

Wildlife & Wildlife Habitat Protection Plan and Wildlife Effects Monitoring Program Guidelines

Department of Environment and Natural Resources WILDLIFE DIVISION

2 **DISCLAIMER**

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These guidelines are intended to assist developers in managing and monitoring impacts to wildlife and wildlife habitat in the Northwest Territories. They are also intended to provide direction and a consistent approach for regulatory authorities with a mandate for environmental protection. Consideration of these guidelines should be supplemented by local research, traditional knowledge, and professional expertise and advice obtained from appropriate regulators.

10

These guidelines do not replace acts, ordinances, regulations or the terms and conditions of regulatory authorizations. Although every attempt has been made to provide up-to-date information, it remains the proponent'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 Aboriginal governments. No part of these guidelines are intended to infringe on asserted or established Aboriginal or Treaty rights to harvest.

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52 ACRONYMS

CE	Cumulative Effects
CEA	Cumulative Effects Assessment
CEAMF	Cumulative Effects Assessment and Management Framework
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EIR	Environmental Impact Review
EIRB	Environmental Impact Review Board
EISC	Environmental Impact Screening Committee
ENR	Department of Environment and Natural Resources
GNWT	Government of the Northwest Territories
IFA	Inuvialuit Final Agreement
ISR	Inuvialuit Settlement Region
LSA	Local Study Area
MOU	Memorandum of Understanding
MVRMA	Mackenzie Valley Resource Management Act
MVEIRB	Mackenzie Valley Environmental Impact Review Board
NWT	Northwest Territories
RSA	Regional Study Area
SOP	Standard Operating Procedure
VEC	Valued Ecosystem Components
WEMP	Wildlife Effects Monitoring Program
WWHPP	Wildlife and Wildlife Habitat Protection Plan

54 **1.0 INTRODUCTION**

55

The Government of the Northwest Territories (GNWT) promotes and supports the 56 sustainable use and development of natural resources to protect, conserve and enhance the 57 Northwest Territories (NWT) environment for the social and economic benefit of all 58 residents. This responsibility is shared with Aboriginal, federal, and municipal governments, 59 boards and agencies and every resident of the NWT. The GNWT is responsible for the 60 conservation and management of wildlife and wildlife habitat in the NWT and works with co-61 management partners in fulfilling this mandate. As part of its responsibility for wildlife 62 resources, the Department of Environment and Natural Resources (ENR) provides 63 regulations and advice to industry on minimizing the impacts of development on wildlife and 64 wildlife habitat. 65

66

67 During screening or environmental assessment of development projects, proponents are usually required to assess the potential impacts of their operations on wildlife and wildlife 68 habitat and to identify mitigation measures to avoid or minimize these potential impacts. As 69 part of the regulatory process, proponents may be required to implement specific mitigations 70 and monitoring programs through specific measures identified by environmental impact 71 review boards¹ or through terms and conditions included in water licences and land use 72 permits issued by the regional land and water boards². Additional commitments made by 73 proponents towards mitigation and monitoring can also be included in environmental 74 agreements and memorandums of understanding (MOUs) established with Aboriginal, 75 76 territorial, or federal governments.

77

The new *Wildlife Act* (NWT), passed in November 2013, makes the completion of wildlife management and monitoring plans a requirement for operators of industrial projects likely to: 1) result in a significant disturbance to big game or other prescribed wildlife; 2) substantially alter, damage or destroy habitat; 3) pose a threat of serious harm to wildlife or habitat; or 4) significantly contribute to cumulative impacts on a large number of big game or other prescribed wildlife, or on habitat. This new Act will come into force in 2014.

84

Development and adherence to plans that comprehensively capture wildlife and wildlife habitat mitigation and monitoring requirements for development projects can assist proponents in ensuring their operations minimize impacts to wildlife and wildlife habitat and in addressing public concerns.

¹ Mackenzie Valley Environmental Impact Review Board in the Mackenzie Valley or the Environmental Impact Review Board in the Inuvialuit Settlement Region.

² The regional land and water boards include the Mackenzie Valley, Sahtu, Wek'eezhii, and Gwich'in Land and Water Boards.

91 1.1 Definitions

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93 Adaptive Management

Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. ³. The term is commonly thought of as "learning by doing".

