Government of Northwest Territories | Gouvernement des Territoires du Nord-Ouest

WILDLIFE MANAGEMENT AND MONITORING PLAN GUIDELINES 2: CONTENT REQUIREMENTS

Environment and Natural Resources,
Government of the Northwest Territories

WILDLIFE DIVISION

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DISCLAIMER

These guidelines do not replace legislation or the terms and conditions of regulatory authorizations. Although every attempt has been made to provide up-to-date information, it remains the developer's responsibility to obtain the most recent information related to wildlife and wildlife habitat, to ensure all regulatory requirements have been met, and to undertake appropriate consultation with territorial and federal government departments and Indigenous governments. No parts of these guidelines are intended to infringe on asserted or established Aboriginal or treaty rights.

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1.0 INTRODUCTION

The Government of the Northwest Territories Department of Environment and Natural Resources (ENR) is responsible for the implementation and enforcement of the *Wildlife Act*.[1] Section 95 of the *Wildlife Act* contains provisions outlining criteria for when a Wildlife Management and Monitoring Plan (WMMP) will be required as well as the mandatory content for such plans. This is the second of two guideline documents that ENR has developed in order to clarify requirements and expectations related to WMMPs.

The first document, *Wildlife Management and Monitoring Plan Guidelines 1: Process Requirements,* focuses on the processes for determining when a WMMP is required, along with the submission, review and approval processes. Once a developer has used the first document to decide if a WMMP is likely to be required, this second guideline document can be used to develop the content. Subsection 95(2) of the *Wildlife Act* outlines the mandatory content for such plans. These guidelines are meant to support developers in producing WMMPs that will fulfill the legislated requirements of Subsection 95(2) and minimize the impacts of their development on wildlife and wildlife habitat.

1.1 Purpose

WMMPs are an important tool for the protection and conservation of wildlife and wildlife habitat in the context of sustainable development. WMMPs allow developers to demonstrate how they will minimize the impacts of their developments to wildlife and wildlife habitat, remain in compliance with regulatory requirements and address public concern. Developing a WMMP to outline how impacts to wildlife and wildlife habitat will be minimized is considered a best practice for all development projects in the Northwest Territories (NWT). If the Minister of ENR determines that a development project is likely to meet any of the criteria outlined in subsection 95(1) of the *Wildlife Act* (see Section 3.0), then a WMMP is required for the development. This WMMP will have to meet certain content requirements and be approved by the Minister of ENR.

[1] Plain language version of the Wildlife Act is available at www.enr.gov.nt.ca/sites/enr/files/wildlife_act_plain_language_document_1_february_2015.pdf

The purpose of this second guideline document is to provide guidance to developers on how to prepare an effective WMMP that meets the content requirements of the *Wildlife Act*.

2.0 WHAT GOES IN A WMMP?

Subsection 95 (2) of the *Wildlife Act* states that

A wildlife management and monitoring plan must include:

(a) a description of potential disturbance to big game and other wildlife included in the regulations, potential harm to wildlife and potential impacts on habitat;
(b) a description of measures to be implemented for the mitigation of potential impacts;
(c) the process for monitoring impacts and assessing whether mitigative measures are effective; and
(d) other requirements that are outlined in the regulations.

Subsection 95(3) of the *Wildlife Act* allows the Minister to accept another plan or a section of another plan in place of a WMMP if it can be shown that the alternative plan meets the above requirements to the satisfaction of the Minister.

2.1 Key Components of a WMMP

2.1.1 The Mitigation Hierarchy

The Government of the Northwest Territories (GNWT) encourages developers to design their mitigation strategies according to the mitigation hierarchy. In order of priority, mitigation approaches should progressively be designed to:

1) **Avoid:** not undertaking certain activities or adjusting the location, design, methodology or timing of a development to prevent impacts from occurring. This should always be the first consideration.

2) **Minimize:** actions that initially limit the magnitude of unavoidable impacts.

3) **Rectify:** actions to restore impacted wildlife or wildlife habitat or otherwise eliminate the unavoidable impacts of the development. Priority should be given to actions that rectify on-site impacts.

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4) **Offset:** measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse impacts after the first three levels of mitigation are considered.

2.1.2 Types of Monitoring

This document distinguishes between three main types of monitoring:

1) **Mitigation monitoring** is undertaken to identify the need to modify or apply mitigation or to verify the effectiveness of mitigations in place. It consists of regular surveys or inspections by project personnel to determine whether mitigation designs, procedures and equipment outlined in the WMMP are being implemented as planned and are functioning as intended. It also includes surveillance to document and report on the presence of wildlife on-site, risks to wildlife and human safety, and other wildlife incidents (injury, mortality, wildlife-human interactions) that require a management response. For example, this could include monitoring to identify the presence of dens or bird nests in an area to identify the need to observe setback distances. This is a basic level of monitoring expected for all developments regardless of the need for a WMMP and may be the only type of monitoring required for smaller developments such as short-term mineral exploration programs. Action levels for this type of monitoring would largely be set by the developer based on operational experience, existing guidelines and input of affected and interested parties. The response framework would likely be less formal than for wildlife effects monitoring and would be largely a matter of outlining potential corrective actions.

2) **Wildlife effects monitoring** consists of systematically tracking changes in indicators generally measured within the local study area (LSA) and regional study area (RSA) to quantify project-related effects on wildlife and wildlife habitat, test predictions made in environmental impact assessment (EIA) or test the effectiveness of mitigation measures. In developing effects monitoring programs, priority should be placed on areas of uncertainty with respect to potentially significant impacts and on obtaining data to inform management actions. Typically, this type of monitoring would involve a more rigorous, scientific approach than mitigation monitoring. Action levels for wildlife effects monitoring would largely be

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established during or following EIA or be based on guidelines, existing wildlife management plans, regulations or engagement.

3) **Regional-scale wildlife monitoring** is monitoring undertaken by the developer or by another party on the developer's behalf at a regional scale beyond the RSA in collaboration with other developers, governments, Indigenous governments and organizations, renewable resource boards, communities or academics. This type of monitoring would generally be included in WMMPs for development projects which will make significant contribution to cumulative impacts on wildlife or habitat. While individual developers would not normally be responsible for preparing response frameworks for collaborative regional monitoring programs in which they participate, they would be expected to follow guidelines or best practices developed based on the results of such programs.

2.1.2 Adaptive Management

To be an effective management tool, a WMMP needs to be developed with consideration for the operational relationship between mitigation and monitoring. The Wek'èezhìı Land and Water Board's (WLWB) final draft *Guidelines for Adaptive Management, a Response Framework for Aquatic Effects Monitoring* provides helpful guidance for considering this relationship within the context of the NWT's regulatory structure. Though tailored to aquatic effects, the general concepts in the WLWB's document can be applied to managing certain types of impacts on wildlife and wildlife habitat. Specifically, a response framework should be applied in situations where the appropriate action involves mitigation(s) that can be intensified or reduced in response to changing conditions, as opposed to mitigations that involve a single, discreet action (e.g. project design feature, decision of where to locate roads etc.). This involves setting action levels which are predefined, project-specific levels of change in a monitored indicator identified within the WMMP that trigger an identified management response. Ideally, action levels should be set to provide early warning such that a management response is triggered prior to adverse impacts becoming unacceptable. Examples of types of impacts that may be conducive to the development of response frameworks could include:

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- Minimization of disturbance or barrier effects of a haul road by managing traffic levels according to numbers of wildlife present.
- Minimization of disturbance and habitat quality by intensifying application of dust suppression in response to monitored dust levels.
- Minimization of potential wildlife attraction by intensifying worker training education in response to identified levels of food-related waste in a landfill.

2.2 Cumulative Impacts

A WMMP can be used by developers and regulators alike for assessing, monitoring and managing cumulative impacts. As users of the land, developers can assist in efforts to address cumulative impacts in three ways:

1. Developers can avoid, minimize, rectify or offset the impacts of their individual developments, which in turn reduces the combined impact of multiple developments at a regional scale. Consideration of cumulative impacts allows developers to design mitigation programs that address impacts that at the project-scale may be minor, but when considered in combination with effects of other developments, may be substantial. For example, when individual developers implement effective mitigations and report on what they learn through their WMMPs, this information can be incorporated into best practices and guidelines that can be applied to existing and future developments. As another example, in regions where cumulative impacts are a concern, inclusion of offsetting or enhanced mitigation approaches that can compensate for residual impacts of a development may need to be included in the WMMP.

2. Through directed research, regional monitoring and mitigation programs, it may be appropriate for some developers to contribute to the collective understanding of the impacts of development and other factors at a regional scale and to initiatives for managing those impacts. For example, the GNWT may require developers to employ standardized protocols for monitoring certain big game or other prescribed wildlife

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or require consistency with approaches used by other developers for these species to support regional assessment and management. Developers are encouraged to contact ENR to discuss potential collaborative regional monitoring projects or other research or monitoring opportunities that would help fulfill this requirement.

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Developers are encouraged to submit geospatial data on the footprint of their development to the applicable land and water board or regulatory body. This information will contribute to maintaining accurate records of habitat disturbance on the land. Please consult the MVLWB's *Standards for Geographic Information Systems (GIS) Submissions* for further information:

https://slwb.com/sites/default/files/news/937/attachments/public-review-draft-standard-maps-and-gis-data-submission.pdf

3. Developers that are required to submit a WMMP will also be required to submit geospatial data and reporting on final footprint size to contribute to the quantification of habitat disturbance on the land. Developers that are not required to submit a WMMP are also encouraged to submit geospatial data for their development, as all developments that leave a footprint on the landscape will contribute towards cumulative habitat disturbance.

