Environment Canada Environnement Canada

Environment Canada

Canadian Wildlife Service's

National Wildlife Emergency Response Contingency Plan

November 2015

Canada

ABSTRACT

Environment Canada Canadian Wildlife Service National Wildlife Emergency Response Contingency Plan (NWERCP) forms a blueprint to address emergency response requirements to enable and optimize the most appropriate and scalable Wildlife response actions during pollution and non-pollution incidents at national, regional and geographic levels. The NWERCP focuses on the critical planning issue and establishes standards and guidelines to facilitate the coordination of wildlife emergency response options to ensure that existing science and expertise is accessible, and input is provided in a timely and coordinated manner in order to support sound decisions to address environmental concerns, priorities and strategies. The NWERCP identifies EC-CWS engagement, coordination and integration for on-site wildlife response nationally, regionally and geographically, with response planning to provide consistent advice to Lead Agencies (LA), Responsible Parties (RP) and other response partners, and to ensure that skilled and certified core responders are available to provide incident-specific support regionally and nationally.

The NWERCP outlines the emergencies notification process, provides operational and procedural guidelines for Departmental staff and identifies procedures for compiling and making available an administrative record for wildlife response actions. The plan incorporates the principles of protection for the welfare and conservation of wildlife threatened and/or impacted by pollution and non-pollution incidents, and prioritizes the health and safety of wildlife emergency response staff to ensure that staff are adequately prepared to work safely during pollution and non-pollution incidents affecting wildlife. The NWERCP allows for flexibility in contingency planning, respecting the natural and political variability at international, national, regional and geographic levels. It provides for the establishment of landscape, regional and area contingency plans where appropriate and identifies standard operating procedures for the participation of other government and non-government organizations in wildlife response actions.

In general, most industries in Canada must have emergency response plans in place as required through different legislation and the associated regulations. The best approach to minimize environmental impacts caused by pollution and non-pollution incidents is to have multiple response options available. The NWERCP outlines the initial and ongoing requirements

to support any Wildlife response objectives during a pollution or non-pollution incident in Canada. The NWERCP can be used as a supplement to support the development incident specific contingency plans or to support the development of Wildlife emergence response plan requirements of the Incident Command System for pollution and non-pollution incidents affecting Wildlife.

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LIST OF ACRONYMS

BC	British Columbia
BCR	Bird Conservation Region
CANUSCENT	Canadian-United States Joint Inland Contingency Plan for Pollution Incidents along the inland borders between the Province of Ontario, Canada, and the States of New York, Minnesota, and Michigan, USA
CANUSDIX	Canadian-United States Joint Marine Contingency Plan, Dixon Entrance Geographical Entrance
CANUSEAST	Canadian-United States Joint Inland Contingency Plan for Pollution Incidents along the inland borders between the Province of New Brunswick, Canada, and the State of Maine, USA
CANUSLAK	Canadian-United States Joint Marine Contingency Plan, Great Lakes Operational Supplement
CANUSLANT	Canadian-United States Joint Marine Contingency Plan, Atlantic-Geographical Annex
CANUSNORTH	Canadian-United States Joint Marine Contingency Plan, Beaufort Sea Geographical Annex
CANUSPAC	Canadian-United States Joint Marine Contingency Plan, Pacific-Geographical Annex
CANUSPLAIN	Canadian-United States Joint Inland Contingency Plan for Pollution Incidents along the inland borders between the Provinces of Alberta, Saskatchewan and Manitoba, Canada, and the States of Montana, Minnesota, and North Dakota, USA
CANUSQUE	Canadian- United States Joint Inland Contingency Plan for Pollution Incidents along the inland boundary between the Province of Québec, Canada, and the States of Vermont, New Hampshire, Maine, and New York, USA
CANUSWEST	Canadian-United States Joint Inland Contingency Plan, Western States Annex
CCG	Canadian Coast Guard
CWHC	Canadian Wildlife Health Cooperative
DFO	Department of Fisheries and Oceans
EC	Environment Canada

EC-CWS	Environment Canada – Canadian Wildlife Service
EEP	Environmental Emergencies Program
GoC	Government of Canada
IBA	Important Bird Area
LA	Lead Agency
MBCA	*Migratory Birds Convention Act, 1994*
MBR	Migratory Birds Regulations
MBU	Marine Biogeographic Unit
NEEC	National Environmental Emergencies Centre
NWERCP	National Wildlife Emergency Response Contingency Plan
PNR	Prairie Northern Region
RP	Responsible Party
SARA	Species at Risk Act
US	United States
WOVI	Winter Oil Vulnerability Indices
YT	Yukon Territory

DEFINITIONS

Coordinator: a person who will lead and implement emergency response on behalf of EC-CWS in co-operation with and represent EC-CWS's interests in liaising and integrating with other federal and provincial government departments and other organizations involved in the response during pollution and non-pollution incidents affecting Wildlife.

Environmental Emergencies Science Table (Science Table): the Science Table brings together relevant experts in the field of environmental resource protection in the event of an emergency response. It is a Table of experts that provides consolidated scientific and technical advice on environmental concerns, priorities, and strategies, thus enabling and optimizing the environmental response.

Incident: any uncontrolled or unexpected event or environmental occurrence that may result in an immediate or long-term harmful effect on the life or health of Wildlife.

Lead Agency: identifies a department as the Lead Agency according to legislative responsibilities. The department that has authority over the activity from which the emergency originates is generally designated as the Lead Agency.

Migratory Bird: means migratory birds as defined in the *Migratory Birds Convention Act, 1994* (Canada). *Migratory Bird Convention Act* (S.C. 1994, c.22). Retrieved from the Department of Justice Canada website: http://laws-lois.justice.gc.ca/eng/acts/M-7.01/.

Non-pollution Incident: any uncontrolled or unexpected event or environmental occurrence, including disease related incidents that may result in the mass mortality of Wildlife.

Pollution Incident: an uncontrolled or unexpected incident involving the release, or the likelihood thereof, of a polluting substance into the marine or terrestrial environment that results or may result in an immediate or long-term harmful effect on the life or health of Wildlife. It may be caused by an industrial activity, natural emergency, or by a willful act.

Responder: emergency response personnel who will provide on-site support on behalf of EC-CWS during emergency response incidents affecting Wildlife.

Response Organization: any qualified person or organization that has been given a certificate of designation by the Minister of Transport to carry out emergency response activities (as per the revised *Canada Shipping Act* (2001)). In Canada, there are four Response Organizations (ROs) as follows: Atlantic Emergency Response Team, Eastern Canada Response Corporation Ltd., Western Canada Marine Response Corporation, and Point Tupper Marine Services Ltd.

Responsible Party: in Canada, the Responsible Party (RP) — the polluter — is required to take responsibility for the damages they cause to the environment and to assume responsibility for any related costs. Following an environmental emergency, the polluter is required to take all reasonable environmental protection actions to mitigate environmental effects and to repair any resulting environmental damage. This is known as the **Polluter Pays Principle**. It is a key principle of Canada's environmental emergencies management approach (as per the *Canada Shipping Act,* 2001 (S.C. 2001, c. 26). Retrieved from the Department of Justice Canada website: http://laws-lois.justice.gc.ca/eng/acts/s-9/. If the RP is unable to cover the costs associated with the damage they have caused, they are eligible to seek compensation from the established international compensation regimes to recover the costs that any claimant has made against them.

Species at Risk: species at risk as defined in the *Species at Risk Act, 2003. Species at Risk Act* (S.C. 2002, c.29). Retrieved from the Department of Justice Canada website: http://laws-lois.justice.gc.ca/eng/acts/S-15.3/.

Wildlife: means all Migratory Birds as defined in the *Migratory Birds Convention Act, 1994* (Canada) and Species at Risk as defined by the *Species at Risk Act* on federal lands in the provinces and territories and on lands under the authority of the Minister of the Environment, with the exception of lands under the authority of Parks Canada Agency.

1.0 STRATEGY

1.1 INTRODUCTION

"Wildlife is an integral and vital component of Canada's heritage" (*A Wildlife Policy for Canada* (1990). Among the guiding principles for conservation of this heritage the maintenance of viable natural populations of wildlife always takes precedence over their use by people; and, all Canadians share the costs of conserving wildlife. Those whose actions result in additional costs should bear them.

EC-CWS is charged with the administration of the *Migratory Birds Convention Act, 1994* (Canada) and the *Species at Risk Act*, a responsibility that requires management and conservation of all Migratory Birds and Species at Risk under its jurisdiction (Species at Risk on federal lands in the provinces and territories, and on lands under the authority of the Minister of the Environment, with the exception of lands under the authority of Parks Canada Agency). The *Canada Wildlife Act*, also administered by EC-CWS, broadens the responsibility by providing mechanisms to protect key wildlife habitat within designated Migratory Bird Sanctuaries and National Wildlife Areas.

The context of EC-CWS' role in response to pollution and non-pollution incidents which affect wildlife is largely set by the legislation and practices of other government agencies. The National Wildlife Emergency Response Contingency Plan (NWERCP) specifies how EC-CWS will discharge its responsibilities in the context of emergency response involving wildlife in Canada. For the purposes of this plan, hereafter Wildlife is defined as all Migratory Birds listed in the *Migratory Birds Convention Act, 1994* and Species at Risk on federal lands in the provinces and territories, and on lands under the authority of the Minister of the Environment, with the exception of lands under the authority of Parks Canada Agency. Non-pollution incidents include but are not limited to mass Wildlife mortalities associated with diseases.

1.1.1 Roles and Responsibilities during an Emergency Response

1.1.1.1 Lead Agency (LA) Concept

In all circumstances where a Responsible Party (RP) is identified, the burden of implementing effective actions to counteract and monitor an environmental emergency lies with the RP. The RP also has financial responsibility for all aspects of the response incurred as a result of the environmental emergency, including activities related to monitoring, mitigating and assessing damage to Wildlife. In Canada, this is referred to as the "Polluter Pays" Principle. This responsibility is subject to any liability arrangements or limitations provided by statute or court decisions. However, responsibility for government overview of a response depends on the source of the incident. The identified Lead Agency (LA) has the responsibility to monitor the incident and take control if an appropriate response is not undertaken by a polluter or other agent.

Consistent with EC's Environmental Notification System, when receiving notification of environmental emergencies under EC's jurisdiction, including pollution and non-pollution incidents affecting Wildlife, the National Environmental Emergencies Centre (NEEC) of EC's Environmental Emergencies Program (EEP) is activated. The NEEC responds to potential, imminent and ongoing environmental emergencies when EC is designated as the LA, or when incidents of major size or of federal interest occur. Following NEEC's Standard Operating Procedures, information with regards to pollution and non-pollution incidents affecting Wildlife will be directed to EC-CWS.

The LA has the responsibility to monitor an incident response and to take control if an appropriate response is not undertaken by a RP or their agent. The LA, whether it is a municipal, provincial, territorial, or federal organization, is generally described as the authority that regulates or has authority from which the emergency originates. Table 1 identifies the organization identified as LA during typical emergency response situations.

Table 1: Agencies identified as Lead Agency in the most frequent types of pollution incidents (reproduced from EC-CWS Environmental Emergencies Program Environmental Emergencies Response Operations Plan 2013, p. 16).

Department identified as the Lead Agency	Pollution Incident
Aboriginal Affairs and Northern Development Canada (AANDC)	• Spills occurring on First Nations land
Any Federal Department	• Spills caused by a third party on their federal property
Canadian Coast Guard (CCG)	• Ship source spills (other than CCG vessels) • Oil Handling Facility source spills (unless land-based and does not involve a vessel) • Oil spills of unknown source (mystery spills) in Canadian water • Transboundary marine spills as per the Canada-US Joint Marine Pollution Contingency Plan
Environment Canada	• International transboundary spills when the Canada-US Joint Inland Pollution Contingency Plan (2009) is activated • When a designated federal department or agency is also recognized as a Responsible Party for spills to any receiving environment, including CCG and Canadian Forces vessels except spills from any other federally operated vessels (e.g., RCMP, etc.) • When the environment is not appropriately protected, there are no other agencies with relevant authorities, and the event is under EC's jurisdiction (FA, CEPA, 1999 and MBCA, 1994) • Where there is an agreement in place
Health Canada	• Nuclear and radiological spills and releases
National Energy Board	• National, transboundary, and interprovincial pipeline spills • Offshore industry related spills in Canada (except the ones under the responsibility of Offshore Boards)
Offshore Boards	• Spills related to all oil rigs, platforms and activities while involved in exploration or exploitation of offshore oil and gas within their jurisdiction
Provincial / Territorial (P/T) Governments	• Land-based spills under P/T jurisdiction • Spills from industries which are regulated by P/Ts • Spills on roads, highways and rail tracks managed by P/Ts • Spills from pipelines regulated by P/Ts
Transport Canada	• Transboundary and interprovincial rail source spills • Ship incident that does not involve immediate or potential release of polluting substances • Aviation source spills

EC-CWS is the LA only when pollution and non-pollution incidents occur on lands under the authority of EC-CWS (e.g., most National Wildlife Areas, Migratory Bird Sanctuaries).

In all instances, EC-CWS is the lead authority on setting Wildlife emergency response standards and guidelines related to Migratory Birds and Species at Risk under its jurisdiction and to engage appropriate organizations and facilitate response for non-pollution incidents involving Wildlife for which the cause is not immediately obvious.

1.1.1.2 EC-CWS' Authorities and Responsibilities during an Emergency Response

During pollution and/or non-pollution incidents affecting Wildlife, EC-CWS has the responsibility for authorizing, where relevant, any activities that involve the handling or disturbance of Wildlife. EC-CWS also provides advice to other agencies, responders, and the RP on Wildlife priorities in the affected areas. Specifically, EC outlines emergency response standards and provides guidelines for the collection of information on Wildlife, oversees monitoring programs to ensure appropriate information is collected to assess potential Wildlife impacts on a case by case basis. In non-pollution incidents involving Wildlife disease related mortality, EC-CWS is the lead authority to engage appropriate organizations and facilitate response.

Throughout Canada, EC-CWS input to an emergency response is mediated through an Environmental Emergencies Science Table (Science Table). The Science Table, chaired by EEP, is a centrally delivered advisory mechanism that brings together EC's (including EC-CWS) expertise and abilities to identify environmental protection priorities. The Science Table provides a venue to facilitate interface and collaboration with other EC and GoC Directorates and serves to consolidate scientific and technical advice on environmental concerns, priorities and strategies to the LA and RP, thus enabling and optimizing the environmental response. In each region, EC-CWS has designated and trained Wildlife emergency response coordinators to represent EC-CWS' interests at the Science Table, oversee, lead or implement emergency response on behalf of EC-CWS, and liaise and integrate with other federal and provincial government departments and other organizations involved in response activities during and after pollution and non-pollution incidents affecting Wildlife. Figure 1 provides an overview of EC-CWS's response process for Wildlife-related emergencies.

