

# An Assessment of Coastal Local Government Marine Oil Spill Preparedness and Response Capability in the Georgia Strait Region

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## Prepared for:

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## About GSA and SPARC BC



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*Caring for Our Coastal Waters*

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## About this Report

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# Executive Summary

## Purpose of This Report

This report assesses the marine oil spill preparedness, response, and recovery capability of local governments in the Georgia Strait region. Through interviewing local government emergency management personnel and comparing the marine oil spill response regime in the Georgia Strait region to comparable regimes in Washington and California, this report identifies gaps in British Columbia's (BC) coastal community marine oil spill response capability and offers recommendations for improvement.

There is currently a lack of clarity and information about the ways local governments may be involved in a marine oil spill. This report sets out to fill this information gap, guided by the following questions:

1. What roles do coastal local governments in the Georgia Strait region play regarding marine oil spills (before, during and after)?
2. What can be learned about the realities of coastal local government involvement in a marine oil spill from communities that have experienced one?
3. How effectively are local governments in the Georgia Strait region able to participate in the preparedness and response efforts led by other agencies?
4. Is the engagement and communication from senior marine oil spill response partners in BC adequate to allow local governments to effectively participate in multi-agency preparedness, response and recovery efforts?
5. Are coastal local governments in the Georgia Strait region adequately prepared for a marine oil spill?

## Methodology

Interviews were conducted with emergency planning personnel from coastal local governments in the Georgia Strait region, and in other jurisdictions that have had experience with a marine oil spill. In addition to the interviews, the oil spill preparedness, response and recovery capability of coastal local governments of the Georgia Strait region of BC was compared with two US west coast areas (San Francisco and Seattle). These three case studies were informed by publicly available documentation regarding marine oil spill preparations and response in each of the focus jurisdictions.

## Summary of Key Findings

### Interviews with Emergency Planners from Local Governments in BC

Highlights from the interview results include:

- All respondents expressed concerns about the effects of an oil spill on the environment or on specific facets of the environment including marine life, beaches and shoreline;
- All respondents indicated that their local government has an all-hazards emergency plan in place, but only half said their local government's plan addresses marine oil spills;

- All but one respondent reported either limited preparedness or complete non-preparedness in the event of a marine oil spill;
- Most respondents indicated that the rules/regime governing what local governments should do to prepare for a marine oil spill was not clear;
- No respondents reported that their local government had been consulted by WCMRC in terms of providing feedback on geographic response strategies;
- All but one respondent indicated that a protocol document with WCMRC was not in place, and said there is a need for strengthened engagement between WCMRC and their local government;
- All the respondents agreed with the proposition that their local government has insufficient resources to respond adequately in the event of a marine oil spill; and,
- The most frequently stated impediments to strengthening preparedness for a marine oil spill were a lack of capacity to respond, a lack of financial resources, and the absence of jurisdictional authority.

The major theme from the interview component of the research was local government desire for clarity with regard to roles and responsibilities of the various partners, as well as regular and robust communication from senior oil spill response partners. A second major theme was that local governments are unprepared and unable to effectively engage in marine oil spill preparation and response activities.

### **Comparative Analysis of the Georgia Strait Region of BC and Two US West Coast Areas (San Francisco and Seattle)**

Analysis of oil spill regimes in the Georgia Strait region and the two US jurisdictions were made by comparing 15 activities performed by (or potentially performed by) local governments regarding marine oil spills. These activities are grouped into three broad stages: 1) Preparation and Planning, 2) Response, and 3) Recovery.

The comparative study involved a search for and assessment of whether an activity was *formalized* and/or *operationalized*. The differences between *formalized* and *operationalized* activities are explained below:

- An activity of local government is *formalized* when the local government is mentioned in an official government or response organization document available to the public;
- An activity of local government is *operationalized* when it is mentioned in an official government or response organization document available in the public domain, and it is structured by clear procedures that describe specific boundaries, authorities, roles and tasks.

The comparative analysis of the different regimes demonstrates clear differences between the US and Canadian regimes. The oil spill regimes in both countries have federally appointed agencies mandated to address oil spills within their respective jurisdictions. However, in the US, local governments also articulate and specify the role they would take with regard to many of the potential local government activities associated with a marine oil spill, whereas BC local governments are less able to do so. BC local governments also have far less documentation (policies and procedures) of the roles they would play across a range of marine oil spill activities.

The documents reviewed within the US regimes typically contained step-by-step procedures for carrying out specific response activities and can often be publically viewed in their respective Emergency

Management departments. The Response Organization-based regime within BC lacks this type of documentation and does not articulate the boundaries, authorities, roles, and tasks of local governments.

The findings from the comparative analysis, most notably the relative absence of formalized and operationalized language attributing responsibilities for potential local government activities in relation to marine oil spills, are also reflected in the results of the interviews, with coastal local governments expressing a strong desire for greater clarity with regard to roles and responsibilities of the various spill partners, including, most immediately, local governments themselves.

## Conclusions

The conclusions that are presented below are organized according to the guiding research questions and are, in most instances, geared toward the marine oil spill response regime in place for the Georgia Strait region.

### **1. What roles do coastal local governments in the Georgia Strait region play regarding marine oil spills (before, during and after)?**

In the marine oil spill regimes of both BC and the two US areas (San Francisco and Seattle) studied, the lead responsibility for most activities is taken by designated response organizations, the Coast Guard, agencies of senior governments and the responsible party (“spiller”). However, local governments do have important roles to play. Local governments provide a lead or support role regarding:

- identification of priority areas to protect;
- communication to residents about emergency matters;
- declaring a state of local emergency;
- coordinating volunteers; and,
- coordinating and housing evacuees.

Local governments provide a support role or, at least, require regular briefings regarding:

- management of traffic;
- police services;
- fire services;
- ambulance services;
- coordination of housing for response crews; and,
- participation in Unified Command.

Local governments require regular briefings regarding:

- oil containment and clean-up;
- oily waste disposal; and,
- logistics (heavy equipment and crews).

The US marine oil spill regimes examined in this study display clear, publically available documentation about how local governments are involved in the preparation for, response to and recovery from a marine oil spill. In San Francisco and Seattle, local governments are actively engaged in regular

preparations for a marine oil spill. Planning documents specify the activities that local governments are responsible for and provide specific procedures to ensure local governments are clear about their role as it relates to other lead and coordinating agencies.

In the marine oil spill response regime applicable to the Georgia Strait region, local governments are mentioned briefly in publically available documents but their roles and responsibilities are not identified in detail or at all. Even regarding the roles of senior partners, the BC marine oil spill regime lacks clear, public documentation specifying the boundaries of involvement, authorities, roles and specific tasks. Local government representatives within the Georgia Strait region who were interviewed also expressed a lack of clarity regarding the roles of both local governments and senior partners, along with a desire for improved communications with senior partners.

## **2. What can be learned about the realities of coastal local government involvement in a marine oil spill from communities that have experienced one?**

Local governments that have experience with a marine oil spill underscored that they knew too little about the spill response framework before the spill occurred. Gaps they identified included:

- inadequate designation of parties for specific activities;
- failure to assess the equipment needed for spills of different sizes;
- absence of an acceptable time limit for responding to the spill; and,
- absence of funding for testing and remediation during the recovery process.

In general, local governments with marine oil spill experience have greater knowledge of the working mechanics of an oil spill response process and are able to see the gaps. In the case of the two US regimes studied, these gaps have been largely addressed by the collaborative work of all stakeholders. In BC, a lack of clarity regarding the role of local government continues to limit local government involvement in preparing for, responding to and recovering from a marine oil spill.

## **3. How effectively are local governments in the Georgia Strait region able to participate in the preparedness and response efforts led by other agencies?**

The authors identify 15 activities for potential local government involvement in a marine oil spill (before, during and after).<sup>1</sup> The degree to which Georgia Strait local governments may contribute to these activities is limited by the lack of defined formalized and operationalized roles and responsibilities for local governments. Despite this limitation, the interviewed local governments said they could contribute in various ways based on their unique knowledge of local realities, such as participating in the incident command structure, identifying sensitive marine and shoreline areas for priority protection, disseminating emergency information through their local networks, coordinating volunteers, managing evacuation if it becomes necessary, controlling access to shorelines as required, and providing facilities and staging locations for responders.

Unless and until communication and engagement is improved, and the clarity and specificity of the roles and responsibilities of local governments are better articulated, the unique and particular strengths of local governments to offer important contributions that could enhance the overall marine oil spill regime will remain underutilized. As stated above, this is what the interviewed local governments called for with some appreciable urgency.

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<sup>1</sup> See Table 21.

**4. Is the engagement and communication from senior marine oil spill response partners in BC adequate to allow local governments to effectively participate in multi-agency preparedness, response and recovery efforts?**

Local governments in the Georgia Strait region reported little or no engagement with WCMRC or other marine oil spill regime leaders regarding local government involvement in preparation for, response to and recovery from a marine oil spill. This is in stark contrast with many of the observed practices and protocols of the regimes that were examined in the US. Many of the interviewed local governments see themselves as well suited to contribute to particular activities regarding marine oil spills. However, the limited engagement by senior partners with local governments has led to a situation in which local governments lack both clarity and specificity about the roles they could play within the broader marine oil spill response regime applicable to the Georgia Strait region.

**5. Are coastal local governments in the Georgia Strait region adequately prepared for a marine oil spill?**

The local governments in the Georgia Strait region who participated in this study generally see themselves as unprepared for a marine oil spill. They are mostly unclear about their roles before, during and after a marine oil spill. They feel unsupported in their efforts to gain clarity about their roles. Operationalized procedures for local government involvement in activities regarding marine oil spills in the Georgia Strait region are largely absent, presenting barriers for local governments to being prepared for involvement in a marine oil spill.

## **Recommendations**

The following recommendations are aimed at strengthening the marine oil spill regime applicable to the Georgia Strait region by enhancing local government preparedness and improving the definition and understanding of the roles and responsibilities of local governments as partners with federal and provincial agencies, WCMRC, First Nations and others.

**Recommendation 1:** The WCMRC Oil Spill Response Plans should be available in the public domain in BC. Currently they are not. In contrast, similar types of plans in areas such as San Francisco and Seattle are publically available.

**Recommendation 2:** Senior response partners should improve their communication and engagement with local governments regarding marine oil spill planning and training in the Georgia Strait region.

**Recommendation 3:** The federal government should take a lead role in creating a committee of representatives from WCMRC, federal and provincial agencies, coastal local governments, First Nations and key stakeholders. The Committee's mandate should be to clearly identify the roles and detailed operational responsibilities of all the relevant agencies, governments and entities, including local governments, regarding preparation for, response to and recovery from a marine oil spill in the Georgia Strait region. Coastal local government representatives should be provided with resources to participate in the work of the Committee to ensure their effective participation.

**Recommendation 4:** Following proper consultation (see Recommendation #3), the roles and responsibilities of all the involved parties, including local governments, should be clearly documented (i.e., both formalized and operationalized) in the plans of WCMRC, federal and provincial agencies, First Nations and local governments, with protocol agreements between the parties as necessary, in order to define a robust and effective marine oil spill regime for the Georgia Strait region.

**Recommendation 5:** Local governments in the Georgia Strait region should ensure that their emergency response plan addresses marine oil spills and that the plans provide operational detail about all the types of activities the local government is responsible for (whether in a leadership role or support role) before, during and after a marine oil spill. Additional resources should be provided to local governments to facilitate planning for and delivering activities related to marine oil spills.

**Recommendation 6:** Senior response partners should ensure that funding is not a barrier to local government participation in marine oil spill planning and training exercises.

# 1.0. Introduction

## 1.1. Purpose and Research Focus

The purpose of this report is to provide information and recommendations on the marine oil spill preparedness, response and recovery capability of coastal local governments<sup>2</sup> in the Georgia Strait situated along the Trans Mountain Pipeline Expansion Project marine shipping route.

The research was guided by the following questions:

1. What roles do coastal local governments in the Georgia Strait region play regarding marine oil spills (before, during and after)?
2. What can be learned about the realities of coastal local government involvement in a marine oil spill from communities that have experienced one?
3. How effectively are local governments in the Georgia Strait region able to participate in the preparedness and response efforts led by other agencies?
4. Is the engagement and communication from senior marine oil spill response partners in BC adequate to allow local governments to effectively participate in multi-agency preparedness, response and recovery efforts?
5. Are coastal local governments in the Georgia Strait region adequately prepared for a marine oil spill?

These questions are explored through two complimentary research methodologies:

1. Jurisdictional comparison of the Georgia Strait region with two case studies from the United States (US) (San Francisco and Seattle); and,
2. Interviews with representatives of local governments along the marine transportation route, and local governments with prior experience with a marine oil spill.

## 1.2. Context

### 1.2.1. The Proposed Project

Trans Mountain Pipeline ULC (Trans Mountain) is proposing the Trans Mountain Pipeline Expansion Project. The Project includes expansion of the company's existing 1,150-kilometre pipeline between Strathcona County, AB and the company's Westridge Marine Terminal in Burnaby, BC. The proposed pipeline expansion, if approved, would create a second pipeline that would increase the capacity of the system from 300,000 barrels per day to 890,000 barrels per day. The proposed marine terminal expansion, if approved, would add three new berths and would increase the number of marine oil tankers loaded at the terminal and transiting the marine shipping route from approximately five per month to approximately 34 per month. Upon departure from the Westridge Terminal, the tankers travel through Second Narrows and Burrard Inlet, across the Georgia Strait, through the Gulf and San Juan Islands, around the southern tip of Vancouver Island, and through the Strait of Juan de Fuca to the open ocean (the "marine shipping route").

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<sup>2</sup> For the purpose of this report, "local government" refers to municipalities, cities, towns, regional districts, counties, and special quasi-municipal areas, such as the Islands Trust.

## 1.2.2. National Energy Board Proceeding

The National Energy Board (NEB) is conducting a review of an application by Trans Mountain for approval of the Project. The scope of the review includes, among other things:

- the environmental effects of increased marine shipping due to the Project;
- the potential environmental and socio-economic effects of marine shipping activities that would result from the proposed Project, including the potential effects of accidents or malfunctions that may occur; and,
- contingency planning for spills, accidents or malfunctions, during construction and operation of the project.

## 1.2.3. Georgia Strait Alliance and SPARC BC

This report is prepared for Georgia Strait Alliance (GSA), which is one of a number of parties with intervenor status in the NEB hearing process. As an intervenor in the NEB's review of Trans Mountain's proposed pipeline expansion project, GSA contracted the Social Planning and Research Council of British Columbia (SPARC BC) to prepare this report.

## 1.3. Structure of the Report

Following this introductory section (Section 1), *Section 2, Methodology*, provides a description of the research activities undertaken in this study.

*Section 3, Comparison of Marine Oil Spill Regimes in Two US Areas and BC* provides the results of the literature review portion of the research. This section focuses on whether and to what extent the activities of coastal local governments have been formalized and/or operationalized in the guiding documentation of the respective regimes.

*Section 4, Interviews with Coastal Local Governments*, describes and provides the results of two sets of interviews with representatives of local governments. One set is comprised of local governments situated along the marine transportation route for the Trans Mountain Pipeline Expansion Project. The other set is comprised of local governments in Canada and the US that have had prior experience in responding to a marine oil spill or marine hazard event.

*Section 5, Discussion*, offers a synthesis and analysis of the case studies and the interviews with coastal local governments.

*Section 6, Conclusions and Recommendations*, sets out the conclusions of the research and the authors' recommendations aimed at strengthening local governments' ability to prepare for, respond to and recover from marine oil spills in the Georgia Strait region of British Columbia.

*Appendix A, Interview Guide for Georgia Strait Region Coastal Local Governments*, is the data collection tool for the interviews with representatives from coastal local governments with shorelines adjacent to the marine transportation route.

*Appendix B, Interview Guide for Coastal Local Government Representatives with Experience with a Marine Oil Spill or Marine Hazard Event*, is the document used to interview emergency planners and local leaders with experience dealing with marine oil spills or similar emergencies.

*Appendix C, City and County of San Francisco Emergency Support Functions List*, provides the list of Emergency Support Functions (ESF) for marine oil spill response developed for the City and County of San Francisco.

*Appendix D, Systematic Literature Review Results*, is a summary of the results of the systematic search for literature relevant to this study.

*Appendix E, Literature Reviewed for Analysis of the Three Case Studies*, identifies the literature that informed the information assessment and comparative analysis of the marine oil response regimes applicable to San Francisco and area, Seattle and area and the Georgia Strait region.

## 2.0. Methodology

### 2.1. Overview

This report is based on two research methodologies: a comparative case study analysis<sup>3</sup> and structured interviews with local government emergency planners and leaders. The following provides an overview of the steps taken in conducting the analysis:

- Two US West Coast areas (San Francisco and Seattle) were selected to serve as comparators with the Project Marine Area of the Georgia Strait region;
- Publicly available documentation regarding marine oil spill preparations and response was identified and analyzed with a focus on local government involvement;
- Comparisons between the oil spill regimes in the Georgia Strait region and the two US jurisdictions were prepared using a series of potential local government activities that local governments may perform in the event of a marine oil spill;
- Structured interviews were conducted with emergency planners from selected local governments in the Georgia Strait region which were situated along the marine transportation route;
- Structured interviews were conducted with emergency planners from local governments in BC and the US which had prior experience with a marine oil spill in their local waters.

Upon completion of the research, the authors synthesized and summarized the feedback and results. From this, conclusions were drawn and a series of recommendations were provided.

### 2.2. Comparative Case Studies

A systematic review of literature from academic databases and local, state or provincial and federal websites was completed to identify potential local government activities carried out during the various stages of a marine oil spill (before, during, after) that involve local government involvement. This review was to determine components that make up a robust oil spill response regime. For the purposes of this report, a robust marine oil spill regime includes the following elements:<sup>4</sup>

- Geographic areas are prioritized for protection from oil spills (e.g., a process is in place to prioritize areas for oil spill protection);
- Contingency plans address all major spill response functions (e.g., operational tactics are defined);
- Sufficient equipment can be deployed quickly to respond to a worst-case spill (e.g., logistical support is in place to support the response);
- Sufficient personnel are available to respond to a worst-case spill (e.g., trained responders and response managers are available, volunteers are managed to maximize their effectiveness, and a process is in place to restore damaged resources and to promote ecosystem recovery after a spill); and,

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<sup>3</sup> In a comparative case study approach, the cases are not observed or analyzed as a whole or in their full complexity. Rather, particular characteristics are examined.

<sup>4</sup> These are based on elements outlined in the BC West Coast Spill Response Study (2013) commissioned by the BC Ministry of Environment.

- Government (local, state/provincial and federal) ensures compliance and transparency (e.g., stakeholders are actively engaged, effective enforcement mechanisms are in place).

The authors identified 15 types of activities performed by (or potentially performed by) local governments regarding marine oil spills. These activities are grouped into three broad stages: 1) Preparation and Planning, 2) Response, and 3) Recovery. These stages and activities were drawn from the literature reviewed and the interviews with local governments (discussed in Section 4). Table 1 shows the three stages and 15 activities local governments perform or may perform.

**Table 1. Stages and Potential Local Government Involvement in Marine Oil Spills**

<b>Stage of Marine Oil Spill</b>	<b>Potential Local Government Activity</b>
<b>Preparation &amp; Planning</b>	Identification of priority areas to protect
	Oil spill contingency planning
<b>Response</b>	Fire services
	Police services
	Ambulance services
	Management of traffic
	Coordination of housing for response crews
	Coordination of evacuation and housing evacuees
	Coordination of volunteers
	Declare state of local emergency
	Manage logistics (e.g., heavy equipment & crews)
	Participate in unified command
Oil containment and clean up	
<b>Recovery</b>	Oily waste disposal
	Monitoring of affected sites

It is important to note that the activities listed in Table 1 are only potential local government activities. For example, “oil contaminant and clean-up” is often not considered a local government activity but is nevertheless included in this list because the activities may involve some coordination with a local government.

In conducting the review of literature, the authors identified two characteristics of marine oil spill regime documentation that significantly differentiate one regime from another in terms of the role of local governments regarding various types of activities. The role of local governments regarding a certain type of activity may be said to be “formalized” where the role is acknowledged (however briefly) in the documentation of a marine oil spill regime. In addition, the role of local governments regarding a certain type of activity may be said to be “operationalized” where the documentation provides specific boundaries, authorities, roles and tasks concerning the activity in question.

The authors analyzed each of the three marine oil spill regimes according to, among other things, the extent to which the regime’s governing documentation *formalized* and/or *operationalized* the role of local governments regarding each of the types of potential local government activities listed in Table 1.

The authors selected San Francisco and Seattle as the two areas to compare to the Georgia Strait region because of the similarities they share with the project marine area. All three are mid-size Pacific West

Coast ports adjacent to urban populations and semi-rural areas. The three case study areas are similar in terms of the environmental landscape (coastal geography, flora/fauna), the nature and quantity of vessel traffic and the risks of marine oil spills to the area.

During the review of case study documents it became apparent that in San Francisco and Seattle, local governments fit within a highly documented marine spill response policy regime but that there is no parallel documentation of the local government role in marine oil spill response in BC.

## 2.3. Interviews with Local Governments

In addition to the jurisdictional comparisons, the authors conducted two sets of interviews to gather insight into the concerns and perspectives of local governments.

One set of interviews was conducted with local governments whose shorelines are adjacent to the marine shipping route for the Trans Mountain Pipeline Expansion Project (referred to in this report as the Georgia Strait region, for simplicity). A total of 24 coastal governments in BC were identified as meeting the criteria. All were contacted and asked to participate in the interview process. Six local governments agreed to participate and were interviewed:

1. City of Victoria;
2. District of North Saanich;
3. Sunshine Coast Regional District;
4. Cowichan Valley Regional District;
5. Nanaimo Regional District; and,
6. Unnamed local government.<sup>5</sup>

The other set of interviews was with local governments with prior experience with a marine oil spill or other marine hazard in their coastal waters. These respondents described their local government's experience with the mechanics and realities of dealing with a marine oil spill, including the response and recovery process, as well as the types of challenges and limitations which emerged. Two respondents were local governments from BC and two were local governments from the US. One of the respondents was an elected official with knowledge of local government involvement in responding to a marine hazard, while the other three were emergency planning personnel. The participating local governments include:

1. City of Vancouver;
2. District of Squamish;
3. City and County of San Francisco; and,
4. San Juan County.

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<sup>5</sup> One of the local governments which responded to the interview requested anonymity.

## 3.0. Comparison of Marine Oil Spill Regimes in Two US Areas and BC

### 3.1. Overview

The authors conducted a review of documents outlining and/or assessing local governments' preparedness, response and recovery plans for marine oil spills, with primary emphasis on BC, San Francisco and Seattle. To supplement this material and to provide a more coherent picture of an oil spill response regime, relevant state or provincial and federal documents were also retrieved.

The results of the literature review are provided in Section 3.3, San Francisco, Section 3.4, Seattle, and Section 3.5, Georgia Strait Region. For each geographic area studied, there is a description of the marine oil spill regime as it applies to local governments and an analysis of the extent to which the role of local governments is "formalized" and "operationalized." The complete list of documents reviewed for the development of each case study can be found in Table 60 through Table 64 in Appendix E.

In order to respect the specific language of each jurisdiction's way of defining its marine oil spill regime, the language as it appears in the source documents is used in this report.

### 3.2. US Federal and Regional Marine Oil Spill Regime

#### 3.2.1. Federal Preparedness, Response, and Recovery to a Marine Oil Spill

The following is a summary of the US federal and regional oil spill response regime with a focus on the general role of all levels of government (local, regional, and federal), private operators and Responsible Parties (spillers).

The National Contingency Plan is the US federal government's main policy document. It prescribes roles and activities for carrying out preparedness, response and recovery activities regarding a marine oil spill within a multi-agency regime that consists of federal, regional and local agency personnel. The National Contingency Plan establishes roles and responsibilities of the National Response Team and Regional Response Teams in the National Response System. This includes planning and coordinating procedures, providing support to Regional Response Teams, and coordinating a national program of preparedness planning and response. The US Environmental Protection Agency (US EPA) serves as the lead agency within the National Response Team.