2.3 Three Tiers of WMMP

The content and complexity of a WMMP should be scaled to the size and type of development. The GNWT has identified three tiers of WMMP. While this document is intended to be used as guidance on deciding what should go into a WMMP, the GNWT will make the final decision on which tier of WMMP is required. Contact ENR Wildlife Division or the regional ENR office for further guidance if necessary. Contact information is provided in Appendix 1.

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Tier 1: Basic WMMP

Tier 1 WMMPs will be required for developments that meet one or more of subsection 95(1) paragraphs(a-c), and for which the impacts are well understood and there is a relatively high degree of certainty that the proposed mitigations will be effective. Developments that are not referred to environmental assessment (EA) will generally only require a Tier 1 WMMP.

Required content:

a) A description of the impacts of the development on wildlife and wildlife habitat;
b) A description of how those impacts will be mitigated; and
c) A description of mitigation monitoring.

A suggested template for Tier 1 WMMPs is provided in Appendix 2.

Tier 2: Basic WMMP + Effects Monitoring

Tier 2 WMMPs will be required for developments that meet one or more of subsection 95(1) paragraphs(a-c), and for which the impacts are not well understood and/or there is a relatively low degree of certainty that the proposed mitigations will be effective. Developments that are referred to EA due to concerns related to wildlife and wildlife habitat will generally require a Tier 2 WMMP.

Required content:

a) A description of the impacts of the development on wildlife and wildlife habitat;
b) A description of how those impacts will be mitigated;
c) A description of mitigation monitoring; and
d) A description of project-specific wildlife effects monitoring.

Sections appropriate for inclusion in a WMMP for Tier 2 projects are identified in Appendix 3.

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Tier 3: WMMP with contribution to cumulative impact initiatives

Tier 3 WMMPs will be required for developments that meet one or more of subsection 95(1) paragraphs(a-c) and paragraph (d).

Required content:

a) A description of the impacts of the development on wildlife and wildlife habitat;
b) A description of how those impacts will be mitigated;
c) A description of mitigation monitoring;
d) A description of project-specific wildlife effects monitoring[2]; and
e) A description of how the WMMP will contribute to regional-scale wildlife monitoring, and/or cumulative effects research, assessment or management.

2.4 WMMP Annotated Table of Contents

Early engagement with the GNWT is encouraged at the initial stages of planning a development to identify what content will likely be required; however the intent is for WMMP content to be scalable to the size and type of the development. The following annotated table of contents is meant to detail the expectations regarding the required sections for a full-scale Tier 3 WMMP. Specific sections of the WMMP that would be required for Tier 1 and 2 WMMPs are described in Appendix 3, and a Tier 1 WMMP template is provided in Appendix 2.

The items listed in the annotated table of contents below are not intended to be exhaustive. Developers are encouraged, but not obligated, to follow the organization format outlined below as long as the pertinent information is provided in the document. Certain sections of the WMMP may be excluded from preliminary drafts, as they would be developed throughout the regulatory process.

[2] In limited circumstances where the impacts and mitigations are well understood but the contribution to cumulative impacts is significant, effects monitoring may not be required.

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- Developers are encouraged to consult wildlife mitigation and monitoring plans and wildlife monitoring reports from similar past and ongoing development projects to incorporate lessons learned from these projects into their own WMMP.
- Developers are encouraged to use plain language as much as possible in the WMMP to ensure that the content is accessible to a range of reviewers.

1) EXECUTIVE SUMMARY

2) INTRODUCTION

Provide some bullets outlining the purpose and objectives of wildlife and habitat mitigation and monitoring programs that will be carried out as detailed in the plan.

3) DEVELOPMENT PROJECT DESCRIPTION

a) Provide a basic overview of the proposed development, location, infrastructure, points and modes of access, development schedule or work plan, and duration.

b) Provide a map of the development's location, including location of any other existing developments and infrastructure in the area, a detailed map(s) of the development footprint, and for each wildlife species, a map showing the LSA and RSA. The RSAs for wildlife species chosen as valued ecosystem components (VECs) in an environmental assessment are usually defined in that process; however boundaries may change over a development's life as new information about the extent of impacts becomes available. The study boundaries for each species should be appropriately scaled for the purpose of the study.

NOTE: the content for this section of the WMMP can be reproduced or simplified from other materials prepared by the developer during the preliminary screening or EA of the development (e.g. developer's assessment report (DAR) or environmental impact review (EIR)).

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4) CONTEXT

a) Measures, conditions and developer commitments concordance table.

WMMPs for Tier 2 and 3 projects should provide a summary table of measures, recommendations and developer commitments resulting from the EA of the development, and permit conditions and other legislated requirements (e.g. *Species at Risk Act (NWT), Wildlife Act,* and associated regulations) relevant to wildlife and wildlife habitat, and indicate the sections of the WMMP in which they are addressed. This table can be provided as an appendix.

b) Engagement.

Describe any communications and outreach activities or external agreements (e.g. Impact and Benefit Agreements) with affected parties (e.g. Indigenous governments or organizations, renewable resources boards, local harvesting committees and communities) that are applicable to the development, implementation and review of the WMMP. This may be achieved by simply referring to existing engagement plans or engagement logs prepared in accordance with the Mackenzie Valley Land and Water Board's (MVLWB's) Engagement Guidelines[3,4]; however if specific activities were undertaken to inform development of the WMMP, such as hosting a workshop on caribou mitigations, it would be helpful to describe it in this section.

c) Associated operational or management plans.

Provide an overview of other management plans prepared by the developer that may contain mitigation and monitoring measures that are relevant to protection of wildlife and wildlife habitat (e.g. waste management plans, spill contingency plans).

[3] Developers should consult the MVLWB's engagement policy and guidelines.
[4] Developers should consult GNWT's Department of Executive and Indigenous Affairs list of NWT Aboriginal Governments at www.eia.gov.nt.ca/en/nwt-aboriginal-governments.

5) POTENTIAL IMPACTS

a) Identify wildlife species and associated habitat addressed by the WMMP.

For the purposes of the WMMP, wildlife would include big game and other prescribed wildlife species most likely to interact with the development, species that are of conservation concern that may interact with the development, those species in the region that may have a key ecological role in relation to other species, and those species that have cultural or economic value.

For species at risk, include their assessment and listing status under the federal *Species at Risk Act* (SARA), Committee on the Status of Endangered Wildlife in Canada (COSEWIC), territorial *Species at Risk (NWT) Act*, and/or NWT Species at Risk Committee (SARC), if applicable.

To better understand which species may occur in their project area, developers are encouraged to submit a data request for wildlife point data within the vicinity of their project area from GNWT's Wildlife Management Information System (WMIS) at: http://www.enr.gov.nt.ca/en/services/research-and-data/wildlife-management-information-system. Unless otherwise indicated by ENR, wildlife species chosen as VECs through an EA or EIR process should be selected for the WMMP at minimum.

b) List potential impacts to wildlife and wildlife habitat.

This list could include impacts such as direct habitat loss, functional habitat loss due to noise, dust or other sensory disturbances, wildlife injury or mortality, substances that are toxic or hazardous to wildlife, human-wildlife interactions and wildlife attraction. Impacts could be broken down by species group and development phase, if applicable. Include a description of the predicted magnitude of the impacts and identify where residual impacts might be expected. These will normally have been identified during an EA or EIR process.

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6) WILDLIFE AND WILDLIFE HABITAT MITIGATION

For each of the potential impacts identified in the WMMP, list the mitigation measures, design features, policies, procedures or guidelines that will be followed to avoid, minimize or compensate for the potential impact. Sufficient detail should be provided to described the 'who, what, when, where, why, and how often' for each mitigation. Refer to the guidance documents, data sheet templates and reporting forms provided in Appendix 4 when developing these sections.

If a mitigation measure is being implemented to ensure compliance with a legislative requirement or regulation, specify the legal requirement that is being addressed. Include any mitigation measures or design features identified through engagement with Indigenous governments, organizations, or communities. Where several mitigation options are available, provide some justification for the approach being taken, citing relevant examples or literature as necessary. The WMMP should contain evidence that the developer has considered the mitigation hierarchy as well as lessons learned from past experience or other operations in choosing the mitigation approach.

Where relevant, Standard Operating Procedures (SOP), tracking forms and data sheets provided to employees to implement these measures should be provided in an appendix. For WMMPs provided during EA, unless specific SOPs are requested, a list of SOPs that will be included in the final WMMP and their intended purpose should be provided. Appendix 4F contains a sample SOP.

The following is a list of possible mitigation themes that might be detailed in this section, depending on the impacts of the development. These sections could be further broken down by species group and/or development phase:

a) Employee wildlife awareness education and training;

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b) Infrastructure design and camp layout for bear safety and/or to prevent denning, nesting and roosting;
c) Management of camp waste and other wildlife attractants;
d) Timing restrictions and/or set back distances to protect wildlife and wildlife habitat features;
e) Direct habitat loss – minimizing the development's physical footprint;
f) Habitat alteration – minimizing physical manipulation of habitat that would decrease its value to wildlife;
g) Indirect habitat loss – minimizing functional habitat loss due to sensory disturbance, dust, etc.;
h) Management of hazards to wildlife (e.g. open pits, tailings ponds, roads, airstrips, spills);
i) Wildlife deterrence procedures;
j) Habitat restoration;
k) Description of the role of community wildlife monitors, Indigenous harvesters or partnerships with local organizations in implementing aspects of the plan; and
l) Offsetting or compensatory measures.