- 97
- 98 Environmental Impact Assessment

99 The term 'environmental impact assessment' is meant to encompass preliminary 100 screenings, environmental assessments, environmental impact reviews or joint panel 101 reviews.

102 Guidelines

103 Guidelines are instructional documents that provide guidance or describe best practices on 104 how to act in a given situation without being legally binding.

- 105
- 106 Habitat

The area or type of site where a species or an individual of a species of wildlife naturally occurs or on which it depends, directly or indirectly, to carry out its life processes

110 Local Study Area

111 Local study area or LSA means the area surrounding and including the project footprint,

where there is reasonable potential for immediate environmental impacts due to ongoing project activities. The LSA is usually defined during the environmental assessment of a project.

- 115
- 116 Regional Study Area

117 Regional study area or RSA means the area where there is the potential for broad-scale 118 impacts on wildlife and wildlife habitat, including cumulative effects, and that will be relevant 119 to the assessment of any wider-spread effects of the project. For example, the regional 120 study area may be defined by the range of a wildlife species of concern. The RSA is usually 121 defined during the environmental assessment of a project.

- 122
- 123 Standard Operating Procedures

124 Standard operating procedures are usually developed by an operator and outline specific 125 steps and actions to follow in a given situation. For example, a standard operating 126 procedure might outline to employees how to respond to a bear in camp.

- 127
- 128

³ British Columbia Forest Service. 2014. Defining Adaptive Management. http://www.for.gov.bc.ca/hfp/amhome/Admin/index.htm

- 129 Traditional Knowledge
- 130 Knowledge and values that have been acquired through experience, observation, from the
- 131 land or from spiritual teachings, and handed down from one generation to another.
- 132
- 133 Wildlife

All species of vertebrates and invertebrates found wild in nature in the Northwest Territories, except fish and marine mammals. For the full legal definition of "wildlife" consult the *Wildlife*

- 136 *Act* (NWT).
- 137

138 **1.2 Purpose**

139

The purpose of this document is to provide guidance to proponents for the development of 140 two types of plans that, taken together, can be used to provide a complete program for 141 mitigation and monitoring of impacts to wildlife and wildlife habitat. The Wildlife and Wildlife 142 Habitat Protection Plan (WWHPP) and the Wildlife Effects Monitoring Program (WEMP) are 143 intended to fulfill the requirements for mitigation, protection, and monitoring related to wildlife 144 and wildlife habitat. Together, the WWHPP and the WEMP should address both local and 145 larger-scale wildlife objectives and are intended to prevent and/or reduce the individual 146 contribution of projects to cumulative effects on wildlife and wildlife habitat. 147

148

Through application of these guidelines, the goal is to have greater consistency in the structure and content of wildlife plans among operators to ensure that a minimum standard is met by every project in the NWT.

152

153 1.3 Legislation and Statutory Requirements

154

The GNWT derives its authority over "the conservation of wildlife and its habitat" in the NWT from Section 18 (1) (m) of the *Northwest Territories Devolution Act*⁴. As part of its responsibility for the conservation and management of wildlife resources, the GNWT can undertake activities including the collection of baseline information; assessing and monitoring the status of wildlife, wildlife habitat, species at risk, wildlife health, and biodiversity; assessing impacts on wildlife from human activities; and, regulating wildlife protection and use.

162

ENR is responsible for the implementation and enforcement of the *Wildlife Act.* A new *Wildlife Act* was passed by the Legislative Assembly of the Northwest Territories and will come into effect in November 2014. A link to the plain language version of the new *Wildlife Act* is provided in Appendix 1. Under Section 95 of the new *Act*, the Minister can require development projects that may result in significant disturbance or harm to wildlife or cause substantial damage to wildlife habitat to have a plan that identifies:

