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## GUIDELINES FOR EFFECTIVE WILDLIFE RESPONSE PLANS

Canada 

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## EXECUTIVE SUMMARY

Environment and Climate Change Canada's Canadian Wildlife Service (ECCC-CWS) is responsible for the management and conservation of Migratory Bird populations and Species at Risk. As part of this mandate, ECCC-CWS provides recommendations on how government, industry, Response Organizations, and other stakeholders plan for Wildlife response activities. The *Guidelines for Effective Wildlife Response Plans* outlines the rationale, objectives, and process for developing, implementing and evaluating the efficacy of Wildlife response planning for pollution and non-pollution incidents. This document supports the standardization of the planning process and understanding of ECCC-CWS recommendations around various planning elements. The purpose of this document is to guide federal, provincial, territorial, and regional government, industry, Response Organizations, and other stakeholders in developing Wildlife Response Plans that consider all aspects of planning throughout the full life cycle of an incident with regards to Wildlife specific to ECCC-CWS' mandate.

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## LIST OF ACRONYMS

<b>CWA</b>	<i>Canada Wildlife Act</i>
<b>DFO</b>	Department of Fisheries and Oceans Canada
<b>ECCC</b>	Environment and Climate Change Canada
<b>ECCC-CWS</b>	Environment and Climate Change Canada's Canadian Wildlife Service
<b>ICP</b>	Incident Command Post
<b>ICS</b>	Incident Command System
<b>MBCA</b>	<i>Migratory Bird Convention Act, 1994</i>
<b>MBR</b>	<i>Migratory Bird Regulations</i>
<b>MBS</b>	Migratory Bird Sanctuary
<b>MBSR</b>	<i>Migratory Bird Sanctuary Regulations</i>
<b>NWA</b>	National Wildlife Area
<b>PCA</b>	Parks Canada Agency
<b>RP</b>	Responsible Party
<b>SARA</b>	<i>Species at Risk Act</i>
<b>WRP</b>	Wildlife Response Plan
<b>WRO</b>	Wildlife Response Organization

## DEFINITIONS

**CWS Co-ordinator:** A person who leads and implements regional Wildlife emergency preparedness and response on behalf of ECCC-CWS and represents ECCC-CWS's policies and interests when liaising and integrating with other federal and provincial/territorial government departments and other stakeholders involved in the response during Wildlife Emergencies. CWS Co-ordinators may also fulfill some of the on-site roles of responder.

**CWS Responder:** Emergency response personnel that provide on-site support on behalf of ECCC-CWS, as directed by the CWS Co-ordinator, during Wildlife Emergencies.

**Lead Agency:** The governmental authority that regulates or has legislative authority over the responsible parties' response and is responsible for overseeing the appropriateness of the response.

**Migratory Bird:** As defined in the [Migratory Birds Convention Act, 1994](#), a migratory bird referred to in the Convention, and includes the sperm, eggs, embryos, tissue cultures and parts of the bird of species listed under Article 1 of the Convention (Government of Canada 2017).

**Non-Pollution Incident:** An uncontrolled or unexpected Wildlife injury or mortality event other than a pollution incident.

**Pollution Incident:** The release or deposit of a substance that is harmful to Wildlife into an area or waters that are frequented by Wildlife or into a place from which the harmful substance may enter an area or waters frequented by Wildlife.

**Resource Agency:** Any department or agency, other than the Lead Agency, that has jurisdiction or interest in the response, which provides support to the Lead Agency.

**Response Organization:** Any qualified person or organization that has been certified and designated 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:** Any person or organization who might be responsible for the source or cause of an environmental emergency and/or a Wildlife Emergency.

**Species at Risk:** As defined in the [Species at Risk Act \(S.C. 2002, c.29\)](#), an extirpated, endangered or threatened species, or a species of special concern.

**Wildlife:** In this document, “Wildlife” means 1) all Migratory Birds; and/or 2) all individuals of Species at Risk listed in Schedule I of SARA that are under the jurisdiction of Minister of Environment (with the exception of individuals of Species at Risk that are located on lands administered by Parks Canada).

**Wildlife Emergency:** A Pollution or Non-pollution Incident that results or may result in an immediate and/or long-term harmful effect on the life or health of Wildlife and/or their habitat.

**Wildlife Response Plan:** A document that outlines the initial and ongoing Wildlife-related strategies that are needed to support any Wildlife response objectives that may occur at the onset of a pollution or non-pollution incident.

**Wildlife Response Organization:** Organizations that provide expertise, capabilities and trained personnel to undertake one or several aspects of response, including planning, implementation and reporting of activities related to Wildlife Emergencies. Wildlife Response Organizations (or representatives thereof) are authorized under applicable federal, provincial, and/or territorial legislation to capture, transport, clean, rehabilitate, euthanize, and release Wildlife.



## 1.0 INTRODUCTION

Environmental protection legislation in Canada at the federal, provincial or territorial level contains provisions to have approved contingency plans in the event of an environmental emergency for construction, operation or decommissioning activities that may impact the environment. Projects undergoing an environmental assessment may include additional conditions upon approval to develop and implement an environmental protection plan. All contingency plans/environmental protection plans for which a threat to Wildlife is identified may have specific sections dedicated to Wildlife response in order to be in compliance with applicable federal, provincial, or territorial legislation.

Environment and Climate Change Canada's Canadian Wildlife Service (ECCC-CWS) oversees and/or leads Wildlife Emergency response activities in association with ECCC responsibilities under the *Migratory Birds Convention Act, 1994* (MBCA), *Migratory Birds Regulations* (MBR), *Migratory Bird Sanctuary Regulations* (MBSR), *Species at Risk Act, 2003* (SARA), the *Canada Wildlife Act, 1985* (CWA), and *Wildlife Area Regulations*. Through these pieces of legislation, ECCC-CWS is responsible for management and conservation of all Migratory Birds and Species at Risk under its jurisdiction (hereafter "Wildlife") and how they are managed during a pollution or non-pollution incident. Therefore, this document applies to Wildlife that is located on federal lands or on lands under the authority of the Minister of the Environment. This includes Wildlife that are the subject of an order of the Governor in Council under SARA to protect the species, its critical habitat or habitat that is necessary for its survival or recovery. In the case of Migratory Birds, this document also applies to those found on non-federal lands in the provinces and territories. The document does not however apply to any Wildlife, including aquatic species, located on any lands or in any waters administered by the Parks Canada Agency (see also Section 2 for further details regarding Species at Risk). This document does not apply to species under the jurisdiction of Fisheries and Oceans Canada (DFO) which includes fish, marine mammals, marine turtles, and marine plants, as defined in sections 2 and 47 of the [Fisheries Act](#).

### 1.1. SCOPE

Wildlife Emergencies, in the context of this document, include Pollution or Non-pollution Incidents that result or may result in an immediate and/or long-term harmful effect on the life or health of Wildlife and/or their habitat. Pollution Incidents with potential harm to Migratory Birds and Species at Risk are prohibited under the *Migratory Birds Convention Act* (MBCA) and the *Species at Risk Act* (SARA). Non-pollution Incidents are uncontrolled or unexpected Wildlife injury or mortality events other than a pollution incident, which may include things such as disease outbreaks, mass strandings, or other unexplained Wildlife deaths. The degree to which any Pollution or Non-Pollution Incident may be deemed a Wildlife Emergency is dependent on a number of factors such as the scope and severity of the incident (e.g. numbers of animals or area of habitat impacted), the likelihood of an incident expanding, potential for impacts to Species at Risk, and potential link to human health, among other factors. The appropriate level of response expected to incidents should be reasonable and commensurate

with the risks. ECCC-CWS is responsible for informing various aspects of response to Wildlife Emergencies, including the development and implementation of Wildlife response strategies and activities.