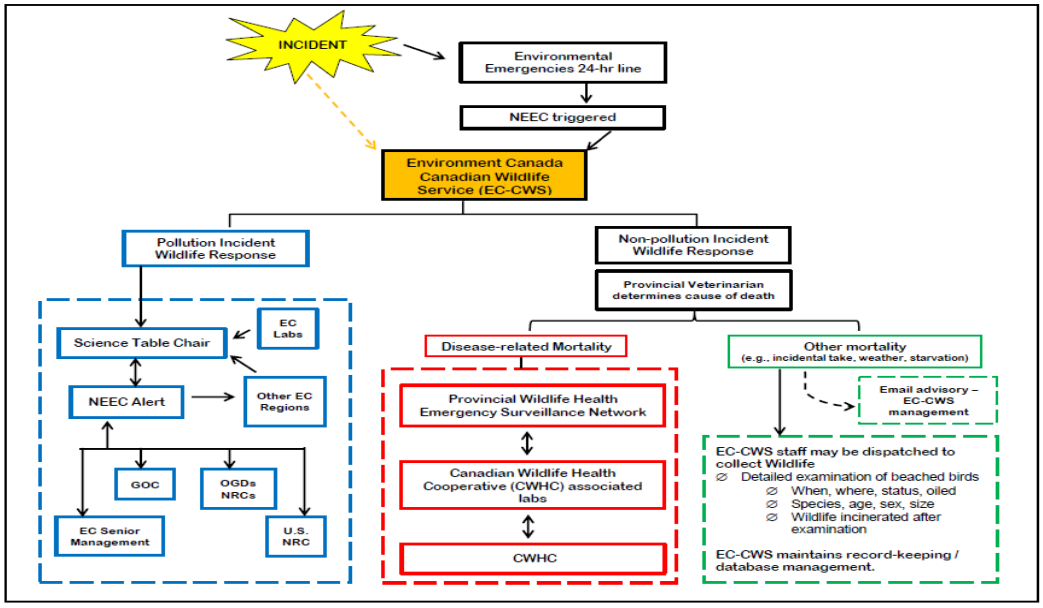

Figure 1: Overview of EC-CWS' response process for pollution and non-pollution emergencies involving Wildlife.

EC's Communication Branch is also a member of the Science Table and supports EEP through the management of all communications and media issues that may emerge from an environmental emergency in which EEP is involved.

Through the Science Table, EC-CWS:

- Will present practical, informed and timely advice on Wildlife populations and Wildlife response priorities to the LA and RP;
- Will provide input and guidance on the coordination and implementation of Wildlife response activities;
- May require surveys of Wildlife resources in the area of pollution and non-pollution incidents;
- May require the collection of Wildlife, as authorized under the MBCA and Migratory Bird Regulations, for pollution and non-pollution incidents, for further diagnostic evaluation and/or to evaluate the impact of the incident on affected Wildlife populations.

1.1.1.3 Resource Agencies

Many agencies, in addition to EC-CWS, have an interest in the protection of Wildlife in the event of an emergency response. These include government agencies with legislated mandates for wildlife and habitat management, and wildlife interest groups.

Provincial Agencies - While EC-CWS is charged with the administration of the *Migratory Birds Convention Act* (MBCA), provinces and territories are responsible for habitat critical to migratory birds and species at risk and for other terrestrial wildlife and non-migratory bird species that are not covered by the MBCA, and/or the *Species at Risk Act* (SARA). Provincial wildlife and environment agencies also have widely distributed field staff who can play an important role in incident reporting, investigation and response. It is therefore necessary that during a Wildlife response, EC-CWS work closely with provincial wildlife agencies to coordinate federal/provincial actions and promote free exchange of information.

Parks Canada - Parks Canada is a public service organization dedicated to the protection and presentation of Canada's national parks, national historic sites and related heritage areas. National parks are established to protect and present outstanding representative examples of natural landscapes and protect the habitats, wildlife and ecosystem diversity representative of the natural regions. Parks Canada is responsible for both protecting the ecosystems of these magnificent natural areas and managing them for visitors to understand, appreciate, and enjoy in a way that does not compromise their integrity. Under this premise, each national park will have a contingency plan detailing that park's response commitments and strategy. In general, park staff will be extensively involved in a response that has a real or potential impact on any national park. In the event of a major incident (e.g., oil spill in the vicinity of a park), it is expected that park staff will become involved in the response and that park equipment such as boats and snowmobiles may be mobilized to assist.

Oil Spill Response Organizations - Amendments to the *Canada Shipping Act* in 1994 confirmed that the responsibility for responding to marine oil spills lies with the polluter. Fees levied on oil transshipments are directed to financing private oil spill response organizations and it has become a legal requirement for all ships over 400 tones, and shippers of oil to have a contractual arrangement with a response organization for oil spill clean-up. These organizations contract their services to a polluter, and EC-CWS dealings with them will be primarily through the Science Table. Response organizations are mandated to provide wildlife response capability to a polluter by contracting with a wildlife response agency. If a response organization, through its contracted wildlife responder, wishes to mount a bird cleaning and rehabilitation operation

EC-CWS may license that operation if the contractor has a demonstrated capability. EC-CWS will supervise the bird rescue operation to ensure that it is carried out effectively, humanely and in accordance with the terms of the permit. EC-CWS responders will work with wildlife response agency crews on the beaches, supervising their activities and ensuring that there is appropriate documentation of birds removed from the beach.

Canadian Wildlife Health Cooperative - The Canadian Wildlife Health Cooperative (CWHC) is a collection of highly qualified people within a cross-Canada network of partners and collaborators dedicated to wildlife health. At the core of the CWHC is a partnership linking Canada's five veterinary colleges and the British Columbia Animal Health Centre. Branching from that core is a network that stretches into the public and private sectors that allows access to critical expertise needed to detect and assess wildlife health issues and make sure results find their way to people who need to make decisions on wildlife management, wildlife use, public health and agriculture. EC-CWS personnel may support CWHC during an emergency response for non-pollution incidents involving Wildlife caused by disease. Furthermore, unless the cause of death during the collection phase is known, it should be assumed that dead birds may have a zoonotic (infectious) disease, and for this reason, the investigation would generally be led by the Province's Department of Natural Resources and/or the CWHC.

Offshore Petroleum Boards - Currently, two offshore petroleum boards have been established, both located in the Atlantic Region. The first was established by the *Canada-Newfoundland Offshore Petroleum Resources Accord Implementation Act of 1987* and the second by the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act of 1988*. These boards were set-up to provide industry with a "single window" to government allowing cost and revenue sharing agreements to be implemented and development of offshore resources be expedited. They have the responsibility to develop agreements with agencies which have administrative and regulatory responsibilities in the offshore, and assuming administration of environmental, engineering, safety and labour codes. Oil spills and other environmental emergencies from offshore petroleum facilities will be the responsibility of the polluter, but their clean-up response will be monitored by the offshore board and by EC.

Non-Government Wildlife Response Organizations - Oil spill response organizations may contract wildlife response organizations to provide for the treatment of activities affecting oiled wildlife. EC-CWS supports the rehabilitation of Wildlife to qualified organizations authorized to carry out these activities. Authorizations for activities affecting or the rehabilitation of oiled

migratory birds will be issued under the MBCA, even if these migratory birds are listed under SARA (although additional requirements may need to be met). Other, non-migratory bird wildlife that is listed under the SARA will generally require provincial authorizations for handling, unless the impacted wildlife is on federal land.

Canadian Hunting Associations and Foundations - These groups advocate many issues concerning non-commercial hunting and are at the forefront of educating the public on the value of protecting the environment and making sure that the next generations enjoy the benefits of harvested wildlife. These hunting associations and foundations are also active in linking with government agencies and other groups regarding various issues affecting the environment. Hunters can play an important role in detecting a pollution incident and collecting affected Wildlife for incidents affecting harvested Wildlife and which occur during a regulated hunt.

Wildlife Interest Groups - Pollution and non-pollution incidents, especially those involving Wildlife, are events that draw a lot of attention from wildlife interest groups that wish to help with the response and cleanup efforts. Local bird or naturalist organizations or other committees (e.g., Ducks Unlimited) often have an extensive knowledge of local bird distributions and coastal wetlands which may be affected by pollution and non-pollution incidents.

Volunteers - Volunteers are individuals who desire to assist with a response out of free will and therefore are involved as members of an unpaid work force and not as employees. Although it may not be possible or desirable for EC-CWS to train and supervise volunteers that wish to help with response and cleanup efforts during pollution and non-pollution incidents affecting Wildlife, there may be a role for volunteers to participate with non-government organizations that have infrastructure in place for recruiting, training and supervising volunteers and are authorized to carry out activities affecting Wildlife.

Note that during both pollution and non-pollution incidents, the public, including volunteers, members of local bird or naturalist organizations, as well as local committees, are advised not to approach or handle affected Wildlife. Rather, individuals are encouraged to report on the location of affected Wildlife to the local Environmental Emergencies line. EC-CWS works closely with the Canadian Coast Guard (CCG) to collect this information and to ensure that incidents are dealt with in a timely and efficient manner.

1.1.2 Interface and Integration with Provincial, Territorial, and International Plans

The federal government will work with provinces/territories, non-governmental organizations, and the private sector to respond to emergencies that may escalate from the local and/or provincial/territorial level to the national level. If the RP or LA is not capable or unwilling to manage the response and recovery activities, the different levels of government have the power to take charge of the response. Municipal, provincial/territorial and federal governments can also step in if their resources, expertise, response capabilities or even legislative powers are needed to control and mitigate the situation.

Canada and the United States (US) have established, through bilateral Joint Pollution Contingency Plans (inland and marine), a coordinated system for planning, preparedness, and responding to pollution incidents in the contiguous waters along the shared borders between the two countries. These joint contingency plans supplement each country's national response system and coordinate the interface of these systems for various geographic boundary areas between Canada and the US. The joint contingency plans specify response procedures and are the responsibility of the Assistant Commissioners of the CCG and District Commanders of the US Coast Guard:

Canada-United States Joint Inland Pollution Contingency Plans:

- CANUSWEST covers the shared border of the Yukon Territory and British Columbia with Washington, Idaho, Montana, and Alaska.
- CANUSPLAIN covers the shared border of Alberta, Saskatchewan, and Manitoba with Montana, Minnesota, and North Dakota.
- CANUSCENT covers the shared border of Ontario with Minnesota and New York.
- CANUSQUE covers the shared border of Québec with New York, Vermont, New Hampshire, and Maine.
- CANUSEAST covers the shared border of New Brunswick with Maine.

Canada-United States Joint Marine Contingency Plans:

- CANUSLAK covers the internal waters of each party on the Great Lakes.
- CANUSLANT covers Atlantic waters under the national jurisdiction of each party, and seaward in the Gulf of Maine to latitude 40°27'05"N, longitude 65°41'59"W.
- CANUSPAC covers the marine boundary waters of each party between British Columbia and the State of Washington.

- CANUSNORTH covers the Beaufort Sea waters of each party between the State of Alaska and the Yukon Territory seaward to the limit of fishery management and natural resource exploitation of the continental shelf.
- CANUSDIX (Dixon Entrance) covers the marine boundary waters of each party between British Columbia and the State of Alaska.

Canada also has international agreements with other countries that share borders on contiguous waters, such as France for the waters surrounding St. Pierre et Miquelon and Denmark for the waters surrounding Greenland.

1.1.3 Geographic Scope

There are five regions to facilitate the implementation of the NWERCP (Fig. 2):

Insert Figure 2.

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Pacific and Yukon Region - The Pacific and Yukon region, located on Canada's west coast, includes one provincial jurisdiction - British Columbia (BC), and one territorial jurisdiction – Yukon Territory (YT), and has international border relationships with the United States, including the states of Alaska and Washington. The region is home to 198 First Nations in BC and 14 First Nations in YT, with many engaged in changing governance systems, including self-government agreements, land claim and land management processes, and treaty negotiations. The region includes two DFO regions (Pacific and a small section of Central and Arctic), and four (4)? Parks Canada Agency Field Units, each with their own unique characteristics and attributes and sometimes conflicting environmental priorities and issues.

This vast region includes portions of six (6) of the twelve (12) Bird Conservation Regions (BCR) terrestrial units occurring in Canada (BCR 5 – Northern Pacific Rainforest, BCR 9 – Great Basin, BCR 10 – Northern Rockies, BCR 4 – Northwestern Interior Forest, BCR 6 – Boreal Taiga Plains, and BCR 3 – Arctic Plains and Mountains. BCR conservation strategies have been developed for each unit in each province and territory across Canada, characterizing each regions landscape and highlighting its unique set of priority species and their habitats http://www.ec.gc.ca/mbc-com/default.asp?lang=En&n=1D15657A-1 . The region is surrounded by five (5) of the twelve (12) marine biogeographic units (MBU 1 – Strait of Georgia, MBU 2-

Southern Shelf, MBU 3 – Offshore Pacific, MBU 4 – Northern Shelf, MBU 5 – Arctic Basin, MBU 6 – Western Arctic, with each unit possessing unique habitat and wildlife characteristics.

Prairie and Northern Region - The Prairie and Northern Region (PNR) encompasses an area of over five million square kilometers, and has a coastline stretching over 162,000 km in length, more than half of the Canadian totals respectively. This is Environment Canada's largest region and it is subdivided into North (Northwest Territories and Nunavut) and South (Alberta, Saskatchewan, Manitoba) sub-regions. The region has a population of over five million people and has the largest Aboriginal population in Canada. There are 7 signed comprehensive land claim and self-government agreements in the region and several others currently under negotiation. PNR overlaps one Fisheries and Oceans Canada region and six Parks Canada Agency Field Units.

The Prairie and Northern Region overlaps eight Bird Conservation Regions (BCR 3 – Arctic Plains and Mountains, BCR 4 – Northwestern Interior Forest, BCR 6 – Boreal Taiga Plains, BCR 7 – Taiga Shield and Hudson Plains, BCR 8 – Boreal Softwood Shield, BCR 10 – Northern Rockies, BCR 11 – Prairie Potholes, and BCR 12 – Boreal Hardwood Transition). The region also includes five Marine Biogeographic Units (MBU 5 – Arctic Basin, MBU 6 – Western Arctic, MBU 7 – Arctic Archipelago, MBU 8 – Eastern Arctic and MBU 9 – Hudson Bay Complex). There are 33 Migratory Bird Sanctuaries (MBS) and 19 National Wildlife Areas within the region. Last Mountain Lake MBS, located in Saskatchewan, is North America's first bird sanctuary and Queen Maud Gulf MBS, located in Nunavut, is Canada's largest protected area with an area of over 6 million hectares.

