound-area waters to determine whether any hazard scenarios warrant consideration of additional casualty prevention or response measures The third element of the Action Plan—additonal measures to address any such hazard scenarios cited—is addressed in an accompanying announcement

During the last two and one half years, the Department of Transportation has worked to maintain a high degree of marine safety in Puget Sound-area waters This effort has addressed concerns expressed by Senator Murray, other members of the Washington Congressional delegation, Governors Lowry and Locke, and many local interests These concerns have focused on increasing the level of safety and environmental protection for the State's waterways

During 1996, we worked closely with industry in its development of ITOS, which serves a valuable function in providing a means to identify tugs that may be available to assist a vessel in distress During 1997, DOT's Volpe National Transportation Systems Center conducted a broad assessment of the relative probabilities and consequences of marine accidents in the region A critical element of the Volpe Center's review was a panel of recognized safety and environmental protection experts who provided information and opinions on the current system

In addition to ITOS, prevention elements of the current system that were identified in the course of the Volpe Center's review include the Vessel Traffic Service operated by the U S and Canadian Coast Guards, the Traffic Separation Scheme to facilitate movement of inbound and outbound vessels serving U S and Canadian ports, the "Area To Be Avoided" adjacent to the Olympic Coast National Marine Sanctuary, and escort requirements for certain tankers east of Port Angeles Response elements of the current system that were identified include oil spill response plans for each vessel, area contingency plans, and response equipment provided by industry, the Coast Guard, and the State

Based on the findings in the Volpe Center's report, I hereby determine that the many existing elements of the region's marine transportation system comprise a safe system While there are always areas for improvement—and we should always be looking into means for improving safety—the Volpe report shows that the Puget Sound area has an excellent system now

Many different types of casualty scenarios were evaluated in the course of the Volpe Center's review Based on the findings in the Volpe Center's report—and upon consideration of input received through public workshops and a public meeting we held subsequent to the release of the Volpe Center's report—I hereby find that the potential for collisions, powered groundings, and drift groundings warrant consideration of specific additional measures to further mitigate their risks Our next steps regarding such measures are addressed in an accompanying announcement

Dated: November 17, 1998

Rodney E Slater,

Secretary of Transportation

Announcement Regarding Additional Risk Mitigation Measures for Puget Sound-Area Waters

This document outlines the Department of Transportation's (DOT's) next steps in light of the Secretary's determination on the safety of the marine transportation system for Puget Sound-area waters

While the Secretary determined that the elements of the system—which encompasses many missions performed by the United States Coast Guard—comprise a safe system, he also found that consideration of specific additional measures is warranted to further mitigate the risks of collisions, powered groundings, and drift groundings Some additional measures can be implemented immediately, while others require more thorough evaluation prior to implementation

The 1997 risk assessment of the area's marine transportation system—performed by DOT's Volpe National Transportation Systems Center in support of the Secretary's determination—found that the most promising area for risk reduction is to address the risk of collision in southwestern areas of Puget Sound from Admiralty Head to Tacoma, followed by the offshore area near the "J" buoy, and by the eastern end of the Strait of Juan de Fuca

A promising measure to reduce the risk of collisions and powered groundings is improved waterway management—such as potential modifications to the Traffic Separation Scheme at the western approach to the Strait of Juan de Fuca Such modifications could move traffic—and the point where traffic merges to enter the Strait—farther offshore from sensitive areas, such as the Olympic Coast National Marine Sanctuary This might facilitate safer merge patterns and increase the distance a disabled vessel could drift from offshore traffic lanes before grounding The Thirteenth Coast Guard District is starting a Port Access Study to pursue this measure in consultation with its Canadian counterparts as well as State and local stakeholders

The Coast Guard's Port State Control program, which identifies and targets substandard foreign vessels, has provided a significant reduction of risk The Coast Guard is pursuing further upgrades to the program, such as increased attention to English language proficiency and increased information sharing with Canada

In addition to the Port State Control elements to ensure crew competency, there are several other human element measures that will be taken to reduce the risk of collisions and powered groundings by improving crew effectiveness and performance These include fatigue prevention and improved communications The Coast Guard Captain of the Port of Puget Sound is implementing these measures

with Canadian and Washington State counterparts through the enforcement of recent international treaties and through ongoing Coast Guard programs

In addition to these activities addressing collisions and powered groundings, we are proceeding to more fully evaluate prospective measures to prevent a drift grounding in the event of a loss of steering or propulsion The recently implemented International Tug of Opportunity System (ITOS) is an outstanding example of a voluntary private-sector initiative to ensure safe operations

The Coast Guard's Report to Congress on ITOS has noted that a sufficient number of tugs may not be present in the western Strait of Juan de Fuca and in the offshore areas in the course of routine commercial service In order to assess this potential deficiency, DOT and the State of Washington have agreed to evaluate the effectiveness of ITOS In addition, we will jointly fund and manage an analysis of the costs and additional risk reduction benefits that would be afforded by tug escorts for commercial vessels or by stationing a rescue tug in the region These evaluations will start this winter We expect that they will be completed by the end of next summer If the evaluations indicate that pursuit of these measures is warranted, we will proceed with regulatory action at that time

Since any new tug escort or prepositioned rescue tug requirements would require regulatory action, the Coast Guard is issuing an Advance Notice of Proposed Rulemaking It provides a more complete picture of implementation options that may be considered in a subsequent rulemaking, and solicits specific comments on and additions to these options

In addition to incident prevention, the Volpe report also addressed means to better mitigate and respond to incidents should they occur Three such measures will be further pursued The first is to review boom prepositioning and boom deployment capabilities to protect shallow shoreline habitats The second is to review the allocation of response assets and area contingency plans in light of information gained through development of the Volpe report The third measure is to evaluate the need to preposition a response vessel at the western entrance to the Strait

The first two measures will be pursued by the Captain of the Port of Puget Sound in consultation with the Area Committee established to coordinate response preparations under the Oil Pollution Act of 1990 Consideration of the last measure, a prepositioned oil spill response vessel, will be incorporated in the evaluation of a prepositioned rescue tug

These next steps provide meaningful and reasonable actions to further improve the already high level of marine safety in this region We look forward to building on the progress and partnerships that have developed to this point as our efforts proceed

[FR Doc 98-31513 Filed 11-23-98; 8:45 am]
BILLING CODE 4910-62-P

Appendix 11 – Western Strait Response Table Top Exercise Report (See page 82)

Western Strait Response Table Top Exercise Report

On behalf of the exercise sponsors, we are pleased to forward the report from the Western Strait Response Tabletop Exercise held on August 30, 1999 at the Jackson Federal Building in Seattle, Washington. The co-sponsors of the exercise were the United States Coast Guard, Washington State Department of Ecology and the Canadian Coast Guard. This exercise met the objectives of the United States Secretary of Transportation as published in the Federal Register, November 24, 1998 (Vol. 63, Number 226. Page 64983-64985).

This tabletop exercise provided an opportunity for a spectrum of participants to address oil spill response issues in an open forum. A round-table format emphasized the organizational structure and response capability of the maritime transportation organizations that transit the Strait of Juan de Fuca with petroleum product (cargo or bunker). Exercise participants focused on two areas: (1) our regional ability to protect the near shore/shallow water environment in the Western portion of the Strait of Juan de Fuca; and (2) our allocation of response assets as stated in area contingency plans.

This report presents the exercise objectives developed by the co-sponsors. Each objective is followed by a list of response successes and gaps. Where successes are identified, we encourage our response community to continue these practices and processes. It is fully realized that some gaps can easily be corrected, while others may be exceptionally complex. However, where items of concern do exist, emphasis should be placed on understanding why and focus on the next steps to close the gap. The co-sponsors long-term goal is to work with maritime industry to develop reasonable approaches to protect the environment.

M. R. MOORE
Captain, U.S. Coast Guard
Captain of the Port Puget Sound

J. STOHR
Program Manager
Spill Prevention, Preparedness & Response Program
Washington State Department of Ecology

D. RODDEN
Superintendent of Environmental Response
Canadian Coast Guard

Western Strait Response Table Top Exercise Report

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This report presents the exercise objectives developed by the co-sponsors. Each objective is followed by a list of response successes and gaps. Where successes are identified, we encourage our response community to continue these practices and processes. It is fully realized that some gaps can easily be corrected, while others may be exceptionally complex. However, where items of concern do exist, emphasis should be placed on understanding why and focus on the next steps to close the gap. The co-sponsors long-term goal is to work with maritime industry to develop reasonable approaches to protect the environment.

This report will be posted on the Thirteenth Coast Guard District's home page for future reference.

M.R. MOORE
Captain, United States Coast Guard
Captain of the Port, Puget Sound

Objectives
Successes and Areas of Concern

1. Notification and Initial Activation – Assess the call out and activation procedures in the first hours of a response.

VALIDATED PROCESSES (SUCCESSES)	IDENTIFY AREAS OF CONCERN (GAPS)
• Good notification procedures to other parties. • Cross border callout in joint plan. • Education done w/videos & handouts and field guide put on vessels. • Effective notification to state and federal agencies when requested by the responsible party • Good emphasis on initial notification and immediate response w/out hesitation. • Site assessment and characterization	• Accuracy of reporting in a spill needs improvement. • Need more accurate assessment of incident. • Update on status between the initial callout and on scene assessment. • If unable to locate the responsible party, WSMC will turn spill over to USCG before 24 hours are up. • Health and Safety of responders. • Services are provided to members of Oil Spill Response Organizations first, then to other constituents. • Non member trigger beyond scope of local contractors. • Need to improve product identification, need education • Barge product (Grade B) • Activation/Which contractor is responsible for non-member, member callout

2. Assess the organization and response posture during the first 24 hours

VALIDATED PROCESSES (SUCCESSES)	IDENTIFY AREAS OF CONCERN (GAPS)
• Good immediate call-out of response personnel and organizations. • Pre planning is essential for effective response as in the NWACP. • Pre designated command post in some areas. • Response contractors have adequate resources/personnel to meet the planning standards and good relationships with other contractors. • Response contractors provide quick response within first 24 hours. • Response contractors have full authority to act on behalf of the responsible party. • Response technologies are available to the Incident Command System. • Coordinate Response effort.	• Early accurate information is essential. • Handling a spill pre-agreement to skim off-shore • Some companies do not have pre-arranged contracts with some OSRO's for response beyond 24 hours. • Dispersant delivery system is not in contracts. • Currently, offshore response activities are provided through Foss Maritime using tugs & barges. • Difference between 12 hour federal requirement vs. 2 hour state requirement for equipment deployment. • If non-member spill is greater than 1200 bbl, then contracts are required with FOSC. • Contractors will move equipment, but not into oil before a contract is signed. • Current lack of ability to initiate new contracts rapidly between response contractors. • No equipment in place for in-situ burn. • No equipment in place for use of dispersants. • Gap between players on dispersants; without pre-approved gaps will continue. • Unreasonable expectation for full recovery at "J" Buoy.

3. Assess the response posture beyond 24 hours. Assess the transition out of the initial response phase and into the planned phases of the response.

VALIDATED PROCESSES (SUCCESSES)	IDENTIFY AREAS OF CONCERN (GAPS)
• Integrated handoff taking 4-6 hours, gives RP time to arrive on scene • WSMC spill fund is very well managed. • Burrard Clean and other contractors can be called in for Canadian and U.S. activities. • Star contractor network • ICS Team Members are trained and available in the area.	• Unsure if the responsible party will take over spill within 24 hrs. to keep funding available. • Establishment of Incident Command System varies with companies. • USCG MSO does not have a complete "ready to go" spill management team and responders for a major incident 24 hour per day cadre, yet must be prepared • Minimal ability to monitor transition of spill management teams

4. Assess compliance with state and federal planning standards for vessel response capability. Show capability to ensure adequate resources area available for responding to a catastrophic incident.

5. Assess compliance with Canadian Coast Guard standards for vessel response capability. Show capability to ensure adequate resources are available for responding to a catastrophic incident

VALIDATED PROCESSES (SUCCESSES)	IDENTIFY AREAS OF CONCERN (GAPS)
• Data of establishing oil recovery capabilities/evaluation. • Response technologies workgroup continues to develop protocols for additional response measures. • Emphasis is on prevention. • Planning standards that are in place. • In-situ burn and dispersants continue to be tested. • Booming offshore.	• High volume port line raises question on tier 1 and 2 response capability. • Continue to work on evolution of response technologies workgroup for additional response measures. • Increases cost of resources if response moved westward of Port Angles – Is the line appropriately placed. • Potential conflicts between existing federal and state planning standards • Adequacy of existing standards • Discrepancy between actual and federal off shore recovery "caps". • Expectation to boom off shore when weather precludes this operation 9 months of the year. • State focus vs. federal focus not parallel 2 hour vs. 12 hour planning standards, which requires two contingency plans?

6. Assess the capability to conduct simultaneous open water recovery, near shore recovery and Geographic Response Plan implementation.

VALIDATED PROCESSES (SUCCESSES)	IDENTIFY AREAS OF CONCERN (GAPS)
• Prepared to work with Makah tribe. Non-concurrent personnel available 20. • Own internal 30-50 within 1st 24 hours • Non-traditional contractors. • 200 Foss Environmental Services personnel in Washington state. • 600 Foss Maritime personnel in Washington State. • Geographic Response Plans are good to get people out and working together, have flexibility. • Can easily move from infrastructure to location without infrastructure. • Offshore equipment is available from Foss Maritime (VOSS). • MSRC has dedicated response vessels. • CPA and MSRC share response training. • MSRC work w/Clean Sound. • Geographic Response Plans give better definition of what job is on a site. • Safety of personnel is a priority. • WSMC has very strong contractor support for oil spill clean-up. • Immediate assessment and prioritization for response. • Information reported in a timely manner. • There are personnel to take care of needs in Neah Bay. • Adequate response in Neah Bay. • U.S. Coast Guard BOA's.	• Personnel logistics (housing etc.). • Depletion of personnel on a major incident. • There is no "orphan" spill agreement similar to State of California. • MSRC cannot work for WSMC. • Ability to bring personnel in from outside areas is limited. • In remote areas, logistical support is key. Understanding difference between "contracted" and "dedicated" equipment. • Hands tied when >1200BBLS, non-member contract. Regulations present additional problems. • Need to continue ground truthing: problems such as access to private property by contractors. • Neah Bay has support facilities, but lacks response vessels. • Staff comes from across Canada – time delay. • Ability to get off-shore equipment to site in a reasonable amount of time. • Connection to fire boom and dispersant from WSMC – equipment not available to non-member companies from clean sound. • If equipment is moved to handle non-member company, equipment must be back filled from members. • Very little response equipment available in an immediate response. • Can mobilize quickly but does not have direct access to all OSRO's. • Contractual agreements – No one contractor can handle all the issues. • Interim storage problem. • Non-member limitations. • Need to continue to work on GRP's. • Debris handling. • Expedite releasing of equipment for mutual aid. • Can give WSMC equipment for member spills but only partial support for non-member spills. • Foreign vessel remote management and payment.

7. Assess the capability to conduct simultaneous operations in both Canadian and U.S. waters, including cross border contingencies.

VALIDATED PROCESSES (SUCCESSES)	IDENTIFY AREAS OF CONCERN (GAPS)
• Burrard Clean has Relationships and MOU's in place. • Clean Sound can operate Canadian vessels in U.S. waters. • Mutual Aid Agreement with Burrard Clean for cross border issues. • MSRC is willing to work across border in outbound lanes. • Canadian Coast Guard-Command Posts share personnel under JCP.	• INS & Customs. • Dealing w/Federal Government Agencies on wildlife issues. • Vessel/responder immunity. • How far to go into Canada? Entrance to Inlets or on shore? • Recovered oil becomes a hazardous waste. • The use of dispersants on U.S. side, Boundary Bay is a sensitive issue. • Customs clearances. • Dispersant approval from Environment Canada. Management of volunteers. • In-situ Burning and Dispersant policies, off-shore response conundrum.

Appendix 12 – Herbert Engineering (Keith Michel) – Allocation of Tug Costs on a "Per Transit Basis"; report to NPS Panel 2/16/2000

Allocation of Tug Costs on a "Per Transit Basis"

Prepared for:

State of Washington Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Prepared by:

Herbert Engineering Corp.
98 Battery Street, Suite 501
San Francisco, CA 94111

Report No. 9939-001
February 16, 2000

1 INTRODUCTION

This report presents rescue tug costs proportioned on a "per transit basis", for vessels transiting the Strait of Juan de Fuca. Three alternatives for allocating the costs are presented: (1) proportional to the number of transits, (2) proportional to the quantity of oil onboard each vessel, and, (3) proportional to the projected oil spillage. Data for the number of transits, oil movements, projected outflows, and costs are taken from the USCG report, "Regulatory Assessment -- Use of Tugs to Protect Against Spills in the Puget Sound Area".

2 OVERVIEW

Allocated tug costs per transit for various vessel types are presented in Table 1 for year 2005. Table 3 and Table 4 contain summaries for years 2000-2025. Background data used to develop the allocated costs are presented in Table 2 for year 2005, and in Table 5 and Table 6 for years 2000-2025.

Assumed annualized cost of rescue tug =		$ 6,000,000			$ 4,000,000	
(All costs given on a per transit basis)	Proportioned on basis of number of transits	Proportioned on basis of barrels of oil carried	Proportioned on basis of projected oil outflow	Proportioned on basis of number of transits	Proportioned on basis of barrels of oil carried	Proportioned on basis of projected oil outflow
Year 2005						
Single Hull Tankers - Laden w/ Crude	$514	$9,896	$10,437	$343	$6,597	$6,958
Double Hull Tankers - Laden w/ Crude	$514	$9,896	$2,389	$343	$6,597	$1,593
Single Hull Tankers - Laden w/ Product	$514	$3,960	$4,177	$343	$2,640	$2,785
Double Hull Tankers - Laden w/ Product	$514	$3,960	$956	$343	$2,640	$637
Single Hull Tank Barges - Laden w/ Product	$514	$1,408	$9,774	$343	$939	$6,516
Double Hull Tank Barges - Laden w/ Product	$514	$1,408	$2,070	$343	$939	$1,380
Tankers in Ballast	$514	$231	$140	$343	$154	$93
Containerships	$514	$275	$360	$343	$183	$240
Bulk Carriers	$514	$93	$121	$343	$62	$81
Others vessels >3000 GT in size	$514	$130	$171	$343	$87	$114
Others vessels 300 to 3000 GT in size	$514	$18	$94	$343	$12	$63

Table 1 Allocated Costs per Vessel Transit (Years 2005)

	No. of Transits	Oil Moved per Transit (bbls)	Oil Carried (bbls x 1000)	Projected Outflow (bbls)	Outflow per Transit (bbls/transit)	Outflow per barrel moved (bbls)
Single Hull Tankers - Laden w/ Crude	133	618,440	82,242	185.8	1.397	0.0023
Double Hull Tankers - Laden w/ Crude	178	618,440	110,093	56.9	0.320	0.0005
Single Hull Tankers - Laden w/ Product	115	247,501	28,363	64.1	0.559	0.0023
Double Hull Tankers - Laden w/ Product	153	247,501	37,968	19.6	0.128	0.0005
Single Hull Tank Barges - Laden w/ Product	146	87,983	12,815	190.6	1.309	0.0149
Double Hull Tank Barges - Laden w/ Product	55	87,983	4,870	15.3	0.277	0.0031
Tankers in Ballast	497	14,446	7,180	9.3	0.019	0.0013
Containerships	2,620	17,174	44,995	126.2	0.048	0.0028
Bulk Carriers	5,546	5,793	32,127	90.1	0.016	0.0028
Others vessels >3000 GT in size	1,680	8,150	13,692	38.4	0.023	0.0028
Others vessels 300 to 3000 GT in size	544	1,146	624	6.9	0.013	0.0110
Total Yr 2005	11,667		374,966	803.4		

Table 2 Transit, Oil Movement and Spill Projections (Years 2005)

The tug costs are proportioned as follows:

Proportioned on the number of transits: This cost is developed by dividing the annual tug cost by the total number of transits per year. All vessels greater than 300GT in size are accounted for. Inbound and outbound voyages are considered independent transits.

Example: For year 2005: Cost = $6,000,000 / 11,667 = $514 per transit

Proportioned on barrels of oil carried: This cost is developed by multiplying the annual tug cost by the ratio of oil moved on a given transit to the total oil movement for the year.

Example: For year 2005 for crude oil carriers:
Cost = ($6,000,000)(618,440 / 374,966,000) = $9,896 per transit

Proportioned on projected oil outflow: This cost is developed by multiplying the annual tug cost by the ratio of projected oil outflow for a single transit to the projected oil outflow for all vessels over the year.

Example: For year 2005 for single hull crude oil carriers:
Cost = ($6,000,000)(1.397 / 803.4) = $10,437 per transit

To obtain total costs for a roundtrip voyage, the costs for the inbound and outbound legs should be combined. For example, the cost for a containership in year 2005 assuming proportioning on the basis of the number of transits will be ($514)(2)=$1,028. The cost for a single hull tanker inbound with crude and outbound in ballast, assuming proportioning on the basis of oil outflow, will be $10,437 + $140 = $10,577.

The rescue tug costs include both annualized capital cost and operating costs. A new 10,000 BHP tug and a new 5,500 BHP tug are projected to cost about $6 million and 4$ million per year respectively. Allocated costs for both alternatives are presented in this report.

3 ASSUMPTIONS AND COMMENTS

The following assumptions apply to the transit and cost data:

1. The number of transits per year for each vessel type is based on the historical traffic data and the forecast of cargo flows presented in the *Regulatory Assessment*. No adjustments were made for the potential impact that a transit fee may have on the number of transits, or on the mix of single hull vs. double hull tankers.

2. Oil movements include crude oils, refined products, and bunkers. Separate cost figures are presented for crude oil and refined product carriers, although no attempt was made to account for the relative environmental impact of different oil types (e.g. crudes vs. refined products) when proportioning costs on the basis of oil outflow.

3. Tug operating costs for the out years have not been adjusted for inflation.

4. Oil outflow values applied in this report correspond to the "Reference Case" assessed in the *Regulatory Assessment*. Spill rates are based on historical data for the 1992-1997 period.

   Possible reduced tank barge accident rates due to safer operations in the Puget Sound region (refer to sensitivity analysis case "K" of the *Regulatory Assessment*) were not accounted for. Based on historical spill statistics, the number barrels of oil spilled per barrel moved is more than six times higher for tank barges as compared to tankers. The Panel of Experts convened for the *Regulatory Assessment* indicated that the accident rate for tank barges in the Puget Sound region might be significantly lower than for the nation as a whole, perhaps only 43% of the national

average. To account for this expected reduction in spill rates, multiply the tank barge transit cost developed on the basis of oil outflow by 0.43.