The National Contingency Plan establishes general responsibilities of Federal On-Scene Coordinators, requires notification of any marine oil spill to the National Response Center, and authorizes the predesignated Federal On-Scene Coordinators to direct all federal, state, and private response activities at the site of a marine oil spill. A complete list of National Contingency Plan provisions is provided on the US EPA website.<sup>6</sup>

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<sup>6</sup> EPA Contingency Plan Provisions of the National Contingency Plan: <http://www2.epa.gov/emergency-response/national-oil-and-hazardous-substances-pollution-contingency-plan-ncp-overview#Key>

The Federal On-Scene Coordinator has the authority to direct or monitor all federal, state, and private actions to remove a marine oil spill. The Federal On-Scene Coordinator may appoint persons from federal, state, or local agencies to act as its on-scene representative. A local government, for instance, may manage a response, and the Federal On-Scene Coordinator's involvement would be to notify and ensure that the local government has the capability to conduct a safe and effective response, with Federal On-Scene Coordinator assistance as needed.

The United States Coast Guard usually takes the responsibility of Incident Commander for oil marine spills. Initial response to marine oil spills involves the Responsible Party (the spiller), local government responders, the Coast Guard, and appropriate state agencies. But if the incident grows into a larger event (e.g., the oil spill spreads and becomes more difficult to contain) and the need for specialized personnel and resources increase, the Incident Command System will expand and a Unified Command will be formed with the responsible decision makers. Given the specifics of a particular incident, the lead authority in the Unified Command team would likely be the local government or the US Coast Guard, with potential involvement by the Responsible Party and the state government.

### **3.2.2. Regional Preparedness, Response, and Recovery to a Marine Oil Spill**

There are 13 Regional Response Teams in the US, each representing a particular geographic region. Regional Response Teams are composed of representatives from field offices of the federal agencies that make up the National Response Team, as well as state representatives. The four major responsibilities of Regional Response Teams are training, planning, response, and coordination. Regional Response Team members do not respond directly to marine oil spills, but are consulted for technical advice, equipment, or personnel to assist with a response.

Each Regional Response Team develops a Regional Contingency Plan to ensure that the roles of federal and state agencies during a marine oil spill are clear. Following the response to a spill, the Regional Response Team reviews reports developed by On-Scene Commanders to identify gaps and limitations within the region's response to marine oil spills with a view to updating the plan in areas needing improvement. In addition, problems identified during simulation exercises which test the ability of federal, state and local agency coordination of emergency response activities are included in the Regional Response Plan.

The Regional Response Team is also responsible for assessing the region's resources for responding to marine oil spills. When necessary, the Regional Response Team can request assistance from federal or state authorities to ensure that sufficient resources will be available during an incident. This coordination by the Regional Response Teams assures that resources are used as wisely as possible, and that no region is lacking what it needs to protect human health and the environment.

The Regional Response Team/Northwest Area Committee, for example, is the Regional Response Team within the Pacific Northwest as mandated by the National Contingency Plan. Regional Response Team/NWAC provides support for the federal, state, tribal, local, and international responses to marine oil spills as mandated by the NCP. The Regional Response Team/Northwest Area Committee also maintains formalized and operationalized documents on operations, planning, logistical information, tools and resource lists concerning marine oil spills.<sup>7</sup>

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<sup>7</sup> Region 10 Regional Response Team and the Northwest Area Committee:  
<http://rrt10nwac.com/NWACP/Default.aspx>

## 3.3. Case Study One: San Francisco

### 3.3.1. Introduction to San Francisco Emergency Response Management

The City of San Francisco is located on the San Francisco Peninsula and is bordered by water on three sides, with the Pacific Ocean to the west, San Francisco Bay to the east, and the Golden Gate Strait to the north. San Francisco has a surface area of approximately 47 square miles and a population of 852,469, making it the second most densely populated city in the US.

For all incidents involving marine oil spill events, the Responsible Party and the US Coast Guard notify the California State Warning Center and the National Response Center. The California State Warning Center will then notify state agencies and affected areas. These notifications will include San Francisco's Department of Emergency Management Duty Officer.

Upon receipt of notification of a marine oil spill, the Duty Officer will then notify Department of Emergency Management staff, the Marine Hazards Group, and relevant supporting Emergency Support Function (ESF) departments (See Appendix C). An ESF provides the structure for coordinating interagency support for a local government response to an incident. For example, San Francisco's ESF #10: Oil and Hazardous Materials Release Annex (Part B: Marine Response) is utilized by the Department of Emergency Management and supporting departments during a marine oil spill by outlining procedures and supporting the coordination among various departments that are associated with this function (e.g., Fire department, emergency and housing services, police and ambulance services).

Notification will be distributed through appropriate communications equipment, providing information about the marine oil spill, reporting instructions, and any relevant communications coordination information. According to the extent of the marine oil spill, a conference call among relevant San Francisco department heads may be arranged to further coordinate response activities.

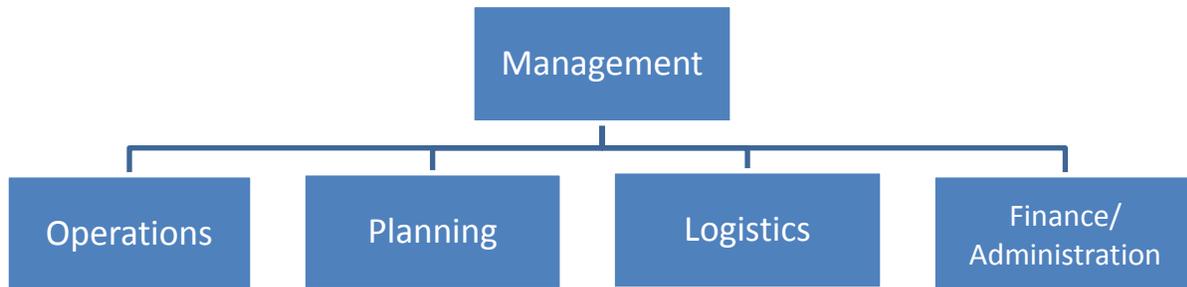
San Francisco has in place an Emergency Management Program outlined in the Emergency Response Plan (2010). The Emergency Management Program is a jurisdiction-wide system that provides San Francisco with emergency management actions for the prevention of, preparedness for, response to, and recovery from, any emergency or disaster, including a marine oil spill. The system encompasses all San Francisco organizations, agencies, departments, entities, and individuals responsible for emergency management activities. The program provides a standardized framework and coordinated emergency management procedures for various agencies to collaborate and coordinate effectively. The Emergency Management Program includes administrative, preparedness, hazard mitigation, emergency response and recovery plans, which are align with the phases of emergency management.<sup>8</sup>

The San Francisco Emergency Operations Center is the central coordination point for multi-agency emergency management coordination. The purpose of a multi-agency coordination point is to provide a location to collect and disseminate information, provide a common operating picture of city-wide response activities, and facilitate actions necessary to protect residents and property of San Francisco during a city-wide event. The Emergency Operations Center is organized following the Incident Command System structure (see Figure 1), providing Emergency Operations Center staff with a standardized operational structure within five major functional areas—Management, Planning, Operations, Logistics, and Finance and Administration.

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<sup>8</sup> Prevention, preparedness, response, and recovery, National Incident Management System, 2007.

**Figure 1. Incident Command Structure for the City and County of San Francisco**



Emergency Operations Center Management

The Emergency Operations Center Management Staff support overall activities put forth by the General Staff positions. Staff positions in the management section are detailed in Table 2.

**Table 2. Emergency Operation Centre Management and Responsibilities (San Francisco)\***

<b>Staff</b>	<b>Responsibility</b>
<b>EOC Manager</b>	Responsible for overall <i>management of the EOC</i> , coordinating with the REOC, and other outside assisting organizations. Does not have a command role in any event. Serves as a facilitator to help maintain workflow in the EOC and ensure information is shared horizontally and vertically. Assigns support positions as needed for management of EOC facility, information technology, and other related services.
<b>Public Information Officer</b>	Serves as the point of contact for the JIC, which coordinates and disseminates event information to the public, the media, and other relevant stakeholders.
<b>Liaison Officer</b>	Maintains and provides coordination with all outside agency representatives that have been assigned to the EOC.
<b>Safety Officer</b>	Monitors all aspects of the EOC to ensure the safety of all CCSF personnel involved with response activities.
<b>Security Officer</b>	Responsible for controlling personnel access to and from the EOC and other facilities, as determined and in accordance with policies established by the EOC Manager.
<b>City Attorney (Representative)</b>	Represents the City Attorney and supports EOC administration.

\*Source: San Francisco Emergency Response Plan, 2010, p. 26

### Operations Section

The Emergency Operations Centre (San Francisco Emergency Response Plan, 2010, p. 9) is organized according to local ESF's (see Appendix C). In the event of a marine oil spill, the Operations Support Section can coordinate response operations, support field activities, provide communication and resource support among departments, and coordinate response activities with federal and state agencies. In a full activation, the Operations Support Section is organized into the following seven branches: 1) Fire and Rescue, 2) Law Enforcement, 3) Human Services, 4) Infrastructure, 5) Transportation, 6) Community, and 7) Communications (San Francisco Emergency Response Plan, 2010, p. 35-51).

### Planning Section

The Planning Section is responsible for the collection, analysis, and display of information related to emergency management operations. The Planning Section is responsible for conducting Emergency Operations Center planning meetings, preparing Emergency Operations Center Action Plans, disseminating situation briefings, and supporting the overall EOC planning process. This section also provides support for response decision-making to the overall emergency organization, develops plans necessary to cope with changing field events, and ensures that safety and damage assessments are compiled and that a record of the entire response is recorded (San Francisco Emergency Response Plan, 2010, p. 33).

### Logistics Section

The Logistics Section is responsible for the coordination and management of city-wide resources during a marine oil spill. The responsibilities of this section include acquiring and delivering resources requested by the Emergency Operations Center Operations Support Section, recording and tracking the status of resource requests processed through the Emergency Operations Center Logistics Section, and supporting recovery activities including demobilization and restoration of services as directed (San Francisco Emergency Response Plan, 2010, p. 53-58).

### Finance/Administration Section

The Finance and Administration Section is led by the Section Chief, who is responsible for carrying out ESF #5: Emergency Management. This section is responsible for providing financial and administrative support, for documenting services, contract, and wage expenditures, as well as, equipment losses and depreciation. The section monitors incident-related costs and administers any necessary procurement contracts. The section works closely with the Logistics Section to ensure adequate record keeping and transactions (San Francisco Emergency Response Plan, 2010, p. 61).

For a review of documents used in the analysis of San Francisco, see Tables 60 and 63 in Appendix E.

## **3.3.2. Identification of Priority Areas to Protect and Contingency Planning (San Francisco)**

California State regulations mandate that any ecological or economic sensitive site or resource (including piers, harbors, and marinas) that have been affected or may become affected by an oil spill must be identified. A complete listing of ecological and economic sensitive sites, site location maps and

contact information, is located in *Attachment A-2: Sensitive Sites Directory* of ESF #10 of the Emergency Response Plan.

Detailed information on sensitive sites (including site response strategies, land access routes, water logistics, staging areas, communication problems, etc.) can be found in San Francisco Bay and Delta Area Contingency Plan, Sections 9843 and 9844. For each environmentally sensitive site identified, the following types of information are provided:

- Site description;
- Seasonal and special resource concern;
- Resources of primary concern;
- Cultural, historic, and archaeological sensitivities;
- Key contacts;
- Concerns and advice to responders;
- Hazards and restrictions;
- Site strategies; and,
- Logistics (directions, land access, water logistics, facilities, staging areas, possible field posts and equipment available).

Environmentally sensitive sites identified are accompanied with a Strategy Diagram detailing the boundaries of the site with strategies for responding to a marine oil spill (e.g., areas to use a curtain boom, river boom, filter fence, or skimming system). The Area Contingency Plan developed for San Francisco has been formalized and operationalized with ecological sensitive sites identified, in part, by local agencies. For ecologically sensitive sites, the Area Contingency Plan also identifies local departments (e.g., county sheriffs, Port of San Francisco) as key contacts to provide information and resources (e.g., historical, cultural).

San Francisco's Emergency Response Plan contains Emergency Support Function #10: Oil and Hazardous Materials Response Annex (Part B: Marine Response) which provides for a coordinated response to imminent or actual oil spill incidents occurring within a marine environment that pose a threat to City and County of San Francisco public health, property, or environment (p. 1). This document defines the scope, objectives, and framework of departments within the local government of San Francisco.

Turning to the authors' assessment of the extent to which the potential activities of local government have been *formalized* and *operationalized* within the marine oil spill regime, the authors conclude that in the San Francisco marine oil spill regime the local government roles regarding (a) identifying priority areas to protect and (b) contingency planning have been both formalized and operationalized. This conclusion is shown in Table 3.

Table 3 is the first of a series of tables presenting the authors' conclusions regarding whether the role of local government is formalized and/or operationalized for a particular type of potential local government activity in each of the three case study areas. These tables are combined for convenience in Table 21, under Section 3.6, Summary of Case Study Comparisons.

**Table 3. Assessment of Local Government Role Regarding Priority Areas to Protect and Contingency Planning (San Francisco)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Preparation & Planning	Identification of priority areas to protect	Yes	Yes	SF Area Contingency Plan Sections 9843 and 9844; Emergency Response Plan ESF #10, Attachment A-2: Sensitive Sites Directory
	Oil spill contingency planning	Yes	Yes	See above.

### 3.3.3. Fire, Police, Ambulance, and Traffic Services (San Francisco)

Under San Francisco’s ESF #4 and ESF #10, the San Francisco Fire Department, ambulance services and the San Francisco Police Department may be called upon for support according to the severity of the event and the potential or actual impact to the health and safety of the public and/or the environment.

ESF #4: Firefighting Annex provides operational language outlining an organized local capability for effective local government fire management during a large scale event within San Francisco. ESF #4 provides a coordinated response of firefighting resources for the mitigation of any fire-related event resulting from a natural, man-made, or technological disaster including (e.g., oil spills resulting in conflagration).

ESF #10: Oil and Hazardous Materials Response provides a description of activities associated with the SFPD including providing boom deployment, scene security, and evacuation assistance, among other services.

The Emergency Medical Service community consists of health care professionals including EMT-1’s, paramedics, nurses, physicians, researchers, dispatchers and system educators and administrators. The 2015 San Francisco Emergency Medical Service Agency Protocol Manual provides procedures to follow under various conditions, including environmental risks (near drowning, hazardous materials, etc.).

Under section 3.04 Hazardous Materials of the Emergency Medical Services Agency Protocol Manual, emergency responders are directed to follow the Hazardous Materials Incident Field Policy (Policy 8050) which establishes guidelines for the response of ambulance providers to incidents involving hazardous materials including procedures for scene control, ensuring rescuer and public safety and to activate additional resources as needed including:

- Fire Department; Police Department (traffic and crowd control);
- Health Department; Hazardous Material Response Team; and,
- Local Industry Response Team; and/or other specialized detection or response teams.

For traffic management, the Department of Emergency Management will coordinate with SFPD as well

as the Department of Parking and Traffic. The responsibility of San Francisco Police Department to provide traffic control and scene management is further described in ESF #10 (p. 13).

The authors conclude that in the San Francisco oil spill regime the local government roles regarding fire, police and ambulance services, as well as management of traffic have been both formalized (acknowledged) and operationalized (defined in detail). The authors’ conclusions are shown in Table 4.

**Table 4. Assessment of Local Government Role Regarding Fire, Police, Ambulance and Traffic Services (San Francisco)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Fire Services	Yes	Yes	Emergency Response Plan ESF #4; ESF #10, A2 Local Notifications, p. 27
	Police Services	Yes	Yes	
	Ambulance Services	Yes	Yes	Emergency Response Plan; EMS Agency Protocol Manual
	Management of Traffic	Yes	Yes	Emergency Response Plan ESF #10: Section 2 (p. 13); Appendix C, C.1, C.2., and C.3 (p. 81-83)

### 3.3.4. Coordination of Evacuation, Housing and Volunteers (San Francisco)

The ESF #6 Mass Care, Housing and Human Services Annex of the San Francisco Emergency Responses Plan (2009) provides a framework for how San Francisco will address the mass care, housing, basic health, and human service needs of persons affected by a disaster event.<sup>9</sup>

ESF #6 provides operational language that details the procedures, responsibilities, and concept of operations for response and recovery functions for local government departments during a potential, imminent, or declared emergency. It provides a structure for effectively directing, managing, and controlling the provision of shelter, feeding, basic first aid (Mass Care), the provision of short-term emergency housing (Housing), the provision of physical and behavioural health services to support the shelter population (Basic Health Services), and the provision of very basic supplemental services to support the personal and/or immediate recovery needs of disaster victims (Human Services).

In addition, San Francisco ESF #1 provides operational language detailing the authority for evacuation orders, along with managing the movement of evacuees, to the San Francisco Police Department, with logistical support by other city departments. Evacuation authorities are defined at both the state and city levels in the *Closing Areas in Emergencies* Section of the California Penal Code 409.5(a) and the Government Code, Section 8607.

<sup>9</sup> ESF #6 does not delineate between evacuation and housing of evacuees and housing of response crews in its framework.

The Non-Wildlife Volunteer Plan for volunteers responding to marine oil spills outlines the role of volunteers during an oil spill incident. Because of the complexity in the oil spill regime and the complications that can occur during oil spill operations when attempting to integrate volunteers into the process, the Non-Wildlife Volunteer Plan establishes a formalized and operationalized document that outlines role, planning, logistics, and other aspects of managing volunteer groups.

Two types of volunteers may be used during a San Francisco marine oil spill event, affiliated and unaffiliated/convergent volunteers. Affiliated volunteers are associated with already existing volunteer organizations including Non-Governmental Organizations and Community-Based Organizations. Unaffiliated/convergent volunteers are those who spontaneously appear and would like to participate in the response effort, but who have little or no training and are not part of an existing response organization. Depending on the volunteer organization, sufficient training may be warranted to allow them to function as part of an oil spill response.

The Department of Human Resources in San Francisco has the primary role to coordinate with volunteer centres in the city to manage disaster volunteers who bring medical, mental health, bilingual, and other types of skills. San Francisco also maintains a list of non-profit organizations that provide local disaster assistance including Volunteer Organizations Active in Disasters Agencies along with activities to be carried out.

The authors conclude that in the San Francisco oil spill regime the coordination of housing for response crews and volunteers, as well as coordination of evacuation and housing evacuees have been both formalized (acknowledged) and operationalized (defined in detail). The authors’ conclusions are shown in Table 5.

**Table 5. Assessment of Local Government Role Regarding Housing, Evacuation, and Volunteers (San Francisco)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Coordination of housing for response crews	Yes	Yes	Emergency Response Plan ESF #6 (Section 2.2.1, Sheltering Procedures, p. 4)
	Coordination of evacuation and housing evacuees	Yes	Yes	Emergency Response Plan ESF #1 Subsection 2.3.1 (p. 7); ESF #6, Section 2.2.1 (p. 4)
	Coordination of volunteers	Yes	Yes	Emergency Response Plan ESF #10, Part B, Subsection 2.1.2 (p. 8-9); ESF #6, Section 3.6 (p. 25-26); Section B.1.4 (p. 45); Non-Wildlife Volunteer plan

### 3.3.5. State of Local Emergency Declaration (San Francisco)

Under the San Francisco Charter Provision: Powers and Responsibilities of the Mayor in a Public Emergency, Article III, Section 3.100(13) – Powers and Responsibilities, operational language is used to describe the mayor’s role and step-by-step process for issuing a state of local emergency. The mayor is

ultimately responsible for the efforts of the city-wide Emergency Management Program. It is the mayor’s duty to exercise his/her powers in order to protect life and property within San Francisco during an emergency.

The authors conclude that in the San Francisco oil spill regime, local government’s role regarding the declaration of a state of local emergency has been formalized (acknowledged) and operationalized (defined in detail). The authors’ conclusions are shown in Table 6.

**Table 6. Assessment of Local Government Role Regarding Local Emergency Declaration (San Francisco)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Declare State of Local Emergency	Yes	Yes	Emergency Response Plan, 2.2 Management Structure (p. 24-25); CCSF Charter Provision: Article III, Section 3.100(13)

### 3.3.6. Logistics Management and Unified Command (San Francisco)

San Francisco’s Emergency Support Function (ESF) #7: Logistics Annex provides guidance for coordinating resources needed to support emergency response and recovery operations. ESF #7 expands on the San Francisco Emergency Response Plan by providing operational language regarding the management structure, processes, and protocols involved in identifying, requesting, ordering, acquiring, mobilizing, tracking, and reporting resources.

Within ESF #10 Oil and Hazardous Materials Response Annex (Part B: Marine Response) of the Emergency Response Plan, logistics are described to facilitate communication among multiple response coordination levels, including providing coordination to field operations and maintaining communication between Unified Command and various San Francisco departments during a marine-based oil spill response.

The operational language used to describe San Francisco’s participation in Unified Command specifies the procedure and roles. San Francisco states that during a marine oil spill that necessitates the establishment of a Unified Command, San Francisco will designate a representative to report to the Incident Command Post to fill the role of San Francisco Agency Representative, and communicate with the Incident Command Post Liaison Officer. This individual will communicate San Francisco priorities and concerns to the Incident Command Post Liaison Officer, and will ensure that they are addressed throughout the response planning process. The San Francisco Agency Representative will also exchange event information and coordinate local resources with the Incident Command Post Liaison Officer.

The authors conclude that in the San Francisco oil spill regime, local government’s role regarding the management of logistics and participating in Unified Command has been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 7.

**Table 7. Assessment of Local Government Role Regarding Logistics and Unified Command (San Francisco)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Manage logistics	Yes	Yes	Emergency Response Plan ESF #7, Section 2.3, (p. 4)
	Participate in Unified Command	Yes	Yes	Emergency Response Plan ESF #10, Part B, Section 2.1.1 (p. 7)

### 3.3.7. Oil Containment, Clean Up and Waste Disposal (San Francisco)

In the event that the local government is the first on-scene to a marine oil spill, Appendix B of ESF #10 (p. 61-62) outlines several protective actions which should be immediately taken. According to ESF #10, the Department of Toxic Substance Control is one of the six California EPA boom defense officers. The Department of Toxic Substance Control regulates the handling, storage, treatment, and disposal of hazardous wastes. Oil spill cleanup laws are also found within Fish & Game Code, the Government Code, and the Water Code.

Operational language is used in the Emergency Response Plan ESF #10, Oil and Hazardous Release Response Annex (Part B Marine Response, p. 61) to describe the step-by-step activities (e.g., spill containment) associated with local government departments (e.g., Department of Emergency Management, Mayor’s office, etc.) when responding to a marine oil spill. For example, spill containment is carried out by the San Francisco Police Department Marine Unit, Fire Department or Port of San Francisco until relieved by US Coast Guard, Unified Command or Incident Command Post. Immediate actions are taken by local government departments (e.g., Marine Unite, Fire Department) and are outlined in the Emergency Response Plan (p. 61) including:

- Conduct air monitoring to determine if air exposure is below/above permissible limits;
- Skim free-floating marine oil;
- Use deflection and exclusion booms to divert marine oil to a recovery site;
- Pump marine oil from leaking vessel into a tank vessel (Port only);
- Use dispersants or bioremediation to break up and dispose of marine oil;
- Contain and dispose of contaminated floating trash and other hazardous waste;
- Conduct grading or construction with the coastal zone for temporary storage (e.g., storage tank for oil or other hazardous wastes), access roads, or staging areas;
- Construct retaining walls as spill containment barriers, if necessary;
- Repair pipelines and facilities under water or near sensitive habitats;
- Conduct grading or clearing of vegetation in sensitive resource areas;
- Implement a program of wildlife relocation and deterrence, if necessary;
- Restrict air space over marine spill site; and,
- Police Boats: confirm location(s), crime scene investigation, assist SFFD Fireboat, boom deployment.