Ontario Region.-

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Québec Region.-

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Atlantic Region - The Atlantic region, located on Canada's east coast, has international border relationships with three (3) countries: United States, France (St. Pierre et Miquelon) and Denmark (Greenland). This region includes four (4) overlapping provincial jurisdictions: Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador, three (3) overlapping DFO regions and seven (7) Parks Canada Agency Field Units, each with their own unique characters and attributes and sometimes conflicting environmental priorities/issues. This region also includes, one (1) land claim government, Nunatsiavut Government (Labrador Inuit),

and changing Aboriginal governances (active land claim, treaty and land management negotiations) in 39 Aboriginal communities.

This vast region spans four (4) of the twelve (12) Bird Conservation Regions (BCR) terrestrial units (BCR 3 - Arctic Plains and Mountains, BCR 7 - Taiga Shield, BCR 8 - Boreal Softwood Shield, BCR 14 - Atlantic Northern Forests) and is surrounded by three (3) of the twelve (12) marine biogeographic units (MBU 12 - Gulf of St. Lawrence, MBU 11 - Scotian Shelf and Bay of Fundy, and MBU 10 - Newfoundland- Labrador Shelves), with each unit possessing unique characteristics. BCR conservation strategies have been developed for each unit in each province and territory across Canada, characterizing each sub-region's landscape and highlighting its unique set of priority species and their habitats http://www.ec.gc.ca/mbc-com/default.asp?lang=En&n=1D15657A-1. Six (6) BCR conservation strategies developed for the Atlantic Region include: BCR 3 Newfoundland and Labrador; BCR 7 and MBU 10 Newfoundland and Labrador; BCR 8 and MBU 10 and 12 Newfoundland and Labrador; BCR 14 and MBU 11 and 12 Nova Scotia; BCR 14 and MBU 12 Prince Edward Island; and, BCR 14 and MBU 11 and 12 New Brunswick.

1.2 EFFECTS OF POLLUTION AND NON-POLLUTION INCIDENTS ON WILDLIFE

1.2.1 Pollution Incidents

The release of oils, hydrocarbons, or other hazardous materials into the marine or terrestrial environment may result in serious adverse effects to Wildlife. These hazardous materials may include, but are not limited to:

Crude Oil - Crude oil is a naturally occurring, unrefined petroleum product that is extracted from underground oil reserves and processed into usable petroleum products such as gasoline, diesel, asphalt, and other petrochemicals. Crude oils can be categorized as "light" or "heavy", depending on their viscosity, and can also vary in toxicity and persistence depending on the composition. Because of the fairly rigorous refining process, crude oil must be transported from the initial drill site to chemical refineries, which are often thousands of kilometers away, in order to be processed into usable products that are then shipped to consumers all over the world. Billions of barrels of crude oil are shipped over marine and terrestrial landscapes on an annual basis using a variety of transportation methods (Fig. 3). Each method is controlled by a different

regulatory organization that is responsible for ensuring that business is conducted in a manner that is safe for the public and the environment.

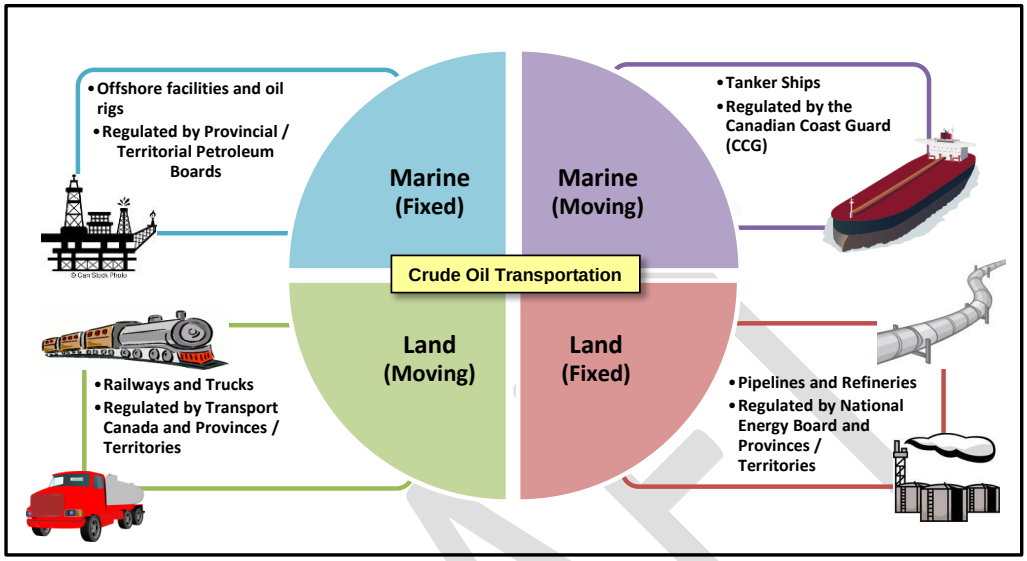

Figure 3: Methods used to transport crude oil over long distances.

Bitumen / Dilbit - Bitumen, the heaviest of all of the crude oils, is a semi-solid, extremely thick and sticky product that is mixed with sand and water and found in natural oil sand deposits, the largest of which can be found in Canada, Kazakhstan, and Russia. Bitumen does not flow freely unless it is heated to a high temperature or diluted with lighter hydrocarbons (typically a natural gas condensate), where it becomes known as “dilbit” (i.e. diluted bitumen). In Canada, most of the bitumen that is extracted from the Alberta Oil Sands is shipped to refineries in the United States for processing, using a variety of transportation methods (Fig. 4). When bitumen is shipped in bulk via railway or tanker, the viscosity of the product is not as important as when it is shipped via pipeline; however regulations must still be followed to ensure that the process is completed safely. Bitumen that is transported over long distances by pipeline requires constant heating and dilution to make it fluid enough to flow freely along the length of the pipeline. The process of bitumen transportation by pipeline is highly regulated by the National Energy Board and has strict safety regulations.

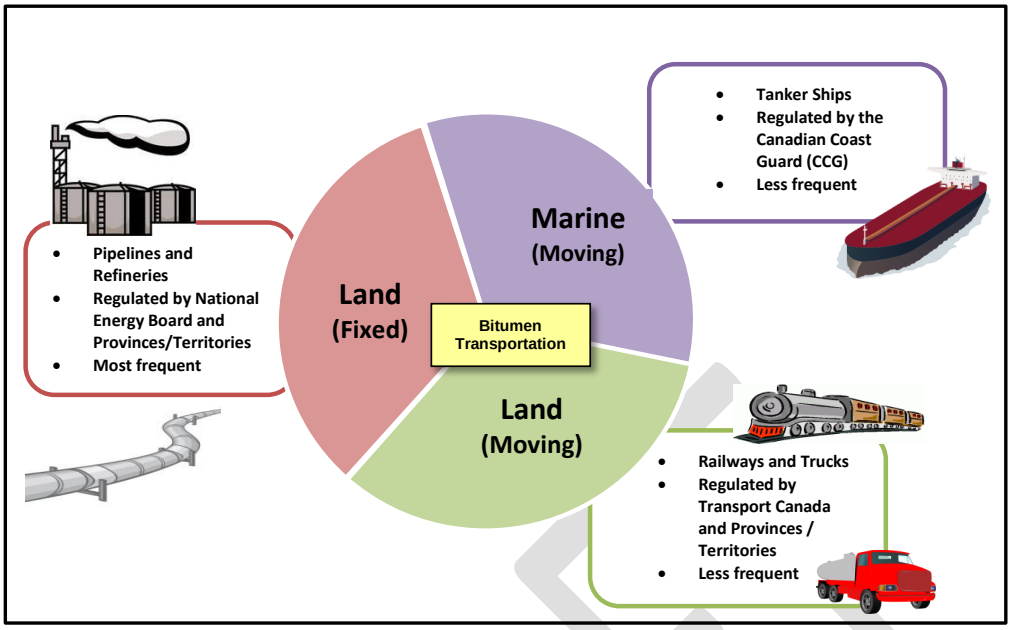

Figure 4: Methods used to transport bitumen / dilbit over long distances.

If bitumen (or dilbit) is unintentionally released into a marine or terrestrial landscape, the cleanup process is very time consuming and strenuous, and there are many implications for wildlife that come into contact with the product. Because of its thickness and persistence, wildlife coated with bitumen are often rendered immobile by the weight of the product, and will often smother or suffocate if ingested. Additionally, although dilbit will temporarily float in water, the lighter components of the compound, including the natural gas condensate used for dilution and any oil from the product, will eventually separate from the heavier components and these toxic hydrocarbons will often cause additional issues for wildlife.

Edible Fats and Oils - Edible fats and oils, including fish oil, canola oil, lard and other vegetable and cooking oils, are typically extracted from animals (e.g. fish) or plants (e.g., nuts, seeds, or fruit) to produce unrefined and/or refined products. Besides providing humans with the necessary "essential oils" required for a healthy diet, edible oils and fats can also be used to create hygiene products such as soap and make-up. These oils are traded and transported in bulk over a variety of landscapes worldwide, a process that is regulated internationally by the *Codex Alimentarius Commission*'s "Codex Committee on Fats and Oils". The most common method for transporting bulk edible oils and fats is the use of sea-going tankers; however land-based moving and fixed methods are also employed (Fig. 5). The most important aspect of bulk edible oil transportation is ensuring that the cargo remains heated to a liquefied temperature

using heating coils, in most cases, which makes the entire process more hazardous in the case of a pollution incident, since semi-solid oils are much less harmful to wildlife and the environment.

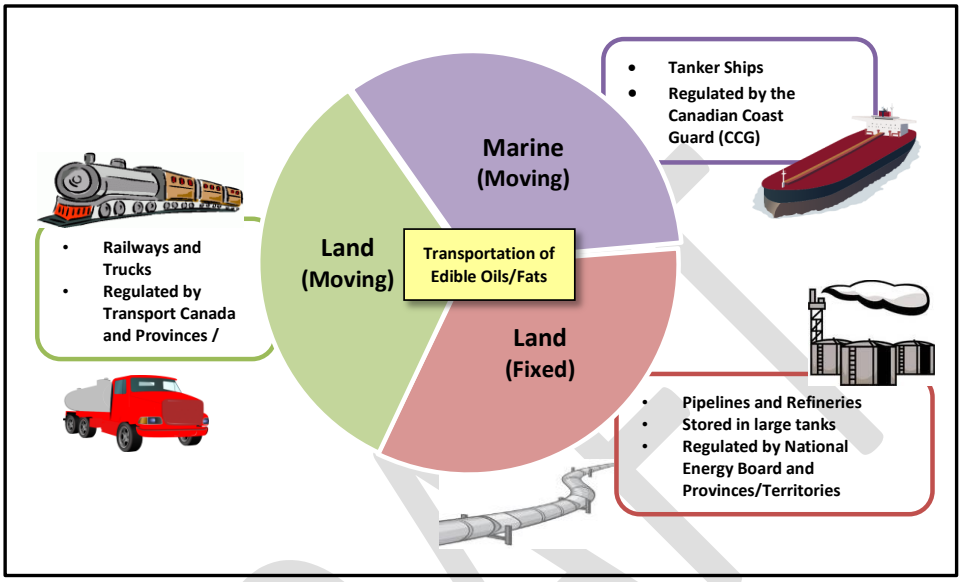

Figure 5: Methods of transportation of edible fats and oils over long distances.

Similarly to petroleum based oils, edible oils such as canola and vegetable oils have similar effects on wildlife and the environment. Most edible oils are liquefied to certain temperatures during transportation and have high concentrations of hydrophobic monounsaturated fatty acids, allowing them to persist in the environment. Because these oils are practically clear in color, spills in marine and terrestrial landscapes are often quite difficult to detect, leaving wildlife vulnerable to inadvertent oiling.

Tailings Ponds - Tailings ponds are wet storage areas for accumulated mining materials, known as tailings, which have no economic relevance to a mining operator. These tailings are pumped into a pond (either natural or engineered) which allows the solid compounds to settle in the water and minimizes the possibility that they will be susceptible to movement by the wind. In Canada, the mining industry will conduct environmental assessments before depositing tailings into the environment; under this process, **industry is responsible for mitigating small-scale incidents by discouraging Wildlife from utilizing tailings ponds as part of their Wildlife Response Plans**. Some examples of tailings ponds that have been approved in Canada

include the deposits of by-products for the mining of bitumen, nickel, antimony, copper, and gold deposits. Tailings ponds can have detrimental effects to aquatic wildlife, birds and plants that come into contact with them due in part to the possibility of them generating acid/alkaline compounds and accumulation of heavy metals, which can cause health and behavioural issues that are similar to those seen in oil-affected Wildlife (see Section 1.2.3). These issues include feather or fur coating, and various internal symptoms caused when the toxic compounds are ingested, but can also include death in more severe situations. In the Alberta Oil Sands, a fine layer of oil may also exist on the surface of the pond, in addition to the tailings sedimenting below, which may pose an additional risk to waterfowl and other birds that land on the tailings ponds.

1.2.2 Non-pollution incidents

Many non-pollution incidents exist that can lead to mass mortalities of Wildlife (Fig. 6). These non-pollution incidents include but are not limited to common diseases, challenging environmental conditions, and industry-related activities.

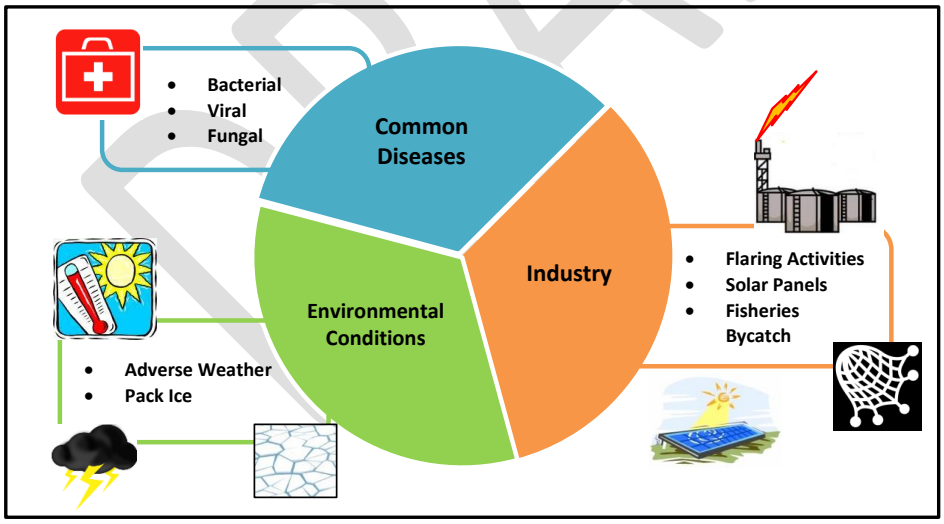

Figure 6: Non-pollution incidents commonly affecting Wildlife.