During an incident, Responsible Parties (RPs) must demonstrate their ability to safely, efficiently, and effectively respond in a manner that incorporates measures designed to avoid or minimize harm to Wildlife, while managing the public's understanding of response decisions and activities. For planned operations with a potential to impact Wildlife (e.g., oil removal from wreckages), the Lead Agency is deemed responsible for implementing Wildlife response appropriate to that incident.

Wildlife Response Plans (WRPs) are documents that formalize the guidance and strategy for responding to incidents with potential to impact Wildlife. A WRP should include the following elements:

- The objectives of implementing a WRP with respect to managing or preventing harm to Wildlife and Wildlife habitat during a pollution or non-pollution incident.
- A description of the incident management structure for Wildlife response and how it is integrated into an incident-specific response command system (e.g., an Incident Command Post [ICP]).
- Background information on responsibilities of the RP as well as regulatory requirements, permits, and authorizations to engage in Wildlife response activities.
- Information on Wildlife resources known or potentially impacted by an incident.
- A description of Wildlife response procedures to be implemented immediately following an incident (e.g., deterrence and dispersal, surveillance).
- A description of the operational structure and implementation of ongoing Wildlife response efforts throughout all phases of an incident.
- Procedures for information management and communication, including to key stakeholders (e.g., local communities, hunters).
- Safety, security, and training requirements for personnel, equipment, and facilities required to support Wildlife response activities.

The purpose of this document is to guide federal, provincial/territorial, and regional government, industry, Response Organizations, and other stakeholders in developing a WRP that considers all aspects of planning throughout the full lifecycle of an incident. This document outlines the attributes that are necessary for effective implementation of Wildlife Emergency response. Proponents should keep in mind that the guidance provided within this document is developed by ECCC-CWS for Wildlife specific to their mandate. As such, proponents developing comprehensive WRPs should also consult with other federal and provincial/territorial agencies which are responsible for other wildlife (e.g., mammals, reptiles, amphibians and some bird species not under the jurisdiction of the MBCA).

## **2.0 REGULATORY REQUIREMENTS**

### **2.1 APPLICABLE LEGISLATION**

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ECCC-CWS is responsible for ensuring that all Wildlife response activities are coordinated, enacted, and carried out in compliance with applicable federal law. Federal legislation applicable to Wildlife response include:

- **Migratory Birds Convention Act (MBCA)**—Section 5 of the *Migratory Birds Convention Act* prohibits the deposit of harmful substances into waters or areas frequented by Migratory Birds, unless authorized under the *Canada Shipping Act*. Section 6 of the *Migratory Birds Regulations* of the *Migratory Birds Convention Act* prohibits the disturbance, destruction, or possession of Migratory Birds, their occupied nests, or eggs. ECCC regulates killing, capture of and harm to Migratory Birds as outlined in the MBR. Only Migratory Bird species listed under Article 1 of the MBCA are protected under the regulations, and permits may be issued to authorize the permit holder to undertake activities that could affect those species (Government of Canada 2017).
- **Species at Risk Act (SARA)**—Section 32 of the *Species at Risk Act* prohibits the destruction, possession, harm, capture, or harassment of a species listed on Schedule 1 as Threatened or Endangered. Section 33 prohibits the destruction or damage of a residence of wildlife listed on Schedule 1 as Threatened or Endangered, or Extirpated (if there are plans to reintroduce the species). Prohibitions apply to federal lands, as well as to non-federal lands for species protected under the MBCA.
- **Canada Wildlife Act (CWA)**—The *Canada Wildlife Act* allows for the establishment of National Wildlife Areas (NWA), which protect wildlife habitat in Canada. Wildlife Emergencies that occur on or impact species within a NWA will require permits under the Wildlife Area Regulations for individuals, organizations, and agencies to enter an NWA and participate in response activities.

Further to these Wildlife specific pieces of legislation, other environmental protection legislation in Canada at the federal, provincial or territorial level contain additional provisions which require approved contingency plans in the event of an environmental emergency for construction, operation or decommissioning activities that may impact the environment. Projects undergoing an environmental assessment may require the development and implementation of an environmental protection plan, conditional upon approval.

Where contingency plans/environmental protection plans identify a threat to Wildlife, ECCC-CWS considers a WRP to fulfill some of these requirements if contingency and emergency response planning efforts adequately address the identified Wildlife issues.

ECCC-CWS recommends that strategic WRPs be developed prior to incidents for activities or areas where the potential for, or associated risk of a Wildlife Emergency is high (see Section 3.2 for more details). These strategic plans may be stand-alone plans or be components (or annex) to overarching response plans (e.g., operators' facilities response plans). Incident-specific WRPs are routinely developed as part of the ICP to standardize and document Wildlife response activities during an incident (Section 3.2). Both approaches are in keeping with international standards for Wildlife response planning (IPIECA 2014).

## 2.2 PERMITS AND AUTHORIZATIONS

As part of Wildlife Emergency response, Wildlife Response Organizations (WROs) are often responsible for undertaking response activities involving direct interaction with Wildlife including the capture, collection, transport, and care/rehabilitation, release, and/or euthanasia of impacted Wildlife. Some WROs operating in Canada may retain annual permits that allow certain levels of immediate response, assuming permits are renewed and standards are maintained. Qualifications of these organizations to perform certain activities are

assessed during the permit application process. Otherwise, a WRO will work with ECCC-CWS to obtain incident-specific permits for aspects of Wildlife Emergency response requiring authorizations. Other qualified individuals, working for or contracted by WROs, Response Organizations, the Responsible Party, or government agencies, may also apply for permits, as required. Permit and authorization requirements are summarized in Table 1.

With respect to Species at Risk under SARA legislation, the responsibility for implementing SARA in Canada lies with the Ministers responsible for Environment and Climate Change Canada (ECCC), Parks Canada Agency (PCA), and Fisheries and Oceans Canada (DFO). PCA is responsible for issuing permits for activities affecting any SARA-listed species on lands administered by the Agency, including Migratory Birds. Fisheries and Oceans Canada (DFO) is responsible for issuing permits for aquatic species (fish, as defined in section 2 of the [Fisheries Act](#), or a marine plant, as defined in section 47 of that Act), other than species in waters found on federal lands administered by the PCA. ECCC is responsible for issuing permits for all listed species not described above. This includes for all Wildlife on federal land and any land affected by a SARA protection order, and for Migratory Birds wherever they are found.

**Table 1. Wildlife-related Permits and Authorization Requirements that may be issued by ECCC-CWS during a Wildlife Emergency.**

Wildlife	Permit Type	Activities that Require Permits or Authorization	Permit Holders
Migratory Birds (including SARA-listed species)	Scientific (Collection)	<ul style="list-style-type: none"> <li>• possession</li> <li>• transportation</li> <li>• collection/capture</li> <li>• treatment/rehabilitation/care</li> <li>• euthanasia</li> </ul>	Individuals of WROs are generally permitted for most activities. Subcontractors or independent contractors may be permitted for specific activities through one or several permits.
	Capture and band	<ul style="list-style-type: none"> <li>• capturing</li> <li>• banding</li> <li>• using auxiliary markers (e.g., color bands and GPS transmitters)</li> <li>• collection of biological samples</li> </ul>	
SARA-listed Wildlife (including non-Migratory Birds, mammals, reptiles, and amphibians)	Authorizations under section 73	<ul style="list-style-type: none"> <li>• collection, transportation or treatment of SARA-listed species on federal lands OR SARA-listed Migratory Birds wherever they occur</li> <li>• impacts to designated critical habitat on federal lands</li> <li>• notification for impacts to designated critical habitat not on federal lands</li> </ul>	SARA permits are issued on site and situation specific basis and must be discussed early in response activities, as appropriate.
National Wildlife Areas (NWAs) and Migratory Bird Sanctuaries (MBSs)	Scientific (Collection)	<ul style="list-style-type: none"> <li>• operations occurring on NWA and MBS</li> </ul>	NWA and MBS permits are issued on a site-specific basis and will be developed early in response activities.