The San Francisco Area Contingency Plan, Sections 9843 and 9844 provide site strategies for oil clean-up.

The authors conclude that in the San Francisco oil spill regime, the local government’s role regarding the oil containment and clean-up, oil waste disposal and site monitoring activities has been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 8.

**Table 8. Assessment of Local Government Role Regarding Oil Containment, Clean-Up, Disposal and Monitoring of Affected Sites (San Francisco)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Oil Containment & Clean-Up	Yes	Yes	SF Area Contingency Plan Sections 9843 and 9844; Emergency Response Plan ESF #10 Part B, Subsection 2.1.2 (p. 10); Appendix B: Spill Containment (p. 62-62)
Recovery	Oily Waste Disposal	Yes	Yes	Emergency Response Plan ESF #10, p. 6
	Monitoring of affected sites	Yes	Yes	Emergency Response Plan ESF #10, p. 46.

### 3.4. Case Study Two: Seattle

#### 3.4.1. Introduction to Seattle Emergency Response Management

The City of Seattle is located in King County, Washington State on Puget Sound, 113 miles (182 km) south of the US/Canada border. Its water area covers 150 square kilometres (41% of the surface area within the city limits).

With a population of 608,660 (2010 Census), Seattle is located at sea level with the city shoreline along Puget Sound to the west and Lake Washington to the east. The Lake Washington Ship Canal is a waterway that geologically divides Seattle into northern and southern sections.

Seattle's major lakes include Lake Washington, which stretches along almost the entire eastern side of Seattle and encompasses 560 acres of fresh water, and Bitter Lake, Green Lake and Haller Lake, which are all north of the Lake Washington Ship Canal.

Seattle contains a number of streams, creeks and waterways, including Broadview Creek, Fautleroy Creek, Longfellow Creek and Piper's Creek, which empty into Puget Sound, and Arboretum Creek, Ravenna Creek and Thornton Creek, which empty into Lake Washington.

As previously discussed, Regional Response Team/North West Area Committee provides coordinated support for federal, state, tribal, local, and international responses to marine oil spill incidents within the Pacific Northwest Region as mandated by the US National Contingency Plan.

The State of Washington has 43 Local Emergency Planning Committees in total. The King County Office of Emergency Management provides leadership and support as outlined in the Local Emergency Planning Committee Hazardous Materials Plan. This plan works in conjunction with the City of Seattle, which has been designated an Emergency Planning District by the State Emergency Response Commission as prescribed in WAC Section 118-40-150. As such, and consistent with WAC Section 118-40-170, the Seattle Fire Department is primarily responsible for administering and supporting the requirements of the City's Local Emergency Planning Committee, to include maintenance of the City's Hazardous Material Emergency Response Plan as set forth in WAC Section 118-40-180.

The Seattle Office of Emergency Management is an office of the Seattle Police Department, whose Director is a direct report to the Chief of Police. Its basic mission is devoted to city-wide disaster preparedness, response, recovery and mitigation. It places a strong emphasis on individual and community preparedness, and provides a key liaison function between the city and its state and federal emergency management counterparts.

Hazardous materials response operations are conducted using the US National Incident Management System in accordance with local, state, tribal, and federal laws. The primary agencies and committees involved in marine oil spills include the King County Office of Emergency Management staff and Duty Officer and the Local Emergency Planning Committee with Regional Response Team/North West Area Committee providing support.

The King County Office of Emergency Management advises and assists county officials on direction and control of emergency activities and procedures and acts as or provides a liaison with appropriate organizations, as requested, directs the preparation of requests for emergency resources to the Washington State Emergency Operations Center, and acts within an advisory role for preparation and dissemination of emergency information.

The Office of Emergency Management staff and Duty Officer are responsible for collecting information regarding damage, casualties, evacuation needs, warning requirements; contacting emergency management staff and brief officials as required. The Local Emergency Planning Committee provides available information on facilities and phone numbers to responders, the public and Emergency Operations Center, and provides available technical information on chemical information and health concerns.

There are 27 support agencies including the King County Fire Agencies/Hazardous Materials Task Force, local law enforcement, local hospitals, County Department of Transportation, Washington State Department of Health and Department of Ecology, the State Patrol, the EPA and the US Coast guard. Each supporting agency is accompanied by a set of responsibilities outlined in the plan. For a complete list of responsibilities, see Section IV of the King County Local Emergency Planning Committee Hazardous Materials Plan.

For a review of documents used in the analysis of Seattle, see Table 61 and Table 63 in Appendix E.

### **3.4.2. Identification of Priority Areas to Protect and Contingency Planning (Seattle)**

In 1978, in response to the Washington State *Environmental Policy Act*, the City of Seattle produced a map designating areas thought to be environmentally sensitive. The designated areas included steep

slopes, landslide-prone areas, floodplains and landfill. The maps can be viewed in the Public Health’s Hazard Identification and Vulnerability Analysis (2011). However, there is a lack of analysis of vulnerable areas or identification of priority areas to protect in relationship to marine oil spills.

The Seattle Disaster Readiness and Response Plan (2012) contains Emergency Support Function (ESF) #10, Oil and Hazardous Materials which provides for a coordinated response to imminent or actual oil spill incidents which can pose a threat to the public health, property or environment of Seattle (p. 287-294). This document defines the scope, objectives and framework of departments within the local government of Seattle.

The authors conclude that in the Seattle marine oil spill regime, identification of priority areas to protect has not been formalized and operationalized. However, the authors conclude that in the Seattle oil spill regime oil spill contingency planning has been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 9.

**Table 9. Assessment of Local Government Role Regarding Priority Areas to Protect and Contingency Planning (Seattle)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Preparation & Planning	Identification of priority areas to protect	No	No	None
	Oil spill contingency planning	Yes	Yes	Seattle Disaster Readiness & Response Plan, 2012 ESF #4, p. 287-294

### 3.4.3. Fire, Police, Ambulance, and Traffic Services (Seattle)

The Fire Department plays a vital role in city government and will be one of the most active departments during an area-wide disaster as indicated by ESF #4 Firefighting under the Seattle Disaster and Readiness Response Plan. As Department Head, the Fire Chief reports directly to the Mayor. The Fire Department is charged as the Emergency Operations Center Lead Agency in the event of a hazardous materials release. ESF #4 provides operational language describing the roles and activities to be carried out by the Seattle Fire Department.

ESF #13 Public Safety and Security describes law enforcement roles and responsibilities during a disaster or major emergency, which include but are not limited to, security, investigation, logistics, Emergency Operations Center operation, Department Operations Center Coordination, and information management.

Ambulance services are included when ESF #8: Health, Medical and Mortuary Services are initiated. This function provides operational language outlining the direction, coordination and mobilization of health and medical resources, as well as information and personnel during emergencies and disasters.

Under ESF #13, operational language is provided describing the role of the Harbor Patrol Unit which provides law enforcement, rescue, recovery and firefighting services in the waters in and around the

city. Harbor Patrol personnel are qualified in dive rescue and recovery, firefighting and emergency medical care, and management of traffic.

The authors conclude that in the Seattle marine oil spill regime, fire, police and ambulance services, as well as management of traffic have been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 10.

**Table 10. Assessment of Local Government Role Regarding Fire, Police, Ambulance and Traffic Services (Seattle)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Fire Services	Yes	Yes	Seattle Disaster Readiness & Response Plan, 2012 ESF #4, p. 143
	Police services	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF # 13, p. 302
	Ambulance services	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF #8, p. 244
	Management of traffic	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF # 13, p. 309

#### 3.4.4. Coordination of Evacuation, Housing and Volunteers (Seattle)

In the event of a marine oil spill, large numbers of individuals may need to be evacuated from impacted areas. ESF #6 Mass Care, Housing and Human Services Annex mobilizes city assets and services to make available immediate shelter support.

The ESF #6 describes the role of the coordinator who will call upon the resources of the shelter coordinator when the Emergency Operations Center is activated and when it is determined that shelter services assistance are needed. The coordinator contacts shelter staff along with organizations such as the American Red Cross, Salvation Army and other appropriate ESF #6 support organizations. The shelter and food coordinator will utilize space at the Emergency Operations Center as base for directing services. Coordination of volunteers is also included under ESF #6 which is coordinated by the Department of Parks and Recreation and the American Red Cross.

The authors conclude that in the Seattle marine oil spill regime, coordination of housing for response crews and volunteers, as well as coordination of evacuation and housing evacuees have been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 11.

**Table 11. Assessment of Local Government Role Regarding Housing, Evacuation, and Volunteers (Seattle)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Coordination of Housing for Response Crews	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF #6, p. 184
	Coordination of Evacuation and Housing Evacuees	Yes	Yes	
	Coordination of Volunteers	Yes	Yes	

### 3.4.5. State of Local Emergency Declaration (Seattle)

Under ESF #7 Resource Support, operational language is used outlining the mayor’s authority to submit proclamations and related executive orders to the City Council for review and appropriate legislation. This includes those for exercising emergency powers by proclaiming a “Civil Emergency,” issuing executive orders, and when possible, to deactivate the “Civil Emergency.”

The authors conclude that in the Seattle marine oil spill regime, declaration of a state of local emergency has been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 12.

**Table 12. Assessment of Local Government Role Regarding Local Emergency Declaration (Seattle)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Declare State of Local Emergency	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF #7, p. 221

### 3.4.6. Logistics Management and Unified Command (Seattle)

ESF #7 Resource Support Annex coordinates resources available for disaster-related response and recovery operations for Seattle Emergency Operation Center Logistics Section. This Annex identifies and describes the management structure, processes and protocols in requesting, identifying, acquiring, mobilizing, deploying, tracking and demobilizing local resources required to support Emergency Operations Center level disaster management.

Participation in Unified Command is dependent on ESF #7 being initiated and is provided throughout the Seattle Disaster Readiness and Response Plan. For example, ESF#8 Public Health and Medical Assistance provides a description of public health, Emergency Medical Services and local healthcare agencies role in Unified Command. Participation in Unified Command is also provided under ESF #13 for the Seattle Police Department.

The authors conclude that in the Seattle marine oil spill regime, management of logistics and participation in Unified Command have been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 13.

**Table 13. Assessment of Local Government Role Regarding Logistics and Unified Command (Seattle)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Manage logistics (e.g., heavy equipment & crews)	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF #7, p. 221
	Participate in Unified Command	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF #7 & ESF #13

### 3.4.7. Oil Containment, Clean Up and Waste Disposal (Seattle)

The US Coast Guard is the Incident Commander for navigable coastal waterways and will coordinate cleanup and provide technical support. It may provide site security, personnel and equipment to the emergency efforts, directs the response to such spills, and provides training on hazardous materials issues, including computer software.

ESF #10 states that the Hazardous Materials Response Team (Unit 77) will respond to incidents inside the city limits in support of jurisdictions where current mutual aid agreements exist with the city of Seattle. However, in situations of major proportions that exceed the physical limitations of the Seattle Fire Department, help from outside the city (e.g., RRT/NWAC) will be provided through other departments by way of mutual aid agreements, the King County Fire Resource Plan, and from other state and federal agencies arranged through the city of Seattle Emergency Operations Center.

The clean-up of hazardous material is coordinated between the Fire Marshal and the City of Seattle Emergency Operations Center which may contact the Washington State Department of Ecology, State Emergency Management Division, Washington State Patrol, US EPA, US Coast Guard, City of Seattle Fleets and Facilities Department for city-owned property, and private licensed contractors.

Washington State Ecology is the lead agency for overseeing the cleanup and disposal of hazardous chemicals and chemical waste. The US EPA is the Incident Commander agency for inland waterway spills and shares that oversight with Washington State Ecology.

The Seattle Disaster Readiness and Response Plan references continuous and detailed monitoring of impacts and the effect of response actions towards biological-based incidents (p. 55). Further, ESF #10 Long-Term Recovery and Mitigation outlines the Seattle’s Office of Emergency Management Safety Officer’s role, which includes being responsible for monitoring and assessing safety hazards or unsafe situations and for developing measures for ensuring personnel safety (p. 110).

The authors conclude that in the Seattle marine oil spill regime, oil containment and clean-up, oil waste disposal and site monitoring activities have been formalized (acknowledged) and operationalized (defined in detail). Conclusions are shown in Table 14.

**Table 14. Assessment of Local Government Role Regarding Oil Containment, Clean-Up, Disposal and Monitoring of Affected Sites (Seattle)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Oil Containment and Clean-Up	Yes	Yes	Seattle Disaster Readiness & Response Plan ESF #10, p. 287
Recovery	Oily Waste Disposal	Yes	Yes	
	Monitoring of affected sites	Yes	Yes	Seattle Disaster Readiness & Response Plan; ESF #14, p. 110

### 3.5. Case Study Three: Georgia Strait Region

#### 3.5.1. Introduction to the Marine Oil Spill Regime for the Georgia Strait Region

##### Federal Marine Oil Spill Regime

Transport Canada’s unit called “Environmental Response Systems,” has the primary role of developing and administering policies, regulations and programs to protect Canadian waters. Environmental Response Systems collaborates across multiple governmental agencies including Fisheries and Oceans Canada and the Canadian Coast Guard to develop preparedness, mitigation and response plans to reduce the impact of a marine oil spill on Canadian waters and to ensure and promote the safety and well-being of the public.

The Canadian Coast Guard is the lead federal agency for all marine oil spills in waters under Canadian jurisdiction. When the Responsible Party (spiller) has been identified and is willing and able to respond, the Canadian Coast Guard will advise the Responsible Party of its responsibilities. Once the Canadian Coast Guard is satisfied with the Responsible Party’s intentions and plans, it will assume the role of Federal Monitoring Officer. However, in cases where the polluter is unknown, unwilling or unable to respond, the Coast Guard will assume the overall management of the incident as on-scene coordinator.

The regulation of marine oil spill response is primarily defined in the *Canada Shipping Act, 2001 (CSA)*, administered by Transport Canada. Transport Canada sets the guidelines and regulatory structure for the preparedness and response to marine oil spill incidents and establishes planning standards that define minimum levels of capacity to be maintained by the response organization.

The only Transport Canada certified spill response organization on the BC coast is Western Canada Marine Response Corporation (WCMRC). WCMRC will respond to a marine oil spill incident on behalf of the Responsible Party (spiller) under the supervision of the Canadian Coast Guard. WCMRC is a private company that describes its customer base (i.e., potential responsible parties) as “2000+ members [including] oil handling facilities, barging companies, freighters visiting our ports, ferries, cruise ships, US bound vessels travelling through Western Canada waters and others including, but not limited to, forest industry facilities, fish camps and float plane companies.”<sup>10</sup> Trans Mountain is a shareholder of WCMRC.

<sup>10</sup> <http://wcmrc.com/about-us/>. Accessed May 24, 2015.

WCMRC is tasked with preparing and putting resources in place to mitigate the impact of oil spills from tankers and vessels that operate in the Georgia Strait region.

It is understood that WCMRC has an Oil Spill Response Plan applicable to the Georgia Strait region. The authors emailed Transport Canada on April 29, 2015 requesting a copy of WCMRC's Oil Spill Response Plan. A Senior Advisor of the Navigation Safety and Environmental Programs within Transport Canada's Marine Safety and Security responded on May 5, 2015 denying the request, citing confidential third-party information. The Senior Advisor recommended contacting WCMRC directly. The authors made a phone call to WCMRC, which confirmed that it has an Oil Spill Response Plan. The authors sent a follow-up email on April 30, 2015 to WCMRC's Response Readiness Supervisor requesting the most recent Oil Spill Response Plan that is required to be updated and submitted to Transport Canada every three years. The authors received an email from WCMRC's Response Readiness Supervisor on May 4, 2015 denying the request for a copy of the Oil Spill Response Plan. The WCMRC representative offered to provide a copy of the Table of Contents of the Oil Spill Response Plan. The authors accepted that offer via email on May 5, 2015. As of May 24, 2015, the Table of Contents of the WCMRC Oil Spill Response Plan has not been received by the authors.

### **Provincial Context**

The British Columbia Ministry of Environment has provided documentation of its roles and responsibilities in the event of a marine oil spill in the BC Marine Oil Spill Response plan (2013). These roles include, but are not limited to, oil spill prevention, preparedness and response, as well as oil spill assessments and providing support with shoreline clean-up and oil spill technologies and research.

In the event of a spill, the BC Ministry of Environment may initiate memorandums of agreement with local governments to establish a capability for dealing with the spill's impact, while encouraging communities to contribute and provide support to the response efforts in their jurisdiction.

The Province also has regulations in place governing the development of hazard and preparedness plans. The *Emergency Program Act* of British Columbia outlines the need for local governments to have all-hazards emergency plans, and within them, language concerning activities including procedures for declaration of state of local emergency, evacuation and other needed functions. Overall, the primary role of the Province includes monitoring oil spill response activities, establishing protection priorities, and supporting response efforts through government staff and resources.

### **WCMRC's Emergency Management Program**

Like the US, marine oil spills in Canada are managed by Unified Command acting within the framework of the Incident Command System. Incident Command System is a flexible system with four sections (Operations, Planning, Logistics, and Finance/Administration), all of which operate in assigned roles under the command staff. The British Columbia Ministry of Environment offers a detailed discussion of the incident Command System within the British Columbia 2013 Marine Oil Spill Response Plan (Section 3-10). Further, the Incident Command System that WCMRC operates under is detailed in its Field Operations Guide (IC and Command Staff section, Planning Section, Operations Section, Logistics Section, and Finance Section) located on its website.<sup>11</sup>

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<sup>11</sup> WCMRC Field Operations Guide: <http://wcmrc.com/field-operations-guide/>.

## **Notification Process**

A 24-hour provincial reporting number has been established for anyone to report a spill in British Columbia. As outlined in the British Columbia Marine Oil Spill Response Plan, the Provincial Emergency Program duty officer can receive a report and then notify the region of the spill incident or the region can receive an oil spill report and notify the Provincial Emergency Program duty officer. Depending on the extent of the marine oil spill, additional notification activities may be warranted. Notification may also be made to the Canadian Coast Guard or other authorities.

The Initial Response Phase starts with the initial notification to WCMRC that a spill has occurred. In the Initial Response Phase, Staging Managers are tasked with taking into account adequate space for traffic flow and accessibility to the incident site, and requesting vessel traffic restrictions through the Canadian Coast Guard Notices to Shipping. The Field Operations Guide Incident Commander and Command Staff section outlines the Response Organization Liaison Officer responsibilities including the development and maintenance of a stakeholder and contact information list, including local air and water Traffic Control and various government agencies.

WCMRC states that the overall response to a spill could include (in addition to WCMRC) the participation of the Canadian Coast Guard, the Province, harbour authorities, local emergency response teams, and the Responsible Party. Representatives from federal government, provincial and local governments, Coast Guard, and Responsible Party integrate their plans and strategies through a coordinated command system (e.g., Incident Command System).

## **Metro Vancouver**

Metro Vancouver is a partnership of 21 local governments, one Electoral Area and one Treaty First Nation. In 2009, Metro Vancouver entered into a memorandum of understanding with the BC Ministry of Public Safety to form an Integrated Partnership for Regional Emergency Management. By entering into the agreement, Metro Vancouver acknowledges an intention to improve regional emergency management in the Metro Vancouver region, to provide sub-regional and regional emergency planning for major events, and to ensure the effectiveness of the partnership by outlining roles and responsibilities, structure of management and financial commitments. The partnership is tasked with coordinating regional emergency management planning activities and collaborates with all levels of government and the private sector to create a disaster-resilient region. The Integrated Partnership for Regional Emergency Management is undertaking development of a Hazard/Risk Assessment Plan for Metro Vancouver.

The authors placed a phone call with an Emergency Planning Coordinator with Integrated Partnership for Regional Emergency Management in Metro Vancouver to inquire into the availability of the Hazard/Risk Assessment Plan and were made aware by the Emergency Planning Coordinator that the regional Hazard/Risk Assessment Plan for Metro Vancouver is currently under development and has not yet been formalized and made public. An overview of the Hazard/Risk Assessment Plan on the Integrated Partnership for Regional Emergency Management website<sup>12</sup> describes five hazards to be included in the plan, including 'Human Accidental.' Whether marine oil spills are included in 'Human Accidental' hazards is unknown at this time.

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<sup>12</sup> IPREM Hazard/Risk Assessment: <http://www.iprem.ca/initiatives/Pages/risk.aspx>.

For a review of documents used in the analysis of the Georgia Strait region, see Table 62 and Table 64 in Appendix E.

### 3.5.2. Identification of Priority Areas to Protect and Contingency Planning (Georgia Strait Region)

In the BC context, WCMRC is legislatively mandated to marshal the operational response to a marine oil spill, in practical terms. Therefore, in practical terms, the marine oil spill regime in operation in the Georgia Strait region is effectively that of WCMRC. The assessment that follows of potential local government activities in the Georgia Strait region regarding marine oil spills is therefore focused on the extent to which these activities are formalized or operationalized in the available WCMRC documentation.

A review of WCMRC’s website, the City of Vancouver’s website<sup>13</sup> and Metro Vancouver’s website<sup>14</sup> did not yield any documentation of priority areas to protect in the event of a marine oil spill. The Metro Vancouver website does provide a Hazard, Risk and Vulnerability Assessment<sup>15</sup> that has a section titled “Marine Accidents.”<sup>16</sup> However, this section is merely a general description, and does not identify any priority areas for protection.

As previously discussed, WCMRC has an Oil Spill Response Plan applicable to the Georgia Strait region. However, the authors were unable to secure a copy after requests were sent to WCMRC and Transport Canada. Therefore, the authors are unaware of the Oil Spill Response Plan having specific procedures for local government involvement in a marine oil spill response that are contingent on the roles of senior regime leaders and the conditions of the spill. The authors conclude that documentation of the marine oil spill regime applicable to the Georgia Strait region does not address any local government role in identification of priority areas to protect in the event of a marine oil spill. Conclusions are shown in Table 15.

**Table 15. Assessment of Local Government Role Regarding Priority Areas to Protect (Georgia Strait Region)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Preparation & Planning	Identification of priority areas to protect	No	No	None
	Oil spill contingency planning	No	No	Oil Spill Response Plan

<sup>13</sup> City of Vancouver: <http://vancouver.ca/home-property-development/how-vancouver-prepares-for-emergencies.aspx>.

<sup>14</sup> Metro Vancouver: <http://www.metrovancouver.org/services/electoral-area-a/services/emergency-planning/Pages/default.aspx>.

<sup>15</sup> Hazard, Risk and Vulnerability Assessment, Electoral Area A Greater Vancouver Regional District, prepared by EmergeX Planning Inc., 2005.

<sup>16</sup> *Ibid.*, p. 44-45.

### 3.5.3. Fire, Police, Ambulance, and Traffic Services (Georgia Strait Region)

Within the WCMRC Field Operations Guide (FOG) IC and Command Staff section, the RO Liaison Officer role and responsibilities include developing and maintaining a list of all stakeholders impacted by a marine oil spill, including contact name(s), phone numbers, fax, email address, and other necessary information. The list may include neighbouring industries, local governments and emergency planners, First Nations in the area, representatives of local emergency teams (e.g., Police, Fire, Hazmat teams), Port representatives, wildlife societies, local air and water Traffic Control, and various Government Agencies.

However, operational language that details the activities and responsibilities to be carried out by local governments (e.g., fire, police and ambulance services) in the event that they are requested is not provided. For example, the IC and Command Staff section provides strategies for controlling the source of a spill including conducting firefighting, where applicable and safe. These strategies, the FOG document notes, may be conducted by a number of agencies, response personnel and/or Responsible Party. No process is outlined for the implementation of this strategy, nor is there a description of local government involvement, or a procedure for the RO Liaison Officer to follow. As a result, it is unclear under what scenario local government services would be requested.

