

Maine Department
of
Environmental Protection

Marine Oil Spill
Contingency Plan

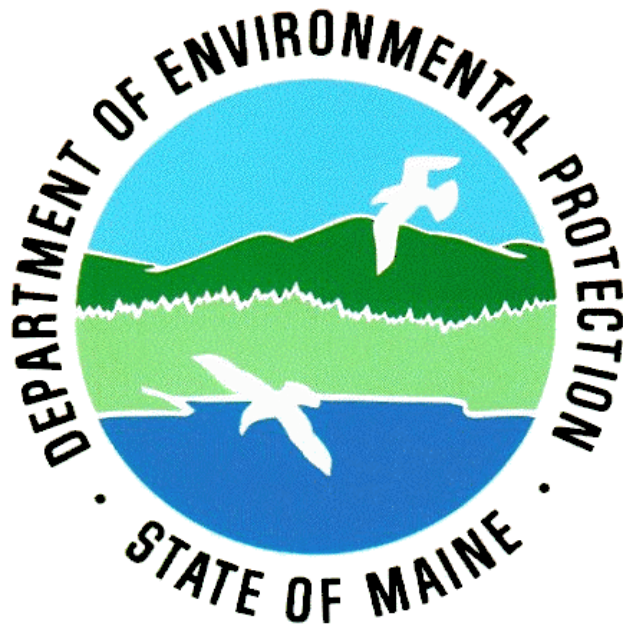




TABLE OF CONTENTS

	Page
SECTION 1 NOTIFICATION OF SPILLS	1
1.1. TELEPHONE NUMBERS FOR NOTIFICATION	1
1.2. INFORMATION REQUIRED AT NOTIFICATION	1
1.3. DEP NOTIFICATIONS	2
SECTION 2 LETTER OF PROMULGATION.....	3
SECTION 3 RECORD OF CHANGES	4
SECTION 4 DISTRIBUTION LIST	5
SECTION 5 INTRODUCTION	7
5.1. BACKGROUND.....	7
5.2. PURPOSE	7
5.3. AUTHORITY	8
5.4. SCOPE.....	8
5.5. ABBREVIATIONS.....	8
5.6. DEFINITIONS	9
5.7. SCHEDULE FOR AMENDMENT.....	10
5.8. OTHER CONTINGENCY PLANS.....	10
5.9. NATIONAL INCIDENT MANAGEMENT SYSTEM	10
SECTION 6 ROLES AND RESPONSIBILITIES	12
6.1. DEPARTMENT OF ENVIRONMENTAL PROTECTION	12
6.1.1. State Oil Spill Coordinator.....	12
6.1.2. State Field Response Coordinator.....	12
6.1.3. Program Bureaus.....	13
6.2. OTHER STATE AGENCIES	14
6.2.1. Department of Inland Fisheries and Wildlife.....	14
6.2.2. Department of Marine Resources	14
6.2.3. Department of Conservation	14
6.2.4. Maine Emergency Management Agency	15
6.2.5. Governor's Office.....	15
6.2.6. Maine Historic Preservation Commission	15
6.3. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES ...	15
6.4. REGIONAL RESPONSE TEAM.....	16
6.5. FEDERAL ON-SCENE COORDINATOR.....	16
6.6. FEDERAL AGENCIES	17
6.6.1. National Response Center.....	17
6.6.2. U.S. Coast Guard	17
6.6.3. U.S. Environmental Protection Agency.....	17
6.6.4. National Oceanic and Atmospheric Administration.....	18
6.6.5. U.S. Department of Interior	18
6.7. JOINT RESPONSE TEAM.....	18
6.8. LOCAL GOVERNMENT	19
6.9. RESPONSIBLE PARTY.....	19
6.10. OIL SPILL RESPONSE ORGANIZATIONS AND COOPERATIVES	20



6.10.1	Clean Harbors Environmental Services.....	21
6.10.2	Marine Spill Response Corporation	21
6.10.3	National Response Corporation.....	21
6.10.4	Penobscot River Oil Abatement Committee	21
6.10.5	Piscataqua River Cooperative.....	22
6.11	OIL SPILL CLEAN-UP CONTRACTORS	22
6.12	VOLUNTEERS	22
SECTION 7 RESPONSE OPERATIONS.....		23
7.1	DISCOVERY AND NOTIFICATION.....	23
7.2	PRELIMINARY ASSESSMENT	23
7.3	DEVELOP INCIDENT OBJECTIVES.....	23
7.4	CONTAINMENT AND CONTROL.....	24
7.4.1	Nature of a Spill.....	26
7.4.2	Containment of Oil	28
7.4.3	Airspace Restrictions	33
7.5	COMMUNICATIONS.....	34
7.5.1	Radios and Frequencies	34
7.5.2	State of Maine Concept of Operations Plan (CONOPS) for Incident Communications Interoperability.....	34
7.5.3	Cellular Telephone Use.....	37
7.5.4	Signals for Use on Site.....	37
7.6	WILDLIFE RELOCATION, DETERRENCE AND REHABILITATION	38
7.7	DISPOSAL.....	38
7.7.1	Oily Debris.....	38
7.7.2	Waste Oil	38
7.8	TEMPORARY STORAGE.....	38
7.9	NATURAL RESOURCE DAMAGE ASSESSMENT AND RESTORATION..	39
7.10	DOCUMENTATION AND COST RECOVERY	39
SECTION 8 RESOURCE PROTECTION PRIORITIES		41
8.1	BACKGROUND.....	41
8.2	PRIORITY AND PROTECTION GUIDELINES.....	41
8.2.1	Ability to Protect.....	42
8.2.2	Vulnerability	42
8.2.3	Replaceability	44
8.2.4	Ecological Significance	44
8.2.5	Social Significance.....	44
8.3	MAPS & INFORMATION	44
8.3.1	Geographic Response Plan (GRP).....	44
8.3.2	Environmental Vulnerability Index Maps	45
SECTION 9 WILDLIFE REHABILITATION		46
9.1	INTRODUCTION.....	46
9.2	RESPONSIBILITIES.....	46
9.2.1	State Law Mandates.....	46
9.2.2	Natural Resource Trustees	47
9.2.3	Interagency Agreements Regarding Wildlife Response Activities	47



9.3	OILED WILDLIFE RESPONSE PRIORITIES	48
9.4	ACTIVATION OF THE WILDLIFE REHABILITATION PLAN.....	48
9.4.1	Initiation.....	48
9.4.2	Implementation	51
9.4.3	Personnel Safety.....	52
9.5	OPERATIONAL STRUCTURE.....	52
9.5.1	Wildlife Branch.....	53
9.5.2	Joint information Center (JIC).....	68
9.5.3	Natural Resource Damage Assessment	69
9.6	RESOURCES	69
9.6.1	IF&W Response Staff.....	69
9.6.2	Oiled Wildlife Rehabilitation Contractor.....	69
9.6.3	Trained Local Wildlife Rehabilitators	70
9.6.4	Trained Volunteers.....	70
9.6.5	Oiled Wildlife Hotline	70
9.6.6	Oiled Wildlife Management System.....	70
9.6.7	Oiled Wildlife Response Equipment	71
9.6.8	Wildlife Rehabilitation Facilities.....	71
9.6.9	Wildlife Databases and Map Products	72
9.7	COST EFFECTIVENESS OF OILED WILDLIFE REHABILITATION	73
	SECTION 10 PUBLIC INFORMATION	75
	SECTION 11 RESPONSE TRAINING AND ANNUAL DRILLS.....	76
11.1	RESPONSE TRAINING.....	76
11.2	ANNUAL DRILLS	76
	SECTION 12 WORKER HEALTH AND SAFETY.....	77
12.1	RESPONSIBILITY FOR HEALTH AND SAFETY	77
12.2	FEDERAL REQUIREMENTS	77
12.2.1	Emergency Response vs. Post-Emergency Response	77
12.2.2	Applying the HAZWOPER Standard to Marine Oil Spills.....	78
12.2.3	When HAZWOPER Does Not Apply	78
12.2.4	HAZWOPER Coverage for Volunteers	79
12.3	HAZARDS TO MARINE OIL SPILL RESPONDERS	79
12.4	STATE REQUIREMENTS.....	81



LIST OF FIGURES

FIGURE 5-1	MAJOR ICS ROLES	11
FIGURE 7-1	OIL SPILL RESPONSE.....	25
FIGURE 7-2	DISPERSANT USE DECISION TREE	32
TABLE 7-1	RADIO FREQUENCIES.....	36
FIGURE 8-1	RESOURCE PROTECTION PRIORITIES DECISION MATRIX.....	43
FIGURE 9-2	WILDLIFE BRANCH POSITION IN THE UNIFIED COMMAND SYSTEM ORGANIZATION	54
FIGURE 9-3	WILDLIFE BRANCH GROUPS AND UNITS.....	56
TABLE 9-1	PRIORITIZED GROUPS OF SPECIES	67
TABLE 12-1	HAZARDOUS CHEMICALS AND THEIR EFFECTS.....	80

APPENDICES

- I. Equipment and Support Services Directory
- II. Wildlife Rehabilitation Plan Appendices
- III. Marine Site Safety Plan (Generic)
- IV. Scenarios
- V. Gasoline spill response
- VI. In Situ Burning, Checklist, Decision Tree and Memorandum of Understanding
- VII. Dispersant Preauthorization Plan



NOTIFICATION OF SPILLS

1.1. TELEPHONE NUMBERS FOR NOTIFICATION

The Department of Environmental Protection (DEP) must be notified in the event of a discharge of oil in or next to waters of the State. In addition, federal requirements for notification of spills must be met. Notification can be made 24 hours/day.

State Notification:

Department of Environmental Protection (800) 482-0777

Federal Notification:

National Response Center (800) 424-8802

1.2. INFORMATION REQUIRED AT NOTIFICATION

In the event of an oil spill, the following information must be provided to the DEP:

- Date and time spill occurred or was first noticed;
- Name and telephone number of person making report;
- Company's name, address, and telephone number (if applicable);
- Name and telephone number of other informed party or parties;
- Type of product alleged spilled;
- Estimate of total volume spilled;
- Is more spillage possible, and if so, estimate the amount and duration;
- What resources are at risk?
- Location of spill; and
- Specific directions to the site.



1.3 DEP NOTIFICATIONS

In the event of a marine oil spill, the DEP will notify the following agencies depending on the size and location of the spill. (Federal and Canadian agencies are notified by the U.S. Coast Guard, who is notified by the National Response Center.)

Department of Conservation, Bureau of Parks and Lands (207) 287-3829 or
(207) 287-4960

Department of Inland Fisheries and Wildlife
Donald Katnik (207) 941-4455
Oil Spill Biologist (207) 941-4448

Department of Marine Resources
Seth Barker (207) 633-9507
Joe Fessenden (207) 624-6550

Governor's Office (207) 287-2531

Maine Center of Disease Control and Prevention
Chris Zukas-Lessard (207) 287-5179
Fax (207) 287-9052; Mobile (207) 592-6817

Maine Emergency Management Agency
MEMA Duty Officer (800) 452-8735

Maine Historic Preservation Commission
Art Spiess (207) 287-2132 Ext. 4
or Elizabeth Trautman (207) 287-2132 or (207) 287-5983

Maine State Police
Augusta Dispatch (800) 452-4664

New Hampshire Department of Environmental Services
Rick Berry (603) 271-3440; (603) 271-3636 after Hours



LETTER OF PROMULGATION

The Marine Oil Spill Contingency Plan was developed according to 38 M.R.S.A. § 546-A. The plan provides a mechanism for coordinating response to oil spills along the coast of Maine, and is in effect as of the date below. Future changes will have the effective date noted on each page in the footers. Agencies or individuals should review the plan annually, and submit any changes or comments to:

Director, Division of Response Services
Bureau of Remediation and Waste Management
Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Originally promulgated December 11, 1992 and signed by Dean C. Marriott,
Commissioner Department of Environmental Protection

Replaced

Date

David Littell, Commissioner
Department of Environmental Protection

July 27, 2009



RECORD OF CHANGES

Updated pages should be inserted in the proper place and the obsolete pages discarded. The holder of this plan should record the receipt of each revision on this form.

Change Number	No. of Pages Affected	Date of Change	Date Entered	Signature of Person Entering Change



DISTRIBUTION LIST

Canadian Coast Guard (2)
Clean Harbors of Maine, Inc. (1)
CITGO, South Portland (1)
Coldbrook Energy, Bangor (1)
Department of Conservation
 Bureau of Parks and Lands (1)
 Natural Resource Information & Mapping (1)
Department of Environmental Protection
 Air (1)
 Commissioner's Office (2)
 Land & Water (1)
 Management Services (1)
 Remediation & Waste Mgmt. (4)
 Response Services
 Augusta (10)
 Bangor (8)
 Portland (11)
 Presque Isle (2)
Department of Inland Fisheries and Wildlife (1)
Department of Marine Resources (2)
Emergency Measures Organization,
 New Brunswick (1)
Environmental Protection Service,
 Nova Scotia (1)
Emergency Preparedness Canada
 New Brunswick (1)
ExxonMobil Oil Corp, South Portland (1)
Florida Power and Light, Cousins Island, Yarmouth (1)
Global Companies LLC, South Portland (1)
Gulf Oil Limited Partnership South Portland (1)
Maine Emergency Management Agency (1)
Marine Spill Response Corporation (1)
National Park Service, Boston (2)
National Response Corporation (1)
Oil Spill Advisory Committee (9)
Penobscot River Oil Pollution Abatement Committee (PROPAC) (1)
Pike Industries, Bangor (1)
Piscataqua River Cooperative (1)
Portland Pipe Line Corp., South Portland (1)
Portsmouth Naval Shipyard (1)
Sprague Energy



SECTION 4: DISTRIBUTION LIST

Portsmouth (1)
Searsport (2)
South Portland (1)
U.S. Coast Guard
 Coast Guard Sector Northern New England, Portland (3)
 Coast Guard Group (2)
 Marine Safety Detachment, Belfast (2)
 Marine Safety Detachment, Portsmouth (2)
U.S. Department of Interior, Boston, MA (1)
U.S. Environmental Protection Agency, Boston, MA (1)
Webber Tanks, Inc., Bucksport (2)



INTRODUCTION

5.1 BACKGROUND

In 1990, the Maine Legislature established a Commission to study Maine's Oil Spill Clean-Up Preparedness. The Commission's charge was to review and make changes to the State's response capacity for worst-case scenario, oil spill prevention strategies, and Maine's regulatory and statutory framework for prevention, planning and response to marine oil spills. Recommendations of the Commission included increasing oil spill planning and response efforts by the DEP and other state agencies, especially concerning oil spill response planning for the protection of sensitive areas and use of mitigation measures. In addition, it suggested the development of various scenarios, including worst-case scenarios, and the responses to be taken under these scenarios for inclusion in a State marine oil spill contingency plan. The development of the Marine Oil Spill Contingency Plan is a result of the Commission's recommendations, which were adopted in 1991.

5.2 PURPOSE

The purpose of the Marine Oil Spill Contingency Plan is to coordinate the State's response to marine oil spills by establishing requirements and procedures for the notification for, assessment of and response to releases or threats of a release of oil. This plan sets forth the roles and responsibilities of the DEP, potentially responsible parties, governmental agencies, and the public in response actions.

The focus of the DEP is on four key areas of oil spill response:

Prevention Prevention is the most effective oil spill response strategy. The goal of the DEP is to prepare for an oil spill by planning for its prevention. While this plan does not specifically address prevention, the DEP actively investigates measures aimed at preventing releases of petroleum products such as safe product handling, improved vessel construction and preparedness.

Preparedness The DEP provides on-going, specialized training and drills to ensure its emergency response personnel are able to respond to marine emergency incidents in an effective and efficient manner. This plan will ensure that state personnel involved in emergency operations are aware of their roles and the responsibilities of other governmental agencies and the responsible party in emergency operations.

Timely Response This plan encourages efficient and coordinated response to marine oil spills among the various state agencies involved, and coordination of state actions with federal and local officials and the responsible party in order to minimize damage from a marine oil spill.



Restoration and Disposal The DEP will ensure that best available technology is used to mitigate damages or restore damaged areas. In addition, the DEP will ensure that all recovered petroleum products and contaminated materials are disposed of according to applicable environmental regulations.

5.3 AUTHORITY

The Marine Oil Spill Contingency Plan is required by 38 M.R.S.A. § 546-A.

5.4 SCOPE

The Marine Oil Spill Contingency Plan is in effect for the discharge of oil to all coastal waters (as defined by 38 M.R.S.A. § 542(3-A)), estuaries, tidal areas, beaches and lands adjoining the coast of Maine.

5.5 ABBREVIATIONS

DEP	Department of Environmental Protection
DMR	Department of Marine Resources
DOC	Department of Conservation
DOI	U.S. Department of Interior
EPA	U.S. Environmental Protection Agency
EVI	Environmental Vulnerability Index
FEMA	Federal Emergency Management Agency
FOSC	Federal On-Scene Coordinator
GIS	Geographic Information System
GRP	Geographic Response Plans
GRS	Geographic Response Strategy
ICS	Incident Command System
IF&W	Department of Inland Fisheries and Wildlife
JIC	Joint Information Center
LSMT	Local Spill Management Team
MEMA	Maine Emergency Management Agency
MSRC	Marine Spill Response Corporation
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Corporation
OSHA	Occupational Safety and Health Administration
PRP	Potential Responsible Party
RP	Responsible Party
RRT	Regional Response Team
SMT	Spill Management Team
SOSC	State Oil Spill Coordinator
SOSC	State On Scene Coordinator
USCG	U.S. Coast Guard



USF&WS U.S. Fish and Wildlife Service

5.6 DEFINITIONS

Contain or containment means actions taken in response to a release or threat of release of oil into the environment to prevent or minimize such release so that it does not spread, migrate or otherwise cause or threaten substantial danger to present or future public safety, welfare or the environment.

A Federal Trustee of Natural Resources is an official of the federal government who may present a claim for and recover damages to natural resources from the federal Oil Spill Liability Trust Fund. This official must be designated according to section 1006(b) of the Oil Pollution Act of 1990, 33 U.S.C. 2701, et seq.

The Federal On-Scene Coordinator is the U.S. Coast Guard Commanding Officer at the U.S. Coast Guard Sector Northern New England Office in Portland, Maine.

The Geographic Information System means a computer system designed to assist in analyzing data by location rather than in tables or graphs. For example, instead of producing a table of information dealing with channel depth, GIS would produce a map of channel depths, showing the shape of the channel, shading for different depth ranges, and known obstructions in the channel.

The Joint Response Team is composed of representatives of the United States and Canada. The Joint Response Team members and a chairman have been pre-designated by each party. The group is called together in the event of an oil spill threatening the coast of both countries.

Oil means petroleum products and their by-products of any kind in any form including, but not limited to, gasoline, petroleum, fuel oil, sludge, oil refuse, oil mixed with other wastes, crude oils and all other liquid hydrocarbons regardless of specific gravity.

The Regional Response Team is composed of representatives of several federal agencies, including the U.S. Coast Guard, the Environmental Protection Agency, the Department of the Interior, the Department of Defense, and other federal agencies, and the states within the region. Under the National Contingency Plan, the Regional Response Team must make decisions regarding the use of dispersants, in situ burning, bioremediation, and assignment of regional, national, and international resources to the Federal On-Scene Coordinator.

A State Trustee of Natural Resources is an official of state government who may present a claim for and recover damages to natural resources from the Federal Oil Spill Liability Trust Fund. This official must be designated according to section 1006(b) of the Oil Pollution Act of 1990, 33 U.S.C. 2701, et seq.