⁴ http://laws-lois.justice.gc.ca/eng/AnnualStatutes/2014_2/FullText.html

169	 how the project might affect big game or other wildlife listed in the regulations and its babitat; 				
170	its fidulat,				
1/1	• now the impacts will be prevented, reduced of repaired,				
172	 how the developers will monitor any impacts and whether the measures to 				
173	prevent or reduce the impacts are working; and,				
174	other requirements that are in the regulations.				
175	The ONIX/T is developing regulations to identify what binds of projects would used a wildlife				
1/6	I ne GINVVI is developing regulations to identify what kinds of projects would need a wildlife				
1//	management and monitoring plan.				
1/8					
179	NWI operates under a co-management system wherein management for wildlife resources				
180	is shared between governments, users, and renewable resource boards. In areas with				
181	settled land claims, the renewable resource boards (or wildlife management boards) have				
182	been established as the main instruments of wildlife management. In regions without a				
183	settled land claim, the co-management system provides for input and involvement by				
184	Aboriginal organizations in wildlife management. The inuvialuit Final Agreement provides				
185	the legal authority for co-management boards in the inuvialuit Settlement Region while the				
186	Mackenzie valley Resource Management Act (MVRMA) provides authomy to the renewable				
187	resource boards for the areas covered by the Gwich-In, Santu, and Thomo intal agreements				
188	as well as any other areas within the NVVT.				
100	There are currently four renewable resources beards in the NWT:				
101	• Wildlife Management Advisory Council (NWT) established under the Inuvialuit				
102	Final Agreement:				
102	- Gwich'in Panawable Pasaurces Board established under the Gwich'in				
104	Comprohensive Land Claim Agreement:				
194	• Sabtu Panawable Pasaurces Board, established under the Sabtu Done and Motis				
195	• Santu Renewable Resources Board, established under the Santu Dene and Metis				
190	Wok'èezhii Benewahle Beseurces Beard, established under the Thicke. Land				
197	• Wer eezini Renewable Resources Board, established under the Hindrig Land				
198	Claims and Seil-government Agreement.				
199	These beards provide a forum for the concerns of Abariginal persons to be voiced with				
200	regards to wildlife management. While the boards act in the public interest, they provide a				
201	mechanism to ensure that the interests of Aboriginal land claim beneficiaries are				
202	represented The responsibilities of the boards include:				
203	Providing advice to the Minister of ENR on matters related to wildlife				
204	• Froming advice to the minister of LINK on matters related to midlife				
205	 Providing advice requested by the land and water boards on matters respecting. 				
200	the presence of wildlife and wildlife babitat related to water licence or land use				
207	nermits applications:				
200	 Establishing policies and proposing regulations (regulatory authority is maintained) 				
209	by the Minister of ENR): and				
210	Sotting total allowable baryosts within their respective areas				
Z11					

The GNWT works with the boards to share information, develop legislation and policy, communicate with communities, undertake consultation and make decisions about wildlife management.

215

The MVRMA was created for the purpose of establishing an integrated system of land and 216 water management in the Mackenzie Valley pursuant to the Gwich'in, Sahtu, and Tlicho land 217 claim agreements. The Mackenzie Valley Environmental Impact Review Board (MVEIRB) 218 219 carries out environmental assessments and the Land and Water Boards are responsible for 220 the issuance of land use permits and water licenses pursuant to the MVRMA. The land and water boards conduct the initial screenings of applications for land use permits and water 221 licenses and provide authorizations with terms and conditions required for projects to 222 223 proceed. In cases where it is believed that a project may have significant adverse impacts or cause significant public concern. MVEIRB conducts a review of the project and has the 224 ability to issue measures that regulators are required to enforce to the extent of their 225 legislative authority. As such, the boards created under the MVRMA play an integral role in 226 the review and permitting processes for resource development projects in the Mackenzie 227 228 Valley.

229

The Environmental Impact Screening Committee (EISC) and the Environmental Impact 230 231 Review Board (EIRB), established under the Inuvialuit Final Agreement (IFA), are responsible for carrying out project screenings and environmental impact reviews in the 232 Inuvialuit Settlement Region (ISR). The EISC is responsible for determining which 233 development proposals require screening and, where a screening is required, whether a 234 235 proposed development could have a significant negative impact on the environment or on present or future wildlife harvesting. The EISC can recommend terms and conditions under 236 which a project can proceed, or, where it is determined that a project could have significant 237 negative impacts, the EISC can refer the project for environmental impact review to be 238 239 carried out either by the EIRB, or by another authority conducting a review process that meets the requirements of the IFA (i.e. review under the Canadian Environmental 240 Assessment Act. 2012). The EIRB conducts environmental impact reviews and can 241 recommend whether or not a development should proceed, and the terms and conditions, 242 including mitigative and remedial measures, under which it should proceed. In the ISR, land 243 use permits are issued by the Inuvialuit Land Administration or by GNWT and water licences 244 are issued by the NWT Water Board. 245