7) MONITORING

7.1) MITIGATION MONITORING

This section will describe routine surveillance activities conducted within the development footprint to identify, document and report on proper implementation of mitigation procedures and equipment, the presence of wildlife onsite, risks to wildlife or habitat (e.g. pre-clearing surveys) and human safety, and other wildlife incidents (injury, mortality, wildlife-human interactions) that require a management response.

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Mitigation monitoring is a basic level of monitoring recommended for all projects regardless of the need for a WMMP, and may be the only type of monitoring necessary for smaller developments such as some short-term mineral exploration programs.

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Where applicable, for each of the potential impacts and mitigations listed in Sections 5 and 6 corresponding to the WMMP Annotated TOC , describe in section 2.4(7.1):

a) The objective of the monitoring;
b) Methods or monitoring approach;
c) Observations to be made or metrics to be measured;
d) Frequency and duration of monitoring;
e) Supporting documents and protocols; and
f) Description of the steps taken when mitigation monitoring identifies the need for a management response.

A table(s) in the following format could be used, as follows.

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Table 1: Example summary table of mitigation measures and monitoring programs.

Potential Impact	Objective	Mitigation Measures	Metric	Monitoring Approach	Frequency and duration	Supporting Documentation
Wildlife Attraction	Minimize occurrence of wildlife attractants in landfill	Segregation of food wastes and packaging for incineration Storage of food wastes in sealed containers while awaiting disposal	Number of consecutive waste stream inspections showing evidence of improper waste disposal or storage	Landfill and disposal bin inspections, as outlined in the Waste Management Plan	Weekly, for the life of the development	Waste Management Plan section XYZ
Human/Wildlife Interactions	Ensure human safety and minimize wildlife mortality from defense of life and property kills	Wildlife surveillance monitoring	Number of consecutive days of observations of bear sign and sightings within <1 km of the development	Wildlife observations and sign monitoring surveys Wildlife sightings and encounters reported by all employees	Weekly Daily	Wildlife Surveillance SOP

7.2) WILDLIFE EFFECTS MONITORING

Provide a description of formal, species-specific effects monitoring programs designed to quantify project-related effects on wildlife and wildlife habitat, test predictions made in EIA, test the effectiveness of mitigation measures, special studies supporting mitigation and monitoring approaches or regional participation in monitoring. This section might be broken down further into different development phases if monitoring approaches or requirements vary according to development phase. In developing effects monitoring programs, priority should be placed on areas of uncertainty where impacts are potentially significant. When available, standardized monitoring protocols should be used, and may be required by the GNWT so that monitoring results from multiple developments can be combined at a regional scale. Developers should contact ENR to inquire about standardized protocols that are currently in use or under development.

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For each monitoring program demonstrate that the survey design, metrics chosen, sample size and analysis approach will be capable of meeting the objectives of the monitoring program. Provide the following for each program:

I. The objective, including prediction, question or hypothesis to be tested.

II. A description and maps of the study area boundaries, including the reason why it was chosen.

III. Identification of where traditional knowledge has been incorporated into the study design.

IV. A description of all relevant parameters of the study design:

- Assumptions and limitations that may impact the validity of the results;
- Variable(s) to be measured (i.e., metrics);
- Power analysis used to determine the sample size needed to detect the desired effect size or action levels;
- Sampling frequency;
- Methods and equipment for recording data;
- Maps of sampling locations, transects, etc.;
- Methods for statistical analysis and thresholds for statistical significance; and
- Frequency of in-depth analysis (e.g. some trends or changes may take several years to detect; therefore in-depth analysis would not be required on an annual basis).

V. Reporting frequency and process for periodic review of results if not otherwise identified elsewhere in the WMMP (i.e., Section 10 - Reporting Protocols).

VI. A description of how the data obtained from the program will be used to inform the need for a management response such as improved monitoring design, new or modified mitigations, development or revision of a threshold or response framework. Such a description could either be included here, or in a dedicated Adaptive Management section according to the guidance herein under Section 9 – Adaptive Management. It is the developer's responsibility to review the data collected and use the information to improve and adapt their programs.

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8) SUPPORT FOR RESEARCH or CUMULATIVE EFFECTS ASSESSMENT, MONITORING OR MANAGEMENT INITIATIVES

For developments that trigger paragraph 95(1)(d) of the *Wildlife Act* and require a Tier 3 WMMP, this section provides a description of participation in or contribution to research programs, species-based collaborations or cumulative impacts initiatives that are not strictly tied to testing project-specific effects predictions but which contribute to the overall understanding and management of cumulative impacts (e.g. participation in a regional monitoring program, or financial/in-kind contributions to monitoring/research programs or cumulative impact management initiatives led by other parties such as government, communities or academia). Developers are encouraged to work in collaboration with Indigenous governments and organizations, renewable resource boards, communities and/or academics.

9) ADAPTIVE MANAGEMENT

This section provides a description of the structured response frameworks that the developer will use to link its monitoring results to its management responses. It includes identification of how the monitoring results may be incorporated into improving monitoring protocols, mitigation measures taken or other management responses for each type of monitoring the operator proposes. This section will describe what the management response will be when monitoring results indicate that impacts to wildlife or habitat have exceeded predictions, predefined action levels or thresholds. Where appropriate a series of tiered action levels can be defined. For example, at lower action levels, an appropriate response could be to increase monitoring intensity and/or begin to identify mitigation options. At higher levels, further investigations into sources of the problem and implementation of more intensive mitigation measures could be appropriate. Action levels for wildlife effects monitoring would largely be established during or following EIA or be based on guidelines, species management, recovery or range plans, regulations or engagement.

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This section should identify:

- The objective in terms of the impact to be mitigated;
- The key mitigation strategies;
- The metrics to be collected;
- Action level(s) with rationale for their selection; and
- Management responses appropriate to each action level.

This information could be presented as text or in a table format. An example is provided in Table 2. If using a table to present this information, developers may choose to combine Tables 1 and 2.

Table 2: Example adaptive management summary table.

Objective	Mitigation Strategies/Monitoring Approach	Metrics	Action Levels	Management Responses
To prevent wildlife attraction and habituation	Routine surveillance to identify wildlife presence on site	Number of days that a wolverine/fox/bear is detected at development site	Level 1: wildlife observed for two consecutive days	• Increase frequency of surveillance or change method of monitoring (i.e., remote cameras)
			Level 2: Wildlife observed for five consecutive days	• Investigate all sources of attractants • Review waste management protocols • Secure waste management structures/areas • Survey development area for potential denning sites
			Level 3: Persistent wildlife on site	• Contact ENR to discuss options to address the issue including possible

				relocation options. • Increase frequency of waste stream inspections
	Minimize attractants at landfill	Number of waste stream inspections showing evidence of improper waste disposal or storage	Level 1: Two consecutive weekly landfill or disposal bin inspections showing evidence of improper food waste disposal	• Increase monitoring frequency to twice weekly. • Review waste management protocol
			Level 2: Two of next six waste stream inspections show evidence of improper food waste disposal	• Implement communications program to workers to educate on proper disposal

10) REPORTING PROTOCOLS

Describe the procedure, format and frequency for reporting on implementation of the WMMP. Describe how data will be stored and managed and with whom it will be shared. Describe who reports will be shared with, the process for review of the reports, and how feedback will be incorporated into the WMMP.

The schedule for submitting such reports depends on the type of information that is being reported on:

- All developers are expected to immediately report wildlife incidents (e.g wildlife injury/mortality, use of deterrents, threats from wildlife to human safety or property) to ENR and other appropriate wildlife authorities (i.e., Environment and

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Climate Change Canada for migratory birds and federally managed species at risk). Reporting procedures should be outlined in SOPs for wildlife incidents.

- Developers are required to submit wildlife sighting data to WMIS on an annual basis at minimum. More frequent reporting may be required in specific cases, such as if concerns about impact magnitude, mitigation effectiveness or non-compliance to regulations arise. Data collected under other wildlife monitoring programs conducted as part of the WMMP can be submitted to WMIS as well. Developers can indicate whether the data can be made publicly available, only for use by the GNWT, or if the developer should be contacted directly by users requesting the data. Contact WMISTeam@gov.nt.ca to discuss the best way to submit your data.
- Short-term developments (≤5 yrs.) are expected to provide a summary WMMP report at closure. More frequent reporting may be required by GNWT if concerns about impact magnitude, mitigation effectiveness or non-compliance with wildlife regulations arise.
- The WMMP for long-term developments (>5 yrs.) will outline a schedule indicating the frequency with which summary reports and more detailed comprehensive reports will be required throughout the life of the development.

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- Data collected under other wildlife monitoring programs or research projects conducted as part of the WMMP can be submitted to WMIS as well. Developers can indicate whether the data can be made publicly available, only for use by the GNWT, or if the developer should be contacted directly by users requesting the data.
- GNWT highly recommends that developers take explicit steps to share the results of monitoring conducted under the WMMP with affected Indigenous governments, organizations and communities.