1.2.2.1 Common Diseases (Bacterial, Viral, and Fungal)

The most common non-pollution incident causing harm to Wildlife in Canada is the transmission of common bacterial, viral, and fungal diseases (Table 2). These diseases can cause injury to a single individual or can cause a mass mortality event in thousands of individuals, depending on the severity of the infection. Diseases affecting Wildlife are usually limited to specific geographic boundaries and environmental conditions that prevent their transmission over large geographic areas, however, the unpredictability and unbiased nature of many of the diseases causes vulnerability in a large variety of species. Common diseases that are likely to affect Wildlife in Canada include, but are not limited to:

Table 2: Common diseases affecting Wildlife in Canada

Disease	Information	Implications
Bacterial Diseases		
Avian Botulism	• *Clostridium botulinum* releases toxin • Primarily affects waterfowl, waterbirds and shorebirds. • Toxin is paralytic, affects the nervous system and hinders a bird's ability to move. • Eventual death.	• Widespread across Canada and the United States • Common disease causing mass mortalities • Extremely difficult to detect before an outbreak occurs • May affect thousands of birds at a time • Large number of carcasses
Avian Cholera*	• *Pasteurella multocida* • Commonly affects poultry, waterfowl, also gulls, corvids and other scavengers • Highly contagious • Lethargy, confusion, mobility issues • Rapid death upon infection (6-12 hrs)	• Rapid incidence of infection among populations • High transmissibility and contagious nature • Large scale impact all over North America • Huge die-offs in poultry populations and other wild birds
Salmonella*	• *Salmonellosis* • Most common in birds that frequent feeders • Different symptoms in different individuals, no particularly distinctive signs • Lethargy, diarrhea, weight loss, droopy appearance • Death in more severe cases	• Does not cause significant mortalities but infections do occur nationwide • Variety of strains make a lot of species susceptible to infection • Some birds may just be carriers (remain healthy), while others die • No medical treatment will completely cure the infection
Viral Diseases		
Avian Influenza*	• Primarily affects poultry and waterfowl • Neurological symptoms (tremors, opisthotonus) • Gastrointestinal symptoms (diarrhea)	• Some birds may just be carriers (remain healthy), while others die • Does not cause significant mortalities • Massive outbreak of flu-like symptoms and deaths in humans worldwide • Huge global concern for humans

Duck Virus Enteritis	• *Duck herpesvirus 1* • Primarily affects ducks, geese and swans • Loss of appetite and muscle coordination • Diarrhea, tremors, droopy appearance in head and wings • Blood-tinged nasal discharge • Eventual but quite rapid death	• High global mortality • Many individuals are asymptomatic carriers • Only two large outbreaks in North America (1973, 1993)
West Nile Virus	• Birds (mostly passerines) are common hosts for the virus • Over 300 species of birds • Symptoms basically non-existent until last stages of the disease • Brain inflammation • Disorientation, unbalance, confusion, inability to fly • Eventual death	• Transmitted through the bite of infected mosquitos • Many individuals are carriers but do not get sick • Also affects humans, other mammals, reptiles, etc. • Not congregated in specific areas and not particularly risky to populations
Fungal Diseases		
White Nose Syndrome	• *Psuedogymnoascus destructans* • Affects hibernating bat species • White growth around muzzles and/or wings • Cause early arousal from hibernation, weight loss, irregular flight patterns • Eventual death due to starvation or predation	• Massive die-offs in Canada and the United States • Global impact as well • Primary threat to bat populations • Large numbers of individuals affected, due to contagious nature • No treatment/cure at this time
*Zoonotic diseases that can be transmitted to humans. Wildlife infected with these diseases are handled differently than others.		

1.2.2.2 Challenging Environmental Conditions

In Canada, challenging environmental conditions generally include unfavorable conditions such extreme climate events (i.e., unusual cold or hot ambient and/or water temperatures), hurricane-force winds, rain/ice storms, and high concentrations of packed ice in the marine environment. These conditions may affect the quality of the food that is available to Wildlife, altering foraging behaviour or preventing Wildlife from being able to forage at all, and causing individuals to starve and/or succumb to hyper- or hypothermia. Certain weather conditions (storms, high winds) may push individuals away from their migration routes or usual foraging areas, causing mass strandings or “wrecks”. Individuals in a population that are at a pre-existing disadvantage (i.e., young, old, weak, and/or injured) may be more susceptible to mortality caused by challenging environmental conditions, however, all individuals are at least somewhat vulnerable to the possibility of death due to a challenging environment.

1.2.2.3 Industry-related Mortality

Incineration due to flaring activities - In the oil and gas industry, flaring is a technique that is used to burn off any flammable gas that is released from an oil well during the extraction/refining process to prevent the accumulation of dangerous levels of gas that could pose a hazard to personnel. While it does mitigate the risk of gas explosions in refineries, it also poses quite a risk to the environment, in particular due to the anthropogenic emissions of carbon dioxide and methane gas that are released into the atmosphere, but also due to the enormous risk to wildlife. Vulnerability to flaring is emerging as a great risk to migratory bird populations and other wildlife, particularly because Wildlife can be attracted to the light that is emitted from the vertical stacks, especially at night and during conditions of low visibility (e.g., fog), which can lead to large numbers of Wildlife to get incinerated when passing through the flare. Flaring activity in the vicinity of colonies of nocturnal breeding migratory birds (e.g., storm-petrels) and during the migration period of passerines have led to significant migratory bird mortalities.

Fisheries bycatch - Commercial fisheries deploying gillnets, longlines, and bottom otter trawls can lead to mass mortalities of marine Wildlife, primarily seabirds, in Canadian waters, as a result of birds getting caught and drowning in the submerged fishing gear. Large numbers of individuals can get caught with relatively little fishing effort when fishing activities occur in areas of high seabird concentrations (e.g., near breeding colonies or in foraging hotspots). Drowned birds retrieved from fishing gear are discarded from the vessel, and may wash up on beaches or shorelines.

Incineration due to solar panel - The use of vast “solar panel fields” are an emerging issue for Wildlife as these have been observed to incinerate large numbers of birds as they fly over the fields. These parks are large areas of thousands (in some cases, hundreds of thousands) of mirrored solar panels that are used to generate clean energy to power various forms of infrastructure, such as the Sarnia Photovoltaic Power Plant in southwestern Ontario. The scale of such solar panel parks gives off such a high intensity of concentrated heat that birds or insects may be incinerated in mid-air, and passing birds are being referred to as “streamers”, due to the puff of smoke that is emitted as the individual comes into contact with the radiation; many birds that do not die instantly due to incineration may succumb to internal injuries at a later time.

1.2.3 Effects of Oil on Wildlife

The specific implications that oil has on Wildlife can vary depending on a number of factors, including, but not limited to, the composition of the oil product, the duration of contact with the oil, the persistence and weathering of the oil, and the vulnerability of the species. In particular, crude oils tend to be more threatening to Wildlife because they can remain viscous in the environment for a longer period of time. Crude oils are also highly toxic, which can cause damaging effects to Wildlife both externally and internally. The most dramatic external effect is when oil coats the individual's fur or feathers, disrupting the ability for Wildlife to thermo-regulate and removing their waterproofing capabilities. This affects Wildlife's ability to swim, fly and/or float, leading to drowning, starvation, hypothermia or hyperthermia, and vulnerability to predation. Many will seek shelter to stay alive, and for marine Wildlife, often means coming to shore and are thus unable to feed. Internal effects result primarily from ingesting oil through preening or ingesting contaminated food or water, causing organ damage, gastrointestinal irritation, and hematological changes. While such internal effects may not be lethal to some individuals, they may affect the individual's ability to reproduce successfully in the future by causing abnormal behaviours, decreased fertility, and/or premature death of offspring. The combination of direct mortality of individuals and suppressed reproductive output of affected individuals that survived being oiled can lead to population-wide effects such as declines in the abundance of breeding adults for species that are highly vulnerable to coming into contact with oil, and decreased genetic diversity, especially for species at risk.

1.2.4 Identification of Vulnerable Resources

1.2.4.1 Important Wildlife areas

Canada hosts nationally and internationally important populations of migratory birds from all bird groups (seabirds, shorebirds, landbirds and waterfowl). Although migratory birds are highly mobile and ubiquitous, many find refuge from human activities at some point in their life cycle in formally protected areas, including National and Provincial Parks, National Wildlife Areas, Migratory Bird Sanctuaries, Wildlife Reserves, and Ecological Reserves (see Fig. 7).

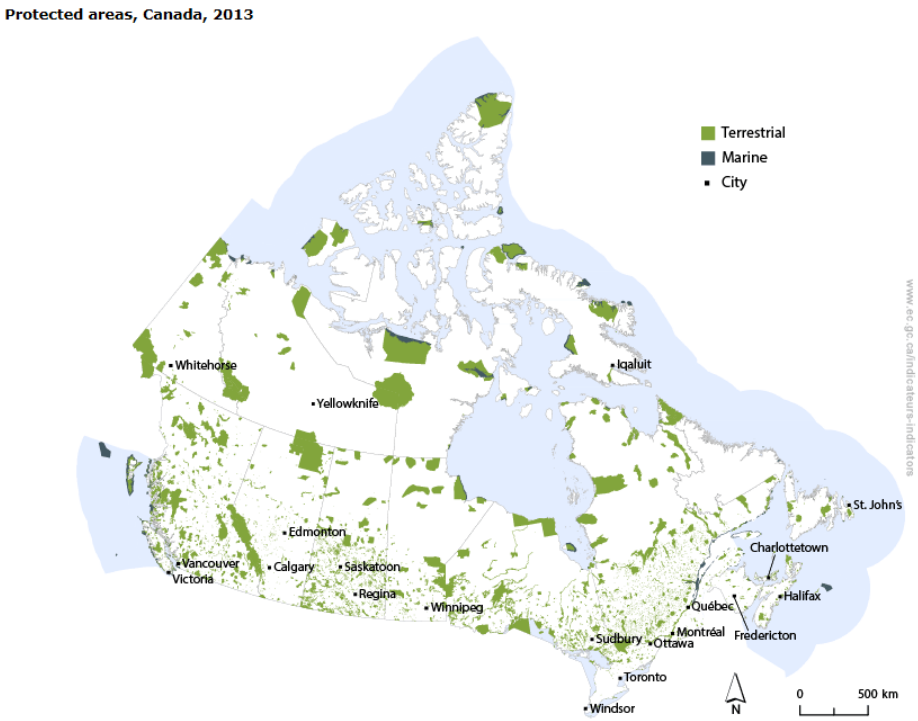

Figure 7: Distribution and size of terrestrial and marine protected areas in 2013 (reproduced from https://www.ec.gc.ca/indicateurs-indicators).

Canada's Important Bird Areas (IBA) Program coordinated by Bird Studies Canada and Nature Canada identifies additional sites that provide essential habitat (i.e., breeding, over-wintering and/or migratory stop-overs) for Canada's bird populations. There are close to 600 IBAs identified in Canada (see Fig. 8).

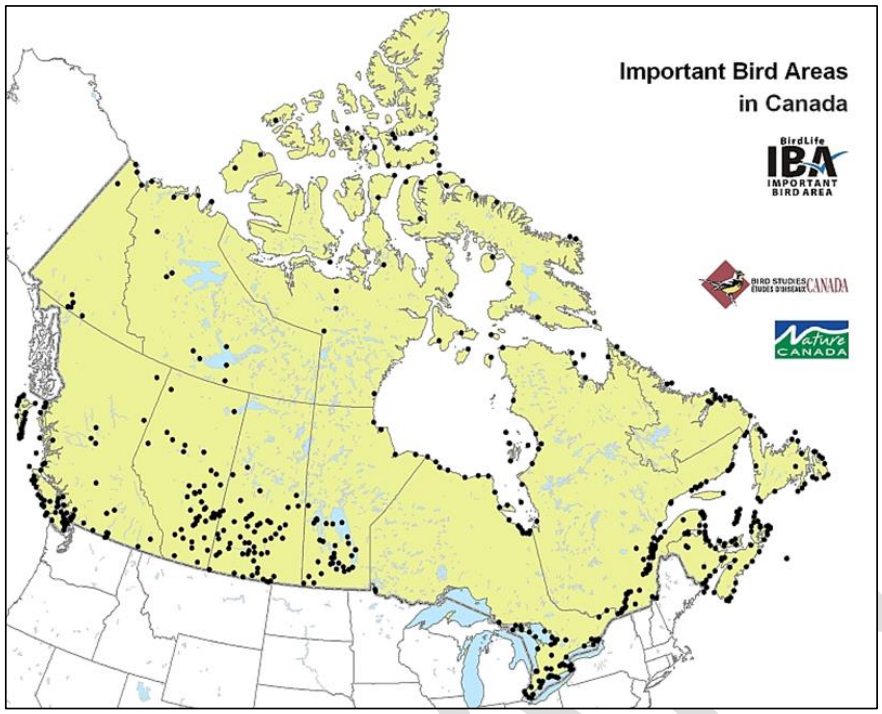

Figure 8: Distribution of Important Bird Areas across Canada (reproduced from www.ibacanada.com).

1.2.4.2 Species at Risk

All SAR species within the geographic scope of an incident are considered highly vulnerable due to the potentially high or irreversible impacts on a population even if only a few individuals are affected. The Government of Canada maintains a list of all plant and animal species, or designatable units thereof, federally recognized as special concern, threatened, endangered, extirpated, and extinct in Canada under Schedule I of SARA. This List of Wildlife Species At Risk in Canada is available online at the Species at Risk Registry website. Regional EC-CWS SAR biologists maintain detailed information on the abundance and distribution of SAR species and their associated critical habitat.

1.2.4.3 Vulnerable Non-SAR Migratory Birds

Although there are a wide range of incidents that potentially impact migratory birds, the most visible response involving Wildlife are pollution-related incidents occurring in the marine or open

water environment. A pollution incident occurring in this landscape during the breeding season will render all colonial waterbird and waterfowl species breeding within the affected area as vulnerable. However, waterbird and waterfowl species which spend most of their lives on the surface of the water have a higher vulnerability to pollution incidents that occur outside of the breeding season. Winter Oil Vulnerability Indices (WOVI) have been developed for common species over-wintering in the northwest Atlantic (Wiese and Ryan 2003) and the North Sea (Camphuysen 1998), which take into account each species' distribution and behaviour at sea. Typically, species with a high WOVI are those that roost on open water, forage and escape by swimming and diving, and/or have a geographically defined wintering area. In Canada, species meeting these criteria would include those from the alcid family (e.g., murres, razorbills, guillemots, murrelets, auklets, puffins and dovekies), loons, and diving ducks (e.g., eiders, Harlequin ducks, long-tailed ducks, scoters and mergansers). Regional EC-CWS biologists maintain detailed information on the abundance and distribution of vulnerable colonial waterbirds and waterfowl during the breeding (i.e., distribution and size of colonies) and non-breeding (i.e., abundance and distribution at sea) periods.