4 SUMMARY OF ALLOCATED TUG COSTS

Assumed annualized cost of rescue tug =		$ 6,000,000			$ 4,000,000	
(All costs given on a per transit basis)	Proportioned on basis of number of transits	Proportioned on basis of barrels of oil carried	Proportioned on basis of projected oil outflow	Proportioned on basis of number of transits	Proportioned on basis of barrels of oil carried	Proportioned on basis of projected oil outflow
Year 2000						
Single Hull Tankers - Laden w/ Crude	$553	$10,067	$8,845	$369	$6,711	$5,896
Double Hull Tankers - Laden w/ Crude	$553	$10,067	$2,025	$369	$6,711	$1,350
Single Hull Tankers - Laden w/ Product	$553	$4,145	$3,642	$369	$2,763	$2,428
Double Hull Tankers - Laden w/ Product	$553	$4,145	$834	$369	$2,763	$556
Single Hull Tank Barges - Laden w/ Product	$553	$1,469	$8,320	$369	$980	$5,547
Double Hull Tank Barges - Laden w/ Product	---	---	---	---	---	---
Tankers in Ballast	$553	$235	$117	$369	$157	$78
Containerships	$553	$262	$281	$369	$175	$187
Bulk Carriers	$553	$97	$103	$369	$64	$69
Others vessels >3000 GT in size	$553	$136	$145	$369	$91	$97
Others vessels 300 to 3000 GT in size	$553	$19	$81	$369	$13	$54
Year 2005						
Single Hull Tankers - Laden w/ Crude	$514	$9,896	$10,437	$343	$6,597	$6,958
Double Hull Tankers - Laden w/ Crude	$514	$9,896	$2,389	$343	$6,597	$1,593
Single Hull Tankers - Laden w/ Product	$514	$3,960	$4,177	$343	$2,640	$2,785
Double Hull Tankers - Laden w/ Product	$514	$3,960	$956	$343	$2,640	$637
Single Hull Tank Barges - Laden w/ Product	$514	$1,408	$9,774	$343	$939	$6,516
Double Hull Tank Barges - Laden w/ Product	$514	$1,408	$2,070	$343	$939	$1,380
Tankers in Ballast	$514	$231	$140	$343	$154	$93
Containerships	$514	$275	$360	$343	$183	$240
Bulk Carriers	$514	$93	$121	$343	$62	$81
Others vessels >3000 GT in size	$514	$130	$171	$343	$87	$114
Others vessels 300 to 3000 GT in size	$514	$18	$94	$343	$12	$63
Year 2010						
Single Hull Tankers - Laden w/ Crude	$481	$9,698	$10,791	$320	$6,466	$7,194
Double Hull Tankers - Laden w/ Crude	$481	$9,698	$2,470	$320	$6,466	$1,647
Single Hull Tankers - Laden w/ Product	$481	$3,774	$4,931	$320	$2,516	$3,287
Double Hull Tankers - Laden w/ Product	$481	$3,774	$1,129	$320	$2,516	$752
Single Hull Tank Barges - Laden w/ Product	$481	$1,345	$11,832	$320	$897	$7,888
Double Hull Tank Barges - Laden w/ Product	$481	$1,345	$2,506	$320	$897	$1,670
Tankers in Ballast	$481	$227	$174	$320	$151	$116
Containerships	$481	$290	$479	$320	$193	$319
Bulk Carriers	$481	$89	$147	$320	$59	$98
Others vessels >3000 GT in size	$481	$125	$206	$320	$83	$137
Others vessels 300 to 3000 GT in size	$481	$18	$114	$320	$12	$76
Year 2015 (before final phase-out of single hull vessels)						
Single Hull Tankers - Laden w/ Crude	$437	$9,463	$11,972	$292	$6,309	$7,982
Double Hull Tankers - Laden w/ Crude	$437	$9,463	$2,741	$292	$6,309	$1,827
Single Hull Tankers - Laden w/ Product	$437	$3,582	$4,532	$292	$2,388	$3,021
Double Hull Tankers - Laden w/ Product	$437	$3,582	$1,037	$292	$2,388	$692
Single Hull Tank Barges - Laden w/ Product	$437	$1,281	$11,519	$292	$854	$7,680
Double Hull Tank Barges - Laden w/ Product	$437	$1,281	$2,439	$292	$854	$1,626
Tankers in Ballast	$437	$221	$167	$292	$148	$111
Containerships	$437	$275	$449	$292	$183	$299
Bulk Carriers	$437	$85	$138	$292	$56	$92
Others vessels >3000 GT in size	$437	$119	$195	$292	$79	$130
Others vessels 300 to 3000 GT in size	$437	$17	$108	$292	$11	$72

Table 3 Allocated Costs per Vessel Transit (Years 2000-2015)

Assumed annualized cost of rescue tug =	$ 6,000,000			$ 4,000,000		
(All costs given on a per transit basis)	Proportioned on basis of number of transits	Proportioned on basis of barrels of oil carried	Proportioned on basis of projected oil outflow	Proportioned on basis of number of transits	Proportioned on basis of barrels of oil carried	Proportioned on basis of projected oil outflow
Year 2015 (after final phase-out)						
Single Hull Tankers - Laden w/ Crude	---	---	---	---	---	---
Double Hull Tankers - Laden w/ Crude	$437	$9,463	$3,572	$292	$6,309	$2,381
Single Hull Tankers - Laden w/ Product	---	---	---	---	---	---
Double Hull Tankers - Laden w/ Product	$437	$3,582	$1,352	$292	$2,388	$901
Single Hull Tank Barges - Laden w/ Product	---	---	---	---	---	---
Double Hull Tank Barges - Laden w/ Product	$437	$1,281	$2,914	$292	$854	$1,942
Tankers in Ballast	$437	$221	$224	$292	$148	$150
Containerships	$437	$275	$604	$292	$183	$403
Bulk Carriers	$437	$85	$186	$292	$56	$124
Others vessels >3000 GT in size	$437	$119	$242	$292	$79	$162
Others vessels 300 to 3000 GT in size	$437	$17	$145	$292	$11	$97
Year 2020						
Single Hull Tankers - Laden w/ Crude	---	---	---	---	---	---
Double Hull Tankers - Laden w/ Crude	$397	$9,180	$3,300	$265	$6,120	$2,200
Single Hull Tankers - Laden w/ Product	---	---	---	---	---	---
Double Hull Tankers - Laden w/ Product	$397	$3,375	$1,213	$265	$2,250	$809
Single Hull Tank Barges - Laden w/ Product	---	---	---	---	---	---
Double Hull Tank Barges - Laden w/ Product	$397	$1,213	$2,724	$265	$808	$1,816
Tankers in Ballast	$397	$216	$208	$265	$144	$139
Containerships	$397	$259	$544	$265	$173	$363
Bulk Carriers	$397	$80	$169	$265	$54	$113
Others vessels >3000 GT in size	$397	$113	$238	$265	$75	$158
Others vessels 300 to 3000 GT in size	$397	$16	$130	$265	$11	$86
Year 2025						
Single Hull Tankers - Laden w/ Crude	---	---	---	---	---	---
Double Hull Tankers - Laden w/ Crude	$360	$8,903	$3,039	$240	$5,935	$2,026
Single Hull Tankers - Laden w/ Product	---	---	---	---	---	---
Double Hull Tankers - Laden w/ Product	$360	$3,169	$1,082	$240	$2,113	$721
Single Hull Tank Barges - Laden w/ Product	---	---	---	---	---	---
Double Hull Tank Barges - Laden w/ Product	$360	$1,144	$2,574	$240	$763	$1,716
Tankers in Ballast	$360	$209	$192	$240	$139	$128
Containerships	$360	$244	$493	$240	$163	$328
Bulk Carriers	$360	$76	$154	$240	$51	$103
Others vessels >3000 GT in size	$360	$107	$216	$240	$71	$144
Others vessels 300 to 3000 GT in size	$360	$15	$116	$240	$10	$77

Table 4 Allocated Costs per Vessel Transit (Years 2015-2025)

	No. of Transits	Oil Moved per Transit (bbls)	Oil Carried (bbls x 1000)	Projected Outflow (bbls)	Outflow per Transit (bbls/transit)	Outflow per barrel moved (bbls)
Single Hull Tankers - Laden w/ Crude	226	604,179	136,673	323.8	1.432	0.0024
Double Hull Tankers - Laden w/ Crude	93	604,179	56,060	30.4	0.328	0.0005
Single Hull Tankers - Laden w/ Product	178	248,769	44,279	104.9	0.589	0.0024
Double Hull Tankers - Laden w/ Product	73	248,769	18,162	9.9	0.135	0.0005
Single Hull Tank Barges - Laden w/ Product	188	88,185	16,579	253.2	1.347	0.0153
Double Hull Tank Barges - Laden w/ Product	0	---	---	---	--	--
Tankers in Ballast	506	14,119	7,144	9.6	0.019	0.0013
Containerships	2,440	15,736	38,396	110.9	0.045	0.0029
Bulk Carriers	5,072	5,793	29,381	84.8	0.017	0.0029
Others vessels >3000 GT in size	1,578	8,151	12,862	37.1	0.024	0.0029
Others vessels 300 to 3000 GT in size	498	1,143	569	6.5	0.013	0.0114
Total Yr 2000	10,852		360,106	971.2		
Single Hull Tankers - Laden w/ Crude	133	618,440	82,242	185.8	1.397	0.0023
Double Hull Tankers - Laden w/ Crude	178	618,440	110,093	56.9	0.320	0.0005
Single Hull Tankers - Laden w/ Product	115	247,501	28,363	64.1	0.559	0.0023
Double Hull Tankers - Laden w/ Product	153	247,501	37,968	19.6	0.128	0.0005
Single Hull Tank Barges - Laden w/ Product	146	87,983	12,815	190.6	1.309	0.0149
Double Hull Tank Barges - Laden w/ Product	55	87,983	4,870	15.3	0.277	0.0031
Tankers in Ballast	497	14,446	7,180	9.3	0.019	0.0013
Containerships	2,620	17,174	44,995	126.2	0.048	0.0028
Bulk Carriers	5,546	5,793	32,127	90.1	0.016	0.0028
Others vessels >3000 GT in size	1,680	8,150	13,692	38.4	0.023	0.0028
Others vessels 300 to 3000 GT in size	544	1,146	624	6.9	0.013	0.0110
Total Yr 2005	11,667		374,966	803.4		
Single Hull Tankers - Laden w/ Crude	60	633,308	38,067	72.8	1.212	0.0019
Double Hull Tankers - Laden w/ Crude	244	633,308	154,459	67.7	0.277	0.0004
Single Hull Tankers - Laden w/ Product	57	246,448	13,936	31.3	0.554	0.0022
Double Hull Tankers - Laden w/ Product	229	246,448	56,548	29.1	0.127	0.0005
Single Hull Tank Barges - Laden w/ Product	101	87,825	8,860	134.1	1.329	0.0151
Double Hull Tank Barges - Laden w/ Product	114	87,825	10,023	32.1	0.281	0.0032
Tankers in Ballast	492	14,831	7,297	9.6	0.020	0.0013
Containerships	2,762	18,934	52,297	148.6	0.054	0.0028
Bulk Carriers	6,064	5,793	35,127	99.8	0.016	0.0028
Others vessels >3000 GT in size	1,782	8,150	14,523	41.3	0.023	0.0028
Others vessels 300 to 3000 GT in size	580	1,144	664	7.5	0.013	0.0112
Total Yr 2010	12,485		391,799	673.9		
Single Hull Tankers - Laden w/ Crude	34	647,805	22,221	50.4	1.471	0.0023
Double Hull Tankers - Laden w/ Crude	263	647,805	170,177	88.4	0.337	0.0005
Single Hull Tankers - Laden w/ Product	35	245,210	8,694	19.7	0.557	0.0023
Double Hull Tankers - Laden w/ Product	272	245,210	66,585	34.6	0.127	0.0005
Single Hull Tank Barges - Laden w/ Product	107	87,687	9,422	152.0	1.415	0.0161
Double Hull Tank Barges - Laden w/ Product	122	87,687	10,659	36.4	0.300	0.0034
Tankers in Ballast	486	15,159	7,367	9.9	0.020	0.0014
Containerships	3,246	18,798	61,018	179.0	0.055	0.0029
Bulk Carriers	6,632	5,793	38,418	112.7	0.017	0.0029
Others vessels >3000 GT in size	1,894	8,153	15,442	45.3	0.024	0.0029
Others vessels 300 to 3000 GT in size	628	1,147	720	8.3	0.013	0.0116
Total Yr 2015 (before final phase-out))	13,719		410,722	737.0		

Table 5 Transit, Oil Movement and Spill Projections (Years 2000-2015)

	No. of Transits	Oil Moved per Transit (bbls)	Oil Carried (bbls x 1000)	Projected Outflow (bbls)	Outflow per Transit (bbls/transit)	Outflow per barrel moved (bbls)
Single Hull Tankers - Laden w/ Crude	0	---	---	---	--	--
Double Hull Tankers - Laden w/ Crude	297	647,805	192,398	96.8	0.326	0.0005
Single Hull Tankers - Laden w/ Product	0	---	---	---	--	--
Double Hull Tankers - Laden w/ Product	307	245,210	75,279	37.9	0.123	0.0005
Single Hull Tank Barges - Laden w/ Product	0	---	---	---	--	--
Double Hull Tank Barges - Laden w/ Product	229	87,687	20,080	60.9	0.266	0.0030
Tankers in Ballast	486	15,159	7,367	9.9	0.020	0.0014
Containerships	3,246	18,798	61,018	179.0	0.055	0.0029
Bulk Carriers	6,632	5,793	38,418	112.7	0.017	0.0029
Others vessels >3000 GT in size	1,894	8,153	15,442	41.9	0.022	0.0027
Others vessels 300 to 3000 GT in size	628	1,147	720	8.3	0.013	0.0116
Total Yr 2015 (after single hull phase-out)	13,719		410,722	547.4		
Single Hull Tankers - Laden w/ Crude	0	---	---	---	--	--
Double Hull Tankers - Laden w/ Crude	291	661,926	192,621	100.7	0.346	0.0005
Single Hull Tankers - Laden w/ Product	0	---	---	---	--	--
Double Hull Tankers - Laden w/ Product	331	243,395	80,564	42.1	0.127	0.0005
Single Hull Tank Barges - Laden w/ Product	0	---	---	---	--	--
Double Hull Tank Barges - Laden w/ Product	246	87,434	21,509	70.3	0.286	0.0033
Tankers in Ballast	480	15,543	7,461	10.5	0.022	0.0014
Containerships	3,816	18,678	71,274	217.9	0.057	0.0031
Bulk Carriers	7,256	5,793	42,032	128.5	0.018	0.0031
Others vessels >3000 GT in size	2,014	8,150	16,413	50.2	0.025	0.0031
Others vessels 300 to 3000 GT in size	672	1,144	769	9.1	0.014	0.0119
Total Yr 2020	15,106		432,642	629.2		
Single Hull Tankers - Laden w/ Crude	0	---	---	---	--	--
Double Hull Tankers - Laden w/ Crude	284	677,333	192,363	104.3	0.367	0.0005
Single Hull Tankers - Laden w/ Product	0	---	---	---	--	--
Double Hull Tankers - Laden w/ Product	357	241,098	86,072	46.7	0.131	0.0005
Single Hull Tank Barges - Laden w/ Product	0	---	---	---	--	--
Double Hull Tank Barges - Laden w/ Product	264	87,060	22,984	82.2	0.311	0.0036
Tankers in Ballast	475	15,905	7,555	11.0	0.023	0.0015
Containerships	4,486	18,553	83,230	267.2	0.060	0.0032
Bulk Carriers	7,940	5,793	45,994	147.7	0.019	0.0032
Others vessels >3000 GT in size	2,142	8,149	17,456	56.0	0.026	0.0032
Others vessels 300 to 3000 GT in size	730	1,146	836	10.2	0.014	0.0122
Total Yr 2025	16,678		456,490	725.3		

Table 6 Transit, Oil Movement and Spill Projections (Years 2015-2025)

Appendix 13 – DF Dickens Associates Ltd. – Oil Spill Consequences: Costs of Selected Spills; Report to NPS Panel 2/18/2000 (See page 33)

Oil Spill Consequences:

Costs of Selected Incidents

SUMMARY

prepared for

North Puget Sound Oil Spill Risk Management Panel

submitted

February 18, 2000

prepared by

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Oil Spill Consequences: Costs of Selected Incidents

Acknowledgments: The author wishes to acknowledge the assistance of Dagmar Etkin, Environmental Research Consulting in providing cost information on recent US spills Previous reports by Etkin (1998) formed the basis for much of the cost data reported here.

Summary

The objective of this study was to compile information on selected US and worldwide spill incidents to serve as a guide to the expected range in costs which could result from future spills Incidents were selected by first examining the full set of case studies presented in Etkin's two 1998 reports on the financial costs of spills in the US and Worldwide Criteria for compiling the subset presented here included: persistent oils (crude, bunker, fuel oil), coastal or estuarine location, and shoreline impacts

Although a few spills were included from the 1980's, the focus was on incidents from 1989 to current No effort was made to select case studies with any particular spill size or to concentrate on any particular vessel type The final selection covered 19 US incidents (2 pipeline, 7 tanker, 4 barge, 5 non tanker), and 16 worldwide incidents (10 tanker, 4 freighter, 2 barge)

Results from 30 incidents are summarized in the following two page spreadsheet. The range of costs expressed as dollars per gallon spilled from these incidents is compared with other sources in the attached table

Information on all of the spills considered in this study is contained in a detailed spreadsheet printed as a separate document Details on four incidents are also printed as a separate subset for further discussion: Nestucca (Dec 88), Exxon Valdez (Mar 89), American Trader (Feb 90), and Tenyo Maru (Jul 91) The headings used for the detailed data compilation are included here as an indication of the level of detail attempted in the study

Wherever possible, cost figures are presented in 1997 US dollar equivalents to match the bulk of the original data compiled in 1998.

It should be noted that for many incidents the available cost information (and in some cases even the volume spilled) is either estimated or incomplete While the total costs summarized here represent the most accurate data publicly available, the final figure shown will not necessarily represent the full cost to society or to a region For the more recent spills, litigation may be ongoing with the final settlement costs to be decided

Table

Spill Cost Comparison

Source	$ per Gallon Spilled	Reference
Dickins Selected US Incidents 1985-99 (all spill sizes)	$119 - $1,136 Avg. $499	D. S. Etkin (1998 & pers. comm Jan 2000)
Puget Sound /Juan de Fuca Spill Scenarios moderate * (420,000 gal)	$720	Dickins et al. (1990) States/BC Task Force
Puget Sound /Juan de Fuca Spill Scenarios large to very large * (assume 8 million gal)	$296	Dickins et al. (1990) States/BC Task Force
Nestucca Contingent Value Analysis + (moderate spills)	$1,164	Haglar Bailly for BC Gov't (1995)
Valdez Contingent Value Analysis + (large spills)	$414	Haglar Bailly for BC Gov't (1995)
Costs Avoided (considers only fatalities, injuries, ship damage, lost ship time, cargo damage)	up to $160 depending on alternative considered	US Coast Guard (Nov 1999) Table 40, p. 63

+ Calculated by using Table 5-2. Estimated Willingness to pay (WTP) over five years to avoid one moderate spill: $110 per household in WA X 1.6 million + $80 per household in BC X 1 million = 256 Million. Moderate spill considered equivalent to Nestucca in size and impacts (42,000 to 420,000 gal). Used actual Nestucca volume of 231,000 gal in calculating equivalent $1,164/gallon here. Large spill costs calculated by taking the quoted WTP figures and multiplying by 10 to cover the stated 50 year lifetime remaining for the average householder / Valdez spill volume to arrive at an equivalent large spill cost of $414 (converted from 95 to Dec 97 dollars)

* Calculated from Table 2-30 converting Cdn to US dollars at 1.3/1 and using characteristic sizes of 420,000 gallons for moderate spills, 8,000,000 gallons for large to very large spills (representing the largest spill represented by the study scenarios). Dollar figures derived from most costly scenarios (eastern part of study area). States/BC Task Force scenarios considered clean-up, fisheries losses, property damage and tourism (NRDA, punitive damages, fines and criminal penalties not included).

Note: all dollars converted to the end of 1997 using the CPI except USCG left as published. No allowance for inflation in converting 50 year CVM methodology to current value.

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Spill Cost Summary: Selected US and Worldwide Incidents, 1984-2000 (all costs in 97 US$ equivalent)

Vessel or Facility Name	Vessel Type	Date	Location	Oil Type	Total Spill Vol.	Response Cost	Natural Resource Damages	Economic Claims	TOTAL SPILL COST	TOTAL COST/GAL
					(gal)	($ per gal. spilled)	($ per gal. spilled)	($ per gal. spilled)	(millions)	($ per gal. spilled)
US SPILLS										
Arco Anchorage	Tanker	31-Dec-85	WA	Crude	189,000	143	3		**27.2**	**143**
Apex Houston	Barge	28-Jan-86	CA	Crude	25,000	2	481		**12.11**	**484**
Glacier Bay	Tanker	2-Jul-87	AK	Crude	60,000	68		1,416	**89.18**	**1,486**
Nestucca	Barge	23-Dec-88	WA	Fuel Oil	231,000	56	57	4	**27.68**	**119**
Exxon Valdez	Tanker	24-Mar-89	AK	Crude	11,000,000	306	140	665	**12,262.95**	**1,114**
American Trader	Tanker	7-Feb-90	CA	Crude	417,000	36	29	54	**59.52**	**142**
Sammi Superstars/Maui	Freighter	8-Jan-91	CA	Fuel Oil	32,064	620			**20**	**623**
Texaco Anacortes	Refinery	22-Feb-91	WA	Crude	27,300				**11**	**402**
Tenyo Maru	Fishing Vessel	22-Jul-91	WA/BC	Fuel oil, diesel	173,000	88	65	in NRDA	**28.33**	**163**
Union Oil	Pipeline	3-Aug-92	CA	Crude	14,700	1,006	108		**16.7**	**1,136**
Morris J. Berman	Barge	7-Jan-94	Puerto Rico	Fuel Oil	789,000	111	9	7	**182.14**	**230**
Barge 101	Barge	31-Dec-94	WA	Diesel	26,900					
Kure	Freighter	5-Nov-97	CA	Fuel oil	4,500	2,222				
Kuroshima	Freighter (Fish)	26-Nov-97	AK	Fuel oil	47,000	159			**11.5**	**244**
Command	Tanker	28-Sep-98	CA	Fuel Oil	51,450	23			**9.4**	**182**
New Carissa	Freighter	4-Feb-99	OR	Fuel oil	70,000	328			**36.5**	**521**
US Averages					**822370**	**369**	**112**	**429**	**914**	**499**
US Avg. excl Valdez					**145328**	**374**	**107**	**370**	**41**	**451**

DF Dickins Associates Ltd. from D.S. Etkin (98 and current), Harper et al. (95) and OSIR (29/7/99, 30/12/99, 20/01/00)

Spill Cost Summary: Selected US and Worldwide Incidents, 1984-2000 (all costs in 97 US$ equivalent)

Vessel or Facility Name	Vessel Type	Date	Location	Oil Type	Total Spill Vol.	Response Cost	Natural Resource Damages	Economic Claims	TOTAL SPILL COST	TOTAL COST/GAL
WORLDWIDE SPILLS										
Maritime Gardenia	Bulker	24-Jan-90	Japan	Fuel oil	242,000	31			**7.72**	**31**
Vista Bella	Barge	6-Mar-91	Caribbean	Bunker	588,000	10			**5.97**	**10**
Agip Abruzzo	Tanker	11-Apr-91	Italy	Crude + bunker	588,000	41			**29.4**	**50**
Haven	Tanker	4-Apr-91	Italy	Crude	6,000,000	38	113	1.89	**927.07**	**154**
Arisan	Ore Carrier	12-Jan-92	Norway	Fuel Oil	44,000	129			**5.68**	**129**
Aegean Sea	Tanker	3-Dec-92	Spain	Crude	21,900,000	1.44		12	**313.83**	**14**
Taiko Maru	Tanker	########	Japan	Fuel oil	153,000	67		78	**22.34**	**146**
Keumdong No.5	Barge	27-Sep-93	S. Korea	Fuel Oil	391,000	18		687	**301.44**	**770**
Sea Prince	Tanker	23-Jul-95	S.Korea	Fuel Oil	412,000	61		680	**305.17**	**740**
Yeo Myung	Tanker	3-Aug-95	S. Korea	Fuel Oil	12,000	117		775	**10.73**	**894**
Honan Sapphire	Tanker	17-Nov-95	S. Korea	Crude	370,400	32		167	**74.08**	**200**
Sea Empress	Tanker	15-Feb-96	UK	Crude + fuel oil	21,274,000	1.45	12.34	10	**479**	**22**
Nakhodka	Tanker	2-Jan-97	Japan	Fuel oil	2,288,000	94		36	**286.9**	**125**
Erika	Freighter	12-Dec-99	France	Fuel oil	2,800,000	Ongoing	Ongoing	16	**Ongoing**	**Ongoing**
AVERAGES					**4174031**	**49**	**63**	**246**	**213**	**253**