*A **summary report*** should include the results of mitigation monitoring, wildlife incidents, a discussion of the effectiveness of mitigation, lessons learned and unpredicted impacts, proposed changes to mitigation measures or monitoring protocols and changes made to mitigation approaches or monitoring protocols during the reporting period. Status updates

of larger effects monitoring programs, participation in regional monitoring, research or cumulative effects (CE) initiatives should be included where applicable. For most projects, unless otherwise indicated by the GNWT, summary reports should be provided annually.

Comprehensive reports will include more substantive analysis of effects monitoring programs and could include discussion of accuracy of predictions, success of mitigation measures, findings of special studies or research, new measures implemented through adaptive management, and recommendations for the next monitoring cycle. Traditional knowledge studies that have been supported, collaborated upon or made available for the developer to share could be summarized, along with explanations of how the information has influenced mitigation. While reporting requirements and protocol review for regional programs will typically be determined collaboratively by parties involved in these programs, inclusion of information on these programs can be included if it is available. Because of the level of detail in comprehensive reports, they will be required less frequently than summary reports, usually with a frequency of every two to five years. The schedule for submitting such reports will be determined on a case by case basis in collaboration with ENR and will depend on the specifics of the monitoring program and the type of information collected.

Spatial Data: Developers of all types and sizes of project shall submit geospatial data files and reporting on annual changes and final footprint size to contribute to the understanding of disturbance on the land.

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Table 3: Where to submit data and WMMP reports.

Information Type	Where to submit	Timing/Frequency	Notes
Wildlife incidents	Regional ENR office	Immediately	See Appendix 1 for contact information
Wildlife sightings **Monitoring data**	ENR Wildlife Management Information System (WMIS)	At least annually	WMISTeam@gov.nt.ca
Summary Report	ENR Regional office ENR Wildlife Division HQ Land and Water Board Registry CIMP Discovery Portal[1]	Short-term projects (≤5 yrs.) – at the end of the project Long-term projects (>5 yrs.) - regular intervals to be defined on a project-specific basis.	See Appendix 4A for contact information http://nwtdiscoveryportal.enr.gov.nt.ca/geoportal/catalog/main/home.page
Comprehensive Analysis Reports	ENR Regional office ENR Wildlife Division HQ Land and Water Board Registry CIMP Discovery Portal[1]	Determined on a project-by-project basis depending on the nature of the studies.	See Appendix 1 for contact information http://nwtdiscoveryportal.enr.gov.nt.ca/geoportal/catalog/main/home.page
Footprint	Land and Water Board Registry	Short-term projects (≤5 yrs.) – at the end of the project Long-term projects (>5 yrs.) – on an annual basis	

BEST PRACTICE

[1] Developers are encouraged to submit their WMMP, monitoring data, and summary and comprehensive reports to the NWT Discovery Portal to ensure such information is publicly accessible and contributes to the broader body of NWT environmental monitoring knowledge. For further information about the NWT Discovery Portal visit:

http://nwtdiscoveryportal.enr.gov.nt.ca/geoportal/catalog/main/home.page

11) ROLES AND RESPONSIBILITIES

Provide information on who within the company is responsible for implementation of specific actions contained in the WMMP. This may be provided under the various sections of the WMMP or within an individual section.

12) LITERATURE CITED

Provide a list of literature cited throughout the WMMP.

13) GLOSSARY

Provide definitions of terms and acronyms used throughout the report.

14) APPENDICES

1. SOPs.
2. Monitoring forms/data collection sheet template(s).
3. Reporting forms template(s).
4. WMMP revisions tracking table.

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APPENDIX 1: Government of the Northwest Territories Contact Information (Jan 2018)

Wildlife Division
Wildlife Biologist (Environmental Assessment)
Environment and Natural Resources
PO Box 1320
Yellowknife, NT X1A 2L9
(F) 867-873-0293
(E) wmmp@gov.nt.ca

Inuvik Region
(Includes Inuvialuit Settlement Region and Gwich'in Settlement Area)
Manager, Wildlife Management
Inuvik Region
Environment and Natural Resources
Government of the Northwest Territories
Box 2479
Inuvik, NT X0E 0T0
(E) Marsha_Branigan@gov.nt.ca
(P) 867-678-6670
(F) 867-678-6659

Sahtu Settlement Area
Manager, Wildlife Research and Monitoring
Sahtu Region
Environment and Natural Resources
Government of the Northwest Territories
PO Box 130
Norman Wells, NT X0E 0V0
(E)
(P) 867-587-3507
(F) 867-587-2204

Dehcho Region
Manager, Wildlife Research and Monitoring
Dehcho Region
Environment and Natural Resources
Government of the Northwest Territories
PO Box 240
Fort Simpson, NT X0E 0N0
(E) Nic_Larter@gov.nt.ca
(P) 867-695-7475
(F) 867-695-2381

North Slave Region
Regional Biologist
Environment and Natural Resources
Government of the Northwest Territories
PO Box 2668
Yellowknife, NT X1A 2P9
(E) Dean_Cluff@gov.nt.ca
(P) 867-767-9238 ext. 53254
(F) 867-873-6230

South Slave Region
Manager, Wildlife Research and Monitoring
South Slave Region
Environment and Natural Resources
Government of the Northwest Territories
PO Box 390
Fort Smith, NT X0E 0P0
(E)Allicia_Kelly@gov.nt.ca
(P) 867-872-6408
(F) 867-872-4250

APPENDIX 2: Template for a Tier 1 WMMP

1. Instructions

This template has been provided to assist developers in preparing a basic WMMP that can outline how impacts to wildlife and wildlife habitat will be mitigated and monitored. It is a best practice for a basic WMMP to be included with a project description. For developments that trigger the requirements for a Tier 1 WMMP as per subsection 95(1) of the *Wildlife Act* and Section 2.3 of this document, this template will assist the developer in creating a WMMP that meets the content requirements of subsection 95(2) of the *Wildlife Act*.

- Fill in appropriate sections using plain language to the best of your ability given project plans to date.
- Submit completed WMMP template to the appropriate Land and Water Board (LWB) with application for authorization.
- Revise WMMP according to requirements of GNWT and Indigenous governments and organizations, LWB authorization terms and conditions, or other reviewer comments.
- If a WMMP is required for your project, submit an updated plan for review and approval to ENR as soon as possible following the issuance of authorizations for the project.

2. Project Description

Provide a basic, plain language overview of the proposed development including:

- Location, infrastructure, access, and anything else you may feel is relevant to share to better help external parties to understand the scope of the project.
- Map(s) of the project location, including a detailed map(s) of the project footprint.
- Project schedule or timeline.

3. Wildlife Species and/or Habitat Features of Concern

Identify, to the best of your ability, species or habitat that may be impacted by your project. For species at risk, include their assessment and listing status under the federal *Species at Risk Act* (SARA), Committee on the Status of Endangered Wildlife in Canada (COSEWIC), territorial *Species at Risk (NWT) Act*, and/or NWT Species at Risk Committee (SARC), if applicable.

To better understand which species may occur in their project area, developers are encouraged to submit a data request for wildlife point data within the vicinity of their project area from WMIS at www.enr.gov.nt.ca/programs/wildlife-research/requesting-wmis-data.

4. Project Impacts

Describe the potential impacts (direct and indirect) of the project to wildlife and/or wildlife habitat identified in Section 3 above. This could include but is not limited to alteration, damage, or destruction of habitat, behaviour or sensory disturbances, wildlife injury or mortality, substances that are toxic or hazardous to wildlife, wildlife attraction and wildlife-human conflicts.

5. Mitigation Program

For each potential impact listed above, list the mitigation measures, design features, policies, procedures or guidelines that will be followed to avoid or minimize the effects to wildlife and habitat. Describe the 'who, what, when, where, why, and how often' for each mitigation. Refer to the guidance documents, data sheet templates and reporting forms provided in the Appendix 4 of this document. Describe:

- General company policies for mitigating impacts to wildlife.
- General mitigation approaches for mitigating impacts (design features, location)
- Any species specific mitigations (i.e., caribou protection measures).

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- Training components for employees and contractors.
- Timing restrictions and/or set back distances to protect wildlife and wildlife habitat features including dens, nests, dwellings etc. (Refer to Tables 2-5 of the Northern Land Use Guidelines: NWT Seismic Operations as a starting point.).
- Wildlife encounters/incident procedures.
- Bear safety protocols.
- Wildlife deterrence methods and procedures.
- Summary of approach to handling wildlife attractants.
- Other related management plans that contain wildlife mitigation (i.e., Waste Management Plan).

Where possible, include SOPs, tracking forms, data sheets or other supporting documentation provided to employees to implement these measures.

6. Mitigation Monitoring Procedures

Please describe monitoring procedures in detail, including but not limited to:

- Regular surveys or inspections to be conducted by project personnel to determine whether mitigations are being implemented as planned and/or are functioning as intended.
- How approaching wildlife will be identified and handled.
- Pre-clearing survey procedures.
- Procedures for identifying nearby wildlife and wildlife habitat features.
- Describe monitoring work to evaluate effectiveness of mitigation on site.
- How will incidental wildlife sightings be recorded and reported.

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7. Reporting

Identify procedures and contacts for reportable incidents and wildlife observations, and how often you expect to report.

8. Roles and Responsibilities

Identify who is responsible for implementing aspects of the plan such as reporting to wildlife authorities, making decisions to alter work or modify mitigations, role of community wildlife monitors, available SOPs, data sheets, contact information etc.