246 **1.4 Cumulative Effects**

247

The GNWT is aware of concerns raised by land users, communities and the general public regarding the impact of both natural (e.g., forest fire) and human-induced (e.g., industrial development, harvesting, etc.) stressors on wildlife. The GNWT recognizes that continued monitoring and management are necessary to assess and minimize cumulative effects (CE) on wildlife species and their habitat. Work is currently underway to develop a Cumulative Effects Assessment and Management Framework (CEAMF) for wildlife that outlines how new initiatives and existing processes work together to address CE at multiple scales. (NOTE: A draft copy of the CEAMF will be provided in Appendix 2 after a separate reviewprocess.)

257

The GNWT maintains that wildlife and wildlife habitat protection and wildlife effects monitoring should take place as an active collaboration between developers, Aboriginal, territorial and federal governments, wildlife co-management partners, land and water boards, land use planning boards, other affected parties and neighbouring jurisdictions as appropriate.

263 2.0 WILDLIFE AND WILDLIFE HABITAT PROTECTION PLAN (WWHPP) AND 264 WILDLIFE EFFECTS MONITORING PROGRAM (WEMP)

265

The WWHPP and WEMP are complementary and can be produced as stand-alone or combined documents at the discretion of the proponent. These plans are scalable with the size and nature of the project and in some cases only a WWHPP may be necessary. While regulations are currently being developed to provide more details regarding the type of plans required for different types and scales of operation, three tiers of plans have been identified in the interim which are described in Section 3.

272

Early engagement with the GNWT is encouraged at the initial stages of project development to identify the types of plans that will likely be required. It is expected that proponents will include a draft WWHPP and WEMP (if required, see Section 3) with documents submitted for preliminary screening or environmental assessment. Following these guidelines when drafting a WWHPP and WEMP will facilitate a more efficient and timely review during environmental impact assessment and regulatory processes by addressing wildlife and wildlife habitat protection objectives in a transparent and consistent manner.

280

An annotated Table of Contents for both the WWHPP and the WEMP has been provided in Section 4 to provide further guidance on the preparation and content of each document. These guidelines should be viewed as a living document that will be updated and improved in response to operator and regulator experience, comments, and suggestions.

285

286 2.1 Wildlife and Wildlife Habitat Protection Plan (WWHPP) Definition

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The WWHPP outlines the steps necessary to protect personnel, wildlife and wildlife habitat within the project's direct "footprint", and actions taken to minimize and monitor indirect impacts to wildlife and their habitat beyond the footprint (e.g. noise and dust). The operator must determine the appropriate geographic scale for mitigation and monitoring for each valued component described in the WWHPP and provides rationale for their selection. Generally the area covered by the WWHPP programs is narrower in geographic scope than programs outlined in the WEMP.

A WWHPP is a management tool to develop and implement clear procedures for employees and contractors in the field, to promote due diligence and to ensure compliance. A WWHPP should clearly demonstrate how wildlife measures and proponent commitments that came out of the environmental assessment process and regulatory permit conditions will be implemented and how implementation will be monitored.

301

302 At a minimum, an effective WWHPP should include:

- methods to reduce or prevent the potential for interaction between people and
 wildlife to ensure human safety;
- methods to reduce or prevent any direct impacts from the project to wildlife and/or
 wildlife habitat;
- day-to-day standard operating procedures (SOPs) that detail protocols to be used
 in the field as they relate to wildlife and wildlife habitat;
- any mitigation measures or design features identified through public input and community consultation;
- an outline of statutory requirements for wildlife and wildlife habitat protection;
- method(s) of monitoring data collection, and reporting that will be used to document the implementation of mitigation measures, surveillance to identify risks to wildlife and human safety, response to wildlife incidents, and any other relevant wildlife observations;
- a description of training and education for employees and contractors on
 guidelines and SOPs for wildlife issues;
- links to other management plans with mitigation measures that are relevant to
 wildlife (e.g. Waste Management Plan, Spill Response Plan);
- an adaptive approach to revising practices and procedures to reflect changing site
 conditions, activity levels or lessons learned in order to continue to mitigate
 potential effects on wildlife and wildlife habitat; and,
- evidence that documented lessons learned from existing development projects in
 the north have been incorporated into the design of mitigation methods and
 monitoring programs.
- 326

Data obtained through implementation of a WWHPP should be used to track impacts and to improve management practices at the local scale. Some information may also be incorporated into a regional scale monitoring program (e.g., tracking of on-site wildlife mortalities). It is the operator's responsibility to review the data collected and use the information to improve and adapt their programs.