DF Dickins Associates Ltd. from D.S. Etkin (98 and current), Harper et al. (95) and OSIR (29/7/99, 30/12/99, 20/01/00)

Appendix 14 – Department of Ecology (Captain Jack Barfield) –
Casualty and Incident Data, 1993-1998 – North Puget Sound Area (See page 26)

RISK ANALYSIS

I - HISTORICAL DATA

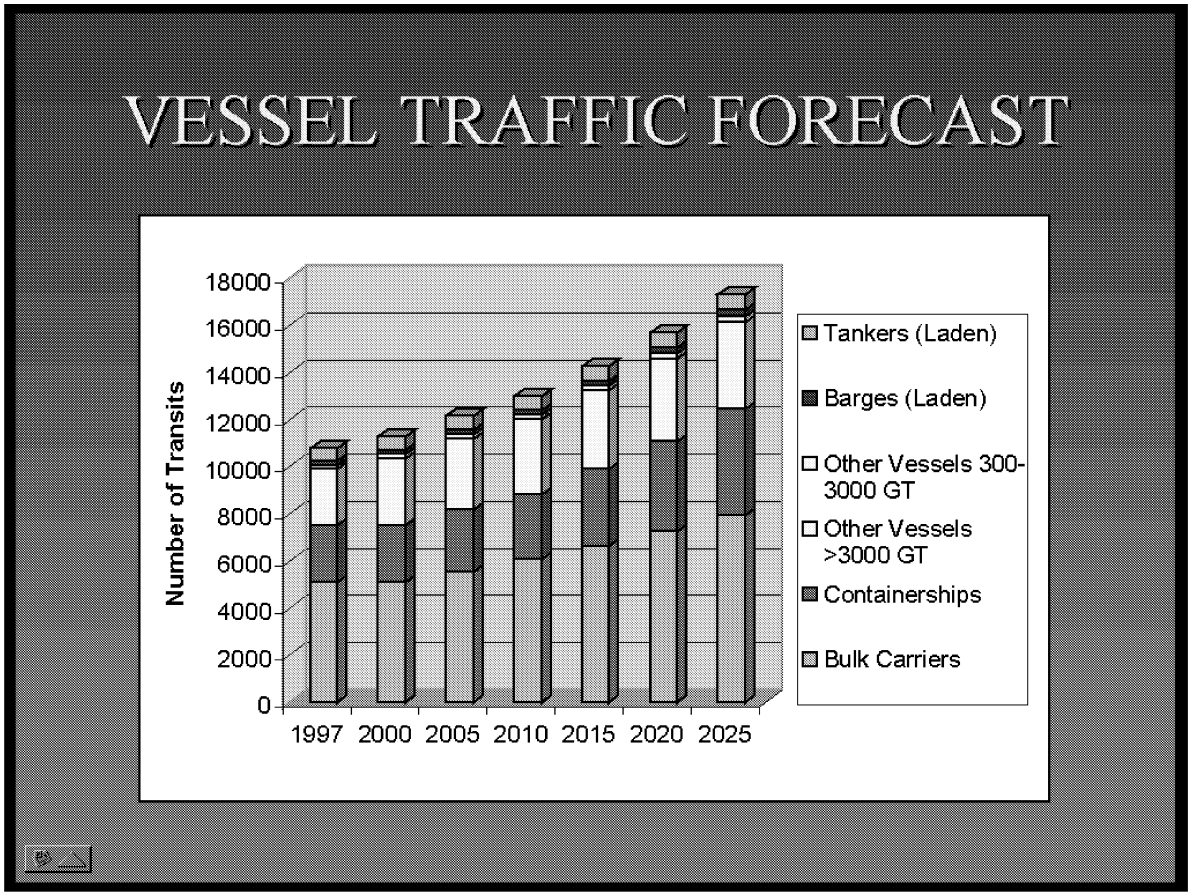
- **Shipping Activity – Current and Future Trends**: (from Cost-Benefit Analysis)

  a. **Trends in Vessel Traffic**: Total vessel transits are **expected to increase from 11,000** transits per year in year 2000 **to 17,000** transits in 2025. (Method: dividing projected cargo movement by average payload of vessels trading, adjusting for anticipated changes in sizes of vessels). This increase will be characterized by:

- Bulk carrier and container ship preponderance of vessel transits increasing from 65% in year 2000 to 72% in 2025.

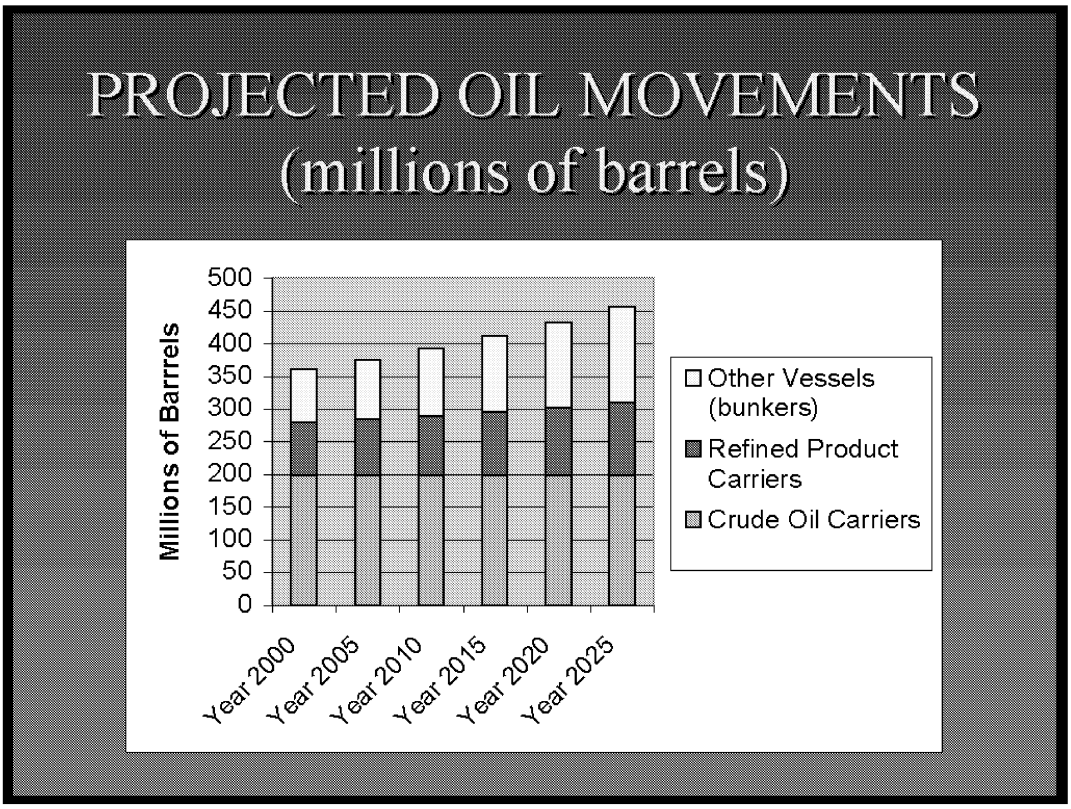
- Phaseout of single-hull tank vessels and barges by 2015 and concomitant increase in the average size of tank vessels from 96,358 DWT in year 2000 to 108,130 DWT in 2025.

- Increase in the average capacity of container ships. This is represented by increasing numbers of post-Panamax (>4500 TEU) container ships carrying over 70% of the trade by 2025, as opposed to 44% of the trade in year 2000.



b. **Trends in Oil Movement**: Total oil movements through the Strait of Juan de Fuca are expected to increase from 360 million barrels per year (mbpy) in year 2000 to 457 mbpy in 2025. This increase will be characterized by:

- Crude oil receipts remaining essentially constant at 200 mbpy.
- Refined product movement increasing 5.9% per year due primarily to imports from foreign sources.
- Increasing amount of oil carried as bunkers due to increasing cargo vessel traffic. This is projected as an increase of 3.6% per year for container ships and 1.3-2.0% per year for bulk carriers.



- **Vessel Incidents – Past and Current Trends**: These conclusions are based on data in the Ecology database for the period 1994 to the present, submitted by vessel operators, received from the USCG, and developed during the course of Agency investigations. As the preponderance of the data is based on self-reporting, these conclusions should be taken as a lower bound in any attempt to associate a level of risk to these incidents.

  All incidents in the database were examined by, type of incident, location, and by degree of severity. A single incident was counted in one category only (a loss of propulsion that resulted in a grounding would be counted only in the grounding category). Incidents related to three categories of risk were examined. These were:

Risk of Drift Grounding (loss of propulsion and near miss incidents)
Risk of Powered Grounding (loss of steering and actual grounding incidents)
Risk Associated with Collision, Allision, and Near Miss Incidents
Loss of Structural Integrity
Fire

Severity factors were portrayed by assigning each incident to one of three degrees of severity. Criteria for each of these three degrees were established, separately for each incident category, which relate to the risk of a major spill from that incident.

A graphic display of the incidents contained in the Ecology database, on which the following statistics are based, is contained at the end of this section of the report. There is a composite graphic for all incident categories for all vessels less ferries, and a separate graphic showing the same information for ferries.

a. **Risk of Drift Grounding** (loss of propulsion and near miss incidents):

(1) Severity criteria used were:

A - Highest Risk: Collision/Allison or near miss resulted
Close CPA to aground (<1nm) while adrift
Drifted to anchorage point w/o tug assist
B - Moderate Risk: Complete Loss of Propulsion
C - Lowest Risk: Partial Loss of Propulsion (reliability degradation)

(2) Summary of data: 94 incidents occurred involving loss of propulsion or risk of drift grounding. Of these, 14 were of severity degree A and 25 were of severity degree B.

(3) Conclusions:

- Risk of drift grounding events comprised 94 of the total 147 incidents in the database (64%), indicating that the risk of a drift grounding accident is significantly higher than the other accidents evaluated.

Note: Previous studies (Volpe and Cost-Benefit) assigned a lower percentage of the total risk to drift groundings than is implied by the above figure. This is because the previous studies assessed only those incidents where a spill resulting from an actual drift grounding occurred, as adjusted by expert opinion. The drift grounding figures presented to the North Puget Sound panel include those incidents where a risk of drift grounding is present, whether or not an actual grounding occurred. The degree of risk is then quantified by assigning a "severity criteria" as discussed previously.

- Events which initially occur within the North Puget Sound area, as opposed to vessels having pre-existing casualties prior to the inbound transit, are much more likely to be of increased severity. There were 61 incidents in this population, of which 39 (64%) were moderate to highest severity.

- Risk of drift grounding incidents tend to occur in clusters at points where vessels typically conduct propulsion shifts or change fuels. These include the vicinity of Buoy "J," the Port Angeles Pilot Station, and the normal berthing locations.

b. **Risk of Powered Grounding** (loss of steering and actual powered grounding incidents):

(1) Severity criteria used were:

A - Highest Risk: Collision/allision/grounding/near miss resulted
Close CPA to aground (<1nm) without steering
Vessel not under control, without tug assist
B - Moderate Risk: Complete Loss of Steering
C - Lowest Risk: Partial Loss of Steering (reliability degradation)

(2) Summary of data: 31 incidents occurred involving loss of steering or actual powered grounding. Of these, 7 were of severity degree A and 3 were of severity degree B.

(3) Conclusions:

- Risk of powered grounding events comprised 31 of the total 147 incidents in the database (21%).

- Events which initially occur within the North Puget Sound area, as opposed to vessels having pre-existing casualties prior to the inbound transit, are much more likely to be of increased severity. There were 17 incidents in this population, of which 9 (53%) were moderate to highest severity.

- There is no information to suggest that powered grounding risk events tend to cluster in certain areas, as is the case with drift grounding risk events. However, there is evidence to suggest that the severest loss of steering/powered grounding events are more likely to occur in restricted waters than in the more open regions of Puget Sound. In the highest two severity categories, 7 of 9 events occurred in the Rosario/Haro/San Juans/Guemes Channel region.

c. Risk Associated with Collision, Allision, and Near Miss Incidents:

(1) Severity criteria used were:

A - Highest Risk: Collision or allision with probability of involvement of cargo/bunker tanks
B - Moderate Risk: Collision or allision with cargo/bunker tanks not involved.
Near Miss with Laden Tank Vessel
C - Lowest Risk: All others

(2) Summary of data: 22 incidents occurred involving collision, allision, or near miss. Of these, 11 were of severity degree A and 5 were of severity degree B.

(3) Conclusions:

- Collision, allision, or near miss events comprised 22 of the total 147 incidents in the database (15%).

- 16 of 22 (73%) events in this category were of moderate to highest degree of severity. The most common cause of these incidents was a near miss involving a laden tanker, typically caused by a small fishing or pleasure craft forcing the tanker to take action to avoid a collision.

d. Loss of Structural Integrity Incidents:

(1) Severity criteria: no attempt was made to establish severity criteria for this category of incidents due to the small number of events in the population.

(2) Summary of data: 7 incidents occurred involving loss of structural integrity. Another 7 incidents involved the loss of structural integrity, but resulted in a minor spill and are reported in the spill categories.

(3) Conclusions:

- 12 of the 14 structural failure incidents in the database involved tank vessels. This may be due to tank vessels being more likely to report such a casualty, rather than an increased frequency of occurrence.

- 7 of the 14 structural failures in the database resulted in a spill. Although the amount of oil spilled in these incidents was small, there appears to be an increased likelihood of a spill as compared to other casualties.

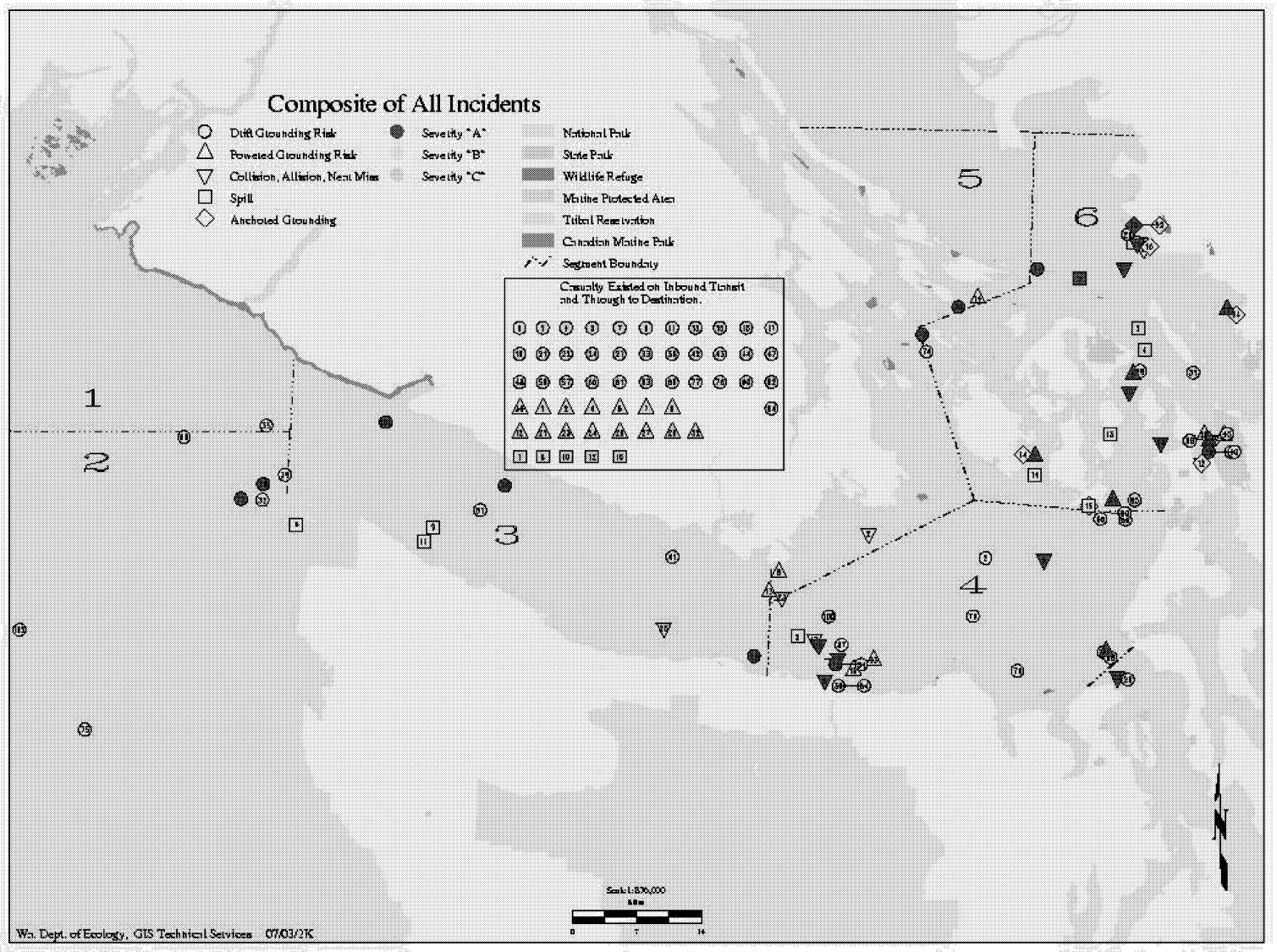
e. Fire:

(1) Severity criteria: no attempt was made to establish severity criteria for this category of incidents due to the small number of events in the population.

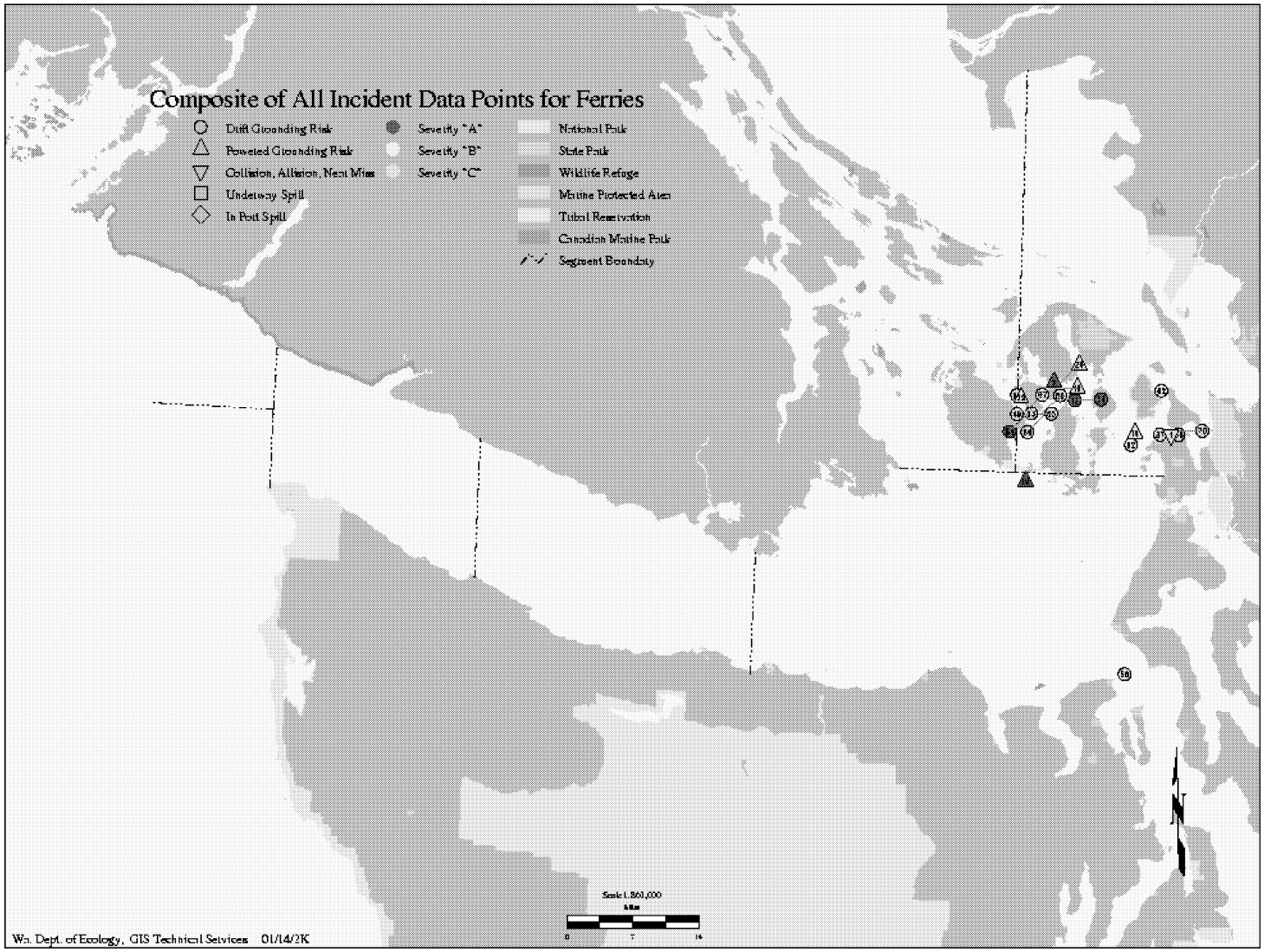
(2) Summary of data: Only one incident occurred involving a fire which occurred within the North Puget Sound Area.

(3) Conclusions: While this single fire in the database led to a complete loss of propulsion (severity category A), the number of such events in the database is too small to support any conclusions.

COMPOSITE OF ALL INCIDENTS LESS FERRIES



Spills in U.S. Harbors & Coastal Waters from Collisions and Groundings (for period 1992-1997)



- **Vessel Spills – Past and Current Trends**:

  a. Trends in National Spills Since 1990:

  (1) Historical summary:

  (a) Source of historical spills: The following tables illustrate that, although fishing vessels and smaller craft have been responsible for the highest number of spills, tank barges have been the major contributor to the volume of oil spilled.