The authors conclude that in the Georgia Strait region, fire, police, and ambulance services and management of traffic have been formalized (acknowledged) but not operationalized (defined in detail). For example, the WCMRC documentation does not state under what circumstances local government departments' participation would be requested. Conclusions are shown in Table 16.

**Table 16. Assessment of Local Government Role Regarding Fire, Police, Ambulance and Traffic Services (Georgia Strait Region)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Fire Services	Yes	No	FOG IC and Command Staff, p. 26; FOG Operations Section, p. 2
	Police Services	Yes	No	
	Ambulance Services	Yes	No	
	Management of Traffic	Yes	No	

### 3.5.4. Coordination of Evacuation, Housing and Volunteers (Georgia Strait Region)

Within the WCMRC Field Operations Guide Logistics section, the Logistics Section Chief is responsible for completing documentation that ensures there are support services available for 24-hour operations including housing/lodging, food, and medical support for the ICP and other sites as well as arranging lodging for all personnel in the Incident Command Post and other work sites. However, the documents do not provide a step-by-step list of activities or procedures to be carried out to ensure that housing is arranged for response crews and what the role of local government is for this potential local government activity. Therefore, the documents lack specificity explaining how support in housing would be accomplished (e.g., partnering with non-profit organizations, local government departments charged with housing evacuees, volunteers, personnel).

A review of WCMRC documents indicated no outline or explanation of the process of coordination of evacuating and housing evacuees or which local government agencies would be contacted in the event of coordinating evacuations or housing evacuees.

WCMRC’s operations section does indicate that in the initial response to a spill, the BC Wildlife Branch Director is tasked with establishing contact with government and NGO wildlife agencies including NGO volunteer groups. The Wildlife Volunteer Liaison, under the Wildlife Branch Director, is responsible for working with volunteer wildlife organizations to ensure that volunteer activities are organized and scheduled and that all volunteers receive the necessary safety training. The process of activating volunteer groups, training necessary for volunteers, stages of a marine oil spill incident volunteers would be called upon or activities they would be tasked with are not discussed.

The authors conclude that in the Georgia Strait region, coordination of both housing for response crews and coordination of volunteers have been formalized (acknowledged) but not operationalized (defined in detail). The WCMRC documentation does not specify the circumstances that would necessitate local government involvement with these activities. In addition, the authors conclude that in the Georgia Strait region, coordination of evacuation and housing of evacuees has been formalized (acknowledged) but not operationalized (defined in detail). Conclusions are shown in Table 17.

**Table 17. Assessment of Local Government Role Regarding Coordination and Housing and Evacuation (Georgia Strait Region)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Coordination of housing for response crews	Yes	No	WCMRC FOG Logistics section, p. 5
	Coordination of evacuation and housing evacuees	No	No	
	Coordination of volunteers	Yes	No	WCMRC FOG Operations Section

### 3.5.5. State of Local Emergency Declaration (Georgia Strait Region)

A review of WCMRC documents yielded no mention of state of local emergency declaration or the extent to which an event rises to the level of an emergency needing to be declared for the region or local government. While the declaration of a state of local emergency is formalized at a provincial level (Emergency Program Act of British Columbia, 1996), the authors have been unable to locate a publicly available document by WCMRC stating of the roles, responsibilities and activities leading to a decision whether or not to declare a state of local emergency.

The authors conclude that in the Georgia Strait region declaration of a state of local emergency has been formalized (acknowledged) but not operationalized (defined in detail). Although the Emergency Program Act of British Columbia references the local government role in this potential local government activity,

this analysis focuses on the Response Organization that is primarily responsible for the preparation, planning, response, and recovery activities for an oil spill incident occurring in the Georgia Strait Region (WCMRC). Conclusions are shown in Table 18.

**Table 18. Assessment of Local Government Role Regarding Local Emergency Declaration (Georgia Strait Region)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Declare State of Local Emergency	Yes	No	Emergency Program Act

### 3.5.6. Logistics Management and Unified Command (Georgia Strait Region)

The WCMRC Field Operations Guide Logistics Section outlines which sources of equipment and trained personnel are needed to carry out marine oil spill response services, and to keep WCMRC equipment and the response personnel operational in the field. Its assignments in regard to the provision of marine oil spill response services include: acquiring and/or constructing and managing response facilities, securing and arranging for the housing, clothing (personal protective equipment), and feeding of response personnel, obtaining, inspecting, and maintaining equipment, providing strategic and tactical air, land, and water transportation resources, obtaining communications equipment and setting up and maintaining communications networks, and ensuring the security of personnel and equipment.

WCMRC states that the overall response to a spill could include, as appropriate, the participation of the Canadian Coast Guard, the REET, the Province, harbour authorities, local emergency response teams, the Responsible Party, and WCMRC. Representatives from the federal government, the Province of BC, the US Coast Guard, and Responsible Party integrate their plans and strategies through a coordinated command system (e.g., Incident Command System).

The FOG Logistics section outlines WCMRC roles, tasks, generated outputs and other activities during the Initial Response Phase when WCMRC has been contacted that a spill has occurred. Further, the document provides evidence of some roles (e.g., Spill Response Manager) requiring documentation (e.g., Incident Briefing) to Unified Command with information regarding the response situation and resources allocated to the incident.

Overall, WCMRC has in place a document that does refer to local government involvement as part of WCMRC’s logistics and participation in Unified Command. However, the WCMRC documentation does not describe responsibilities or activities appropriated to local government agencies within Unified Command or part of its Logistics Section. Instead, the documentation merely states that contact will be maintained with local government agencies.

The authors conclude that in the Georgia Strait region, local government involvement in management of logistics and participation in Unified Command has been formalized (acknowledged) but not operationalized (defined in detail). That is, WCMRC documents do not discuss the responsibilities or procedures for local governments’ participation in Unified Command or how local governments fit within WCMRC’s established logistics. Conclusions are shown in Table 19.

**Table 19. Assessment of Local Government Role Regarding Logistics and Unified Command (Georgia Strait Region)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Manage logistics	Yes	No	FOG Logistics Section
	Participate in Unified Command	Yes	No	FOG IC and Command Staff, p. 16

### 3.5.7. Oil Containment, Clean Up & Waste Disposal (Georgia Strait Region)

While the Responsible Party (spiller) is tasked with the management of the spill clean-up and recovered material disposal, WCMRC may assist or advise with the clean-up activities. This may include providing on-water recovery, shoreline protection and treatment, wildlife hazing and recovered materials handling. WCMRC participates in the North West Response Equipment List program coordinated by the US Coast Guard, which shares equipment information and availability among oil spill response organizations on the West Coast of North America.<sup>17</sup> However, there do not appear to be strategies or defined responsibilities for local government involvement regarding clean-up at specific sites in BC. Further, the WCMRC documentation describes who manages oil spill clean-up but it omits a detailed list of the activities and the process of managing oil spill clean-up in collaboration with local government agencies (e.g., emergency planners, fire departments, harbour patrol).

The Responsible Party (spiller) is responsible for waste disposal according to WCMRC’s FOG IC and Command Section (p. 6). WCMRC also assigns technical specialists during the initial response phase including disposal/waste management specialists. The Disposal / Waste Management Technical Specialist is responsible for developing Waste Management and Disposal Plans that detail the collection, sampling, monitoring, temporary storage, transportation, manifesting, permitting, recycling and disposal of all liquid and solid wastes generated during the response. The WCMRC documents reviewed do not discuss the role of local government involvement during oily waste disposal.

The Field Operations Guide Incident Commander and Command Staff section outlines the role of the Safety Officer, who is responsible for monitoring and assessing hazardous and unsafe situations and developing measures to assure personnel safety. Further, the Safety Officer is responsible for arranging for air monitoring of affected spill sites. The role of local governments in monitoring affected sites is absent from WCMRC documents.

The authors conclude that in the Georgia Strait region potential local government roles regarding oil containment and clean-up, oil waste disposal, and monitoring of affected sites have not been formalized (acknowledged) or operationalized (defined in detail). Conclusions are shown in Table 20.

<sup>17</sup> The North West Response Equipment List: <http://www.wrrl.us/index.html>.

**Table 20. Assessment of Local Government Role Regarding Oil Containment, Clean-Up, Disposal and Monitoring of Affected Sites (Georgia Strait Region)**

Stage of Marine Oil Spill Engagement	Potential Local Government Activity	Formalized	Operationalized	Document
Response	Oil Containment & Clean-Up	No	No	FOG IC and Command Staff Section; Planning Section; Operations Section; Logistics Section
Recovery	Oily Waste Disposal	No	No	
	Monitoring of affected sites	No	No	

### 3.6. Summary of Case Study Comparisons

Table 21 provides a consolidated analysis of 15 identified potential local government activities in preparing for, responding to, and recovering from a marine oil spill across three local areas (San Francisco, Seattle and the Georgia Strait region) and whether these are formalized or operationalized.

**Table 21. Comparison of Potential Local Government Activities, Formalized or Operationalized, in the Marine Oil Spill Regimes Applicable in San Francisco, Seattle and the Georgia Strait Region**

Stage of Marine Oil Spill	Potential Local Government Activity	Case Study Area					
		San Francisco		Seattle		Georgia Strait Region	
		F	Op	F	Op	F	Op
<b>Preparation &amp; Planning</b>	Identification of priority areas to protect	Yes	Yes	No	No	No	No
	Oil spill contingency planning	Yes	Yes	Yes	Yes	No	No
<b>Response</b>	Fire services	Yes	Yes	Yes	Yes	Yes	No
	Police services	Yes	Yes	Yes	Yes	Yes	No
	Ambulance services	Yes	Yes	Yes	Yes	Yes	No
	Management of traffic	Yes	Yes	Yes	Yes	Yes	No
	Coordination of housing for response crews	Yes	Yes	Yes	Yes	Yes	No
	Coordination of evacuation and housing evacuees	Yes	Yes	Yes	Yes	No	No
	Coordination of volunteers	Yes	Yes	Yes	Yes	Yes	No
	Declare state of local emergency	Yes	Yes	Yes	Yes	No	No
	Manage logistics (e.g., heavy equipment & crews)	Yes	Yes	Yes	Yes	Yes	No
	Participate in unified command	Yes	Yes	Yes	Yes	Yes	No
<b>Recovery</b>	Oil containment and clean up	Yes	Yes	Yes	Yes	No	No
	Oily waste disposal	Yes	Yes	Yes	Yes	No	No
	Monitoring of affected site	Yes	Yes	Yes	Yes	No	No

*F – Formalized; Op – Operationalized*

The authors found that the City of San Francisco and its internal departments had a larger role than did local governments in the Seattle or the Georgia Strait region in the 15 types of marine oil spill activities examined.

The authors found that local departments within the City of Seattle were significantly more involved in oil spill preparation and planning, response and recovery activities than were local governments in the Georgia Strait region. The City of Seattle developed official documentation outlining (formalizing) local government roles and detailing (operationalizing) the associated responsibilities and procedures to carry out 14 out of the 15 potential local government activities. The authors are unaware of any formalized documentation outlining departments within or committees appointed by the City of Seattle that outline the City's role in identifying priority areas to protect in the event of a marine oil spill.

The authors found that the documentation of the marine oil spill regime applicable to the Georgia Strait region mentions a local government role regarding various topics (e.g., police, fire, ambulance, etc.) but provides little or no details in terms of boundaries, authority, roles and tasks.

## 4.0. Interviews with Coastal Local Governments

### 4.1. Overview

As well as the jurisdictional comparison of the three marine oil spill regimes, two sets of interviews were conducted to gather insight into the concerns and perspectives of local governments. The first set was with local governments in the Georgia Strait region whose shorelines are adjacent to the Trans Mountain Pipeline Expansion Project marine shipping route. The second set was with local governments with prior experience with addressing a marine oil spill in their coastal waters.

All interviews were conducted with key personnel within the local government who possessed expertise in the area of emergency planning. One respondent was an elected official while the remaining respondents were staff with expertise in emergency planning.

The interviews were structured interviews which employed both open and close ended questions. Respondents were offered a choice between self-administration of the survey electronically, or responding in a pre-arranged telephone interview with a trained researcher from SPARC BC.<sup>18</sup> Some respondents selected the electronic method while others chose to participate in a telephone interview.

The interview guide was somewhat different between the two sets of interviews. The Georgia Strait local governments set of interviews focused on their preparation for a possible future marine oil spill. The other set of interviews explored the local governments' direct experience with a previous marine oil spill.

Because the interview guides were somewhat different, no attempt was made to combine the data from these two sets of interviews into a single data set. Nevertheless, some of the themes which emerge from the research are consistent across the two groups,<sup>19</sup> as discussed below.

#### **Interviews with Local Governments in the Georgia Strait Region**

A total of 24 coastal local governments in BC were identified that have shorelines adjacent to the marine shipping route used by tankers carrying oil transported through the Trans Mountain pipeline.

The authors contacted each local government, first by email and later also by phone. Each local government was asked if they would participate in an interview. Potential respondents were given an option to respond either electronically through a fillable PDF version of the interview guides or via a direct phone call with a researcher from SPARC BC who would administer the interview. Six of the Georgia Strait local governments participated in the survey. Three local governments elected to respond electronically while three others elected to be interviewed via telephone. These were:

- City of Victoria;
- District of North Saanich;
- Sunshine Coast Regional District;
- Cowichan Valley Regional District;

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<sup>18</sup> The researchers who administered the telephone interviews were Scott Graham and Jason Copas of SPARC BC.

<sup>19</sup> For example, concerns about the quality of communication from senior partner organizations to local governments.

- Nanaimo Regional District; and,
- Unnamed local government.<sup>20</sup>

The results were obtained over a three week period in April 2015.

### **Interviews with Local Governments with Prior Experience with Marine Oil Spills**

A second set of interviews was held with representatives from local governments which had prior experience with a marine oil spill or marine hazard event. These included:

- City of Vancouver;
- District of Squamish;
- City and County of San Francisco; and,
- San Juan County.

Because this set of interviews probed the experiences of local governments with a previous marine oil spill situation, the interview guide was more open ended and less structured than the interview used for respondent local governments in the Georgia Strait region who typically have not had experience with a marine oil spill. The write up of the findings reflects this difference between open and closed ended oriented interview guides, with the write up for the Georgia Strait set of responses having many more tables to summarize the findings from the many closed ended questions in this interview.

### **Reasons for Non-participation**

The response rate was 25%, or six out of the twenty-four local governments along the marine transportation route that were asked to participate.

Local governments which did not agree to participate were contacted to determine why they chose not to participate. While not all of the non-respondents provided a reason, many provided an explanation. Reasons for non-participation included the following:

- The local government already had intervenor status at the NEB review and chose not to have themselves represented twice;
- The need to gain official endorsement by local government Council for the interview prior to participating was considered impractical and/or too time constraining;
- The volume of work and the higher priority of other issues;
- The belief by some local government representatives that response to marine oil spills was not the responsibility or the jurisdictional area of local government; and,
- Some local government officials indicated that their concerns had been addressed when a representative from their regional government responded to the interview.

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<sup>20</sup> Five of the six respondents agreed to allow the name of their local government to be reported.

The population base represented by the respondent's local government was significant (even when discounting the local government which requested anonymity). Using 2011 Census data, the breakdown by population of Canadian local governments that participated in the interview process is as follows:



The total population represented by local governments in BC who participated in the interview process is 967,291 or 22.0% of the entire population of BC based on 2011 Census data.<sup>21</sup>

In addition, the respondent local governments in BC accounted for approximately 1,686 kilometers of BC coast line (once again, any length of coastline represented by the anonymous local government is not included in this total). The breakdown of coastline length by local government is as follows:



## 4.2. Findings from Interviews with Local Governments in the Georgia Strait Region

The results of the interviews are presented in this section of the report. Discussion and analysis of the findings are presented in Section 5 below.

### 4.2.1 Spill Preparedness

#### Presence of a Local Government Emergency Plan

Respondents were asked whether their local government had an emergency plan. All respondents indicated that their local government had an emergency plan in place.

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<sup>21</sup> The combined population of the two American local governments that participated in the interview process is 868,344 including 852,469 in San Francisco and 15,875 in San Juan County. Including the American respondents, the total population represented by all local governments that participated in the interviews totaled 1,835,635.

**Table 22. Presence of a Local Government Emergency Plan**

	Number	Percent
Yes	6	100
No	0	0
Total	6	100

**Emergency Plans and Provisions Specific to Marine Oil Spill Response**

Respondents were then asked whether their local government emergency plan had provisions specific to marine oil spill response. Half of the respondents reported having provisions within the emergency plan specific to a marine oil spill. Two respondents indicated their emergency plan did not have specific provisions to address a marine oil spill. One respondent was unsure.

**Table 23. Emergency Plans and Provisions Specific to Marine Oil Spill Response**

	Number	Percent
Yes	3	50
No	2	33
Unsure	1	17
Total	6	100

**Protocol Document with WCMRC or other Response Partner**

Respondents were asked whether their local government had in place a protocol document with WCMRC or any other spill response partner regarding oil spill responses. All but one respondent indicated that no protocol document was in place. One respondent indicated that he or she was unsure.

**Table 24. Protocol Document with WCMRC or other Response Partner**

	Number	Percent
Yes	0	0
No	5	83
Unsure	1	17
Total	6	100

**Priority Placed on Developing Plan to Prepare for Marine Oil Spill**

Respondents were asked to rate the level of priority their local government had placed on developing a detailed plan to prepare for the possibility of a marine oil spill. In general, respondents indicated this was not a high priority for their local government, with four respondents reporting it to be a low priority and one indicating it was a medium priority. One respondent said that developing a plan to prepare for a marine oil spill was a high priority. Some respondents noted that other emergency concerns such as earthquake preparedness pushed oil spill response into a lower priority position.

**Table 25. Priority Placed on Developing Plan to Prepare for Marine Oil Spill**

	Number	Percent
Very high priority	0	0
High priority	1	17
Medium priority	1	17
Low priority	4	67
No plan in place	0	0
Total	6	100

**State of Local Government Preparedness in Case of a Marine Oil Spill**

Respondents were asked to describe their local government’s state of preparedness for a marine oil spill. Five of six respondents reported either limited preparedness (3) or complete non-preparedness (2) in the event of a marine oil spill. One respondent reported their local government’s degree of preparedness for a marine oil spill as moderate. Some respondents took the opportunity to note that the lack of guidance from senior response partners had a direct impact on their local government’s low level of preparedness.

**Table 26. State of Local Government Preparedness in Case of a Marine Oil Spill**

	Number	Percent
Complete preparedness	0	0
Advanced preparedness	0	0
Moderate preparedness	1	17
Limited preparedness	3	50
Complete non-preparedness	2	33
Total	6	100

**Concern about State of Preparedness for a Marine Oil Spill**

Respondents were asked to report the level of concern their local government experiences about its state of preparedness for a possible marine oil spill. Despite the fact that most respondents had previously indicated a low level of preparedness for a marine oil spill, only one respondent reported that he or she was either fairly or very concerned about their local government’s state of preparedness. Three respondents reported that they were not overly concerned or not at all concerned with their state of preparedness, while two other respondents indicated that they were somewhat concerned.

In response to this question, one respondent noted that he or she was very concerned about the state of preparedness (perceived to be inadequate) of the senior partners even though he or she was not at all concerned about the local government state of preparedness. The respondent who indicated a high level of concern about his or her local government’s state of preparedness for a marine oil spill noted that the local government response would be very minimal as spill response fell outside of local government jurisdiction, and that it was the senior partners which needed to enhance their response capabilities.

**Table 27. Concern about State of Preparedness for a Marine Oil Spill**

	<b>Number</b>	<b>Percent</b>
<b>Very concerned</b>	1	17
<b>Fairly concerned</b>	0	0
<b>Somewhat concerned</b>	2	33
<b>Not overly concerned</b>	2	33
<b>Not at all concerned</b>	1	17
<b>Total</b>	6	100

**Clarity of Rules/Regime Governing what Local Governments Must Do to Prepare for a Marine Oil Spill**

Respondents were asked whether they felt that the rules/regime governing what local governments must do to prepare for a marine oil spill were clear. Two respondents reported that they felt the rules were largely clear (although one of those further indicated this clarity was largely due to the fact that the local government had minimal responsibility). Three other respondents indicated that the rules were not at all clear. One respondent said that the rules were not very clear. While there was a range of responses provided, most of the respondents indicated a perception that rules/regime governing what local governments must do to prepare for a marine oil spill were not very clear.

**Table 28. Clarity of Rules/Regime Governing what Local Governments Must Do to Prepare for a Marine Oil Spill**

	<b>Number</b>	<b>Percent</b>
<b>Completely clear</b>	0	0
<b>Largely clear</b>	2	33
<b>Moderately clear</b>	0	0
<b>Not very clear</b>	1	17
<b>Not at all clear</b>	3	50
<b>Total</b>	6	100

**Extent Guidance/Support on Best Practices Preparation Has Been Accessed**

Respondents were asked to report the extent to which their local government had accessed guidance or external support on best practices preparation for a marine oil spill. Four of six respondents reported that their local government had accessed such guidance either to a small extent (3) or not at all (1). The other two respondents indicated that their local government had accessed guidance of this nature to a moderate extent. This question does not make clear the extent to which such support and guidance is available and easily accessible.

**Table 29. Extent Guidance/Support on Best Practices Preparation Has Been Accessed**

	<b>Number</b>	<b>Percent</b>
<b>To a very great extent</b>	0	0
<b>To a large extent</b>	0	0
<b>To a moderate extent</b>	2	33
<b>To a small extent</b>	3	50
<b>Not at all</b>	1	17
<b>Total</b>	6	100

## 4.2.2. Engagement with Trans Mountain

### Engagement between Trans Mountain and Local Government

During the National Energy Board proceedings about the pipeline expansion, Trans Mountain wrote: “Trans Mountain has been engaging with communities along the pipeline and marine corridor since 2012” and that it was “confident that there has been broad and meaningful communication with local government officials along the marine route.” These quotes were included in the preamble to a question about the type of engagement between Trans Mountain and the local government. Half of the respondents reported no engagement had occurred. The other half was unsure or did not provide a response.

**Table 30. Engagement between Trans Mountain and Local Government**

	<b>Number</b>	<b>Percent</b>
<b>Yes</b>	0	0
<b>No</b>	3	50
<b>No response/Unsure</b>	3	50
<b>Total</b>	6	100

### Trans Mountain’s Ability to Respond to Local Government Concerns during Engagement Process

Respondents were asked to indicate whether Trans Mountain was able to address local government concerns during the engagement process. Half of the respondents indicated that Trans Mountain did not address their local government’s concerns via this process. The other half were unsure or indicated that, since no engagement process had occurred, there was no opportunity for them to express concerns or for Trans Mountain to respond. No respondent agreed that Trans Mountain had been able to address their local government’s concerns during this process.

**Table 31. Trans Mountain’s Ability to Respond to Local Government Concerns during Engagement Process**

	Number	Percent
Yes	0	0
No	3	50
Not applicable/Unsure	3	50
<b>Total</b>	<b>6</b>	<b>100</b>

**Usefulness of Information Provided by Trans Mountain during Engagement Process**

Respondents were asked to indicate whether the information provided by Trans Mountain during the engagement process was useful to their local government. No respondents indicated that the information provided was either extremely or very useful. One respondent reported that the information was moderately useful. Two respondents indicated that the information provided by Trans Mountain was not at all useful. Three respondents said that the question was not applicable since there was no actual engagement process during which Trans Mountain provided information to the local government.

**Table 32. Usefulness of Information Provided by Trans Mountain during Engagement Process**

	Number	Percent
Extremely useful	0	0
Very useful	0	0
Moderately useful	1	17
Not particularly useful	0	0
Not at all useful	2	33
Not applicable	3	50
<b>Total</b>	<b>6</b>	<b>100</b>

**4.2.3. View Regarding a Regional Body**

**Support for a Regional Body to Oversee Marine Oil Spill Response System**

Respondents were asked to indicate whether they would support a regional body comprised of First Nations, local governments, citizens and other affected parties to be charged with oversight of the marine oil spill response system to ensure on-going environmental and cultural protection. Half of the respondents indicated support for the creation of a body with this mandate. The other three respondents were unsure. While the question lacked specifics as to the exact nature and mandate of any such body, the degree of support reported suggests some openness to the idea of a regional body.