5.7 SCHEDULE FOR AMENDMENT

Comments on this plan will be solicited from all oil terminal licensees and interested parties annually. In addition, all oil terminal licenses and interested parties may request a public hearing on changes to the Plan by submitting a written request to the Commissioner signed by at least five persons.

5.8 OTHER CONTINGENCY PLANS

It is acknowledged that many other contingency plans have been developed. Existing contingency plans affecting Maine include the National Oil and Hazardous Pollution Contingency Plan (prepared by the National Response Team), the Regional Contingency Plan (prepared by the Regional Response Team, Region I), the Area Contingency Plan (prepared by the Maine and New Hampshire Area Committee), and the Canada-United States Joint Marine Pollution Contingency Plan - Atlantic Annex (CANUSLANT) (prepared by the U.S. Coast Guard and the Canadian Coast Guard) to cover the Atlantic boundary between Canada and the United States. In addition, there are contingency plans prepared by vessels and terminal facilities under the federal Oil Pollution Act of 1990, and prepared by other state and local agencies having responsibility over the spill area.

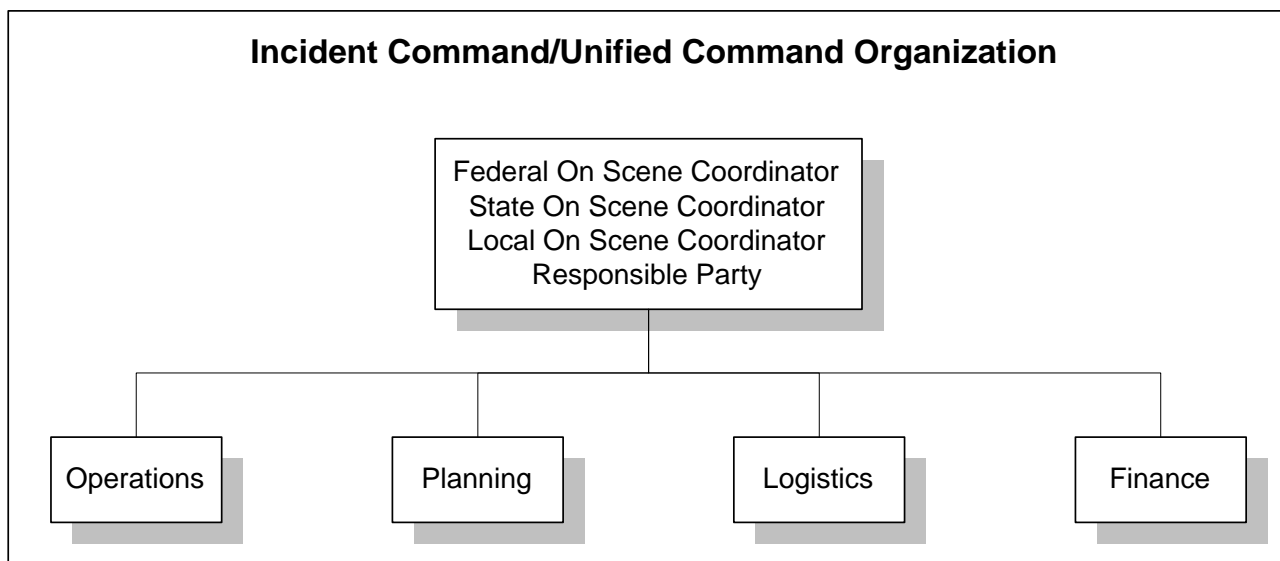
This Marine Oil Spill Contingency Plan does not supersede any plan prepared by another entity. It is intended to be a comprehensive State contingency plan for response to oil spills along the Maine coast, and will be coordinated with other contingency plans, primarily the Area Contingency Plan.

5.9 NATIONAL INCIDENT MANAGEMENT SYSTEM

Maine DEP, as well as most agencies, will use the National Incident Management System (NIMS) to coordinate response to oil and hazardous material releases. NIMS was mandated by Homeland Security Presidential directive (HSPD-5) to enhance collaboration and improve standardization in response to incidents. NIMS was designated as the basis for all incident management in the State of Maine by Governor Baldacci on October 4, 2005. The Incident Command System (ICS) is a key feature of NIMS which is used to ensure the effective management of incidents. Figure 5-1 identifies the basic command and general staff positions in ICS.



FIGURE 5-1 MAJOR ICS ROLES



The Area Contingency Plan includes greater detail regarding positions, roles, planning strategies and responsibilities within ICS. At a large incident, some time will be required before the complete system is operational. In addition to the SOSOC, DEP staff may fill a variety of roles as required. This will vary with the severity of the release. Maine DEP Response staff all receive ICS training.



ROLES AND RESPONSIBILITIES

6.1 DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the event of an oil spill to coastal waters, the Commissioner of the Department of Environmental Protection will directly represent the Governor in all direct abatement, clean-up and resource protection activities in coordination with federal, industry, and other state's response teams. The State Oil Spill Coordinator (SOSC) will work with the Federal On-Scene Coordinator (FOSC) and the responsible party (RP) following the National Incident Management System. DEP staff will work with federal, state, and local representatives, as well as the responsible party, to ensure an adequate and timely response. In the event a responsible party does not respond to a spill, or is not responding to the satisfaction of the DEP, the DEP may, in consultation with federal authorities, initiate and direct all actions necessary to respond to the incident.

The DEP is a State Trustee of Natural Resources under the Oil Pollution Act of 1990 for all natural resources other than those overseen by the Department of Marine Resources, the Department of Inland Fisheries and Wildlife, and the Department of Conservation. The DEP will direct the other State Trustees of Natural Resources in the development and implementation of plans for the restoration, rehabilitation, or replacement of natural resources, and will oversee disbursements of any funds for clean-up.

6.1.1 State Oil Spill Coordinator

The SOSC is the Director, Division of Response Services, Bureau of Remediation and Waste Management. The SOSC will act as the Commissioner's representative during marine oil spill response activities. As such, the SOSC is responsible for making any policy decisions relating to marine oil spill response and will work with both the Federal On-Scene Coordinator and the responsible party to ensure adequate response efforts are undertaken. Concurrent with the representatives of the Regional Response Team, the SOSC may authorize the use of in situ-burning, chemical countermeasures, and bioremediation in accordance with this plan in the course of responding to an incident.

6.1.2 State Field Response Coordinator

The State Field Response Coordinator will be designated by the SOSC for each incident. The State Field Response Coordinator will work with the Federal On-Scene Coordinator's representative and the responsible party to determine the pertinent facts of the discharge, such as its potential impact on human health; the nature, amount and location of materials discharged; and the probable direction and time of travel of the substance spilled; the areas which may be affected and



the priority of their protection; and will assess the situation and ensure that containment, clean-up and restoration activities are underway. In the event a responsible party does not respond to a spill, or is not responding to the satisfaction of the SOSOC, the State Field Response Coordinator may, in consultation with the Federal On-Scene Coordinator, initiate and direct all actions necessary to respond to the incident.

6.1.3 Program Bureaus

Other program bureaus and support divisions within the DEP have specific responsibilities in the event of a marine oil spill.

6.1.3.1 Bureau of Remediation and Waste Management

Staff of the Division of Response Services within the Bureau of Remediation and Waste Management will respond as necessary when notified of an oil spill. The State Field Response Coordinator is a member of this Division. Other bureau staff will be available to provide guidance on proper treatment, storage, and disposal of oil and oil-contaminated debris. This bureau will also coordinate recovery of damages and clean-up costs.

Staff from the data management unit provides support to the SOSOC on use of the geographic information system, used to identify sensitive areas subject to possible contamination in the event of an oil spill along the coast of Maine.

6.1.3.2 Bureau of Land and Water Quality

Staff of the Division of Environmental Assessment within the Bureau of Land and Water Quality will assist, at the direction of the SOSOC, in the assessment of damages to natural resources. Staff may elect to hire a consultant for this work, and provide oversight to the work being contracted. Staff will be available to provide advice to the SOSOC on the use of chemical countermeasures, such as herding agents, dispersants, and bioremediation.

6.1.3.3 Bureau of Air Quality Control

Staff of this bureau are responsible for monitoring and licensing air pollution and toxic emissions. In the event of a marine oil spill, bureau staff will provide field personnel and equipment when requested by the SOSOC for monitoring air emissions. In addition, bureau staff will provide guidance to the SOSOC if in situ burning is being considered as a response action.



6.2 OTHER STATE AGENCIES

Many state agencies will be available to provide valuable assistance in the event of a marine oil spill. The degree of participation by each agency will vary depending on the size and location of a spill. All of the agencies listed below perform similar responsibilities, such as providing expertise in their representative fields and making available agency resources during an incident. In addition, these agencies provide specific support for marine oil spills described below.

6.2.1 Department of Inland Fisheries and Wildlife

The Department of Inland Fisheries and Wildlife (IF&W) will assist the SOSOC in the identification of sensitive areas and resources in the marine environment that may be threatened by oil spills, and in the development of protection priorities for these areas and resources. IF&W will coordinate all activities related to implementation of the wildlife rehabilitation plan, including issuance of state permits to handle oiled birds. IF&W will monitor and determine the extent of damage to birds and mammals due to oil spills. IF&W is a State Trustee of Natural Resources under the Oil Pollution Act of 1990 for birds and some mammals (i.e. seals) in or adjacent to the marine environment.

6.2.2 Department of Marine Resources

The Department of Marine Resources (DMR) will monitor and assess damage to the marine environment due to oil spills, and will be available to provide assistance to the SOSOC in delineating important habitat areas for priority protection and clean-up, and can provide logistical support, technical advice, and expertise. DMR will also assist in notifying lobster pounds, local fishermen, aquaculturists, and seafood processing facilities of the potential damage to their catch and equipment if not relocated, and notifying marinas to relocate boats at anchor if possible. DMR will assess the need for fishery closures and impose limitations on harvesting activities if necessary. DMR is that State Trustee of Natural Resources under the Oil Pollution Act of 1990 for marine fish, marine mammals (except seals), and other marine resources.

6.2.3 Department of Conservation

The Department of Conservation is the State Trustee of Natural Resources under the Oil Pollution Act of 1990 for state lands, parks, and preserves. The Maine Geological Survey will provide scientific support in evaluating shoreline sensitive areas.



6.2.4 Maine Emergency Management Agency

The Maine Emergency Management Agency (MEMA) is responsible for carrying out a program for emergency preparedness, including coordination of the activities of all organizations for emergency preparedness within the state. This includes a broad range of functions, such as fire fighting, police, medical and health services, emergency welfare, rescue, engineering, evacuation and transportation. In the event of a marine oil spill, MEMA will provide assistance to the SOSC, and will coordinate all land-based activities. Unlike other declared emergencies, marine oil spill clean-up activities are directed by the DEP and do not fall under MEMA authority.

6.2.5 Governor's Office

In the event of a disaster beyond local control, the Governor may assume direct operational control over all or any part of the emergency preparedness and public safety functions within the state. If the disaster is a major oil spill along the coast of Maine, an oil spill emergency proclamation may be issued by the Governor. Once the proclamation is issued, the Governor may utilize all available resources of State government and of each political subdivision and transfer the direction, personnel or functions of State departments and agencies for the purposes of performing or facilitating emergency services. This authority is exercised through Maine Emergency Management Agency.

6.2.6 Maine Historic Preservation Commission

The Maine Historic Preservation Commission will assist the SOSC in the identification of sensitive coastline segments that contain or may contain significant archaeological sites, and in protection priorities and clean-up recommendation for sensitive coastline segments. The Maine Historical Preservation Commission will assist in federal agency responsibilities for protecting historic resources under Section 106 of the National Historic Preservation Act during a major oil spill clean-up.

6.3 NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

The DEP will coordinate spill response efforts with the New Hampshire Department of Environmental Services for those spills with the potential to affect both states. Maine and New Hampshire have had a long-standing informal agreement to provide mutual aid in the event of a coastal oil spill. If a spill occurs in Maine, New Hampshire will provide support as needed. If a spill occurs in New Hampshire, Maine will provide support as needed. In addition, an agreement to provide mutual aid in the event of an emergency or disaster has been formalized in the Interstate Civil Defense and Disaster Compact, 37-B



M.R.S.A. § 901, et seq. Maine and New Hampshire have formed an Area Committee in accordance with the Oil Pollution Act of 1990. This committee is comprised of federal, state, and local officials whose responsibility is to prepare the Area Contingency Plan.

6.4 REGIONAL RESPONSE TEAM

The Regional Response Team (RRT) is composed of representatives of both federal agencies and the states in the region. The federal agency members include the Coast Guard, Department of Agriculture, Department of Commerce, Department of Defense, Department of Energy, Department of Health and Human Services, Department of the Interior, Department of Justice, Department of Labor, Department of Transportation, Environmental Protection Agency, Federal Emergency Management Agency, General Services Administration, and Nuclear Regulatory Commission. The State members of the Region I Regional Response Team include Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. Maine's representative on the Regional Response Team is the SOSOC.

The RRT was formed to perform regional planning and coordination of preparedness and response actions. The RRT provides a regional mechanism for the development and coordination of assistance and advice to the Federal On-Scene Coordinator during response actions. The RRT must approve the use of dispersants and bioremediations as response tools.

6.5 FEDERAL ON-SCENE COORDINATOR

Authority to evaluate, coordinate and direct clean-up of oil and hazardous material spills lies with either the U.S. Environmental Protection Agency or the U.S. Coast Guard. Under the National Contingency Plan, the U.S. Coast Guard is responsible for designating the Federal On-Scene Coordinator (FOSC) for coastal waters while EPA is responsible for designating the FOSC for inland waters. Most of the jurisdictional boundary between the coastal and inland areas has been determined and the information is available in Jurisdictional Boundary Maps. (If a spill affects two or more areas, the RRT will designate the FOSC.)

The Commanding Officer at the U.S. Coast Guard Sector Northern New England in Portland is the pre-designated FOSC responsible for evaluating and directing, as necessary, spill response efforts in the event of a marine oil spill along the coast of Maine. Upon arrival at the scene, the State Field Response Coordinator and the responsible party will work with the FOSC's representative to determine the pertinent facts of the discharge, such as its potential impact on human health; the nature, amount and location of materials discharged; the probable direction and time of travel of the substance spilled; the areas which may be affected and the priority of their protection; and will assess the situation and ensure that containment, clean-up and restoration activities are being properly conducted.



The FOSC, in consultation with federal and state officials and the responsible party, will ensure adequate response efforts are undertaken. The extent of this direction will vary from spill to spill, depending on the size and nature of that spill. In the event a discharge is of such a size or character as to be a substantial threat to the public health or welfare of the United States, the Federal On-Scene Coordinator shall direct all actions necessary to respond to the incident. Additionally, the circumstances surrounding the spill will be investigated by the FOSC.

6.6 FEDERAL AGENCIES

Many federal agencies may be involved in the event of an oil spill. Involvement is dependent on the size and location of the spill. The authority to involve federal agencies in a marine oil spill lies within the National Contingency Plan. The agencies listed below are those which could play a major role in response activities. The agencies perform general responsibilities, including providing expertise in their representative fields and making available agency resources during an incident. In addition, the agencies provide specific support in the event of a marine oil spill.

6.6.1 National Response Center

The National Response Center is operated by the U.S. Coast Guard for a wide variety of federal agencies, including the U.S. Coast Guard, the U.S. Environmental Protection Agency, and the U.S. Department of Transportation. The National Response Center has been designated as the agency to be notified immediately in the event of an oil spill that could reach navigable waters. It is located in Washington, D.C., and maintains a 24-hour toll-free number (800/424-8802) for notification of oil and chemical spills. The National Response Center notifies the appropriate pre-designated Federal On-Scene Coordinator.

6.6.2 U.S. Coast Guard

As stated previously, the U.S. Coast Guard is the pre-designated Federal On-Scene Coordinator for spills occurring in coastal waters. The U.S. Coast Guard is prepared to act during spills with a nucleus of manpower available 24 hours a day, and may provide backup personnel for large spills, equipment, and sophisticated communication gear. All assets of the U.S. Coast Guard in Maine are directly coordinated by the U.S. Coast Guard Sector Northern New England in Portland.

6.6.3 U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is designated by federal statute as one of the governmental agencies taking a major responsibility for oil spill matters. EPA has the authority to act as the Federal On-Scene Coordinator for



inland spills, and act as a pollution consultant to the U.S. Coast Guard for spills in coastal waters. Each EPA region has a pre-designated response team ready to act when an oil spill occurs. The EPA Emergency Response Section maintains a product schedule of dispersant and other chemical countermeasures that have been accepted for use on oil spills. Responding personnel will be able to provide product and source information.

6.6.4 National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA) provides support with respect to marine resources such as meteorological, hydrological, ice and oceanographic data for marine, coastal, and certain inland waters; tide and current information; charts and maps; and satellite imagery. The NOAA Scientific Support Coordinator works closely with the U.S. Coast Guard to provide scientific information needed to respond to an incident. NOAA assesses damages, presents claims, and develops and implements restoration or replacement plans for those areas where they serve as the Federal Trustee of Natural Resources. The National Marine Fisheries Service, (part of NOAA) has overall responsibility for marine mammals and other marine resources.

6.6.5 U.S. Department of Interior

The US Department of Interior (DOI) is a Federal Trustee of Natural Resources, and is a member of both the Regional Response Team and the Joint Response Team. Along the coast of Maine, DOI is the trustee for a number of natural, cultural and recreational resources which fall under the responsibility of the National Park Service, the Bureau of Indian Affairs, and the U.S. Fish and Wildlife Service (USF&WS). Typically, DOI is notified by the U.S. Coast Guard in the event of a spill of 1,500 gallons or more. DOI and its agencies will provide guidance to the Federal On-Scene Coordinator. In addition, the USF&WS is responsible for issuing federal permits for handling oiled birds.

6.7 JOINT RESPONSE TEAM

The Joint Response Team is composed of members of the Regional Response Team and their counterparts in Canada. The Joint Response Team performs the same role as the Regional Response Team, but at an international level. The Canada-United States Joint Marine Contingency Plan provides a framework for cooperation in response to pollution incidents that pose a significant threat to the coastal areas of both countries, or for incidents that are so large as to justify a call on the other for assistance. (CANUSLANT is the annex to the plan dealing with the Gulf of Maine, and is coordinated out of the First Coast Guard District in Boston.) Under this agreement, any pollution threat to the other party must be reported to the appropriate agency of that party without delay. A message



of warning or notification does not constitute invocation of the plan. A specific format is required for formal invocation. Invocation of the plan could result in the establishment of a Joint Response Center at an appropriate location in the United States or Canada.

On-Scene Coordinators have been pre-designated by the United States and Canada. The joint plan assigns the On-Scene Coordinator responsibilities to the party having primary jurisdiction over the spill, and the On-Scene Coordinator to the other party is designated Deputy On-Scene Coordinator. Once invoked, the joint plan remains in effect until revoked by the Joint Response Team chairman of the invoking party. The format for notification, invocation, and other messages is contained in the plan itself. As a member of the Regional Response Team, Maine is a member of the Joint Response Team and as such will participate in any decisions made regarding spill response activities.

6.8 LOCAL GOVERNMENT

Local fire and police departments may be involved in the response to an oil spill as they are often the first responders. It is anticipated local government will continue to participate in spill response even after the state and federal officials have arrived on-scene. Local fire personnel may assist by controlling the spill scene in the event of fire or explosion hazard. Local police may assist by providing crowd and traffic control, and escort for clean-up vehicles.