Spills in U.S. Harbors & Coastal Waters from Collisions and Groundings (for period 1992-1997)

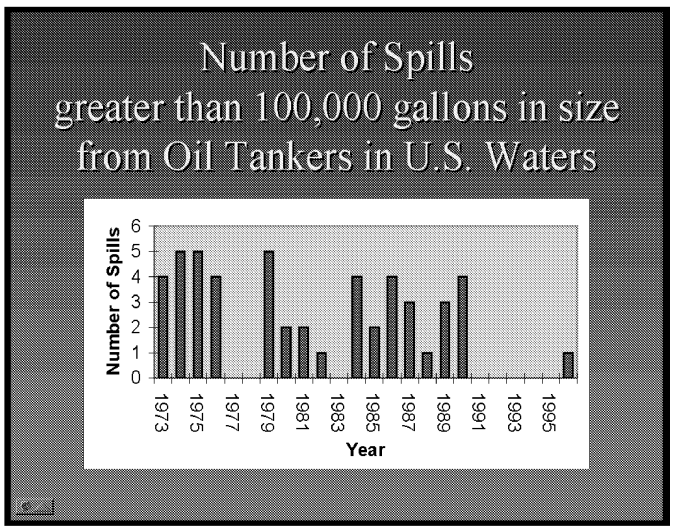
Number of Spills (1992-1997)

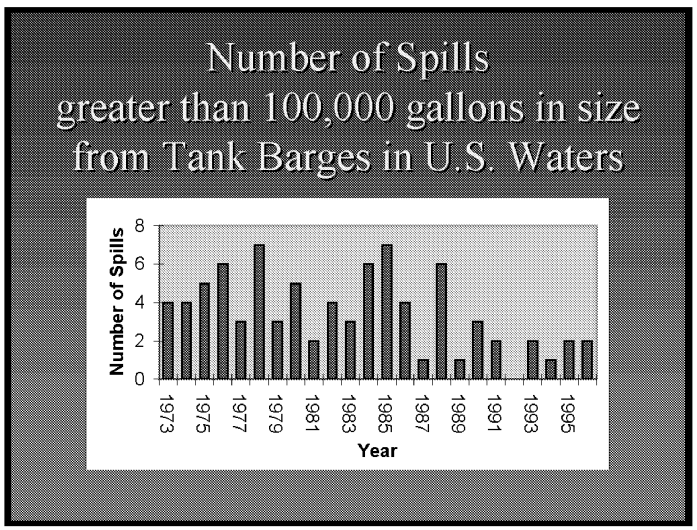
	>1,000 gal (> 24 bbls)	>10,000 gal (>238 bbls)	% of spills >10,000 gal	>100,000 gal (>2381 bbls)	% of spills >100,000 gal
Tankers	3	2	67%	0	0%
Tank Barges	14	6	43%	3	21%
Freighters	5	4	80%	0	0%
Fishing Boats	27	2	7%	0	0%
Others	11	3	27%	0	0%

Volumes of Spills in Barrels (1992-1997)

	>1,000 gal (> 24 bbls)	>10,000 gal (>238 bbls)	% of outflow from spills >10,000 gal	>100,000 gal (>2381 bbls)	% of outflow from spills >100,000 gal
Tankers	1,306	1,277	98%	0	0%
Tank Barges	48,492	47,721	98%	46,172	95%
Freighters	4,719	4,632	98%	0	0%
Fishing Boats	4,363	2,667	61%	0	0%
Others	2,101	1,595	76%	0	0%

  (b) Frequency of historical spills: Historically, large spills have generated over 90% of the volume of oil spilled , primarily the result of grounding, collision, and allision events. There has been a marked reduction in both the number of spills and the volume of oil spilled since 1990 as a result of (1) heightened industry awareness following the Exxon Valdez spill, and (2) the increased regulatory framework of OPA 90/STCW and state regulatory efforts. The graphics following illustrate this decline.





b. Major Historical Spills in North Puget Sound: Over the last twenty years, there have been five major spills (> 10,000 gallons in volume) from collisions, founderings and groundings in the North Puget Sound area, as illustrated by the following table.

Year	Vessel	Vessel Type	Casualty Type	Volume Spilled (barrels)
1985	Arco Anchorage	Tank Ship	Powered Grounding	5,690
1988	Nestucca	Tank Barge	Collision	5,500
1991	Tenyo Maru	Fish Factory	Collision	2,381
1994	Crowley No. 101	Tank Barge	Powered Grounding	619

c. Spill Incidents in North Puget Sound 1994 to Present:

(1) Severity criteria used were:

A - Highest Risk: >= 1000 gallons
B - Moderate Risk: >= 25 gallons (NRDA threshhold)
C - Lowest Risk: < 25 gallons

(2) Underway Spills:

(a) Summary of data: 15 incidents occurred involving underway spills. Of these, 1 was of severity degree A and 7 were of severity degree B.

(b) Conclusions:

- Underway spill events comprised 15 of the total 147 incidents in the database (10%).
- 8 of 15 (53%) events in this category were of moderate to highest degree of severity. From the data available, underway spills tend to be grouped into roughly equal distributions of very small spills and significantly larger spills.
- The most severe underway spills result from powered groundings and collisions. This is consistent with the results of previous studies.

(3) Inport Spills:

(a) Summary of data: 27 incidents occurred involving inport spills. Of these, 1 was of severity degree A and 5 were of severity degree B.

(b) Conclusions:

- Inport spill events comprised 27 of the total 147 incidents in the database (18%).
- 6 of 27 (22%) events in this category were of moderate to highest degree of severity,
- The majority of inport spills result from cargo operations and bunkerings.

Appendix 15 – USCG (Captain Michael Moore) – Vessel Spill and Incident Data

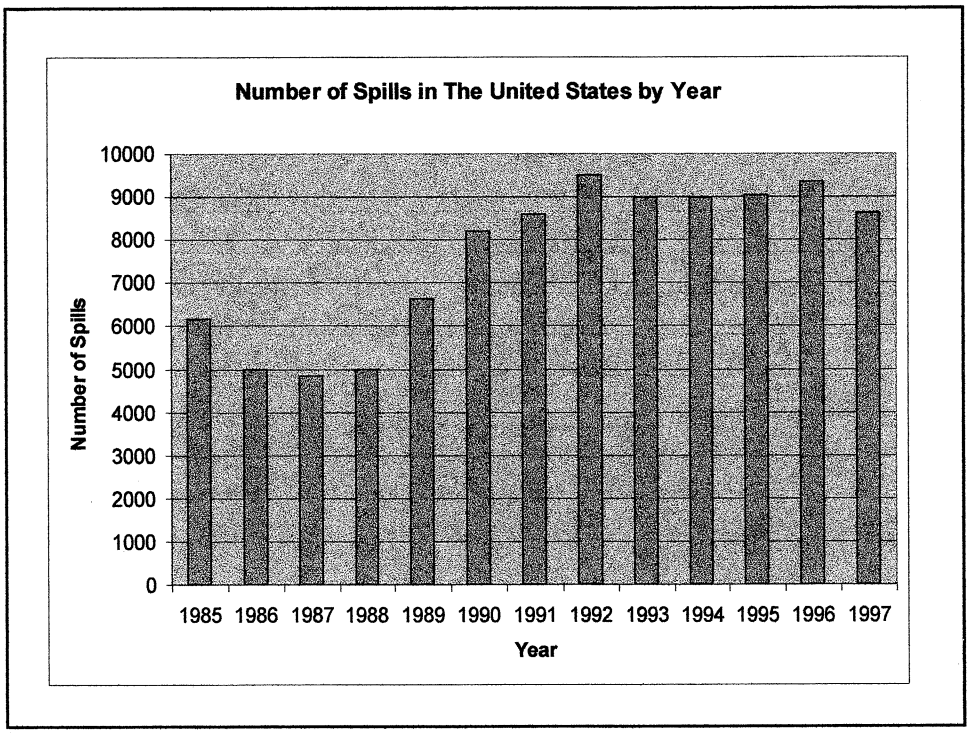
Vessel Activity and Oil Spill Pollution Data

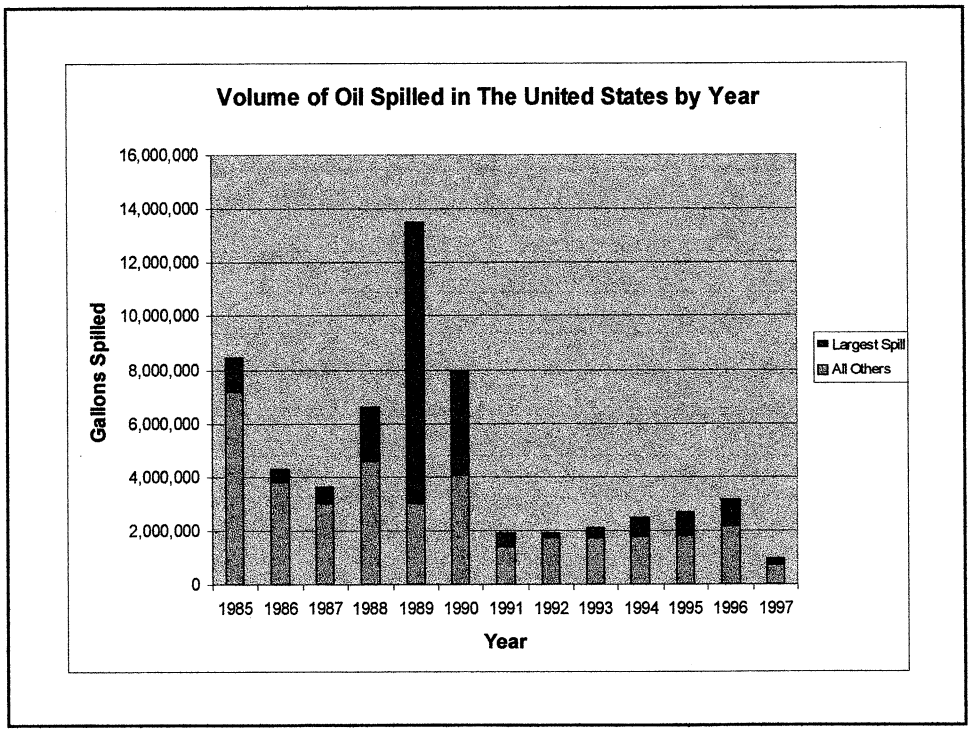
Presented to North Puget Sound Risk Management Panel

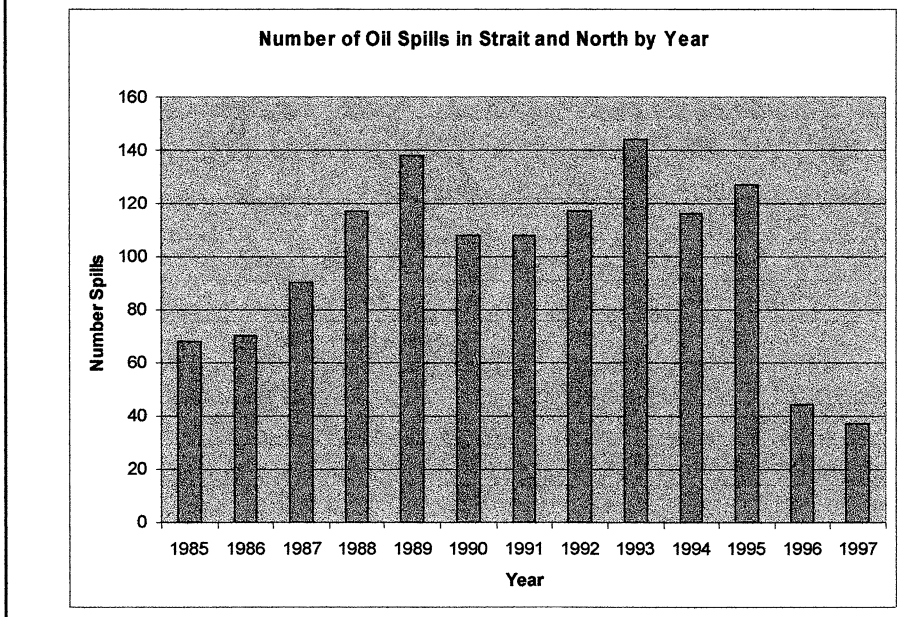
Capt Mike Moore
Captain of the Port, Puget Sound
January 20, 2000

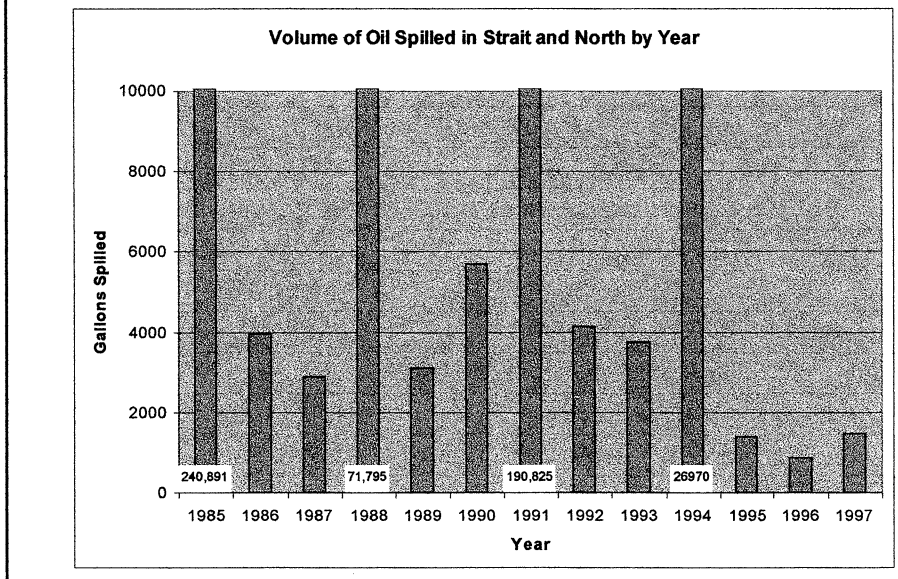
Oil Spill Data

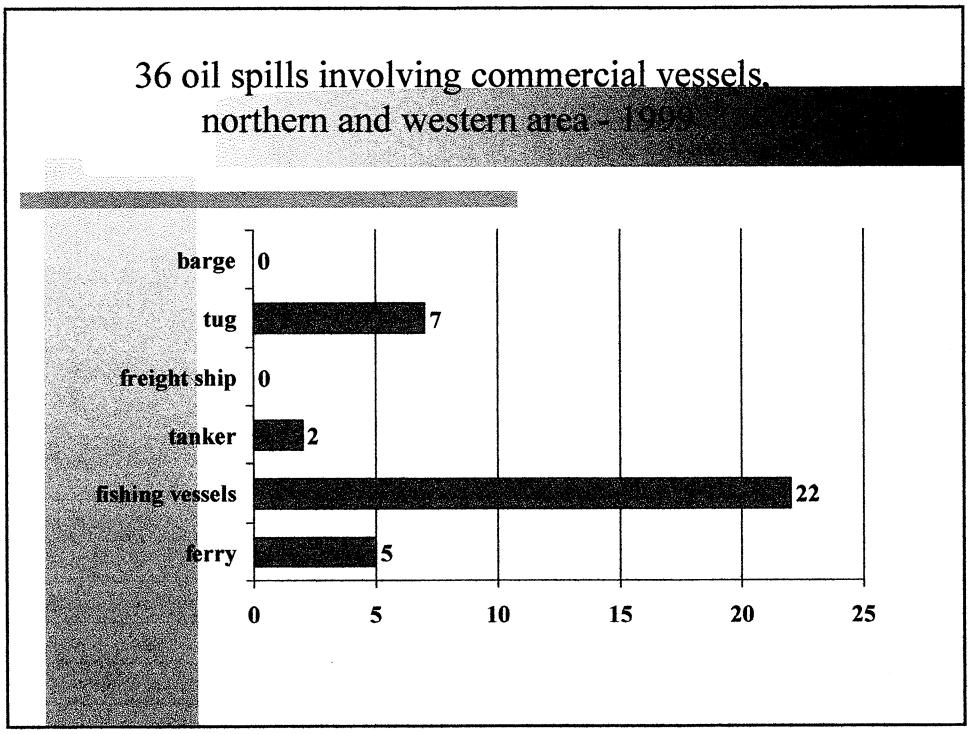
National Spill Data
North Puget Sound Spill Data
MSO Puget Sound Zone Spill Data

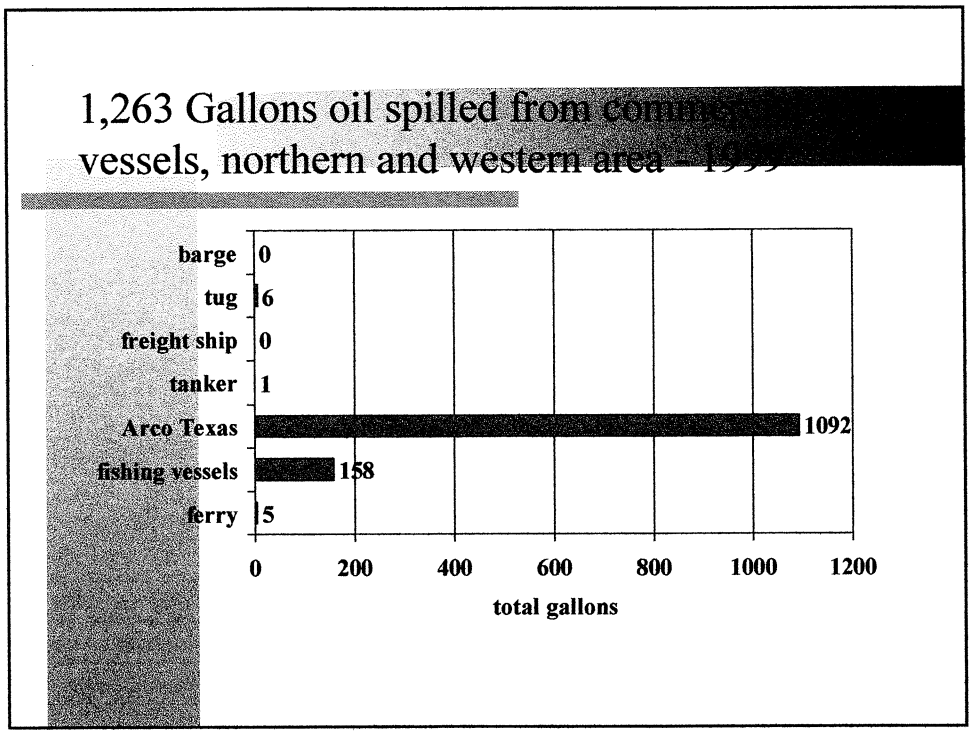

Number of Spills in The United States by Year
Number of Spills
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997
Year


Volume of Oil Spilled in The United States by Year
Gallons Spilled
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997
Year
Largest Spill
All Others


Number of Oil Spills in Strait and North by Year
Number Spills
160
140
120
100
80
60
40
20
0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997
Year


Volume of Oil Spilled in Strait and North by Year
Gallons Spilled
10000
8000
6000
4000
2000
0
240,891
71,795
190,825
26970
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997
Year


36 oil spills involving commercial vessels, northern and western area - 1999
barge
tug
freight ship
tanker
fishing vessels
ferry
0
7
0
2
22
5
0
5
10
15
20
25


1,263 Gallons oil spilled from commercial vessels, northern and western area - 1999
barge
tug
freight ship
tanker
Arco Texas
fishing vessels
ferry
0
16
0
1
1092
158
5
0
200
400
600
800
1000
1200
total gallons

Causes of tank vessel oil spills in the [illegible] and western area -1999

- **Two spills**
- **T/V ARCO TEXAS - pulled away from the pier during cargo transfer operations.**
- **T/V BATON ROUGE - leaked approx 1 gallon of shaft oil while underway.**

Causes of tug boat oil spills in the [illegible] and western area -1999

- **6 oil spills. All vessels moored or anchored at time of event**
- **Two overfilled fuel tanks**
- **One sinking (at dock)**
- **One shaft oil leak**
- **Two cases of small amounts of oil from overturned buckets, one case of spilled oil on deck washed off by rain**

Causes of fishing vessels oil spills in the northern and western area -1999

- **22 oil spills**

- **fuel tank overfills**
- **sinkings**
- **burst hydraulic hoses**
- **automatic bilge pumps/oily bilge water**

Oil spills in northern and western area from ALL sources - 1999

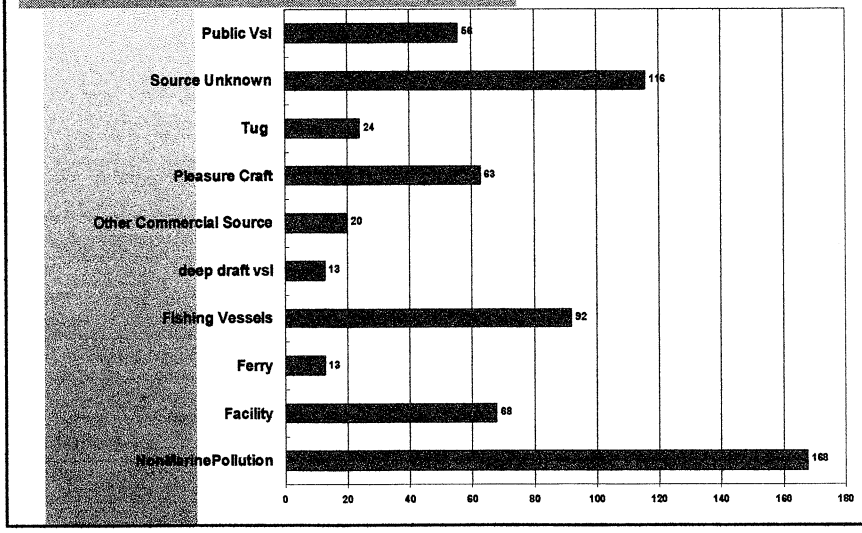
- **128 verified oil spills in the Strait of Juan de Fuca, the San Juan Islands, and north of Everett.**

- **Spill volume was 3,448 gallons.**

All reports are fully investi

- **All reports are investigated to**
  - **verify the report of a pollution event or threat**
  - **determine the cause of the incident**
  - **identify the responsible party**
  - **ensure proper actions taken**
- **Number of "reports" exceed "verified" marine pollution spills, for example**
  - **Only 128 of 233 reports in North Area were verified marine pollution spills.**

1999 Pollution "reports" - by source for entire MSO response area



635 "Reports" of Pollution in 1999 for entire MSO response area

- **467 verified marine pollution spills**
- **Potential oil spills (threats)**
- **Events where no pollution was found**
- **Hazardous material releases**

Total Volume Spilled - 1999

- **8,358 gallons of oil spilled throughout MSO response area**

1999 - Oil Spills by Size

- 2 spills exceeding 1000 gallons
- 14 between 100 - 999 gallons
- 67 between 10 - 99 gallons
- 77 between 1- 9 gallons
- 307 1 gallon or less
- **Total of 467 Spills**

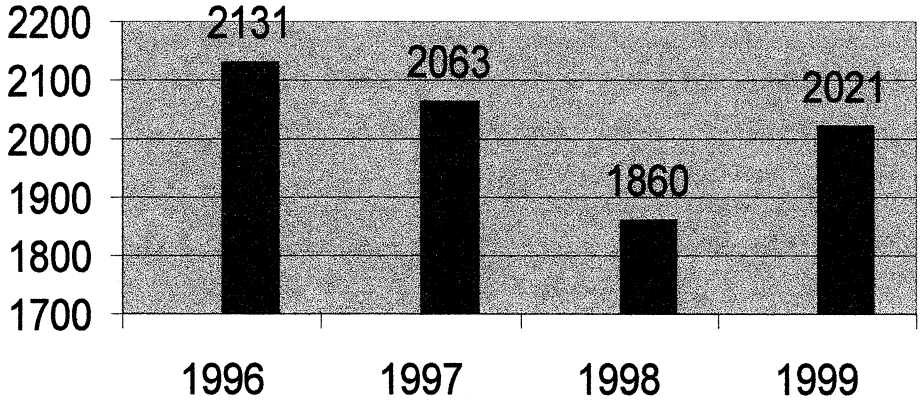
Cleanup Activities - 1999

- 40% of all confirmed spills required a cleanup.
- This includes small responses, where a few pads are used, to the use of skimmers and other response equipment for larger events.
- Evaporation and wind/wave action often make recovery of light sheens and small amounts of oil unnecessary or impossible.
- Coast Guard funded cleanups are included.