WWHPP reporting requirements will be determined on a project-by-project basis. At a minimum, annual reports should summarize data collected and be made available to the public. Proponents may also be required to submit data to the GNWT. Further details on reporting requirements are provided in the Annotated Table of Contents in Section 4. Examples of data reporting templates are also provided in Appendix 3. These templates are provided as an example but may not capture all of the data collection requirements of a 338 development project. Regional GNWT staff may be able to provide specific data forms and 339 should be contacted early in the project planning stages.

340

341 2.2 Wildlife Effects Monitoring Program (WEMP) Definition

342

Whereas a WWHPP describes the mitigation measures that will be implemented to reduce local project impacts to wildlife and wildlife habitat, a WEMP encompasses effects monitoring at a larger spatial scale. The geographic area covered by the WEMP will vary for each project and for the variable being measured; it may include both the local study area (LSA), regional study area (RSA) as well as areas beyond.

348

In some cases, the WEMP may partially or fully meet the requirement for a follow-up 349 program as defined under the MVRMA and Canadian Environmental Assessment Act, 2012. 350 351 A follow-up program is meant to evaluate (1) the soundness of an Environmental Assessment (EA) or Environmental Impact Review (EIR) for a proposed development; 352 and/or (2) the effectiveness of mitigation measures or remedial measures. The WEMP 353 would generally capture effects that extend beyond the direct footprint of the project. The 354 GNWT may still require a WWHPP and WEMP under the territorial Wildlife Act, even if a 355 follow-up program is not required through an environmental impact assessment process. 356

357

358 The specific contents of a WEMP will depend on the scope of the project, but generally the WEMP is intended to provide details about larger-scale monitoring objectives and methods 359 (e.g., evaluating the zone of influence around a mine, collaborative monitoring for focal 360 species, etc.). For example, the WEMP could (i) describe a program to test impact 361 predictions made by a developer during a project's environmental impact assessment or the 362 effectiveness of mitigation techniques employed during the construction, operation, closure 363 and post-closure phases of a project, (ii) describe a developer's participation in existing 364 regional wildlife monitoring programs implemented by the GNWT and/or in collaboration with 365 other operators⁵, and/or (iii) describe support for wildlife research programs or cumulative 366 effects initiatives [see Appendix 6] led by other parties that address issues of shared 367 368 concern.

369

Early engagement⁶ by the developer and ongoing dialogue with the GNWT and other parties is encouraged to ensure WEMP objectives, methods, and deliverables are appropriate.

- 374 An effective WEMP should:
- Address outstanding wildlife concerns identified in measures, proponent
 commitments and recommendations stemming from an environmental impact
 assessment;

⁵ An example of a collaborative regional-based monitoring at a scale appropriate to the species is documented in *Joint Regional Grizzly Bear DNA Proposal, 2012* (Rescan 2012).

⁶ Proponents should consult the MVLWB's engagement <u>policy</u> and <u>guidelines</u>

