

WILDLIFE MANAGEMENT PLAN

WMP

RYLEY HAZARDOUS WASTE STORAGE FACILITY AND LANDFILL

MANAGEMENT PLAN: Wildlife REVISION NO.: 01 PAGE: 1 of 15 + attachments
SUBCATEGORY: All Activities CREATION DATE: October 2023 APPROVED DATE: December 2023
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Rev	Revision History (Section and Reason for Change)	Approval Date	Expiry Date
00	Initial Release	October 2022	October 2023
01	Annual review, address auditor's comments	December 2023	December 2024

1.0 PURPOSE

The Wildlife Management Plan (WMP) is a condition of the approval amendment (Approval No. 10348-03-01) under the Alberta *Environmental Protection and Enhancement Act* (EPEA) for the construction, operation, and reclamation of a Class I and Class II Industrial Landfill and a Hazardous Waste/Recyclable Storage and Processing Facility (the Ryley Landfill) issued to Clean Harbors Canada Inc. (Clean Harbors) on June 21, 2022. The WMP is intended to provide Clean Harbors employees, contractors, and visitors with Standard Operating Procedures (SOPs) to prevent, remove, and report wildlife sightings, including wildlife residences (dens, nests, roosts, hibernacula) and alert others of potentially dangerous or aggressive animals.

This WMP applies to all wildlife and/or wildlife residences seen on the landfill facility, including roads, pad sites, temporary laydowns, and/or wherever workers are present.

2.0 DEFINITIONS

Aggressive Animal: threatening animal behaviour that could result in actual or potential harm to people (e.g., animal does not flee when deterrents are used, flattened ears, bluff-charge, attack).

Deterrent: a noise, visual, or physical stimuli used towards/on an animal with the intent of repelling.

Food Conditioned: wildlife that has learned to associate people, waste storage areas, and landfill activities as potential food sources. Wildlife can become food conditioned after obtaining a food item even the once and can become an aggressive animal.

Habituated: wildlife can become habituated to people and landfill activities after repeated exposure without negative consequence. Habituated wildlife respond to people and/or activities onsite with little fear (respond weakly or not at all) and can become an aggressive animal.

Potentially Dangerous Animal: any of the big game species (black bear [*Ursus americanus*], cougar [*Puma concolor*], Canada lynx [*Lynx canadensis*], moose [*Alces alces*], elk [*Cervus canadensis*], white-tailed deer [*Odocoileus virginianus*], and mule deer [*Odocoileus hemionus*]), as well as coyote [*Canis latrans*]) have the potential to become dangerous to people.

Property Damage: any incident in which the property of the Ryley Landfill, its employees, contractors, and/or visitors is damaged by an animal and requires repair or replacement.

Qualified Environmental Professional: a Qualified Environmental Professional (QEP) is an experienced wildlife biologist who is appropriately trained in the identification of wildlife species, the federal and provincial regulatory requirements, and has experience with the management and mitigation of human-wildlife interactions. The QEP must be a registered biologist (e.g., Professional biologist with the Alberta Institute of Biologists) in good standing. The QEP may be a Clean Harbors employee or contractor provided they meet the training and qualifications as a wildlife biologist.

Wildlife Attractant: a substance or item that could be reasonably expected to attract an animal, including, but not limited to food and petroleum products. Natural food sources, such as a carcass and other putrescent waste are also attractants.

Wildlife Incident: all wildlife incidents are reported to the Facility General Manager with potential escalation of reporting. A reportable wildlife incident includes:

- Wildlife mortality and/or injury due to, or suspected from landfill activities;
- Accidental destruction of a wildlife residence (den, nest);
- Human-wildlife interactions that present a risk to either people or animals, including incidents of an aggressive animal and wildlife-caused property damage;
- Any big game species has, or potentially has, gained access to a man-made attractant; and
- Anytime that deterrent action is taken.

Wildlife Residence: nests, dens, burrows, roosts, hibernacula.

3.0 BACKGROUND

The Ryley Landfill is located approximately two kilometres (km) north of the Town of Ryley, Alberta. The landscape surrounding the facility is prairie parkland, including a mix of agricultural lands, another waste management facility, and pockets of aspen forests and wetlands. This location appears to be outside of the black bear distribution range in the province according to Alberta Environment and Protected Areas (EPA)¹, however, Ryley is within the black bear range identified in Mammals of Alberta², and the nearby Beaver Hills area has recent confirmed sightings of black bear in the area. Therefore, it is considered likely that black bears may be in the area and should be considered in wildlife management planning. There are several additional big game species with potential to occur in the area, including cougar, moose, elk, white-tailed deer, and mule deer. Smaller mammals with potential to occur in the area which may require management/mitigation include striped skunk (*Mephitis mephitis*), common raccoon (*Procyon lotor*, as their range expands into central Alberta), rabbits and hares, and American badger (*Taxidea taxus*). Other wildlife which may be found within the Ryley Landfill includes birds, amphibians, and reptiles, some of which may be protected under federal and provincial legislation, including the Alberta *Wildlife Act*, federal *Migratory Birds Convention Act*, and/or the federal *Species at Risk Act* (SARA).