6.9 RESPONSIBLE PARTY

Vessels transporting oil and terminals handling petroleum products are required by OPA '90 to develop an oil spill contingency plan for various spill scenarios and to have resources as necessary to respond to spills. In the event of a spill, the responsible party (RP) is required to invoke its plan and is expected to handle response operations. It is expected the RP will lead the spill response efforts for most spills. Many industry representatives have undergone lengthy response training, and are capable of taking the lead in response to an oil spill. Many companies have pre-designated contractors who will represent these companies during an oil spill. If a RP does not respond to a spill, or is not responding to the satisfaction of the SOSOC, the State Field Response Coordinator may, in consultation with the Federal On-Scene Coordinator, initiate and direct all actions necessary to respond to the incident. The RP is liable for all costs incurred as a result of the spill.

In almost all larger spills, a RP contracted Spill Management Team (SMT) will arrive from out-of-town which involves an inherent logistical delay. Additionally, it is reasonable to expect that many members of the contract team will be essentially unfamiliar with the local port and environmental conditions. Additional time may be necessary after their on-scene arrival to familiarize themselves with local issues prior to assuming any responsibilities. It is not unreasonable to expect that 18-24 hours will elapse before any elements of a RP's SMT will be in place and able to contribute to the



spill response effort. During this most critical time in a spill response, it is essential that all available resources be effectively utilized to promptly mitigate the effects of the spill.

6.10 OIL SPILL RESPONSE ORGANIZATIONS AND COOPERATIVES

Private oil spill response organizations provide a coordinated approach to the prevention and clean-up of spills. There are five private oil spill response organizations that have the ability, to respond to spills in Maine. Typically, these organizations respond when requested to do so by a member such as a licensed terminal, or vessel.

Clean Harbors Environmental Serv.
17 Main Street
So. Portland, ME 04106
Phone: (207) 799-8111 or (800) 526-9191
Fax: (207) 779-0349

Marine Spill Response Corporation
Attn: Tom Gallant
14 Union Warf
Portland, ME 04101
(207) 780-1648

National Response Corporation
3500 Sunrise Highway; Suite T 103
Great River, New York 11739
24 Hour Emergency: (800) 899-4672
Office – (631) 224-9141, Duty Officer

Penobscot River Oil Pollution Abatement Committee. (PROPAC)
Attn: James Sullivan
Webber Oil
710 Maine Street
Bangor, ME 04402-0929

Piscataqua River Cooperative
Attn: Don Gray
Newington Station
165 Gosling Road
Newington, NH 03801
(603) 431-4234 ext 7210



6.10.1 Clean Harbors Environmental Services

Clean Harbors Environmental Services is an Oil Spill Response Organization which handles oil and oil related products of all types in water and on land for their customers. Their resources include personnel, response vessels, containment boom, skimming and recovery equipment. They have many resources throughout the country with a full service facility in Portland Maine.

6.10.2 Marine Spill Response Corporation

The Marine Spill Response Corporation (MSRC) is an independent nonprofit corporation formed to assist in responses to large oil spills in the tidal and coastal waters of the United States. It makes available to federal government entities and responsible parties with whom it has response contracts a national supply of equipment and personnel for spills beyond the local response capacity. Vessels and response personnel are stationed at numerous locations, including Portland, Maine. Members of the Marine Preservation Association, which provides funds to MSRC, are the only persons authorized to cite MSRC resources in individual vessel or facility response plans once they have executed standard response contracts with MSRC

6.10.3 National Response Corporation

The National Response Corporation (NRC) was formed to assist vessel owners and operators and facility managers to meet the requirements of the Oil Pollution Act of 1990. NRC provides pre-qualified oil spill removal coverage. In addition to vessels, NRC will stockpile boom, oil skimmers and other equipment at pre-determined locations. NRC became operational in February, 1993.

6.10.4 Penobscot River Oil Abatement Committee

The Penobscot River Oil Pollution Abatement Committee (PROPAC) is located in Bucksport. Its purpose is to promote and foster abatement of pollution in the Penobscot River and Penobscot Bay caused by the discharge of petroleum products into those water bodies. Its members include oil terminal operators on the Penobscot River and Penobscot Bay as well as Verso Paper in Bucksport and the Bangor International Airport. PROPAC has a spill response capacity of about 25,000 gallons.



6.10.5 Piscataqua River Cooperative

The Piscataqua River Cooperative is located in Portsmouth, New Hampshire. Its emergency response goal is to at least contain a spill, which is difficult due to extremely strong currents of the Piscataqua River. Its members are the oil terminal operators on the Piscataqua River. Its spill response capacity is about 25,000 gallons.

6.11 OIL SPILL CLEAN-UP CONTRACTORS

Local clean-up contractors typically clean-up all but the smallest spills for responsible parties. Each response office maintains a list of contractors available in the area, and Appendix I contains additional information regarding contractors and available equipment. If additional manpower is needed, temporary workers could be used providing the workers meet the current Occupational Safety and Health Act requirements. See Section 12, Worker Health and Safety, for the appropriate requirements.

6.12 VOLUNTEERS

Volunteers who wish to participate in mitigating the effects of an oil spill may be utilized as deemed appropriate by the Federal On-Scene Coordinator. If the responsible party is known, volunteers will be directed to its representative. If the responsible party is not known, or if the responsible party has not assumed responsibility, the SOSOC may elect to use volunteers. Typically, volunteers will be assigned to tasks that have minimal safety risks such as wildlife rehabilitation, beach surveillance, or logistic support. Volunteers will not be used for physical removal of pollutants, and must have had training meeting the applicable Occupational Safety and Health Act training requirements before they will be allowed on-site. See Section 12, Worker Health and Safety, for the appropriate requirements.



RESPONSE OPERATIONS

7.1 DISCOVERY AND NOTIFICATION

A list of agencies to be notified in the event of a marine oil spill is contained in Section 1, Notification of Spills. A marine oil spill is usually discovered in several ways:

- A report is made by the person in charge of the vessel or facility involved in the spill;
- A report is made by a member of the public; or
- The spill is observed by local, state, or federal personnel during routine patrols or inspections.

A spill along the coast of Maine would most likely be first reported to the U.S. Coast Guard and then to the DEP.

7.2 PRELIMINARY ASSESSMENT

The Federal On-Scene Coordinator or the State Field Response Coordinator will make a preliminary assessment of the incident by contacting the person reporting the spill, governmental officials, and the responsible party. The preliminary assessment will aid the Federal On-Scene Coordinator or the State Field Response Coordinator in:

- Evaluating the magnitude and impact of the discharge or threat of discharge on the public health, welfare, and the environment;
- Determining in which jurisdiction the incident occurred;
- Determining or confirming the responsible party;
- Determining or confirming the source of the spill;
- Determining whether the spill has been stopped or is ongoing, and how quickly it can be controlled;
- Assessing the need for state or federal assistance; and
- Assessing the feasibility of removal and determining the equipment needed to remove the oil.

The responsible party will be given an opportunity to clean-up the spill, but the Federal On-Scene Coordinator or the State Field Response Coordinator may take over the clean-up if progress is not satisfactory. The responsible party is responsible for all costs in either case.

7.3 DEVELOP INCIDENT OBJECTIVES

Incident objectives will be developed within the Incident Command System. Preplanning for the initial operational phase is part of this Marine Contingency Plan. During any oil



spill incident, Department personnel will initiate action and develop objectives utilizing the following priorities:

1. Protecting human health, the safety of the Responders and the Public must be the first and foremost priority.
2. Stop the source of the discharge.
3. Contain, confine and recover product.
4. Protect sensitive areas as determined using the Environmental Vulnerability Index Maps and use of the Geographic Response Plans for protective booming strategies.
5. Minimize economic impacts.

7.4 CONTAINMENT AND CONTROL

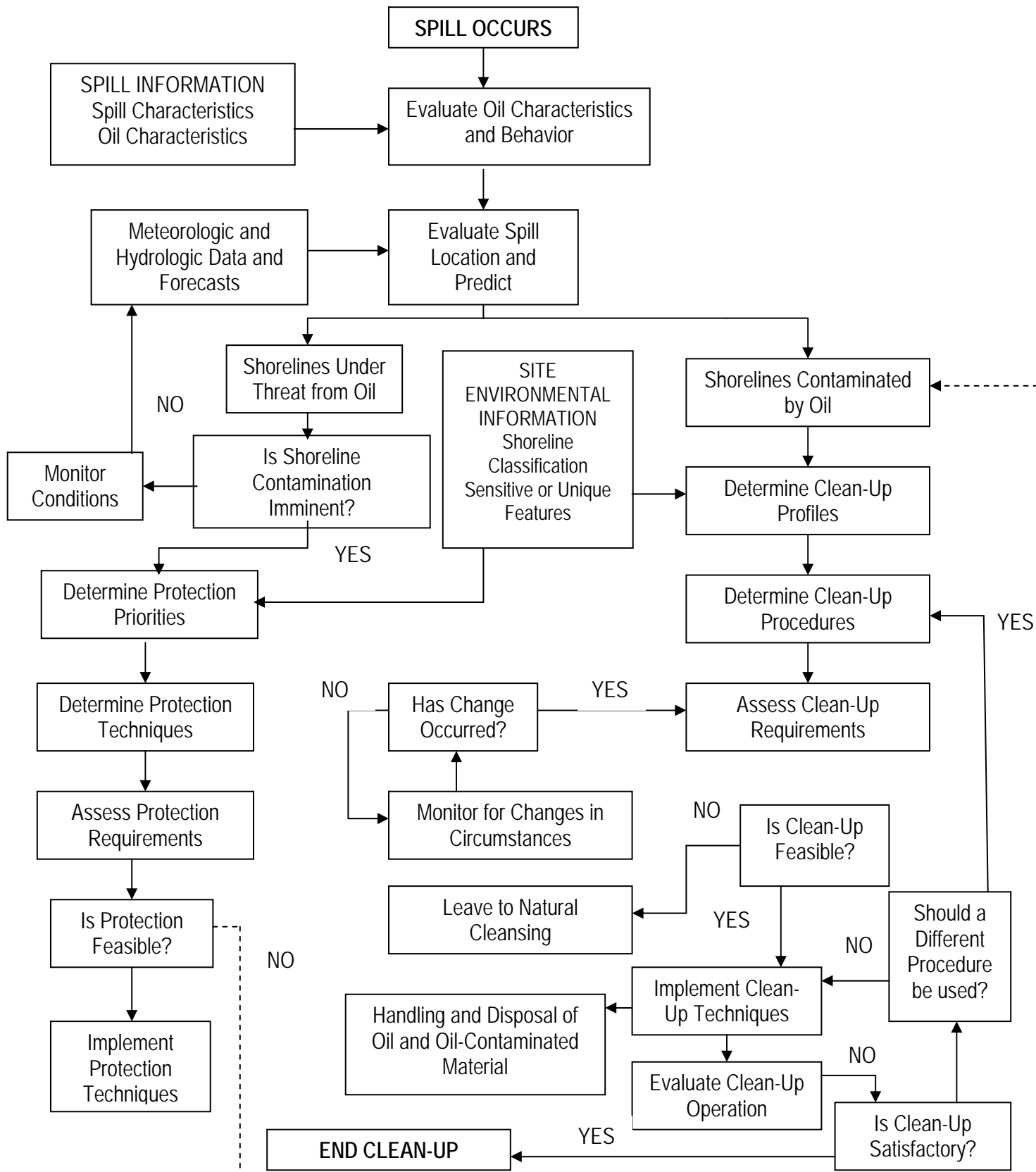
Clean-up actions must begin as soon as possible to minimize the effect on natural and economic resources. These actions may include locating the source of the discharge and preventing any further spillage, placement of containment boom to control the spread of oil and to protect sensitive area, measuring and sampling, physical removal of the oil from water and land, the use of chemicals to herd or disperse the oil, and in situ burning. The official coordinating response to the spill must address many questions, including, but not limited to:

- How large an area will the spill cover?
- How thick will the slick be?
- How fast and in what direction will the slick drift?
- When and where will the oil hit the shoreline?
- What will happen to the oil if it is not removed?
- What is the value and sensitivity of the resource at risk?

The answers to these questions will determine what response actions are taken. Figure 7-1 graphically describes the oil spill response process.



FIGURE 7-1 OIL SPILL RESPONSE





7.4.1 Nature of a Spill

The natural events that take place following an oil spill on water include the spreading of the oil slick, its direction or movement, and its gradual weathering. The behavior of an oil slick is highly dependent on the type of oil spilled and on the ambient climactic conditions.

7.4.1.1 Physical and Chemical Properties of Oil

The term "oil" is applied to a wide variety of petroleum products ranging from crude oils to different grades of refined products. Crude oil is not a uniform substance and its properties vary widely from one location of origin to another. Because of this fact, it is difficult to predict the type of oil that might be spilled off the coast of Maine.

Carbon and hydrogen are the most abundant elements in crude oil, accounting for more than 95% of the composition. Crude oil may also contain dissolved gases, solids, water and colloidal particles. Hydrocarbons are separated from crude oils through boiling and vapor recovery processes. The lighter hydrocarbons generally vaporize at lower temperatures. As an example, gasoline would be one of the first products distilled from a crude oil, and lubricating oils are derived from a higher temperature fraction. The majority of compounds that make up residual fuels come from the fraction left behind after most of the lighter fractions are distilled.

The spreading of an oil slick and the subsequent breakup of the oil film, as well as the rates and extent of emulsification, evaporation and biodegradation processes are all intimately related to the physical and chemical properties of the spilled oil. The physical and chemical characteristics of oil which affect its behavior on water and the efficiency of cleanup operations include density, viscosity, pour point, flash point, solubility in water, and changes in these parameters with time. Physical and chemical properties of oil are measured at a standard or constant temperature and atmospheric pressure. However, the physical properties of oil will vary depending on local environmental conditions and may vary considerably from values reported for "standard" conditions. The methods for dealing with spilled oil should be based on field observations, even when specific information is available.

Note: This section focuses on actions taken for oil spills, but spills of gasoline have additional considerations. See Appendix V for a more



detailed description of actions required for responding to gasoline releases

7.4.1.2 Spreading of Oil on Water

Immediately on contacting a water surface, oil begins to move away from the spill site. It rapidly spreads to a very thin layer under the influence of physical and chemical forces. It also begins to drift under the influence of wind and currents. Each force dominates at a different time in the life of an oil slick. When oil is first spilled in water it begins to spread by gravity. As the slick gets thinner, the driving force for gravitational spreading decreases and the rate of spreading due to this mechanism is less important.

In the event of an oil spill, a rough estimate of the total volume of the spill is needed to establish equipment and personnel needs and disposal site requirements. Because early estimates of spill size are often either unavailable or of questionable accuracy, on-site estimations are generally necessary. A rough estimate of spill volume can be attempted by considering slick size and thickness.

7.4.1.3 Oil Weathering Process

Oil spilled on water undergoes a progressive series of changes in physical and chemical properties which are referred to as weathering. The weathering of oil starts immediately after it has been spilled and proceeds at a rate which varies according to the type of oil involved and ambient climatic conditions. Weathering rates are not constant throughout the duration of an oil spill, and are usually highest in the first few hours. The process of weathering occurs simultaneously with the spreading and movement of an oil slick. Major processes which contribute to the weathering of oil spilled on water include evaporation, dissolution, oxidation, emulsification, and microbial degradation. In effect, weathering is the loss of certain components of the oil through a series of natural processes which begin when the spill occurs and continue indefinitely while oil remains in the environment. The lighter and more volatile components of the spilled oil are lost most rapidly. Consequently, the rate of weathering is highly dependent of the type of oil spilled; light crudes and fuel oils typically weather at a much faster rate than heavy crudes or heavy fuel oils which contain a smaller proportion of light fractions.

7.4.1.4 Movement of Oil on Water



In large oil slicks, the waves will be partly suppressed and wave transport will be reduced. The movement of an oil slick on the surface of water is determined mainly by the current and wind velocity in the area.

Current velocities depend on wind velocities, geographical latitude, eddy, viscosity, position in the water column, water depth, and proximity to coasts. Surface currents are directed to the right (in the Northern Hemisphere), decreasing and turning more to the right with depth.

Winds can be broadly divided into prevailing winds, which vary over time periods of weeks to seasons, and short-term winds which vary over time periods of hours to weeks. High winds are also generated infrequently by summer tropical storms and hurricanes. Rapidly varying winds, such as gusts, which vary over time periods of seconds to minutes are important for structural design applications but are not of primary importance for oil spill applications.

When wind and currents are in different directions, they can interact in a complex manner to break up an oil slick into windrows. Windrows are long, narrow columns of relatively thick oil separated by wide bands of relatively oil-free water. In most mathematical models of an oil slick drift, the oil is assumed to drift with the same velocity as the surface current. A floating oil slick is dragged along the water surface by wind friction whereas oil dispersed into the water column is not.

When wind and current are not in the same direction, each tends to drive the slick in a different direction at a different speed.

There are a number of spill trajectory models suitable for use in the event of an oil spill along the coast of Maine. In the event of a major spill, the DEP will rely on support from NOAA for updated trajectory forecasts with current meteorological and oceanographic data, rather than duplicate NOAA resources.

7.4.2 Containment of Oil

Booms are the primary method used to contain, deflect, or exclude oil floating on the water. Booms are typically classified according to form or location of use and have the following characteristics:

- A flotation unit or freeboard designed to contain or divert the oil as well as to resist oil splashing over the top;
- A skirt or curtain to prevent oil from being carried beneath the boom;



- A longitudinal strength member (usually cable, chain, or high tensile strength fabric) that serves to join boom sections and provide anchoring points; and
- A ballast unit or weight designed to hold the skirt perpendicular to the current flow.

Containment booming encircles and contains the floating oil so that it can be collected and recovered. A simple spill in calm water and with minimal current movement can be contained by stretching a boom across a waterway perpendicular to the path of the spill.

Deflection booming attempts to intercept, deflect, or shunt a slick towards a more desirable recovery site. Deflection booming is used when swift currents render containment booming ineffective.

Exclusion booming is largely a protective measure. Instead of being deployed to contain or intercept the oil slick exclusionary boom is used to protect sensitive areas such as marshlands, water intakes, and shorelines by keeping oil out of an area. Exclusionary booming may have to be coupled with deflection booming to provide the best overall defense.

7.4.2.1 Mechanical Recovery of Oil

In offshore areas mechanical clean-up with skimmers is usually begun immediately after containment measures have been implemented. Oil Skimmers are used to recover oil from the surface of the water. Skimmers come in a variety of designs and sizes. Small skimming units can be used successfully on spills ranging from minor spills to major offshore disasters. Large skimming vessels are generally used on larger, open-water spills. They are usually self-propelled and are much more expensive to purchase and maintain than small skimming units.

7.4.2.2 Alternative Countermeasures

In certain circumstances timely effective mechanical containment, collection, and removal of the oil may not be possible, and the utilization of alternative countermeasures, alone or in conjunction with other removal methods, may be considered as a means to minimize a threat to public health or welfare, or minimize serious environmental damages. Dispersants, in-situ burning, and bioremediation agents are all tools that have demonstrated usefulness in past oil spills. Thoughtful consideration must be given to all oil spill response options in order to maximize the response effort.



Procedures for authorizing the use of chemical and biological countermeasures are contained in Subpart J of the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300. Unless pre-approval for their use has been given, the Federal On-Scene Coordinator must obtain approval from the EPA representative to the Regional Response Team and the State representative(s) to the Regional Response Team from the affected state(s) before they can be applied. In addition, Subpart H of the Federal Region I Oil and Hazardous Substance Pollution Emergency Contingency Plan requires approval from the Department of the Interior and the National Oceanic and Atmospheric Administration for the use of dispersants. However, the Federal On-Scene Coordinator may authorize the use of chemical and biological countermeasures without the concurrence of the Regional Response Team representatives in situations hazardous to human life.