**Note:** the permitting process and the types of activities requiring permits is subject to change periodically as regulations are updated. Individuals/organizations should seek up to date advice on permitting from ECCC-CWS permit officers.

### 3.0 ELEMENTS OF WILDLIFE RESPONSE PLANNING

#### 3.1 WILDLIFE RESPONSE WITHIN THE INCIDENT COMMAND SYSTEM

Any activities with potential to result in a Wildlife Emergency may warrant immediate implementation of response actions. Increasingly, within industries or the Government of Canada, emergency incidents are managed and structured using the Incident Command System (ICS) approach, including the establishment of an Incident Command Post (ICP) for major incidents. It is therefore recommended to stakeholders to use Incident Command System (ICS) for emergency response. Wildlife experts, such as ECCC-CWS, may be situated in the Environment Unit of the Planning Section within an ICP. The Environment Unit would develop and refine response plans as well as incident-specific tactics. Depending on the scale of the incident and scope of potential or actual impacts to Wildlife, ECCC-CWS may assist in establishing a Wildlife Branch which is typically situated within the Operations Section of the ICP (IPIECA 2014; Figure 1). A Wildlife liaison position may also be

staffed to facilitate the dissemination of planning and operational information between the Environment Unit and the Wildlife Branch. WRPs may also be developed and used for Wildlife Emergencies that are not managed with an ICP or a Wildlife Branch.

The WRP should identify, schematically, the structure and function of the Wildlife Branch and its integration into the Operations Section of the ICP, as well as how it liaises with other ICP sections (e.g., Planning). The WRP should anticipate structuring and scaling the Wildlife Branch according to how the incident is expected to proceed.

It is essential to identify and implement Wildlife response activities within the first 48 hours of an incident. These response activities are formalized within a WRP to structure and guide response activities. The RP is responsible for the development of WRPs, to address all of the procedures and strategies required to mount an effective Wildlife response. During an incident, ECCC-CWS will provide advice to support the Wildlife response consistent with the components outlined in Section 4. However, the RP typically leads the development of a WRP and may contract the WRO to develop it on their behalf to ensure the WRP is operationally feasible. While ECCC-CWS does not have the authority to assign, recognize, or approve specific WRPs, ECCC-CWS may provide advice to the Lead Agency, the RP, and WROs regarding the direction and content of a WRP, based on available science and expertise. A WRP does not necessarily equate with statutes and regulations; rather, developing a WRP identifies actions that support compliance with the MBCA, MBR, MBSR, SARA, and the CWA. A WRP receives formal approvals within an ICP through sign-off by the Incident Command and RP.

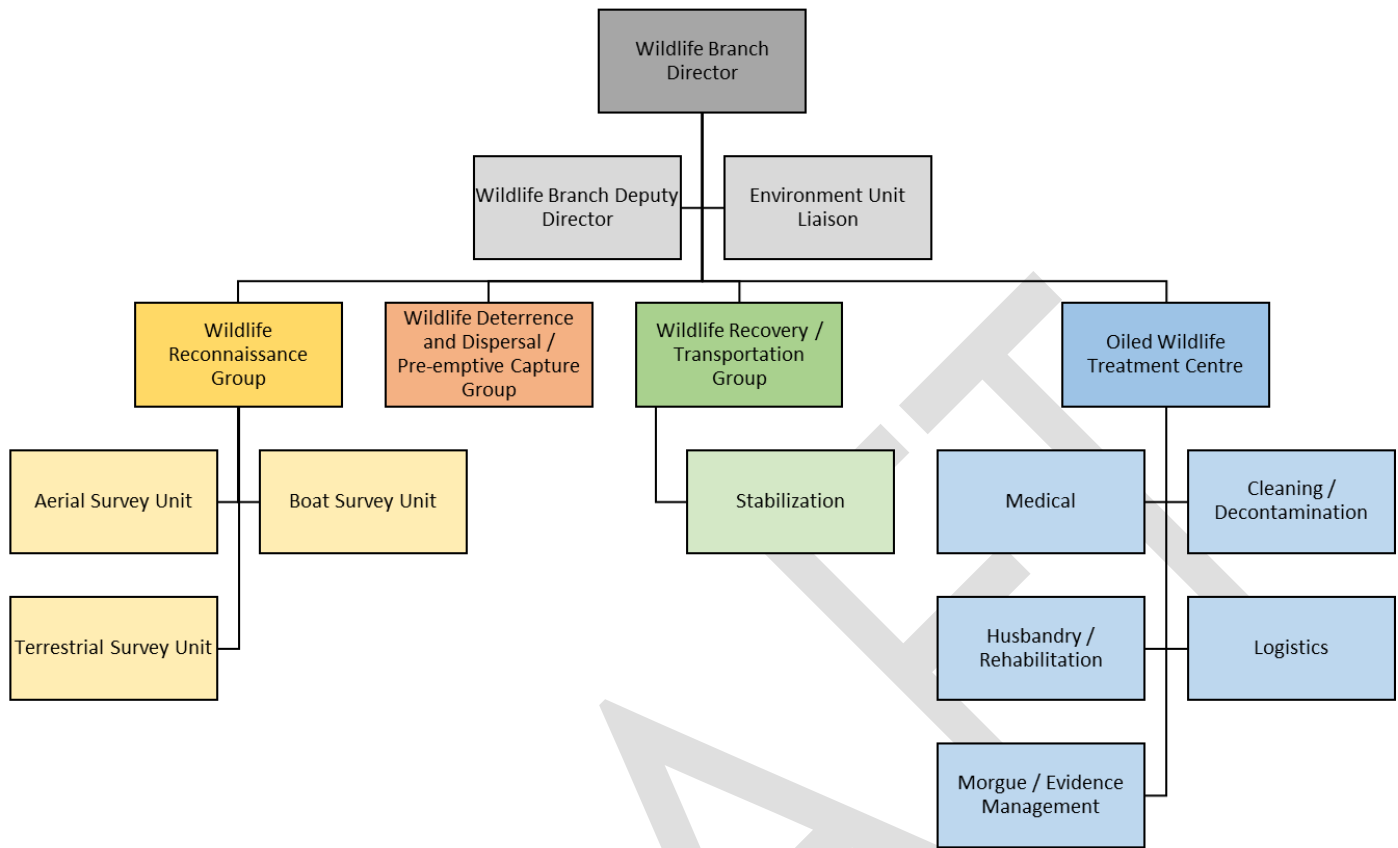


Figure 1. Example of a scalable Wildlife Branch within an Incident Command System setting (adapted from IPIECA 2014).

### 3.2 TYPES OF WILDLIFE RESPONSE PLANS

There are two main types of WRPs, strategic response plans and incident-specific response plans (described below). ECCC-CWS may support the development of various WRPs, including providing technical expertise, permit support, incident-specific guidance. However, WRP approvals are the responsibility of the RP and the Incident Commander (or Unified Command).

#### 3.2.1 Strategic Response Plans

Strategic response plans are often created for specific activities, where there is a recognized risk of a Wildlife Emergency, or for designated areas or specific locations which may warrant special planning considerations (e.g. protected areas, geographic response areas). Strategic WRPs describe the likely activities to be enacted during a response, but may lack incident specific actions or tactical plans which may only be developed once the parameters of the incident are known or tested. Thus strategic WRPs are refined and adapted throughout the incident based on incident-specific considerations (Hebert and Schlieps 2018).