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WMMP Section	Tier 1 WMMP	Tier 2 WMMP	Tier 3 WMMP	Include in WMMP at time of screening application?	Include in final WMMP for ENR approval?
1. **Introduction**		✓	✓		
1.1 **Purpose and objectives of the WMMP**		✓	✓	✓	✓
1.2 **Measures, conditions and developer commitments concordance table**		✓	✓		✓
1.3 **Engagement**	✓	✓	✓	✓	✓
1.4 **Mention of associated operational or management plans**	✓	✓	✓		✓
2. **Project Description**					
2.1 Project Description	✓	✓	✓	✓	✓
2.2 Project Map	✓	✓	✓	✓	✓
3. **Potential Impacts**					
3.1 **Affected species or habitat features**	✓	✓	✓	✓	✓
3.2 **Potential impacts to wildlife and wildlife habitat**	✓	✓	✓	✓	✓
4. **Wildlife and Wildlife Habitat Mitigation**	✓	✓	✓	✓	✓
4.1 **Employee wildlife awareness education and training**		✓	✓	✓	✓
4.2 **Infrastructure design and camp layout for bear safety and/or to prevent denning, nesting and roosting**	✓	✓	✓	✓	✓
4.3 **Management of camp waste and other wildlife attractants**	✓	✓	✓	✓	✓

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WMMP Section	Tier 1 WMMP	Tier 2 WMMP	Tier 3 WMMP	Include in WMMP at time of screening application?	Include in final WMMP for ENR approval?
4.4 **Timing restrictions and/or set back distances to protect wildlife and wildlife habitat features**	✓	✓	✓	✓	✓
4.5 **Direct habitat loss – minimizing the project's physical footprint**		✓	✓	✓	✓
4.6 **Habitat alteration – minimizing physical manipulation of habitat that would decrease its value to wildlife**		✓	✓	✓	✓
4.7 **Indirect habitat loss – minimizing functional habitat loss due to sensory disturbance, dust, etc.**		✓	✓	✓	✓
4.8 **Management of hazards to wildlife (e.g. open pits, tailings ponds, roads, airstrips, spills)**	✓	✓	✓	✓	✓
4.9 **Wildlife deterrence procedures**	✓	✓	✓	✓	✓
4.10 **Habitat restoration**		✓	✓	✓	✓
4.11 **Description of the role of community wildlife monitors in implementing aspects of the plan**	✓	✓	✓		✓
4.12 **Offsetting or compensatory measures**			(✓)		(✓)
5. **Monitoring**					
5.1 **Mitigation**	✓	✓	✓	✓	✓

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WMMP Section	Tier 1 WMMP	Tier 2 WMMP	Tier 3 WMMP	Include in WMMP at time of screening application?	Include in final WMMP for ENR approval?
Monitoring					
5.2 **Wildlife Effects Monitoring**		✓	✓		✓
5.3 **Project Footprint size reporting**	✓	✓	✓	✓	✓
6. **Support for cumulative effects assessment, monitoring or management**			✓		✓
7. **Adaptive Management**		✓	✓		✓
7.1 Description of approach to adaptive management		✓	✓	✓	✓
7.2 Formal response frameworks with action levels		✓	✓	✓	✓
8. **Reporting Protocols**	✓	✓	✓	✓	✓
9. **Roles and Responsibilities**	✓	✓	✓	✓	✓
10. **Literature Cited**		✓	✓	✓	✓
11. **Glossary**		✓	✓		✓
12. **Appendices**					
12.1 **SOPs**		✓	✓		✓
12.2 **Monitoring forms and data sheets**	✓	✓	✓		✓
12.3 **Reporting form templates**	✓	✓	✓		✓
12.4 **WMMP revisions tracking table**		✓	✓	✓	✓

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APPENDIX 4: Procedural Manuals and Data Reporting Templates

Appendix 4A: Bear Occurrence Procedures Manual (2014)

Appendix 4B: Camp Waste & Wildlife Attraction Manual (Fall 2014)

Appendix 4C: Wildlife Sighting Log

Appendix 4D: Wildlife Incident Reporting

Appendix 4E: Access/Road Wildlife Observations

Appendix 4F: Access/Road Wildlife Observations

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Appendix 4.

APPENDIX 4: Procedural Manuals and Data Reporting Templates

Appendix 4A: Bear Occurrence Procedures Manual (2014)

Appendix 4B: Camp Waste & Wildlife Attraction Manual (Fall 2014)

Appendix 4C: Wildlife Sighting Log

Appendix 4D: Wildlife Incident Reporting

Appendix 4E: Access/Road Wildlife Observations

Appendix 4F: Sample Standard Operating Procedure

Appendix 4A.

2014

Bear Occurrence Procedures Manual

Photo by Dean Cluff/ENR

Environment & Natural Resources

Appendix 4A.

Northwest Territories Environment and Natural Resources

Bear Occurrence Procedures Manual

Implementation of these procedures will allow ENR a greater ability to provide advice and assistance in preventing harm to humans, bear(s) or property. In addition, it will provide guidance on safely deterring bears that find themselves in areas of development, tourism camps or cabins with the aim of preventing habituation and unnecessary destruction.

Report any incidents such as sightings, encounters, injuries and/or mortalities to the ENR. The GNWT Phone Directory can be found at http://rdirectory.gov.nt.ca/rDirectory.aspx. Regional contacts are listed below:

North Slave Region

Wildlife Emergency	(867) 873-7181 (24 Hours)
Yellowknife	(867) 767-9238 ext. 53461
Fax:	(867) 873 - 6230

South Slave Region

Wildlife Emergency	(867) 872 - 0400 (24 Hours)
Fort Smith	(867) 872 - 6400
Fax:	(867) 872 - 4250

Inuvik Region

Wildlife Emergency	(867) 678 - 0289 (24 Hours)
Inuvik	(867) 678 - 6650
Fax:	(867) 678 - 6659

Sahtú Region

Wildlife Emergency	(867) 587 - 2422 (24 Hours)
Norman Wells	(867) 587 - 3506
Fax:	(867) 587 - 3516

Dehcho Region

Wildlife Emergency	(867) 695 - 7433 (24 Hours)
Fort Simpson	(867) 695 - 7450
Fax:	(867) 695 - 2381

BEAR AWARENESS TRAINING

ENR supports the NWT Mine Health and Safety Regulations (s.15.05), which requires that all field personnel involved in mineral exploration undertake bear-safety training. However, human/wildlife incident prevention is a key component to the training.

Appendix 4A.

Training of personnel in preventing and responding to wildlife incidents can reduce the likelihood of injury to personnel and wildlife. Therefore, all field personnel working on the project must receive bear awareness training, preferably from a professional trainer.

The training should include:

1. Recognizing the causes of human/wildlife conflicts;
2. How to prevent and respond to bear incidents;
3. Proper storage, transfer and disposal of camp waste; and
4. Proper use and safe application of deterrents.

INCIDENT PREVENTION

Refer to the ***Camp Waste and Wildlife Attraction Guideline.*** This resource provides guidance on how to minimize or prevent attraction from bears to your camp, cabin or work site.

OCCURRENCE RESPONSE

Small scale exploration and tourism camps should develop and implement Bear Incident Standard Operating Procedures (SOPs) that can be used in the field. The SOPs will allow all members on site to have knowledge of how to minimize or prevent any loss of life or property if there is a bear within the vicinity of your camp area or work site. SOPs may include such things as:

a) Response team
b) Equipment
c) Action level
d) Emergencies
e) Reporting Requirement

1. ***SIGHTING - Bear in the general vicinity (>1km)***
   1. If it is within sight of your camp/cabin and it is safe to do so, use a ***Wildlife Sightings Log*** to record and report information regarding your observations.
   2. Continue to monitor, if necessary.

2. ***ENCOUNTER - Bear In Camp (<1km)***
   1. If safe to do so; take a quick note of the location, direction of travel and general behaviour of the bear(s).
   2. Sound the bear alarm.
   3. If necessary, phone the ENR Regional contacts listed above for guidance on necessary next steps to ensure human/wildlife safety and protection of property.
   4. If necessary, stay indoors or in your vehicle. **DO NOT APPROACH THE BEAR.**
   5. Keep all doors and windows closed.
   6. If necessary and safe to do so; continue to monitor the behaviour and movement until either the bear leaves on its own, deterrence is successful or response personnel arrive.
   7. If possible, start deterrence procedures.
   8. Report status of bear encounter to the ENR Regional contacts listed above when safe to do so.

Appendix 4A.

3. ***Injury***
   1. Any injuries a bear may have obtained from direct or indirect contact with the camp or persons must be reported to the appropriate ENR Regional contact listed above.

4. ***Mortality***
   1. A bear may be destroyed if human life is in danger or destruction of property is imminent.
   2. Under the NWT Wildlife Act, mortalities must be reported to the appropriate ENR Regional contact listed as soon as is practicable. In some cases, the responsible party may be asked to:

      a) Skin the bear leaving the claws and head attached.
      b) Preserve the hide by freezing and/or salting it and store it in a cool place. Turn in the hide, the skull, evidence of sex and any other biological samples requested when filing the report to the nearest ENR Regional office or to an ENR Renewable Resource Officer.

If or when possible, the attached ***Bear Occurrence Checklist*** should be completed prior to calling ENR. It is critical that as much information as possible be provided in order for ENR to provide appropriate advice and guidance.