As the State's representative on the Regional Response Team, the SOSOC must authorize the use of alternative countermeasures..

7.4.2.2.1 In Situ Burning

In situ burning involves the containment of oil with fire-proof boom so it can be ignited. In order for in situ burning to be effective in most situations, the burn must take place within a few hours after the spill, or the oil will have dispersed too much to be burned successfully. In June 1999 the Region I In Situ Burning Agreement was finalized and is attached as Appendix VI, along with a decision tree and checklists that may be used when determining if in-situ burning is appropriate

The SOSOC is responsible for determining whether or not in situ burning may be useful for oil spills in Maine. The SOSOC will consult the DEP Bureau of Air Quality Control on all in situ burns unless the delay will hamper the immediate response to an oil spill which may result in long-term damage to the State's natural resources. The SOSOC will notify the DEP Bureau of Air Quality Control prior to authorizing planned in situ burns, or as soon as possible in the event of an emergency in situ burn.

7.4.2.2.2 Dispersants

Dispersants are chemicals that reduce the interfacial tension between oil and water. This enables waves to break an oil slick into tiny droplets and suspend them in the water column. As a result, the oil will present less of a threat to shorelines and coastal resources. Once the oil is dispersed into the water, chemical and



SECTION 7: RESPONSE OPERATIONS

biological processes convert it to carbon dioxide, oxygen, salts and other materials. High sea states which prevent oil spill containment and clean-up with booms and skimmers will mix the oil and dispersants together, providing excellent conditions for dispersant effectiveness.

Chemical dispersants are effective in areas where environmental or logistical considerations will not allow the deployment of clean-up equipment and personnel. Dispersants are most effective if used within 24 hours after the spill occurs, and will:

- Remove oil slicks from the water surface;
- Break the slick into tiny droplets which expedites biodegradation and decomposition of the oil spill;
- Reduce the overall level of effort and manpower requirements necessary for responding to major spills; and
- Prevent or reduce adverse affects on birds and mammals.

However, dispersants are not effective for oil spills in water with low temperatures, low salinity, or broken ice. They accelerate the transfer of oil into the water column and thereby temporarily create high localized concentrations of dispersant/oil mixtures which could be toxic to some marine life.

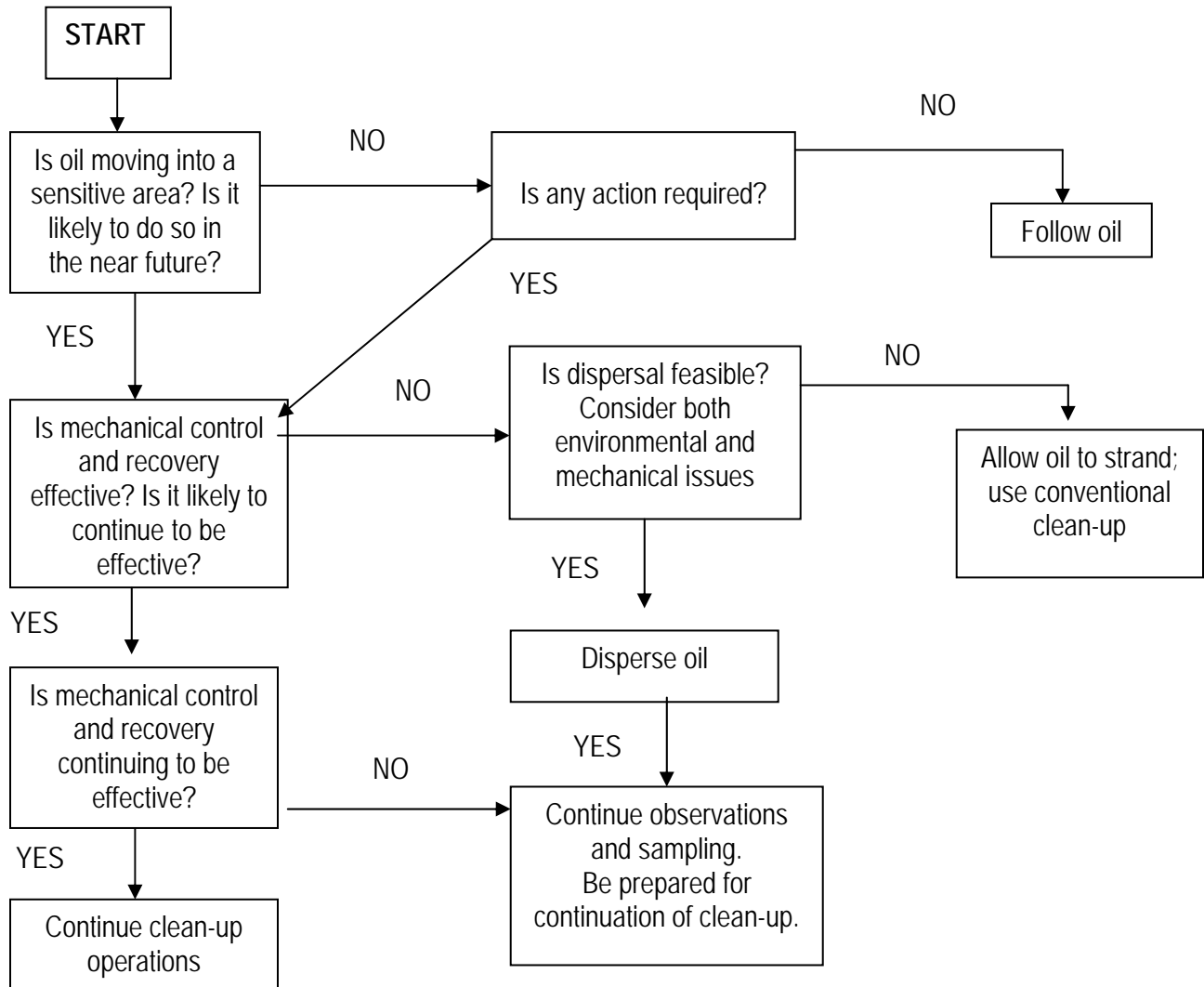
The SOSOC must consider many factors in reaching a decision whether or not to use dispersants. The Dispersant Use Decision Tree (Figure 7-2) briefly outlines factors to be considered, at a minimum.

Under provisions of the National Oil and Hazardous Material Spills Contingency Plan, chemical agents shall not be considered for use as dispersing agents unless they have been accepted by the EPA, and listed in the National Contingency Plan Product Schedule (available by calling the NCP Hotline at 202-260-2342) or <http://www.epa.gov/osweroe1/content/ncp/#schedule>

Appendix VII contains additional information regarding dispersants.



FIGURE 7-2 DISPERSANT USE DECISION TREE





7.4.2.2.3 *Herding Agents*

Herding agents are water and oil immiscible compounds used to deflect oil slicks. Because they have a greater surface tension than oil, they can be used to stop the intrusion of a slick into the areas to which they have been applied. Herding agents are most effective in areas with low wave energy. They are usually applied at low dosage rates, and may be applied much more rapidly than conventional boom. Maintenance consists of reapplication. These factors coupled with their potential low toxicity make herding agents suitable for the protection of sheltered areas such as marinas and salt marshes.

Herding agents are significantly more cost effective than conventional boom in suitable applications. Herding agents can also buy time for the placement of boom, or allow more effective use of the available boom. Because herding agents do not disperse an oil slick into the water column, they do not increase the toxicity or solubility of the existing slick. Application rates are very low resulting in low toxicity compared to slick intrusion. In addition, herding agents will not interfere with skimming operations if applied properly. They simply prevent the flow of oil onto the water to which they have been applied.

Because herding agents perform best in calm water, the likelihood of their use in Maine is low. If herding agents were considered for use at a spill, many of the same factors as those used for dispersants would be evaluated because the chemical compositions of the two are so similar. The SOSOC will rely on the expertise of DEP response staff, the Department of Inland Fisheries and Wildlife, the Department of Marine Resources, and other state and federal agencies in making a decision.

7.4.2.2.4 *Biological Countermeasures*

Use of biological countermeasures, or bioremediation, involves the use of specially developed organisms, or environmental or chemical enhancement of indigenous bacteria. They are used to break down oil more quickly than would occur without their introduction into the area of a spill.

7.4.3 *Airspace Restrictions*



If necessary, the Federal On-Scene Coordinator or State Field Representative will submit a request for secured air space to the National Response Center through the Regional Response Team. The National Response Center will forward the request to the Federal Aviation Administration, who may decide to issue a "Notice to Airmen" restricting the air space in the area of the oil spill emergency.

7.5 COMMUNICATIONS

Communications on-scene will be primarily by radio and cell phone.

7.5.1 Radios and Frequencies

All DEP response vehicles are equipped with 100 channel, 100 watt State Police radios, and responders have portable Icom M88 radios. The Icom M88 radios are programmed with channels 1 – 15 as shown below and have other frequencies available.

7.5.2 State of Maine Concept of Operations Plan (CONOPS) for Incident Communications Interoperability

Should an event occur that meets or exceeds three (3) of the following four (4) criteria the incident commander may request a "Con-Ops" authorization from MEMA to support their operations.

- An event/incident involving response from four (4) or more agencies
- An event/incident involving a duration of at least six (6) or more hours
- An event/incident involving response from at least three (3) levels of government
- An event/incident where normal use of common simplex (local talk-around) channels will not support the incident commanders needs

To make the request, the incident commander should call MEMA at 1-800-452-8735 (24/7/365), summarize the situation, request specific frequencies, identify the incident inbound calling freq., and give contact information.

The MEMA director is the sole and final authority for approving a CONOPS request.



SECTION 7: RESPONSE OPERATIONS

The table below lists the six frequencies to be used during a CONOPS scenario.

Day-to-Day Frequency (Permanent Assignment)		
1. SWSP	154.710	State Wide State Police
2. NWCC	155.475	Nation Wide Car to Car
3. EMS/LASAR	155.160	Emergency Medical Services/ Land/Air Search & Rescue
4. SPCC	154.935	State Police Car to Car
5. SWF	154.310	State Fire
6. SWCC	154.695	State Wide Car to Car

More CONOPS information is available at:

http://www.maine.gov/mema/response/mema_response_plans



TABLE 7-1 RADIO FREQUENCIES

Channel	Description	Transmit Frequency *	Receive Frequency *	Users
1	Spill 1	158.445	159.480	Oil spill response
2	Spill 2	159.480	159.480	Oil spill response
3	Spill 3	150.980	154.585	Oil spill response
4	Spill 4	150.980	150.980	Oil spill response
5	SP Gray	155.445	156.150	State Police, Gray
6	SP Zone 1	155.445	154.665	State Police Houlton
7	SP Zone 2	155.505	154.650	State Police, Augusta
8	SP Zone 3	155.850	154.905	State Police, Orono
9	MP	155.595	155.595	Marine Patrol
10	Statewide car-to-car	154.695	154.695	State Police, Attorney General investigators, Sheriffs, municipal police, some fire departments and ambulances
11	State Fire	154.310	154.310	State Fire Marshal, State Fire Warden, and municipal fire departments
12	Nationwide car-to-car	155.475	155.475	Some State Police, many out-of state police agencies
13	Statewide State Police	154.710	154.710	Statewide State Police
14	EMS/LASAR	155.160	155.160	EMS/search & Rescue
15	SPCC	154.935	154.935	State Police Car to Car
	Local NOAA weather		162.475 162.400 162.525	SMRO & CMRO EMRO NMRO
	Marine 9	156.450	156.450	Harbor operators (formerly broadcast on Marine 16)
	Marine 12	156.600	156.600	Harbormaster
	Marine 16	156.80	156.800	Distress frequency, monitored by USCG
	Marine 21	157.05	157.05	MSO Portland working frequency
	Marine 22	157.100	157.100	USCG
	Marine 23	157.15	157.15	Group Portland working frequency
	Marine 81	157.075	155.075	USCG spill frequency
	Marine 83	157.175	157.175	Group Southwest Harbor working frequency
	Local option			Program to meet local need
	Local option			Program to meet local need
	Local option			Program to meet local need

All frequencies are MHz



7.5.3 Cellular Telephone Use

All Response Services staff have cellular telephones, to be used for state business. These may be taken aboard water craft and used to augment marine radios or portable radios.

7.5.4 Signals for Use on Site

Hand Signals		
	Hands clutching throat	Choking or out of air, cannot breathe
	Hand drawn across throat	Kill the engine
	Clenched fist held above shoulder level	Stop
	Hands on top of head	Need assistance
	Arms waving upright	Send back-up support
	Two fingers pointed at eyes, then at someone else	I want to see you
	Grip partner's wrist	Leave area immediately
	Waving arms up and down	Leave area immediately
	Two thumbs up	OK or yes; I understand; I'm alright
	Two thumbs down	No, negative, I don't understand
	Upraised thumb	One
	Two fingers upraised	Two
	Three fingers upraised	Three
	Four fingers upraised	Four
	Five fingers upraised	Five
	Thumb pointed down	Six
	Two fingers pointed down	Seven
	Three fingers pointed down	Eight
	Four fingers pointed down	Nine
	Five fingers pointed down	Ten
Air, Vehicle or Vessel Horn		
	Three short blasts	Exit the area immediately to the decontamination line



7.6 WILDLIFE RELOCATION, DETERRENCE AND REHABILITATION

In the event of an oil spill, it may be necessary to disturb or capture and relocate wildlife in order to prevent them from being oiled. An attempt should be made to deter wildlife from contaminated areas where it is not feasible to protect them from contamination. Methods of deterring wildlife from oil-contaminated areas vary between wildlife species and habitats, as well as with changes in current, wind, and water temperature. Biologists from IF&W will provide the SOSC with information on the presence of vulnerable species within a spill area, and guidelines for deterrent and relocation strategies. See Section 9 for additional information regarding IF&W planning for Wildlife.

7.7 DISPOSAL

A list of disposal facilities is contained in Appendix I, the Equipment and Support Services Directory.

7.7.1 Oily Debris

Oily debris includes sorbents, seaweed, carcasses, and other material contaminated with oil as a result of an oil spill. Oily debris recovered during response activities must be disposed of in accordance with state and federal law. State regulations (DEP Chapter 405.9) state that oily debris can be landfilled or incinerated and the resultant ash landfilled.

7.7.2 Waste Oil

The requirements of Chapter 860 of DEP regulations must be met for storage and transportation of waste oil. Waste oil is any petroleum-based oil which through use or handling, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties. Waste oil includes any oil spilled to land or water, but does not include oily waste debris generated from the clean-up of oil spills or water generated from oil/water separation process at waste oil facilities.

7.8 TEMPORARY STORAGE

In the event of a major spill, the volume of oily debris will most likely be greater than the capacity of available disposal facilities. Therefore, temporary storage (less than 45 days) must be used as an interim measure. The DEP has no permitting requirements for the temporary storage of oily debris. Options include storing oily debris in covered dumpsters or covered "roll-off" containers, or in temporary engineered containment



structures with oil-resistant liners. Information on liners is contained in the Equipment and Support Services Directory.

7.9 NATURAL RESOURCE DAMAGE ASSESSMENT AND RESTORATION

Determining and quantifying injury to State natural resources as a result of a marine oil spill be overseen by the State Trustees, designated by the Governor, with assistance from federal natural resource trustees, private organizations, and contractors. The State trustees include DEP, as the designated lead administrator, the Department of Inland Fisheries and Wildlife, the Department of Marine Resources, and the Department of Conservation. Guidelines for damage assessment and restoration pursuant to the requirements of the Oil Pollution Act of 1990 have been developed by the National Oceanic and Atmospheric Administration. Guidelines and procedures for damage assessment and restoration pursuant to federal disaster assistance statutes have been promulgated by FEMA. Written guidelines for Maine Natural Resource Damage Assessment and Restoration are being developed by the Department, and the Department maintains a list of prequalified contractors to assist with damage assessment.

7.10 DOCUMENTATION AND COST RECOVERY

Documentation will be collected and maintained for all costs incurred by the State during clean-up operations. Documentation will provide an identification of the responsible party or parties, and the impact on the public health, welfare, and the environment. The State Field Response Coordinator will oversee the necessary collection and safeguarding of information, samples and reports. Information and reports obtained by either the Federal On-Scene Coordination or the State Field Response Coordinator will be sent to the appropriate offices for follow up actions.

The responsible party or parties will be held responsible for all costs incurred by the State related to the spill incident including, but not limited to, costs for containment, clean-up, disposal, remediation, rehabilitation, and natural resource damage and restoration. If reimbursement is not made within 30 days of demand, the matter may be turned over to the Attorney General for collection or may be submitted to a collection agency. Reimbursements not paid within 60 days of demand are subject to penalty payments and any other fines or civil penalties authorized by Maine law.

DEP administers a program for third-party damage claims resulting from oil spills. Any person suffering damages as a result of a coastal oil spill may apply to DEP within 12 months after the spill, stating the amount of damage alleged to have been suffered. Additional information and application forms are available from DEP.

Under the Oil Pollution Act of 1990, if claims for removal costs or damages made to the responsible party are not satisfied, a claim may be made to the federal Oil Spill Liability Trust Fund (26 U.S.C. 9509). Guidelines for cost recovery under the Oil Pollution Act of 1990 are being developed by the U.S. Coast Guard.



SECTION 7: RESPONSE OPERATIONS

Additional funds for damages may be available from the Federal Emergency Management Agency (FEMA). The Maine Emergency Management Agency will coordinate any assistance available through FEMA.



RESOURCE PROTECTION PRIORITIES

8.1 BACKGROUND

Sensitive areas are locations identified as valuable natural resources, areas having cultural significance. Or areas specifically susceptible to damage from oil spills. Using present technology, it is impossible to protect all sensitive areas at all times from damage by oil. This decision must be made on-site.

The DEP has overseen the development of a mapping system using a geographic information system (GIS) to identify sensitive areas; these maps are called Environmental Vulnerability Index maps (EVI maps). Without ranking the relative worth of any one area or resource, the system identifies known sensitive areas. The mapping system has been developed jointly by the DEP, the Department of Inland Fisheries and Wildlife, the Department of Marine Resources, the Department of Conservation's Maine Geological Survey.

The completed mapping system serves as an important oil spill response tool. Knowing where resources are located and using the priority protection guidelines described below will allow the decision-maker to best allocate the limited personnel and equipment available at the time of a spill.

8.2 PRIORITY AND PROTECTION GUIDELINES

The protection of public health and safety is of primary importance. Once public health and safety has been assured the source of the discharge must be stopped in order to prevent as much product from being discharged as possible. Either after the discharge has been stopped or while that process is underway efforts must be made to contain and collect the spilled product in order to protect the surrounding environment. Once the public health and the source of the discharge have been addressed, the SOSOC and the Federal On-Scene Coordinator will consider protection of natural and other resources, including deployment of prepositioned boom. Sensitive area maps are designed to assist the SOSOC and the Federal On-Scene Coordinator in determining resource protection priorities at the scene of an oil spill. The Commission to Study Maine's Oil Spill Clean-Up Preparedness developed a list of factors to be considered, in conjunction with the sensitive area maps, in determining what resources to protect. These factors are listed in order of importance below. In addition, Figure 8-1 contains a graphic of the decision matrix to be used in determining resource protection priorities in the event of a marine oil spill.