**Activity-specific Plans** - Accidents or malfunctions that may occur at certain types of facilities or infrastructure (e.g., oil-handling facilities, offshore petroleum platforms, liquid natural gas marine terminals), projects (e.g.,

exploratory drilling), or routine activities (e.g., transport of oil by rail or vessel) have an associated increased risk for Wildlife Emergencies. However, given the static nature of these sites, the characteristics of a pollution or non-pollution incident and the procedures for mounting a response can be anticipated to a certain degree. Industries or other stakeholders determine whether it is appropriate to develop strategic WRPs to structure a response that aligns with internal policies and procedures (e.g., industry best practices, contract with WROs), and incorporates site-specific considerations for implementing effective response actions (e.g., pre-determined Wildlife rehabilitation areas, standardized methods for Wildlife surveillance). As with other types of plans, activity-specific WRPs need to be adaptable and scalable, depending on the nature of the incident. Activity-specific WRPs should be reviewed and revised on a regular basis to accommodate changes to infrastructure, activities, and operational procedures, and to reflect current guidance on Wildlife response planning. In cases where activity-specific plans are identified for development, ECCC-CWS can review and provide recommendations on WRP components based on site-specific information.

An example of an activity-specific WRP is one that is developed as part of planned vessel salvage or oil recovery activities, where there is potential for impacts to Wildlife. In the case of a planned salvage, the initial draft of the WRP should be developed and approved in advance of initiating salvage activities. As with other incidents, the WRP will evolve over the course of the salvage to address specific response conditions.

**Area-specific Plans** - Wildlife emergencies can also occur in land tenures or aquatic areas of significant biological importance, with specific management objectives, and/or where there is otherwise concerted interest in having a response plan in place (e.g., protected areas, geographic response areas). As with activity-specific plans, the procedures for mounting a response to a pollution or non-pollution event may be anticipated and planned for to a certain degree. Land managers may determine it is appropriate to develop strategic WRPs to structure a response that aligns with land management objectives. Stakeholders' input that incorporate site-specific considerations for implementing effective response actions should be considered. Area-specific WRPs need to be adaptable and scalable, depending on the nature of the incident. Land managers need to identify zones of higher sensitivity that are to be protected and those of lower sensitivity to allow an efficient response (access points for machinery, ICP, response personnel, etc.). WRPs should be reviewed and revised on a regular basis. In cases where area-specific plans are identified for development, ECCC-CWS can review and provide recommendations on WRP components based on site-specific information.

### 3.2.2 Incident-specific Response Plans

The most common type of WRP is typically one that is developed in the early phases of a Wildlife Emergency as part of the ICS and is specific to the incident (IPIECA 2014). Incident-specific WRP, sometimes referred to as Wildlife Management Plans, take into account the actual circumstances of a specific incident, particularly factors related to scope of the incident (e.g., quantity, location and dispersion of pollution), environmental considerations (e.g., weather), and seasonal considerations (e.g., Wildlife abundance and distribution). A



comprehensive strategic WRP may fulfil most of the information needs for an incident specific plan, but might require further details on implementation given the available resources, weather, and time of year.

For incidents where an RP has been identified, the RP has the first responsibility for initiating effective countermeasures to a Wildlife Emergency and has financial responsibility for damage and cleanup costs incurred during an incident. Upon the establishment of an ICP, the RP and Incident Command will outline planned Wildlife response activities. ECCC-CWS will contribute to the development of an incident-specific WRP by participation in the Wildlife Branch (or Environment Unit) of the ICP, or by reviewing plans and providing expert advice to individuals working within the ICP. Here, ECCC-CWS may provide guidance on the scope of a WRP and direct the RP, or its contracted response personnel, towards resources that support its development. In particular, ECCC-CWS will inform on any Wildlife response activities that require authorization (i.e., permits), or technical expertise. ECCC-CWS will review and make recommendations on a WRP and subsequent iterations, but the Incident Command ultimately approves the plan. For incidents where an RP has not been identified, ECCC-CWS may contribute to the development and implementation of a WRP.

### 3.2.3 Plan Development

It is important to recognize that Wildlife Emergency response and WRP development is an iterative process that will evolve as an incident unfolds. A WRP should be structured and implemented in a way that it is adaptable and scalable over the course of an incident, and may accommodate needs for post-incident monitoring.

The Wildlife Branch will determine the appropriate level of response based on specific needs of the incident. The need for greater or fewer resources, equipment, facilities, and response personnel will be based on incident-specific factors including:

- The present and future geographic extent of the incident,
- The species, numbers of individuals, and types of habitats present in the geographic extent,
- The known or potential risk for injury or mortality, and
- The timeframe for which incident response actions are implemented.

Plans that are developed prior to an incident may also consider tiered response planning to appropriately manage various degrees or types of Wildlife Emergencies. *Wildlife Response Preparedness* (IPIECA 2014) describe tiered response planning in more detail.

## 3.3 HABITAT CONSIDERATIONS FOR RESPONSE PLANNING

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

### 3.3.1 Marine and Open Water

Pollution incidents that occur in the marine environment or large freshwater bodies of open water tend to affect Wildlife that spend a high proportion of their time on the water, such as alcids and waterfowl. The effect on Wildlife is influenced by 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, affecting other Wildlife communities associated with aquatic habitats (see Section 3.3.2). A Wildlife response in the marine and open water landscape focuses on preventing Wildlife from utilizing the affected area, recovering affected individuals if they come to shore, and assessing the impact of the incident on Wildlife (Table 2).

### 3.3.2 Aquatic Habitats

For the purpose of this document, aquatic habitats consist of any land saturated with water long enough to take on the characteristic of an ecosystem and promote aquatic processes, such as salt marshes, wetlands, fens, lagoons, and bogs, but also include small ponds, creeks, rivers, tidal flats, marshes, and reed beds, or any combination of such categories. Unlike the other landscapes, aquatic habitats are vulnerable to activities that occur both on land and in the marine environment. During an oil spill response, aquatic habitats 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 due to the retention of contaminants in these environments. Because of the large variety of aquatic habitats 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 pollutants over potentially 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 Species at Risk from a variety of groups, including mammals, birds, amphibians, reptiles, plants, and fish. Additional survey effort and resources may be required for reconnaissance and surveillance surveys as well as collecting affected individuals. Small lakes and ponds may be attractive for large concentrations of Migratory Birds during migration, molting, and staging periods and may require extended resources to exclude Wildlife from the area. In addition to deterrence activities, a Wildlife response in aquatic habitats may also focus on prioritizing protection and containment strategies to minimize the spread of oil to key habitats, denying Wildlife access to impacted habitats, pre-emptive capture to relocate unoiled individuals (e.g., Species at Risk), recovery of affected individuals, and assessing the effect of the incident on Wildlife (Table 2).

### 3.3.3 Terrestrial Habitats

Pollution 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. Pollution incidents in a terrestrial landscape are usually

limited to a point source (e.g., truck, rail, pipeline, oil storage facility), however, the species and types of incident interactions among terrestrial Wildlife may be diverse, as there is potential for impacts to birds, mammals, reptiles, and amphibians. A Wildlife response strategy in a terrestrial landscape may focus on excluding Wildlife from the affected area, pre-emptive capture to relocate oiled individuals (e.g., Species at Risk), recovering affected individuals, and assessing the impact of the incident on Wildlife.

**Table 2. Key activities/strategies for Wildlife response based on major landscape types.** This table is meant as a guide to highlight some potential key differences in approaches, but should not be considered as a checklist for all incidents. Refer to text for details.