DENNING BEARS

A. For exploration camps, if a bear is located in, at or near a den site, work in the area must halt. All employees should safely retreat from the area and report the incident to the Site Supervisor and/or Wildlife Monitor and the appropriate ENR Regional contact listed above for further advice and assistance.

B. For cabin owners, if a bear is located in, at or near a den site, safely retreat from the area and report the incident to the appropriate ENR Regional contact listed above for further advice and assistance.

C. Staff from ENR will be required to assess the den site and may implement measures to ensure both human safety and that the bear(s) remain undisturbed. This may include the establishment of a buffer zone of at least 300 meters around the den.

D. Work inside the buffer zone may not be permitted until after den emergence.

Office Use Only
File#:

Appendix 4A.

Environment & Natural Resources (ENR) Bear Occurrence Checklist

- Fill out or check all that apply

1. **Complainant Details:**				
Name, job title and affiliation:				
Contact information:				
Location of complainant: *(coordinates, lake or property name)*				
Other on-site contact information: *(wildlife monitors/site supervisors)*				
2. **Bear Occurrence Details:**				
Date/Time:		**Location:** *(coordinates, lake or property name)*		
Type of bear occurrence:	◻ sighting	◻ encounter	◻ injury	◻ mortality *Ear tag/tattoo #*
	◻ Other, explain:			
Number of bears:		**# of cubs**		
Type:	◻ black	◻ grizzly	◻ unknown	
Sex :	◻ male	◻ female	◻ unknown	
Age Class:	◻ cub (<1)	◻ juvenile	◻ adult	◻ unknown
Behaviour:	◻ fearful	◻ not fearful	◻ aggressive	◻ other
General Observations	◻ moving toward site	◻ moving away from site	◻ at site	
Other observations: *(i.e. walking, resting, eating, mortality, injury, den site, number of cubs, etc.)*				
Has bear(s) been involved in a previous incident:	◻ No ◻ Yes	**If yes, explain:**		
Did the bear obtain a reward	◻ No ◻ Yes	**If yes, explain:**		
Any property damage or loss of life:	◻ No ◻ Yes	**If yes, explain:**		

Appendix 4A.

3. **Detection/Deterrent:**				
Detection system on site:	◻ Alarm	◻ Dog	◻ Motion detector	◻ Other:
Deterrence on site:	◻ Bear boards	◻ Auditory *(Yelling/Flares/Alarm/Horn/Bell/ Whistle/Cracker shells)*	◻ Projectile *(Rubber Bullets/Firearms)*	
	◻ Electric Fence	◻ Chased *(Dog, vehicle)*	◻ Other:	
Was deterrence used:	◻ No ◻ Yes	**Explain:**		
Was the deterrence successful:	◻ No ◻ Yes	**Explain:**		
Present status of bear with dates:	◻ at large	◻ captured	◻ deterred	◻ other

4. Additional Comments	

Appendix 4B.

Fall 2014

Camp Waste & Wildlife Attraction Manual

To prevent or minimize attracting wildlife and to discourage wildlife habituation Environment & Natural Resources (ENR) strongly encourages that the recommendations listed below be implemented to ensure human safety and to protect our natural environment, including wildlife at a camp or cabin. This manual is intended for small scale campsites and recreational cabins however there are components that may be applied to larger scale operations. Examples of small scale camps include:

- Exploration camps
- Tourism outfitters & commercial companies
- Residential & recreational cabin owners

Camp Design

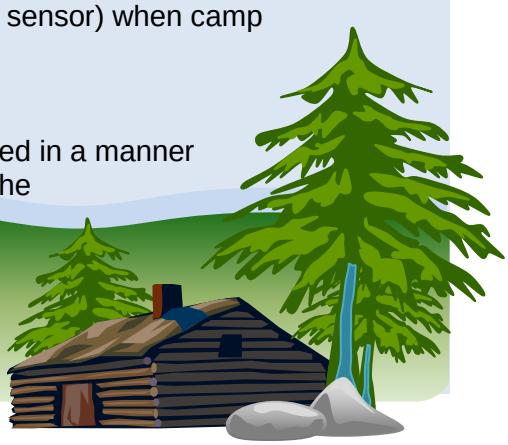
To prevent wildlife from accessing a camp/cabin and discourage habituation, a camp/cabin should be situated away from known or possible bear activity (previous camp/cabin, berry patches, dens, etc.) and designed in a manner that eliminates or minimizes the potential for human and wildlife interaction.

- Clear brush to increase visibility and eliminate blind spots.
- Kitchen, latrine, food/waste storage, incinerator, composting site and garden should be at least 50 meters from sleeping area.
- Temporary cooking areas should be located down-wind from the sleeping area.
- All structures should be well spaced and the sleep tents or trailers arranged in a line rather than circular with doors facing the kitchen.
- There should be no food or cooking in the sleeping area.
- Properly install and maintain an electric fence around the camp or at minimum around incinerator, composting site and garden.
- Install skirting around infrastructure that extends approx. 1m+ underground to prevent wildlife tunneling.
- Whenever possible, keep doors and windows closed, cover openings/crawl spaces, seal cracks, screen chimney caps and place spikes or tacky gel to prevent nesting.
- Install shutters on windows and use bear boards when camp not in operation.
- Consider installing noise deterrent (i.e. “Critter Gitter” motion sensor) when camp is not in operation.

Food Storage

Amount of food at each camp/cabin will vary but food should be stored in a manner that will eliminate any food rewards if wildlife was to gain access to the camp/cabin.

- Store all food in the kitchen or in a central location that is at least 50 meters away from the sleeping area.
- Cooking and eating area(s) should be thoroughly cleaned



after every meal (including BBQs).

- If the camp is to become vacant for more than a week, food should be stored in sealed animal proof container.
- Do not feed wildlife including bird feeders that may also attract wildlife to the camp area.

Domestic Waste

Inadequate storage, lack of onsite treatment and/or improper disposal of domestic waste (food & food contaminated waste) are the most common activities that contribute to the release of odours which may result in human/wildlife conflicts.

- Purchase bulk products to minimize amount of domestic waste produced.
- Implement a camp waste segregation system (recyclables, combustible, non-combustible and hazardous wastes) appropriate to the volume of waste produced.
- Domestic waste should not be stored in plywood boxes or in sheds as odours tend to permeate the wood and linger. Waste should be stored in a central area in a sealed animal proof container until final disposal.
- The sealed animal proof containers should be cleaned daily with bleach.
- Non-combustibles such as metal, glass and plastic should be cleaned with bleach and stored in a manner not to attract wildlife until transported back to an approved facility.
- Burying domestic waste is ineffective; the preferred method of disposal is backhauling domestic waste to an approved facility such as an approved landfill or bottle depot in a timely manner.

Burning/Incineration

Burning/incineration is not recommended and should be considered only as a last resort when alternative methods of storage and removal off-site are not feasible. There are hazards associated with this method that may still result in wildlife attraction, forest fires and air contamination.

- Designate a person or trained staff member to be responsible for the daily duties involved with burning/incineration.
- For cabins and small scale exploration camps, burning in a “modified burn barrel” is strongly recommended for a more timely disposal for cabin/camp waste. Each burn barrel can accommodate ~10 people or less.
    - To ensure a high temperature and complete burn, ENR suggests that there be approx.1/3 wet with 2/3 dry waste per bag;
    - Burn a maximum of two bags per day; and
    - Install a fine screen on the chimney for reducing sparks.
- Larger scale exploration camps require a commercially-designed forced air, fuel-fired incinerator capable of meeting the Canada-Wide Standards (CWS) for Dioxins and Furans. (CCME 2001), CWS for Mercury Emissions (CCME 2000) and the NWT Ambient Air Quality Guidelines.
- Camp waste suitable for open burning is untreated wood, paper and cardboard. A permit to burn will be required if burning during the closed season (May 1 - Sept 30).

Appendix 4B.

- Ensure that the fire is being monitored and is completely out before leaving it unattended.
- Residual waste such as ash needs to be collected, stored in a sealed animal proof container and transported back to an approved facility site for disposal.

Grey Water (dishes, showers, laundry, etc.)

- Bleach should be added to dish water and/or a grease trap installed.
- Dispose of in a natural depression/sump/pit a minimum of 30 meters from the high water mark.
- Disposal site should be covered and treated with lime or crystal lye daily.

Black Water (Sewage)

- Honey bags are stored in a manner that is inaccessible to wildlife and transferred to an approved facility for disposal in a timely fashion.
- Ensure that pits have sufficient depth and are treated with lime or crystal lye daily.

Animal/Fish Parts

- As per the Government of Canada Northwest Territories Fishery Regulations fish entrails are not permitted to be disposed of on ice nor in the water.
- Clean away from camp and dispose of entrails a minimum of 3km away from camp area and on an island, if possible.
- Any surface used for cutting or cleaning should be cleaned immediately with bleach.
- Do not leave smoking/drying fish or meat unattended. It must be kept at least 50m away from the sleeping area. Hanging meat should also be at least 50m from the sleeping area.