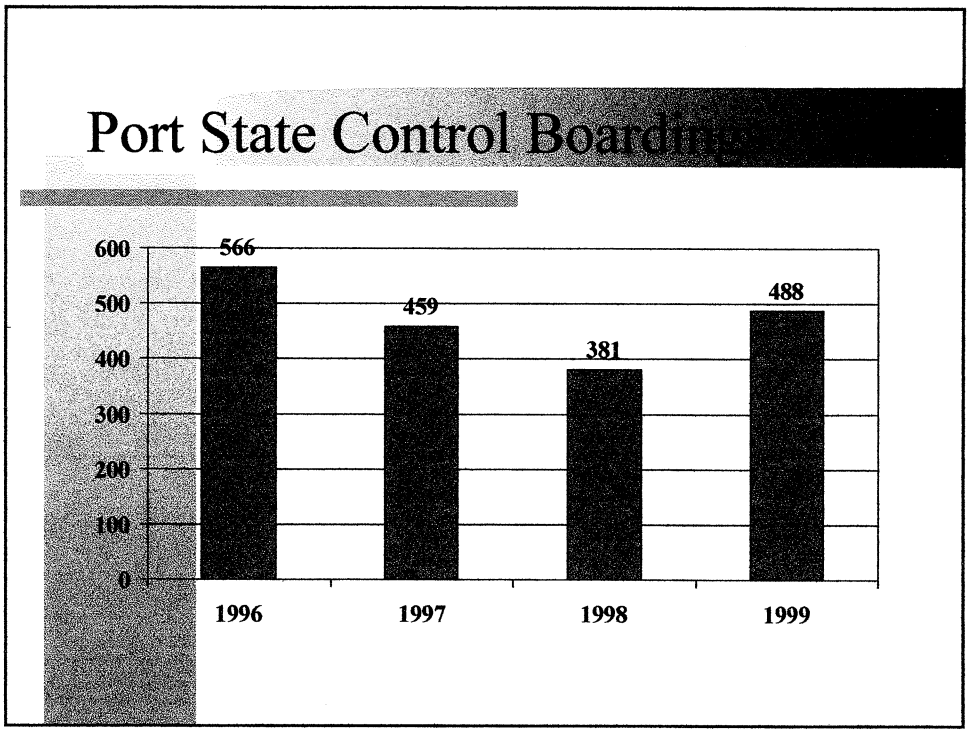
Port State Control Program

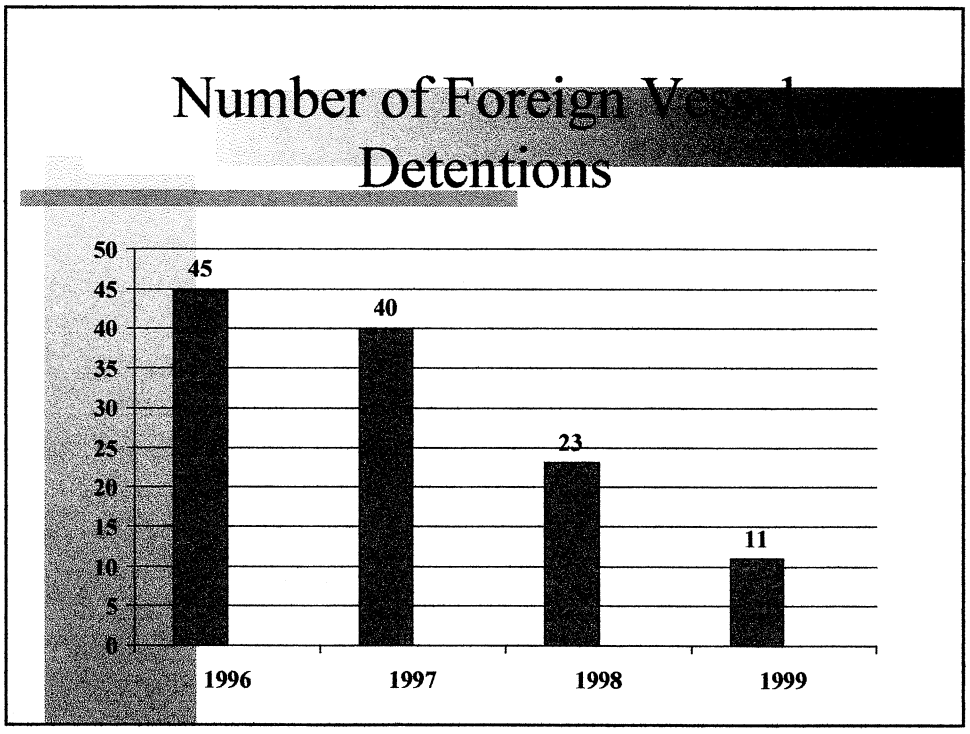
- All vessels are screened prior to entry
- All vessels boarded annually
- Highest risk vessels boarded more frequently
- Substandard vessels denied entry or detained
- Number of detentions are dropping

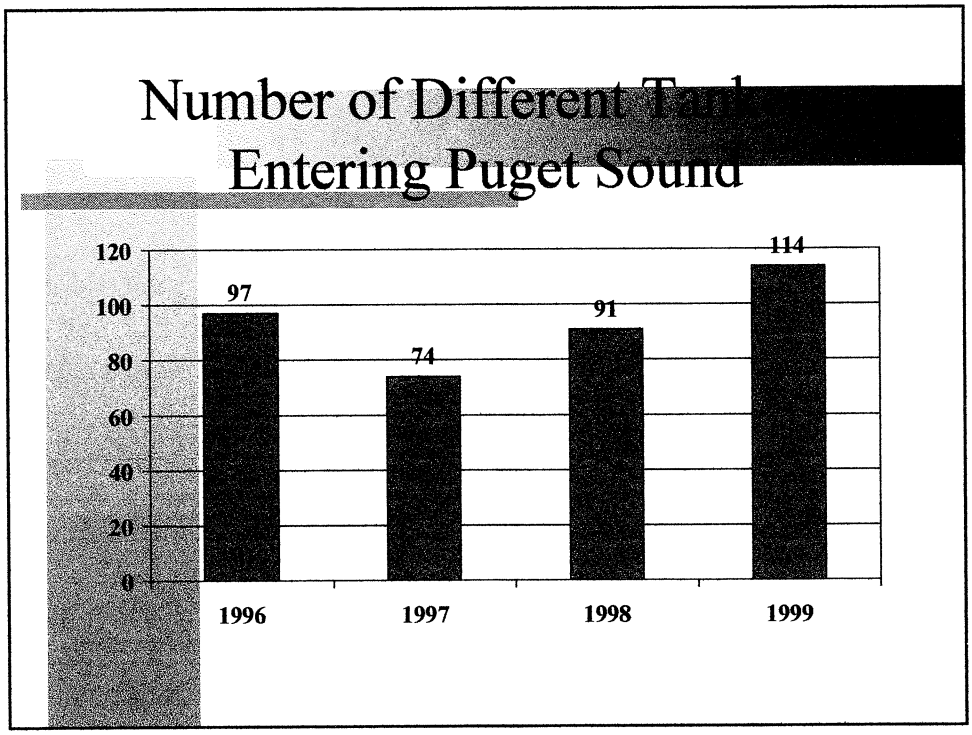
FOREIGN VESSEL ARRIVALS*

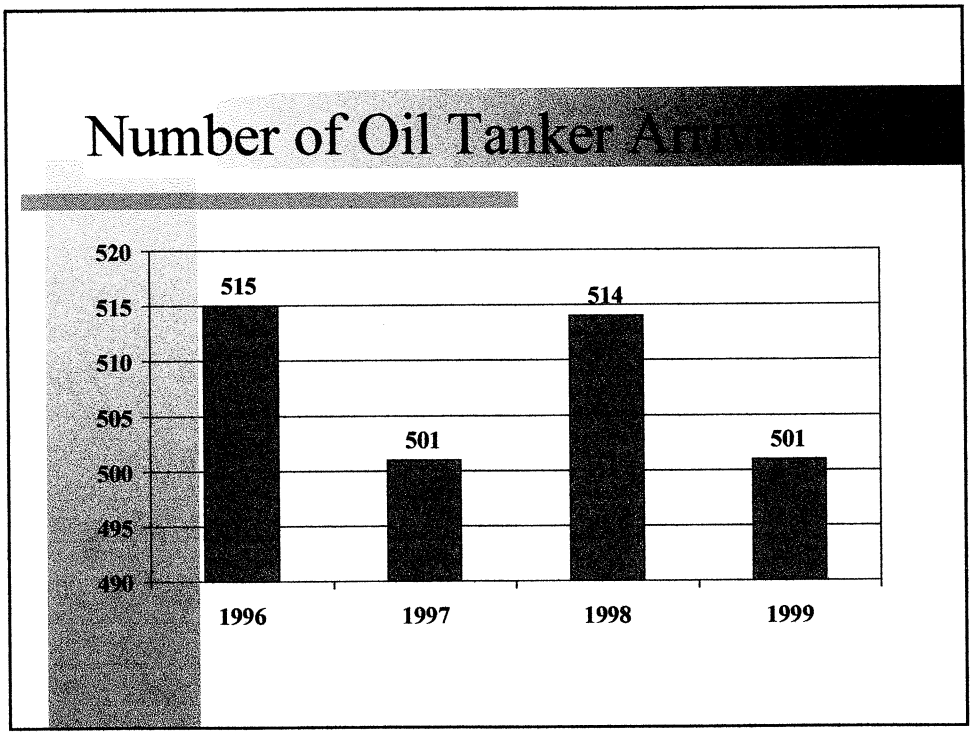


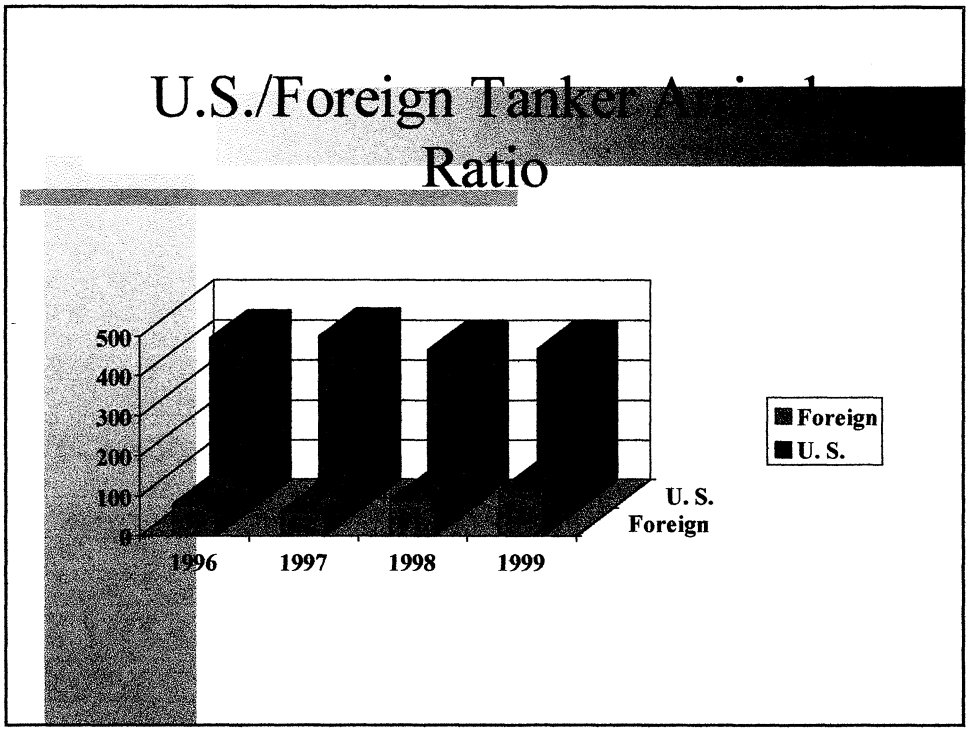
*Does not include foreign yachts, fishing vessels or government vessels.

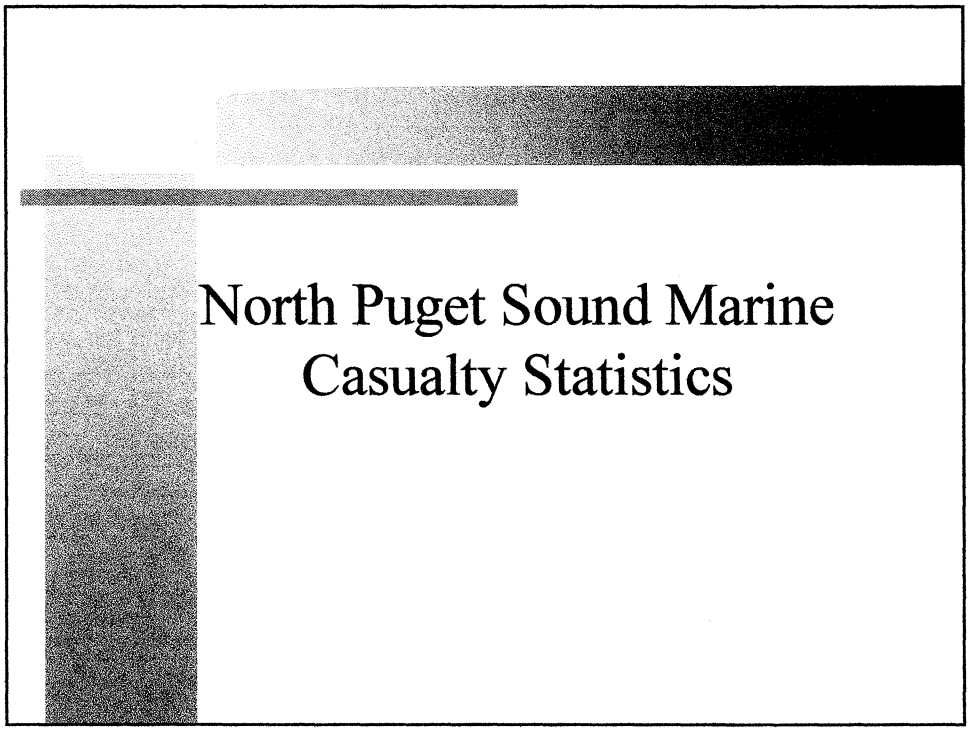

Port State Control Boardings
600
500
400
300
200
100
0
566
459
381
488
1996
1997
1998
1999

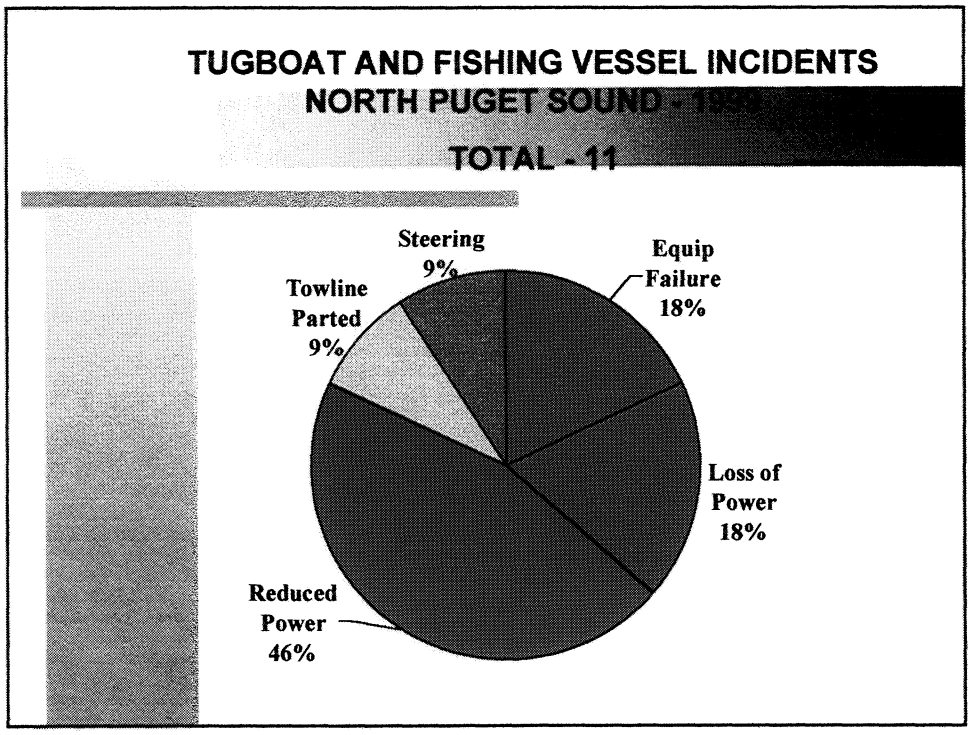

Number of Foreign Vessel Detentions
50
45
40
35
30
25
20
15
10
5
0
45
40
23
11
1996
1997
1998
1999

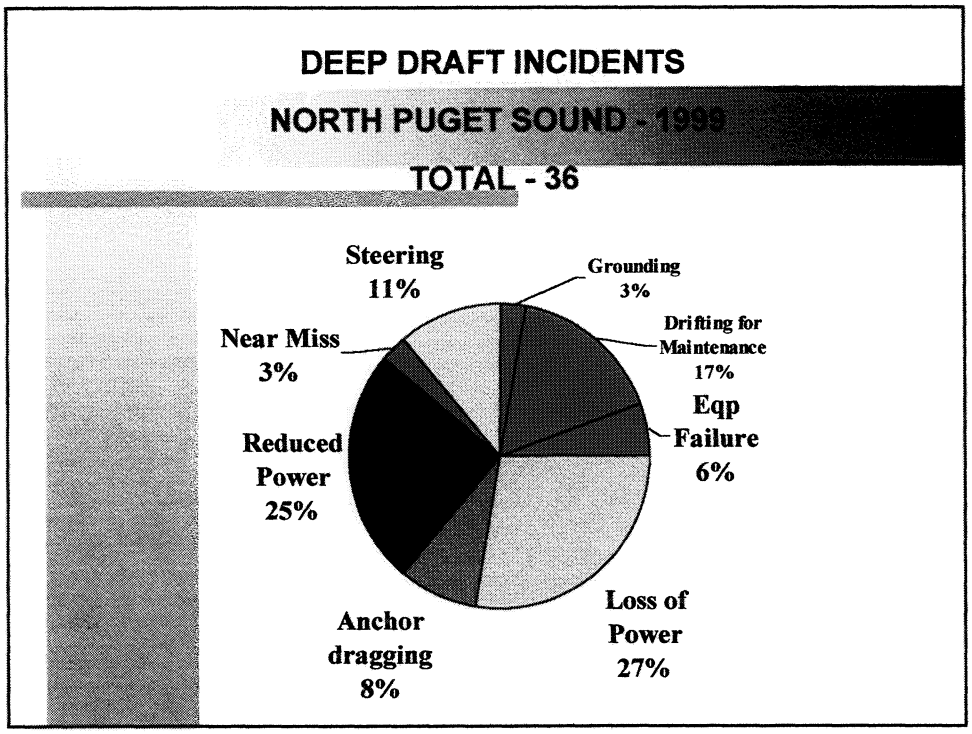

Number of Different Tank
Entering Puget Sound
120
100
80
60
40
20
0
97
74
91
114
1996
1997
1998
1999

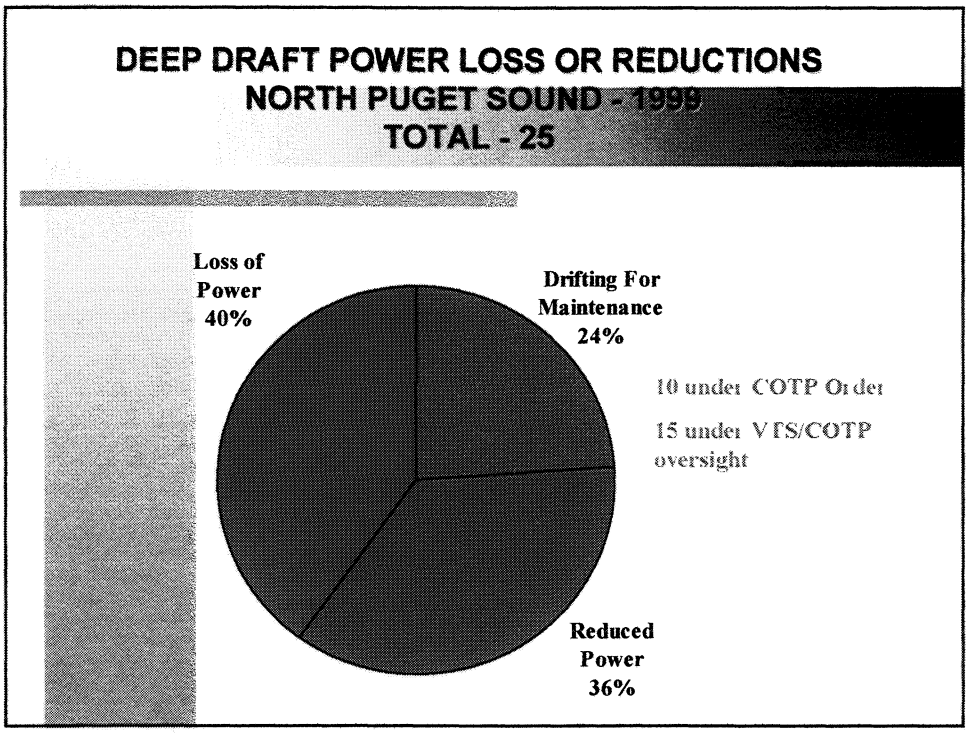

Number of Oil Tanker Arri
520
515
510
505
500
495
490
515
501
514
501
1996
1997
1998
1999

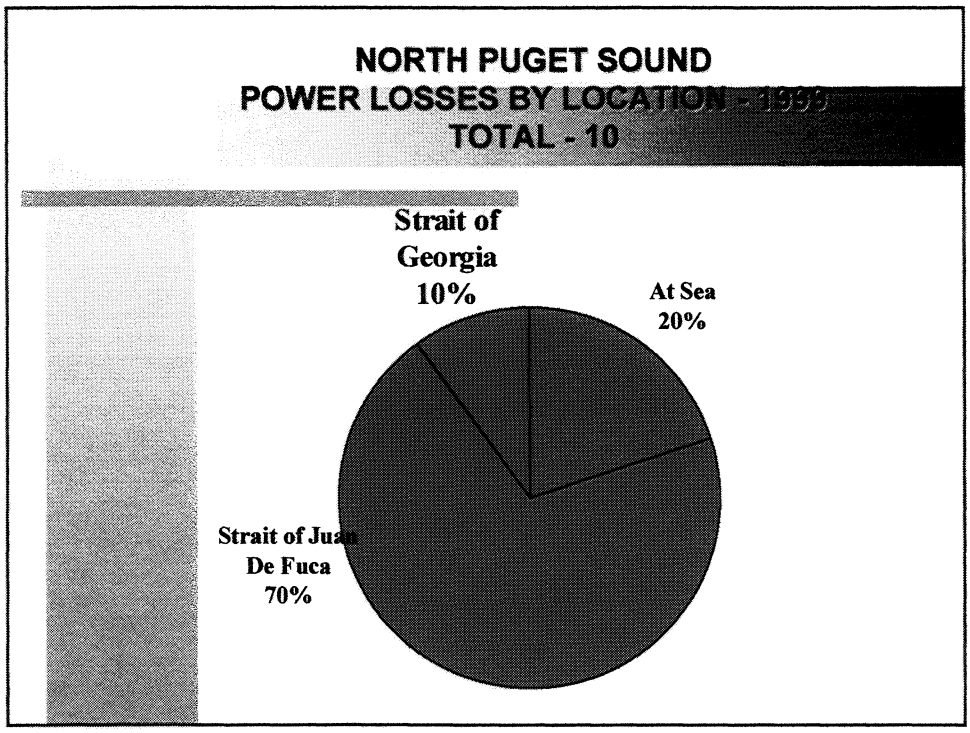

U.S./Foreign Tanker
Ratio
500
400
300
200
100
0
1996
1997
1998
1999
U. S.
Foreign
Foreign
U. S.