Alcids appear to be more susceptible to non-pollution incidents related to challenging environmental conditions during the winter, whereby individuals cannot find sufficient food and causing mass strandings often over a large geographic area. Mass strandings of storm-petrels can occur outside of the breeding season following high onshore hurricane-force winds.

Disease-related mass mortalities can affect a wider range of migratory bird groups. For example, avian cholera outbreaks have been observed in eiders, gulls, geese and murres, both at the breeding colonies and/or in their over-wintering habitats. Gulls are also more susceptible to outbreaks of botulism as a result of their foraging habits in landfills and sewer outflows.

In Canada, mass mortalities linked to industry-related activities have been observed in landbirds and storm-petrels attracted to flares and in alcids drowned in commercial fisheries gillnets placed in the vicinity of colonies.

1.3 WILDLIFE RESPONSE PLAN

1.3.1 Objectives of a Wildlife Response

EC-CWS is the lead authority on setting wildlife emergency response standards and guidelines related to migratory birds and species at risk under its jurisdiction. The objectives of a Wildlife response must include:

- Identifying Wildlife at risk of being affected by the incident and quantify affected Wildlife;
- Minimizing further damage to Wildlife;
- Facilitating the removal of affected Wildlife *if* this will minimize further damage or support appropriate response strategies for the humane treatment of affected Wildlife;
- Conducting post-incident damage assessments to evaluate the impact of an incident on Wildlife populations.

Health and safety are of primary importance in any Wildlife response effort. The earliest phases of a response are generally the most hazardous to human health and safety. Wildlife response efforts will not be initiated unless responders can conduct activities safely. EC-CWS abides to the standards and criteria outlined in *EC-CWS National Wildlife Emergency Response State of Preparedness Manual* (Goulet et al. 2015) to ensure that Coordinators and Responders tasked with Wildlife emergency response duties will have nationally consistent training and personal protection equipment in order to carry out their tasks effectively, safely, and professionally.

1.3.2 Tiered Response

Incidents affecting Wildlife and responses required will vary greatly depending on the source and location of the incident, as well as the number of Wildlife affected. As such, Wildlife response strategies are developed in a way that allows them to be escalated as required for each incident. The tiered response concept is widely accepted and allows this flexibility in scale. For a Wildlife response, the application of this concept can be based on relative distance of qualified Wildlife responders to the location where a Wildlife incident is developing and by the risk of the incident negatively affecting Wildlife populations. A Tier 1 response is immediately activated for small-scale incidents with overall low risk to Wildlife populations, using local resources; a Tier 2 response is activated for ongoing incidents affecting a larger geographic area or occurring in more remote areas, posing some risk to Wildlife populations, and/or requiring resources from other regions; a Tier 3 response is activated when the ongoing incident poses a high risk to Wildlife populations, and/or crosses the Canadian border, and therefore requires assistance from other regions and/or international resources (Fig. 9).

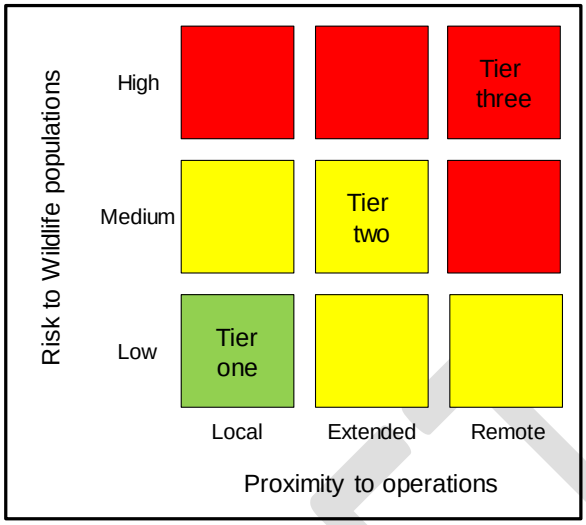

Figure 9: The concept of a tiered Wildlife response (adapted from IPIECA Volume 14: *Guide to Tiered Preparedness and Response*). Tier 1 avails of regional resources which can be quickly mobilized (12-36 hours); Tier 2 avails of National resources requiring intermediate mobilization time (24-48 hours); and Tier 3 avails of international resources requiring longer mobilization time (48-72 hours).

1.3.3 Identifying Vulnerable Wildlife Using Existing Information

The first stage of the response is to identify what Wildlife is potentially at risk. EC-CWS strategically prioritizes the collection of baseline information on the distribution and abundance of Wildlife in known or potential high risk areas to ensure that EC-CWS is able to engage effectively in the development of appropriate response strategies and mitigation measures with respect to emergency response preparedness. As a primary responsibility EC-CWS will assess the threat to Wildlife based on factors such as sensitive habitats, the size of the affected area during a pollution or non-pollution incident, numbers of migratory birds affected, presence of species at risk, time of year and location. This information is used to identify Wildlife in the general area of a given pollution or non-pollution incident, helps guide the mitigation measures of a response, and assists in assessing the impact of pollution or non-pollution incidents on Wildlife populations.

1.3.4 Monitoring Wildlife in Affected Area

Wildlife monitoring and reconnaissance surveys required during and after pollution or non-pollution incidents provide the information on the current abundance and distribution of Wildlife within the general area of the incident. These activities identify Wildlife potentially at risk of being affected by a specific pollution or non-pollution incident, and provide the necessary information to quantify and assess specific pollution or non-pollution incident damage incurred on Wildlife populations. The approach used will be case-specific and will depend on numerous factors, such as mortality source (e.g., oil versus disease), species affected, type of landscape (e.g., marine versus terrestrial), location within landscape (e.g., inshore versus offshore), and available resources. An adaptive approach may be necessary during an emergency response, to account for unforeseen changes, such as weather conditions. EC-CWS uses the guidelines and protocols to conduct Wildlife surveys as outlined in *Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015). To date, protocols have been developed to be applied in any incident in a marine landscape to facilitate consistent data collection for migratory birds impacted by pollution or non-pollution incidents. Standardized protocols to conduct Wildlife surveys in other landscape types (terrestrial and wetlands) are under development.

To ensure high accuracy and reliability of data collected during an emergency response, observers conducting migratory bird surveys are required to have expertise in Wildlife identification and be familiar with survey protocols. Furthermore, observers should have required certifications and training to operate equipment and/or undertake the tasks associated with appropriate activities, and be aware of any certification and training requirements to access certain platforms, which may be made available during an emergency response, as outlined in *EC-CWS National Wildlife Emergency Response State of Preparedness Manual* (Goulet *et al.* 2015).

1.3.5 Minimizing Damage to Wildlife

A Wildlife response strategy must initially focus on preventing or reducing the contamination source to non-contaminated individuals and their habitats and to prevent interactions with ongoing operations. This is especially critical during an oiling incident, where the RP or LA will focus their efforts on controlling the release and spread of oil at the source and by removing released oil through mechanical recovery (e.g., booming and skimming), on-water *in-situ* burning, and possibly by spraying chemical dispersants from aircrafts or vessels. Chemical dispersants contain surfactants that break down the oil into small droplets that are then

dispersed into the water column, where they are subjected to natural attenuation. While applying dispersants helps minimize Wildlife from encountering oil on the surface of the water, direct exposure of dispersants can compromise the waterproofing of feathers and be toxic to Wildlife. EC-CWS is in the process of developing a policy on the use of dispersants during emergency response involving Wildlife.

During emergency response operations, it is important to keep Wildlife outside of the affected area. This can be accomplished through the following activities:

1.3.5.1 Deterrence and Dispersal

Deterrent and dispersal activities should be initiated as soon as possible to prevent Wildlife from using contaminated areas. Deterrent devices used to disperse Wildlife include both visual and auditory techniques and range in their effectiveness depending on the species as well as the landscape where the incident is unfolding. Wildlife can also be dispersed from the affected area by attracting individuals to nearby non-affected habitat. Careful consideration should be given in the selection of dispersal activities and placement of deterrent devices to increase the likelihood of effective dispersement of individuals and to prevent the driving of unaffected Wildlife into affected areas. EC-CWS uses the guidelines and protocols outlined in *EC-CWS Guidelines for Deterrence and Bird Dispersal Techniques used during pollution and non-pollution incidents in Canada* (Beaumont et al., *in prep*).

1.3.5.2 Pre-emptive Capture

Pre-emptive capture aims to capture Wildlife before they have the opportunity to become affected during a pollution incident. Such an undertaking, however, is complex and pre-planning requirements include the capture, transport, holding and release strategies for the Wildlife potentially at risk of being affected during a pollution incident. If a pre-emptively captured species will need to be held in captivity, a suitable organization authorized to carry out these activities must be identified to provide the species with appropriate housing, substrate, nutritional support, and medical care (if necessary) for a potentially extended period. This may be the wildlife treatment facility caring for oiled Wildlife if one has been established.

Pre-emptive capture is a strategy that may be considered for the following:

- Pre-emptive capture of vulnerable adults (e.g., species at risk)
- Pre-emptive capture of hatchlings

- Relocation of nests

EC-CWS uses the criteria as outlined in *EC-CWS Guidelines for the Capture, Transport, Cleaning and Rehabilitation of Oiled Wildlife* (Wheeler et al. 2015a) for guidance on capturing and caring for Wildlife during a pollution incident.

1.3.5.3 Carcass Collection

The collection of carcasses may be required to remove sources of contamination and prevent secondary oiling or additional contamination of Wildlife as a result of predation and scavenging. Collecting carcasses during an emergency response can also help determine the geographic scale of the incident, determine the cause of an incident if the source is unknown, and helps obtain minimum number of casualties for damage assessment purposes. The collection of contaminated carcasses is also considered as a response strategy to minimize further damage to uncontaminated Wildlife. It is important to note that only those organizations authorized under the MBCA can carry out the various activities associated with minimizing damage to Wildlife (see Section 2.2).

EC-CWS has the responsibility to communicate to all agencies involved in a response the importance of: i) monitoring migratory bird impact through bird collection surveys; ii) ensuring that no undocumented birds are removed from beaches or shorelines; iii) everyone collecting migratory birds is authorized to do so through a valid authorization under the MBCA and Migratory Bird Regulations (see Section 2.2 for permits and authorizations), and iv) examining and documenting all migratory birds collected throughout the duration of the incident, including live affected birds that died at a rehabilitation facility. EC-CWS uses the guidance outlined in *Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015) for the collection, management and proper disposal of carcasses.

1.3.6 Managing Live Oiled Wildlife

Response strategies for live oiled Wildlife are guided by principles outlined in *EC-CWS' National Policy on Wildlife Emergency Response* (Environment Canada 2015b). Treatment of live captured Wildlife may include rehabilitation and release back into the wild; but it may also include euthanasia to reduce suffering. Criteria considered when prioritizing Wildlife species for rescue and rehabilitation will include world population size, productivity, vulnerability, demographic status and local numbers, sporting value, non-consumptive value and probability

of rehabilitation success. EC-CWS uses the criteria as described in the *EC-CWS' National Policy on Wildlife Emergency Response* (Environment Canada 2015) when determining which approach is best suited during a pollution incident.

When the capture, rehabilitation and release of Wildlife is a strategy considered for implementation during a pollution incident, EC-CWS uses the criteria as outlined in *EC-CWS' Guidelines for the Capture, Transport, Cleaning and Rehabilitation of Oiled Wildlife* (Wheeler et al. 2015a) for guidance on capturing and caring for Wildlife during a pollution incident. EC-CWS supports the rehabilitation of oiled Wildlife by qualified organizations authorized under the MBCA and Migratory Bird Regulations (MBR) to carry out these authorized activities. EC-CWS will maintain a functional relationship with the certified response organizations, **as directed by the condition of the authorization for these activities**, to advise on activities and species priorities for response.

Information on requirements and safety protocols when setting up an oiled wildlife treatment facility are detailed in the *EC-CWS' Guidelines for Establishing and Operating Treatment Facilities for Oiled Wildlife* (Wheeler et al. 2015b).

1.3.7 Assessing Impact of Incidents on Wildlife

EC-CWS may require impact assessments to Wildlife populations and/or habitat, and assess socio-economic impacts for restoration plans, legal action, claims from court damage awards or insurance companies and cost recovery.

EC-CWS will advise and/or assist with estimating the minimum number of individuals confirmed to be affected by the incident (i.e., collected through carcass collection surveys, transported to rehabilitation facilities, or observed during Wildlife surveys but were not collected), as well as the estimated number of individuals likely to be affected but were not observed nor recovered.

For a pollution incident occurring in marine or open water, EC-CWS may require, and in such circumstances will advise and/or assist with, the release and tracking of labelled drift blocks or marked carcasses during the early phases of the response. Drift experiments during an ongoing incident can help determine the likelihood of recovering affected individuals onshore. Planning for a drift experiment prior to an incident is good practice and easily done by stock-piling labelled drift blocks or marked carcasses of representative species likely to be involved in an incident. If a drift experiment is required, blocks and carcasses should be deployed within the

affected area as soon as possible following the onset of the incident and search effort along the shoreline should occur at regular intervals during the drift experiment.

EC-CWS will advise and/or assist with the identification of source colonies or populations impacted by the incident.

EC-CWS will advise and/or assist with monitoring programs to assess the long-term impacts of the incident on Wildlife populations and/or their habitats.

1.3.8 Habitat Considerations and Development of Landscape-based Contingency Plans for Pollution Incidents

The various habitats occupied by Wildlife require different considerations with regards to response planning. Specific to an emergency response involving pollutants such as oil, the key variable in a response plan is the presence of bodies of water which may act as a carrier for oil discharged into the environment, causing oil to quickly spread over large areas where Wildlife may become impacted. In Canada, habitats occupied by Wildlife requiring standardized response approaches during an emergency response involving oil or similar pollutants can be grouped into the following three main landscape categories: 1) marine and open water, 2) wetlands, and 3) terrestrial.

While each EC-CWS region will have unique approaches to manage an incident based on inherent differences (e.g., accessibility to resources, types of incidents, prevalent threats, public pressure, etc.), a response will be overall similar across regions based on the landscape in which an incident is unfolding. Therefore, generic landscape-based contingency plans for each of the three identified landscapes will be developed based on the Wildlife response strategies outlined in this section. Each region will subsequently develop an annex which will identify regional priorities for Wildlife resources as well as prevailing threats to Wildlife, and provide regional contact information for people identified filling functional roles during a Wildlife emergency response (see Section 1.4).

Comment [W[J4]: Noting here that we are open to other categories to be provided by the working group.