**Table 33. Support for a Regional Body to Oversee Marine Oil Spill Response System**

	Number	Percent
Yes	3	50
No	0	0
Unsure	3	50
Total	6	100

#### 4.2.4. Prior Local Government Involvement in a Marine Oil Spill

Respondents were asked to indicate whether their local government had ever been involved in a marine oil spill. All but one of the respondents indicated that their local government had never been involved in a marine oil spill. The other respondent was unsure.

**Table 34. Prior Local Government Involvement in a Marine Oil Spill**

	Number	Percent
Yes	0	0
No	5	83
Unsure	1	17
Total	6	100

#### 4.2.5. WCMRC

Respondents were asked to indicate how familiar they were with the role of WCMRC (Western Canada Marine Response Corporation) in addressing potential marine oil spills in BC. Only one respondent reported being either completely or largely familiar with the role of WCMRC. Three respondents indicated that they were either slightly (2) or not at all (1) familiar with the role of WCMRC. Two respondents reported that they were moderately familiar with the role of WCMRC. Given the central role of WCMRC in addressing marine oil spills, it is notable that the level of familiarity amongst respondents (all of whom were emergency planners/coordinators) is so low.

**Table 35. Familiarity with Role of WCMRC in Addressing Marine Oil Spills in BC**

	Number	Percent
Completely familiar	0	0
Largely familiar	1	17
Moderately familiar	2	33
Slightly familiar	2	33
Not at all familiar	1	17
Total	6	100

### Extent Local Government Requested by WCMRC to Engage in Planning/Training

Respondents were asked to indicate the extent to which their local government has been requested by WCMRC to engage in planning and training for a response to a marine oil spill in the past five years. One respondent reported his or her local government had been engaged to a considerable extent. One respondent reported that his or her local government had been engaged to an occasional extent. Four respondents indicated that there had been no attempts by WCMRC to engage their local government in planning and/or training exercises within the past five years. One of those who reported no engagement from WCMRC within the past five years noted that a modest exercise had been held with the Coast Guard seven years ago. The respondent who reported occasional engagement noted that this had occurred five years ago.

**Table 36. Extent Local Government Requested by WCMRC to Engage in Planning/Training**

	Number	Percent
Extensive engagement	0	0
Considerable engagement	1	17
Occasional engagement	1	17
Rare engagement	0	0
No engagement at all	4	67
Total	6	100

### Local Government Participation in Other WCMRC-Led Initiatives

Respondents were then asked to indicate whether their local government had participated in any other WCMRC-led initiatives. Responses were evenly divided. Two respondents indicated their local government had participated in such initiatives. Two indicated their local government had not participated. Two indicated that they were unsure.

**Table 37. Local Government Participation in Other WCMRC-Led Initiatives**

	Number	Percent
Yes	2	33
No	2	33
Unsure	2	33
Total	6	100

### WCMRC Attention to Local Government input During Engagement Process

Respondents were asked to indicate whether they felt the WCMRC had listened to local government input during these initiatives. Two respondents indicated that WCMRC had listened to local government input. One respondent said that WCMRC had not listened to local government input. Three other respondents were either unsure (1) or felt that the question was not applicable as they had not engaged in any such initiatives with WCMRC.

**Table 38. WCMRC Attention to Local Government input During Engagement Process**

	Number	Percent
Yes	2	33
No	1	17
Unsure	1	17
Not applicable	2	33
Total	6	100

### **Need for Strengthened Engagement between WCMRC and Local Government**

Respondents were asked to indicate whether they felt a need for strengthened engagement between WCMRC and their local government. Five of six respondents said there is a need for strengthened engagement between WCMRC and their local government. One respondent was unsure.

**Table 39. Need for Strengthened Engagement between WCMRC and Local Government**

	Number	Percent
Yes	5	83
No	0	0
Unsure	1	17
Total	6	100

### **Consultation by WCMRC in Providing Feedback on Geographic Response Strategies**

Respondents were asked to indicate whether they felt their local government had been consulted by WCMRC in terms of providing feedback on geographic response strategies. Most respondents either moderately (2) or strongly (3) disagreed that consultation of this nature had occurred. One respondent moderately agreed that their local government had been consulted by WCMRC with regard to providing feedback on geographic response strategies.

**Table 40. Consultation by WCMRC in Providing Feedback on Geographic Response Strategies**

	Number	Percent
Strongly agree	0	0
Largely agree	0	0
Moderately agree	1	17
Moderately disagree	2	33
Strongly disagree	3	50
Total	6	100

### **Engagement in Planning, Training or Exercise Initiatives by Other Response partners**

Respondents were asked to indicate whether they felt their local government had been engaged in any planning, training or exercise initiatives by other response partners such as the BC Ministry of Environment, the Canadian Coast Guard, or any US agencies. Five respondents reported no engagement

in initiatives by response partners other than WCMRC. One respondent reported engagement with the Canadian Coast Guard, and expressed a keen interest in further exercises and information sharing between the senior partners and their local government.

**Table 41. Engagement in Planning, Training or Exercise Initiatives by Other Response partners**

	Number	Percent
<b>Yes</b>	1	17
<b>No</b>	5	83
<b>Total</b>	6	100

#### 4.2.6. Type of Local Government Involvement Envisaged in a Marine Oil Spill

Respondents were asked to indicate the nature of the involvement they envisage for their local government in the event of a marine oil spill within the following activity areas:

- Communication to residents about relevant emergency matters;
- Coordination of volunteers;
- Management of traffic;
- Police services;
- Fire services;
- Ambulance services;
- Coordination of housing for response crews;
- Identification of priority areas to protect;
- Coordination of evacuation and housing evacuees;
- Oil containment and clean up;
- Declare state of local emergency;
- Oily waste disposal;
- Manage logistics (e.g., heavy equipment and crews); and,
- Participate in Unified Command.

The degrees of involvement canvassed were:

- Lead role;
- Support role;
- Regular briefing; or,
- No engagement required.

Responses for each of the fourteen activity areas are provided below.

##### ***Communication to residents about relevant emergency matters***

For this activity area, three respondents indicated that local government should take a lead role while three others felt local government should take a support role.

##### ***Coordination of volunteers***

For this activity area, two respondents indicated that local government should take a lead role while four felt local government should take a support role.

***Management of traffic***

For this activity area, no respondents indicated that local government should take a lead role while four felt local government should take a support role. One respondent indicated that local government engagement should be limited to receiving regular briefings while another felt that local government should have no engagement in this activity area.

***Police services***

For this activity area, no respondents indicated that local government should take a lead role while two felt that local government should take a support role. Two respondents indicated that local government engagement should be limited to receiving regular briefings while another felt that local government should have no engagement in this activity area.

***Fire services***

For this activity area, one respondent indicated that local government should take a lead role while three felt that local government should take a support role. One respondent indicated that local government engagement should be limited to receiving regular briefings.

***Ambulance services***

For this activity area, no respondents indicated that local government should take a lead role while two felt that local government should take a support role. Three respondents indicated that local government engagement should be limited to receiving regular briefings while another felt that local government should have no engagement in this activity area.

***Coordination of housing for response crews***

For this activity area, one respondent indicated that local government should take a lead role while two felt that local government should take a support role. Two respondents indicated that local government engagement should be limited to receiving regular briefings while another felt that local government should have no engagement in this activity area.

***Identification of priority areas to protect***

For this activity area, two respondents indicated that local government should take a lead role while one respondent felt that local government should take a support role. Two respondents indicated that local government engagement should be limited to receiving regular briefings while another respondent felt unsure.

***Coordination of evacuation and housing evacuees***

For this activity area, four respondents indicated that local government should take a lead role while one respondent felt that local government should take a support role. One respondent indicated that local government engagement should be limited to receiving regular briefing.

***Oil containment and clean up***

For this activity area, no respondents indicated that local government should take a lead role while one felt that local government should take a support role. Four respondents indicated that local government engagement should be limited to receiving regular briefings while another felt that local government should have no engagement in this activity area.

***Declare state of local emergency***

For this activity area, five respondents indicated that local government should take a lead role while one respondent felt that local government should take a support role.

### ***Oily waste disposal***

For this activity area, no respondents indicated that local government should take a lead or a support role. Four respondents indicated that local government engagement should be limited to receiving regular briefings while two felt that local government should have no engagement in this activity area.

### ***Manage logistics (e.g., heavy equipment and crews)***

For this activity area, one respondent indicated that local government should take a lead role while one respondent felt that local government should take a support role. Four respondents indicated that local government engagement should be limited to receiving regular briefings.

### ***Participate in Unified Command***

For this activity area, one respondent indicated that local government should take a lead role while five felt that local government should take a support role.

The full range of these responses is also provided in Table 42 below.

**Table 42. Type of Local Government Involvement Envisaged in Event of a Marine Oil Spill**

	<b>Lead Role</b>	<b>Support Role</b>	<b>Regular briefing</b>	<b>No Engagement</b>	<b>Unsure</b>
<b>Communication to residents about relevant emergency matters</b>	3	3	0	0	0
<b>Coordination of volunteers</b>	2	4	0	0	0
<b>Management of traffic</b>	0	4	1	1	0
<b>Police services</b>	0	2	2	1	1
<b>Fire services</b>	1	3	1	0	1
<b>Ambulance services</b>	0	2	3	1	0
<b>Coordination of housing for response crews</b>	1	2	2	1	0
<b>Identification of priority areas to protect</b>	2	1	2	0	1
<b>Coordination of evacuation/housing evacuees</b>	4	1	1	0	0
<b>Oil containment and clean up</b>	0	1	4	1	0
<b>Declare state of local emergency</b>	5	1	0	0	0
<b>Oily waste disposal</b>	0	0	4	2	0
<b>Manage logistics (heavy equipment and crews)</b>	1	1	4	0	0
<b>Participate in Unified Command</b>	1	5	0	0	0

## **4.2.7. Formalization of Activities in Local Government Policies or Statutes**

Using the same series of activity areas, respondents were asked to indicate whether these activities had been formalized within local government policies/statutes or with senior spill response partners. The results are presented below.

***Communication to residents about relevant emergency matters***

Three respondents indicated that this activity had been formalized within local government policies or statutes, while three reported that this activity had not been formalized.

***Coordination of volunteers***

Two respondents indicated that this activity had been formalized within local government policies or statutes while another noted that the activity had been formalized with senior spill response partners. Three reported that this activity had not been formalized.

***Management of traffic***

One respondent indicated that this activity had been formalized within local government policies or statutes while another noted that the activity had been formalized with senior spill response partners. Three reported that this activity had not been formalized.

***Police services***

One respondent indicated that this activity had been formalized within local government policies or statutes while another noted that the activity had been formalized with senior spill response partners. Three reported that this activity had not been formalized.

***Fire services***

One respondent indicated that this activity had been formalized within local government policies or statutes while another noted that the activity had been formalized with senior spill response partners. Three reported that this activity had not been formalized.

***Ambulance services***

Two respondents indicated that this activity had been formalized with senior spill response partners. Three reported that this activity had not been formalized while indicated that they were unsure.

***Coordination of housing for response crews***

One respondent indicated that this activity had been formalized within local government policies or statutes. Three reported that this activity had not been formalized while two indicated that they were unsure.

***Identification of priority areas to protect***

One respondent indicated that this activity had been formalized within local government policies or statutes. Three reported that this activity had not been formalized while two indicated that they were unsure.

***Coordination of evacuation and housing evacuees***

Two respondents indicated that this activity had been formalized within local government policies or statutes. Three reported that this activity had not been formalized while one indicated that they were unsure.

***Oil containment and clean up***

Three respondents indicated that this activity had not been formalized within local government policies or statutes while three reported that they were unsure.

***Declare state of local emergency***

Four respondents indicated that this activity had been formalized within local government policies or statutes while two reported that this activity had not been formalized.

***Oily waste disposal***

One respondent indicated that this activity had been formalized within local government policies or statutes. Three reported that this activity had not been formalized while two indicated that they were unsure.

***Manage logistics (e.g., heavy equipment and crews)***

One respondent indicated that this activity had been formalized within local government policies or statutes. Three reported that this activity had not been formalized while two indicated that they were unsure.

***Participate in Unified Command***

One respondent indicated that this activity had been formalized within local government policies or statutes. Three reported that this activity had not been formalized while two indicated that they were unsure.

These findings are summarized in Table 43 below.

**Table 43. Formalized within Local Government Policies/Statutes or with Response Partners**

	Formalized in local government policies/statutes	Formalized with other emergency response partners	Not formalized	Unsure
Communication to residents about relevant emergency matters	3	0	3	0
Coordination of volunteers	2	1	3	
Management of traffic	1	2	3	0
Police services	1	2	3	0
Fire services	1	2	3	0
Ambulance services	0	2	3	1
Coordination of housing for response crews	1	0	3	2
Identification of priority areas to protect	1	0	3	2
Coordination of evacuation and housing evacuees	2	0	3	1
Oil containment and clean up	0	0	3	3
Declare state of local emergency	4	0	2	0
Oily waste disposal	1	0	3	2
Manage logistics (e.g., heavy equipment and crews)	1	0	3	2
Participate in unified command	1	0	3	2

#### 4.2.8. Local Government Confidence in Fair Compensation for Cost of Response and Recovery

Respondents were asked to indicate the extent to which they felt confident that their local government would be fairly compensated for its costs of response and recovery in the event of a marine oil spill. One respondent was not at all confident while two were confident to a small extent. One was confident to a moderate extent while another was confident to a large extent. Another respondent was unsure that they would be fairly compensated.

**Table 44. Local Government Confidence in Fair Compensation for Cost of Response and Recovery**

	Number	Percent
To a very great extent	0	0
To a large extent	1	17
To a moderate extent	1	17
To a small extent	2	33
Not at all confident	1	17
Unsure	1	17
<b>Total</b>	<b>6</b>	<b>100</b>

#### 4.2.9. Sufficiency of Resources to Respond Adequately in a Marine Oil Spill

Respondents were asked to indicate the extent to which they agreed that their local government had sufficient resources to respond adequately in the event of a marine oil spill. All the respondents disagreed with this statement, either strongly (4) or moderately (2).

**Table 45. Sufficient Local Government Resources to Respond Adequately in Event of Marine Oil Spill**

	Number	Percent
Strongly agree	0	0
Largely agree	0	0
Moderately agree	0	0
Moderately disagree	2	33
Strongly disagree	4	67
<b>Total</b>	<b>6</b>	<b>100</b>

#### Extent local government faces shortage of resources

Respondents were asked to indicate the extent to which they felt their local government faces a shortage of resources regarding:

- Personnel;
- Infrastructure;
- Planning; and,
- Financial resources.

Most or all respondents said their local government has a substantial shortage of resources to respond to a marine oil spill in three of the areas: personnel, infrastructure and financial resources.

Regarding a shortage of planning resources, the responses were: “to a very great extent” (1), to “a large extent” (2), “to a moderate extent” (2), and “to a small extent” (1).

Overall, the respondents generally reported less of a shortage of planning resources than of the other types of resources for responding to a marine oil spill. While respondents were not asked to elaborate, this result may be due to the fact that the respondent themselves, as emergency planners for the local government, represented planning resources for the local government.

The following series of tables reports the extent to which respondents reported a shortage of resources of these four types. The final table ranks the different types of resources in terms of the extent to which respondents reported facing a shortage of resources “to a very great extent” or “to a large extent.” All respondents felt that there was a lack of financial resources while five out of six reported this to be the case for personnel and infrastructure.

**Table 46. Extent Local Government faces Shortage of Resources: Personnel**

	Number	Percent
To a very great extent	3	50
To a large extent	2	33
To a moderate extent	0	0
To a small extent	1	17
Not at all	0	0
Total	6	100

**Table 47. Extent Local Government Faces Shortage of Resources: Infrastructure**

	Number	Percent
To a very great extent	3	50
To a large extent	2	33
To a moderate extent	1	17
To a small extent	0	0
Not at all	0	0
Total	6	100

**Table 48. Extent Local Government Faces Shortage of Resources: Planning**

	Number	Percent
To a very great extent	1	17
To a large extent	2	33
To a moderate extent	2	33
To a small extent	1	17
Not at all	0	0
Total	6	100

**Table 49. Extent Local Government Faces Shortage of Resources: Financial Resources**

	Number	Percent
To a very great extent	4	67
To a large extent	2	33
To a moderate extent	0	0
To a small extent	0	0
Not at all	0	0
<b>Total</b>	<b>6</b>	<b>100</b>

**Table 50. Extent Local Government Faces Shortage of Resources: Overall Ranking**

	Number	Percent
Financial resources	6	100
Infrastructure	5	83
Personnel	5	83
Planning	3	50

#### 4.2.10. Collaboration, Preparation and Impediments to Strengthening Preparedness for a Marine Oil Spill

##### **Local Government Opportunity to Share Local Knowledge/Perspective in Development of Regional Marine Oil Spill Response Planning and Processes**

Respondents were asked to indicate the extent to which they felt their local government had adequate opportunities to share local knowledge and perspective in the development of regional marine oil spill response planning and processes. Five of six respondents indicated that their local government had this opportunity only to a small extent (2) or not at all (3). However, one respondent reported that his or her local government had to a large extent enjoyed this opportunity.

**Table 51. Local Government Opportunity to Share Local Knowledge/Perspective in Development of Regional Marine Oil Spill Response Planning and Processes**

	Number	Percent
To a very great extent	0	0
To a large extent	1	17
To a moderate extent	0	0
To a small extent	2	33
Not at all	3	50
<b>Total</b>	<b>6</b>	<b>100</b>

## **Local Government Preparations for a Marine Oil Spill**

When asked to describe what their local government is currently doing to prepare for a marine oil spill that would affect their local government, there was a range of responses which are summarized in bullet point form below:

- Develop and maintain a Marine Incident Contingency Plan outlining responsible agencies/parties (spiller, CCG, BC MOE);
- Maintain open communication with key agencies/liase with regional stakeholders;
- Identify sensitive areas as priority for cleanup;
- We are drafting a new emergency plan;
- Conduct an exercise program with staff twice a year; and,
- Write a formal letter to indicate dissatisfaction with the length of time allowed prior to any need to respond to a spill, and to request that these timelines be revisited.

Two respondents said that as marine oil spill response is not a local government responsibility their local government was therefore doing nothing in this regard.

## **Local Government Priorities in Strengthening Marine Oil Spill Preparedness**

Respondents were asked to describe what their local governments consider as key priorities for strengthening their marine oil spill preparedness. Respondents provided a list of priorities including the following:

- Liaising, communicating and developing clearer lines of communication with senior partners;
- Preparing a spill response plan;
- Purchasing oil spill containment equipment;
- Training staff and volunteers on local response procedures;
- Participating in exercises for a marine spill; and,
- Identifying sensitive ecological, environmental and cultural areas.

It is interesting to note that a number of respondents prioritized actions and activities which involved liaising, communicating and developing clearer lines of communication with senior partners. Below are the kinds of improvements to communication and role definition expressed by respondents:

- Develop relationships with responsible agencies including WCMRC;
- Request the Province and federal government to present and clarify their specific preparations and roles;
- Clearly identify the lead response agencies;
- Develop a clearer understanding as to which partners do what;
- Develop better communication with the Coast Guard;
- Work with WCMRC to identify sensitive ecological, environmental and cultural areas;
- Develop clear understanding and contact information for key emergency response agencies; and,
- Seek more formalized articulation of roles and responsibilities for local governments.

## Impediments to Strengthening Preparedness for a Marine Oil Spill

Respondents were asked to indicate the three greatest impediments to their local government strengthening its preparedness for a marine oil spill. Responses were categorized by the type of impediment, and the frequency with which each impediment was indicated is provided in the table below.

The most frequently stated impediments were lack of capacity to respond, and lack of funding. Other impediments stated by more than one respondent were the absence of jurisdictional authority, inadequate dialogue with senior partners, and the presence of other priority emergency planning issues. One respondent cited lack of personnel/resources as an impediment. The following table summarizes the responses received.

**Table 52. Impediments to Strengthening Preparedness for a Marine Oil Spill**

	Number
Lack of capacity to respond	5
Lack of funding (e.g., for training and equipment)	4
No jurisdictional authority	3
Inadequate dialogue with senior partners	3
Other higher priority emergency planning issues (e.g., earthquakes)	2
Lack of personnel/resources	1

## Supports to Improve Local Government Readiness to Protect Environment/Community

Respondents were asked to indicate what types of supports they felt could be put in place to improve their government's readiness to protect the environment and community in the event of a marine oil spill. The following is a list of the types of supports suggested by respondents:

- Training;
- Planning and coordination with local responders;
- Equipment for first response;
- Funding;
- Staff time;
- A clear communications strategy detailing responsible parties for various activities; and,
- A strategy for containment and shoreline clean-up.

Three of six respondents cited communication and clarity from senior partners around roles and responsibilities. The most specific of these comments sought to put into place specific response agreements by all levels of government and contractors to assist in providing clarity and greater certainty.

Other types of supports that respondents indicated would assist in response readiness included training, equipment/resources for first response and funding. One respondent noted that "extensive resources, training and funding...[are]not available at this time and since this is primarily a federal and provincial jurisdiction, [there is] minimal support for adding such services at the local government level."

Another respondent captured the prevailing attitude among respondents —“the key is to know who is responsible for the response, their types of preparations, and finally, how the local government can tap into this. Communication is crucial.”

**Table 53 Supports to Improve Local Government Readiness to Protect Environment/Community**

	<b>Number</b>
<b>Communication/clarity from senior partners around roles and responsibilities</b>	3
<b>Training</b>	2
<b>Equipment/resources</b>	2
<b>Funding</b>	2
<b>Staff time</b>	1

### **Implementation and Payment for Supports**

Respondents were then presented with an open ended question asking them to indicate who they thought should implement and pay for the types of supports outlined above which could help improve local governments’ readiness to protect the environment and community in the event of a marine oil spill. Some respondents provided more than one response to this question.

As shown in Table 54, respondents reported that various parties, including the federal government, the provincial government and the responsible party (the “spiller”) should be responsible for implementation and payment. The majority of respondents said that the spiller should be responsible for providing financial supports although others felt that the Province and/or federal government had an important role to play.

Generally speaking, respondents agreed that the senior levels of government (federal and provincial) should both implement and pay for additional supports to local government to improve marine oil spill readiness. Four of six respondents felt that the spiller should pay for additional supports.

**Table 54. Responsibility for Implementation of Supports to Improve Local Government Readiness**

	<b>Implementation</b>	<b>Payment</b>
<b>Federal government</b>	2	3
<b>Provincial government</b>	2	3
<b>“Senior partners”</b>	1	0
<b>The party responsible for the spill (“spiller”)</b>	1	4
<b>Independent contractors</b>	1	0

### **Local Government Contributions to Improving State of Preparedness**

Respondents were asked about the contributions local governments can make in improving the state of marine oil spill preparedness. The following responses were provided:

- Communication with members of the public;
- Establishment and effective use of local communications networks;
- Environmental advocacy ;

- Act as an intervenor at the NEB hearings; and,
- Assistance in setting up spill response teams.

Many respondents reported that local government could provide support such as facilities for staging equipment, personnel, water craft and other in kind supports. Advocacy, local communications networks, knowledge of environmentally/culturally sensitive areas was also mentioned. One respondent made a point of indicating that the jurisdictional and legislative restrictions were such that no preparedness contributions by local government were possible.