8.2.1 Ability to Protect

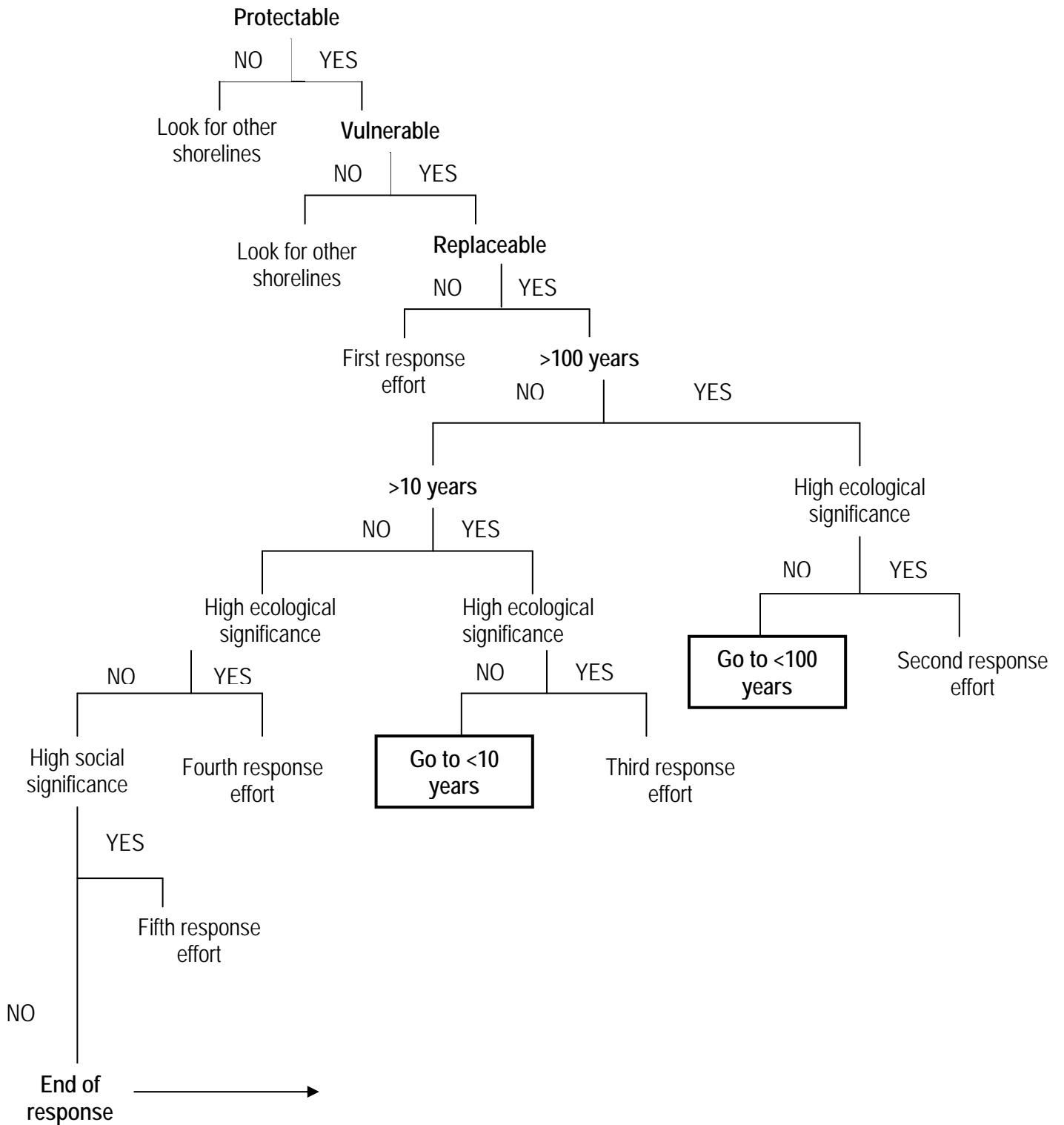
Can the resource be protected? This should be the first consideration. If a particular resource cannot be protected, responders should not waste time in attempting to protect it. Deciding whether a resource can be protected is primarily an on-site decision. Site characteristics such as current, wave action, and weather are used to determine if the tools are available for reducing the damage of a spill will be effective. Boom, a kind of floating fence for containing oil, can only be used on relatively calm water, with currents under about three knots. The ability to protect a resource includes weighing the cost-effectiveness of the effort in both terms of dollars and lost opportunities to protect other resources. It means putting limited response resources where they will have the greatest chance of working effectively.

8.2.2 Vulnerability

How vulnerable is a particular resource to damage? Factors such as seasonal population changes in the wildlife of an area, where the feeding range of a population is and how much of it may be affected by the spill, and whether the population is especially good at dealing with catastrophic losses must be considered. Due to the complexity of these and many other issues, expert advice is needed to get a general sense of this information.



FIGURE 8-1 RESOURCE PROTECTION PRIORITIES DECISION MATRIX





8.2.3 Replaceability

How easy is it to replace a particular resource? Two categories of replacement should be considered.

8.2.3.1 Economic Replacement

Can a loss be reasonably compensated through the Maine Coastal and Inland Surface Oil Clean-Up Fund or the Federal Oil Spill Fund? Or would a loss carry ramifications beyond actual replacement of the resource, facility or goods?

8.2.3.2 Physical Restoration

How long would it take a particular resource or population to recover? If a resource or population can recover without interference within 10 years it may not warrant extensive response efforts. However, if a resource or population cannot recover for 100 years or more, this resource then becomes a higher priority for protection.

8.2.4 Ecological Significance

How important ecologically is this resource? This would be measured in terms of rarity, overall biomass, diversity, productivity or major contributions to the food chain.

8.2.5 Social Significance

How important is the resource to society? This includes economic and aesthetic concerns as well as other less tangible types of significance.

8.3 MAPS & INFORMATION

8.3.1 Geographic Response Plan (GRP)

A Geographic Response Plan (GRP) covering the entire coast of Maine and New Hampshire has been developed and includes a number of individual Geographic Response Strategies (GRS). The GRP provides information for protecting priority areas along the coast. The strategies portray protective or deflective booming strategies as well as provide information for implementing those strategies. The intent of the GRS is that they can be implemented immediately



SECTION 8: RESOURCE PROTECTION PRIORITIES

following a spill so that natural resource damage will be minimized. Many are still untested but the DEP is updating the strategies as they are reviewed and/or tested in the field.

GRSs include nautical charts with proposed booming strategies and a verbal description of the booming strategy, as well as the total length and type of boom required, the water depth range, tidal current information, details on site access and staging areas, and collection points for environmentally sensitive areas. The GRP is an appendix to the Maine-New Hampshire Area Contingency Plan and are produced by the ME DEP and NH DES.

The GRP is grouped into the following four areas for Maine:

Area	Coverage
Downeast Maine	Washington County
Penobscot Bay Region	Penobscot, Hancock, Knox and Waldo Counties
Casco Bay	Cumberland, Sagadahoc and Lincoln Counties
NH and Southern Maine	New Hampshire and York County, Maine

GRSs are available on the Department's web site.

8.3.2 Environmental Vulnerability Index Maps

The Environmental Vulnerability Index maps provide graphic representation of coastal marine geologic environments, wildlife habitats, nesting grounds, and human resources. Each of these types of data is depicted on maps showing resources most vulnerable to oil spills. Associated tables provide additional information regarding species at risk, and identify the associated GRS for each EVI. Response personnel and planners can use this data to craft appropriate response strategies for mitigating the effects of an oil spill. There are 98 maps in the four volume EVI atlas series. The atlas series covers the entire coast of Maine and parts of New Hampshire using 1:45,000 scale maps printed in 11" x 17" format. Environmental Vulnerability Index maps are available on the Department's Website.



WILDLIFE REHABILITATION

9.1 INTRODUCTION

This Wildlife Rehabilitation Plan describes the responsibilities and capabilities of the Maine Department of Inland Fisheries and Wildlife (IF&W) during a marine oil spill. Procedures to be used are outlined and the personnel and equipment resources are identified to protect wildlife during oil spills in Maine's coastal waters. All wildlife response activities will be closely coordinated with other state and federal natural resource trustee agencies and will follow established Incident Command System protocol as described in the Maine-New Hampshire Area Contingency Plan.

9.2 RESPONSIBILITIES

Marine wildlife in Maine are abundant and diverse, occurring in habitats that range from deep offshore waters to shallow tidelands, from steep rocky shores to sandy beaches and wetlands. Also, intertidal and subtidal habitats contain thousands of other species of fish, invertebrates and seaweeds. All marine wildlife species and their habitats are vulnerable to an oil spill. IF&W has responsibility for birds and terrestrial species that may enter the marine environment and their habitats.

9.2.1 State Law Mandates

According to Title 38 (Waters and Navigation), Chapter 3 (Protection and Improvement of Waters), subchapter II-A (Oil Discharge Prevention and Pollution Control) of Maine State Law, IF&W is responsible for developing a Wildlife Rehabilitation Plan (38 546-C). According to Maine State Law, IF&W in consultation with the Department of Environmental Protection (DEP), the Department of Marine Resources, the Department of Conservation, the U.S. Fish and Wildlife Service (USF&WS) and other appropriate agencies and organizations, shall develop a plan for rehabilitation of oil spill-damaged wildlife resources. This plan must include:

- Policies, priorities and guidelines to address rehabilitation activities;
- An analysis of the cost-effectiveness of wildlife rehabilitation efforts;
- A mechanism for the use of volunteers, with due regard for their safety;
- Identification of needed resources and facilities for rehabilitation efforts and an inventory of those available;
- Preliminary agreements with treatment centers or facilities; and
- Recommendations on implementation of the plan and any required training efforts.



9.2.2 Natural Resource Trustees

In any spill, the potential responsible party or discharger (PRP) is responsible to federal and state resource trustees, to federally-recognized Indian tribes, and to foreign trustees, all of whom are empowered to enforce remediation and seek compensation for injuries to natural resources caused by a discharge of oil. These trustee agencies also have a voice in determining the methods used so that wildlife operations comply with each trustee's governing laws and their obligations to preserve and protect wildlife and habitat.

Federal trustee agencies that are most likely to participate in wildlife-related decisions and response activities are as follows:

Department of the Interior

National Park Service

U.S. Fish and Wildlife Service

Department of Commerce-National Oceanic and Atmospheric Administration

National Marine Sanctuaries

National Marine Fisheries Service

Department of Defense

Although they are not natural resource trustee agencies, the USCG and/or the EPA are the lead federal agencies in a spill and also participate fully in wild-life related decisions.

The state trustee agencies that are most likely to participate in wildlife-related decisions and response activities are as follows:

Department of Environmental Protection

Department of Inland Fisheries and Wildlife

Department of Marine Resources

Department of Conservation

9.2.3 Interagency Agreements Regarding Wildlife Response Activities

In an effort to provide a more efficient and coordinated response during oil spills, IF&W has entered into cooperative agreements with the DEP, the Maine National Guard, and the USF&WS. The cooperative agreement with the DEP clarifies the IF&W and DEP responsibilities and obligations for oil spill-related planning and response. The cooperative agreement with the Maine National Guard provides the use of the Maine National Guard armories as wildlife rehabilitation centers during an oil spill. The cooperative agreement with the USF&WS clarifies IF&W



and FWS roles and responsibilities during an oil spill response. These roles are described throughout this document.

9.3 OILED WILDLIFE RESPONSE PRIORITIES

Following the notification of an oil spill, IF&W's first priority is to conduct an initial aerial assessment of wildlife in and adjacent to the spill area. Depending on spill conditions, a boat survey may also be conducted. Based on the magnitude of the spill and presence of wildlife in the area that could be affected by the spill, a spill-specific response plan will be developed. Additionally, data collected during these assessments will be used as part of the natural resource damage assessment.

Based on information collected during the aerial assessment, IF&W's second priority is to develop and implement a wildlife deterrent plan to prevent wildlife from coming in contact with the spilled oil, if appropriate. This plan will include the deployment of a variety of deterrent devices in oiled habitat and/or habitat in imminent danger of becoming oiled. In addition, pre-emptive wildlife capture and transport may be an efficient deterrent strategy as well.

IF&W's third priority is to determine whether the establishment of a wildlife rehabilitation center is necessary. Depending on the magnitude of a spill, in terms of wildlife affected or potentially affected a wildlife rehabilitation center may be established, especially if endangered and/or threatened species may be affected.

9.4 ACTIVATION OF THE WILDLIFE REHABILITATION PLAN

The best time to prevent wildlife impacts after a spill has occurred is during the earliest stages of the spill response. The level of response will be based on the potential for oiled animals (Figure 9-1). Only the Commissioner of IF&W, or a designated IF&W representative, will have the authority to initiate wildlife rehabilitation efforts in Maine. When taking early actions, IF&W will maintain close coordination with the evolving Unified Command. Such early, but prudent, initiation of a wildlife response will ensure a timely mobilization of dedicated resources, minimize resource impacts, and contribute to effective cost containment. In these instances, IF&W's early response will be guided by the Maine-New Hampshire Area Contingency Plan and the State of Maine Marine Oil Spill Contingency Plan, and will be integrated with the Unified Command as it is formed.

9.4.1 Initiation

This Wildlife Rehabilitation Plan may be initiated by IF&W at the request of the DEP, the PRP through the DEP, or the U.S. Coast Guard through the DEP. The DEP may request IF&W to initiate the Wildlife Rehabilitation Plan solely on their behalf. Alternatively, because the PRP is primarily responsible for all oil spill response activities, the PRP, through the DEP, may request that IF&W initiate the Wildlife Rehabilitation Plan with the understanding that the PRP will be

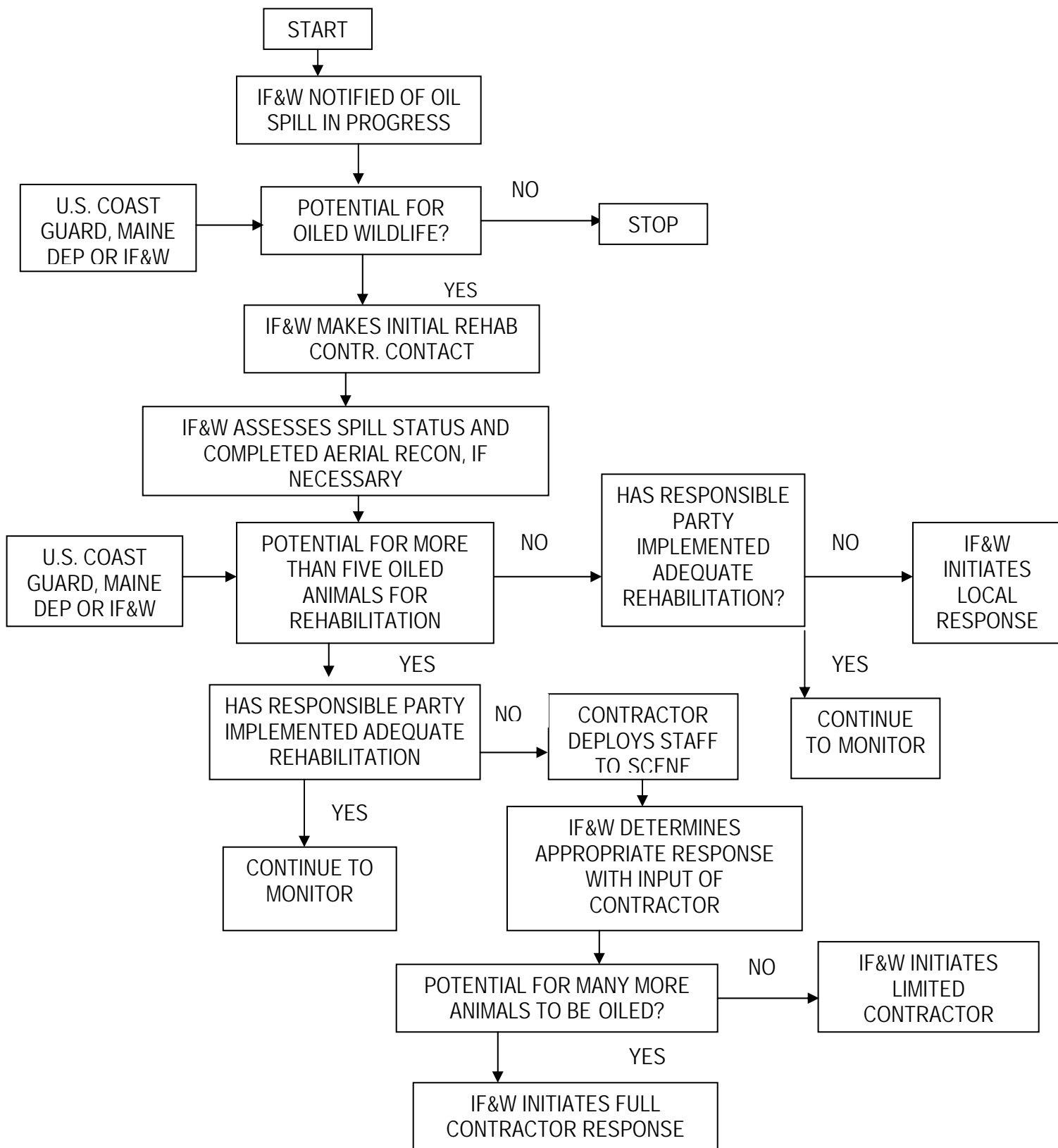


SECTION 9: WILDLIFE REHABILITATION

responsible for all associated costs. If the DEP requests the initiation of the Wildlife Rehabilitation Plan on their behalf or if the PRP requests that the DEP initiates the Wildlife Rehabilitation Plan, then compensation for all costs incurred by IF&W will be handled according to established State oil spill compensation procedures. The U.S. Coast Guard, through the DEP, may request that IF&W initiate the Wildlife Rehabilitation Plan on their behalf or on the recommendation of the U.S. Fish and Wildlife Service. Under these circumstances, compensation for costs incurred by IF&W will be handled according to established federal oil spill compensation procedures.



FIGURE 9-1 WILDLIFE REHABILITATION RESPONSE





9.4.2 Implementation

Implementation of the Maine Wildlife Rehabilitation Plan will be supervised within the Bureau of Resource Management under the Director of the Wildlife Division with Supervisors of the Wildlife Resource Assessment Section and Regional Wildlife Management Section. Operational responsibilities will be implemented according to the Incident Command System as described in the Maine-New Hampshire Area Contingency Plan. The Oil Spill Biologist (or designated alternate contact) will fill the position of Wildlife Branch Director within the Science and Environmental Unit of the Planning Section. The Wildlife Branch Director, as the designated IF&W representative, will initiate all wildlife rehabilitation efforts. Based on the location of the spill, the appropriate Regional Wildlife Biologist will be called to make the initial assessment. Using input from the DEP and U.S. Coast Guard, the Regional Biologist and the Wildlife Branch Director will determine the appropriate level of response (Figure 9-1). If appropriate, the oiled wildlife rehabilitation contractor will be contacted by the Wildlife Branch Director. The Maine Warden Service and the Division of Public Information and Education of the IF&W may also be contacted. At the earliest possible time, the Wildlife Branch Director should apprise supervisory personnel in IF&W of action taken or proposed deviations from standard procedures. If necessary, the Wildlife Branch Director may consult with appropriate Wildlife Resource Assessment Group Leaders and staff in IF&W for technical advice.

The Regional Wildlife Biologist will call up appropriate volunteer staff. On the scene of the spill, the Regional Wildlife Biologist or designee(s) will fill the Wildlife Assessment Group supervisor role, the Wildlife Hazing Group supervisor role, and the Wildlife Recovery Group supervisor role. Depending on the size of the spill, more than one role may be filled by the same person. These supervisors will form task forces and will report progress to the Wildlife Branch Director.