Key prohibitions under relevant wildlife legislation include:

- Section 12(1h) of the Migratory Birds Convention Act “prohibits the killing, capturing, injuring, taking, or disturbing of migratory birds or the damaging, destroying, removing, or disturbing of nests”;
- The SARA also provides legal protection for migratory bird species listed on Schedule 1 of the SARA as ‘Extirpated’, ‘Endangered’, and ‘Threatened’. Although the SARA generally applies only to federal lands, Section 34[1] states that migratory birds are protected even on private and provincial lands. There are additional provisions that allow the federal government to apply SARA regulations for other Schedule 1 species (e.g., mammals) on private or provincial lands should circumstances dictate a need (Section 34[2]); and
- The Alberta *Wildlife Act* Section 36(1) states that “A person shall not willfully molest, disturb or destroy a house, nest, or den of prescribed wildlife”³.

According to Environment and Climate Change Canada (ECCC), the general nesting period for migratory birds near the Ryley, AB area is from April 14 to August 28⁴; however, that date range does not factor in the nesting period for selective raptor species that breed throughout Alberta. Many raptor species begin nesting in late winter or early spring (February and March) and therefore, a more inclusive timing window for breeding birds in central Alberta is February 15 to August 31⁵. During this period, there is increased potential for active nesting to occur within the facility, and activity within natural areas (e.g., wetlands, grasslands, trees) is at increased risk of disturbing active nest sites. Prior to work within previously

¹ Government of Alberta. 2022. Black Bear Management – Overview. Available at: <https://www.alberta.ca/black-bears-overview.aspx>. Accessed September 19, 2022.

² Pattie, D. and Fisher, C. 1999. Mammals of Alberta. Lone Pine Publishing: Edmonton, Alberta. 240 pp.

³ Province of Alberta. 2000. *Wildlife Act*. Available at: <https://kings-printer.alberta.ca/documents/Acts/w10.pdf>.

⁴ Environment and Climate Change Canada. 2023. General Nesting Periods of Migratory Birds. Available at: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>.

⁵ Government of Alberta. 2013. Sensitive Species Inventory Guidelines. Last Updated April 2015. Edmonton, Alberta: King’s Printer.

undisturbed or developed areas of the Ryley landfill, it is recommended that a QEP be consulted regarding the need for a Pre-disturbance Wildlife Sweep, in accordance with the Government of Alberta Protocols⁶.

There are several raptor species listed as Sensitive under the General Status of Alberta Wild Species that have the potential to occur within the greater Ryley area. Examples include golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), peregrine falcon (*Falco peregrinus*), and prairie falcon (*Falco mexicanus*)⁷.

For the purposes of this Wildlife Management Plan, wildlife species of management concern are any that meet one or more of the following criteria:

- Species assessed as 'Special Concern', 'Threatened' or 'Endangered' according to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC)⁸.
- Species listed as 'Special Concern', 'Threatened' or 'Endangered' under Schedule 1 of the federal SARA⁹.
- Species listed as 'Threatened' or 'Endangered' under the Alberta *Wildlife Act*¹⁰ and species listed as 'Special Concern' by the Endangered Species Conservation Committee and its Scientific Subcommittee¹¹.
- Species listed as 'At Risk', 'May Be At Risk' or 'Sensitive' under the General Status of Alberta Wild Species¹².
- Species listed as S1, S2, or S3 using the Alberta Conservation Information Management System (ACIMS)¹³, ranked by NatureServe¹⁴.

Wildlife species of management concern with historical occurrence records within 5 km of the Ryley Landfill are barn swallow (*Hirundo rustica*), black tern (*Chlidonias niger*), eastern kingbird (*Tyrannus tyrannus*), and sora (*Porzana carolina*)⁷.

⁶ Government of Alberta. 2020. Wildlife Sweep Protocols. Sensitive Species Inventory Guidelines. Available at: <https://open.alberta.ca/dataset/d15221f2-f6d8-4671-8b49-d8fff6eab2b6/resource/6968392a-9e05-4bd8-bd76-ea107ba86c1c/download/aep-wildlife-sweep-protocols-sensitive-species-inventory-guidelines-2020.pdf>.

⁷ Alberta Environment and Protected Areas. 2023. Fish and Wildlife Internet Mapping Tool (FWIMT). Available at: <https://www.alberta.ca/access-fwmis-data> [accessed October 2023].