378	2.	Be conducted within a study area(s) that is appropriately scaled to test impact
379		predictions or effectiveness of mitigation measures for specific Valued Ecosystem
380		Components (VEC);
381	3.	Have clear objectives and testable predictions or questions;
382	4.	Define the metrics that will be used to measure progress towards an objective or
383		to test predictions, questions or hypotheses;
384	5.	Demonstrate that survey design, methodology, sample size, analysis and
385		reporting will be capable of meeting the objectives of the monitoring program or
386		detecting predicted impacts or levels of change;
387	6.	Identify any underlying assumptions that may affect interpretation and validity of
388		results;
389	7.	Use tested standardized protocols/methods/approaches so that monitoring results
390		from different development projects can be combined at a regional scale;
391	8.	Be developed and reviewed in collaboration with Aboriginal partners, government,
392		regulatory agencies, and other affected parties including other project proponents
393		as appropriate;
394	9.	Identify where traditional knowledge has been incorporated into monitoring
395		program design;
396	10	Incorporate the principles of adaptive management, where applicable.
397		Specifically, it should describe the process by which monitoring data will be
398		reviewed and the actions taken if monitoring indicates that impacts to wildlife or
399		habitat have exceeded predictions or predefined action levels or thresholds. Any
400		proposed changes made to monitoring methodologies should be made in
401		consultation with appropriate parties in order to ensure consistency with other
402		monitoring programs; and,
403	11	. Incorporate lessons learned from existing development projects in the north.
404		
405	The resu	Its of the WEMP can be used to support adaptive management at a regional scale
406	and to co	intribute to cumulative effects assessment (CEA), where appropriate. For example,
407	WEMP m	nonitoring protocols should be subject to periodic review to ensure they are fulfilling
408	their inter	nded objective. Information collected as part of the WEMP should be summarized
409	in an ann	nual report. For collaborative initiatives, reporting requirements and protocol review
410	will be de	termined by all parties involved in the process.
411		
412	More con	nprehensive reports that provide further in depth analysis of the data collected are
413	useful. W	'hen not identified as part of EIA process, more in depth analyses may be provided

at longer intervals (e.g. every three years). A summary of regional wildlife initiatives currently
in place and of existing information gaps in the NWT is provided in Appendix 6.

418 **3.0 WHICH PROJECTS REQUIRE A WWHPP OR WEMP?**

419 **3.1 Description of project tiers**

420

421 Pre-amble

422 The following decision tree should be used as general guidance until regulations are developed pursuant to Section 96 of the new *Wildlife Act⁷*. Proponents can use the diagram 423 to determine whether a WWHPP or WEMP will be required for their project. Contact ENR 424 Wildlife Division or the regional ENR office for further guidance if necessary. Although the 425 decision tree should capture most types of development projects, certain projects that would 426 not normally require a WWHPP or WEMP may be required to develop such plans if the 427 428 GNWT determines that specific aspects of the project would be likely to meet the criteria outlined under Section 96 of the new Wildlife Act. 429

430

Tier 1 projects are those projects that either (1) fall below the thresholds requiring a Type A 431 or B⁸ Land Use Permit (LUP) or Water Licence (WL) as determined by one of the Mackenzie 432 Valley Land and Water Boards or that are exempt from screening as determined by the 433 Environmental Impact Screening Committee (EISC) for projects occuring the Inuvialuit 434 Settlement Region (ISR), or (2) projects that require a Type A or B LUP or WL, or EISC 435 screening, but which are unlikely to have any negative effects on wildlife or wildlife habitat 436 due to the nature, timing and/or location of the project. Proponents of Tier 1 projects will not 437 be required to develop a project-specific WWHPP. However, the GNWT will advise 438 proponents to follow existing guidelines, procedures and regulations (see Appendices 1 and 439 440 4 of this document), and Land Use Plan zoning conformity requirements where applicable, in order to minimize project impacts on wildlife and wildlife habitat. Protection of wildlife 441 habitat is also likely to be adequately addressed by existing standard terms and conditions 442 on authorizations for such projects. 443

Tier 2 projects are either those that require a Type A or B LUP or WL, or a screening by the EISC, and which may have impacts on wildlife or wildlife habitat (as determined from the list of questions oultined in the decision tree). These impacts can be mitigated through the combination of permit conditions and the development of a WWHPP, such that it is not expected that the project will contribute substantially to cumulative effects, and a WEMP is therefore not required. Proponents of Tier 2 projects are required to develop a WWHPP that

⁷Visit <u>http://www.enr.gov.nt.ca/programs/wildlife/new-wildlife-act</u> for further details

⁸ In the Inuvialuit Settlement Region (ISR), Land Use Permits issued by the Inuvialuit Land Administration, or by the GNWT are not categorized according to the same Type A/Type B system as in the Mackenzie Valley (Visit <u>http://mvlwb.com/land-use-permits</u> and <u>http://mvlwb.com/process/water-licence</u> for information on Type A vs. Type B authorizations). Projects requiring Land Use Permits in the ISR will be evaluated using the same criteria as outlined for Type A/B LUP permits in the above decision tree.

goes above and beyond existing guidelines and regulations in order to address specific
 wildlife-related concerns about the nature, scale, location or timing of the project.