Public relations for wildlife rehabilitation will be coordinated through the SOSC. IF&W has trained staff to participate in the Joint Information Center (JIC). The Wildlife Branch Director will provide assistance to the JIC in the development of a public relations program for wildlife rehabilitation. The SOSC or the Federal On-Scene Coordinator will have ultimate responsibility for issuing alerts or warnings during an oil spill.

IF&W has developed a series of appendices to this Wildlife Rehabilitation Plan that are designed to facilitate initial response activities and to manage long-term response efforts. These appendices include staff assignments for the various roles in the Planning Section and the Wildlife Branch, checklists for each role or task, and standard forms.



9.4.3 Personnel Safety

Worker safety must be considered before any wildlife reconnaissance, protection or retrieval effort is conducted. The safety hazards that may confront wildlife personnel include toxic vapors, fire hazard, hazardous weather and seas, unsafe footing and injuries inflicted by wild animals. Therefore, all wildlife activities must conform to the Site Safety Plan that is developed by the Site Safety Officer (see Figure 9-2). All personnel must have appropriate job-specific safety training for the tasks to be performed. They must be adequately protected with the appropriate personal protection equipment (PPE) (rubber boots, safety glasses, gloves, etc) and trained in wildlife handling techniques that ensure worker safety and present the least amount of stress to wildlife.

9.5 OPERATIONAL STRUCTURE

When an oil spill occurs in Maine, response actions concerning the identification, protection, rescue, processing and rehabilitation of oiled or threatened wildlife are performed by the Wildlife Branch, a subsection of the Science and Environmental Unit within the Planning Section of the Unified Command/Incident Command System (Figure 9-2). Under the direction of the Wildlife Branch Director, the Wildlife Branch is dedicated to prevent, reduce, document and mitigate spill impacts on wildlife.

The principal objectives of the Wildlife Branch during a spill response and cleanup are to: (1) protect wildlife and habitats from oiling; (2) protect wildlife and habitats from adverse affects of response measures; (3) minimize unavoidable injuries to wildlife and habitats; (4) rescue and rehabilitate the maximum number of impacted wildlife possible; and (5) document for the Unified Command the resources at risk and the impacts to marine wildlife. To ensure that these objectives are achieved with maximum efficiency, the Wildlife Branch coordinates and manages the activities of the federal, state, local agencies, along with commercial and non-profit organizations responsible for marine wildlife protection and management who fall under the authority of the Unified Command during spill response. Successful Wildlife Branch activities are accomplished within the Unified Command by the timely and effective deployment and coordination of equipment and trained personnel who carry out established protocols to avoid and minimize wildlife casualties, document impacts, and treat affected wildlife.

Although the majority of IF&W's efforts will be focused within the Wildlife Branch, IF&W staff will also participate in the Joint Information Center and as a natural resource trustee in the Natural Resource Damage Assessment process.



9.5.1 Wildlife Branch

9.5.1.1 Wildlife Branch Director

The Wildlife Branch is where all operational activities related to oiled wildlife are coordinated. The Wildlife Branch Director (WBD) directs all Wildlife Branch operations. The WBD is responsible for minimizing wildlife losses during a spill response. The WBD coordinates early aerial, ground, and on-water assessments of wildlife in the spill area; employs wildlife hazing measures when required; ensures that a wildlife processing center is established and maintained; oversees recovery and rehabilitation of impacted wildlife; and coordinates operations among Federal and State trustee agencies. The WBD also oversees activities of any other private wildlife care groups, including those employed by the PRP.

9.5.1.2 Wildlife Branch Groups and Units

The five groups of the Wildlife Branch--the Wildlife Assessment Group, the Wildlife Hazing Group, the Wildlife Recovery Group, the Wildlife Processing Group, and the Wildlife Rehabilitation Group--serve under the direction of the WBD (Figure 9-3). IF&W staff or USF&WS staff fill key positions according to the Memorandum of Agreement between IF&W and USF&WS. The level of activation of the Wildlife Branch depends on anticipated impact of the oil spill on wildlife. On a spill that could impact large numbers of birds (in the thousands), then a full-scale Wildlife Branch should be developed and staffed. On smaller spills, the activities of many of the Wildlife Branch Groups and Units could be combined, resulting in a much smaller Wildlife Branch.

Because of the great sensitivity of the wildlife and habitat resources and the potential dangers of working with wild animals, all Wildlife Branch personnel must have received specialized training that is necessary for safe, competent completion of their assignments. Most Wildlife Branch activities require the involvement of at least one professional wildlife biologist. Staff and volunteers trained by IF&W possess the skills and expertise to participate in many units within the Wildlife Branch. The WBD is ultimately responsible for ensuring that qualified personnel perform each Wildlife Branch task safely and properly.

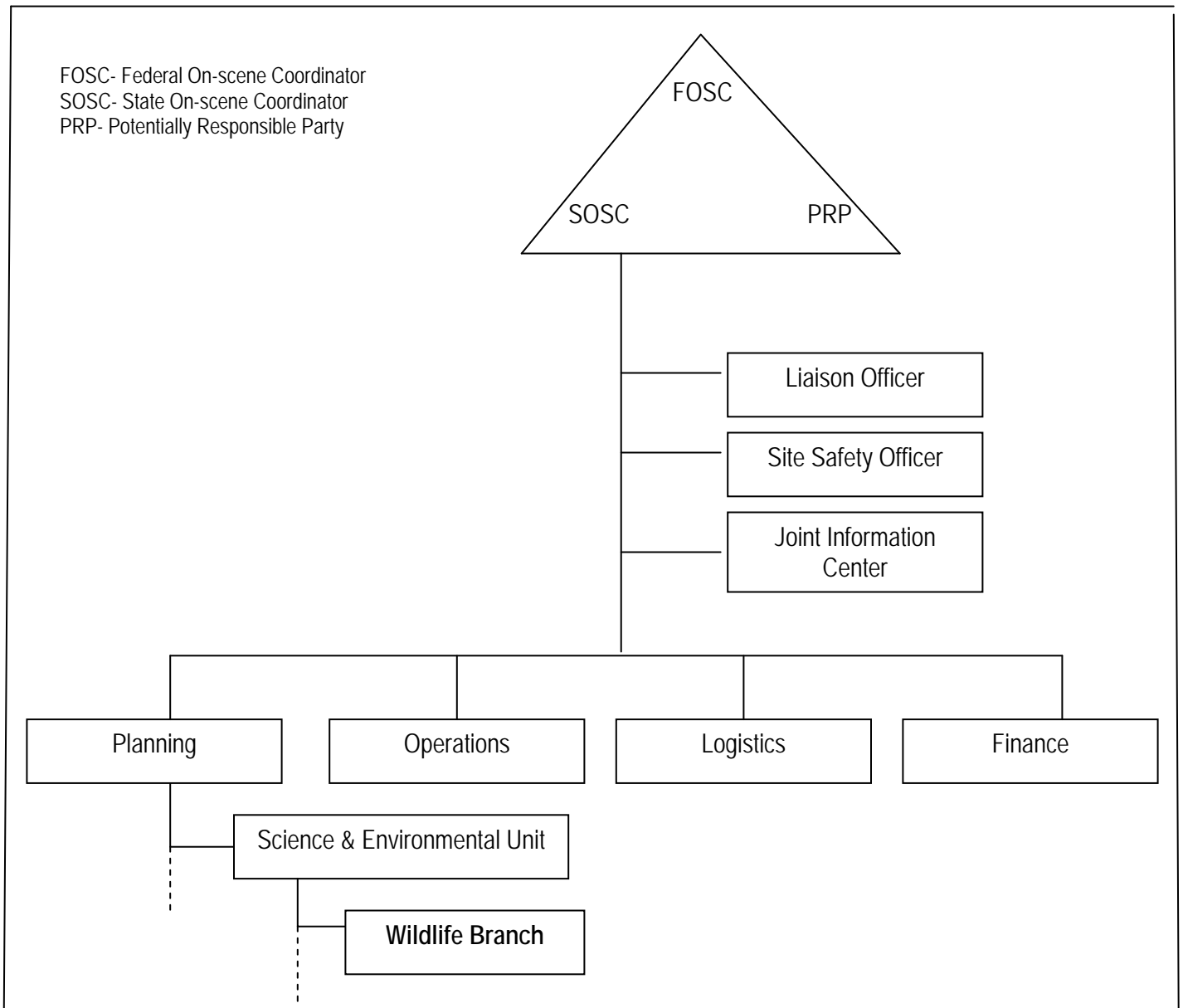
Because IF&W is the state trustee agency for wildlife resources in Maine, it takes the lead in the implementation of Maine wildlife operations. Further, as discussed previously, IF&W is subject to state statutory requirements to protect Maine wildlife in a spill. As a trustee, IF&W



SECTION 9: WILDLIFE REHABILITATION

biologists are uniquely knowledgeable about marine and coastal wildlife and issues experienced during wildlife response operations. Thus, IF&W will bear significant responsibility for informed and timely decisions about the allocation and deployment of specialized wildlife protection, rescue, and rehabilitation resources. This includes decisions regarding staff, equipment, and contractors, in coordination with the trustees.

FIGURE 9-2 WILDLIFE BRANCH POSITION IN THE UNIFIED COMMAND SYSTEM ORGANIZATION





9.5.1.2.1 *Wildlife Assessment Group*

The Wildlife Assessment Group identifies wildlife resources at risk by collecting real-time wildlife species abundance and location information in order for the WBD to develop and implement effective wildlife response strategies. While baseline data are essential, variations from baseline conditions, due to daily and seasonal movements of birds and mammals, necessitate rapid, real-time characterization or assessment of wildlife concentrations in the spill area. Depending upon the size and type of the spill and the habitats involved, real-time data will be collected using aircraft, boat and ground surveys.

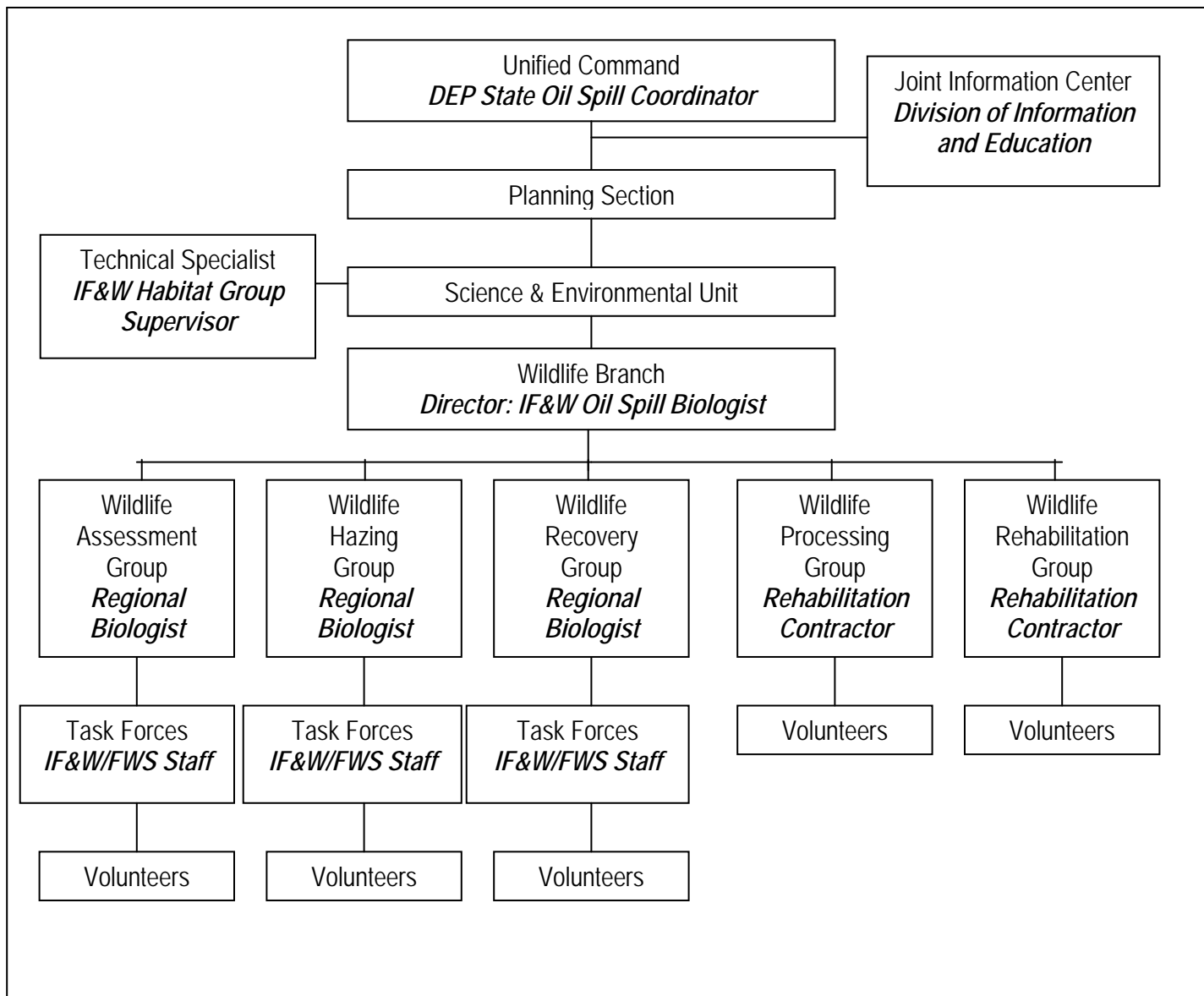
The Wildlife Assessment Group Supervisor is responsible for establishing and supervising the Aerial, Boat and Shoreline Assessment units, and for making survey team assignments. Assessment Group personnel include the Aerial Survey Unit Leader; the Boat Survey Unit Leader and the Shoreline Survey Unit Leader. Because these units all operate in the field collecting real-time information, it is critical that each team maintain a means of communication to the command post (e.g., Unit leader, a Group supervisor, or WBD).

Wildlife Assessment Group staff may include professional wildlife biologists, trustee agency representatives and other trained people. If specialized surveys for threatened and endangered species are needed, the Wildlife Assessment Group Supervisor or the WBD may call in additional wildlife specialists. These specialists will advise the WBD and the Unified Command about threats to listed species, the locations and numbers of oiled animals, and the need for capture, hazing or other protection strategies. These experts will survey on foot or by boat and will use species specific observation protocols.

Aerial Survey Unit-The aerial survey team will characterize the abundance, distribution, and species identification of on-water marine birds and mammals in or near the spill area. These flights complement, but do not replace, operational over flights for mapping oil. Using a global positioning system (GPS) linked to a laptop computer, the results of observations made on flight transects can be recorded, and in some cases, may be relayed near real-time by radio to a GIS specialist to produce graphical representations of current wildlife concentrations and locations.



FIGURE 9-3 WILDLIFE BRANCH GROUPS AND UNITS





SECTION 9: WILDLIFE REHABILITATION

The USF&WS aircraft stationed in Bangor, IF&W Warden Service or contract pilots and aircraft may be available for use. An initial flight covering a broad area of open water that includes the spill location and its likely trajectories should be made as soon as possible. Search patterns usually involve defined transect lines perpendicular to the coast. Assessment flights should be repeated each morning and afternoon, or at appropriate intervals based on such variables as wildlife resource at risk, amount of oil on water, trajectories, weather, or as otherwise directed by the WBD. Such reconnaissance activities should be closely coordinate with Air Operations within the Unified Command.

Boat Survey Unit-On-water survey teams may be dispatched to assess oiled and at-risk wildlife in offshore or near-shore coastal waters, bays or sloughs. While boat surveys most often involve searching in open water areas, they are also frequently used to search shorelines that are inaccessible by land. Teams will characterize species abundance and distribution of wildlife within the spill area. In most cases, personnel will be observing seabirds and marine mammals. Observations of other natural resources such as schooling fish and plankton blooms are also notable. This information is commonly known as "ephemeral" or "time-critical."

Observers will collect information on species present and their condition--live, dead, oiled and unoled; basic weather and sea conditions; and any other notable occurrence, which may be useful to the response effort. As a guide, information can be recorded on the Wildlife Assessment Survey Form with appropriate notations of the transect location, search time and methods. In some cases, on-water survey teams may also be responsible for collecting dead wildlife and catchable live oiled animals. If this is a designated team assignment, personnel on board must have the necessary minimum qualifications, along with specialized training and equipment needed to capture animals in the area. Otherwise, sightings of recoverable wildlife will be relayed to the Wildlife Recovery Group for immediate follow up. In any case, teams must update their supervisors in the chain of command frequently regarding process, observations, and issues.

Specific search patterns and techniques will depend on the survey type, habitat (e.g., near-shore or bay) and specifics at risk. In general, searches will be performed at constant speeds, cruising along fixed ladder-shaped or grid-pattern transect lines over predefined search area. The search area and distance around the spill area will depend on the habitat, weather, sea conditions, water



SECTION 9: WILDLIFE REHABILITATION

depth, and predicted tides and currents. These factors should be defined before beginning the survey. In small bays and sloughs transects may involve navigating up channels and/or following shorelines.

To effectively document search areas, track information derived from a different GPS is recommended. Each team should also maintain appropriate communications with the Boat Unit leader, Wildlife Assessment Group supervisor, and/or the WBD via cellular phone or VHF radio. Timely, regular scheduled reports of observations are essential to keep the Unified Command informed and provide the best possible response.

For safety and efficiency, boat survey teams generally should include two or more people. In all cases, at least one member of the team must be qualified to operate the boat considering the habitat, weather and sea conditions that exist during the spill. Other personnel must be qualified to observe wildlife at sea and on-water.

Boat survey teams may operate from a variety of craft depending on the habitat and conditions. Any coastal surveys will be done from a boat certified for ocean use and suitable for expected weather and sea conditions. This may include 20 or 30ft work boats, such as Boston Whalers, or inflatable boats. In small bays or sloughs shallow-draft boats are preferred. These may include skiffs, inflatables, airboats, hovercraft, canoes, or kayaks.

Shoreline Survey Unit-Shoreline survey teams will be dispatched to gather ephemeral or time-critical information via surveys in shoreline areas that are oiled or that are expected to be oiled. These assessment surveys will provide information regarding: biological resource (live and dead; oiled and non-oiled); shoreline habitats; seasonal features such as bird rookeries; marine mammals haul-out areas; estuarine mudflats and marshes; streams blocked by natural seasonal berms and rivers and flowing to the ocean.

During the initial stages of a spill, shoreline survey teams will be assembled by the WBD. One person on each team will be designated as the team leader. This person will be responsible for: decisions relating to human safety and data integrity; reporting assessment information back to the Unit Leader, Group Supervisor or WBD prior to each daily pre-planning meeting; and disseminating the following day's assignment to team members.



SECTION 9: WILDLIFE REHABILITATION

The Wildlife Assessment Group Supervisor or Shoreline Survey Unit leader will assign sections of the coast to survey and tasks to each team. Each team should receive survey and reporting instructions. Reporting instructions should include the name and phone number to report findings, as well as specific items which need to be reported, (e.g. live vs. dead species, numbers and/or species of oiled and unoled resources at risk, endangered and threatened species, etc.). Each team should also receive instructions on the disposition of samples or animals collected, survey forms, and the locations of intake stations. Members of the survey teams should receive a daily phone list for the WBD and his/her alternate at the Incident command Post, the Group Supervisor, the intake station(s), and contacts to gain access to special or secure areas. Communications must be open throughout the day to provide new direction or report observations up the chain of command.