⁸ Government of Canada. 2023. Committee on the Status of Endangered Wildlife in Canada. Available at: <http://www.cosewic.ca/>.

⁹ Government of Canada. 2002. *Species at Risk Act*. Available at: <https://laws-lois.justice.gc.ca/eng/acts/s-15.3/>.

¹⁰ Province of Alberta. 2000. *Wildlife Act*. Available at: <https://kings-printer.alberta.ca/documents/Acts/w10.pdf>

¹¹ Government of Alberta. 2023. Species at Risk Assessed in Alberta. Available at: <https://open.alberta.ca/dataset/0b3421d5-c6c1-46f9-ae98-968065696054/resource/f797b0ab-c05c-482a-939f-81604f8b060f/download/epa-species-at-risk-assessed-alberta-2023-01.pdf>

¹² Government of Alberta. 2020. Alberta Wild Species General Status Listing – 2020. Available at: <https://extranet.gov.ab.ca/env/wild-species-status/>.

¹³ Alberta Parks. 2022. Alberta Conservation Information Management System (ACIMS). Available at: <https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/>.

¹⁴ NatureServe. 2022. NatureServe. Available at: <https://www.natureserve.org/>.

4.0 WILDLIFE MITIGATIONS AND DETERRENTS

The primary mitigation measure for preventing large-bodied wildlife from entering the Ryley Landfill Facility is a 6-foot fence (1.8 metres) with three strings of barbed wire at the top which encloses the entire facility. Access to the facility is via a gate with a similar structure to the fence. The gate is always closed, except when access is required by vehicles. Areas of grass/vegetation within and around the facility is mowed as required and the waste streams accepted within the facility typically do not attract vermin, including:

- Hazardous waste: petroleum products, solvents, paints, inorganic waste, organic chemicals, contaminated soils from spills, etc.
- Non-hazardous waste: inorganic sludges, slurries, solids, inert inorganic waste, organic chemicals, activated carbon, contaminated soil and debris, etc.

Secondary deterrent measures that can be used on an as-needed basis to deter large-bodied wildlife, if they gain access inside the perimeter fencing is vehicle herding or the use of an airhorn (refer to Section 6.2.7).

Additional passive, non-lethal, wildlife deterrent options to be used on a continual basis for small mammals and birds include visual deterrents (e.g., predator decoys and light-reflecting devices), sonic repellents (e.g., airhorns, broadcast predatory bird calls and static distress calls), and roost inhibitors (e.g., bird exclusion netting or steel spikes). Each of these non-lethal deterrent options has moderate success on its own, but when paired together, the efficacy greatly improves.

A combination of physical, visual, and sonic deterrent measures is recommended for the control of nuisance birds and the general discouragement of all bird species from breeding, nesting, scavenging, loafing, and roosting within the landfill property. BirdXCanada¹⁵ is a Canadian company specializing in the design and retail of bird deterrent products which have been referenced to demonstrate the types of deterrents discussed.

To prevent waterfowl and shorebirds from landing on and utilizing open water areas within the landfill, a combination of sonic deterrents and visual deterrents will be used. Typically, a physical barrier method, such as bird exclusion netting, would be ideal to effectively prevent birds from landing on the open water; however, the open water cells within the landfill are large in size (e.g., > 1 hectare), and therefore, installing and maintaining bird exclusion netting would be impractical. Clean Harbors will install and utilize a sonic repeller device (e.g., BroadBand Pro sonic bird repeller) and a visual deterrent device (e.g., laser light, flock reflector, GatorGuard, or similar) at each open water pond location on the property. Based on current site operations, Table 1, below, outlines the deterrents proposed for deployment in 2024, assuming there are three open waterbodies on-site; two retention ponds (west of the laydown area, south of the office) and the Cell 3 borrow pit. Locations of deterrents will be reviewed annually by the QEP for potential updates to deployment locations in the subsequent year based on wildlife observations and changes to the site's layout or operational activities.

¹⁵ BirdXCanada. 2023. Available at: <https://www.birdxcanada.com/> [accessed October 24, 2023].

Table 1: Wildlife Deterrent Deployment

Deterrent Type	Deployment Locations	Notes
Prowler Owls	3 to 5 locations on top of existing buildings and adjacent to the currently active waste cell	
Gator Guards	1 per open water body	
Sonic Repeller Broadcaster	1 per open water body	Requires available power. If not available and/or audio deterrents are not viable, use flock reflectors
Flock Reflectors	At corners of open water bodies if Broadcasters are not used	

The BroadBand Pro device by BirdXCanada is a programmable species-specific high frequency (near ultrasonic) and sonic bird repeller that works by broadcasting harassment sounds (near ultrasonic frequency noises) and distress calls (sonic frequency) of specific birds such as gulls, geese, starlings, pigeons, etc. The combination of near ultrasonic noise (inaudible to most adult humans), and sonic distress calls (audible) has been proven to be most effective at repelling birds in larger outdoor settings where physical deterrents are not practical.