Response Strategy/Activity	Landscape Categories		
	Marine/ Open water	Aquatic	Terrestrial
Reconnaissance and surveillance surveys	X	X	X
Wildlife deterrence	X	X	X
Wildlife exclusion		X	X
Prioritize habitats for protection	X	X	X
Pre-emptive capture of Wildlife		X	X
Recovery of affected individuals	X	X	X
Assessing impacts to Wildlife	X	X	X

### 3.4 DETECTING SIGNS OF OILING IN AVIAN SPECIES

In planning for Wildlife Emergency and preparation of a WRP, it can be important to consider target species and how detectable oiled (or injured) Wildlife may be. The ability to detect oiled Wildlife will help in planning several of the actions to be taken during a response, notably initial Wildlife impact assessment (Section 4.5.2), reconnaissance and surveillance surveys (Sections 4.5.3 and 4.5.4), and Wildlife capture (Section 4.5.7). Detecting oiled Wildlife is best done by experienced observers, such as WRO, but understanding of oiled Wildlife detection can benefit all aspects of response planning and implementation. Here we provide guidance for detecting signs of oiling in avian species.

Under normal conditions, typical bird behaviour will vary by the species, the habitats they occupy, as well as time of year and weather conditions. Generally, birds that spend a great deal of time on the surface of the water are typically seen resting on the water (e.g., loons, grebes, scoters, alcids, and cormorants). Piscivorous species (e.g., loons, grebes, alcids), will normally dive and surface repeatedly over time. Some species, like gulls, will move between resting on the water to being flight bound to using land to feed or rest. Species that are common in shore environments, like shorebirds, dabbling ducks, and cormorants are typically quite obvious on rocks or beaches, and would be expected to be quite mobile/active.

Birds that have come into contact with oil may have obvious oiling indications, including coating, discoloured feathers, or feathers having a wet or ragged appearance (i.e., disruption of feather structure). Heavily oiled birds or individuals oiled below the waterline may also appear as though they are sitting low on the water (when compared with normal species posture), struggling to maintain buoyancy. Oiled birds have increased potential to lose buoyancy and thermoregulatory properties of their feathers. Accordingly, it is common to see oiled birds focused intently on preening themselves in order to maintain buoyancy and reduce heat loss; this may be most apparent while birds are on the water. Diving or dabbling species may appear to be foraging less than expected (although this should be assessed by experienced observers). Birds may also exhibit changes in flushing behaviour, being less inclined to fly when disturbed. Birds might also congregate near or on shore, or strand and rest on structures (e.g., vessels, buildings, platforms); this includes species that would not normally be expected to use these habitats or those that have contacted oil in the intertidal environment. In nearshore or shoreline environments, birds may also use shallow waters to reduce risk of drowning or take advantage of coastal vegetation to camouflage or reduce risk of predation while they try to preen or recover. Observations of behavioral changes in birds are sometimes the key indicators of oil impacts.

Detecting birds contaminated with oil is particularly difficult for aquatic birds with dark plumage that remain on the water and far from shore. Under these circumstances, it may be appropriate to determine a probable rate of contamination using appropriate indicator species. Ideally, indicator species are common throughout the incident area, share similar life history attributes, are sensitive to oiling, and signs of oiling are readily observable. The contamination percentage determined for indicator species only provides an estimation of the contamination percentage for the other species in the incident area. This type of assessment is likely to underestimate the actual contamination rate of the most vulnerable aquatic species, such as sea ducks and alcids, and overestimate the contamination of the more coastal species, such as geese and dabbling ducks (Lehoux and Bordage 1999). Additional details on how to assess rates of oiling for indicator species is provided in *ECCC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (2020a).

## **4.0 COMPONENTS OF A WILDLIFE RESPONSE PLAN**

A WRP is a plan that describes the objectives and methods for undertaking Wildlife Emergency response, specific to an area and pollution or non-pollution event. The aim of a WRP is to avoid or minimize injury or harm to Wildlife during pollution and non-pollution incidents.

The following section outlines attributes that should be considered within a WRP (IPIECA 2014; Hebert and Schlieps 2018). An annotated WRP template is provided as an example in Appendix A, to be adapted and scaled based on the nature of individual Wildlife Emergencies. A checklist of activities that should be completed within the first 0-72 hours of an incident involving Wildlife is provided in Appendix B.

### **4.1 INTRODUCTION**

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The Introduction section of the WRP provides the basis and rationale for how a Wildlife response will be handled. The Introduction will provide a general description of the types of issues that will be addressed by the WRP. Where appropriate, the Introduction will describe how this WRP interfaces with various aspects of an ICP, including other response plans that WRP activities may interact with.

## **4.2 AGENCY NOTIFICATION PROCEDURES**

The Agency Notification Procedures section outlines the agencies, organizations, and other technical specialists that will be identified during incidents involving Wildlife response. Where appropriate, this section will describe how agency notifications operate within the incident-specific ICS structure, as well as any intra- and interdepartmental communication requirements.

## **4.3 REGULATORY REQUIREMENTS**

The Regulatory Requirements section provides a brief description of the applicable Wildlife legislation, where it applies, and whether supporting permits or authorizations are required to support a Wildlife response. In most cases, incidents involving Wildlife will need to consider the MBCA, the SARA, and possibly the CWA (see Section 2), as well as other provincial or territorial legislation. Additional permits and authorizations may also be required outside the regulatory authority of ECCC-CWS.

### **4.3.1 Permits and Authorizations**

For any Wildlife Emergency involving the development of a WRP, the plan will identify any WROs or contracted subject-matter experts that will be engaged to support Wildlife response activities. Authorized organizations or individuals must have the training and resources necessary to meet Wildlife response requirements. Where permits or authorizations are identified, this section will highlight:

- a) What the authorization is for,
- b) The issuing agency,
- c) Activities that are authorized,
- d) Who holds authorization to conduct those activities,
- e) If a technical specialist or qualified professional is required to supervise or participate in the authorized activity (e.g., ECCC-CWS or a WRO supervision of Migratory Bird deterrence activities), and
- f) Reporting requirements, if any, for these authorizations.

With respect to strategic WRPs prepared in advance for specific activities or areas, this section will also identify permits which are already in place and relevant information on renewal and reporting cycles.

## **4.4 RESOURCES-AT-RISK**

The WRP will outline potential Wildlife resources-at-risk from the incident's current and reasonably foreseeable impacts. The resources-at-risk section of the WRP will describe:

- The geographic extent for which resources are being identified,
- Migratory Bird sensitivities,
- Species at Risk sensitivities,
- Important habitats for consideration and protection:
  - critical habitat,
  - protected areas,
  - colonial nesting areas,
  - general nesting areas,
  - seasonal stopover, molting, or staging areas,
  - Important Bird Areas, and
  - other important habitat features such as estuaries.

The characterization of resources-at-risk should consider seasonal presence, abundance, life stage, and habitat associations for different species. Where available, incident-specific observations should be referenced in the description of resources-at-risk to characterize current conditions.

## **4.5 WILDLIFE MANAGEMENT AND RESPONSE**

This section will describe the nature of Wildlife management and response activities that are, or will be undertaken as part of the incident. The nature and scale of a WRP will depend on the incident, and the known or potential impacts to Wildlife.

For the early phases of an incident, the WRP should include, at minimum, a description of the initial approaches for Wildlife impact assessment (e.g., reconnaissance and monitoring activities). This section of the WRP will be revised as an incident evolves. Where appropriate, aspects of Wildlife management and response may warrant stand-alone plans that could be appended, and referenced in this section (e.g., detailed plans for Wildlife rehabilitation).

### **4.5.1 Operational Objectives**

This section briefly describes the primary objectives for the activities that will be implemented during the operational period(s) this plan is expected to apply towards until its next iteration. Objectives will consider the ethical considerations in context with situational, technical, and financial feasibility of implementation (IPIECA 2014). Objectives will change based on Wildlife concerns as well as personnel and equipment resource availability. These objectives form the basis for the nature and scope of activities described in this section of the WRP.