North Puget Sound Marine
Casualty Statistics


TUGBOAT AND FISHING VESSEL INCIDENTS
NORTH PUGET SOUND - 1999
TOTAL - 11
Steering 9%
Equip Failure 18%
Towline Parted 9%
Loss of Power 18%
Reduced Power 46%


DEEP DRAFT INCIDENTS
NORTH PUGET SOUND - 1999
TOTAL - 36
Steering 11%
Grounding 3%
Drifting for Maintenance 17%
Near Miss 3%
Eqp Failure 6%
Reduced Power 25%
Loss of Power 27%
Anchor dragging 8%


DEEP DRAFT POWER LOSS OR REDUCTIONS
NORTH PUGET SOUND - 1999
TOTAL - 25
Loss of Power 40%
Drifting For Maintenance 24%
10 under COTP Order
15 under VTS/COTP oversight
Reduced Power 36%


NORTH PUGET SOUND
POWER LOSSES BY LOCATION - 1999
TOTAL - 10
Strait of Georgia 10%
At Sea 20%
Strait of Juan De Fuca 70%

Appendix 16 – Commentaries on Final Report (See page 7)

The following documents are comments submitted by seven Panel members—one endorser of this final report and six non-endorsers—who in large measure tentatively approved the Panel's twenty-four recommendations, which, they note, vary in degree of significance and that collectively do not constitute a long-term comprehensive risk management plan. The dissenters of this report were disappointed that the dedicated rescue tug recommendation was not approved due to the "consensus minus two" decision-making process that was approved at the first Panel meeting, and was utilized throughout the process. All but a couple of the non-endorsers stated that they would have endorsed this Panel report if the tug recommendation had passed.

Endorser

- City of Seattle

Non-Endorsers

- Makah Tribal Council
- People for Puget Sound
- Washington Environmental Council
- A Washington State Senator (D)
- San Juan County Board of Commissioners
- Clallam County Board of Commissioners

City of Seattle
Paul Schell, Mayor
Office of the Mayor

July 17, 2000

The Honorable Gary Locke
Governor, State of Washington
PO Box 40002
Olympia, WA 98504-0002

The Honorable Rodney E. Slater
Secretary
U.S. Department of Transportation
400 - 7th Street, SW
Washington, DC 20590

Dear Governor Locke and Secretary Slater:

Thank you for creating the opportunity to participate in a panel to develop and implement a long-term comprehensive oil spill risk management plan for the North Puget Sound area. I applaud the collaborative, facilitated approach that was taken in an effort to resolve some long-standing issues.

The Panel has recently completed its report, which includes 24 recommendations to reduce oil spill risk. As the report notes, these recommendations alone do not constitute a long-term comprehensive oil spill risk management plan. However, if the recommendations are implemented, they should result in incremental reductions in risk. Perhaps the most important thing to emerge from the panel's efforts is the progress made toward learning to craft solutions that most closely meet each represented organization's needs. Because of this progress and the potential reductions in oil spill risk, the City of Seattle conditionally endorses the panel's final report.

This endorsement is conditional because the 24 recommendations alone do not constitute an adequate oil spill risk management plan. The State of Washington and the federal government need to take the next step and put a financing strategy in place that will provide for the permanent placement of a tug at the entrance to the Strait of Juan de Fuca. The City considers the placement of a tug at this site to be the cornerstone of a long-term, comprehensive oil spill risk management program and encourages the state and the federal government to continue efforts to address this issue. Our environment is too sensitive and beautiful to risk the consequences of an oil spill — no matter how low the risk may be.

600 Fourth Avenue, 12th Floor, Seattle, WA 98104-1873
Tel: (206) 684-4000, TDD: (206) 684-8811, Fax: (206) 684-5360, E-mail: mayors.office@ci.seattle.wa.us
An equal employment opportunity, affirmative action employer. Accommodations for people with disabilities provided upon request.

Your continued involvement is also needed to establish a way for all stakeholders (including the public) to work together to address environmental and safety issues in the Puget Sound area as well as develop a more comprehensive risk management approach for the San Juan Islands – Haro Straits area.

If the City support you regarding these issues in any way, please contact Susan Keith, Director of the Office of Environmental Management, at (206) 615-0829.

Very truly yours,

Paul Schell

cc: North Puget Sound Oil Spill Risk Management Panel
Tom Fitzsimmons, Director, Department of Ecology
Rear Admiral Erroll M. Brown, U.S. Coast Guard

MAKAH TRIBAL COUNCIL

P.O. BOX 115 • NEAH BAY, WA 98357 • 360-645-2201

IN REPLY REFER TO:

July 20, 2000

To: North Puget Sound Risk Management Panel
Re: **Dissenting Opinion**

We cannot endorse the Panel's final report because it does not significantly protect our marine environment. We believe there is a huge safety gap at the entrance to the Strait of Juan De Fuca. One of the easiest solutions for this is to station a year-round multi-mission rescue vessel at the entrance to the Strait. Although an overwhelming majority of panel members voted in favor of this recommendation, because of the consensus-minus-two rule, a minority of panel members scuttled this recommendation.

The Makah Tribe has a strong interest in this issue because we have been at ground zero to the largest oil spill in the history of the State of Washington, as well as the recent Tenyo Maru oil spill in 1991. To the Makah people an oil spill in our waters is not just an unsightly mess; it is an economic and environmental health disaster. Our way of life is based on the sea, from the fish we catch to sell commercially, to the fish and shellfish we take home to eat. An oil spill in our waters goes into our bodies and we do not know what the long-term effect on our people will be.

While we do believe that the 24 recommendations the Panel came up with are of some value, they make only relatively modest improvements to marine safety. We applaud the efforts the maritime industry have made to advance marine safety, but they do not adequately reduce the risk of a large oil spill at the entrance to the Strait of Juan De Fuca.

The position of the Makah Tribe is to not endorse the North Puget Sound Oil Spill Risk Management Panel's Final Report and Recommendations. We will continue to work toward finding a way to protect our waters from the devastation of an oil spill. Unfortunately another spill will have to happen before a real effort is made to protect our waters.

Respectfully,

Gordon M. Smith

Gordon M. Smith
Council Member
Makah Tribal Council

STATEMENT OF DISSENT

PEOPLE FOR PUGET SOUND

1402 Third Avenue, Suite 1200, Seattle, WA 98101
(206) 382-7007 - people@pugetsound.org

I.

Even were every recommendation in this Report fully implemented, there would remain a serious and obvious gap in oil spill protections for greater Puget Sound.

At the entrance of the Strait of Juan de Fuca, along the outer coast and in the Western Strait, in an area exposed to concentrated commercial ship traffic to and from major ports of two nations --

- Environmental and cultural values are extraordinarily high,
- Oil spill prevention measures are very thin relative to other areas of the Sound, and
- Oil spill response equipment and personnel are minimal, so response time would be too long

These factors create an **oil spill safety gap** at the entrance of the Strait.

The cost-effective answer to this glaring safety gap is to station a full-time, year-round oil spill prevention tug at the entrance of the Strait.

Just such a year-round rescue tug has been recommended for more than a decade by study group and panel after study group and panel, in both this country and Canada.

Nonetheless, the overwhelming majority of this Panel has been *forced* to sidestep the issue of the Strait of Juan de Fuca safety gap.

Therefore, we cannot endorse what is a fatally incomplete Report.

II.

In the greater scheme of things, the votes and words of this Panel are but one small part of the public debate and the policy decision that must be made to properly protect our marine waters.

What is important about the failure of this Panel to endorse a recommendation for a rescue tug is that a three-to-one <u>majority</u> of the Panel members voted <u>for</u> that tug recommendation.

Of twenty Panel members, only four voted "no.". Each who voted "no" has an obvious special interest in resisting such a year-round rescue tug.[1]

It is obviously inappropriate to leave the judgement about best protection for our marine environment to a minority whose vested interest is at stake.

By contrast to these four "no" votes, the permanent, year-round rescue tug was supported by –

- every elected official voting, from both parties,
- the two oil industry representatives ,
- the two representatives of the state's environmental organizations

The rescue tug recommendation was defeated only because of the Panel's bizarre procedural rules and peculiar makeup.

First, the "consensus-minus-two" rule gave any *three* of the *twenty* Panel members the absolute power to veto any recommendation, however strong the support it enjoyed from the majority.

Second, enough economic dependents of the dry cargo shippers were given seats on the Panel to hand that one portion of the shipping industry a dependable voting bloc to exercise this veto power.

This is no way to make public policy.

Now the long-festering issue of a dedicated rescue tug at the entrance of the Strait goes back to the broader political process for resolution.

Through the many Panel meetings – and smaller caucus discussions – we have sought to find ways to make a permanent rescue tug as palatable as possible for all segments of the shipping industry.[2]

---

[1] The tug recommendation they opposed contemplated funding primarily by the federal government. These special interests could not rise above their self-interested fear that at some future date they may be asked to contribute to the cost of such a tug.

We have supported substantial public funding, but will also support a fee-based tug plan that assures parity with both US and Canadian-bound traffic, thus in no way disturbing trade equity between Washington state ports and others.

[2] The dry cargo shippers and ports rallied behind an alternative proposal. They suggested that dispatching a tug from within Puget Sound on an intermittent basis could make up the usual lack of commercial tugs ready, willing and able to assist a drifting vessel in the outer Strait.

When pressed for details, their proposal was laced with contingencies. An intermittent tug would be dispatched to the Western Strait only when (1) a commercial tug is not out there whether it is actually "ready, willing and able" or not, (2) an on-shore wind is blowing at an arbitrary speed of 40 knots or greater, and (3) one of a limited and arbitrary category of theoretically "problem" ships is in transit.

Not a shred of support will be found in this Report or any other to substantiate the theory that the oil spill risk in the Western Strait can be delimited to certain specified conditions or ships.

This proposal is nothing more than the attempt by a minority special interest to cover its dogged, self-interested resistance to a year-round rescue tug with a superficial proposal that may serve their public relations needs, but does not effectively protect public resources from the ever-present risk of a large oil spill.

In that effort, we have worked in coalition with the Panel members representing the oil shipping and refining industry. That segment of the shipping industry has been reasonable and public-spirited in striving to find a workable arrangement for meeting the oil spill safety gap with a full-time, year-round rescue tug.

> **We urge each reader of this Report to review, with particular care, the details of the rescue tug recommendation that the environmental organizations and the oil industry sponsored.**
>
> *The full text of the year-round rescue tug recommendation, exactly as subject to the vote of the Panel, is provided below.*

Rather than embrace this reasonable and balanced recommendation, the dry cargo shippers chose to maintain their adamant and threadbare position that such a rescue tug is "not cost effective."

That they rely on this argument demonstrates – in the face of overwhelming evidence and opinion to the contrary – that this industry chooses to devalue the public's estimation of the environmental values that stand in peril of a large oil spill at or near the entrance of the Strait.

Kathy Fletcher	**Douglas W. Scott**
Executive Director	Communications Director
Panel Member	Panel Alternate

How the Panel voted on the full-time rescue tug recommendation

July 6, 2000

OPPOSE

- Puget Sound Steamship Operators Association
- Washington Public Ports Association
- Puget Sound Pilots
- North Pacific Fishing Vessel Owners Association

SUPPORT

- Congressman Norm Dicks
- San Juan County
- Makah Tribal Council
- State Senator Karen Fraser
- State Representative Gary Chandler
- State Representative Mike Cooper
- City of Seattle
- Western States Petroleum Association
- BP Shipping Company, USA
- People for Puget Sound
- Washington Environmental Council

Note: Clallam County abstained on all votes by the Panel because of their concerns about the entire process (as explained in their separate dissent). However, they strongly support the year-round rescue tug.

A Dedicated Rescue Tug for the International Waterway at the Entrance of the Strait of Juan de Fuca and Adjacent Ocean Waters

RECOMMENDATION
Jointly proposed by

People for Puget Sound
Washington Environmental Council
Western States Petroleum Association

- **Enhance ITOS with a Dedicated Rescue Tug**

To assure that an adequate tug is available at all times to respond to drifting vessels (and other types of incidents) in the Western Strait of Juan de Fuca and coastal waters of Washington and British Columbia, and to decrease response time, enhance the International Tug of Opportunity System by deploying a dedicated rescue tug year-round at Neah Bay.[3]

2. Funding

- **Trade Neutrality.** Funding arrangement for this recommended rescue tug must be economically neutral for commerce to and from ports in the United States and Canada.
- **U.S. / Canadian Partnership.** Commercial transits through the shared waters of the Strait of Juan de Fuca are approximately equal to ports in the United States and Canada. Therefore, the U.S. and Canada should share equally in funding this rescue tug. This should be a matter of priority in discussions between the U.S. State Department and Canada. Deployment of a dedicated rescue tug is urgent; therefore, until Canada funds its share, it should be funded by the U.S. Government.
- **U.S. Federal Responsibilities.** Many funding arrangements have been discussed. Recently, however, the U.S. federal government has asserted its Constitutional primacy over safety regulation in these waters, successfully preempting certain Washington State maritime safety laws in the U.S. Supreme Court.4 The U.S. government also has solemn Treaty obligations to the Makah Tribe and other Indian tribes in this region, whose culture and economy is dependent upon the utmost protection of the marine and coastal environment and their usual and accustomed fishing grounds from the devastation of oil spills. Important federal assets of great national value would be damaged by any oil spill, including the Olympic National Marine Sanctuary, the coastal strip of Olympic National Park and numerous national wildlife refuges. These federal responsibilities, and the urgency of achieving a practical permanent deployment of a rescue tug, justify that the greatest portion of the U.S. share of the cost of this rescue tug should be borne by the federal government.
- **Federal and State of Washington Participation.** Trade through Puget Sound ports benefits not only this state but also the entire nation. Approximately 80% of the relative volume of cargo originates or terminates beyond the boundaries of the State of Washington, to the direct benefit of the people of the other 49 states. This fact should be recognized in the funding formula for a dedicated rescue tug.

---

[3] There are currently physical limitations on the size of vessel that can operate from Neah Bay during certain low tides. This recommendation is based on the size of rescue tug deemed necessary to meet the mission. Priority should be given to dealing with any physical limitations of the harbor.

[4] United States v. Locke, No. 98-1701, decided March 6, 2000.

- **Assuring Continuity of Rescue Tug Coverage.** The continuity of rescue tug coverage is paramount. The U.S. federal government and the State of Washington should employ all possible means to assure the sustained availability of appropriations as recommended here.

3. Rescue Tug Specifications

- **PRIMARY MISSION:** The primary mission of this dedicated rescue tug is to arrest the drift of a disabled vessel to prevent a pollution event.
- **COLLATERAL CAPABILITIES:** The tug should be equipped and available to provide other emergency rescue services and early assistance in oil spill response, as long as its primary mission is not jeopardized. These include –
  - Providing intervention support for the Coordinated Vessel Traffic Service;
  - Assist in search and rescue efforts
  - Marine firefighting
  - Early oil spill response
- **SIZE, POWER, EQUIPMENT:** The specifications for a suitable tug should be addressed by a group of experts convened by the U.S. Coast Guard and Washington Department of Ecology. These experts should include those recommended by local government, industry and environmental groups.
- **COST:** The annual operational cost for a suitable rescue tug meeting these requirements ranges from $3,500,000 to $7,000,000, including amortization.[5] The higher figure is the most probable. Cost includes charter of a stand-in replacement tug during periods when the dedicated rescue tug is out of service for general maintenance, repair and annual dry-docking, or on a specific rescue assignment.

4. Presumption of Permanence

The role and performance of this rescue tug should be routinely evaluated as part of overall assessments of the maritime safety systems of the U.S. and Canada in this region. The permanence of this rescue tug is a critical element in the marine safety system; any decision to remove or reduce this important oil spill prevention asset must be made by affirmative decision, not by any form of automatic "sunset clause".

5. Site-Specific

This recommendation reflects the unique circumstances and challenges to maritime safety and oil spill prevention in the Western Strait of Juan de Fuca and on the Washington and British Columbia coasts.

---

[5] These estimates are based upon the recommendations of the 1994 Emergency Towing System Task Force and on data developed as part of the U.S. Coast Guard's Regulatory Assessment [see especially pp. 58-59. Costs in this same range were derived in the 1995 cost-benefit analysis prepared for the Province of British Columbia.

RATIONALE

A dedicated rescue tug stationed at the entrance of the Strait of Juan de Fuca will significantly improve oil spill prevention for both the United States and Canada. It will round out the present coverage by commercial tugs, placing a vessel equipped for arresting drifting vessels (and for other collateral duties) and a trained crew at a point readily accessible for incidents developing in the western Strait, the ocean approaches and along the coasts of British Columbia and Washington. It will significantly reduce response times, enabling a tug to reach a drifting vessel far sooner than can be assured in any other way.

ITOS. In a cooperative effort between the industry associations of British Columbia and Washington State, the International Tug of Opportunity System (ITOS) has been implemented on a voluntary basis by the shipping industry at its own expense. The system provides transponders on approximately 100 Canadian and U.S. tugs operating in the shared waters. The Marine Exchange and the Cooperative Vessel Traffic System monitor tug activity. Location and physical attributes of tugs operating are displayed for rapid identification of assets in the event of an emergency.

The U.S. Coast Guard evaluated ITOS in a report published in August 1999, concluding that "...(ITOS) provide(s) an incremental improvement to the existing marine safety system".[6]

The study emphasized, however, that "What is important is the determination of how big a gap there is in tug coverage".[7]

Analyzing real-world data, Coast Guard studies show a lower incidence of tugs present in the outer strait when commercial vessels were present than for other portions of the study area, revealing an oil spill prevention gap in the waters at the entrance of the Strait and adjacent ocean waters.

The Coast Guard review found that "there is approximately a 15% chance that there is an ITOS tug in the vicinity of the intended operating area of the [proposed] dedicated rescue tug".[8] Assuming that any ITOS tug is available, willing and technically equipped to hook up to and slow the drift rate of a vessel in distress, the study concluded that ITOS eliminates approximately 11% of the risk of a significant oil spill throughout the region and 9% for the offshore approaches.[9]

Using different methodology, the Coast Guard's Regulatory Assessment found that "ITOS is expected to reduce the number of drift groundings by approximately 3% in 2000 and 6% in 2025."[10]

Spill Prevention Gap at the Entrance of the Strait of Juan de Fuca. There are two gaps in oil spill prevention coverage associated with the outer Strait of Juan de Fuca and ocean approaches:

- The review of ITOS confirms a lower probability of an adequate and available commercial tug of opportunity in the outer Strait and ocean approaches than in any other portion of the study area.
- There are fewer response assets for the containment and recovery of spilled oil in the outer Strait and ocean approaches than in the marine waters further east.

The 1997 Volpe Report concludes: "Environmental sensitivity generally drops as one moves west to east while response efficacy increases."[11]

---

[6] Analysis of the Geographic Coverage Provided by the International Tug of Opportunity System From November 1998 – May 1999, U.S. Coast Guard, 30 August 1999.
[7] Ibid, p. 36.
[8] Ibid, p. 16. It is noteworthy that the Executive summary states: "Not addressed in this analysis are issues such as the adequacy of the power of ITOS tugs or their ability to hook up to a vessel in distress".
[9] Ibid, p. 51. These assumptions are not warranted and the risk reduction is thus even less than implied here.
[10] Regulatory Assessment: Use of Tugs to Protect Against Oil Spills in the Puget Sound Area, prepared for the U.S. Coast Guard, Report No. 9522-002, November 15, 1999, p.47.
[11] Scoping Risk Assessment: Protection Against Oil Spills in the Marine Waters of Northwest Washington State, published by the John Volpe National Transportation Systems Center, July 18, 1997, p.86. [Cited here as "Volpe Report"]

Public Assessment of Risk. In the final analysis, each person, each organization and each segment of the shipping industry assesses the maritime oil spill risk at the entrance of the Strait of Juan de Fuca in their own way, reflecting their own interests. It is evident however, that the people of the State of Washington have concluded that current maritime safety measures in this particularly vulnerable and valuable area are not adequate to protect the public interest.[12]

The oil spill risk from commercial vessel traffic in these waters is not static. Both vessel traffic and public concern for the consequences of a large oil spill are increasing. The growth in international trade to and from both the United States and Canada will fuel ever-greater traffic by ever-larger vessels with ever-larger tanks of bunker fuel. While double hull tankers will be phased in for the U.S. oil trade in these waters by 2015, well before that time the greater share of the risk will have shifted to dry cargo vessels simply because of the rapid growth projected in their trade through the Strait.[13] Risk is further elevated by the rapidly growing use of these waters by recreational boats of all kinds.

The people of Washington and the United States place enormous value on the integrity of this natural environment, as witness the dedication of the outer coastline as part of Olympic National Park and the adjacent offshore area as the Olympic National Marine Sanctuary. Moreover, the serious deterioration of the marine environment, particularly within the Strait and Puget Sound, has called forth an tremendous commitment of public effort and funding. Examples include the listings (completed and pending) of more and more species under the Endangered Species Act – and the significant public sacrifices that will be required to restore these species – as well as the urgency Congress felt in approving and funding the Northwest Straits Initiative.

An overriding factor necessitating placing a response tug in the outer Strait is the treaty obligation of the Federal Government to protect the Usual and Accustomed lands of the tribes in Washington State. There is embodied within the treaty an absolute obligation to the protection of the marine environment.

A Dedicated Rescue Tug Addresses the Gap by Enhancing ITOS. The deployment of additional towing assets in the greater Puget Sound basin adds to the emergency response capability in the event of a disabled vessel. The greatest potential for an asset reducing a hazard would be in response to a drift grounding.

It is important to note that industry stakeholders are currently contributing to the protection of the marine resources –

- The tanker industry through taxation and required tug escorts for laden tankers transiting east of Port Angeles, as well as in the additional costs to build and operate double-hulled tankers.
- The dry cargo and tankers industries through its voluntary funding of the International Tug of Opportunity System,
- And both the dry cargo and oil tanker industries support oil spill response organizations.

Prevention of an oil spill is altogether preferred over spill cleanup efforts, which are inherently of limited success and very costly. In addition to the economic, environmental and social benefits to society in general, the shipping industry itself stands to gain from the improved oil spill prevention capability represented by a dedicated rescue tug at the entrance of the Strait –

---

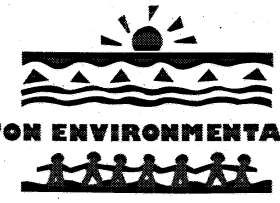
[12] This is demonstrated by the 1991 state law mandating an emergency towing system at the entrance of the Strait of Juan de Fuca by 1992, by the growing support of state and federal legislators and the elected commissioners of the most affected counties, and by the significant funding devoted to interim tug protection by both the Clinton Administration and the State Legislature.