Visual deterrents such (e.g., BirdXCanada’s Outdoor Laser and Flock Reflector) function well near open water to reflect or project light into the bird's eyes which dissuades them from landing in the area. A floating alligator decoy that mimics a predator (e.g., BirdXCanada GatorGuard) that many migratory birds (gulls and waterfowl) know to avoid from witnessing them within their overwintering habitat. Visual predatory bird deterrents (e.g., BirdXCanada’s Prowler Owl) can also be used to prevent nesting on buildings, fences, or other hard-surface structures. All bird deterrent devices installed would be installed and maintained according to the manufacturer’s instructions. The Facilities General Manager, or their designate, will be responsible for monthly inspection of all installed bird deterrent devices to ensure they are functioning as intended and remain in good working condition.

5.0 RESPONSIBILITIES

5.1 Facility General Manager

- Ensures this WMP is communicated to and accessible to on-site employees, contractors, and visitors.
- Provides appropriate training and incorporate the review of this Wildlife Management Plan as a part of the site’s orientation training for new employees and routine visitors.
- Ensures this plan is updated, implemented, and followed.
- Ensures that the Wildlife Observation Log (Appendix A) is accessible, being utilized by all staff, and remains stocked with blank log pages.
- Reviews the Wildlife Observation Logs on a weekly basis to identify where wildlife is repeatedly sighted and to inform adaptive management. A repeat wildlife sighting may indicate an improperly stored attractant, a possible wildlife residence, or maintenance needs on the perimeter fence.

- Follows the SOP guidance outlined within this WMP (Section 6.0) regarding when to contact a wildlife QEP for additional support, inspection, review, or adaptive management strategies.
- Conducts monthly inspections of all wildlife mitigation measures (i.e., passive wildlife deterrent devices) on site using the Wildlife Mitigation/Deterrent Inspection Log (Appendix B).

5.2 Qualified Environmental Professional

- An environmental professional with accreditation through the Alberta Society for Professional Biologists (e.g., P.Biol), or similar, and with wildlife biology experience and training. The QEP may be a Clean Harbors employee or a contractor, if qualified.
- Conducts a technical review of this WMP on an annual basis, which includes a review of that year's Wildlife Observation records (Appendix A), the Wildlife Mitigation/Deterrent Inspection Logs (Appendix B), and Wildlife Incident Reports (Appendix C).
- Is available to respond to wildlife concerns brought forward by the Facility General Manager (e.g., provide adaptive management strategies and/or specific mitigations to address site-specific and situation-specific requirements to avoid destruction of and disturbance to wildlife and or their nests, dens, roosts, and hibernacula).
- Notifies and take advice from regulatory authorities, as required, when nests, dens, and roosts, or hibernacula have the potential to be destroyed/disturbed.
- Issues temporary stop-work and setback distances, as appropriate with the Facility General Manager.
- Supports the Facility General Manager, when necessary, for actions regarding assessment of wildlife deterrents, potentially dangerous and/or aggressive animals, and follow procedures outlined in SOP #2 *Reporting and Responding to a Wildlife Sighting and Deterrent Use*.

5.3 All Employees, Contractors, and Visitors

- Understand and follow this procedure.
- Communicate the locations of wildlife to other employees, and travel with extra caution and restrict speeds in these areas.
- Report wildlife sightings and residences in the Wildlife Observation Log, as required.
- Report any deficiencies observed about wildlife mitigation measures and deterrent devices to the Facilities General Manager.
- Take reasonable precaution to avoid disturbing wildlife, if any, on site.
- Ask the Facility General Manager for clarification of the WMP, when required.

6.0 STANDARD OPERATING PROCEDURES

In support of this WMP, SOPs have been developed for the identification, reporting, response, and preventative measures to reduce/mitigate wildlife interactions within the Ryley Landfill.

6.1 SOP #1 Wildlife Preventative Measures

The purpose of this procedure is to provide Clean Harbors employees, contractors, and visitors with guidelines for reducing and managing wildlife attractants and reducing risk of wildlife habituation, injury, and mortality. This procedure provides direction to all on-site workers on how to reduce the risk of human-wildlife conflict by reducing wildlife attractants and restricting access of wildlife to the Ryley Landfill.

6.1.1 Waste Management and Material Storage

The proper storage, handling, and disposal of waste products and facility maintenance materials is essential to reduce the risk of wildlife attraction and habituation to the facility. Failure to properly contain wildlife attractants may result in food conditioning and aggressive animal behaviour. Improper storage of maintenance materials such as wood/lumber, fuel, tools, or machinery can be attractive to wildlife seeking an opportunistic place to rest/roost.