### **4.5.2 Initial Wildlife Impact Assessment (0 to 24 Hours)**

In order to effectively plan for and direct Wildlife response efforts, an initial Wildlife impact assessment needs to be conducted as early in the incident response as possible, to determine:

- Existing information on Wildlife,
-

- Real-time estimates of Wildlife impacts,
- Projection of potential impacts to Wildlife,
- Initial Wildlife response recommendations, and
- Initial resource, personnel, equipment, and facility requirements.

As with all phases of a response, the Initial Wildlife Assessment must be completed in consideration of the health and safety of response personnel and adhere to all incident-specific health and safety requirements (see Section 4.7).

### 4.5.3 Reconnaissance Surveys (24 to 48 Hours)

Reconnaissance surveys should be conducted in a timely manner on a large geographic scale to assess the outer limits of the incident. These surveys serve to obtain current information on impacted habitats, areas of special concern (e.g., colonial nesting areas) and the abundance and distribution of Wildlife within the general area of the incident, recognizing that Wildlife movements may extend beyond the geographic limits of the incident area. Initial reconnaissance surveys should take place as early in the response as possible to determine current conditions and inform potential response priorities and strategies. In all cases, reconnaissance should extend, at minimum, to the expected geographic limits of the incident area, recognizing those boundaries may change as the incident progresses. Reconnaissance surveys may be conducted on a recurring basis to inform response activities (e.g., deterrence and dispersal, Wildlife capture), or if the situation of the incident changes (e.g., following a storm). Reconnaissance surveys help identify the most suitable approaches for the surveillance or monitoring phase of the response. Reconnaissance may occur from land, boat, or air. Reconnaissance surveys are not systematic and the goal is not to precisely assess Wildlife densities but rather to conduct informal surveys to rapidly assess the distribution of impacted, or potentially impacted, Wildlife and habitats for a prompt response.

Primary objectives of reconnaissance surveys are to:

- Determine the geographic scale of the incident,
- Identify Wildlife and habitats that have already been impacted,
- Estimate abundance and distribution of Wildlife with potential to be impacted,
- Evaluate key habitats of importance to Wildlife with potential to be impacted,
- Develop appropriate response strategies,
- Inform response locations and strategies to avoid or mitigate future impacts, and
- Inform suitability of various methods (e.g., shore, boat, or air-based surveys) for subsequent monitoring for the duration of the incident.

If impacts to Wildlife or their habitats are known or anticipated, an approach for systematically surveying and monitoring Wildlife should be developed and articulated in the WRP (see Section 4.5.4). Standardized protocols have been developed for conducting systematic Migratory Bird surveys during an emergency response in Canada and are summarized in the *ECCC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada* (2020a). The following stages of a Wildlife response should be developed

and implemented by trained and qualified personnel under the supervision of the Wildlife Branch Director and/or Wildlife Technical Specialist(s).

#### 4.5.4 Surveillance (Monitoring) Surveys (48 Hours Onwards)

If impacts to Wildlife or their habitats are known or anticipated, Wildlife Branch will develop a systematic surveillance (monitoring) survey program with an appropriate temporal and geographic scope. If surveillance is required, the RP will secure qualified personnel to develop and execute the program and who will report to Wildlife Branch Director and/or Wildlife Technical Specialist(s). The methods and general approach(es) may be described in strategic WRPs and ECCC-CWS can advise on survey design and implementation for incident-specific WRPs, consistent with *ECCC-CWS Technical Guidance and Protocols for Migratory Bird Surveys for Emergency Response in Canada (2020a)*.

Primary objectives of surveillance surveys are to:

- Refine the identification of Wildlife and habitats in the impacted area,
- Refine estimates of abundance and distribution of Wildlife in the impacted area,
- Estimate bird density
- Estimate number of dead/moribund Migratory Birds affected by incident,
- Provide ongoing evaluation of key habitats of importance to Wildlife with potential to be impacted,
- Identify areas where affected Migratory Birds can be collected, and
- Inform other response activities such as Wildlife deterrence and dispersal.

Implemented throughout the response in accordance with the plan, data collected during surveillance provides critical response information and can also be used to document damage assessment following the incident.

#### 4.5.5 Deterrence and Dispersal (0 to 48 Hours)

For some incidents, deterrence and dispersal can be an effective means to deter Wildlife from moving into or near the incident area and coming into contact with contaminants. Use of dispersal techniques can also be an effective means to exclude Wildlife from impacted areas throughout the response phase.

Deterrent devices used to disperse Wildlife include both visual and auditory techniques and range in their effectiveness depending on the species, number of individuals, time of year, and habitat where the incident occurs.

If proponents plan to use deterrence and dispersal tactics during a Wildlife Emergency, this should be described in a WRP, and ECCC-CWS should be consulted to provide guidance on effective tactics for species, seasons, and habitats. If deterrence or dispersal is required or recommended, the RP will retain a qualified and, if applicable, authorized WRO to develop and execute a Wildlife deterrence and dispersal program. Guidelines and protocols to conduct activities related to deterrence and dispersal are outlined in *ECCC-CWS Guidelines on the Use of Bird Deterrence and Dispersal Methods for Occurrences related to Pollution and Non-pollution Incidents in Canada* (Beaumont and Bolduc, in prep). Deterrence will be conducted only by appropriately



trained personnel, and under direct guidance and supervision (as required) from the Wildlife Branch Director and/or Wildlife Technical Specialist(s). A WRP may also outline protocols for Wildlife Technical Specialists in the field to monitor and document (e.g., datasheets) the use and effectiveness of deterrence and dispersal so that updates may be made to subsequent WRPs. ECCC-CWS may provide guidance on deterrence and dispersal strategies and may also supervise deterrence and dispersal techniques for habitats or species that are particularly sensitive to these types of response measures (e.g., in proximity to breeding colonies). Strategic WRPs may outline a set of applicable techniques for a particular industry or facility, whereas an incident-specific WRP may then specify actions to be put in place given the species observed and environmental conditions at the time (e.g., weather).

#### 4.5.6 Exclusion, Pre-emptive Capture, and Relocation

WRPs often implement measures designed to pre-emptively limit the potential for Wildlife to become impacted during pollution incidents. Often, marine, aquatic and terrestrial Wildlife can be excluded from areas that are known or have potential to become impacted through a combination of mechanical and physical techniques designed to dissuade habitat use (e.g., visual or acoustical deterrents, fence or net installation, physical habitat modification). Pre-emptive Wildlife capture and relocation similarly seeks to collect Wildlife before they are impacted during a Wildlife Emergency. Planning for Wildlife collection requires considerations for capture, transport, holding, and release strategies. If pre-emptively captured Wildlife need to be contained for a period of time, a WRO authorized to carry out these activities must be identified to provide appropriate species-specific housing, nutritional support, and medical care (if necessary) for a potentially extended period. Guidance and protocols on pre-emptive capture and care for Wildlife during a pollution incident are described in ECCC-CWS' *Guidelines for the Capture, Transport, Cleaning, and Rehabilitation of Oiled Wildlife* (2020b). Where appropriate, the WRP should describe plans for Wildlife collection and relocation activities.

#### 4.5.7 Wildlife Capture, Transport, Rehabilitation, Release, and/or Euthanasia

This section of the WRP will be broken down into detailed phases, each of which are described briefly in Table 3. Planning for these activities may evolve over the course of the incident to include details on the number of monitoring and field staging facilities, recovery procedures and facilities, as well as coordination of rehabilitation personnel.

The RP should retain a qualified and authorized WRO to develop and implement these phases of Wildlife response. These programs will adhere to ECCC-CWS' *Guidelines for the Capture, Transport, Cleaning, and Rehabilitation of Oiled Wildlife* (2020b), *Guidelines for Establishing and Operating Treatment Facilities for Oiled Wildlife* (2020c), as well as an area-specific or incident-specific health and safety plan. Not all phases will be applicable or readily implemented during a response, but all may be considered as options when developing a strategic WRP, and later refined in an incident-specific WRP.