Survey teams should be provided with data on resources at risk, including environmentally sensitive area and response strategy information on the Wildlife Assessment Survey Form. All shoreline survey teams should use the same version of each form. Other suggested survey equipment includes:

- Proper and necessary personnel protective equipment (PPE);
- Regional maps that include consistent beach names, numbers and access routes;
- Waterproof notebooks;
- Binoculars;
- "Clicker counters;"
- Cellular phones or VHF radios; and
- GPS receiver units

While it is not the primary function of the Shoreline Survey Unit to collect wildlife, Wildlife Assessment Group teams may be paired with Wildlife Recovery Group teams (at the direction of the WBD or Group Supervisor) to increase the speed and efficiency of shoreline surveys. In such instances, both groups may perform survey and recovery tasks simultaneously. In any case, uncaptured, impacted wildlife sightings should be reported to the Wildlife Recovery Group leader.

During moderate-sized spills, survey teams should consist of a minimum of two people for safety and to expedite the surveys, although on long, broad sandy beaches a survey team of three



SECTION 9: WILDLIFE REHABILITATION

people is optimal for efficiency. Team tasks can be divided among personnel in any number of ways (e.g., by shore zone, by function, or by expertise). For example, on a two-person team, one member can conduct wildlife observations, recording numbers and species of birds and mammals, both oiled and unoled, and assessing the potential for capture of oiled wildlife. The second member can investigate the wrack line and shore for evidence of oiling and identification of any dead oiled wildlife.

Walking beaches on foot is the most effective method for locating wildlife with little disturbance. However, vehicle use can also be effective to expedite survey search time, depending on the terrain and the size of the area to be covered. Special considerations pertaining to collateral impacts on wildlife must be addressed before assessment surveys via ATVs are authorized by the WBD. Authorization from the appropriate trustee agencies also must be obtained prior to authorizing any activities using ATVs in national parks. Because ATVs will potentially haze animals back into the water, caution and planning must be exercised. Close coordination with the Wildlife Recovery Group should occur so as not haze injured wildlife.

Professional wildlife biologists should staff shoreline survey teams. At the discretion of the Wildlife Assessment Group Supervisor, survey teams also may include training observers with knowledge and experience in oiled wildlife identification and handling. At a minimum, personnel conducting wildlife assessment should be experienced at identifying species of coastal birds and should be able to identify both breeding and alternate plumage in order to determine whether a live bird is oiled.

Use of Assessment Data for Near Real-Time Survey Mapping-
Within minutes after receiving data from an aerial, boat or shoreline survey team, the DEP's GIS Team in the Technical Specialist Unit of the Planning Section can create, and provide to the Unified Command, a map depicting resources at risk on open water and shorelines. This map will assist the WBD in identifying and ranking wildlife response strategies. For example, site-specific booming or hazing actions may be recommended based on this information. Also, the presence of an especially sensitive wildlife resource in a spill trajectory might prompt or preclude the use of dispersants or other alternative response technologies. The integration of pre-spill (baseline) data and assessment information provide the WBD and the Planning Section Chief with the ability



to develop a common understanding of, and strategies to, protect wildlife resources at risk during response.

9.5.1.2.1 *Wildlife Hazing Group*

Once oiled, habitats that have been traditionally attractive to wildlife may be candidates for hazing actions. If oil-free and disturbance-free habitats are known to be available in the vicinity and continued exposure to oil in the contaminated traditional use areas is anticipated, hazing may protect wildlife from an oil spill by deterring them from entering oil-contaminated areas on water or land.

The Wildlife Hazing Group Supervisor who reports to the WBD directs the Wildlife Hazing Group. The Wildlife Hazing Group Supervisor is responsible for minimizing wildlife impact and losses during spill responses. Other personnel in the Wildlife Hazing Group may include state or federal trustee agency biologists and university personnel with appropriate authorization and training.

If wildlife impacts are deemed to be unavoidable due to the predicted movement of oil in the hours and days following a discharge, then hazing can be initiated with little risk of exacerbating impacts. Hazing should always be considered in heavily oiled habitats, particularly when clean sanctuaries can be designated in the area. Hazing is likely to be ineffective or counterproductive, however, if the spill area is too large to focus deterrent actions or if animals are likely to be pushed into oiled habitat. Wildlife that has already been oiled should not be dispersed, since this can lead to the introduction of oiled animals into uncontaminated areas and populations. Rather, oiled animals should be captured as soon as practical.

Hazing activities must take place only under the authority and oversight of the trustee agencies, in coordination with the Unified Command. The recommendation to haze will be guided by site-specific and species-specific factors operating at the time of the spill, and by proven hazing techniques. A variety of hazing devices are available and can be deployed to meet the situation, such as Breco and Phoenix acoustical deterrent devices, propane cannons, cracker shells, alarms and whistlers, flags, predator models, human effigies, and others.

9.5.1.2.2 *Wildlife Recovery Group*



SECTION 9: WILDLIFE REHABILITATION

Wildlife recovery and transportation involves the collection of dead and live oiled wildlife and their transport to processing centers. The Wildlife Recovery Group, in close coordination with the Unified Command and the State and federal trustee agencies, performs these activities.

Oiled wildlife collection, treatment and rehabilitation are legislatively mandated and are important for spill documentation and humane and public relations reasons. In addition, the prompt removal of disabled and dead oiled animals from the environment can be critical to minimize the effects of secondary oiling such as poisoning of predators and scavengers. Appropriate measures must be undertaken by the PRP and the Unified Command to insure that dead animals are collected appropriately, identified, documented and not disposed of until approved by the trustees.

During a spill, the public views any dead animal, regardless of the cause of death, as a problem requiring the attention of response personnel. The problem is best resolved by removing all dead animals. The systematic processing of the collected wildlife provided the Unified Command with the necessary data to make informed statements about the status of affected wildlife and the environmental consequences of an oil spill.

The Wildlife Recovery Group Supervisor directs the Wildlife Recovery Group and reports to the WBD. The Wildlife Recovery Group Supervisor is responsible for the recovery of dead and live oiled wildlife that have been identified by the Wildlife Assessment Group or other individuals, and for the transportation of affected wildlife to processing/rehabilitation centers. The Wildlife Recovery Group Supervisor should frequently coordinate with the Situation Unit of the Planning Section.

Once animals have become oiled, habitat-specific and species-specific strategies to recover and remove disabled and dead wildlife are required. Systematic shoreline surveys for affected wildlife should ideally be carried out several times per day. Preferred search times are before dawn, at dusk, and in the middle of the day. Surveys are often conducted on foot or by boat. However, the use of ATVs and four-wheel drive trucks can expedite search times. Caution should be exercised with ATVs as they may scare wildlife back into the water or cause the animal(s) to flee the site. Successful captures not only depend on the condition of the animal, but also on the training and experience of the handler and the techniques and equipment used.



SECTION 9: WILDLIFE REHABILITATION

Each team should work in pairs and be outfitted with the resources and equipment necessary to complete their assignment. Basic equipment will include:

- Proper and necessary PPE;
- Dead bird body bags (collection containers);
- Pillow cases and pet carriers;
- Field tags to label and record collection information and Chain of Custody;
- Regional and Segment maps;
- Cellular phones or VHF radios;
- GPS receivers; and
- Basic capture equipment (e.g., nets)

Depending on the spill size, wildlife search, recovery and transportation can be accomplished with a combination of personnel from various Wildlife Branch groups or units. If response circumstances are favorable and properly trained personnel are available, wildlife recovery personnel may be integrated with Wildlife Assessment Group Unit teams who perform frequent (at least daily) systematic surveys of beaches/shoreline within the spill boundaries. For example, information on the location of captures and collections of dead and live animals throughout the survey area should be recorded to guide subsequent efforts and inform the Unified Command of impact to specific geographic areas. When live animals are located, transfer arrangements must be made promptly so transfer teams can take live birds to the rehabilitation facility. The timely deployment and coordination of recovery and transportation teams is best accomplished through open radio communications on dedicated frequencies or by cellular phone.

Recovery and Transportation personnel are from IF&W, other State and federal trustee agencies and approved contractors. As with other Wildlife Branch activities, Wildlife Recovery Group personnel will include a high proportion of professional wildlife biologists as well as trained, qualified volunteers.

Capture and Transport of Oiled Birds-Team work is essential to minimize stress in oiled birds. Success at recovering wildlife (especially flightful or mobile individuals) depends on proper techniques and timing. Methods used for search and collection will be dependent upon the location of the spill and the modes of



SECTION 9: WILDLIFE REHABILITATION

transportation made available through the Unified Command. Bird retrieval techniques are most effective if begun shortly before dawn. Qualified teams on foot with handheld nets should retrieve birds. Small projectile nets, linear sections of net placed on the ground and baited walk-in or swim-in traps should also be used.

Handling captured birds poses risks to both handler and birds. Because of the potential for birds to inflict injury on the handler, proper PPE is essential. Eye protection should always be worn. Use of appropriate gloves and outer clothing to prevent oiling of the handler are also important. To prevent further injury to wildlife, the use of proper handling techniques by trained personnel is essential.

After capture, birds should be immediately placed in pillow cases or ventilated, solid-sided pet carriers, cardboard boxes, or plastic airline kennels for transport. Social, non-aggressive birds can be placed with one or two conspecifics, but aggressive species, such as loons and cormorants, should be individually housed. Once captured, oiled live birds should be transported to the designated rehabilitation facility as soon as possible. If marine bird species must be transported for long distances or remain in pet carriers for longer than three hours, net-bottomed floors should be used. Since hypothermia is an important biomedical problem which affects oiled wildlife, it is advisable to bring oiled birds into a warm indoor environment as soon as possible, and to transport them in warm ventilated vehicles.

9.5.1.2.3 Wildlife Processing Group

All dead and live wildlife encountered in the spill response area should be retrieved by the Wild Recovery Group and transported to the wildlife processing center(s), regardless of the condition (degree of decomposition, degree of oiling etc.) of the carcass or live animal. The Wildlife Processing Group then logs these animals into the center to receive treatment (live animals) or be placed in storage (dead animals). The Wildlife Processing Group maintains an accurate record of all impacted wildlife. Each animal is brought to the center and the Wildlife Processing Group tracks the status and progress of each individual. This systematic documentation of adverse effects on wildlife will provide an understanding of the short-term and long-term consequences of oil spills to wildlife populations and assist in the guidance of spill response actions.



SECTION 9: WILDLIFE REHABILITATION

The Wildlife Processing Group Supervisor directs the Wildlife Processing Group and reports to the WBD. The Wildlife Processing Group Supervisor, who may be the same as, and will in any event coordinate closely with, the Wildlife Rehabilitation Group Supervisor, is responsible for establishing and maintaining centralized wildlife processing centers to receive all affected wildlife collected (dead or alive), and documenting and transporting dead wildlife to a secure storage facility. The Wildlife Processing Group Supervisor establishes and directs the operations of both the Wildlife Intake Unit Leader and the Wildlife Impact Documentation Unit Leader. The Wildlife Processing Group Supervisor will coordinate Unit activities with the Wildlife Rehabilitation Group and the Wildlife Recovery Group Supervisors. Wildlife processing personnel may include trained agency staff and also may be conducted by trained volunteers.

9.5.1.2.4 Wildlife Rehabilitation Group

The Wildlife Rehabilitation Group ensures that wildlife exposed to petroleum products can receive the best achievable treatment by providing access to trained personnel and pre-determined wildlife rehabilitation facilities. The Wildlife Rehabilitation Group Supervisor directs the Wildlife Rehabilitation Group and reports to the WBD. The Wildlife Rehabilitation Group Supervisor is responsible for activating and maintaining wildlife rehabilitation centers during a response. The Wildlife Rehabilitation Group Supervisor is also responsible for receiving live oiled wildlife from the Intake Unit and processing into the veterinary services/rehabilitation system, which involves conducting triage, treatment, rehabilitation and release. The Wildlife Rehabilitation Group Supervisor will coordinate closely with the Wildlife Recovery Group Supervisor and the Wildlife Processing Group Supervisor. The Wildlife Rehabilitation Group Supervisor position will be filled by the PRP's oiled wildlife rehabilitation contractor or by Maine's oiled wildlife rehabilitation contractor, the International Bird Rescue Research Center.

The Wildlife Rehabilitation Group is responsible for receiving live oiled birds requiring extended care and treatment at established treatment centers, recording essential medical information, conducting triage stabilization, treatment and rehabilitation. Specific protocols regarding these animals will not be addressed here as they are highly specialized, requiring special permits, expertise and veterinary care.



SECTION 9: WILDLIFE REHABILITATION

Birds are the most abundant wildlife taken in at the processing centers and are often treated and released within three weeks. However, the time in care depends on the location of the spill, product involved, species, preexisting injuries, and other logistical concerns. When rehabilitated animals are scheduled for release, local wildlife managers are consulted to identify oil-free and disturbance-free release sites. As a part of the spill response actions, birds and mammals are banded or tagged and in some cases, fitted with telemetry equipment for post-release monitoring. Released birds and mammals that behave abnormally or are noticed by the public may be recaptured if necessary.

Wildlife pathologists may conduct necropsies on selected dead animals to guide the Wildlife Rehabilitation Group in the treatment of remaining animals. There are several reasons for necropsies during a spill response. For example, captivity-related diseases that may necessitate necropsies to identify pathogens so that corrective medical actions can be taken. Fatalities to apparently unoiled wildlife may necessitate necropsies to determine if ingestion of petroleum has occurred or if there are other naturally occurring reasons for death (e.g. starvation).

Veterinary facilities designed for oil spill response must meet minimum space requirements and incorporate all required aspects of wildlife treatment and rehabilitation activities. An ideal facility should include: an intake/physical exam/evidence processing area; a veterinary hospital with isolation capabilities, indoor wildlife housing/caging, food storage and preparation facilities, animals washing and rinsing areas, indoor drying pens, outdoor pool and pen areas, and pathology facilities; volunteer training/eating area with restrooms; administrative offices with multiple phone/fax lines and conference space; storage; and access to a large parking area.

On large spills involving many oiled birds, choices may have to be made regarding which species are to be rehabilitated and which species are to be euthanized. IF&W developed a methodology to prioritize species based on the following four qualitative variables:

- Population size (large-1, medium-3, small-5)
- Reproduction potential (high-1, moderate-3, low-5);
- Geographic distribution (widely scattered-1, moderately scattered-3, clumped-5);
- Significance of Maine to the regional population (low-1, moderate-3, high-5)



Each species was evaluated according to these variables, and then the variables were summed. Based on this summed value, species were placed in 8 prioritized groups (Table 1). Group one contains all state and/or federal endangered or threatened species and thus has the highest priority for rehabilitation.

TABLE 9-1 PRIORITIZED GROUPS OF SPECIES

Group 1	Group 4 (continued)	Group 6 (continued)
Peregrine Falcon	Pomarine Jaeger	Pectoral Sandpiper
Roseate Tern	Red-necked Phalarope	Pied-billed Grebe
Piping Plover	Rough-legged Hawk	Purple Sandpiper
Bald Eagle	Scoter Species	Red Knot
Least Tern	Shearwater Species	Redhead
Arctic Tern	White-rumped Sandpiper	Ring-necked Duck
Atlantic Puffin	Wilson's Storm-petrel	Ruddy Turnstone
Harlequin Duck	Group 5	Sharp-shinned Hawk
Razorbill	American Bittern	Solitary Sandpiper
Group 2	Common Black-headed Gull	Sora
Black-legged Kittiwake	Glaucous Gull	Stilt Sandpiper
Brant	Great Blue Heron	Western Sandpiper
Leach's Storm-Petrel	Great Skua	Whimbrel
Black-crowned Night-heron	Green Heron	Wood Duck
Cattle Egret	Horned Grebe	Group 7
Common Tern	Iceland Gull	American Black Duck
Glossy Ibis	King Eider	American Green-winged Teal
Great Egret	Little Gull	American Woodcock
Least Bittern	Marbled Godwit	Black-bellied Plover
Little Blue Heron	Northern Fulmar	Blue-winged Teal
Snowy Egret	Northern Harrier	Common Merganser
Tricolored Heron	Red-necked Grebe	Goldeneye/Bufflehead
Group 3	Red-throated Loon	Great Snow Goose
Barrow's Goldeneye	Willet	Hooded Merganser
Dovekie	Group 6	Red-breasted Merganser
Laughing Gull	American Widgeon	Ring-billed Gull
Murre Species	Baird's Sandpiper	Sanderling
Northern Gannet	Bonaparte's Gull	Scaup Species
Red Phalarope	Canada Goose	Short-billed Dowitcher
Group 4	Canvasback	Spotted Sandpiper
Black Guillemot	Dunlin	Yellowlegs Species
Common Eider	Hudsonian Godwit	Group 8



Common Loon	Killdeer	Common Snipe
Great Cormorant	Least Sandpiper	Double-crested Cormorant
Merlin	Lesser Golden-plover	Great Black-backed Gull
Oldsquaw	Long-billed Dowitcher	Herring Gull
Parasitic Jaegar	Northern Pintail	Mallard
	Osprey	Semipalmated Sandpiper

9.5.1.3 Law Enforcement

A USF&WS Special Agent will be stationed at the Wildlife Rehabilitation Center to collect carcasses needed for criminal prosecution. Chain-of-custody will be maintained by the USF&WS Special Agent. In addition, USF&WS will provide law enforcement services at the Wildlife Rehabilitation Center as needed.

9.5.1.4 Demobilization

Upon the conclusion of oiled wildlife response activities, the Wildlife Branch is demobilized, following standard checkout procedures identified through the Unified Command. Wildlife Branch demobilization follows a conclusive determination by the WBD, in consultation with Group Supervisors, that all wildlife affected by the spill have been addressed. Demobilization of Wildlife Groups and Units will generally lag behind that of response equipment and personnel, due to variables such as animals remaining in rehabilitative care, the presence of residual oil, and the presence of visibly oiled free-flying birds. This lag time may be several weeks.

The last resource of the Unified Command to be demobilized will likely be the personnel and equipment of the Wildlife Rehabilitation Group and the facilities used during the spill. Due to the time involved in the cleaning, treatment and rehabilitation of oiled wildlife, animals may come into the rehabilitation center late in the response and will likely be in care for a few weeks, so may be required to operate for the weeks following the admission of the last animal into rehabilitation. During that time, as more animals are released and fewer animals remain in care, personnel and equipment resources will gradually be demobilized. After the last animal leaves care, the center should be sanitized and prepared for the next response before closing down.

9.5.2 Joint information Center (JIC)

The role of the JIC is to serve as a central location for the media to receive up-to-date information about the oil spill response. Because wildlife information is so



important during an oil spill, IF&W has assigned staff from the Division of Public Information and Education to represent IF&W and the Wildlife Branch with the JIC so that accurate information regarding Wildlife Branch activities will be communicated within the response organization and to the general public. The Wildlife Branch Director will provide assistance to the JIC in the development of a public relations program for wildlife rehabilitation. The SOSOC or the Federal On-Scene will have ultimate responsibility for issuing alerts or warnings during an oil spill.

9.5.3 Natural Resource Damage Assessment

The Natural Resource Damage Assessment process begins almost immediately following an oil spill. It is very important to collect data as soon as possible so that an adequate assessment of the damage resulting from the spill may be made. Coordination of data collection will be conducted by a team of federal and state natural resource trustees and by staff representing the potentially responsible party and will proceed according to NOAA guidelines. Data collected during the wildlife recovery and rehabilitation process is used to determine the extent of injury and to scale the restoration effort. The intent of Natural Resource Damage Assessment is to make the public whole for the natural resources damaged during an oil spill. In previous oil spills in Maine, the DEP functioned as the lead administrative trustee for Natural Resource Damage Assessment.