The following waste management and material storage steps will be followed by all Ryley Landfill employees:

1. Employees, contractors, and visitors will ensure that no litter, wildlife attractants, or hazardous materials are accessible to wildlife. This includes ensuring proper storage and use of any material that could be considered an attractant or hazard to wildlife.
2. Cover and store any lumber, wood, tools, small machinery, or other supplies in a dry location off of the ground, preferably indoors (e.g., maintenance/ tools shed).
3. Inspect equipment or supplies at the start of each day and those that have been stationary for more than 48 hours for signs of wildlife before moving them.
4. All personnel on site will monitor the site for litter, improperly stored attractants, and misdirected waste, and, if safe to do so, properly dispose of them.
5. All personnel on site are prohibited from feeding wildlife or leaving food out for wildlife.
6. All personnel who suspect wildlife is attracted to the worksite will report it to the Facility General Manager immediately.
7. All personnel are responsible for minimizing harm to, harassment of, or accidental death of wildlife.

6.1.2 Ryley Landfill Infrastructure

The following infrastructure and access management mitigation measures will be followed by all employees:

1. The access gate will remain closed when not in use or will have a monitor to watch for potential wildlife ingress if the gate is left open for an extended period. If the gate is found open with no monitor present it will be reported to the Facility General Manager.
2. The facility boundary fence and gate shall be routinely inspected (i.e., once a month) for signs of damage or wildlife passage. Any locations where wildlife can access the facility will be reported to the Facility General Manager and they will implement the necessary maintenance.

3. Facility infrastructure (e.g., building, light standards, etc.) shall be routinely monitored for signs of wildlife use (e.g., nests, roosts, feeding, sheltering). Any location of persistent wildlife use will be reported to the Facility General Manager. If necessary, a QEP may be required to provide support and determine mitigation measures to deter wildlife use.
4. Ensure trailers, buildings, bins, and vacant buildings are secured at the end of each day.
5. On-site personnel will inform the Facility General Manager of maintenance needs to prevent wildlife from sheltering.
6. Entry/exit points of facility infrastructures should store and maintain a working airhorn deterrent device to be used by employees upon discovery of dangerous wildlife (e.g., black bears) inside the perimeter fencing.

6.2 SOP #2 Reporting and Responding to Wildlife Sightings

This procedure is intended to provide Clean Harbors employees, contractors, and visitors with guidelines to report wildlife sightings, including wildlife residences (dens, burrows, nests, roosts, hibernacula), safely respond to a wildlife sighting, use deterrents (including herding), and report actions taken. This procedure also includes the steps for employees to take if they discover a wildlife species of management concern within the grounds.

Wildlife deterrents only work if there is an absence of food, shelter, and other rewards for animals at the facility. Refer to SOP #1 for procedures to reduce wildlife attractants. Should the situation permit, consultation with a QEP and/or EPA regarding the appropriate and effective use of deterrents prior to implementation is recommended.

6.2.1 General Wildlife Sightings

This procedure applies to all areas of the Ryley Landfill, including the roads, pad sites, temporary laydowns, and/or wherever workers are present. All wildlife sightings, including routine wildlife species (e.g., gulls, geese, magpies, etc.) must be recorded within the Wildlife Observation Log (see the Wildlife Observation Log, attached). Records of wildlife sightings and wildlife residences are used to apply and evaluate the efficacy of existing mitigations and to avoid/reduce the likelihood of adverse wildlife effects.

Routine wildlife observation and reporting procedures should be handled as follows:

1. Everyone on site is to record all wildlife and wildlife residences observed within the perimeter fence, including birds and bird nests.
2. Promptly enter the wildlife sighting into the Wildlife Observation Log (Appendix A), which is located inside the Ryley Landfill office. Ensure that each observation includes all the required information including:
 - a. Date;
 - b. Location;
 - c. Time;
 - d. Wildlife species and number;

- e. Observer's name; and
 - f. Relevant notes (e.g., the animal's behaviour, reaction to humans, state of health).
3. If a potentially dangerous or aggressive animal is observed, immediately alert others of the animal's location via radio and follow the procedures outlined in Section 6.2.3 (Aggressive Animal).
 4. If wildlife are reported on or near roads, traffic will stop for all wildlife seen crossing or attempting to cross. Headlights are to be turned off once the vehicle is stopped to allow the animal to cross, if applicable. All employees/contractors are to remain in the vehicle and shall not attempt to herd the animal off the road. Should the animal not move off the road, notify the Facility General Manager and they will respond, if required, by following the deterrent action outlined in Section 6.2.7.
 5. Copies of the logs will be retained and filed at the office. A Wildlife QEP will review the Wildlife Observation Log on an annual basis during the review of this WMP.
 6. In general, most wildlife should be left undisturbed. Many routine wildlife sightings won't require action, including when:
 - a. The animal poses no danger because the species is not a risk to people or property (e.g., snowshoe hare);
 - b. The animal (and its residence) is not in danger of harassment or harm; and
 - c. The animal has not gained access to an attractant, such as a food reward.