[13] Regulatory Assessment: Use of Tugs to Protect Against Oil Spills in the Puget Sound Area, prepared for the U.S. Coast Guard, Report No. 9522-002, November 15, 1999.

- First, the ship owner involved in an incident which, as a result of the services of a dedicated rescue tug, does not unravel into a major oil spill gains by avoiding huge costs, including liability and punitive damage claims.
- Second, the shipping industry as a whole gains by avoiding the far more intense regime of operating regulations which would inevitably be imposed upon it in the political aftermath of a major oil spill in these essentially urban waters.

[June 6, 2000]

Alpine Lakes Protection Society
American Association of University Women
Association of Bainbridge Communities
C.A.R.E.
Cascade Bicycle Club
Center for Environmental Law and Policy
Chehalis River Council
Chums of Barker Creek
Citizens for Clean Air
Clark County Natural Resources Council
Clark-Skamania Fly Fishers
Columbiana BioRegional Education Project
Consumers United for Food Safety
Dawn Watch
Dishman Hills Nat'l Area Assoc
Dolphin Database
Environmental Law Caucus - Gonzaga School of Law
Everett Garden Club
Evergreen Islands
Federation of Fly Fishers, Steelhead Committee
Floating Homes Association
Friends of Chuckanut
Friends of Discovery Park
Friends of Grays Harbor
Friends of the Aquifer
Friends of the Columbia Gorge
Friends of the Loomis Forest
Friends of the Methow
Friends of the San Juans
Friends of the West Hylebos Wetlands
Grays Harbor Audubon Society
Hood Canal Environmental Council
Issaquah Alps Trails Club
Kettle Range Conservation Group
Kitsap Audubon Society
Lower Columbia Basin Audubon
Marine Environmental Consortium
Methow Valley Citizens Council
Mountaineers
Nisqually Delta Association
North Cascades Audubon Society
North Cascades Conservation Council



WASHINGTON ENVIRONMENTAL COUNCIL

Dissenting Views on the Final Report of the North Puget Sound Risk Management Panel

Summary

The Washington Environmental Council does not endorse the final report of the North Puget Sound Risk Management Panel. WEC did support the 24 recommendations set forth in the report. However, WEC concluded that these recommendations only provided minimal incremental improvements and that significant safety gaps remained in Haro Strait, the Western Strait of Juan de Fuca, and the outer coast. The Panel's failure to address these gaps means that the risks of oil spills have not been reduced in these regions of Washington's waters. WEC therefore concludes that the Panel did not meet the charge set before it. WEC also joins with the Makah Tribe, Clallam County, San Juan County, and People for Puget Sound in declining to endorse the Final Report.

Panel Deliberations

In evaluating the work of this panel, WEC considered what the state of marine safety was at the beginning and where it was when the Panel concluded its deliberations. In the late fall of last year, the federal government, the State, and the Makah Tribe funded the stationing of a tug at the entrance to the Strait of Juan de Fuca. This tug, the Barbara Foss, was in place for much of the time the panel met. Also in the fall, the state still enjoyed the authority to enforce its standards under state law.

How well are citizens of Washington today protected from disastrous oil spills in the waters of the coast and the Straits? The tug is gone from Neah Bay and there is no new funding in sight. The State has completely vacated the effort to enforce its own standards because of the Supreme Court decision in the INTERTANKO v. Locke case. Today, the Coast Guard missions are being curtailed by 10% because of inadequate funding which may be straining its efforts in all areas of its mission, including enhancing marine safety. The inescapable fact is that the people of Washington State have significantly less protection from marine oil spills than they had when the Panel began its proceedings.

In the beginning, that Panel adopted a consensus-minus-two voting procedure for approval of all Panel recommendations. WEC has concluded that this was a fundamental mistake, for it allowed for opposition of merely three Panel members to prevent a measure from becoming a recommendation. As a result, some of the most critical, measures were not adopted. The Panel did adopt, on the consensus-minus-two procedure, 24 recommended measures. These measures, for the most part, are weakly worded and reflect the problem in obtaining the consensus-minus-two approval within the Panel. In spite of our reservations about the strength of these recommendations, we viewed them as generally helpful. However, WEC stated early on that we support these recommendations *with the proviso that our final decision to join in supporting the report would be dependent upon what we determined the net effect of the total package would be*

North Central Washington Audubon Society
Northwest Energy Coalition
Northwest Fly Anglers
Oak Harbor Garden Club
Okanogan Highlands Alliance
Olympic Environmental Council
Olympic Park Associates
Olympic Peninsula Audubon Society
Organization to Preserve Agricultural Lands
Pacific Biodiversity Institute
Palouse Clearwater Environmental Institute
Pend O'reille Environmental Team
Point Roberts Heron Preservation Committee
PRO - Salmon
Protect the Peninsula's Future
Ptarmigans
Puget Soundkeeper Alliance
Republicans for Environmental Protection
Rivers Council of Washington
Save A Valuable Environment
Save Lake Sammamish
Save Our Summers
Save the Woods on Saratoga
Seattle Audubon Society
Seattle Citizens for Quality Living
Skagit Audubon Society
Spokane Audubon Society
South Sound Fly Fishers
Surfrider Foundation - Washington Chapter
Tahoma Audubon Society
The Bicycle Alliance of Washington
The Lands Council
Transportation Choices Coalition
Vancouver Audubon Society
Washington Fly Fishing Club
Washington Native Plant Society
Washington Ski Touring Club
Washington Trollers Association
Waste Action Project
Watershed Defense Fund
WEAVE
Wenatchee Valley Fly Fishers
Wilderness Society
Yakima Valley Audubon Society

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WEC has attempted to evaluate the product of the nine months of work that is captured in the 24 recommendations. WEC has categorized them in seven different categories. They are as follows:

1. Urges evaluations. Recommendations 2, 6, 10, and 24 all urge that someone undertake an evaluation of an existing state of affairs, but do not recommend any particular action.
2. Supports an already-existing effort. Recommendations 1, 4, 18, 19, and 22 urge support for work that some existing agency or body is already doing, although it is not always clear if the work being done will yield an outcome that the panel would endorse.
3. Asks for voluntary compliance. Recommendations 5, 7, 12, 13, 14, 15, 16, 21, and 23 all request ship operators to voluntarily comply with either Standards of Care (SOC) or in the case of tug and barge operators, with ongoing programs.
4. Asks for voluntary or perhaps a regulatory approach. Recommendation 9 calls for either encouraging increased attendance in boater education programs or establishment of statewide mandatory requirements for recreational boaters.
5. Defers to a new body yet to be established. Recommendation 11 recommends establishment of a cross-boundary body for working on issues in Haro Strait.
6. Good, but may not be possible now. Recommendations 3 and 8 call for beefing up shipboard inspectors programs, but the recent state announcement that it is giving up enforcement of its programs due to the INTERTANKO v. Locke ruling, combined with Coast Guard budget reductions, makes it unlikely that this will happen anytime soon.
7. Nice but a bit vague. Recommendations 7 and 17 call for improving relationships with other bodies – in the one case the sovereign Makah Nation and in the other case the respective Marine Resource Committees of the seven affected counties in the Northwest Straits Initiative.

Analysis of Specific Recommendations

WEC deems it important to highlight a number of the specific measures, in some cases adopted by the Panel, in other cases not, so that our reason for not endorsing the Final Report may be better understood.

The Port Access Route Study (PARS)

The PARS recommendation (#19) is an example of one of the recommendations, which supports a process already initiated by another agency. The Coast Guard briefed the Panel on its on going PARS work early in the Panel's work. The proposal would make needed improvements in the ocean approaches to the Strait of Juan de Fuca, in the western segment, and improvements in traffic management in Haro Strait. It proposes to re-align the traffic routing system, moving the VTS lanes further offshore, increase the size of the Area To Be Avoided (ATBA) in the Olympic Coast Marine Sanctuary, and other lane changes within the inland waters. Many of the Panel members, including WEC, felt that the proposed re-configurations would make good improvements in the way traffic is now handled and provide an extra margin of safety for possible drift groundings, powered groundings and collisions. The majority of the Panel urged the Coast Guard to move expeditiously on adoption of the proposal, in order to have an opportunity to submit the proposal to the International Maritime Organization (IMO) this year. However, the Coast Guard could not resolve issues raised by the Puget Sound Pilots and the Canadian government, hence the partial endorsement of the PARS elements. Sadly, this resulted in a one-year delay in submitting the proposed re-alignments and rules to the IMO. As of the date of this document, no final proposal is published, so it remains to be seen what the Coast Guard will do with this recommendation.

Coast Guard Standards of Care

Quite a number of the of the recommendation's in the Panel's report include Standards of Care (SOC). Both the Coast Guard and the industry promote these as an effective means of notifying mariners of the

expected practices when entering Washington's waters. The advantages also cited by proponents include: they can be implemented quickly, don't require a lengthy regulatory process, can be tailored to the individual needs of the waterway, and provide the industry with flexibility of implementing SOC. SOC are *voluntary compliance* measures, without force of law. The Captain of the Port may take a range of actions within his discretion, if he finds a particular shipper failed to follow the SOC.

Regardless of the merits of these arguments, WEC is concerned that an over-reliance on SOC may lead to an abdication of the regulatory responsibility of the federal authority in waterway safety. The ability to draft and transmit SOC quickly and easily may be advantageous in certain situations, but extensive use of SOC should not take the place of a legally enforceable regulatory regime.

One major disadvantage of the SOC is that they can be legally challenged in the event of a marine accident. Another disadvantage is that the general public is not included in the process when a SOC is created with the result that the Coast Guard may not get important comments, ideas, information, and suggestions from citizens. Because of these concerns, WEC cannot give blanket endorsement the use of SOC. We suggest that they may have a role as a precursor to a rule making, since they can rapidly be implemented to address a potentially critical problem. At the very least, those SOC that are most crucial to the conduct of safe marine transportation in Washington State waters should be made mandatory through rule-making. Without an agency a commitment to do so, WEC finds that the SOC recommendations provide only a very limited, incremental level of marine safety.

The Public Ports Tug Proposal

The Washington Public Ports Association introduced a tug proposal at the meeting in June. It was briefly discussed and many questions were raised. Subsequently, the Public Ports submitted a modified proposal at the July 6th meeting. It was discussed at greater length, but ultimately the Panel rejected it. WEC made a very serious effort to consider this proposal, but ended up joining those voting against it. Part of the reason we rejected it is because many of the same questions raised at the first consideration still existed in the amended version. These questions revolved around issues concerning the lack of definition of what type of vessels would warrant sending a tug and why the criteria of 40-mph winds were selected.

A more fundamental reason that lead WEC to reject this proposal is that it would provide a tug in the Western Strait (not necessarily in the ocean) only very infrequently. Further, even when the tug was dispatched, it would only remain on call for as long as it took the ship to transit to Port Angeles. In our view, this proposal constituted an escort tug, which, at best, would only be present, a minimal number of times per year for a short duration of time.

WEC also could not understand the 40-mph requirement for dispatching a tug in the case of a "priority two transit". Mechanical failures, breakdowns, or human error happen in good weather as well as bad. Yet any time a vessel is adrift, it represents a hazard to its own crew, other vessels, and to nearby sensitive habitats. The problem is the lack of a capable towing vessel at any time, not just for the few times a year. Fortunately, the present Captain of the Port recognizes the risk drifting vessels pose and has been very quick to get a tug to the stricken vessel as quickly as possible. Because he had the Barbara Foss at Neah Bay available, he was able to dispatch it on several occasions to assist vessels suffering mechanical failures in the ocean approaches to the Strait of Juan de Fuca. To our knowledge, none of these incidences occurred in winds of 40 mph or higher. Had the Captain of the Port relied on the Public Ports proposal, very likely there would have either been no capable tug available to arrive in a timely manner to assist these vessels. For all these reasons WEC views the Public Ports proposal as having serious shortcomings and will not contribute significantly to marine safety and environmental protections for the waters of the Outer Coast and Western Strait.

The WEC/People for Puget Sound/Western States Petroleum Association Tug Proposal

WEC joined with People for Puget Sound and the Western States Petroleum Association in a proposal for a year-around, mission-capable tug stationed in at the mouth of the entrance to the Strait of Juan de Fuca. In spite of the fact that the Panel voted for this proposal by a 3 to 1 margin, the proposal failed because of four votes against it.

The year-around tug proposal provides for protection in the widest range of the marine incident and accident prevention of all the tug proposals (ITOS and Public Ports proposal). Though its primary mission would be to provide rescue assistance, a capable tug could also provide enhanced fire fighting capacity, early oil spill response, assist and search and rescue operations, and intervention support for Vessel Traffic Service.

This proposal also went very far toward meeting previous maritime industry objections by insisting that funding for a tug be economically neutral for shipping going to U.S. or Canadian ports. This proposal also recognized the regional and national benefits of trade, along with the national significance of the marine resources by recognizing that a rescue tug should have public funding.

Unfortunately, even this proposal, as rational and attractive as it should have been, proved too far a stretch for some of the industry members of the Panel. Had this proposal been adopted, WEC would have endorsed the Final Report.

Other Measures not adopted

Several other measures were not adopted by the Panel, each of which could have provided a constructive improvement in reducing the risk of oil spills. The Panel failed to provide enough votes to establish a body modeled upon the Regional Citizens Advisory Council which has proven especially effective in promoting enhanced safety practices for shipping in Prince William Sound, Alaska. The Panel declined to consider recommending even the study of extending Pilotage waters to the mouth of the Strait of Juan de Fuca. Members of the Panel objected to even the consideration of a recommendation to extend the High Volume Traffic Line to the mouth of the Strait -- an action whose most notable effect would be to reposition certain large-capacity oil spill response equipment to a geographic location nearer to the waters of the Outer Coast and Western Strait.

WEC wishes to recognize the hard work and effort that Panel members made during the life of this Panel. WEC labored with these members to try to work towards a comprehensive and effective solution to the problem of protecting our environment from oil spills. That the Panel did not succeed in our view, doesn't lessen our recognition of their efforts.

Washington State Senate

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22nd Legislative District

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Minority Report
By
Senator Karen Fraser
North Puget Sound Oil Spill Risk Management Panel Member

"To govern is to choose " Unfortunately, the North Puget Sound Oil Spill Risk Management panel, which met for about 9 months, suffered from a self-imposed handicap in fulfilling its major task--- namely, identifying and recommending major public policy choices for the governing decision-makers, principally in the US Coast Guard This handicap stemmed from the fact that, under the Panel's procedures, only three dissenters could block a recommendation by all the others Fortunately, the decision-makers themselves are not bound by those procedures in making their ultimate choices

I voted "no" on the Final Report to express my disappointment with the limited scope of the official recommendations and to highlight several key matters which I hope the ultimate decision-makers will take into account

1 **Rescue tug at western entrance to Strait of Juan de Fuca.**
A full 60% of Panel members support placing a permanent, multi-purpose rescue tug at this location This 60 percent includes all state and county elected officials and the oil industry representatives However, because of the procedural handicap noted above, this is not included among the Panel's official recommendations

I urge federal and state decision-makers to recognize that 12 of the 20 Panel members support this, including all county, state, and tribal elected officials and the oil industry

I recommend a permanent, multipurpose rescue tug be stationed at the western entrance of the Strait, with the large majority of the expenses met by the federal government Our coastlines, our marine resources, and associated economies are too important to our national economy and interests

2 **Cost-benefit study of tug options.**
The "Puget Sound Regulatory Assessment (Report No 9522)," which contains a cost-benefit analysis of tug alternatives, analyzes only at a small piece of the whole picture I was pleased the author of the report agreed with me, in a conference call with the full Panel, that it is not comprehensive it is not an analysis of the whole picture

To be specific, the focus of the study is a numerical cost-benefit analysis of various tug options The incompleteness of the study stems from the fact that while it assigns actual numbers to costs to industry and the federal government, it assigns no numerical value to environmental and economic considerations The benefit of each alternative is computed solely on the basis of "barrels of oil not spilled " In the study

summation, when all the numbers are added up, the benefit of protecting the area's rich, spectacular environment, its rural economies, and hard earned property values is treated as zero! To be sure, these considerations receive passing mention, in a kind of "puff piece", but play no role whatsoever in working out the numbers for the cost-benefit analysis In stark contrast, costs and benefits to industry and government are shown as hard numbers If busy decision-makers only look at "the bottom line," neglecting to notice how it was calculated, they will not realize that the environment and local economies do not show up in the count!

Nevertheless, some advocates are trying to promote this limited study as a comprehensive analysis of costs and benefits of all major tug alternatives This should be treated for what it is---nonsense The implications of making this mistake are to shun consideration of vital economic and environmental considerations and preclude an objective look at the true effectiveness of various options To have a credible cost-benefit analysis, the monetary value of preventing environmental harm must be taken into account This is because when it is added to the other quantified benefits identified in the Assessment, it may well tip the balance in favor of an alternative that might not otherwise be justified This Assessment may meet some obscure OMB guidelines, but it does not pass the reality test if you want to call it comprehensive

I recommend decision-makers (a) not consider this Assessment in any way to be determinative of the true costs and benefits among the range of tug-related alternatives and (b) commission an update of it to make it truly comprehensive and actually useful

3. ITOS of limited aid at high priority area of Western Entrance to the Strait of Juan de Fuca

There is a tendency on some people's part to assume that because the "ITOS Program" is available in the area, it is equally available throughout the area This is not the case, as was well discussed at Panel meetings "Tugs of Opportunity" are more available where there are more tugs The further westward one goes in the Strait, the fewer tugs there are at all, and thus fewer opportunities for a ship in distress to be aided by a tug that happens to be in the area on a business run Further, tugs that happen to be in the area might not be able to drop their tows to aid or might not be of suitable size or have suitable equipment for the variety of emergencies that can occur in that area Accordingly, the Coast Guard study calculated the risk reduction at the western entrance to the Strait due to the general availability of the ITOS program to be very low

I recommend that these factors be taken into account when arguments against a permanently stationed tug at the western entrance of the Strait are made

4 **Limitations of existing studies**

We were told not to commission new research We were constrained to use only what already exists --- even though much of it is incomplete, does not address significant contemporary questions, or does not incorporate the most recent projections

I recommend decision-makers use all studies with caution, and carefully consider deficiencies, controversies, and other specific concerns related to each identified during the Panel's work

5 **Constraints on discussing costs and revenue sources.**
For most of the life of the Panel, we were told not to consider costs or revenue sources in evaluating alternatives Unfortunately, that is what was foremost on most Panel members' and some support staff's minds, and affected their analysis, discussion and votes

I recommend costs and revenue sources be addressed objectively and realistically by all

6 **Risk.** We were never able to adequately discuss risk This is another aspect of the problems discussed in item 2 above, i e the fact that environmental concerns were paid lip-service but then placed completely outside the scope of the cost-benefit analysis

On the other hand, there's also a positive side:

1 I feel the official recommendations have merit and should move forward They will achieve incremental improvements in safety, but are not the most significant items that could be considered

2 The Panel process achieved an incremental improvement in knowledge about the issues by an increased number of persons

3 The Panel process facilitated improved relationships between many parties interested in these issues This should continue to have positive benefits into the future as these issues continue to be debated

On a personal note, despite the frustrations, I appreciated serving on the Panel I believe my knowledge level of the critical issues has increased, and my ability to engage in further public policy debate on them enhanced

End

Karen Fraser - July 21. 2000

Board of Commissioners

San Juan County

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Darcie L. Nielsen, Dist. 1 • John B. Evans, Dist. 2 • Rhea Y. Miller, Dist. 3

July 19, 2000

The North Puget Sound Oil Spill Risk Management Panel
National Center Associates
705 South 9th Street #206
Tacoma, WA 98405

Re: **DISSENTING OPINION**

Dear fellow members:

At the convening of the Panel, DOE Director Tom Fitzsimmons stated, "I am struck by the disparity between the prevention and response capabilities here in Prince William Sound and our capabilities in Puget Sound. Are Washington's waters less valuable?" When we live in an extraordinary place, known in some parts as the Crown Jewels of the Northwest, should we not expect extra care, extra precautions? Instead, the waters and shorelines of North Puget Sound, the Strait of Juan de Fuca, and the Olympic Coast—including a National Park, a National Marine Sanctuary, National Wildlife and Marine Refuges, extensive tribal lands, and a major migration route for threatened salmon and orca whale populations—are less protected now than when the Panel convened. During the course of the Panel's work, and whose several members were directly involved in the Intertanko lawsuit, the U.S. Supreme Court handed down a decision that rendered a substantial portion of Washington State's marine regulatory scheme unenforceable. The interim rescue tug that was in place during most of the Panel's work is now gone, even though it had been actively utilized.

There seems to be the need to point out the elephant sitting in the living room.

The Panel's "Final Report" is not responsive to the concerns expressed by Fitzsimmons, nor to the concerns of the public-at-large, not to mention to the environmental community. For the most part, the recommendations in this report merely acknowledge other ongoing initiatives, defer to other processes, or simply promote prudent seamanship. These recommendations are not, and should not be mistaken for the "long term comprehensive oil spill risk management plan" that we in good faith joined this Panel to produce.

During the course of the Panel's work, two major concerns rose to the forefront regarding marine safety and the threat of oil spills: **1)** a gap in protection along the outer coast and western Strait, and **2)** a heightened awareness of the dangers of transitting the Haro Strait/Boundary Pass area.

Due to large amount of time consumed by the lesser recommendations, (not, however, by the tug issue as most of that discussion took place in caucus), the Haro Strait issue was not able to be adequately addressed. This issue, like so many others, demanded that the international community be addressed, and yet we did not engage in any meaningful discussion on how to come to terms with the impacts of the global maritime industry on this area.

Most members of the Panel came to the table as veterans of the long debate over stationing a dedicated oil spill prevention tug on year-round duty at the entrance of the Strait of Juan de Fuca. This is a "no-brainer" for the public. Due to our operating procedures, the consensus-minus-two rule gave any three Panel members out of twenty the power to veto any recommendation. ***The consensus-minus-two rule can either result in an extraordinarily powerful recommendation, or in a degeneration of discussion to the lowest common denominator. In this case, the latter prevailed.***

Some highlights of the historical debate over the rescue tug at the entrance of the Strait include:

1991.

The Washington State Legislature mandated that "An emergency response system for the Strait of Juan de Fuca shall be established by July 1, 1992." This mandate remains in state law to this day and remains unfulfilled.

1993.

The Strait of Juan de Fuca/Northern Puget Sound Marine Safety Committee (appointed by the state's Office of Marine Safety) prepared a "Regional Marine Safety Plan" which recommended:

> If the basic requirements are met, Neah Bay would be the most desirable port for [a rescue tug] because it is a more centrally located port of the area to be covered (Port Angeles to Grays Harbor to Columbia River) and it is very close to the area of greatest risk—the entrance to the Strait.

1994.

The state's Emergency Towing System Task Force, created to recommend action to fulfill the Legislature's 1991 directive, recommended as its preferred alternative the "locations of a dedicated rescue vessel at the entrance to the Strait of Juan De Fuca.

Task Force members representing the Puget Sound Steamship Operators (PSSOA), the BP Oil Shipping Company, and the Canadian Transport Company, voted "no," but the majority of that 1994 Task Force approved this motion. The Task Force further voted unanimously that "The ideal funding mechanism to support the vessel would spread the cost to all users."