1.3.8.1 Marine and Open Water

Pollution incidents that occur in the marine environment or large bodies of open water tend to affect marine Wildlife that spend a high proportion of their time on the water, such as alcids and waterfowl. The impact on Wildlife has little to do with the amount of contaminants discharged, but rather depends on the location of the incident, persistence and toxicity of the contaminants, and duration of the incident. In seasons and areas of high concentrations of vulnerable Wildlife, the number of impacted individuals may reach the thousands, even when a relatively low volume of contaminant is discharged. Affected Wildlife may eventually come ashore either alive or dead, requiring systematic search and collection effort on accessible shorelines. Oil discharged offshore may eventually travel inshore and reach the coastline, impacting other suites of Wildlife associated with wetland habitats (see section 1.3.8.3). A Wildlife response in the marine and open water landscape focuses on excluding Wildlife from utilizing the affected area, recovery of affected individuals if these come to shore, and assessing the impact of the incident on Wildlife.

1.3.8.2 Terrestrial

Hazardous materials discharged into a terrestrial landscape where a body of water is absent will be limited in spread and affect a small area in relation to the released volume, although volumes can be considerable. Pollution incidents on a terrestrial landscape are usually limited to a point source (e.g., truck, train, pipeline, oil storage facility). While terrestrial Wildlife within the affected area may be diverse, including birds, mammals, reptiles and amphibians, the number of vulnerable species will probably be low. A Wildlife response strategy would focus on excluding Wildlife from affected area, pre-emptive capture of breeding SAR, recovery of affected individuals, and assessing the impact of the incident on Wildlife.

1.3.8.3 Wetlands

Wetlands consist of any saturated land, such as tidal flats, salt marshes, lagoons and bogs, but also include small ponds, rivers, marshes and reedbeds, or any combination of such categories. Unlike the other landscapes, wetlands are vulnerable to activities that occur on both land and the marine environment. During an oil spill response, wetlands are priority areas for protection as they can trap large quantities of oil, are difficult to clean, and can take years or decades to recover. Because of the large variety of wetland environments and biotypes that they accommodate, removing oil or other contaminants from the environment and operationalizing a Wildlife response may be complex. Rivers will carry and spread the oil potentially over large

distances, and shorelines may be inaccessible. Wildlife diversity may be high, and include a mix of aquatic (waterfowl, shorebirds, inland waterbirds), and terrestrial (landbirds) migratory bird species, and SAR from a variety of groups, including mammals, birds, amphibians, and fish. High effort may be required for reconnaissance and monitoring surveys as well as collecting affected individuals. Small lakes and ponds may be attractive for migratory birds during migration periods, and may require extended resources to exclude Wildlife from the area. In addition to deterrence activities, a Wildlife response in wetland habitats will also focus on: pre-emptive capture to relocate breeding species, recovery of affected individuals, and assessing the impact of the incident on Wildlife.

1.3.9 Wildlife Response Plan for Incidents with Identified RP

For incidents where an RP has been identified, the RP has the first responsibility for initiating effective actions to counteract an environmental emergency and has financial responsibility for damage and cleanup costs incurred during an incident. Incident-specific Wildlife Emergency Response Plans (WERP) are a requirement of the Incident Command System for pollution and non-pollution incidents affecting Wildlife and must address all of the various procedures and strategies required to mount an effective Wildlife response. EC-CWS will provide response standards and guidelines to inform organizations responsible for response activities of the minimum requirements to effectively respond to pollution or non-pollution incidents affecting Wildlife, as described in *EC-CWS' Guidance for Developing Beneficial Management Practices and Emergency Response Plans for Industries or Stakeholders Whose Activities May Affect Wildlife* (Worthman et al., *in prep*).

The RP will provide planned activities associated with Wildlife to the LA and EC-CWS (*as lead authority on setting wildlife emergency response standards and guidelines related to migratory birds and species at risk under its jurisdiction*). EC-CWS has representation at the Science Table through its Coordinators (see section 1.4.1). Planned activities are vetted through the appropriate expertise in the region and input is brought back to the Science Table to the LA to deal with the RP to ensure appropriate communications and Government of Canada response.

If the pollution or non-pollution incident involves the treatment of or activities involving affected Wildlife by response organizations (authorized under the MBCA and Migratory Bird Regulations), EC-CWS will maintain a functional relationship with the certified response

organizations, as directed by the condition of the authorization for these activities, to advise on activities and species priorities for response.

EC-CWS may monitor the effectiveness of any Wildlife response activities. The EC-CWS Coordinator will inform the Chair of the Science Table, who in turn will inform the RP about the required changes. If the response plan implemented by the RP or others does not meet EC-CWS standards, EC-CWS may take control and supervise any aspect of an emergency response involving Wildlife; EC-CWS may do this through organizations which have the expertise, logistic capability and equipment to mount such operations. Costs for such operations will be recovered from the RP or may be recovered through recognized compensation regimes available for activities associated with pollution related incidents in Canada, as outlined in *EC-CWS Guide to Cost Recovery for Wildlife and Natural Resource Response Activities During and After Pollution Incidents in the Marine System in Canada* (Worthman et al. 2015).

1.4 FUNCTIONAL ROLES AND RESPONSIBILITIES IN WILDLIFE RESPONSE ORGANIZATIONS

1.4.1 EC-CWS Coordinators

EC-CWS Coordinators receive reports of an incident from NEEC and will have the responsibility to facilitate an appropriate EC-CWS response. Coordinators lead and implement Wildlife emergency response on behalf of EC-CWS and represent EC-CWS' interests in liaising and integrating with other federal and provincial government departments and other organizations involved in a response during pollution and non-pollution incidents affecting Wildlife.

Each EC-CWS region is to have a minimum of two Coordinators (primary and alternate) that are trained according to criteria and guidelines set in *EC-CWS National Wildlife Emergency Response State of Preparedness Manual* (Goulet et al. 2015).

1.4.2 EC-CWS Responders

Responders support the RP or LA by providing information on Wildlife and sensitive habitats potentially impacted by an incident, through the Science Table. Responders will also, under direction of the Coordinator, provide technical support in the field in response to an incident and may be called upon to assist with making field assessments, supervise Wildlife response

activities of response organizations and those working under them, monitor of Wildlife in the area of the incident, ensure that accurate information on affected Wildlife are gathered, and brief Coordinators of all activities. Each EC-CWS region is to have sufficiently trained Responders, according to criteria and guidelines set in *EC-CWS' National Wildlife Emergency Response State of Preparedness Manual* (Goulet et al. 2015), to ensure Wildlife emergency response activities are carried out safely, consistently, and professionally.

EC-CWS responders may also be deployed to assess that authorized response organizations are complying with conditions of activities authorized under the MBCA and Migratory Bird Regulations. **EC-CWS Responders do not deal directly with the RP or their contractors.** Rather, EC-CWS Responders will inform EC-CWS Coordinator if regimes deployed are deficient during an incident.

1.4.3 Communications

Throughout Canada, all EC Branches and Services, including EC-CWS, input to an emergency response is mediated through the Science Table. EC's Communication Branch is also a member of the Science Table and supports EEP through the management of all communications and media issues that may emerge from an environmental emergency in which EEP is involved.

Communications Officers will plan and coordinate any media requirements and communications specific to Wildlife during pollution and non-pollution incidents, in consultation with the EC-CWS Coordinator and EC-CWS Regional Director. The Communications Officer's role is not to restrict information flow to the media, but to ensure that EC-CWS concerns and actions are presented to the public. To do this effectively, it is necessary that the Officer be aware of and involved in all media contacts to the greatest extent possible. The Officer will work with all EC-CWS personnel involved to ensure that those interviewed by media are able to reflect the broader concerns and objectives of our organization, and present a balanced summary of the situation.

1.4.4 Permits and Authorizations

During pollution or non-pollution incidents affecting Wildlife, EC-CWS has the responsibility for authorizing, where relevant, any activities that involve the handling or disturbance of Wildlife. Activities requiring permits and authorization include:

- preventing Wildlife from utilizing a specific area (i.e., deterring, pre-emptive capture),
- Removing dead Wildlife from the environment,
- Removing live affected Wildlife for treatment or euthanasia.

Participation in any of these activities during pollution and non-pollution incidents is identified through the Permits group to the lead response organization associated with the incident.

Contact information for EC-CWS regional permits offices are:

British Columbia and Yukon
5421 Robertson Road
Delta British Columbia
V4K 3N2
Telephone: 604-350-1950
Fax: 604-946-7022

Northwest Territories, Nunavut, **Alberta, Saskatchewan and Manitoba**
115 Perimeter Road
Saskatoon SK
S7N 0X4
Telephone: 306-975-4090
Fax: 306-975-4089

Ontario
867 Lakeshore Road
P.O. Box 5050
Burlington ON
L7R 4A6
Telephone: 905-336-4464
Fax: 905-336-4587

Québec
1141 Route de l'Église
P.O. Box 10100
Sainte-Foy QC

G1V 4H5
Téléphone: 418-648-3683
Fax: 418-648-4871

Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick
17 Waterfowl Lane
Sackville NB
E4L 1G6
Telephone: 506-364-5068
Fax: 506-364-5062

Taken from: http://www.ec.gc.ca/mbc-com/default.asp?lang=En&n=2BD78769-1

2.0 OPERATIONS AND PROCEDURES

2.1 NOTIFICATION AND ACTIVATION OF A WILDIFE RESPONSE

In accordance with established procedures and criteria between NEEC and the 24-hour Authorities, the response process is only activated when NEEC receives a verbal notification from the Authorities through the EC emergency line. Note that activation can be triggered by citizens, EC's Communications Branch, Enforcement Branch, EC-CWS, other federal departments or agencies, different levels of government or any other source having credible information. In all cases, activation must be verbal. NEEC officers then evaluate the initial notification and conduct an assessment to determine if the environmental emergency falls within EC's mandate.

Following NEEC's standard operating procedures, an Advisory providing information on the details and severity of pollution or non-pollution incidents, are directed to appropriate stakeholders (Fig. 10).

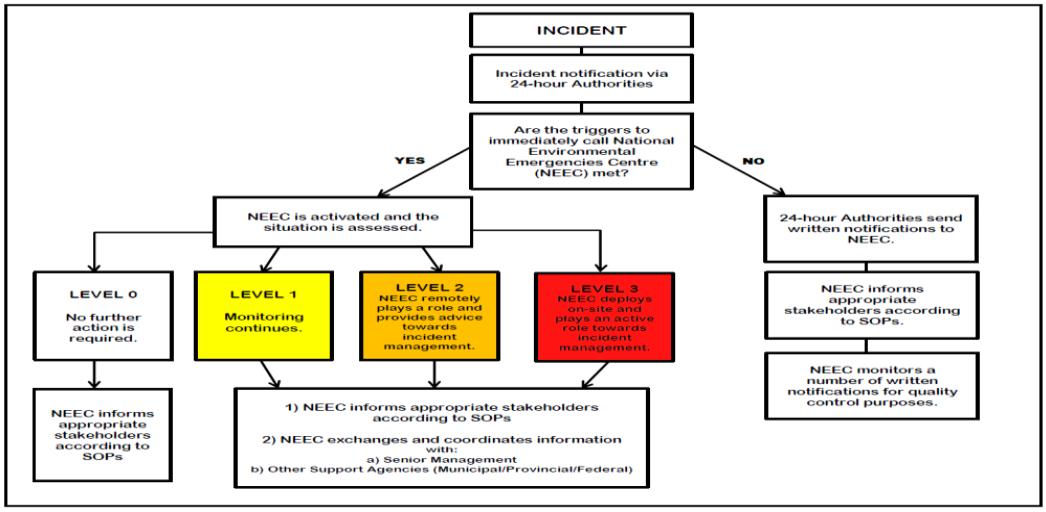

Figure 10: Schematic of the EC's National Environmental Emergencies Center (NEEC) incident notification process.

Under this notification process, EC-CWS is advised of all pollution and non-pollution incidents affecting or potentially affecting Wildlife or their habitats. For any pollution-related Wildlife incident, EC-CWS will provide Wildlife information as requested by NEEC.

Notifications for minor non-pollution Wildlife incidents (impact on small numbers of migratory birds or federally managed wildlife, <5 individuals), with no effect on conservation at the population level, will be developed by EC-CWS' Coordinator and distributed by EC-CWS' Regional Director.

Notifications for moderate (impact on small numbers of migratory birds or federally managed wildlife (5-10 individuals) or major (>10 individuals)) non-pollution Wildlife incidents will be developed by NEEC, with content provided by EC-CWS (drafted by Coordinator and by Regional Director).

EC's significant Wildlife Event Criteria and Notification Protocols (see Appendix I) provides: 1) a description of the categorization of impacts for each of the three significant event levels for affected species, habitat, and links to human health (see Table 3), 2) clearly outlines EC-CWS' roles and responsibilities for each of the three significant event levels (see Table 4), and 3) provides a template for the contents of the Advisory (i.e., incident type, date and time, details of incident, initial assessment and updates of impacts and risk to wildlife, and actions planned or underway).

Table 3: Levels of NEEC's Wildlife Notification System as assessed through impacts on Wildlife species.

NEEC Advisory Level	Impact to Wildlife	Notification System
Minor – Level 1	• Little likelihood of incident expanding beyond known impacts in a limited area • Impact on small numbers of Wildlife (<5 individuals) with no effect on conservation at population level • No threatened or endangered species are affected	EC-CWS e-mail Advisory
Moderate – Level 2	• Incident has potential effects on local or regional populations of Wildlife or protected areas • There is risk to threatened or endangered species or their habitats • Possibility of broader impacts on Wildlife such as disease or unknown die-offs affecting large numbers of individuals	NEEC Advisory
Major – Level 3	• Incident has a high to certain probability for effects on populations of Wildlife • A population or smaller management units of populations of threatened or endangered species are impacted	NEEC Advisory

Table 4: Levels of NEEC's Wildlife Notification System as assessed through impacts on Wildlife species.

NEEC Advisory Level	EC-CWS' roles and responsibilities
Minor – Level 1	• Regional response Coordinator provides information to Regional Director • Regional Director advises key contacts via e-mail (see below)
Moderate – Level 2	• Regional Director determines whether a NEEC Advisory is to be generated based on criteria, and if yes, verbally notifies NEEC • Regional response coordinator provides Wildlife knowledge input when requested by NEEC • Regional Director approves Wildlife knowledge input content if Advisory is solely a Wildlife event • Communications prepares media lines in consultation with regional response Coordinator and Regional Director
Major – Level 3	• Same as Level 2

Note: Incidents involving small numbers of Wildlife (< 5 individuals) through industrial activities (e.g., oiling in tailing ponds, incineration at flares) do not activate the NEEC notification system, as industries are responsible for mitigating small-scale incidents as part of their Wildlife Response Plans. Rather, these incidents are reported directly to EC-CWS as a condition of their permit.