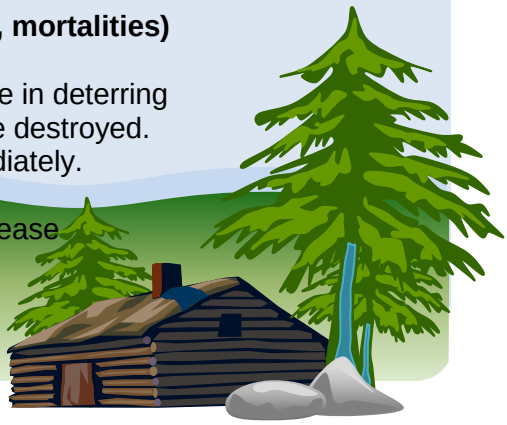
Other Attractants

- Both the cooking (kitchen, fire pits, BBQs) and eating area(s) should be thoroughly cleaned after every meal.
- Don't leave bloody hunting clothes/items that smell like fish near the sleeping area.
- Pet food should be stored indoors in a sealed animal proof container and pets should be fed indoors, if possible.
- Oils, gas or grease should be stored in a manner that is inaccessible to wildlife.

Reporting Wildlife Occurrences (sightings, encounters, injuries, mortalities)

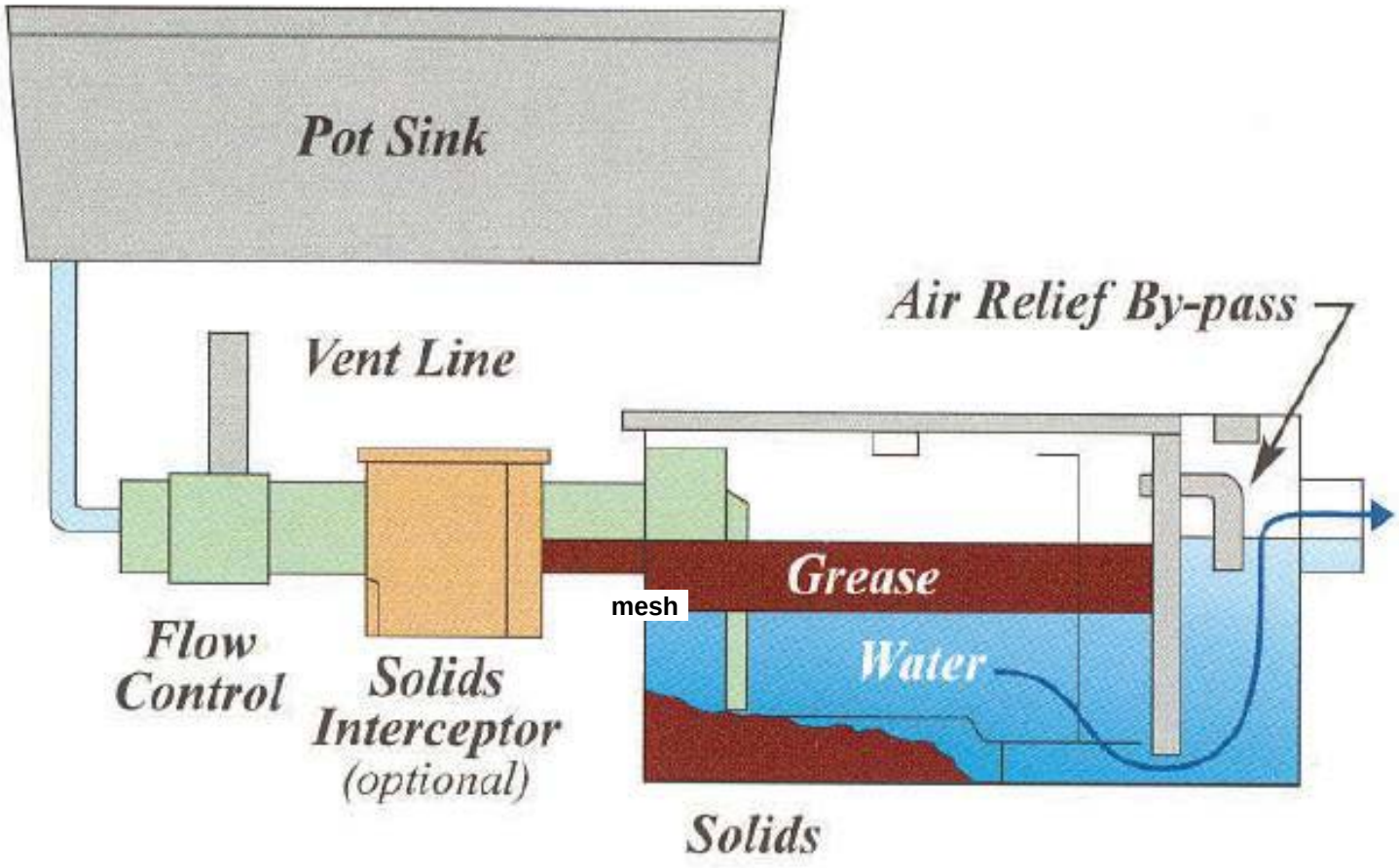
- Occurrences should be reported at your earliest opportunity.
- Timely reporting allows ENR to provide advice and assistance in deterring nuisance wildlife before they become habituated and must be destroyed.
- Any defence of life and property kills must be reported immediately.

If you have additional questions, a report to file, or an emergency, please contact your Regional ENR office.

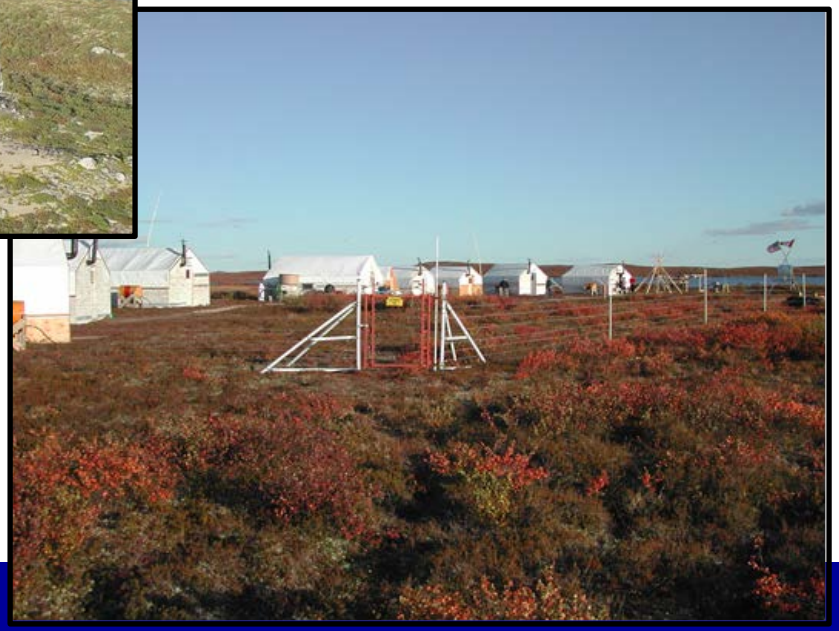


Appendix 4B.

GREASE TRAP



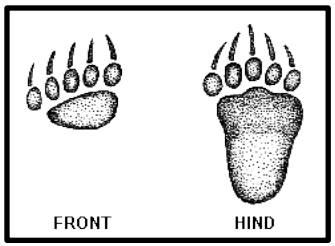
Appendix 4B.

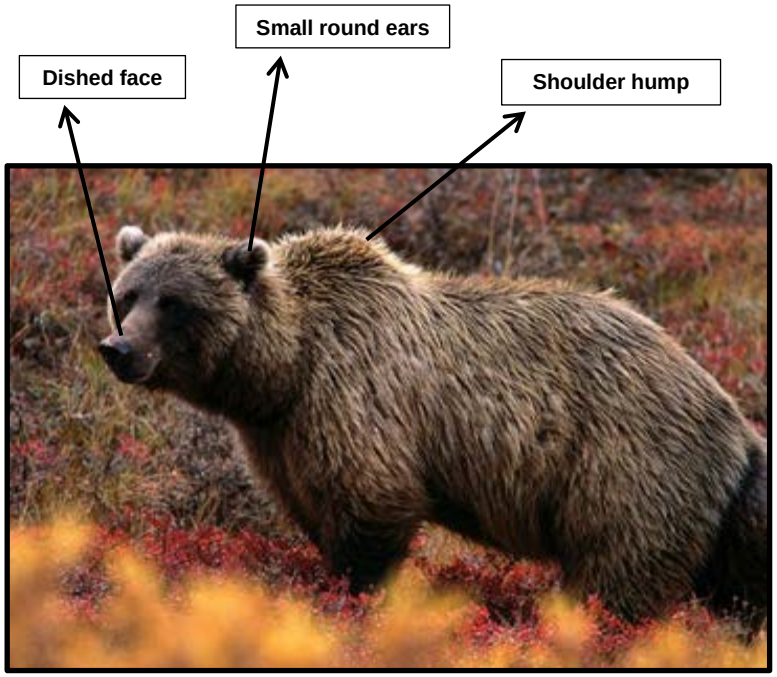


Appendix 4B.