**Table 3. Phases of Wildlife Capture, Transport, Rehabilitation, and Release**

Phase	Objectives
Pre-emptive Capture	<ul style="list-style-type: none"> <li>• The capture of Wildlife that is at risk of being impacted by oil</li> <li>• Transport of Wildlife to a holding facility</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• The capture of impacted Wildlife</li> <li>• Transport of Wildlife to field stabilization or Oiled Wildlife Treatment Centre</li> </ul>
Field Stabilization	<ul style="list-style-type: none"> <li>• Physical evaluation</li> <li>• Removal of gross contaminants</li> <li>• Thermoregulatory support</li> <li>• Fluid therapy and nutritional support</li> <li>• Address life threatening conditions</li> <li>• Euthanasia evaluations based on established criteria and best practices</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Transport of oiled animals from field or field stabilization to an Oiled Wildlife Treatment Centre</li> </ul>
Processing	<ul style="list-style-type: none"> <li>• Evidence collection</li> <li>• Birds given individual, temporary band</li> <li>• Feather/fur sample</li> <li>• Photograph</li> <li>• Individual medical record</li> </ul>
Intake	<ul style="list-style-type: none"> <li>• Medical examination, triage, and treatment plan development</li> <li>• Critical care concerns addressed</li> <li>• Euthanasia evaluations based on established criteria and best practices</li> </ul>
Triage	<ul style="list-style-type: none"> <li>• Ongoing euthanasia and treatment plan evaluation based on medical health status</li> </ul>
Euthanasia	<ul style="list-style-type: none"> <li>• Euthanize Wildlife that are assessed by the WRO as not being good candidates for rehabilitation or survival</li> </ul>
Stabilization	<ul style="list-style-type: none"> <li>• Fluid, nutritional and medical stabilization of impacted animals</li> <li>• 48–72 hours period</li> <li>• Prepare animals for cleaning process</li> </ul>
Cleaning	<ul style="list-style-type: none"> <li>• Removal of all oil/contaminants from an impacted animal by washing</li> <li>• Removal of the cleaning agent by rinsing</li> <li>• Drying cleaned and rinsed animal</li> </ul>
Conditioning	<ul style="list-style-type: none"> <li>• Restoring waterproofing and physical condition</li> </ul>
Release	<ul style="list-style-type: none"> <li>• Federal banding of individual animals</li> <li>• Consider additional tracking devices on some birds to track post-release</li> <li>• Release of cleaned, waterproof animals into a clean environment</li> </ul>
Post-release Monitoring	<ul style="list-style-type: none"> <li>• Determining the effectiveness of rehabilitation of Wildlife impacted during a pollution incident</li> <li>• Monitoring the clean Wildlife's condition and activities</li> <li>• Following short-term and long-term survival and breeding status following rehabilitation</li> </ul>

#### 4.5.8 Wildlife Carcass Collection Procedures

Dead Wildlife should be removed from the environment to avoid attracting scavengers to the site and secondary contamination of Wildlife. The responsibility for the collection and documentation of dead Wildlife is primarily the responsibility of the Wildlife Branch and is completed under the supervision of authorized organizations (e.g., Wildlife Enforcement Directorate) and personnel with appropriate permits. Protocols for Wildlife collection, storage and documentation will be developed. Wildlife recovery personnel will retrieve dead Wildlife as part of daily activities. Dead Wildlife observed by the public can be reported to a 24-hour hotline (see Section 4.6.1). Members of the public must not pick up dead Wildlife but rather report them to the hotline. The Wildlife Branch will work with the Public Information Officer to develop appropriate messaging.

Carcass collection information will be used to:

- Refine the geographic scale of the incident,
- Determine the cause of death if the source is unknown,
- Minimize damage and exposure to unaffected Wildlife by removing affected Wildlife from the environment,
- Minimize potential for harm or exposure by the public who participate in hunting activities or are supporting aspects of the response,
- Support appropriate response strategies for the treatment of affected birds,
- Help obtain a minimum number of casualties for damage assessment purposes, and
- Obtain specimens/samples for legal enforcement activities.

These procedures will also outline requirements necessary for proper chain of custody and storage of specimens. Chain of custody, and other record-keeping forms, will be attached as appendices to the WRP.

#### **4.5.9 Waste Management**

Plans for decontamination and disposal of waste materials will be developed. Waste and secondary pollution should be minimized at each step of the Wildlife response. During the various phases of Wildlife cleaning (holding pen, carcass wrapping), waste will be created. Washing Wildlife will cause waste water (oil with detergent), which will need to be managed (through existing Waste Management Plans or by establishing additional plans as needed). Medical waste (e.g., syringes and gloves) should be considered. The response plan will identify the legislation and the authorities responsible for waste management.

#### **4.5.10 Demobilization**

Regardless of the scale of a Wildlife Emergency, the WRP will describe any processes or considerations for demobilizing Wildlife response activities. As appropriate, demobilization will be scaled in accordance with the size of Wildlife response (e.g., decreased intake of oiled Wildlife) and must be approved by the Incident Command.

This section of the plan will discuss, as applicable:

- Processes for demobilizing equipment, facilities, and personnel,
- Processes for ongoing involvement in the ICP or post-response impact assessment and monitoring,
- Processes for chain of custody of data to support enforcement decisions, and
- Processes by which the RP can continue to receive advice and support from ECCC-CWS.

### **4.6 INFORMATION MANAGEMENT AND REPORTING**

This section of a WRP should describe how information collected throughout the operational periods of the WRP would be managed, organized, vetted, and reported on. It should include:

- a) the type of data being collected (e.g., inventory, photos, videos, GIS),

- b) the personnel that will collect, organize, and vet the data,
- c) the process for maintaining data records during and after the incident
- d) the process for integrating Wildlife data and activities into an incident information system (often referred to as the Common Operating Picture) within an ICP,
- e) who data will be reported to, including the type and frequency of reports (e.g., daily email tabular summaries to the Environment Unit Leader), and
- f) how information is disseminated to agencies responsible for overseeing response.

#### **4.6.1 Wildlife Reporting From the Public (Wildlife Hotline)**

Within the initial phases of an ICP being established where there are potential impacts to Wildlife, ECCC-CWS should ensure that reports of impacted Wildlife are directed to the Environment Unit by way of a 24-hour hotline (or other reporting mechanism created for an incident). The contact information and instruction to the public for the 24-hour hotline, should be outlined in the WRP. This may include the use of already existing environmental emergencies reporting systems, or the development of new hotlines as required for the scale of the incident. The Wildlife hotline may also serve as a platform to relay incident-specific safety information to the public (e.g., avoiding direct contact with oiled Wildlife).

#### **4.6.2 Media Relations**

Media statements help to inform the public and raise awareness regarding Wildlife concerns and treatment, as well as public safety. The WRP should identify how Wildlife response activities will be reported to the public through media statements, and who within the Environment Unit or Wildlife Branch are responsible for informing them. Generally, the Technical Specialist, Environment Unit Lead, Wildlife Branch Director, and the Public Information Officer will jointly develop these statements. Where appropriate, public statements involving Wildlife will also be vetted and approved by the ECCC-CWS' technical specialists, Media Relations, and the Regional Director.

#### **4.6.3 Permits Reporting**

Certain permits which may be issued prior to or during an incident may also have reporting requirements. Most ECCC-CWS issued permits require reporting of activities within 30 days of the permit expiry.

### **4.7 HEALTH AND SAFETY**

Responder safety is of paramount importance when initiating Wildlife response activities. Activities recommended and implemented as part of a WRP will adhere to the incident-specific safety plan and be identified in consultation with the Incident Safety Officer. A brief overview of safety considerations and requirements will be described in the WRP, with specific mention of Wildlife responder personal protective equipment, zoonoses, and site safety and security (including areas off limits to Wildlife responders). This section will evolve over the course of the incident.