The EC-CWS Regional Director will forward a copy of the EC-CWS e-mail or NEEC Advisory to all EC-CWS senior management in the department and relevant key contacts (incident specific):

- Provincial/Territorial Wildlife Director
- Director Wildlife Research – S&T
- Director Wildlife Toxicology – S&T
- Canadian Cooperative Wildlife Health Centers (Veterinary Colleges)
- Canadian Food Inspection Agency
- Canadian Public Health Agency
- Provincial/Territorial Chief Veterinary Officer
- Provincial/Territorial Chief Medical Officer
- Federal and provincial departments involved in the response
- Non-government Response organizations involved in this response (e.g. Alert)

Updates to the Advisory are issued as required, when impacts or actions are modified as the incident unfolds or when new information is acquired, following the same notification procedure as the original Advisory.

EC-CWS will make available designated personnel to provide expert advice through the Science Table and where appropriate, to monitor activities regarding Wildlife impacted by a pollution or non-pollution incident. As a primary responsibility, EC-CWS will assess the threat to Wildlife based on factors such as sensitive habitats, the size of affected area during a pollution or non-pollution incident, number of migratory birds affected or potentially affected, presence of species at risk, time of year, and location.

2.2 STANDARDIZED EXISTING WILDLIFE KNOWLEDGE INPUT

EC-CWS strategically prioritizes the collection of baseline information on the distribution and abundance of Wildlife in known or potential high risk areas to ensure that EC-CWS is able to engage effectively in the development of appropriate strategies and mitigation measures with

respect to emergency response preparedness. When a Wildlife response is activated, EC-CWS' first response is to develop a summary of existing information on Wildlife potentially impacted by the incident. It is the duty of the EC-CWS Coordinator to solicit details of the incident to regional biologists for each of the Wildlife or habitat groups (i.e., landbirds, shorebirds, colonial waterbirds, pelagic seabirds, waterfowl, species at risk, protected areas), who in turn mine existing databases and provide information on the species composition, abundance and distribution of vulnerable Wildlife.

Biologists provide the information to the Coordinator in a standardized format, namely: 1) a brief narrative summarizing vulnerable Wildlife in the vicinity of the affected area, potential impacts to Wildlife, and source/quality of information, 2) a map or other visual representation of the abundance and distribution of vulnerable Wildlife in the vicinity of the affected area supporting the narrative, and 3) raw data used to generate the visual representation, in the event that there is a need to generate an amalgamated map of all data sources. It is the Coordinator's responsibility to merge the information from all relevant Wildlife groups into one summarized document that clearly describes potential impacts of the incident to Wildlife, required to support EC-CWS input to the Science Table.

2.3 RESPONSE ACTIONS DURING A POLLUTION INCIDENT

The pattern of an EC-CWS response to a pollution incident will vary depending upon whether a RP has been identified. When a RP has been identified, the RP is responsible for developing and implementing a WERP. EC-CWS will provide response standards and guidelines to inform response organizations of minimum requirements to effectively respond to pollution incidents affecting Wildlife, as described in *EC-CWS' Guidance for Developing Beneficial Management Practices and Emergency Response Plans for Industries or Stakeholders Whose Activities May Affect Wildlife* (Worthman et al., *in prep*). The RP will provide the planned activities associated with Wildlife to the LA, who in turn will provide to EC-CWS for input through the Science Table.

When the source of the pollution is unknown, CCG will be the LA. In such situations, EC-CWS will develop and carry out an Wildlife response in cooperation with CCG through the Science Table. In all cases, an appropriate WERP will include the following strategies:

2.3.1 Monitoring Wildlife in Affected Area

Depending on the nature and severity of an incident, EC-CWS may recommend the implementation of surveys which are designed to monitor the abundance and distribution of affected and non-affected Wildlife in and around the area where the incident is unfolding. Such Wildlife surveys help determine the real-time impact of an incident on Wildlife and assess vulnerable resources. Through the Science Table, EC-CWS:

Will provide advice on survey protocols, survey design and observer requirements, as described in *EC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015);

May collaborate with the RP, response organizations or lead agencies to conduct Wildlife surveys.

2.3.2 Minimizing Impact to Wildlife

During a pollution incident, every effort must be made to keep the contamination source away from unaffected Wildlife to minimize the overall impact of an incident on Wildlife. Through the Science Table, EC-CWS:

Will authorize, where relevant, any activities that involve the handling or disturbance of Wildlife;

Will recommend activities to be implemented that aim at excluding unaffected Wildlife from affected Wildlife, the affected area and response activities (e.g., deterrence and dispersal, pre-emptive capture);

May provide advice on techniques to exclude unaffected Wildlife that may be required to prevent or limit damage to Wildlife populations, as described in *EC-CWS Guidelines for Deterrence and Bird Dispersal Techniques used during pollution and non-pollution incidents in Canada* (Beaumont et al., *in* prep) and *EC-CWS' Guidelines for the Capture, Transport, Cleaning and Rehabilitation of Oiled Wildlife* (Wheeler et al. 2015a);

Will recommend the recovery of oil-affected Wildlife carcasses, as described in *Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015), to avoid further contamination, for public safety, and determine the impact on Wildlife populations;

Will authorize under the MBCA and Migratory Bird Regulations the collection and treatment of oiled live Wildlife by certified organizations if treatment of oiled Wildlife is deemed a viable option as described in *National Policy on Wildlife Emergency Response* (Environment Canada 2015);

May collaborate with agencies authorized under the MBCA and Migratory Bird Regulations to remove live oil-affected Wildlife from the environment following guidelines outlined in *EC-CWS' Guidelines for the Capture, Transport, Cleaning and Rehabilitation of Oiled Wildlife* (Wheeler et al. 2015a);

Responders may provide on-site support on behalf of EC-CWS:

- To assess that authorized response organizations are complying with conditions of activities authorized under the MBCA and Migratory Bird Regulations.
- To assist with the collection of Wildlife, collection of samples, and response activities following protocols outlined in *EC-CWS' Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015).
- When an On-site Response Trigger is activated (see Section 2.5).
- If opportunity and internal resources allow.

2.3.3 Wildlife Data Capture

EC-CWS maintains a daily tally of affected Wildlife that are reported: 1) by the public (including reports through NEEC, by telephone, or through social media), 2) observed through Wildlife surveys, and 3) collected for examination (carcasses) or for treatment in an authorized facility. All reports are centralized to one designated Responder who maintains a database containing the following information:

- Date observed/collected
- Location observed/collected
- Species
- Number of affected individuals
- Status (i.e., live or dead)
- Name and contact information of observer

EC-CWS will examine carcasses collected during pollution incidents or non-disease non-pollution incidents for scientific purposes. EC-CWS abides to the guidelines and protocols for

collecting information on examined carcasses outlined in *Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015).

Accurate record keeping of affected Wildlife is critical for developing post-incident reports, impact assessment and recovering costs (see section 2.8).

2.4 RESPONSE ACTIONS DURING A NON-POLLUTION INCIDENT

EC-CWS' response actions during a non-pollution incident depends on whether the source of the mass mortality is disease-related or not.

2.4.1 Disease-related Mass Mortalities

For disease-related incidents, a Science Table will likely be called. Under these circumstances, EC-CWS' primary roles are:

1) Coordination

- EC-CWS facilitates appropriate engagement of other agencies who are leading the investigation (e.g., Canadian Food Inspection Agency, Canada Public Health Agency, CWHC, Province's Department of Natural Resources)
- EC-CWS may engage other local federal/provincial organizations in the areas of the incident to facilitate the collection of affected Wildlife for evaluation
- EC-CWS will authorize agencies to collect affected Wildlife under the MBCA and Migratory Bird Regulations, for sampling and diagnosis

2) Communication

EC-CWS will develop joint communications/advisories where appropriate

2.4.2 Other Non-pollution Mass Mortalities

For non-pollution mass mortalities not related to disease (e.g., weather-related, fisheries bycatch, botulism), EC-CWS does not advocate the collection of carcasses. However, EC-CWS will provide authorization (under the MBCA and MBRs) for the removal of affected Wildlife for scientific purposes. **Note that in most non-disease/ non-pollution mortalities, a Science Table would likely not be called (although EC-CWS retains the option), with the exception of major mass avian mortalities (> 10 individuals) that are industry-related (e.g., flaring).**

During any non-pollution incident, Responders may provide on-site support on behalf of EC-CWS:

- To assess that authorized response organizations are complying with conditions of activities authorized under the MBCA and MBRs.
- To assist with the collection of Wildlife, collection of samples, and response activities following protocols outlined in *Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015).
- When an On-site Response Trigger is activated (see Section 2.5).
- If opportunity and internal resources allow.

2.5 EC-CWS ON-SITE RESPONSE TRIGGERS

For some environmental emergencies involving Wildlife, support to response and delivery of EC-CWS' mandate can be done remotely. However, in some cases, being on-site is required to conduct an effective assessment of the situation and mitigation efforts. This on-scene presence enables the provision of well-informed expert scientific advice that can significantly reduce the environmental impacts of an incident on Wildlife.

An environmental emergency involving Wildlife that meets one or more of the following triggers could lead to a decision for an on-site response by EC-CWS:

- The LA or any other organization having jurisdiction is requesting EC-CWS presence on site;
- Coordination and delivery of EC's response would be enhanced by EC-CWS on-site response (e.g., collection and sampling of oil from Wildlife for the purpose of source analysis on behalf of EPOD, or to support wildlife enforcement activities on behalf of Wildlife Enforcement Division) and, as warranted, with support from other EC programs;
- On-site response would fulfill training needs for EC-CWS personnel.

2.6 DAILY LOGS AND MANAGEMENT REPORTS (RESPONDERS AND COORDINATORS)

During pollution and non-pollution incidents, Responders are responsible for maintaining daily logs of activities conducted during a Wildlife response. Details of activities must include date, duration, objective, and outcome. At the end of each day, logs are sent to the Coordinator, who will use this information to track activities and associated costs, develop daily reports to brief EC-CWS managers and update the Advisory if required.

2.7 TIER-BASED RESPONSE

2.7.1 Tier 1

Following EC's Significant Wildlife Event Criteria and Notification Protocols, a Tier 1 response may be activated for **local Minor – Level 1** and will be immediately activated for **local Moderate – Level 2** incidents.

During a Tier 1 response, local EC-CWS Coordinators, Responders and resources (response kits, and equipment) can be engaged and may be mobilized within 12-36 hours to support Wildlife response efforts;

A Tier 1 response may be escalated to a Tier 2 response if the incident is ongoing or increasing in severity (e.g., increased geographic area or increased number of affected Wildlife) and additional resources are required to supplement local Tier 1 capacity.

2.7.2 Tier 2

Following EC's Significant Wildlife Event Criteria and Notification Protocols, a Tier 2 response may be activated for **Moderate – Level 2 incidents occurring beyond local geographic response radius** (or area) and will be immediately activated for **local Major – Level 3 incidents** posing medium to high risk to Wildlife populations and/or their habitats

During a Tier 2 response, EC-CWS Coordinators, Responders and resources from other regions, other EC departments, or outside agencies may be mobilized within 24-48 hours to assist with Wildlife response operations;

A Tier 2 response may be escalated to a Tier 3 response if the incident is ongoing or increasing in severity (e.g., increased geographic area or increased number of affected Wildlife) and international resources are required to supplement existing Tier 1 and Tier 2 capacity.

2.7.3 Tier 3

Following EC's Significant Wildlife Event Criteria and Notification Protocols, a Tier 3 response may be activated for **Major – Level 3 incidents occurring beyond local geographic response radius** (or area).

During a Tier 3 response the incident is posing medium to high risk to Wildlife populations and/or their habitats;
International resources may be mobilized within 48-72 hours to supplement regional and national capacity to assist with Wildlife response operations.

2.8 POST-INCIDENT ACTIVITIES FOR POLLUTION INCIDENTS

2.8.1 Development of Post-incident Reports

Following the incident, the EC-CWS Coordinator will develop a written report focusing solely on the Wildlife response aspect of the incident. Information in the report includes:

- Details of reported incident
- Summary of vulnerable Wildlife in vicinity of affected area
- Details of Wildlife response plan activated
- Details of daily activities conducted by EC-CWS
- Documented impact to Wildlife based on Wildlife data capture
- Planned EC-CWS activities moving forward (e.g., impact assessment)

The EC-CWS Coordinator will provide this report to EC-CWS management and, upon request, to other government agencies, non-government organizations, institutions, or any other interested outside parties, including the public.

2.8.2 Release of Treated Wildlife

The release of any Wildlife that has received care at an authorized treatment facility must be planned, coordinated and approved by the LA, as outlined in *EC-CWS' Guidelines for the Capture, Transport, Cleaning and Rehabilitation of Oiled Wildlife* (Wheeler et al. 2015a). EC-CWS will maintain a functional relationship to advise on banding procedures, release sites for treated Wildlife, and post-release monitoring strategies to improve the processes and criteria associated with emergency Wildlife care.

2.8.3 Assessing Impacts of Incident on Wildlife Populations

If required, EC-CWS will advise and/or assist in assessing the impact an incident has on Wildlife populations, which is based on: 1) total number of affected individuals, 2) species, age, and sex composition, 3) identification of source populations, and 4) monitoring productivity and/or population trends in affected populations.

2.8.3.1 Estimating total number of affected individuals

The total number of affected individuals is estimated by summing two assessments: 1) minimum number of affected individuals, and 2) estimated number of affected individuals not recovered. The minimum number of affected individuals is derived from the total number of affected Wildlife collected through carcass collection surveys and Wildlife transported to treatment facilities, and are supplemented with the number of affected Wildlife observed during Wildlife surveys but that were not collected, as detailed in Section 2.3.3 (Wildlife data capture).

Estimating the number of affected individuals not recovered during an incident requires information on the probability of an affected individual being recovered, which in turn is influenced by numerous variables, including removal by predation/scavenging; low detectability due to small size, colour, obstruction by vegetation/substrate, or search method; natural displacement by currents or tides; live affected individuals able to travel considerable distances. Determining recovery rates requires well-designed studies that are specific to the impacted species or groups of species with similar characteristics, landscape and source of incident. As such:

If a drift experiment was executed during an incident in open water, EC-CWS will abide to the results of that experiment to determine the likelihood of affected Wildlife of being recovered.

In other circumstances, EC-CWS will abide to methods and standards presented in peer-reviewed literature to determine recovery rates and suitable approaches to estimate number of affected individuals not recovered during an incident.

If no applicable peer-reviewed studies are available, EC-CWS will collaborate with researchers from EC's Science and Technology Branch to determine reliable recovery rates and suitable approaches to estimate number of affected individuals not recovered during an incident.

If applicable, EC-CWS will provide information on the abundance and distribution of Wildlife likely present during the course of the incident to estimate the total number of affected individuals not recovered during an incident.