6.2.2 Species of Management Concern Wildlife Sightings

Several wildlife species of management concern have the potential to occur on-site (refer to Section 3.0). Upon discovery of a wildlife species of management concern, employees shall follow the below steps:

1. Record the wildlife observation within the Wildlife Observation Log and be sure to note the wildlife's behaviour (e.g., scavenging, foraging, roosting/resting, rearing young, breeding/nesting, etc.).
2. Promptly notify the Facility General Manager that the wildlife observation you recorded is a confirmed (or if unsure, a suspected) wildlife species of management concern.
3. The Facility General Manager will review the species of management concern wildlife observation entry and communicate the findings to the QEP.
4. Depending on the species and the behavioural action observed, the QEP may decide to develop a species-specific mitigation plan to safeguard the species while it remains on-site, or to deter that species from future utilization of the site, if appropriate. The QEP will liaise with EPA for advice and support, as needed.

6.2.3 Aggressive Animal Sightings

Any employee, contractor, or visitor who observes or encounters an aggressive animal are to follow these steps:

1. Take refuge. Get to and remain in a safe shelter or vehicle until either you (the observer) or another on-site personnel (e.g., the Facility General Manager or QEP) is able to confirm that the dangerous wildlife has left the site.
2. Immediately alert others of the animal's location via radio.
3. Radio or phone the Facility General Manager and provide the following information: the species, the animal's location, staff locations (including those nearby), and perceived risk to people.
4. The Facility General Manager and/or designated person(s) will respond immediately to secure the site and people's safety.
5. If the situation permits, the Facility General Manager may consult with the QEP for advice and additional support to safely deter the animal away from the facility and people (refer to Section 6.2.7 Responding with Wildlife Deterrents).
6. In the unlikely event that no deterrents are proving successful, and the aggressive animal remains in the area, the Facility General Manager or the QEP will contact EPA for advice and/or additional support.
7. The Facility General Manager, with support from the QEP, will follow the procedures in Section 6.2.8 including filling out a Wildlife Incident Report and reporting the aggressive animal incident to EPA within 24 hours.

6.2.4 Nest, Den, Roost, or Hibernaculum

Birds, bats, and other wildlife may nest, roost, den, or take refuge in man-made buildings, culverts, light standards, soil piles, as well as any natural habitat in/near the facility. No employee, contractor, or visitor shall disturb, destroy, or collect a nest (or egg), den, roost, or hibernaculum.

The below steps will be followed if wildlife residence is discovered on-site:

1. Employees, contractors, and visitors will record a nest, roost, den, or hibernaculum seen or suspected in the Wildlife Observation Log and notify the Facility General Manager immediately of the observation.
2. Once notified of the presence of a wildlife residence, the Facility General Manager will confirm the observation (if required), and notify a QEP, who will determine an appropriate setback distance and the species-specific restrict activity period so that the landfill operations do not disturb the wildlife residence. No person shall destroy a nest, den, roost, or hibernacula at any time, even if unoccupied, unless the direction has been provided from a QEP.
3. The QEP is to notify and consult with EPA within 24 hours of the observation if the wildlife residence was, or has the potential to be, destroyed or disturbed by landfill activity (e.g., Project activities within the setback distances recommended by the QEP).

4. The QEP will discuss adaptive management actions with the regulatory authority on an appropriate setback distance to active worksites to minimize disturbances to a wildlife residence. In cases where the residence cannot be avoided, the QEP will discuss adaptive management actions, including any permit requirements, with the regulatory authority on how to proceed.
5. The Facility General Manager, with support from a QEP, if applicable, will record the incident in a Wildlife Incident Report and provide a copy of the report to EPA within 24 hours when a wildlife residence was disturbed because of landfill activities. The Facility General Manager will also investigate the cause of the incident and consider adaptive management action, evaluating if (and how) wildlife mitigation may have failed as outlined in Section 6.2.8. Mitigation methods will be updated to reduce the likelihood of the incident reoccurring, if applicable.

6.2.5 Animal Carcass or Injured or Sick Animal

The below procedure is to be followed in the event of an injured or sick animal discovered on-site.