### 4.7.1 Personal Protective Equipment

For Wildlife management and response activities proposed in a WRP, responders will have appropriate training and equipment for safely operating in shoreline, marine, or aerial environments (depending on incident location and response activities) and for oiled Wildlife handling within a rehabilitation setting. Responders will have appropriate equipment and clothing to operate for extended periods and that protects against environmental exposure or incident-specific conditions. Basic personal protective equipment recommended for Wildlife management and monitoring activities include:

- Eye protection (e.g., sunglasses, goggles, safety glasses, or face shield)
- Oil resistant rain gear or oil protective clothing (e.g., coated Tyvek, Saranex, etc.)
- Water and oil resistant hand protection (e.g., neoprene or nitrile rubber)
- Waterproof and oil resistant non-skid boots; steel-toes may be required under the incident-specific safety plan
- Hearing protection (muff or ear plug type)
- Personal flotation device when working on, near, or over water
- Air monitoring device when appropriate
- Specific gear appropriate for work where personnel are or may be submerged in water (wet suits, dry suits, survival gear)

**The above list should not be considered comprehensive or applicable to all incidents. Additional incident-specific and specialized equipment may be required for other aspects of Wildlife response and will be developed in consultation with WROs and the Incident Safety Officer.**

### 4.7.2 Zoonoses

Zoonoses are infectious diseases that may be transmitted between animals and humans under natural conditions. Personnel handling or coming into contact with Wildlife are at risk of zoonotic disease exposure. Veterinarians, technicians, response personnel, Wildlife handlers, and other animal care personnel who come into direct or indirect contact with Wildlife and any body fluids are at risk of contact with disease agents that may have zoonotic potential. The WRP will describe biosecurity practices that will be employed in all aspects of Wildlife response to reduce risk of disease transmission.

### 4.7.3 Biosecurity

Biosecurity is a set of preventative measures that reduce the risk of transmission of infectious diseases, domestic pests, and invasive species. Where there is potential for response measures (both overall incident response and Wildlife-specific response) to contribute to issues involving biosecurity, the WRP will outline a suite of measures to control for these risks.

## 4.8 PERSONNEL REQUIREMENTS

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There are many personnel that could be involved in various aspects of WRP implementation. Certain roles, responsibilities, or authorized activities require various types of training or technical expertise. Where applicable, the WRP will specify which activities individuals with specific training or expertise can complete. This may include outlining training standards and or experience that may be required for specific industries, areas, or facilities. Industries and Response Organizations should consult with regional ECCC-CWS staff for guidance on relevant standards.

## **4.9 FACILITY AND EQUIPMENT REQUIREMENTS**

As part of planning and implementing Wildlife response measures outlined in a WRP, specific equipment and facility requirements may need to be developed. The level of detail of these requirements will vary by the scale of the incident and may be more appropriately described in documents appended to the WRP. Components of equipment and facility considerations may include:

- The type and amount of equipment required
- Means of transportation to support Wildlife response elements
- Requirements for utilities, waste management, and security
- The nature of equipment or facility requirements (e.g., temporary, mobile, permanent)
- Sources of supplies if known

Additional information to support equipment and facility planning are outlined in *ECCC-CWS' Guidelines for Establishing and Operating Treatment Facilities for Oiled Wildlife (2020c)*.

# **5 EVALUATING WILDLIFE RESPONSE**

## **5.1 EVALUATION AND REVIEW**

WRPs should be implemented and evaluated for their effectiveness within a context of adaptive management, where the results are used to refine future iterations (IPIECA 2014, Hebert and Schlieps 2018). Following a Wildlife Emergency, WRP developers and implementers should debrief on strengths and weaknesses of the plan, lessons learned, and gaps or areas for improvement (particularly for strategically developed activity- or area-based WRPs). Evaluation of the WRP should consider a) ease of implementation, b) efficiency of implementation, c) areas of practice that were not included, and d) whether the WRP supported the desired ecological outcome(s), business and legal requirements. ECCC-CWS may be consulted in this review and assist with recommendations for refinement.

## **5.2 EMERGENCY EXERCISES**

Emergency exercises are important for testing the effectiveness of WRPs, identifying potential gaps, and ensuring activity-, area- or incident-specific considerations are planned for in advance of an actual incident

occurring (IPIECA 2014). Exercises also allow for government and industry partners to work together and familiarize themselves with the personnel and resources available to support Wildlife response activities. Exercises can also be an excellent means to provide training, or to test certain response strategies in a controlled setting.

Emergency exercises can take place in several formats: notifications, tabletop, field drills, and participation in the Environment Unit or Wildlife Branch of an ICP. Each exercise will be planned with specific Wildlife response focused objectives in mind, and may center on testing particular aspects of the WRP. WRPs should be updated and revised to incorporate identified gaps and lessons learned into the plans.

## 6 CUSTODIAN

The custodian for the *Guidelines for Effective Wildlife Response Plans* and any amendments thereto is the:

Director General, Regional Operations Directorate

ECCC-CWS

ECCC

The approval of future updates is vested to the Director General, Regional Operations Directorate, ECCC-CWS.

## 7 ACKNOWLEDGEMENTS

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## APPENDIX A: EXAMPLE TEMPLATE OF A WILDLIFE RESPONSE PLAN

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## APPENDIX B: EXAMPLE CHECKLIST OF WILDLIFE EMERGENCY ACTIVITIES

Table B.1. Example Checklist of Activities to Undertake within the initial 0-72 hours of a Wildlife Emergency  
(adapted from Hebert and Schlieps 2018)

Timeline	Responsibility	Action
<b>0-24 Hours</b>	Incident Command/ Unified Command	<ul style="list-style-type: none"> <li>• Ensure appropriate notifications to relevant government departments and branches</li> <li>• Activate an authorized WRO</li> </ul>
	Environment Unit	<ul style="list-style-type: none"> <li>• Compile existing information on Wildlife</li> <li>• Complete a Resources-at-risk form (i.e., ICS 232)</li> <li>• Initiate Initial Wildlife Assessment</li> <li>• Initiate deterrence and dispersal strategy</li> </ul>
<b>24-48 Hours</b>	Incident Command/ Unified Command	<ul style="list-style-type: none"> <li>• Establish a Wildlife Branch under the Operations Section of the ICP</li> <li>• Designate a Wildlife Branch Director</li> </ul>
	Environment Unit and/or Wildlife Branch	<ul style="list-style-type: none"> <li>• Mobilize the WRO</li> <li>• Continue Initial Wildlife Impact Assessment</li> <li>• Conduct Reconnaissance Survey</li> <li>• Refine deterrence and dispersal strategy</li> <li>• Develop Wildlife Branch organization chart</li> <li>• Establish a Wildlife Hotline</li> <li>• Initiate incident-specific WRP</li> <li>• Initiate requests for resources (personnel, supplies, facilities, equipment)</li> <li>• Identify Wildlife response health and safety requirements</li> <li>• Ensure ongoing notifications and updates to relevant government department contacts</li> <li>• Identify subject matter experts that might support the ICP</li> </ul>
<b>48-72 Hours</b>	Wildlife Branch and/or WRO	<ul style="list-style-type: none"> <li>• Coordinate with the WRO to implement the WRP</li> <li>• Develop plan for ongoing monitoring</li> <li>• Conduct Surveillance and Monitoring Surveys</li> <li>• Determine locations for field stabilization</li> <li>• Establish field staging areas</li> <li>• Refine incident-specific WRP</li> <li>• Develop internal and external communications with the public information officer and departmental communications personnel</li> <li>• Ensure ongoing notifications and updates to departmental contacts</li> </ul>