GRIZZLY BEAR

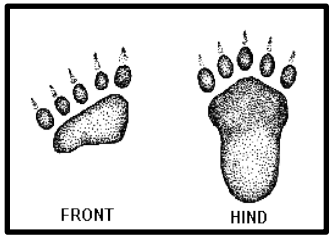
2 – 4” long, light claws

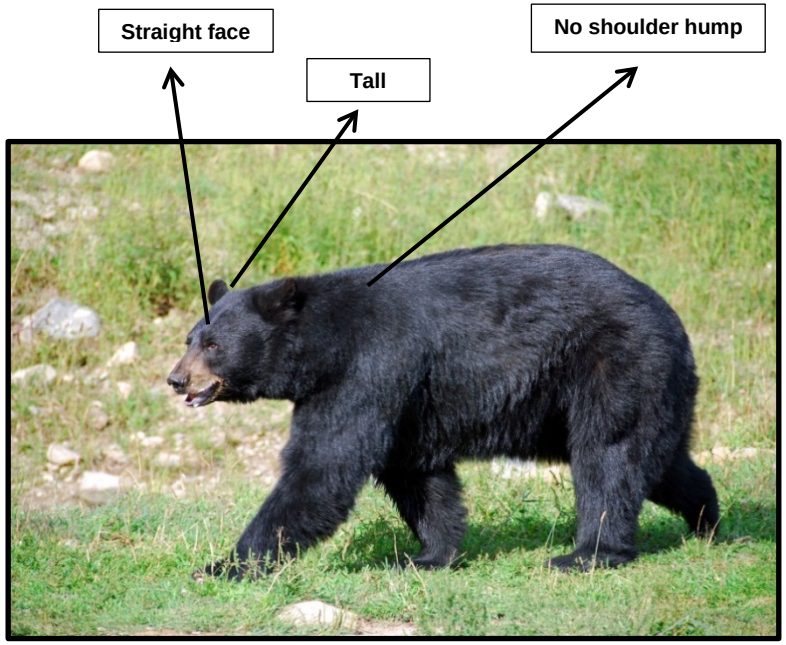




BLACK BEAR

1 ½” short, dark claws





Appendix 4C.

Northwest Territories Environment and Natural Resources

Wildlife Sightings Log

Animal Species:

Number Seen: (exact or estimated)

Location: (Be as specific as possible - GPS coordinates or mark on a map)

Date: (MM/DD/YYYY)

Time of Day: (AM/PM)

What was it doing when you saw it:
(E.g. "running south along the road, then into the bush on the west side" is better than "running")

Other Comments/Interesting Markings:
(Anything interesting about the sighting – feeding, did the animal appear to have a limp, Etc?)

Name of Person(s) who saw it and contact information:

Please Return to:

Regional Biologist
Regional Environment & Natural Resources Office
Government of the Northwest Territories

Appendix 4D.

Northwest Territories Environment and Natural Resources

WILDLIFE INCIDENT REPORTING

Application and Scope:

The following is intended as a guideline to identify wildlife that requires immediate reporting and sampling (if necessary) from exploration camps and mines. This is not intended to cover every possible scenario.

1. ENR encourages all those conducting activities on the land or residents to record and report all instances of injury or possibility of disease in wildlife.

2. As per *Section 39 (2) of the Wildlife Act,* any defense of life and property kills must be reported without delay to ENR. All reasonable efforts must be made to ensure the hide and other valuable parts do not spoil and that these are turned over to an ENR Officer to avoid any wastage.

Notification Procedures:

1. *When to Report Wildlife*

    - Anytime wildlife is determined to be injured.
    - Anytime wildlife is suspected of being diseased.
    - Anytime wildlife is found dead.
    - Anytime there is the potential for human/wildlife conflict such as an occupied bird nest or wolf or bear den.
    - Anytime wildlife was deterred from camp.
    - Anytime there is a defensive kill.
    - Anytime property is destroyed.

2. *What information should be collected and reported upon initial observations:*

    - Record the following information
        i. Fill out the **Wildlife Incident Record Form**
        ii. When known, include details on the incident such as:
            1. Behaviour and movements
            2. Loss of life or property
            3. Reason for attraction to area
            4. Estimation of how long the animal was dead
            5. Any other animals seen in the area

    - Photographs (wildlife mortality)
        i. Add photo name/label
        ii. General area

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iii. Animal (one from each side, head, and tail)
iv. Anything unusual
v. Any obvious injuries or marks

3. *Who to Contact*

North Slave Region

Wildlife Emergency	(867) 873 - 7181 (24 Hours)
Yellowknife	(867) 767-9238 ext. 53461
Fax:	(867) 873 - 6230

South Slave Region

Wildlife Emergency	(867) 872 - 0400 (24 Hours)
Fort Smith	(867) 872 - 6400
Fax:	(867) 872 - 4250

Inuvik Region

Wildlife Emergency	(867) 678 - 0289 (24 Hours)
Inuvik	(867) 678 - 6650
Fax:	(867) 678 - 6659

Sahtú Region

Wildlife Emergency	(867) 587 - 2422 (24 Hours)
Norman Wells	(867) 587 - 3500
Fax:	(867) 587 - 3516

Dehcho Region

Wildlife Emergency	(867) 695 - 7433 (24 Hours)
Fort Simpson	(867) 695 - 7450
Fax:	(867) 695 - 2381

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Occurrence Date/Time:
Date Reported:

Northwest Territories Environment and Natural Resources

Wildlife Incident Record

MAIN CONTACT INFORMATION							
NAME:							
ADDRESS:							
PHONE NUMBER:							
Location of Complaint: (ENR office, lake, camp)							
Details Taken by:							
Location of Incident (coordinates, km marker, lake, or camp):							
Type of Incident:	☐ Encounter	☐ Nuisance	☐ Wildlife Mortality	☐ Wildlife Injured	☐ Defensive	☐ Other:	
Species:	☐ Black Bear	☐ Grizzly Bear	☐ Fox	☐ Wolverine	☐ Wolf	☐ Caribou	☐ Bird ☐ Other:
Sex:	☐ Male	**Age Class:**	☐ Adult				
	☐ Female		☐ Juvenile				
	☐ Unknown		☐ Cub				
			☐ Unknown				
Details of Incident: (movement, behaviour, reason for attraction, property damage, etc.)							

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Details of Action Taken: (reporting, deterrence type, disposal, removal of attractant, etc.)

DATE: mm/dd/yy	

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Was the incident resolved?	☐ Yes	☐ No
Has Environment & Natural Resources been contacted? Contact Name:_____ Date/Time Reported:_____	☐ Yes	☐ No

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Northwest Territories

ACCESS/ROAD WILDLIFE OBSERVATIONS

Date	Observer	Species	Number	Location (Km, GPS, lake, etc.)	Comments (sex, age, behaviour, injured, etc.)

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Appendix 4F.

STANDARD OPERATING PROCEDURES			
Organization:	ABC Inc.	**SOP #**	**SOP-ED-001**
Division:	Environment	**Effective Date:**	May 28, 2015
Issued By:	John Doe, Project Manager	**Location/Camp:**	123 Camp
Subject:	**Wildlife Encounters in Camp Vicinity (1km radius of campsite)**		
Revision:	Revision 2	**Replaces:**	Version 1 (May 28, 2014)

Purpose:
The purpose of this SOP is to provide proper protocols and assist camp/field staff in determining the proper mitigation when dealing with wildlife species that enter the camp vicinity in order to protect life and/or the destruction of property.

Scope:
Encompasses all project staff situated at the camp vicinity during the periods of operation over the course of the land use permit and/or lease.

Actions deemed necessary are determined by the Wildlife Monitor (SOP-ED-002).

Responsibility:
- Project Manager is responsible for the development and implementation of the plan.
- Wildlife Monitor:
  - Daily monitoring of wildlife or signs of wildlife within the camp vicinity (SOP-ED-003)
  - Daily communication with all field staff regarding wildlife encounters (SOP-ED-004)
  - Provide awareness training for all field staff (SOP-ED-005)
  - Ensure that proper actions are taken to prevent loss of life or property during wildlife encounters (SOP-ED-006)
  - Report encounter to Environment and Natural Resources (ENR) (SOP-ED-007)
- Field Staff:
  - Complete awareness and prevention training (SOP-ED-005),
  - Report any wildlife encounters within the camp vicinity to the Wildlife Monitor (SOP-ED-007)

Procedure:

	Steps
1	If safe to do so; record details involving the wildlife species within the campsite area.
2	Notification to all field staff that wildlife species that may pose a threat to the campsite have been encountered within the camp vicinity. (SOP-ED-008)
3	If necessary, report to ENR regional office for guidance on necessary next steps to ensure human/wildlife safety and protection of property. Continued reporting to ENR regional office may be required depending on the status of the wildlife encounter.
4	DO NOT APPROACH WILDLIFE
5	If necessary, keep all doors and windows in camp and/or vehicles closed until wildlife have left the area.
6	If safe, continue to monitor the behaviour and movement until the wildlife is no longer a threat (SOP-ED-009).
8	If necessary, refer to standard operating procedures for Wildlife Deterrence (SOP-ED-010) Injured Wildlife (SOP-ED-011), Wildlife Mortality (SOP-ED-012) or Destruction of

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	Property (SOP-ED-013).

Recording:

- If wildlife have been found within the campsite area the Wildlife Monitor, if safe to do so, fill out the *Wildlife Incident Form* if the wildlife has been determined to be a possible threat to the campsite (i.e. bear) or a Wildlife Sighting Log if determined not to be a threat (i.e. beaver)

Reporting:

	24-Hour Emergency Wildlife @ 867-873-7181 (Yellowknife)
1	All reported wildlife encounters must been investigated by the Wildlife Monitor immediately.
2	When there is a wildlife encounter with a wildlife species and there is a potential for human/wildlife conflict or destruction of property.
3	Anytime deterrence has been used to remove wildlife from the camp vicinity (SOP-ED-010)

Supporting Documents: *(Please attach)*

1	Wildlife Sightings Log
2	Wildlife Incident Reporting

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