2.8.3.2 Species, age and sex composition

Collecting information on the species, age, and sex composition of affected Wildlife is critical to determine the biological impact of the incident on Wildlife populations. EC-CWS will examine carcasses recovered during pollution incidents or non-disease non-pollution incidents for scientific purposes, to obtain such information for impact assessment purposes. EC-CWS abides to the guidelines and protocols for collecting information on examined carcasses outlined in *EC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015). Response organizations authorized to bring Wildlife to treatment facilities are also required to collect such information, as detailed in *EC-CWS' Guidelines for the Capture, Transport, Cleaning and Rehabilitation of Oiled Wildlife* (Wheeler et al. 2015a).

In the absence of carcasses, or if EC-CWS deems that carcasses recovered are not representative of all affected individuals, additional information on the species, age, and sex composition may be available through data collected during Wildlife surveys, as detailed in *EC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015).

2.8.3.3 Identification of source populations

In Canada, incidents unfolding during the breeding season (April-August) will likely primarily impact local breeding Wildlife for which the source population can be readily determined, with the exception of species that breed in the southern hemisphere and "over-winter" in Canadian waters during the summer (e.g., shearwaters). For incidents unfolding outside of the breeding season, determining the source population of impacted Wildlife can be facilitated by:

Looking for markers (e.g., bands, tags) when examining carcasses as outlined in *EC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015) and requesting the information as directed on the marker;

Collecting relevant morphometric information from carcasses, as outlined in *EC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (Wilhelm et al. 2015), which can be compared to existing information from possible source populations;

Referring to existing information on known population sources in vicinity of affected area.

2.8.3.4 Monitoring productivity and/or population trends in affected populations

If required, EC-CWS will advise on monitoring methods and/or assist in monitoring productivity and/or population trends of Wildlife which are known to have been affected, and for which pre-incident baseline information exists.

2.8.4 Recovering Costs for Activities Associated with Wildlife Response

In all circumstances where a polluter is identified during a ship-source pollution incident, the RP has financial responsibility for damage and cleanup costs incurred during the incident and for costs of remedial measures and for compensation for impairment of the environment. A RP will in turn seek to recover costs for response activities as eligible candidates through recognized cost recovery mechanisms (e.g., International Oil Pollution Compensation Fund, International Oil Pollution Compensation Supplementary Fund or Canada's Ship-source Oil Pollution Fund), all of which have general claim requirements that can be found in *EC-CWS's Guide to Cost Recovery for Wildlife and Natural Resource Response Activities During and After a Pollution Incident in the Marine System in Canada* (Worthman et al. 2015). EC–CWS may take control and supervise any aspect of Wildlife response if activities initiated by the RP or others are deemed inadequate. The costs for such operations are billed to the RP. During an incident where there is no identified RP or the RP chooses not to take complete financial responsibility for Wildlife response efforts, there is an expectation for the various departments to self-finance Government of Canada activities.

Cost recovery for cleanup operations and other concomitant activities (e.g., surveillance, monitoring, impact assessment, etc.) associated with Wildlife and natural resource response carried out during and after ship-source pollution incidents in Canada has proven difficult in the absence of established guidance for eligible activities and the availability of substantiating documentation to support recommended response activities. As such, cost recovery for these activities is usually determined on a case-by-case basis and has often been unsuccessful. To

facilitate the investigation and assessment of claims to recover costs for response activities, EC-CWS emphasizes the need that comprehensive and accurate records are kept from the outset of a response. EC-CWS has also developed a general claim form that should satisfy all of the requirements of the relevant cost recovery mechanisms that can be found in Worthman et al. (2015).

For pollution incidents involving land-based sources (i.e., pipelines, railways, refineries, etc.), there is a different approach to cost recovery, and in general, EC-CWS and EC are not as involved. In general, the RP is still financially responsible for environmental damage that they cause, based on the "Polluter Pays Principle". If a pollution incident involving a pipeline occurs in Canada, the National Energy Board (NEB) holds the liable company financially responsible for clean-up and remediation measures, however there are limits to the liability. If the operator is determined to be at fault, there is currently no limit on the amount of money that a pipeline company may be required to compensate in order to remediate the adverse environmental effects of the spill (i.e. ultimate liability). New regulations have also been written in 2015 that operate on the basis of absolute liability in that all companies will be required to maintain a cash reserve of at least $100 million to ensure that sufficient resources are readily available to cover clean-up costs should an incident occur. If the response and cleanup efforts are deemed inadequate, the NEB will take control of the incident and self-finance the response.

For railway-based pollution incidents, Transport Canada requires that railway companies possess sufficient insurance to compensate for environmental damages caused by construction and operation of a railway, based upon the polluter-pays-principle. In 2015, new legislation was proposed to increase the range of minimum insurance requirements for railway companies to $25 million to $1 billion, depending on the type and volume of goods being carried. Additionally this legislation plans to create a supplemental compensation fund financed by a $1.65/tonne levy on crude oil companies to provide compensation to victims and pay for environmental cleanup in the event of an incident. In the current regime, if the RP is unable or unwilling to finance the response, Canadian taxpayers bear the brunt of the financial burden.

3.0 CUSTODIAN

The custodian for the National Wildlife Emergency Response Contingency Plan and any amendments thereto is the:

Director General
Canadian Wildlife Service
Environmental Stewardship Branch
Environment Canada

The approval of future updates is vested to the Director General, Canadian Wildlife Service. The National Wildlife Emergency Response Contingency Plan will be reviewed and updated, as necessary.

4.0 LITERATURE CITED

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APPENDIX I: ENVIRONMENT CANADA'S SIGNIFICANT WILDLIFE EVENT CRITERIA AND NOTIFICATION PROTOCOLS - NEEC ADVISORY (Wildlife)

Last Updated: December 2013

Types of event could include: **Mortalities, die-offs and injury** caused by **human activity** (e.g. pollution, poison & chemical spills), **infrastructure; Natural hazards** (storms, extreme weather, floods); **Wildlife Disease** (e.g. west nile virus); **Biological stressors** (e.g. botulism)

- **Incidents are ranked at a level if they meet one or more of the criteria listed at that level.**
- **If an incident satisfies only one criterion in a given level and several at a lower level, the incident is ranked at the higher level.**

MINOR – LEVEL 1 CWS EMAIL ADVISORY	MODERATE – LEVEL 2 NEEC ADVISORY	MAJOR – LEVEL 3 NEEC ADVISORY
Wildlife Species • ***There is little likelihood of the incident/event expanding beyond known impacts in a limited area***. • **Impact on small numbers of migratory birds** or **federally managed wildlife (<5 individuals)** with no effect on conservation at the population level. • **No Threatened or Endangered species** are affected. ***Habitat*** • Impact on habitat and ecological function is minor and/or reversible. ***Link to Human Health*** • The event is not associated with any suspected disease which could affect humans. ***Link to Domestic Animal Health*** • The event is not associated with any suspected disease which could affect domestic animals. ***Public interest*** • The event has the potential or is generating some local media and/or public interest. ***EC response*** • On a case by case basis, there may be a response by CWS and/or wildlife enforcement. • Other agencies or levels of government need not yet be involved.	***Wildlife Species*** • ***The event has potential effects on local or regional populations of migratory birds or federally managed wildlife or protected areas. It may be due to known or unknown causes*** • There is a **risk to endangered or threatened species** or their habitat. • The possibility of broader impacts on wildlife such as a disease or unknown die-off affecting large numbers of individuals. ***Habitat*** • Some habitat elements and ecological function have been impacted e.g. more than two breeding seasons or possibly irreversibly. • The event has occurred in an ecologically sensitive area such as a wildlife protected area. ***Link to Human Health*** • There may be potential for human health impacts if the incident involves diseases which could affect humans (e.g. West Nile virus, some strains of avian influenza, salmonella etc) ***Link to Domestic Animal Health*** • There may be potential for domestic animal health impacts. ***Public Interest*** • The event is or is expected to generate local and some national media and public interest. • Public sensitivity has been heightened by previous similar incidents. ***EC response*** • There is an active response by the department - personnel in the field – may include CWS and/or wildlife enforcement or CWS personnel. • Other agencies or levels of government may be involved.	***Wildlife Species*** • ***The event has a high to certain probability for effects on populations of migratory birds or federally managed wildlife.*** • A population or smaller management units of populations of **threatened or endangered species are impacted** ***Habitat*** • Large areas of habitat and ecological function are likely irreversibly affected. • Critical Habitat for species at risk is impacted. ***Link to Human Health*** • Likely human health impacts with a zoonotic disease which is transferable to humans. ***Link to Domestic Animal Health*** • Likely domestic animal health impacts with a disease which is transferable to domestic animals. (e.g. notifiable diseases, foreign animal disease). ***Public Interest*** • The incident is or is expected to generate high levels of regional and national media and public interest. ***EC response*** • There is a vigorous response by the department i.e. many staff in the field to assist in response. • The situation necessitates the coordination of several federal departments/agencies as well as provincial or territorial agencies.

MINOR – LEVEL 1 CWS EMAIL ADVISORY (CWS Sends the Advisory)	MODERATE – LEVEL 2 NEEC ADVISORY (CWS determines need and content for a NEEC Advisory, NEEC disseminates the Advisory)	MAJOR – LEVEL 3 NEEC ADVISORY ← Same as Level 2
• Notification of event may come through: - NEEC via the 24/7 environmental emergencies reporting number **1-866-283-2333** - Regional CWS office (directed to CWS regional emergency response coordinator) - Provincial or territorial emergency reporting lines • Regional **CWS emergency response coordinator** to provide information to **Regional Director CWS**. • If the event is first brought to the Department's attention through the NEEC 24/7 Emergency reporting number, but is solely a wildlife (i.e. non-pollution) event, the **on-call NEEC Environmental Emergencies Officer (EEO)** will notify the **regional CWS emergency response coordinator**, who will notify **the Regional Director CWS**. • **Regional Director CWS to advise key contacts via email**. • **Key Contacts** (select appropriate contacts): - Regional Directors CWS (other regions) - Regional Director General & Associates - Communications - Regional Wildlife Enforcement Director - Director General CWS - CWS national director (habitat, migratory birds, species at risk) - Provincial/Territorial Wildlife Director - Director Wildlife Research – S&T - Director General Wildlife and Landscape Science – S&T - Director Wildlife Toxicology – S&T - Environment Canada wildlife disease specialists – S&T - Provincial/Territorial wildlife veterinarians - Canadian Cooperative Wildlife Health Centers (Veterinary Colleges) CC: - National Environmental Emergencies Center	• **The Regional Director CWS** determines whether a NEEC Advisory (Wildlife) is to be generated based on the criteria. • The Regional Director CWS or an assigned CWS employee verbally notifies **the National Environmental Emergencies Centre** that an Advisory is required. **1-866-283-2333**. • Following the verbal notification, the NEEC Wildlife Advisory, following the template, is forwarded via email to the NEEC email account **cnue_neec@ec.gc.ca** • If the event is first brought to the Department's attention through the NEEC 24/7 Emergency reporting number, the relevant information can be transcribed to NEEC via the **on-call NEEC Environmental Emergencies Officer (EEO)**, but the need for and crafting of the Wildlife Alert is to remain with **CWS** under the approval of the **Regional Director**. • If the wildlife event already involves NEEC personnel as a pollution related NEEC Advisory – the **regional CWS emergency response coordinator** will contribute wildlife information when requested by NEEC. If it is clear that it is solely a wildlife event, the Advisory content is under the approval of the **Regional Director CWS**. • Upon receipt of a Wildlife Advisory, a NEEC Duty Officer may recommend modifications to the content to the CWS originator for quick approval through NEEC processes. This is to ensure continuity and consistency of all NEEC reports. • **Communications** prepares media lines and media notifications in consultation with CWS emergency response district coordinator and Regional Director and will cc NEEC. **Emergencies Center (NEEC) sends the Advisory** to a predetermined distribution list including all CWS senior management in the department • The **CWS Regional Director** to forward a copy of the NEEC Advisory to relevant key contacts (incident specific): **Key Contacts** (select appropriate contacts): • Provincial/Territorial Wildlife Director • Director Wildlife Research – S&T • Director Wildlife Toxicology – S&T • Canadian Cooperative Wildlife Health Centers (Veterinary Colleges) • Canadian Food Inspection Agency • Canadian Public Health Agency • Provincial/Territorial Chief Veterinary Officer • Provincial/Territorial Chief Medical Officer • Federal and provincial departments involved in the response • Non-government Response organizations involved in this response (e.g. Alert)	← Same as Level 2

NEEC: National Environmental Emergencies Center **Tel: 1-866-283-2333 (24 Hour Emergency line) (collect calls are accepted)** Fax: (819) 953-5361 Secure Fax: (819) 953-0495; email: cnue_neec@ec.gc.ca	**Provincial/Territorial Environmental Emergency reporting numbers:** Numbers available at ec.gc.ca: http://www.ec.gc.ca/ee-ue/default.asp?lang=En&n=EED2E58C-1#X-201105101035542

Template for CWS Email Advisory and NEEC Advisory

(edited from National Environmental Emergencies Center documentation)

A) Title of Advisory and Event Type (e.g die-off of ducks in Lake Erie)

B) Version (of Advisory):
Date-time: Month xx, 201x; xxxxh timezone
Update 1: date-time

C) Incident:
Date and time: / Date et heure : Date and time of the incident (ensure the correct time zone is noted);
Location : / Endroit : Geographic location or approximate location with nearby landmarks e.g. lakes, Towns etc.
Source of information: / Source d'information: Who was the source of the information (title and organization)?

D) Details of incident: / Détails de l'incident:
- WHAT, WHERE, HOW: The emergency, where it happened and how it happened;
- The magnitude of the event (e.g., "minimum 500 birds killed by suspected disease");
- Identify species and whether species at risk involved.

E) Initial Assessment of impacts and risk to wildlife:
Date-Time:
- Indicate any potential impacts or risks to a species or habitat;
- Indicate if there are any diseases which are of human-health or domestic animal health concern;
- Indicate if there have been other related incidents in the area;

Updates: Assessment of impacts and risk to wildlife:
- Date-Time:
- Updated or revised assessment

Updates: Wildlife Species Involved – potential and actual
- Indicate immediate knowledge of likely occurrences of migratory birds and other wildlife in the area (e.g. breeding colony of gannets located 10km to the north)
- Indicate if any birds already known to be affected

Updates: Wildlife Species involved – actual
Date-Time:
- Provide update of birds impacted and their conditions
- Provide update of result of surveys (e.g. aerial overflights) and observed bird resources in the area

F) Actions underway / planned: / Mesures prises/planifiées:
List in reverse chronological order with Date/time as appropriate
- Identify supporting or other lead agencies and their actions
- Identify EC's role – lead or provision of technical support
- Identify if EC personnel are on-scene or monitoring the situation
- Identify supporting or other lead agencies and their actions.

Contacts:

Canadian Wildlife Service – Region
CWS wildlife response coordinator
Name
Tel
Cell
Email

Issued by:

Regional Director, CWS
Name
Tel
Cell
Email