1. All employees, contractors, and visitors are to immediately report a sighting of an animal carcass, injured, or sick animal to the Facility General Manager, including if the animal was accidentally harmed by the observer.
2. If the animal is behaving in ways that suggest that they may be infected with rabies (e.g., unusual aggression or boldness, excess saliva or foaming around the mouth, drooping head, and partial paralysis) get to and remain in a safe shelter or vehicle, until confirmation can be made that the area is clear.
3. If the animal was accidentally harmed by an employee, contractor, or visitor, all persons involved and/or witnesses are to remain on the scene and stay in a shelter or vehicle for safety.
4. Provide the Facility General Manager with information such as the time, events leading up to the incident, condition of the animal and its location, cause of incident (if known), and staff involved which will be reported in the Wildlife Incident Report (see Section 6.2.8).
5. Once notified, the Facility General Manager is to immediately respond to an animal carcass and/or injured or sick animal, including those that look to have been harmed by a predator. In response to the incident, the Facility General Manager will:
 - a. Assess the level of harm and safety risk to any person(s) involved in the incident and in the area. Injured animals may act aggressively. Implement a temporary shut-down of applicable work sites, if required;
 - b. If the animal remains on the scene, consider the animal's injuries, without touching the animal. If the animal has left the scene, assess the conditions through discussions with the person who reported the incident;
 - c. Consider the animal's behavior and general body condition. Animals behaving in ways that suggest that they may be infected with rabies include unusual aggression or boldness, excess saliva or foaming around the mouth, drooping head, and partial paralysis;
 - d. Look for an apparent cause of death (if applicable); and

- e. Inform a QEP of the events.
6. All Wildlife Incident Reports involving deceased wildlife must be reported to EPA within 24 hours. The Facility General Manager and the QEP are responsible for notifying EPA. EPA will advise the Facility General Manager and QEP on applicable permit requirements and instructions regarding how to safely dispose of the carcass. Do not move the carcass of an animal possibly diseased until direction is provided by EPA. Appropriate personal protective safety measures must be taken when handling all carcasses.
7. All Wildlife Incident Reports involving a sick or injured animal must also be reported to EPA within 24 hours. The Facility General Manager will notify a QEP and EPA immediately and follow EPA's directions. If the incident occurs during regular working hours, the Facility General Manager will call the Camrose/Vegreville EPA Fish and Wildlife Office. If the incident occurs after working hours and is an emergency, call the Report a Poacher Line and/or 9-1-1.
 - a. EPA Camrose/Vegreville Fish and Wildlife Office: 780.632.5410.
 - b. EPA 24-hour Emergency Line: 1.800.642.3800 (Report a Poacher Line, also used for wildlife emergencies).

6.2.6 Animal-Related Property Damage

Upon discovery of animal-related property damage, follow the below steps:

1. Determine if the suspected wildlife is still within the facility grounds. If there is a potentially dangerous animal nearby, move to a secure location and follow the steps within Section 6.2.3 (Aggressive Animal).
2. Notify the Facility General Manager of the property damage and animal, if applicable.
3. Once notified, the Facility General Manager will respond to instances of animal-related property damage.
4. If property damage is ongoing and/or a dangerous animal remains nearby, the Facility General Manager will use appropriate deterrent action to move the animal and secure the area (refer to Section 6.2.7). Should the situation permit, consultation with a QEP and/or EPA regarding the appropriate use of deterrents prior to action is recommended.
5. Once the area is secure, the Facility General Manager will conduct an inspection of the property damage, undertake the required maintenance (e.g., fix holes in/under the facility perimeter fence), and, with support from the QEP, follow the procedures in Section 6.2.8 for a wildlife incident.

6.2.7 Responding with Wildlife Deterrents

Often deterrent action is not required, and the animal moves away on their own accord once aware of human presence. All employees, contractors, and visitors may make an animal aware of their presence by talking loudly or waving their arms.

Deterrent action may be required when:

- An animal is acting aggressively and/or poses an immediate threat to people or property;

- The animal is in a potentially hazardous location and not moving off on their own accord; and
- The animal has, or has the potential to, gain access to a food reward.

Herding is used to move wildlife away slowly and safely from potentially hazardous sites, such as active construction and/or operational sites where there is risk to harming and/or alarming an animal. Herding actions will always prioritize the safety of site personnel but must be conducted in a manner that minimizes the risk of injury to both wildlife and personnel and stress to the animal. Herding should be completed using a vehicle to ensure safety to people and the animal.

The Facility General Manager will designate a responsible person to conduct the herding and notify any employees, contractors, and visitors in the area that wildlife herding is going to be undertaken and to clear the area.