9.6 RESOURCES

9.6.1 IF&W Response Staff

IF&W Wildlife Division staff are provided with sufficient training so that they may respond immediately following an oil spill. Initial training includes 40 hours of general safety training, first aid/CPR training, boat handling and oiled wildlife rehabilitation training. Following the initial 40 hours of training, Wildlife Division staff attend at least 16 hours of refresher training, which includes first aid/CPR training, safety training and/or wildlife rehabilitation training. This series of trainings meets OSHA requirements for on-site participation during oil spills.

9.6.2 Oiled Wildlife Rehabilitation Contractor

The State of Maine has a five-year contract (May 1, 2008-April 30, 2013) with the International Bird Rescue Research Center (IBRRC) to provide training to IF&W staff and volunteers and to provide oiled wildlife rehabilitation services as needed. If activated, IBRRC will staff and run the Wildlife Rehabilitation Group and the



Wildlife Processing Group in the Wildlife Branch (see below). In addition, IBRRC may provide assistance to the Wildlife Recovery Group and the Wildlife Hazing Group. IF&W determine when to contact IBRRC-

The IRRRC contact is James Lewis: 707\207-0380

9.6.3 Trained Local Wildlife Rehabilitators

IF&W and IBRRC have trained over 30 local wildlife rehabilitators in Maine to rehabilitate oiled wildlife. For oil spills involving fewer than 10 oiled birds, these wildlife rehabilitators may be contracted to provide oiled wildlife rehabilitation services. For larger spills, these wildlife rehabilitators may be contacted to assist with setting up the Wildlife Rehabilitation Center prior to the arrival of IBRRC or the PRP's oiled wildlife rehabilitation contractor.

9.6.4 Trained Volunteers

Since 1993, IF&W and IBRRC have trained over 300 volunteers to assist us during an oil spill response. These volunteers may be called upon for assistance at the Wildlife Rehabilitation Center, triage centers if established, transporting oiled wildlife, or answering the Oiled Wildlife Hotline.

9.6.5 Oiled Wildlife Hotline

IF&W has established a toll-free hotline for use by the public to report oiled wildlife. The number is 1-877-OIL-BIRD (1-877-645-2473). Currently, this number is directed to a phone in IF&W's Bangor office (207-941-4448). As soon as a specific phone has been designated as the oiled wildlife hotline at the rehabilitation center on the command post, then the toll-free number will be re-directed to the designated phone. Oiled wildlife report forms will be used to collect information according to a standardized format. Alternatively, if the Oiled Wildlife Management System is implemented (see below), then oiled wildlife reports will be collected using this system and transmitted throughout the response organization via the web server.

9.6.6 Oiled Wildlife Management System

The Oiled Wildlife Management System is designed to facilitate the flow of wildlife information during a spill response within the response organization and to the general public. This system consists of two customized applications



developed using Arcview GIS and Microsoft Access software that may be linked together by a web server. The first component of this system facilitates the collection and dissemination of oiled wildlife reports from the general public. The second component facilitates the management of the Wildlife Assessment Group, the Wildlife Hazing Group, and the Wildlife Recovery Group.

9.6.7 Oiled Wildlife Response Equipment

IF&W maintains a supply of wildlife relocation, deterrence, and rehabilitation equipment in Bangor (see Appendix II of this plan which includes several IF&W Appendices). After the first 24-48 hours of a spill response, additional equipment will be available as needed through the Logistics Section of the Unified Command. As with personnel, the amount of specialized equipment deployed can vary from a relatively small core of items to a full-scale deployment. Among the equipment the IF&W has dedicated for immediate deployment are:

- 23' Parker Boat w/250 HP Yamaha (Bucksport)
- 2 Old Town Canoes (Orono)
- Supply/Wildlife Transport trailer (Bangor)
- Hazing Equipment (including 1 Breco Buoy and 2 Phoenix acoustical devices)
- Capture Equipment
- Personal Protection Equipment (PPE)

Additional equipment can be obtained from the IF&W and from other governmental agencies and response contractors.

9.6.8 Wildlife Rehabilitation Facilities

IF&W has an agreement with the Maine National Guard to use coastal armories as wildlife rehabilitation centers during an oil spill. Depending on the location of the spill, armories in Portland, Westbrook, Brunswick, Belfast, or Calais are available for use. IF&W will determine when to contact the Maine National Guard.

Contact: Donovan G. Lajoie, P.E.
Lieutenant Colonel, Maine Army National Guard
Director of Facilities Engineering
(207)626-4220



9.6.9 Wildlife Databases and Map Products

9.6.9.1 Environmental Vulnerability Index Maps

The DEP periodically produces a set of maps depicting analyzed geospatial data provided by IF&W, DMR, DOC, and the Maine Office of GIS, as well as other sources. See Section 8.3 for information regarding the GRP and EVIs.

IF&W provides the following geospatial data layers:

- Rafting Bird Observations
- Seabird Nesting Islands
- Shorebird Areas
- Piping Plover/Least Tern Essential Habitat
- Roseate Tern Essential Habitat
- Bald Eagle Essential Habitat
- Harlequin Duck Wintering Habitat
- Coastal endangered and threatened species

DMR provides the following geospatial data layers:

- Diadromous Fish Runs
- Elver Runs
- Herring Spawning Areas
- Lobster Pounds
- Shellfish Beds
- Mussel Seed Conservation Areas
- Marine Worm Areas
- Eelgrass Beds
- Herring Weir Sites
- Lobster Dealers
- Aquaculture Lease Sits

DOC provides geospatial data on coastal marine geologic environments and boat launches. Seal haul-outs and conservation lands are also depicted on the maps. Archaeological information, provided by the Maine Historic Preservation Commission, is available for use during a spill.

9.6.1.1 IF&W Geographic Information System

The DEP maintains a Mobile Oil Spill Information System (MOSIS) for use during a spill event. The system can be transported to a command post for use in the field. The servers contain all of the relevant GIS data layers maintained by DEP and the Maine Office of GIS, as well as specialized data sets and templates developed to simulate the geographic location of the spill and spill



response resources during an event. The system can support a team of GIS operators in a remote location.

IF&W maintains a geographic information system on a notebook computer. Data layers in this geographic information system include all of the layers listed above as well as the Midwinter Waterfowl Survey data and additional aerial survey data from Casco Bay.

DMR also maintains laptop GIS capability for use during a spill event, and relies on additional support from its laboratory in Boothbay Harbor.

9.7 COST EFFECTIVENESS OF OILED WILDLIFE REHABILITATION

It is extremely difficult to accurately evaluate the overall cost-effectiveness of wildlife rehabilitation. Estimating the costs of rehabilitating individual animals is not as simple as dividing the number of animals into the total cost of the rehabilitation program. These include delays in response, daily vessel use fees, wages, and increased supply costs.

The effectiveness of rehabilitation is even more difficult to measure. The number of animals handled in a given spill may be only a small fraction of the total number of oiled animals. If only a small percentage of birds or mammals are brought into rehabilitation facilities, and only a percentage of those animals are returned to the wild (with unknown survival rates), then one may argue the cost-effectiveness is low. The above argument does not take into account the case of endangered species where every individual is important to the survival of that species. Regardless of the effectiveness, the public, as well as federal and State government, require that oiled wildlife be given proper treatment.

Another approach to evaluating cost is to attempt to put a replacement value on individual animals. Assessing the relative value Maine's citizen's assign to certain species or estimating value-based fines for taking the species may be one approach in this direction.

There are many ways to reduce the costs associated with oiled wildlife rehabilitation programs. Preplanning, stockpiling of supplies, identification of adequate oiled wildlife care facilities, identification of a rehabilitation contractor, local wildlife rehabilitation capabilities, and training are a few ways in which expenses associated with these programs can be minimized. When these components are realized, not only is money saved but also the survival of oiled wildlife can be maximized. Evaluating the cost effectiveness of an oiled wildlife program should be done solely for the purpose of reviewing past expenditures with the intent of improving procedures for the future and reducing costs.



SECTION 9: WILDLIFE REHABILITATION

The bottom line is that rehabilitation activities will take place in connection with oil spills. Predetermining the level of response, setting species priorities, and prestaging wildlife rehabilitation equipment can control the cost.



PUBLIC INFORMATION

Public information efforts will be coordinated with the Federal On-Scene Coordinator and the responsible party. Whenever an oil spill occurs, a critical need exists to clearly and concisely inform the public of the nature of the situation and the actions being taken to mitigate the spill. The SOSC or the Federal On-Scene Coordinator may choose to directly contact and deal with the news media, public officials, and individuals. The SOSC or the Federal On-Scene Coordinator will designate the location of and a spokesperson, called a Public Information Officer (PIO) for the information office (or Joint Information Office). In the event of a major coastal spill, it will be the responsibility of the Incident Command System to identify the Public Information Officer. The spokesperson will coordinate the dissemination of information with assistance from the Maine Emergency Management Agency and the Governor's Press Office. The goal is to ensure accurate transfer of information and consideration of local needs and interests.



RESPONSE TRAINING AND ANNUAL DRILLS

11.1 RESPONSE TRAINING

Training is important for the readiness and effectiveness of the response team. The training program for the Division of Response Services includes basic training, required annual or periodic training, and enrichment training. Basic training covers topics such as responding to land transportation spills, hazardous materials incident response operations, marine incident response operations, petroleum tanker safety, and incident command. Annual and periodic training includes first aid, annual review of the Occupational Safety and Health Act safety and training requirements, respiratory refresher training, response workshops, and response safety simulation exercises. Specific training requirements for response staff are contained in the Bureau of Remediation and Waste Management Safety and Field Operations Procedures Guidance Manual.

11.2 ANNUAL DRILLS

The DEP will hold annual drills to test the adequacy of this plan and the preparedness of its response team. The annual drills may vary in scope from informal tabletop exercises, to exercising an individual component of the plan, to involving all federal, state, and local participants. Annual drills will be coordinated with drills scheduled by oil spill cooperatives, industry, the U.S. Coast Guard, and others.



WORKER HEALTH AND SAFETY

12.1 RESPONSIBILITY FOR HEALTH AND SAFETY

All government agencies and private employers are directly responsible for the health and safety of their own employees. When response operations are undertaken, an occupational health and safety program, including a site health and safety plan, must be made available to workers at the scene of operations. The site health and safety plan must be followed, in addition to meeting any applicable provisions of federal and state occupational safety and health regulations. All workers must be apprised of the site hazards, site safety practices, and other provisions of the site health and safety plan. A generic Marine Site Safety Plan for use during the initial phase of an oil spill response has been developed by the DEP and is attached as Appendix III. During a larger spill specific site safety plans will be developed as part of the ICS planning process.

12.2 FEDERAL REQUIREMENTS

The Occupational Safety and Health Administration (OSHA) has promulgated health and safety standards that apply to all private and federal employees (29 CFR 1910.120). Since Maine does not have an OSHA-approved State plan, state and local employees fall under rules adopted by the U.S. Environmental Protection Agency (40 CFR 311). The two agency rules contain nearly identical requirements, since 40 CFR 311 incorporates the provisions of 29 CFR 1910.120. The exception is that the OSHA rule covers only compensated workers, whereas the EPA rule covers non-compensated (volunteer) workers as well.

All persons who respond to oil spills in any capacity must receive training which is in compliance with 29 CFR 1910, Subpart L and 29 CFR 1910.120. Hazardous Waste Operations and Emergency Response (HAZWOPER) training is divided into two phases, an emergency phase and a post-emergency phase. Training requirements vary depending on the phase of clean-up.

12.2.1 Emergency Response vs. Post-Emergency Response

The HAZWOPER standard identifies two basic phases of a response action: emergency response and post-emergency response. Depending on the size of the spill, these phases may be managed differently. In addition, workers who participate **ONLY** in post-emergency response require different training than emergency response workers receive.

Emergency response is "a response effort...to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance" (29 CFR



1910.120(a)(3)). For marine oil spills, an uncontrolled release is a situation in which the oil and its associated airborne and surface contamination hazards are releasing into the environment or are in danger of releasing into the environment and posing a worker exposure hazard. Oil in grounded ships, which is in danger of being released into the environment, represents an emergency response situation. On-water containment, skimming operations, and underwater oil recovery operations also are considered to be emergency response activities because the oil is still in danger of being further released into the environment. Shoreline cleanup is normally considered to be a post-emergency response unless the oil is below the high-tide mark or storm surge boundary (active or forecasted) and can reasonably be expected to be re-released into the marine environment.

Post-emergency response is performed "after the immediate threat of a release has been stabilized or eliminated and cleanup of the site has begun" (29 CFR 1910.120(a)(3)). Oil spilled into a marine environment is considered to be stabilized when it is in a stable container with no compromised structural integrity, to limit the potential for worker exposure to associated hazards. This includes floating bladders, barges, drums, and roll-off containers on shore. Oil also is considered to be stabilized when it is stranded on shore and not reasonably expected to re-release into the environment through wave or storm effects. Floating oil is not considered to be stabilized, even if contained within a boom.

During response to a large release such as a marine oil spill, emergency response and post-emergency response cleanup activities may occur at the same time. In these cases, the boundaries between the emergency response area and the post-emergency response area must be well defined and explained to responders and cleanup workers.

12.2.2 Applying the HAZWOPER Standard to Marine Oil Spills

For marine oil spill emergency response, the HAZWOPER provisions that most directly apply include:

Emergency response operations in HAZWOPER paragraph (q), and Post-emergency response cleanup operations in paragraph (q)(11).

See also emergency response training provisions in paragraph (q)(6), and post-emergency response training requirements in paragraph (q)(11).

12.2.3 When HAZWOPER Does Not Apply

HAZWOPER does not apply to incidental releases that are limited in quantity and pose no safety and health threat to employees working in the immediate vicinity



of the spill. These oil spills can be absorbed or controlled at the time of the release by employees in the immediate vicinity. The difference between emergency spills and incidental releases is described in the definition of emergency response in HAZWOPER paragraph (a)(3). An incidental release does not have the potential to become an emergency within a short time. If an incidental release occurs, employers do not need to implement HAZWOPER.

12.2.4 HAZWOPER Coverage for Volunteers

Volunteers frequently participate in marine oil spill response, but Federal OSHA standards do not cover uncompensated workers. In states approved to manage their own occupational health and safety program (called OSHA state plan states), volunteers are often covered under state plan HAZWOPER requirements. In states administered by Federal OSHA, volunteers are covered by the EPA HAZWOPER standard (40 CFR 311). EPA's HAZWOPER standard has identical requirements, but the coverage is different from Federal OSHA standard coverage. The EPA standard covers local and state government employees, both compensated and volunteers.

12.3 HAZARDS TO MARINE OIL SPILL RESPONDERS

Marine oil spill responders face a variety of health and safety hazards, including fire and explosion, oxygen deficiency, exposure to carcinogens and other chemical hazards, heat and cold stress, and safety hazards associated with working around heavy equipment in a marine environment. A full discussion of these hazards is beyond the scope of this document, but a brief list of chemical hazards and their known health consequences is shown in Table 1. Workers should be trained to anticipate and control exposure to the hazards associated with their assigned duties.

To determine acceptable levels of exposure, consult OSHA's exposure limits in 1910 Subparts G and Z. If OSHA does not regulate an exposure of concern, consult the National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs) and Immediately Dangerous to Life and Health (IDLH) levels. If neither OSHA nor NIOSH has established a limit, consult the American Conference of Government Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) for chemical, physical, and biological agents. A more protective limit than OSHA's may be used if one has been established and controls planned for accordingly. Material Safety Data Sheets from the product manufacturer may provide useful information for worker training.



TABLE 12-1 HAZARDOUS CHEMICALS AND THEIR EFFECTS

Hazardous Chemicals	Adverse Health Effects
Benzene (crude oils high in BTEX, benzene, toluene, ethyl benzene, and xylene)	Irritation to eyes, skin, and respiratory system; dizziness; rapid heart rate; headaches; tremors; confusion; unconsciousness; anemia; cancer
Benzo(a)pyrene (a polycyclic aromatic hydrocarbon reproductive [see below], formed when oil or gasoline burns)	Irritation to eyes and skin, cancer, possible effects
Carbon dioxide (inerting atmosphere, byproduct of combustion)	Dizziness, headaches, elevated blood pressure, rapid heart rate, loss of consciousness asphyxiation, coma
Carbon monoxide (byproduct of combustion) Irritation to eyes, skin, and respiratory	Dizziness, confusion, headaches, nausea, weakness, loss of consciousness, asphyxiation, coma
Ethyl benzene (high in gasoline)	Irritation to eyes, skin, and respiratory system; loss of consciousness; asphyxiation; nervous system effects
Hydrogen sulfide (oils high in sulfur, decaying plants and animals)	Irritation to eyes, skin, and respiratory system; dizziness; drowsiness; cough; headaches; nervous system effects
Methyl tert-butyl ether (MTBE) (octane booster and clean air additive for gasoline, or pure MTBE)	Irritation to eyes, skin, and respiratory system; headaches; nausea; dizziness; confusion; fatigue; weakness; nervous system, liver, and kidney
Polycyclic aromatic hydrocarbons (PAHs) (occur in crude oil, and formed during burning of oil)	Irritation to eyes and skin, cancer, possible reproductive effects, immune system effects
Sulfuric acid (byproduct of combustion of sour petroleum product)	Irritation to eyes, skin, teeth, and upper respiratory system; severe tissue burns; cancer
Toluene (high BTEX crude oils)	Irritation to eyes, skin, respiratory system; fatigue; confusion; dizziness; headaches; memory loss; nausea; nervous system, liver, and kidney effects
Xylenes (high BTEX crude oils)	Irritation to eyes, skin, respiratory system; dizziness; confusion; change in sense of balance; nervous system gastrointestinal system, liver, kidney, and blood effects

There are additional hazards that marine oil spill responders may need training to work safely around. You should decide which hazards apply to your operations.

- Biological (e.g., plants, animals, insects, remediation materials)
- Drowning
- Noise
- Electricity
- Slips and Trips
- Biohazardous debris (e.g., syringes on shoreline)
- Ergonomic Stresses (e.g., repetitive strain, low back pain)
- Sunburn



- Confined Spaces
- Underwater Diving
- Falls
- Unguarded Equipment
- Cranes
- Fatigue
- Vehicles (e.g., aircraft, boats, cars, trucks)
- Cutting and Welding
- Fire and Explosion
- Degreasers
- Heat or Cold Stress
- Dispersants
- In-Situ Burning Particles

Additional OSHA standards that may apply to marine oil spill response and cleanup operations:

- 1910 Subpart D - Walking-Working Surfaces
- 1910 Subpart E - Means of Egress
- 1910 Subpart F - Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms
- 1910 Subpart G - Occupational Health and Environmental Control
- 1910 Subpart H - Hazardous Materials
- 1910 Subpart I - Personal Protective Equipment
- 1910 Subpart J - General Environmental Controls
- 1910 Subpart K - Medical and First Aid
- 1910 Subpart L - Fire Protection
- 1910 Subpart M - Compressed Gas and Compressed Air Equipment
- 1910 Subpart N - Materials Handling
- 1910 Subpart P - Hand and Portable Powered Tools and Other Hand-Held Equipment
- 1910 Subpart S - Electrical
- 1910 Subpart T - Commercial Diving Operations
- 1910 Subpart Z - Toxic and Hazardous Substances

12.4 STATE REQUIREMENTS

The State of Maine's Bureau of Labor Standards regulates state and local employees, and has adopted the requirements of 29 CFR 1910.120. Refer to 12.2, Federal Requirements.