**Table 55. Local Government Contributions to Improving State of Preparedness**

	<b>Number</b>
<b>Support to lead response agencies (facilities for staging equipment, water craft, personnel)</b>	3
<b>Advocacy (including NEB review intervenor status)</b>	1
<b>Local communications networks</b>	1
<b>Local knowledge of environmentally and culturally sensitive areas</b>	1
<b>No preparedness contributions by municipal government is possible</b>	1

### **Engagement with Trans Mountain**

Respondents were asked to describe any engagement their local government had had with Trans Mountain regarding the pipeline and marine terminal expansion project. The majority of respondents indicated that their local government had had no engagement with Trans Mountain. One respondent noted that their local government had had some limited communication with Trans Mountain due to their status as an intervenor at the NEB review.

These results are notable in the context of Trans Mountain’s statement that it had been “engaging with communities along the pipeline and marine corridor since 2012” and that it was confident that there has been “broad and meaningful communication with local government officials along the marine route.”

### **Local Government Concerns about Consequences of Marine Oil Spill**

Respondents were asked to describe their major concerns about the consequences of a potential marine oil spill in or near their community. All respondents noted the effects on environment or on specific facets of the environment including marine life, beaches and shoreline. Impacts on tourism, fisheries, recreation, human and community health, the economy and First Nations cultural sites were also mentioned. The possible cost borne by the local government for response and clean-up was noted as a concern. Of particular note was the array of concerns articulated by all respondents.

**Table 56. Local Government Concerns about Consequences of Marine Oil Spill**

	<b>Number</b>
<b>Environment (marine habitat/marine life, beaches and shoreline)</b>	6
<b>Tourism/Economy</b>	3
<b>Fisheries</b>	4
<b>Health</b>	2
<b>Recreation</b>	2
<b>First Nations cultural sites</b>	1

## **Local Government Involvement in Response to a Marine Oil Spill**

Respondents were asked to describe the types of roles they believed their local government would play in the event of a marine oil spill near their community. Most respondents specified that their local government would serve in a support role to the senior response partners although one respondent suggested a willingness to provide limited resources to containment and cleanup (watercraft, booms, personnel such as volunteers). Strong emphasis was placed on a few key activities, including: communicating with lead agencies, working with them to establish an emergency operations centre, providing public information, and coordinating volunteers. Key roles for local government envisaged by respondents were the following:

- Open/contribute to an emergency operations center;
- Communicate/liaise with key agencies;
- Public information on spill impacts/risks (especially to address public health and safety);
- Volunteer management/coordination; and,
- Support to lead response agencies (facilities for staging equipment).

## **Local Government Participation in WCMRC-led Initiative**

Respondents were asked to describe the type of activities their local government had participated in under the lead role of WCMRC. Half of all respondents did not believe that WCMRC had initiated any initiatives with their local government. Some respondents spoke of a limited “bit player” role (for their local government) in “table top” exercises that WCMRC had initiated, in one case, five years earlier. One respondent stated that their local government was participating with WCMRC in a ‘sensitive areas identification and mapping project’.

## **Strengthened Engagement between WCMRC and Local Government**

Respondents were asked to indicate whether they felt that strengthened engagement between WCMRC and their local government would be desirable and how any deeper engagement would best be accomplished. The most frequently cited desire from respondents was for greater clarity around roles and responsibilities of both the senior partners and of the local government in the event of a spill, and for greater information sharing on specific planning and response procedures. One respondent expressed an interest in WCMRC leading emergency response training exercises specifically around the kinds of support roles that local governments should play in the event of a marine oil spill. Another respondent believed it would be desirable if WCMRC took over responsibility for informing local governments of news of the spill from the entity responsible for the spill.

## **Local Government Contributions to Spill Response Quality**

Respondents were asked to describe the types of contributions their local government can make to improve the quality of response to a marine oil spill. The most frequently cited response was the local government’s ability to provide needed public information to its citizens. Other contributions cited by respondents were assistance with coordinating volunteers and support personnel, and coordinating evacuations. One respondent emphasized that while the local government best understood the local realities and could provide assistance and support based on this level of local knowledge, they would

first need to have a more open dialogue and communication with senior response partners to better understand the response plan and how the local government could best support the spill response.

### **Final Comments by Respondents**

Respondents were asked if they had any final comments to provide. Most respondents used this opportunity to reiterate a short list of key discussion points. The first key point was that oil spill response is the responsibility of the federal and provincial governments, and that local governments do not have the authority, jurisdiction or resources to deal with marine oil spills. The second key point made was that many respondents indicated a strong need for clearer communication from senior partners and a current lack of clarity exists concerning the response strategy of the senior spill response partners. Others used this opportunity to underscore the importance of this research, or to indicate that, with the shipping of fuels continuing to grow along the marine waters of BC, the concern within local coastal governments also continues to grow.

## **4.3. Feedback from Local Governments with Experience with a Marine Oil Spill**

A set of interviews was conducted with four coastal local governments in BC and the US with prior experience with a marine oil spill or marine hazard situation. The responses are noted below. Where significant differences appear between the US and Canadian responses, the difference are noted.

### **4.3.1. Local Government Concerns about Consequences of a Marine Oil Spill**

Respondents were asked to indicate their key concerns pertaining to a marine oil spill in or near their community. Respondents expressed strong concerns about the effect of a marine oil spill on public health (and the health of responders), economic impacts (fisheries, tourism, property values), and environmental concerns such as the impact on wildlife and the ecology were strongly expressed by respondents. Other concerns expressed were cultural impacts, and the lack of any planning for the management of volunteers in the event of a spill. Among Canadian respondents, concern was particularly pronounced regarding a perceived overall lack of clarity about the role of local authorities during a spill.

### **4.3.2. Local Government Involvement in Event of a Marine Oil Spill**

Respondents were asked to indicate how their local government would become involved in the event of a marine oil spill. The following actions were cited:

- Participation in the incident command structure;
- Immediate response by local fire fighters;
- Evacuation management and the set-up of shelter stations for residents;
- Shutdown of shoreline as required;
- Provision of facilities and staging locations for responders;
- Direct engagement in wildlife management work; and,
- Provision of information to the public.

Many of these actions came with significant qualifying statements. For example, with regard to the participation in the incident command structure, one respondent went on to indicate that, presently, there is no plan for local government involvement in this structure. Regarding shutdown of shoreline, the respondent added that shutting down shoreline terrain would require significant resources which are rendered more challenging in the absence of support or leadership from senior levels of government. Regarding the provision of information to the public, a respondent anticipated that the public need for information during a crisis would likely overwhelm the local government's capacity to respond and that support and resourcing from senior partners would be needed for this response activity to run smoothly.

#### **4.3.3. Marine Oil Spill Preparedness within Local Government Planning Work**

Respondents were asked to indicate where marine oil spill preparedness planning falls within local government planning work. A number of respondents simply affirmed that this falls within the local government's Emergency Planning Office. Some respondents responded indirectly with comments such as the following:

- Since the senior partners have limited understanding of how local government would respond and what it could do to assist, there exists some confusion or lack of clarity as to the actual local government roles;
- Since it is the spiller which is mandated to pay for the response, the local government's response activities would need to be vetted and approved by the spiller prior to the local government being compensated for their role. (From the respondent's point of view, this lead to a considerable lack of clarity regarding the ability and/or willingness of local government to take an active role in the spill response);
- The experience of the local government with a significant spill serves to place greater pressure on the local government to clarify the exact nature of its role in the event of a future spill.

#### **4.3.4. Current Actions to Prepare and Plan for a Marine Oil Spill**

Respondents were asked to indicate what their local government was doing to prepare and plan for a marine oil spill affecting their community. Most respondents noted that their local government maintains a local emergency plan which includes provisions for a marine oil spill response. Respondents also identified the following activities being undertaken by their respective local government:

- Dedicating staff to participate in training response exercises;
- Ongoing engagement in planning conversations with senior partners in government and industry (e.g., to clarify the local government role in the incident command structure);
- Engagement in policy and legislative activities to help shape the requirements on responders and on industry;
- Identifying areas in the community for wildlife rehabilitation;
- Mapping of shoreline and identification of priority sensitive areas (e.g., tourism, environmental, economic role);
- Working to understand and manage volunteer engagement; and,
- Discussions with local health officials to determine potential impacts of marine oil spill on human health.

Some respondents expressed frustration in their attempts to prepare and plan for marine oil spills, saying that they have typically not been provided sufficient information about the risks and impacts of oil spills, or about what these substances could do if introduced to local coastal waters.

#### **4.3.5. Differences in Local Government Response between Marine Oil Spill and Other Types of Emergency Planning**

Respondents were asked to indicate the kinds of differences they saw between their local government's preparedness and planning for a marine oil spill versus other types of emergency situations. Some US-respondents said that the response system for marine oil spills is far more robust, practiced and supported than the response system for other disasters. They said that marine oil spill response includes strong state and federal response systems, requirements on industry to perform regular large scale exercises, and more robust and rapid financial compensation.

Another difference (between planning for marine oil spills and other types of emergencies) cited by both US and Canadian respondents is that the local government would not be in a position to take a lead role in the response to a marine oil spill, whereas it would be able to take a lead role for other emergency scenarios. One respondent added that while their local government has very clear response plans for various other emergency situations, in the context of a marine oil spill response, the local government feels that it is in a difficult position in that they have a very unclear understanding of how the senior response partners (and, by extension, the local government) would respond.

#### **4.3.6. Priorities for Strengthening Preparedness for a Marine Oil Spill Response**

Respondents were asked to indicate the types of priorities their local government would develop if it were to strengthen its preparedness for a marine oil spill. The most commonly expressed response was an interest in the conducting of joint training and education exercises with senior partners in government and the industry. These activities were considered essential for the development of an enhanced understanding of the intricacies of an actual real world spill response. The respondents also cited the following priorities for strengthening local government preparedness for a marine oil spill:

- Strong risk and consequence assessment, without which good planning becomes inhibited;
- Wildlife response capacity;
- Investment in air quality monitoring equipment;
- Investment in community notification systems;
- Adequate training opportunities
- Investment in boom and personal protective equipment;
- Greater investments by the spiller and the larger response system to ensure an adequate response to any spill if and when it occurs; and,
- Clear and direct information/communication about spill impacts and response/containment strategies.

### **4.3.7. Impediments to Strengthened Preparedness for a Marine Oil Spill Response**

Respondents were asked to indicate the types of impediments they felt could inhibit their local government's preparedness for a marine oil spill. A range of responses was provided and include:

- A lack of risk and consequence assessments (i.e., need for a broader discussion of the full impacts of a marine oil spill on a community);
- A lack of an adequate framework for developing response plans;
- A lack of clarity about expectations/role of local government in any spill response scenario;
- Failure to include local governments in the development of preparedness and response strategies;
- Lack of personnel to participate in training exercises and opportunities for them to engage in regular training exercises; and,
- The highly politicized landscape vis-à-vis oil spills which inhibits dialogue and communication between and amongst stakeholders. A more cooperative partnership between government, industry and stakeholders is required.

### **4.3.8. State of Local Government Preparedness in Case of a Marine Oil Spill**

Respondents were asked to describe their local government's state of preparedness for a marine oil spill. While most respondents reported that they felt their local government had achieved either a moderate or an advanced state of preparedness, a number of respondents qualified this statement noting that, depending on the size of the spill, their local government's state of preparedness could be downgraded to moderate or even limited. Others noted the limited resources and the small number of booms they have to be able to achieve a quick and effective response. One respondent indicated that their government had only a limited state of preparedness for a larger spill.

### **4.3.9. Supports to Improve Local Government Readiness to Protect Environment and Community**

Respondents were asked to describe the types of supports that could be put in place to improve local government's readiness to protect the community and environment. The responses included:

- Clarification of the response plan and the role of local governments within the plan;
- More mapping and modelling to help ascertain likely spill scenarios and best response practices;
- Development of geographic response strategies within the response planning activities;
- Support for identifying and storing equipment for rapid response; and,
- Work with volunteer coordination including more human resources to support this activity.

#### **4.3.10. Inclusion in Marine Oil Spill Preparedness and Training Exercises**

Respondents were asked to indicate whether their local government participated in marine oil spill planning/ preparedness/training efforts by senior partners. Some respondents acknowledged that their local government had been engaged in this way. One BC-based respondent said that their local government had had to “beg” to secure its involvement in some of these exercises.

The types of exercises included spill training exercises, planning, and contingency planning with Provincial/state and federal spill response partners leading the activities. One respondent stated that liaising with senior partners is a useful experience in helping to illustrate the gaps in the current regime, as well as to see where local government can fit into the broader response framework.

#### **4.3.11. Local Government Contributions to Preparedness and Training Exercises**

Respondents were asked to indicate the types of contributions local governments make to coordinated preparedness and training exercises with senior spill response partners. The following types of contributions were cited:

- The introduction of the local perspective including what local governments can offer to a coordinated spill response, as well as the types of expectations local governments have from senior partners;
- Knowledge of the local geographies (ocean currents, transportation logistics, clearance for roads, staging set up);
- Ability to address public information needs through existing communication channels; and
- Understanding of outstanding outreach and education needs.

#### **4.3.12. Effect of Participation in Coordinated Exercises on Local Government, Senior Agencies, and Region**

Respondents were asked to indicate whether local government participation in coordinated exercises with senior partners is beneficial to the local governments or to the senior partners.

With regard to the benefit for the local governments, opinion was split. While some respondents expressed the belief that participation was beneficial, others did not see the exercises as particularly helpful. One Canadian respondent stated that the exercises merely revealed a lack of coordinated planning amongst different agencies without leading to any significant improvements. Among those indicating that benefits occurred for the local government, it was said that the benefits were in terms of building knowledge about how the process works, and how local government can become better involved. One American respondent noted that participation in coordinated exercises also allowed the local government to bring its concerns to the table and to earn a meaningful voice at the incident command centre.

There was little concrete feedback with regard to whether local government participation in coordinated activities had any impact on other agencies. Some respondents stated it was difficult to know whether there was there was any impact.

When asked about benefits (of coordinated marine oil spill response exercises) for the region, respondents said that the exercises helped in this regard, primarily because such exercises allowed the different parties to see where gaps in the response plan existed, and for local actors to better comprehend the types of actions to be prioritized. One respondent stated that an exercise of this type helped only inasmuch as it forced them (the local government) to understand that they needed to take action themselves since it became evident that the senior agencies were failing to demonstrate appropriate concern for local issues.

#### **4.3.13. Efforts to Improve Planning and Preparedness Initiatives**

Respondents were asked to indicate the types of changes they felt could improve the existing planning and preparedness initiatives. Some respondents cited a lack of funding for local government participation, and said that improvements to ensure the exercises are more robust would require greater financial support from the senior levels of government. Others said that more exercises need to be held and that local government need to be invited to participate in such exercises on a more frequent basis. One specific comment was that the planning needs to focus more on contingency plans, e.g., poor weather, a shortage of trained personnel. Another comment was that the senior partners need to build greater trust and ensure more transparency with local governments and that this is something currently lacking in the dialogue between local governments and senior response partners.

#### **4.3.14. Engendering More Effective Participation in Collaborative Initiatives**

Respondents were asked to indicate the types of changes they felt could be introduced to allow their local government's participation in collaborative initiatives to become more effective. One American respondent concluded that their local government's level of participation in current initiatives is sufficient. Another stated that their local government would need more resources, such as staff time, and travel budget, to be able to engage more fully, particularly as spill response represents only one facet of their emergency planning responsibilities.

Some Canadian respondents stated that the contingency plans in American jurisdictions represent a stronger model which more clearly defines the tasks and responsibilities of the different parties. These respondents expressed a strong desire for the introduction of more structured planning and response strategies. In particular, some Canadian respondents stated that the federal government could do a great deal more in terms of clarifying response strategies and the roles and responsibilities of the different partners to help improve on existing arrangements, which one respondent felt were "deeply concerning."

## 5.0. Discussion

The literature review conducted as part of the research provides an overview of the existing marine oil spill preparedness, response and recovery regimes across three jurisdictions in the United States and Canada. A synthesis of the key findings of this comparative review of these marine oil spill regimes is provided in Section 5.1 below.

The key themes to emerge from the interviews with representatives of local governments in the Georgia Strait region and of local governments with prior experience with oil spills and marine hazards in their coastal waters are discussed in Section 5.2.

### 5.1. Discussion of the Case Study Findings

An important distinction needs to be made between the US and Canadian regimes which were examined. The oil spill regimes in both countries have federally appointed agencies mandated to address oil spills within their respective jurisdictions. However, in the US, local governments are also invested with some authority to articulate and specify the role they would take with regard to many of the potential local government activities associated with a marine oil spill. In British Columbia, local governments lack this type of authority. Correspondingly, BC local governments have far less documentation (policies and procedures) of the roles they would play across a range of marine oil spill activities. In the BC context, Western Canada Marine Response Corporation (WCMRC) is the federally designated Response Organization, and WCMRC is legislatively mandated to marshal the response to a marine oil spill. In practical terms, this means that the BC marine oil spill regime is effectively that of WCMRC. The Canada/US comparison therefore explores how effectively WCMRC has formalized and operationalized local government marine oil spill activities versus formalization and/or operationalization in the US, often directly by the local governments themselves.

The comparative analysis of the different regimes demonstrates clear differences between the US and Canadian regimes in terms of the degree to which responsibility for conducting some of the types of potential local government activities was adequately articulated. To take one example, both of the US regimes clearly articulate responsibilities for housing evacuees and response crews, whereas in BC it is unclear how these activities would be accomplished or which organization (if any) has the responsibility to accomplish these activities. Similarly, the two US regimes identify responsibility for coordinating evacuation, whereas the WCMRC documents do not identify which entities are responsible for coordinating evacuation. Also unlike the US regimes, the BC regime lacked a clear articulation of roles and responsibilities for the coordination of volunteer groups, and the types of activities to be carried out by volunteer groups.

The Canadian Coast Guard Contingency Plan acknowledges that first responders to a marine oil spill in any community are typically the local fire department or public works and that local governments can provide valuable local knowledge on ecological sensitive sites and what resources are available to assist in a response. However, WCMRC provides scant detail of the involvement of local governments.

There were some areas of commonality between the US and the Canadian regimes. However, in some instances, this was when regimes in the US mirrored the BC context in failing to articulate who had responsibility in the area of activity. For example, in the case of identifying priority areas to protect, the Seattle and BC regimes both lacked documentation.

With regard to the declaration of a state of local emergency, the BC Emergency Program Act authorizes local government to declare a state of local emergency. However, unlike the two regimes in the US, the BC regime lacks clear articulation of the process for deciding whether a state of local emergency should be declared. Acknowledgement of the responsibility of local government for this function is absent from the WCMRC documents.

Compared to the detailed descriptions of site specific strategies for oil spill clean-up that were available within both of the US regimes, there does not appear to be a comparable strategy for clean-up at specific sites within the BC regime.<sup>22</sup> A closer examination suggests that WCMRC documentation, while indicating which entities manage oil spill clean-up, does not provide detailed articulation of the particular roles and activities to be undertaken, or of the process of managing oil spill clean-up.

The review of the documentation of the BC marine oil spill regime, particularly the WCMRC documents, demonstrates that, in BC, there is a notable lack of coordination or collaboration regarding many of the potential local government activities. In addition, for some types of activities there is no clear articulation of which partner(s) is responsible for which activities.

This contrasts with the San Francisco and the Seattle regimes in which various local departments including, but not limited to, police, fire, ambulance, health, housing, and human services are given primary functions and responsibilities for responding to marine oil spills and other emergencies. Moreover, the formalized documents within the US regimes typically contained step-by-step procedures for carrying out specific response activities and can often be publically viewed in their respective Emergency Management departments. The Response Organization-based regime within BC largely lacks this type of formalized documentation and operational language clearly outlining roles and responsibilities of agents, or departments that would participate in an oil spill response, as well as specifics as to how they would participate and what roles they would play.

As the feedback from the interviews made apparent, coastal local governments in the Georgia Strait express a desire for greater clarity with regard to roles and responsibilities of the various spill partners, including, most immediately, local governments themselves. In addition, interview respondents from local government expressed strong interest in more regular and robust communication with senior spill response partners. In this way, the findings from the comparative analysis, most notably the relative absence of formalized and operationalized language attributing responsibilities for potential local government activities in relation to marine oil spills, also find expression in the results of the interviews with coastal local governments.

## 5.2. Discussion of the Interview Findings

Two key themes emerge from the wide range of comments and observations offered by respondents to the two sets of interview with local governments.

***Theme #1—Local governments in the Georgia Strait region desire enhanced communication from senior response partners and greater clarity about the roles and responsibilities of all spill response partners.***

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<sup>22</sup> It is important to note that WCMRC is engaged in developing various Geographic Response Strategies (GRS) for BC. A GRS is an immediate plan for the initial response in an emergency situation with the end goal being to protect sensitive natural and cultural features and reduce decision-making time in the event of an actual spill.

This emerged as the strongest single theme from the interview component of the research. The respondents expressed a deep desire for greater clarity with regard to roles and responsibilities of the various partners, as well as a strong interest in more regular and robust communication from senior spill response partners including more frequent training opportunities.

This desire was expressed in various ways by a number of respondents. For example, most respondents indicated that the rules/regime governing what municipalities should do to prepare for a marine oil spill were not very clear or not at all clear. The inconsistency between the different local governments that participated in this research in terms of the extent to which spill response activities are formalized in local government policies and statutes is also an indicator of a lack of clarity as to roles and responsibilities. As well, most respondents reported that they had not been requested by WCMRC to engage in planning and training for a response to a marine oil spill in the past five years. Those who reported some degree of engagement described the engagement as being quite modest. This stands in stark contrast to a response from an American respondent who noted that the response system for spills is robust, practiced and includes clear roles for all parties including state, federal and local government. In addition, American respondents reported having in place clear requirements on industry to perform regular large scale exercises. Feedback of this nature delineating key strengths of the local regime in place was not typically forthcoming from the large majority of BC based respondents.

Many Canadian respondents reported an eagerness to see a strengthened engagement between WCMRC and their local government. In addition, one of the most consistently cited impediments to strengthening local government preparedness for a marine oil spill was the lack of communication with senior partners. Similarly, in the event of a marine oil spill, clarity and communication with/from senior response partners emerged as a key issue for improving local government's readiness to protect the environment and community.

Finally, in terms of key priorities for strengthening marine oil spill preparedness, many of the responses focussed on action to help strengthen coordination, improve communication and build effective partnerships and relationships across the key agencies and organizations. The regularity with which these types of concerns were presented by the Canadian respondents as important local government priorities, strongly suggests that these local governments are anxious to improve the level of clarity that exists vis-a-vis roles and responsibilities within the spill response framework.

In summary, poor and limited communication with senior response partners, most notably a lack of clarity around the specific roles and responsibilities of the different response partners emerged as a major concern among Canadian respondents. This finding is consistent with the findings from the comparative analysis of oil spill regimes in BC and in select US jurisdictions.

***Theme #2—Local governments in the Georgia Strait region feel unprepared and unable to effectively participate in spill preparedness and response, both from a legislative and jurisdictional point of view and in terms of resources and capacity.***

A second key theme which emerged from the interviews is that coastal local governments often feel they are both unable and unprepared to engage in spill preparedness and response. This position arises both from legislative and jurisdictional limits placed on local governments in the marine oil spill regime (particularly within the Canadian context). It is also due to the limited resources and capacity of local governments.

Respondents acknowledged the very limited role that their local government is able to play, often noting that their circumscribed role has a strong basis in the guiding legislative/jurisdictional framework in British Columbia. They further noted that local governments possess only limited capacity and resources that they can bring to bear on a spill response.

Local governments in BC therefore appear to feel thrice removed from the response regime—they lack the legislative authority, they have little logistical or financial capacity to be able to respond, and they experience limited and fragmented communication from senior response partners. Therefore, while often expressing a willingness to participate in spill preparedness and response, local governments are clearly indicating that they lack both the authority and the capacity to effectively do so.

For example, all respondents noted that their local government lacked adequate resources to respond in the event of a marine oil spill. Most respondents also articulated a significant or total lack of resources in their ability to respond to a marine oil spill across particular dimensions such as personnel, infrastructure and financial resources.