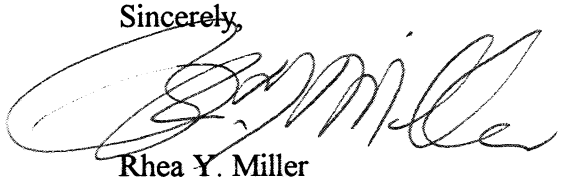
2000.

Now, the year 2000, the oil industry has stepped forward to support the proposal for a dedicated rescue tug, expressing their willingness to pay their share of an equitably balanced plan for financing the tug.

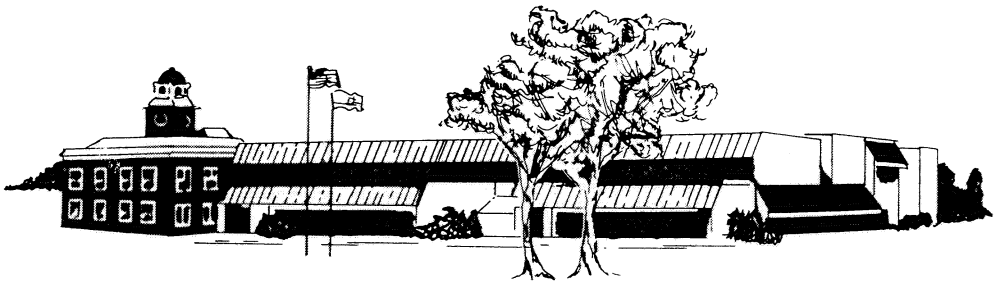
Furthermore, as a result of the leadership of U.S. Representative Norm Dicks, Governor Gary Locke, Vice President Al Gore, and the Makah Tribal Council, funding was assembled to allow a full-time rescue tug to be on duty at Neah Bay from December 15, 1999 through June 15, 2000. During that period the tug was called out to assist disabled vessels three times when no commercial tug was available. Nevertheless, under the present consensus-minus-two rule, the shipping industry has managed to veto the year round rescue tug recommendation.

For these reasons, the "Final Report" of the Panel is unacceptable.

Sincerely,



Rhea Y. Miller
Commissioner, District 3



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CLALLAM COUNTY'S DISSENTING VIEWS:
NORTH PUGET SOUND LONG TERM OIL SPILL RISK MANAGEMENT
PANEL FINAL REPORT

Preface to Dissent Statement Packet

Early in the Panel process, Clallam County explained that its vital interests include environmental integrity for its 200-plus miles of its shoreline and adjacent marine habitat, responsiveness to its constituency, inclusiveness of community, respect for people, the area, its concerns and opinions, safety enhancements for oil spill prevention, viability for appropriate recreational usage and waterway activities, and fairness in process, people and product. The Panel's process and its product have failed to satisfy these interests.

The Panel was tasked with devising a long-term comprehensive oil spill risk management plan. It failed to do so. No matter how misleading and self serving the Executive Summary and text of the Final Report may be, it is evident from an examination of the available record, and a review of the meeting agendas, that the Panel was never allowed to grapple with the task of coming to a shared definition of the "problem."

Clallam County distributed a brief statement after casting its dissenting vote at the July 6, 2000 panel meeting. A copy of this statement and a copy of Clallam's July 6 statement regarding the permanent tug proposal follow. Also included in the following packet, and incorporated by reference in Clallam's overall dissenting report are: an outline of views on the failed Panel process and final report, a matrix chart categorizing the various features of the recommendation package, and copies of other documents that should help to illustrate why **Clallam County declines to endorse the North Puget Sound Oil Spill Risk Management Panel's Final Report.**

Carole Y Boardman

July 20, 2000

Carole Y. Boardman
Clallam County Commissioner

Enclosures

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FROM THE DESK OF
Carole Y. Boardman, District II

July 6, 2000

Statement re: Permanent Tug Proposal:

The PPS/WSPA tug proposal is a negotiated compromise that we hoped would succeed. It has become clear that this compromise recommendation is doomed to fail – with or without our "yes" vote. We need to re-focus attention on our preferred alternative.

There is a safety gap at the entrance to the Strait of Juan De Fuca. Clallam County believes that a measure to address this gap is to permanently station near the mouth of the Strait a multi-mission rescue/salvage/response vessel that is technically equivalent to similar vessels now on duty in Prince William Sound.

If asked by the policy-makers tasked with implementing this recommendation about how to pay for such a vessel, Clallam would recommend that funding be derived from a method which would allocate costs equitably among the commercial users of the waterway and the public as a whole.

Carole Boardman, Clallam County Commissioner, Panel Member
Shirley Waters Nixon, Panel Alternate.

North Puget Sound Long Term OIL SPILL RISK MANAGEMENT PANEL

Clallam County Statement re: Final Report

7/6/00

The Panel's "Final Report" is not responsive to the Panel's charge, and the recommendations it contains do not significantly advance marine safety. For the most part, they merely acknowledge other ongoing initiatives, defer to other processes, or toothlessly promote prudent seamanship. They are not, and should not be mistaken for the "long term comprehensive oil spill risk management plan" that we, in good faith, joined this Panel to produce.

The consensus rule[1] guaranteed that the competing values of panel members would nullify strong recommendations. This Panel, however, even avoided meaningful discussion and inquiry into the management practices of the global maritime industry and the human and organizational weaknesses that lead to low incidence, yet high consequence catastrophic spill events such as the *Exxon Valdez*, the *Nestucca*, the *New Carissa*, the *Erica,* and others. (See, for example, Appendix 13's Summary of Costs of Selected Incidents.)

The waters and shorelines of North Puget Sound, the Strait of Juan de Fuca, and the Olympic Coast --- including a National Park, a National Marine Sanctuary, National Wildlife and Marine Refuges, extensive tribal lands, and a major migration route for threatened salmon populations --- are less protected now than when the process began[2].

We cannot endorse a report that is unresponsive to the Panel's charge and that fails to significantly advance marine safety. We will build upon what we have learned here and will continue to strive, in other forums, to achieve the greater level of protection that these waters deserve.[3]

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[1] Under the Panel rules, "consensus" is reached if there are no more than two dissenting votes. Thus, any three panel members have the power to veto any recommendation.

[2] When the Panel process began, the regulatory marine safety net included laws enacted and enforced by the State of Washington and the United States Coast Guard. During the Panel process, the US Supreme Court rendered a substantial portion of Washington's regulatory scheme unenforceable.

[3] This includes the stationing of an equitably funded, dedicated multi-mission rescue/salvage/fire-fighting/response vessel, equivalent to those stationed in Prince William Sound, near the mouth of the Strait of Juan de Fuca.

Clallam County Dissent

North Puget Sound Long Term Oil Spill Risk Management Panel Final Report

Overview Outline: Views on the Failed Panel Process and Final Report[1].

I. OUTRAGEOUS! DISGUSTING! UNACCEPTABLE!

A. Product is unworthy of Clallam County's support

1. Unresponsive to charge.

(a) The MOU (Appendix 1) called for the Panel's work to be a credible, inclusive process. It was neither.

(b) The Final Report utterly fails to address the mission and purpose set forth in the MOU and documents derived from it. (See, for example, Final Report Section IV B – Guiding Principles. *"The goal of the Long-Term Oil Spill Risk Management Panel is to draft a plan that evaluates the existing safety system and makes recommendations regarding ways to improve marine safety in the North Puget Sound Region...."* See also, Appendix 4, p.2, Purpose Scope and Process document: *"The panel will use an approach based on recognized risk assessment and risk management practices to develop an integrated plan for managing the risk of oil spills due to maritime casualties in the area.")* Because the Panel never addressed or determined where marine safety gaps may exist, there is no basis to evaluate the cost/benefit ratio of potential measures to fill the gaps. There also is no mechanism for rank ordering the measures by effectiveness. (See Appendix Six, Scope of Work, *"The following risk based approach is stipulated as a means to promote an efficient, documentable, timely process.... Determine the level of effectiveness of each measure...by evaluating the trade-offs associated with each. ... Identify the preferred measures by rank ordering [them]."*) The 24 recommendations set forth in the final report have no foundation in principles of risk management analysis, and thus are totally unresponsive to the task that Governor Locke and Secretary Slater and the Panel's own work plan expected it to do.

2. Weaker safety net than initial status quo.

(a) *Intertanko* lawsuit and State's decision to abandon the fight to maintain State rules not overturned by *Intertanko* means that there are fewer regulations and enforcers on the waterway than when the panel process began. (See News Release #00-15 from WA State Dept. of Ecology, dated June 12, 2000, titled: **"Ecology Dept. suspends enforcement of spill prevention by oil vessels.")**

(b) Recent Coast Guard budget cutbacks suggest that even if that agency were motivated to increase their regulatory and enforcement presence, the financial resources will likely be unavailable to do so.

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[1] Prepared 7/19/2000 by Shirley Waters Nixon, Clallam County Alternate member

B. Panel Process Flawed

1. Consensus rule and composition of Panel doomed it to fail.
As fellow dissenter Commissioner Rhea Miller of San Juan County points out: *"The consensus minus-two-rule can either result in an extraordinarily powerful recommendation, or in a degeneration of discussion to the lowest common denominator. In this case, the latter prevailed."*

2. Poor management also contributed to the Panel's failure.
(a) Violations of Federal Advisory Committee Act (FACA) guidelines
(i.) Panel not fairly balanced in terms of points of view represented.
    - Dominated by regulated industry
    - Geographic under-representation from the affected study area
        - Why did the City of Seattle hold the "city government" seat instead of a North Puget Sound or Olympic Peninsula city?
        - Why no tourism seat?
        - Why no recreational waterway-users seat?
        - Why no DNR or WDFW seat to oversee aquatic resource interests?
        - Why no effort to replace point of view of Shellfish Growers when their representative quit attending?
        - Why no representation by marine trades or unions (other than Puget Sound Pilots)?
        - No effort to defray expenses for those who needed to travel a great distance, thus making it a hardship to attend meetings or reducing the likelihood of their regular attendance.
            - Fifteen of the 21 panel sessions were held in Seattle, home area to most of the maritime industry representatives.
            - Four sessions (January & February) were held in Olympia -- at the suggestion of industry lobbyists who needed to be available in the Capitol City while the legislature was in session.
            - Two sessions (October) were held in Port Angeles. (It is interesting to note that the co-chairs moved back the Port Angeles meeting start-time to 12:30 PM to allow for extra travel time; however, meetings held in all other locations began at either 8:30 or 9:00 AM – without consideration for the travel times of distant members.)

(ii) Lack of safeguards to assure that advice and recommendations of the Panel would not be inappropriately influenced by the appointing authority or by any special interest.
    - Valuable information kept from Panel and/or not reflected in the minutes and record of panel's work.
    - Apparent power struggles between co-chairs about which agency's views and data should guide the Panel's deliberations.

- Coast Guard Regulatory Assessments, ITOS Study, Cost Benefit Analysis – treated as sacrosanct; Panel not allowed to meaningfully discuss, critique, or make findings on their value.
- No meaningful Panel discussion allowed on potentially contentious issues – for example:
  - Rescue Tugs –Neah Bay dedicated rescue tug issue not addressed at all until March, and then shunted aside via private caucus mechanism from March through June. Dedicated tug for Haro Strait and other vulnerable areas never discussed.
  - Pilotage - No presentations or data on pilotage, even though this topic was requested by Panel members, and pilots in the audience were prepared and willing to provide information.
  - Weaknesses of ITOS
  - Tank Barge oil spill threats – even though casualty data show that risks are high for tank barges
  - Dry Cargo shipping oil spill threats. Bulk carrier and container ship traffic in the Strait will increase from 65% of the total transits in the year 2000 to 72% of the transits in 2025. According to Appendix 4, total oil movement in the Strait for the same period will increase from 360 million barrels per year in 2000, to 457 million barrels per year by 2025. Virtually all of this increase can be attributed to the increasing amount of oil carried as bunker fuel by cargo vessels.
  - Military vessel contributions to waterway risk. Both the Canadian and US Navies conduct military exercises in and move significant numbers of vessels through the study area; Military vessels are far from an invisible presence in the waterway, and yet the panel largely treated them as such.
  - Enhanced tug escort requirements
  - Salvage and response requirements, e.g. moving high volume port line.

(iii) Inadequate staff and quarters. No recorder, transcriber or clerical support for most meetings; no copy machines available near meeting room, except for meetings held at DOE in Olympia; seating for public attendees inadequate and largely unavailable in Port Angeles.

(iv) No detailed minutes of meetings; no complete and accurate description of matters discussed and conclusions reached; no transcripts of proceedings.

- Text of Panel's Executive Summary and Final Report are riddled with inaccuracies and misrepresentations about what occurred at meetings.
- No reliable record of actual proceedings exists.
  - No tape recording of first five months of meetings; tape recordings of later meetings of questionable completeness.

- No apparent effort to reconcile taped record with written "summary notes" to assure accuracy.
- No trained recorder or reporter in attendance at meetings to take notes and prepare minutes in violation of facilitator contract and FACA guidelines. (However, a $70. per hour "Graphic Illustrator" did attend. See further details below under Section II.B.).
- Public input unacknowledged and unrecorded in the minutes.
- Summary notes never circulated in a timely fashion, and sometimes never even seen or reviewed by Panel. (For example, the notes of the June and July panel sessions have not been circulated as of this writing.)
- Evidence of unauthorized substantive changes made to notes outside of Panel process and public view.

(b) Failure to adhere to the Panel's work plan and purpose statement.

II. WHAT A WASTE!

A. Time

1. Panelists' time:
   Judging by the lack of adherence to the panel's charge, and the overall net loss in marine safety gauged from the time the panel began its work until its ignominious end, one could easily argue that panelists' time was undeservedly squandered. On the other hand, some panel members may have nevertheless found enough value in the final outcome to justify their time and participation in the mind-numbing process. Perhaps for some, buying time and temporarily thwarting regulatory or legislative scrutiny was an end in itself, and thus a greater benefit than a cost.

2. Lost-opportunity time:
   For over a year, policy makers (state and federal agency and elected officials) have postponed important rule-making and legislation in deference to the Panel's work.

B Money

1. $275,000 for facilitators.
   This includes $175 per hour for Bill Lincoln, $125 per hour for Polly Davis, and approximately $14,000 as of April 2000 for the "illustrator-recorder" who was paid $70.00 per hour to attend the Panel meetings and draw colored pictures on large sheets of paper taped to the meeting-room walls. (Some of these drawings were later reproduced in 8.5" x 11" size and distributed with versions of some of the "summary notes".)
2. Coast Guard staff time and expenses
3. DOE staff time and expenses
4. Panelists' travel and meeting expenses.

C. Effort

1. The twenty-four recommendations in the Final Report are the watered-down remains of the most innocuous non-controversial ideas put forth by the eight or so panel members who submitted their "homework" assignments. (Fewer than half of the panel members completed this exercise. Conspicuously absent from the Final Report is any compilation or reproduction of the "homework" recommendations as originally submitted.) Any idea threatening the regulatory status quo or deviating from the lowest common denominator was either shunted aside or quickly dispatched by the consensus rule.

2. As our fellow dissenters have pointed out, the Panel's "Final Report" and the twenty-four recommendations it contains are weak and inadequate, and should not be mistaken for the "long term comprehensive oil spill risk management plan" that we in good faith joined this Panel to produce.

Recommendations vs. Benefits Chart

Clallam County's Dissenting Views; Oil Spill Risk Management Panel Final Report

The following chart is Clallam's expansion upon and graphic representation of the work of fellow-dissenter Andrew Palmer of the Washington Environmental Council (See WEC's dissenting report for additional text and elaboration on why WEC could not endorse this package of recommendations) WEC attempted to evaluate the Panel's recommendations by sorting them into seven different categories, as follows

Category 1 – Urges that someone undertake an evaluation of the existing state of affairs, but does not recommend any particular action

Category 2 – Supports an already-existing effort

Category 3 – Asks for voluntary compliance with prudent seamanship standards or existing safety programs

Category 4 – Asks for enhancement of recreational boater education via a voluntary or perhaps a regulatory approach to boater licensing

Category 5 – Defers to a new body yet to be established

Category 6 – Good, but may not be possible now, given *Intertanko* decision and Coast Guard budget cuts.

Category 7 – Nice but a bit nebulous

To WEC's categories, Clallam adds these

(Note that all boxes under these categories are blank }

Category 8 Recommends a specific measure for rule-making consideration by NAVSAC and co-chair agencies

Category 9: Rec. contains a cost/benefit analysis or other measure of effectiveness.

RECOMMENDATION	Category.								
	1	2	3	4	5	6	7	8	9
1 Near Miss Report System		♦							
2. State Regulatory Baseline Analysis	♦								
3 Adequacy of Current Regulatory Baseline						♦			
4 Standard of Care (SOC) – General		♦							
5 SOC-Bridge Team Communications			♦						
6 Review of Comparability Analysis	♦								
7 Effective Communications w/Local Marine Resource Committees			♦				♦		
8 Improve Scope & Effectiveness of Inspection Programs						♦			
9. Education Program for Small Vessel Operators				♦					
10 Expansion of CVTS Participation Requirements	♦								
11. Trans-Boundary Process for Marine Safety Issues					♦				
12. Towing Vessel Standards			♦						
13 SOC-Steering Gear Testing			♦						
14 SOC-Off shore Routing			♦						
15. SOC-Planned Maintenance			♦						
16 SOC-Fire fighting			♦						
17 Partnership with Tribal Nations							♦		
18. Support States/BC Oil Spill Task Force		♦							
19 Support for PARS		♦							
20. Implementation of UAIS									
21 SOC-Anchors			♦						
22. ATBA-Applicability, Size, Compliance		♦							
23 SOC-Vessel Towing Arrangements			♦						
24 Response-Area Committee Action Items	♦								

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X. Glossary

ACP	Area Contingency Plan, comprehensive plan which addresses regional spill response.
AOR	Area of Responsibility, for the purpose of this report, that geographic area within the operational control of the Puget Sound Captain Of The Port, generally consisting of navigable waters of the U.S. that lie within Puget Sound, the Strait of Juan de Fuca, and offshore of the Olympic peninsula north of latitude 48 degrees north (roughly Sea Lion Rock).
ATBA	Area To Be Avoided, an area offshore of the Washington coast consisting largely of the Olympic Coast National Marine Sanctuary, designated by the IMO to be voluntarily avoided by all vessels, including barges, carrying cargo classified by the United States as hazardous materials (e.g., oil or chemical).
AWO	American Waterway Operators, an association representing the interests of inland tug and barge companies in the United States.
BBL	A barrel of oil defined as 42 gallons.
CCG	Canadian Coast Guard
CFR	Code of Federal Regulations, a codification of the general and permanent rules of the U.S. government.
COLREGS	International Regulations for Preventing Collision at Sea, basic rules that control the behavior of vessels at sea to prevent collisions.
COTP	Captain of the Port, the COTP for the Puget Sound area is the Commanding Officer of U.S. Coast Guard Marine Safety Office Puget Sound.
CVTS	Cooperative Vessel Traffic Service, a network of vessel traffic services operated jointly by the United States and Canada to manage vessel traffic operating within the Strait of Juan de Fuca and North Puget Sound.
DWT	Deadweight Ton, a measure of a vessel's carrying capacity.
EIS	Environmental Impact Statement
FACA	Federal Advisory Committee Act, a U.S. federal statute.
FOSC	Federal On-Scene Coordinator, the official pre-designated by the U.S. government to coordinate and direct the federal response to an oil or hazardous substance spill.
Higher Volume Port Area	Any water area within 50 nautical miles seaward of the entrance(s) to the specified port as defined in 33 CFR Part 155.1020.
HOE	Human and Organizational Error

ICS	Incident Command System, a standardized but flexible organization and decision-making model that enables many different organizations to participate in an effective coordinated joint response to an emergency.
IMISS	International Maritime Information Safety System, a near miss reporting system designed to increase the information currently collected.
IMO	International Maritime Organization
INTERTANKO	International Association of Independent Tanker Owners
ISM	International Safety Management Code
ITOS	International Tug of Opportunity System, an industry-developed initiative that involves positional tracking of tugs participating in a system established for the purpose of providing a timely and effective response to a vessel in distress.
JCG	Joint Coordinating Group, consists of representatives from the U.S. and Canadian Coast Guards
MARAD	U.S. Maritime Administration
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973, an IMO convention established for the purpose of protecting the marine environment from pollution arising from the deliberate, negligent or accidental release of oil and other harmful substances from ships and ship receiving facilities.
MBPY	Million Barrels Per Year
MOU	Memorandum of Understanding
MRC	Marine Resource Committee, a citizen group established within several coastal counties of Washington State for the purpose of providing advice to the Northwest Strait Citizen Advisory Committee about local near-shore marine resources.
NASA	National Aeronautics and Space Administration
NAVSAC	Navigation Safety Advisory Committee
NOAA	National Oceanic and Atmospheric Administration
NPFVOA	North Pacific Fishing Vessel Owners' Association, represents the owners of vessels participating in the commercial harvest and sea-based processing of fish and shellfish resources from the North Pacific Ocean.
NWACP	North West Area Contingency Plan, the principle spill response planning body for the Marine and Inland zones of the area encompassed by the States of Washington, Oregon and Idaho and having U.S. federal and state representation.
OCNMS	Olympic Coast National Marine Sanctuary

OPA 90	Oil Pollution Control Act of 1990, the primary federal statute addressing oil spill planning, prevention and response in the U.S.
PACAREA	Pacific Area, a Command of the U.S. Coast Guard.
PARS	Port Access Route Study; an in-depth review of the current traffic management system in the study area.
PSSOA	Puget Sound Steamship Operators Association, an association representing the interests of deep draft commercial cargo carriers calling in the tidewater ports of Washington State.
RCAC	Regional Citizens Advisory Council, one of the forums in the State of Alaska that allows citizens to influence the oil industry and the transport of oil by water.
RCW	Revised Code of Washington – the codified body of Washington State law.
RRT	Regional Response Team, a body having U.S. federal and state representation that may be activated during a major spill incident to provide planning, policy and coordination assistance to the Federal On-Scene Coordinator.
SOC	Standard of Care, a non-regulatory method of capturing and implementing good marine practices and sound port customs unique to a specific geographic regions that have developed over time.
SOSC	State On-Scene Coordinator, the official pre-designated by the state of Washington to coordinate and direct the state response to an oil or hazardous substance spill.
SOLAS	International Convention for the Safety of Life at Sea, 1974, an IMO convention established for the purpose of protecting human life and safety aboard merchant ships.
STCW	International Convention on Standards of Training Certification and Watchkeeping, 1978, an IMO convention that focuses on the human element of maritime safety.
TEU	Twenty-foot Equivalent Units, a standardized measurement for shipping containers.
TSS	Traffic Separation Scheme, a buffer area between the established traffic lanes designed to reduce the likelihood of vessel operational conflicts.
UAIS	Universal Automatic Identification System, standardized system of reliably transmitting, receiving and displaying real-time highly accurate information about a vessel's identity and position on a ship-to-ship and ship-to-shore basis.
USC	United States Code
USCG	U.S. Coast Guard

VMRS	Vessel Movement Reporting System
VTS	Vessel Traffic Service, component activities of the U.S. and Canadian Coast Guards that utilize radar and radio coverage for the purpose of managing vessel traffic.
WEC	Washington Environmental Council, a group of private non-profit organizations that share the common goal of protecting and preserving environmental quality in the State of Washington.
WSPA	Western States Petroleum Association, an association representing the producers, refiners and transporters of crude oil and petroleum products in the six western states of the United States.