Herding wildlife off-site should be conducted as follows:

1. Ensure a safe exit pathway for the animal (e.g., back through the perimeter fence or gate) prior to approaching the animal.
2. Slowly (at a walking pace) use the vehicle to approach the animal to encourage the animal to move away out of the facility. Continue the approach until the animal begins moving. If the animal stops moving again the approach can be resumed until the animal has moved back through the facility boundary fence.
3. Advancement towards the animal should be temporarily halted if the animal shows signs of alarmed response (fight or flight). The herder must be careful not to overstress the animal and must back off when the animal begins moving in the desired location. Undue harassment must be avoided. The vehicle horn can be used as an auditory deterrent only when the animal is not moving on their own accord.
4. Advancement should not exceed closer than 30 metres (m) from the animal when herding with the vehicle.
5. If the animal continues an approach towards humans, and/or will not move, the animal should be treated as though it may be aggressive (refer to Section 6.2.3).
6. Should the situation permit, consultation with a QEP and/or EPA regarding appropriate use of deterrents prior to action is recommended.
7. The location where the fence has been breached, if applicable, will be immediately repaired following confirmation that there are no other animals inside of the facility.

6.2.8 Incident Reporting

A Wildlife Incident Report (Appendix C) must be filled out by the Facility General Manager when:

1. Wildlife mortality and/or injury due to, or suspected from, the landfill or activities at the facility;
2. Accidental destruction of a wildlife residence (e.g., den, nest);

3. Human-wildlife interactions that present a risk to either people or animals, including incidents of wildlife exhibiting aggressive behaviour (e.g., animal does not flee when deterrents are used, flattened ears, charge or bluff-charge, attack) or wildlife-caused property damage;
4. Big game species has, or potentially has, gained access to a man-made attractant (food/shelter); and
5. Anytime an active deterrent action is taken (e.g., herding or airhorn blast).

In the event of a wildlife incident, the Facility General Manager, with support from a QEP, if applicable, will record the incident in a Wildlife Incident Report and will conduct an investigation to the cause of the incident. Considerations for adaptive management action and evaluating if (and how) wildlife mitigation may have failed will be completed. Mitigation methods will be updated to reduce the likelihood of the incident reoccurring, if applicable. If wildlife (or its residence) was harmed as a result of Project activities, the Facility General Manager will provide a copy of the incident report to EPA within 24 hours.

The Facility General Manager will also discuss the incident with personnel (e.g., safety memo, meeting), including what happened, how it was mitigated, and any lessons learned from the incident.

7.0 APPENDICES (SUPPORTING DOCUMENTS)

- A. Wildlife Observation Log
- B. Wildlife Mitigation/Deterrent Inspection Log
- C. Wildlife Incident Report

APPENDIX A: WILDLIFE OBSERVATION LOG

APPENDIX B: WILDLIFE MITIGATION/DETERRENT INSPECTION LOG

Wildlife Mitigation/Deterrent Inspection Log

Inspection Date (mmm/dd/yyyy):

Inspector's Name:

Note: Wildlife mitigation measures and deterrent devices must be inspected on a monthly basis and the inspection logs are to be retained on-site and made available upon request (e.g., yearly reviews/audits). Deficiencies must be reported to the Facilities General Manager.

Wildlife Mitigation/Deterrent Inspection Item	Yes	No	N/A	Comments/Recommendations/ Deficiencies/ Observations	Action Item for Facilities General Manager?	
					Yes	No
Are the visual deterrent devices installed correctly, and in good working condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Are the visual deterrent devices clean and free from excessive dust/dirt/debris which could decrease their effectiveness?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Are the Sonic Deterrents operating effectively (broadcasting as designed), and in good physical condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Is the site's perimeter fencing intact, in good/strong condition free from holes, weak spots, extensive rust or damage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Are there working airhorn devices readily available at entry/exit points of key facility buildings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Are there wildlife routinely residing within the facility grounds that warrant an updated mitigation strategy to effectively manage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX C: WILDLIFE INCIDENT REPORT

RYLEY LANDFILL WILDLIFE INCIDENT REPORT

INCIDENT REPORT NO.:

Location of Incident (e.g., detailed worksite location):

Date of Incident:	Time of Incident:	Incident Report No.:
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Name(s) of Individual(s) Involved:

Contact Number(s):

Nature of Wildlife Incident:

- Wildlife Mortality/Injury from Project; Euthanized? Yes; No
- Wildlife Attack
- Aggressive/Threatening Wildlife Behaviour
- Deterrent Used
- Property Damaged
- Wildlife Has, or Potentially Has, Accessed an Attractant
- Wildlife Residence Damaged
- Other: _____

Species: _____

of Animals Involved: _____

Cubs/Young Present? Yes; No

Evidence of Disease, Injury, or Malnourished? Yes; No. Explain: _____

Wildlife Behaviour (select multiple, if applicable): Predatory; Defensive; Curious/Approached;

Feeding; Food Conditioned Running/Traveling; Fled the Scene; Other: _____

Details of Incident (e.g., age and sex of wildlife, distinguishing features of the animal (colour, markings), the animal's direction of travel, aggressive behaviour, weather conditions, unsecured attractants, estimate how long the animal was dead, any other animals seen in the area, description of property damage, photographs):