The majority of respondents reported that their local government had placed a low priority on developing a detailed plan for responding to a marine oil spill. In fact, all but one respondent reported that their local government has either limited preparedness or complete non-preparedness in the event of a marine oil spill. The openness with which respondents acknowledge their limited preparedness may stem from the guiding legislative framework which delegates responsibility to WCMRC and other agencies from the Province and federal governments, or from the fact that many respondents felt that communication from senior partners was generally poor and sporadic and lacking in specificity with respect to roles and responsibilities. This finding is reinforced by the results of the comparative analysis which observed that few of the potential local government spill response activities had been operationalized within the BC context.

Respondents clearly acknowledged that for the large majority of spill response activities, WCMRC and other senior response partners would take the lead role. For two of the fourteen spill related activities, however (the coordination of evacuation and housing evacuees, and the declaration of a state of local emergency), a majority of the Canadian respondents believed the local government should take a lead role.

Because the role of local government within the Canadian context is limited, both from a legislative perspective and as a practical consideration of the resources local government can bring to bear - many coastal local governments are candid in speaking of their limited state of preparedness.

At the same time, some respondents went on to clearly articulate specific areas and activities where they felt they could play a role regarding marine oil spills. There is a considerable degree of willingness on the part of local governments interviewed for this research to take active roles in the spill response regime, but that willingness may be frustrated by the legislative framework, the lack of resources, as well as current framework for communication between senior spill response partners and coastal local governments. Within this context, it may not be surprising that many respondents appear eager to seek further clarification as to appropriate local government roles and responsibilities as envisaged by the federal government lead agencies and the Province of BC.

## 6.0. Conclusions and Recommendations

The conclusions presented below are organized according to the five guiding research questions presented in Section 1.

### 6.1. Conclusions

#### 1. What roles do coastal local governments in the Georgia Strait region play regarding marine oil spills (before, during and after)?

In the marine oil spill regimes of both BC and the two US areas (San Francisco and Seattle) studied, the lead responsibility for most activities is taken by designated response organizations, the Coast Guard, agencies of senior governments and the responsible party (“spiller”). However, local governments do have important roles to play. Local governments provide a lead or support role regarding:

- identification of priority areas to protect;
- communication to residents about emergency matters;
- declaring a state of local emergency;
- coordinating volunteers; and,
- coordinating and housing evacuees.

Local governments provide a support role or, at least, require regular briefings regarding:

- management of traffic;
- police services;
- fire services;
- ambulance services;
- coordination of housing for response crews; and,
- participation in Unified Command.

Local governments require regular briefings regarding:

- oil containment and clean-up;
- oily waste disposal; and,
- logistics (heavy equipment and crews).

The US marine oil spill regimes examined in this study display clear, publically available documentation about how local governments are involved in the preparation for, response to and recovery from a marine oil spill. In San Francisco and Seattle, local governments are actively engaged in regular preparations for a marine oil spill. Planning documents specify the activities that local governments are responsible for and provide specific procedures to ensure local governments are clear about their role as it relates to other lead and coordinating agencies.

In the marine oil spill response regime applicable to the Georgia Strait region, local governments are mentioned briefly in publically available documents but their roles and responsibilities are not identified in detail or at all. Even regarding the roles of senior partners, the BC marine oil spill regime lacks clear, public documentation specifying the boundaries of involvement, authorities, roles and specific tasks.

Local government representatives within the Georgia Strait region who were interviewed also expressed a lack of clarity regarding the roles of both local governments and senior partners, along with a desire for improved communications with senior partners.

## **2. What can be learned about the realities of coastal local government involvement in a marine oil spill from communities that have experienced one?**

Local governments that have experience with a marine oil spill underscored that they knew too little about the spill response framework before the spill occurred. Gaps they identified included:

- inadequate designation of parties for specific activities;
- failure to assess the equipment needed for spills of different sizes;
- absence of an acceptable time limit for responding to the spill; and,
- absence of funding for testing and remediation during the recovery process.

In general, local governments with marine oil spill experience have greater knowledge of the working mechanics of an oil spill response process and are able to see the gaps. In the case of the two US regimes studied, these gaps have been largely addressed by the collaborative work of all stakeholders. In BC, a lack of clarity regarding the role of local government continues to limit local government involvement in preparing for, responding to and recovering from a marine oil spill.

## **3. How effectively are local governments in the Georgia Strait region able to participate in the preparedness and response efforts led by other agencies?**

The authors identify 15 activities for potential local government involvement in a marine oil spill (before, during and after).<sup>23</sup> The degree to which Georgia Strait local governments may contribute to these activities is limited by the lack of defined formalized and operationalized roles and responsibilities for local governments. Despite this limitation, the interviewed local governments said they could contribute in various ways based on their unique knowledge of local realities, such as participating in the incident command structure, identifying sensitive marine and shoreline areas for priority protection, disseminating emergency information through their local networks, coordinating volunteers, managing evacuation if it becomes necessary, controlling access to shorelines as required, and providing facilities and staging locations for responders.

Unless and until communication and engagement is improved, and the clarity and specificity of the roles and responsibilities of local governments are better articulated, the unique and particular strengths of local governments to offer important contributions that could enhance the overall marine oil spill regime will remain underutilized. As stated above, this is what the interviewed local governments called for with some appreciable urgency.

## **4. Is the engagement and communication from senior marine oil spill response partners in BC adequate to allow local governments to effectively participate in multi-agency preparedness, response and recovery efforts?**

Local governments in the Georgia Strait region reported little or no engagement with WCMRC or other marine oil spill regime leaders regarding local government involvement in preparation for, response to and recovery from a marine oil spill. This is in stark contrast with many of the observed practices and

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<sup>23</sup> See Table 21.

protocols of the regimes that were examined in the US. Many of the interviewed local governments see themselves as well suited to contribute to particular activities regarding marine oil spills. However, the limited engagement by senior partners with local governments has led to a situation in which local governments lack both clarity and specificity about the roles they could play within the broader marine oil spill response regime applicable to the Georgia Strait region.

## **5. Are coastal local governments in the Georgia Strait region adequately prepared for a marine oil spill?**

The local governments in the Georgia Strait region who participated in this study generally see themselves as unprepared for a marine oil spill. They are mostly unclear about their roles before, during and after a marine oil spill. They feel unsupported in their efforts to gain clarity about their roles. Operationalized procedures for local government involvement in activities regarding marine oil spills in the Georgia Strait region are largely absent, presenting barriers for local governments to being prepared for involvement in a marine oil spill.

## **6.2. Recommendations**

The following recommendations are aimed at strengthening the marine oil spill regime applicable to the Georgia Strait region by enhancing local government preparedness and improving the definition and understanding of the roles and responsibilities of local governments as partners with federal and provincial agencies, WCMRC, First Nations and others.

**Recommendation 1:** The WCMRC Oil Spill Response Plans should be available in the public domain in BC. Currently they are not. In contrast, similar types of plans in areas such as San Francisco and Seattle are publically available.

**Recommendation 2:** Senior response partners should improve their communication and engagement with local governments regarding marine oil spill planning and training in the Georgia Strait region.

**Recommendation 3:** The federal government should take a lead role in creating a committee of representatives from WCMRC, federal and provincial agencies, coastal local governments, First Nations and key stakeholders. The Committee's mandate should be to clearly identify the roles and detailed operational responsibilities of all the relevant agencies, governments and entities, including local governments, regarding preparation for, response to and recovery from a marine oil spill in the Georgia Strait region. Coastal local government representatives should be provided with resources to participate in the work of the Committee to ensure their effective participation.

**Recommendation 4:** Following proper consultation (see Recommendation #3), the roles and responsibilities of all the involved parties, including local governments, should be clearly documented (i.e., both formalized and operationalized) in the plans of WCMRC, federal and provincial agencies, First Nations and local governments, with protocol agreements between the parties as necessary, in order to define a robust and effective marine oil spill regime for the Georgia Strait region.

**Recommendation 5:** Local governments in the Georgia Strait region should ensure that their emergency response plan addresses marine oil spills and that the plans provide operational detail about all the types of activities the local government is responsible for (whether in a leadership role or support role) before, during and after a marine oil spill. Additional resources should be provided to local governments to facilitate planning for and delivering activities related to marine oil spills.

**Recommendation 6:** Senior response partners should ensure that funding is not a barrier to local government participation in marine oil spill planning and training exercises.

# Appendix A: Interview Guide for Georgia Strait Region Coastal Local Governments

## Introduction

As an intervenor in the National Energy Board’s (NEB) review of Kinder Morgan’s proposed Trans Mountain Pipeline Expansion Project, the Georgia Strait Alliance (GSA) is developing an assessment of the oil spill preparedness and response capability of coastal local governments in the Georgia Strait region.

The assessment will include a systematic review of literature regarding municipal involvement in marine oil spill response, including documentation from coastal local governments, and a series of stakeholder interviews with representatives from coastal local governments and other key stakeholders. Given your role in local government, you have been selected to participate in an interview about coastal local government capacity to prepare for and respond to a marine oil spill. The interview will take approximately 40 minutes. Your participation in the interview process is entirely voluntary. You may skip any question that you do not want to answer and you may end the interview at any time. Any information that is collected will be reported in thematic and/or summary format only. Your interview responses will remain anonymous, unless you provide written consent to have a specific comment attributed to your local government. Any requests for the use of non-anonymous quotes will be submitted by a representative of the GSA in follow up to the interview.

By participating in this interview, you are consenting to have this information used by the GSA in their submission to the National Energy Board’s review of Kinder Morgan’s proposed Trans Mountain Pipeline Expansion Project.

- 
1. Do you agree to participate in this interview process under the conditions described above?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

## Section 1: Municipal profile

2. Please indicate the name of your municipality.
3. Please provide your job title.

## Section 2: Preparedness for Marine Oil Spill

4. Does your municipality have an emergency plan? If so, would it be possible to forward a copy or link to the plan?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. If yes, does that plan have provisions that are specific to how your municipality would respond to a marine oil spill?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Please describe what your local government is currently doing to prepare for a marine oil spill that would affect your municipality.

7. Does your municipality have a protocol document regarding oil spill responses with WCMRC or any other response partner? (If no, please move to Q. 8.)

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 7a. If yes, with what partner?

- 7b. If yes, is it a public document?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 7c. Would it be possible to obtain a copy?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. How high a priority would you say your municipality has put on developing a detailed plan to prepare for the possibility of a marine oil spill?

Very high priority	High priority	Medium priority	Low priority	No plan in place
<input type="checkbox"/>				

9. If your municipality was to decide to strengthen its preparedness for a marine oil spill what would you identify as the priorities?

- 1.
- 2.
- 3.

10. What do you see as being the 3 greatest impediments to your municipality for strengthening its preparedness for a marine oil spill?

- 1.
- 2.
- 3.

11. If a marine oil spill was to occur tomorrow, how would you describe your municipality's state of preparedness on the scale below:

Complete preparedness	Advanced Preparedness	Moderate preparedness	Limited preparedness	Complete non-preparedness
<input type="checkbox"/>				

12. Would you say that your municipality is concerned about its state of preparedness for a possible marine oil spill?

Very concerned	Fairly concerned	Somewhat concerned	Not overly concerned	Not at all concerned
<input type="checkbox"/>				

13. What supports (e.g., resources, capacity-building, training, coordination, etc.) could be put in place to improve your local government's readiness to protect your environment and community in the event of a marine oil spill?

13a. In your view, if these supports were going to be implemented, who should do this?

13b. Who should pay for them?

14. What contributions do you think local governments offer to improving the state of marine oil spill preparedness?

15. Do you feel that the rules/regime governing what municipalities must do to prepare for a marine oil spill are clear to your municipality?

Completely clear	Largely clear	Moderately clear	Not very clear	Not at all clear
<input type="checkbox"/>				

16. To what extent has your municipality accessed guidance or external support on best practices preparation for a marine oil spill (i.e., beyond the requirements of the Emergency Program Act).

To a very great extent	To a large extent	To a moderate extent	To a small extent	Not at all
<input type="checkbox"/>				

16a. If applicable, please describe.

16b. If applicable, could you share a copy or link to this guidance?

17. During the National Energy Board proceedings about the pipeline expansion, Trans Mountain wrote: “Trans Mountain has been engaging with communities along the pipeline and marine corridor since 2012. Trans Mountain is confident that there has been broad and meaningful communication with local government officials along the marine route...Trans Mountain has listened to concerns and interests of those stakeholders and has responded to questions any local government official has had relating to the Application”.

Please describe any engagement between Trans Mountain and your municipality regarding the pipeline and marine terminal project.

17a. In your view, did Trans Mountain listen to your municipality’s concerns and interests and did they respond to your municipality’s questions during the engagement process?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If possible, please provide examples.

17b. In your view, was the information provided to your municipality from Trans Mountain as part of this engagement process useful in terms of your municipality’s marine oil spill preparedness?

Extremely useful	Very useful	Moderately useful	Not particularly useful	Not at all useful
<input type="checkbox"/>				

18. Would your municipality support the establishment of a regional body, comprised of First Nations, local governments, citizens and other affected parties, charged with oversight of the marine oil spill response system to ensure on-going environmental and cultural protection?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section 3: Response to and Recovery from a Marine Oil Spill**

19. What concerns your municipality the most about the consequences of a marine oil spill in/near your community?

20. Has your municipality ever been involved in a marine oil spill? (If no, please move to Q 21.)

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20a. If yes, did your municipality have a plan to address an oil spill in place at the time?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20b. In your view, was the plan implementation successful?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20c. Has there been any change in your municipality's emergency plan (or other plans referencing oil spills) subsequent to the spill incident?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20d. What lesson(s), if any, would you say your municipality learned from the spill (including how it wishes to be engaged by its partners in future marine oil spill response situations)?

- 1.
- 2.
- 3.

20e. How did your municipality become involved and what specific role(s) did it play when the spill occurred?

20f. Do you have any documentation that you could share that would describe this process? (e.g. An after-action or after-incident report)

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20g. If yes, please provide a link or a document name below.

21. If your municipality has never been involved in a marine oil spill, in what ways do you see your municipality being involved in the response to an actual marine oil spill? What specific role(s) would the municipality likely take?

22. To what extent are you familiar with the role of the Western Canada Marine Response Corporation (WCMRC) in the context of addressing potential marine oil spills in British Columbia?

Completely familiar	Largely familiar	Moderately familiar	Slightly familiar	Not at all familiar
<input type="checkbox"/>				

23. On its website, WCMRC reports that, as a Transport Canada certified Response Organization, its mandate is “to ensure there is a state of preparedness in place and to mitigate the impact when an oil spill occurs.” WCMRC also states that “We work, train and exercise closely with a number of government departments including municipalities, port and harbour authorities, Canadian Coast Guard, Environment Canada, BC Ministry of Environment and Coastal First Nations.”  
To what extent has your municipality been requested by WCMRC in the past five (5) years to engage in planning or training for a response to a marine oil spill?

Extensive engagement	Moderate engagement	Occasional engagement	Rare engagement	No engagement at all
<input type="checkbox"/>				

23a. Has your municipality participated in any WCMRC initiative(s)?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23b. If yes, please describe the initiative(s) including any assistance WCMRC provided with practical aspects of your municipality’s preparations for a marine oil spill?

23c. In your view, did WCMRC listen to you municipality’s input during this/these initiative(s)?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23d. In your view, should engagement between WCMRC and your municipality be strengthened?

Yes	No	Unsure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23e. If so, how?

24. Do you feel that your municipality has been consulted by WCMRC in terms of providing feedback on geographic response strategies?

Strongly agree	Largely agree	Moderately agree	Moderately disagree	Strongly disagree
<input type="checkbox"/>				

25. Have any other response partners (BC Ministry of Environment, Coast Guard, US agencies, etc.) engaged you in any planning, training or exercise initiatives? (If yes, please specify.)

25a. If yes, please describe and share any comments you have on your municipality's experience and/or the outcomes of the initiative.

26a. Please indicate how your municipality believes it should be involved in the event of a marine oil spill in/near your community along a number of specific dimensions.

Activity	Lead Role	Support Role /in consultation with Lead Organization	Regular Briefing by Lead Organization	No Engagement	Unsure
Communication to residents about relevant emergency matters ( e.g., evacuation, inquiries, complaints, support services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordination of volunteers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management of traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ambulance services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordination of housing for response crews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identification of priority areas to protect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordination of evacuation and housing evacuees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil containment and clean up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Declare state of local emergency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oily waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing logistics (e.g., heavy equipment and crews)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participate in unified command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26b. Using this same list, please now indicate whether this kind of role has been formalized either within municipal policies or statutes, and/or with other emergency response partners such as WCMRC.

Activity	Formalized in municipal policies/ statutes	Formalized with other emergency response partners	Unsure
Communication to residents about relevant emergency matters ( e.g., evacuation, inquiries, complaints, support services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordination of volunteers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management of traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ambulance services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordination of housing for response crews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identification of priority areas to protect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordination of evacuation and housing evacuees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil containment and clean up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Declare state of local emergency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oily waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing logistics (e.g., heavy equipment and crews)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participate in unified command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

27. What particular contribution(s) do you think local governments offer to improve the quality of the spill response?

28. To what extent is your municipality confident that, in the event of a marine oil spill, it would be fairly compensated for its financial costs of response and recovery?

To a very great extent	To a large extent	To a moderate extent	To a small extent	Not at all confident	Unsure
<input type="checkbox"/>					

29. Do you agree that your local government has adequate resources to respond adequately in the event of a marine oil spill?

Strongly agree	Largely agree	Moderately agree	Moderately disagree	Strongly disagree	Unsure
<input type="checkbox"/>					

30. In your view, to what extent does your municipality face a shortage of resources in the following areas in the event of a marine oil spill?

Personnel

To a very great extent	To a large extent	To a moderate extent	To a small extent	Not at all	Unsure
<input type="checkbox"/>					

Infrastructure

To a very great extent	To a large extent	To a moderate extent	To a small extent	Not at all	Unsure
<input type="checkbox"/>					

Planning

To a very great extent	To a large extent	To a moderate extent	To a small extent	Not at all	Unsure
<input type="checkbox"/>					

Financial resources

To a very great extent	To a large extent	To a moderate extent	To a small extent	Not at all	Unsure
<input type="checkbox"/>					

31. Do you believe that your local government has had adequate opportunities to impart important local knowledge and perspective to the development of regional marine spill response planning and processes?

To a very great extent	To a large extent	To a moderate extent	To a small extent	Not at all	Unsure
<input type="checkbox"/>					

32. Do you have any other comments that you would like to share?

# Appendix B: Interview Guide for Coastal Local Government Representatives with Experience with a Marine Oil Spill or Marine Hazard Event

## Introduction

As an intervenor in the National Energy Board's (NEB) review of Kinder Morgan's proposed Trans Mountain Pipeline Expansion Project, the Georgia Strait Alliance (GSA) is developing an assessment of the oil spill preparedness and response capability of coastal local governments in the Georgia Strait region.

The assessment will include a systematic review of literature regarding municipal involvement in marine oil spill response, including documentation from coastal local governments, and a series of stakeholder interviews with representatives from coastal local governments and other key stakeholders.

Given your role in local government, you have been selected to participate in an interview about coastal local government capacity to prepare for and respond to a marine oil spill. The interview will take approximately 20 minutes. Your participation in the interview process is entirely voluntary. You may skip any question that you do not want to answer and you may end the interview at any time. Your interview responses will remain anonymous, unless you provide written consent to have a specific comment attributed to your local government, and any information that is collected will be reported in thematic and/or summary format only. Requests for the use of non-anonymous quotes will be submitted by a representative of the GSA in follow up to the interview.

By participating in this interview, you are consenting to have this information used by the GSA in their submission to the National Energy Board's review of Kinder Morgan's proposed Trans Mountain Pipeline Expansion Project.

- 
1. Do you agree to participate in this interview process under the conditions described above? (Yes/No)
  2. What concerns your municipality the most about the consequences of a marine oil spill in/near your community?
  3. Has your municipality ever been involved in a marine oil spill?
  4. **If yes to Q3**, how did your municipality become involved when the spill actually happened? Do you have any documentation that you could share that would describe this process?
  5. **If no to Q3**, how do you think your municipality might become involved in the event of a real-world marine oil spill?
  6. Where does marine oil spill preparedness, planning and response fit within your local government planning work?

7. Can you describe what your local government is currently doing to prepare and plan for a marine oil spill affecting your community?
8. From the perspective of your local government, how does what you are currently doing to prepare for a marine oil spill differ from how your local government would prepare and plan for other types of emergency preparedness and planning (e.g., earthquake)?
9. Please indicate how you see your local government being involved should a marine oil spill occur in/near your community?

Lead Role	Support role	No Role	Types of role
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Coordinate volunteer management
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Communication to residents about relevant emergency matters ( e.g., evacuation)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Management of traffic
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Coordinating housing for response crews
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Identification of priority areas to protect
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Coordination of evacuation and housing evacuees
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Oil containment and clean up
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Identification of resources that are needed to support an emergency response
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gather intelligence on response activities and communicate to other involved agencies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Respond to public concerns, inquires and complaints
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

14. If your municipality was to decide to strengthen its preparedness for a marine oil spill what would you identify as the priorities?
15. What do you see as being the impediments to your municipality for strengthening its preparedness for a marine oil spill?
10. If a marine oil spill was to occur tomorrow, how would you describe the adequacy of your municipality's state of preparedness to respond on the scale below:

Complete preparedness	Advanced Preparedness	Moderate preparedness	Limited preparedness	Complete non-preparedness
<input type="checkbox"/>				

Comments:

11. What other supports (e.g., resources, capacity-building, training, coordination, etc.) could be put in place to improve your local government's readiness to protect your environment and community in the event of a marine oil spill?
12. Have you (been invited to) participate(d) in marine oil spill risk assessment/planning /preparedness/training efforts by other agencies (federal, province, companies) (e.g., geographic response planning)? (Yes/No)
13. **If yes to Q12**, please describe the initiative.
14. **If yes to Q12**, what do you think local governments contribute to these efforts if they do get involved?
15. **If yes to Q12**, did your participation help your municipality?
16. **If Yes to Q12**, did the initiative help other agencies?
17. **If Yes to Q12**, did the initiative improve planning for your region?
18. **If Yes to Q12**, what could be done better about such efforts?
19. **If yes to Q12**, is there anything that would enable you to participate more effectively in the efforts of other agencies/businesses?
20. **If no to Q12**, why did you not participate?
21. Do you have any other comments that you would like to share?

## Appendix C: City and County of San Francisco Emergency Support Functions List

**ESF #1, Transportation:** Provides guidance for the effective coordination of citywide transportation response activities and identifies the actions of all involved entities during threatened or actual disaster events within the CCSF. The purpose of this function is to provide citywide coordination among aviation, maritime, surface, and railroad transportation activities, as well as between public and private organizations

**ESF #2, Communications<sup>24</sup>:** Provides the citywide capability to receive and transmit priority communications traffic during an imminent or actual emergency event that necessitates expanded coordination of communications systems. During such an event, ESF #2 will provide management, oversight, and coordination of communications functions among CCSF first responders, the CCSF EOC, City departments, and the general public.

**ESF #3, Public Works and Engineering<sup>25</sup>:** Provides guidance for initial size-up, rapid needs, and preliminary disaster safety reports on the areas that are affected, damaged, and destroyed during an emergency event. This information determines the need for and location of emergency access routes, the need for restoration of critical services, and prioritization of clean up and repair efforts. The City's Emergency Response Plan identifies the Department of Public Works as the Coordinating department for ESF # 3. ESF #3 responsibilities includes implementation strategies for debris clearance to allow for inspection and reconnaissance of damaged areas, the passage of emergency vehicles, personnel and lifesaving equipment, and the establishment of emergency contracting; repairing municipal facilities, roads, and structures; and supporting power, fuel, and potable water supplies.

**ESF #4, Firefighting:** Provides an organized local capability for effective fire management during a large scale event within the CCSF.

**ESF #5, Emergency Management:** Responsible for supporting overall incident management activities of the CCSF during a significant incident or planned event that exceeds the capacity of normal emergency response operations. During such circumstance, ESF #5 will provide potential local government management and administrative functions in support of the CCSF EOC and associated departmental and field operations.

**ESF #6, Mass Care, Housing and Human Services:** Includes three primary functions: (1) Mass Care, (2) Housing, and (3) Human Services. The purpose of this annex is to provide a framework for how CCSF will address the mass care, housing, basic health, and human service needs of persons affected by a disaster event

**ESF #7, Logistics:** Provides guidance for coordinating resources needed to support planned events, emergency response, and recovery operations. ESF #7 expands on CCSF ERP by providing additional information regarding management structure, processes, and protocols involved in identifying, requesting, ordering, acquiring, mobilizing, tracking, and reporting resources.

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<sup>24</sup> Footnotes 24 through to 28 refer to the difference in how the given ESF is noted in Seattle compared to San Francisco. Seattle Department of Emergency Management ESF 2: Information Technology.

<sup>25</sup> Seattle Department of Emergency Management ESF 3: Public Utilities.

**ESF 8#: Public Health:** DEM states “In development”

**ESF #9, Urban Search and Rescue:** Rapidly deploys search and rescue components to provide specialized lifesaving assistance during US&R operations within CCSF. The purpose of this annex is to provide an organized local capability for effective management of CCSF US&R operations.

**ESF #10, Oil and Hazardous Materials Response (Part A & Part B):** provides for a coordinated response to imminent or actual oil and hazardous materials incidents within CCSF that pose a threat to live, environment, and property.

**ESF #11, Animal Response<sup>26</sup>:** Provides guidance on the effective conduct of CCSF animal care responsibilities prior to, during, and immediately following a significant, large-scale incident. The purpose of this function is to adequately respond to and recover from emergencies involving animals and wildlife, when feasible, within CCSF.

**ESF #12, Water & Utilities<sup>27</sup>:** Provides guidance on local assistance and resources to enable restoration of water systems and utilities<sup>1</sup> in as soon as possible following a large-scale CCSF event. The purpose of this function is to identify water system and utility shortfalls, assist water system and utility providers with requests for emergency response assistance, and coordinate private and public sector response efforts to ensure timely restoration of water systems and utilities following a large-scale disaster or event.

**ESF #13, Public Safety and Security:** Department of Emergency Management states “In development”

**ESF #14, Recovery:** Department of Emergency Management states “In development”

**ESF #15, External Affairs<sup>28</sup>:** The Emergency Support Function (ESF) #15: Joint Information System (JIS) Annex provides guidance on the effective conduct of the City and County of San Francisco immediately following a significant, large-scale public event. The purpose of this function is provide accurate, coordinated, timely, and accessible information to the public, including governments partners, media, and the private sector, including people with disabilities and others with access and functional needs, and non-native English speakers.

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<sup>26</sup> Seattle Department of Emergency Management ESF 11: Agriculture.

<sup>27</sup> Seattle Department of Emergency Management ESF 12: Energy.

<sup>28</sup> Seattle Department of Emergency Management ESF 15: External Affairs.

## Appendix D: Systematic Literature Review Results

Literature sifting was completed to identify literature relevant to identifying potential local government activities and determining large differences in US and Canadian oil spill regimes. The Aquatic Sciences and Fisheries Abstracts, Environmental Sciences and Pollution Management and PAIS International databases returned 406 potential articles. After reviewing the scope of each abstract to determine whether the document pertained to the assessment of marine oil spill preparedness, response and recovery, the list of articles was reduced to 57. The articles were further stratified based on those reports taking place in the US and Canada. These and other database results can be viewed in Table 57 through Table 59.

**Table 57.** Systematic Literature Search Results

Database	Returns	Useful	US & Canada
<ul style="list-style-type: none"> <li>• ASFA: Aquatic Sciences and Fisheries Abstracts</li> <li>• Environmental Sciences and Pollution Management</li> <li>• PAIS International</li> </ul>	406	57	7
<ul style="list-style-type: none"> <li>• ASTIS: Arctic Science and Technology information System</li> </ul>	370	19	11
<ul style="list-style-type: none"> <li>• Google Broad Search</li> </ul>	x	9	4
<b>Total</b>	<b>776</b>	<b>175</b>	<b>22</b>

**Table 58. Related Assessments of Oil Spill Preparedness, Contingency and Recovery Plans in the US**

<b>Author(s)</b>	<b>Year</b>	<b>Title</b>	<b>URL</b>
<b>S.L. Ross Environmental Research Ltd.</b>	2014	AHMP Emergency Response: Are You Prepared? Professional Safety	<a href="http://search.proquest.com.ezproxy.library.ubc.ca/docview/1620539614?accountid=14656">http://search.proquest.com.ezproxy.library.ubc.ca/docview/1620539614?accountid=14656</a>
<b>US Coast Guard</b>	2014	Risk Assessment of Transporting Canadian Oil Sands: Report to Congress	<a href="http://cdn.assets.sites.launchrocketship.com/3ce74667-d320-4623-8287-04eee9a9f4f8/files/228e7627-c441-4229-86af-d21b54fc4b5a/20140529risk_assessment_of_transporting_canadian_oil_sands.pdf">http://cdn.assets.sites.launchrocketship.com/3ce74667-d320-4623-8287-04eee9a9f4f8/files/228e7627-c441-4229-86af-d21b54fc4b5a/20140529risk_assessment_of_transporting_canadian_oil_sands.pdf</a>
<b>Nuka Research &amp; Planning Group Pearson Consulting, LLC</b>	2010	Oil spill prevention and response in the US Arctic Ocean : unexamined risks, unacceptable consequences	<a href="http://caid.ca/PWEArc2010.pdf">http://caid.ca/PWEArc2010.pdf</a>
<b>World Wildlife Fund (US)</b>	2009	Not so fast: some progress in spill response, but US still ill-prepared for Arctic offshore development : a review of US Department of the Interior, Minerals Management Service's (MMS) Arctic Oil Spill Response Research and Development Program - a decade of achievement	<a href="http://assets.worldwildlife.org/publications/401/files/original/Not_So_Fast_Some_Progress_in_Spill_Response_but_US_Still_Unprepared_for_Arctic_Offshore_Development.pdf?1345754373&amp;_ga=1.55110510.414626181.1430951631">http://assets.worldwildlife.org/publications/401/files/original/Not_So_Fast_Some_Progress_in_Spill_Response_but_US_Still_Unprepared_for_Arctic_Offshore_Development.pdf?1345754373&amp;_ga=1.55110510.414626181.1430951631</a>
<b>Guevarra</b>	2008	Integrating local communities and resources into oil spill planning, preparedness and response	<a href="http://www.ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-591">http://www.ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-591</a>
<b>Hall &amp; Henry</b>	2008	Behavior-based safety processes in arctic oil spill response	<a href="http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-703">http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-703</a>
<b>Crosby &amp; Mattson,</b>	2008	The Alaska Shoreline Cleanup Guidance and Standards Manual	<a href="http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-1209">http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-1209</a>
<b>Owings, Gardner, Sifling, Rodden, &amp; Mattson</b>	2008	Canada - United States - Dixon Entrance (CANUSDIX) exercise: A model of international cooperation for planning and preparedness	<a href="http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-57">http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-57</a>
<b>Baker, Jeansonne, Henry, &amp; Tarpley</b>	2008	NOAA Office of Response and Restoration's role during oil spills where marine mammals are involved	<a href="http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-991">http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-991</a>
<b>Lehto</b>	2008	Where response meets natural resource damage assessment (NRDA)	<a href="http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-1153">http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-1153</a>
<b>McFarland</b>	2008	Planning for spill response tactics surrounding an active wetlands restoration project	<a href="http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-865">http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-865</a>
<b>Tuler, Thomas &amp; Kay</b>	2006	Environmental performance metrics for oil spill response	<a href="http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.387.2107&amp;rep=rep1&amp;type=pdf">http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.387.2107&amp;rep=rep1&amp;type=pdf</a>

**Table 59. Assessments of Oil Spill Preparedness, Contingency and Recovery Plans in Canada**

<b>Author(s)</b>	<b>Year</b>	<b>Title</b>	<b>URL or Database</b>
<b>US Coast Guard</b>	2014	Risk Assessment of Transporting Canadian Oil Sands: Report to Congress	<a href="http://cdn.assets.sites.launchrocketship.com/3ce74667-d320-4623-8287-04eee9a9f4f8/files/228e7627-c441-4229-86af-d21b54fc4b5a/20140529risk_assessment_of_transporting_canadian_oil_sands.pdf">http://cdn.assets.sites.launchrocketship.com/3ce74667-d320-4623-8287-04eee9a9f4f8/files/228e7627-c441-4229-86af-d21b54fc4b5a/20140529risk_assessment_of_transporting_canadian_oil_sands.pdf</a>
<b>AMEC Environment &amp; Infrastructure Beaufort Regional Environmental Assessment</b>	2014	Scoping, framework and process for the development of a regional waste management strategy in the Inuvialuit Settlement Region	ASTIS: Arctic Science and Technology information System
<b>WSP Canada Inc. to Transport Canada</b>	2014	WSP, Risk Assessment for Marine Spills in Canadian Waters: Phase 1, Oil Spills South of the 60th Parallel	<a href="http://wcel.org/sites/default/files/file-downloads/131-17593-00_ERA_Oil-Spill-South_150116_pp1-124.pdf">http://wcel.org/sites/default/files/file-downloads/131-17593-00_ERA_Oil-Spill-South_150116_pp1-124.pdf</a>
<b>Beaufort Regional Environmental Assessment</b>	2013	Inuvialuit, federal and territorial government mandates and roles for a tier 3 Beaufort Sea oil spill response	<a href="http://www.beaufortrea.ca/wp-content/uploads/2013/03/Roles-Beaufort-Tier-3-Spill.pdf">http://www.beaufortrea.ca/wp-content/uploads/2013/03/Roles-Beaufort-Tier-3-Spill.pdf</a>
<b>S.L. Ross Environmental Research Ltd.</b>	2013	BREA study on Inuvialuit community spill response training in the Beaufort region	<a href="http://www.beaufortrea.ca/wp-content/uploads/2013/03/NCR-5113693-v1-BREA_TRAINING_REPORT.pdf">http://www.beaufortrea.ca/wp-content/uploads/2013/03/NCR-5113693-v1-BREA_TRAINING_REPORT.pdf</a>
<b>Lee, et al.</b>	2011	Field trials of in-situ oil spill countermeasures in ice-infested waters	<a href="http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2011-1-160">http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2011-1-160</a>
<b>S.L. Ross Environmental Research Ltd.</b>	2011	Oil spill response gap assessment for the Canadian Beaufort Sea and Davis Strait	ASTIS: Arctic Science and Technology information System
<b>Huebert</b>	2011	Canada and the newly emerging international Arctic security regime	ASTIS: Arctic Science and Technology information System
<b>S.L. Ross Environmental Research Ltd.</b>	2010	Beaufort Sea oil spills state of knowledge review and identification of key issues	<a href="http://site.ebrary.com/lib/ubc/reader.action?docID=10490972">http://site.ebrary.com/lib/ubc/reader.action?docID=10490972</a>
<b>Potter</b>	2008	Oil spill preparedness, response and countermeasures planning in the Canadian Arctic	ASTIS: Arctic Science and Technology information System

## Appendix E: Literature Reviewed for Analysis of the Three Case Studies

**Table 60. San Francisco Literature Reviewed for Analysis**

Case Study Focus	Organization Issuing the Document	Document	URL and Date of Retrieval
San Francisco	San Francisco Department of Emergency Management	All Hazards Strategic Plan, 2008	<a href="http://sfdem.org/ftp/uploadedfiles/DEM/PlansReports/StrategicPlan2008.pdf">http://sfdem.org/ftp/uploadedfiles/DEM/PlansReports/StrategicPlan2008.pdf</a> , Accessed April 14, 2015 at 2:31 pm
		Hazard Mitigation Plan, 2014	<a href="http://sfdem.org/modules/showdocument.aspx?documentid=2328">http://sfdem.org/modules/showdocument.aspx?documentid=2328</a> , Accessed April 14, 2015 at 2:30 pm
		Emergency Response Plan (Emergency Support Function #1-15), 2009	<a href="http://www.sfdem.org/modules/showdocument.aspx?documentid=1455">http://www.sfdem.org/modules/showdocument.aspx?documentid=1455</a> , Accessed April 23, 2015 at 4:13 pm
		Non-Wildlife Volunteer Plan, 2011	Received document directly from Department of Emergency Management on May 12, 2015 at 2:18 pm
		Emergency Support Function #10: Oil and Hazardous Materials Response Annex (Part B: Marine Response)	Received document directly from Department of Emergency Management on April 28, 2015 at 8:42 pm
	California Department of Fish and Wildlife	San Francisco Area Contingency Plan, 2011	<a href="https://www.wildlife.ca.gov/OSPR/Preparedness/SF-Spill-Contingency-Plan">https://www.wildlife.ca.gov/OSPR/Preparedness/SF-Spill-Contingency-Plan</a> , Accessed April 14, 2015 at 1:30 pm

**Table 61. Seattle Literature Reviewed for Analysis**

Case Study Focus	Organization Issuing the Document	Document	URL and Date of Retrieval
Seattle	Puget Sound Harbor Safety Committee	Safety Plan, 2014	<a href="http://cdn3.assets.sites.launchrocketship.com/3ce74667-d320-4623-8287-04eee9a9f4f8/files/9b580bc6-b408-49da-a5a1-5ced42362a69/harbor_safety_plan_2014_final_04152014.pdf">http://cdn3.assets.sites.launchrocketship.com/3ce74667-d320-4623-8287-04eee9a9f4f8/files/9b580bc6-b408-49da-a5a1-5ced42362a69/harbor_safety_plan_2014_final_04152014.pdf</a> , Accessed on April 14, 2015 at 12:26 pm
	Regional Response Team/Northwest Area Committee	Contingency Plan, 2015	<a href="http://rrt10nwac.com/Files/NWACP/2015/Northwest%20Area%20Contingency%20Plan%202015.pdf">http://rrt10nwac.com/Files/NWACP/2015/Northwest%20Area%20Contingency%20Plan%202015.pdf</a> , Access on April 13, 2015 at 4:07 pm
	Washington State Department of Ecology	Washington State Oil Spill Contingency Plan, 2012	<a href="http://www.ecy.wa.gov/programs/spills/preparedness/cplan/Ch.173-182WAC.PDF">http://www.ecy.wa.gov/programs/spills/preparedness/cplan/Ch.173-182WAC.PDF</a> , Accessed on April 13, 2015 at 3:56 pm
		Spill Prevention, Preparedness, and Response Program 2013-2015	<a href="http://www.ecy.wa.gov/programs/spills/about_us/2013-2015ProgramPlan.pdf">http://www.ecy.wa.gov/programs/spills/about_us/2013-2015ProgramPlan.pdf</a> , Accessed on April 14, 2015 at 11:37 am
	Seattle Office of Emergency Management	Hazard Identification and Vulnerability Assessment	<a href="http://www.seattle.gov/Documents/Departments/Emergency/PlansOEM/SHIVA/SHIVAv6.3Final.pdf">http://www.seattle.gov/Documents/Departments/Emergency/PlansOEM/SHIVA/SHIVAv6.3Final.pdf</a> , Accessed on May 7, 2015 at 1:41 pm
	King County Office of Emergency Management	Seattle Disaster Readiness Response Plan (Emergency Support Function #1-14), 2012	<a href="http://www.seattle.gov/Documents/Departments/Emergency/PlansOEM/SDRRP/Final%20SDRRP%20V11-13-12.pdf">http://www.seattle.gov/Documents/Departments/Emergency/PlansOEM/SDRRP/Final%20SDRRP%20V11-13-12.pdf</a> , Accessed on May 7, 2015 at 1:40 pm
		Local Emergency Planning Committee Hazard Materials Plan	<a href="http://www.kingcounty.gov/safety/prepare/EmergencyManagementProfessionals/Plans/LocalEmergencyPlanningCommittee.aspx">http://www.kingcounty.gov/safety/prepare/EmergencyManagementProfessionals/Plans/LocalEmergencyPlanningCommittee.aspx</a> , Accessed on May 7, 2015 at 1:50 pm

**Table 62. Georgia Strait Region Literature Reviewed for Analysis**

Case Study Focus	Organization Issuing the Document	Document	URL and Date of Retrieval
Georgia Strait Region	BC Ministry of Environment	BC Marine Oil Spill Prevention and Preparedness Strategy, 2007	<a href="http://www2.gov.bc.ca/gov/DownloadAsset?assetId=EDBE6ACDC1FD40FBACC6FF2784C7CEBB&amp;filename=bc_marine_oil_spill_strategy.pdf">http://www2.gov.bc.ca/gov/DownloadAsset?assetId=EDBE6ACDC1FD40FBACC6FF2784C7CEBB&amp;filename=bc_marine_oil_spill_strategy.pdf</a> , Accessed on April 13, 2015 at 2:58 pm
		West Coast Spill Response Study (Vol 1): Assessment of British Columbia Marine Oil Spill Prevention & Response Regime, 2013	<a href="http://www.env.gov.bc.ca/main/west-coast-spill-response-study/docs/WestCoastSpillResponse_Vol1_InitialAssessment_130717.pdf">http://www.env.gov.bc.ca/main/west-coast-spill-response-study/docs/WestCoastSpillResponse_Vol1_InitialAssessment_130717.pdf</a> , Accessed on April 13, 2015 at 2:53 pm
		West Coast Spill Response Study (Vo. 3): World-Class Oil Spill Prevention, Preparedness, Response & Recovery System, 2013	<a href="http://www.env.gov.bc.ca/main/west-coast-spill-response-study/docs/WestCoastSpillResponse_Vol3_Analysis_130722.pdf">http://www.env.gov.bc.ca/main/west-coast-spill-response-study/docs/WestCoastSpillResponse_Vol3_Analysis_130722.pdf</a> , Accessed on April 13, 2015 at 2:55 pm
		British Columbia Marine Oil Spill Response Plan, 2013	<a href="http://wcmrc.com/wp-content/uploads/2013/06/BC-Ministry-of-Environment-Spill-Response-Plan.pdf">http://wcmrc.com/wp-content/uploads/2013/06/BC-Ministry-of-Environment-Spill-Response-Plan.pdf</a> , Accessed on April 28, 2015 at 2:05 pm
Greater Vancouver Regional District	Greater Vancouver Regional District	Hazard, Risk and Vulnerability Assessment, Electoral Area A Greater Vancouver Regional District, prepared by EmergeX Planning Inc., 2005	<a href="http://www.metrovancouver.org/services/regional-planning/PlanningPublications/ElectoralAreaAHRVA.pdf">http://www.metrovancouver.org/services/regional-planning/PlanningPublications/ElectoralAreaAHRVA.pdf</a> . Accessed on May 24, 2015 at 1:05 pm.
Western Canada Marine Response Corporation	Western Canada Marine Response Corporation	Information Handbook, 2012	<a href="http://wcmrc.com/wp-content/uploads/2013/06/WCMRC-Information-Handbook-2012.pdf">http://wcmrc.com/wp-content/uploads/2013/06/WCMRC-Information-Handbook-2012.pdf</a> , Accessed on April 29, 2015 at 2:24 pm
		Field Operations Guide, 2011: IC & Command Staff Section	<a href="http://wcmrc.com/wp-content/uploads/2013/06/FOG-IC-and-Command-Staff-Sept.-2011.pdf">http://wcmrc.com/wp-content/uploads/2013/06/FOG-IC-and-Command-Staff-Sept.-2011.pdf</a> , Accessed on May 7, 2015 at 3:54 pm
		Field Operations Guide, 2011: Logistics Section	<a href="http://wcmrc.com/wp-content/uploads/2013/06/FOG-Logistics-Section-Sept.-2011.pdf">http://wcmrc.com/wp-content/uploads/2013/06/FOG-Logistics-Section-Sept.-2011.pdf</a> , Accessed on May 7, 2015 at 3:53 pm
		Field Operations Guide, 2011: Operations Section	<a href="http://wcmrc.com/wp-content/uploads/2013/06/FOG-Operations-Section-Sept.-2011.pdf">http://wcmrc.com/wp-content/uploads/2013/06/FOG-Operations-Section-Sept.-2011.pdf</a> , Accessed on May 7, 2015 at 3:52 pm
		Field Operations Guide, 2011: Planning Section	<a href="http://wcmrc.com/wp-content/uploads/2013/06/FOG-Planning-Section-Sept.-2011.pdf">http://wcmrc.com/wp-content/uploads/2013/06/FOG-Planning-Section-Sept.-2011.pdf</a> , Accessed on May 7, 2015 at 3:54 pm

**Table 63. US Federal Government Literature Reviewed for Analysis**

Case Study Focus	Organization Issuing the Document	Document	URL and Date of Retrieval
US Federal Government	US Coast Guard	National Response Framework, 2007	<a href="http://www.nrt.org/production/NRT/RRTHome.nsf/Resources/RRTDocument1/\$FILE/NRF_USCG_CONOP.PDF">http://www.nrt.org/production/NRT/RRTHome.nsf/Resources/RRTDocument1/\$FILE/NRF_USCG_CONOP.PDF</a> , Accessed on April 14, 2015 at 2:18 pm
	US Environmental Protection Agency	Contingency Plan	<a href="http://www.epa.gov/superfund/policy/remedy/pdfs/40cfr300.pdf">http://www.epa.gov/superfund/policy/remedy/pdfs/40cfr300.pdf</a> , Accessed on April 14, 2015 at 10:38 am

**Table 64. Canadian Federal Government Literature Reviewed for Analysis**

Case Study Focus	Organization Issuing the Document	Document	URL and Date of Retrieval
Canadian Federal Government	Transport Canada	Canada Shipping Act, 2001	<a href="http://laws-lois.justice.gc.ca/PDF/C-10.15.pdf">http://laws-lois.justice.gc.ca/PDF/C-10.15.pdf</a> , Accessed on April 13, 2015 at 2:28 pm
		Response Organizations and Oil Handling Facilities Regulations	<a href="http://laws-lois.justice.gc.ca/PDF/SOR-95-405.pdf">http://laws-lois.justice.gc.ca/PDF/SOR-95-405.pdf</a> , Accessed on April 13, 2015 at 2:38 pm
	Canadian Coast Guard	Environmental Response	<a href="http://www.dfo-mpo.gc.ca/Library/336310e.pdf">http://www.dfo-mpo.gc.ca/Library/336310e.pdf</a> , Accessed on April 13, 2015 at 2:36 pm
		Marine Spills Contingency Plan National Chapter, 2011	<a href="http://www.ccg-gcc.gc.ca/folios/00025/docs/national-response-plan-2011-eng.pdf">http://www.ccg-gcc.gc.ca/folios/00025/docs/national-response-plan-2011-eng.pdf</a> , Accessed on April 13, 2015 at 2:35 pm
	Public Safety, Canada	Government of Canada, Federal Emergency Response Plan, 2011	<a href="http://www.publicsafety.gc.ca/cnt/rs/rcs/pblctns/mrgnc-rspns-pln/mrgnc-rspns-pln-eng.pdf">http://www.publicsafety.gc.ca/cnt/rs/rcs/pblctns/mrgnc-rspns-pln/mrgnc-rspns-pln-eng.pdf</a> , Accessed on April 13, 2015 at 2:51 pm
	Transport Canada	A Review of Canada's Ship-Source Oil Spill Preparedness and Response Regime, 2013	<a href="http://publications.gc.ca/collections/collection_2013/tc/T29-114-2013-eng.pdf">http://publications.gc.ca/collections/collection_2013/tc/T29-114-2013-eng.pdf</a> , Accessed on April 15, 2015 at 2:03 pm