Tier 3 projects are those that either (1) are part of a multi-year petroleum or mineral exploration program operated by a proponent that holds several concurrent LUPs or WLs within an area about which there is concern regarding cumulative effects on wildlife and wildlife habitat, or (2) are required to undergo an Environmental Assessment (EA) by the MVEIRB or the EIRB. These projects would require both a WWHPP and a WEMP.



457 DRAFT

November 18, 2014 ENR/CAM/Wildlife

458 **4.0 ANNOTATED TABLE OF CONTENTS**

459 **4.1 WWHPP Annotated Table of Contents**

It is expected that WWHPPs will contain each of the following main sections; however, the specific contents of each section will depend on the nature and scale of each project. The items listed under the sections below are not intended to be exhaustive. Certain sections of the WWHPP may be excluded from preliminary drafts, as they would be developed throughout the regulatory process (e.g. Section 1(b)).

Proponents should consult wildlife mitigation and monitoring plans and wildlife monitoring
 reports from other existing development projects to incorporate lessons learned and provide
 evidence of such within the WWHPP.

468 1. INTRODUCTION 469 a) Purpose & Objectives of the WWHPP. 470 b) Measures, conditions and developer commitments concordance table. 471 Provide a summary table of measures, permit conditions, and developer 472 commitments relevant to wildlife and wildlife habitat and indicate the 473 sections of the WWHPP in which they are addressed. This table can 474 475 also be provided as an appendix. 476 c) Engagement. Describe any external agreements, MOUs, and/or community 477 engagement that are applicable to the development, implementation and 478 review of the WWHPP. 479 d) Associated operational or management plans. 480 Provide an overview of other management plans that may contain 481 mitigation and monitoring measures that are relevant to protection of 482 wildlife and wildlife habitat (e.g. waste management plans, spill 483 contingency plans). Describe any overlap between the WWHPP and 484 WEMP, if applicable. 485 486 2. PROJECT DESCRIPTION 487 a) Provide a basic overview of the proposed development, location, local 488 489 environment and climate, project infrastructure, points and modes of access, development schedule or work plan, and project duration. 490 b) Provide a map of the project location, including location of any other 491 existing developments and infrastructure in the area, and a detailed 492

map(s) of the project footprint.

494 495 496	3.	 POTENTIAL IMPACTS a) List potential impacts to wildlife and wildlife habitat, including potential human-wildlife conflicts.
497 498 499 500 501 502		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, toxic or hazardous substances, and wildlife attraction. Impacts could be broken down by species group and project phase, if applicable. This is intended to be a brief summary of issues identified in the project screening, EA or regulatory phase.
503 504 505 506 507 508		b) Summary of selected wildlife VECs, including 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.
509	4.	WILDLIFE AND WILDLIFE HABITAT MITIGATION
510 511 512 513 514 515 516		For each of the potential impacts listed in Section 3, list the mitigation measures, design features, policies, procedures or guidelines that will be followed to avoid, minimize or compensate for the potential impact. If the 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 public input and community consultation.
517 518 519 520		Enough detail should be provided to described the who, what, when, where, why, and how often for each mitigation. Where relevant, Standard Operating Procedures, tracking forms and data sheets provided to employees to implement these measures should be provided in an appendix.
521 522		Refer to the guidance documents, data sheet templates and reporting forms provided in these Appendices when developing these sections.
523 524		The following is a list of elements that might be included in this section. These sections could be further broken down by species group and project phase:
525 526 527		a) Employee wildlife awareness education and training.b) Infrastructure design and camp layout for bear safety and/or to prevent denning, nesting and roosting.
528		c) Management of camp waste and other wildlife attractants.
529		d) Timing restrictions and/or set back distances to protect wildlife and
530		wildlife habitat features.
531		e) Direct habitat loss – minimizing the project's physical footprint.
532		t) Indirect habitat loss – minimizing functional habitat loss due to sensory
533		disturbance, dust, etc.
534		g) Management of hazards to wildlife (e.g., open pits, tailings ponds, roads,
535		airstrips).

536	h) Wildlife surveillance monitoring (procedures for documenting and
537	dealing with wildlife sightings, encounters, injuries & mortalities).
538	i) Wildlife deterrence procedures.
539	
540	5. MITIGATION MONITORING
541	
542	For each of the potential impacts and mitigations listed in Section 3 and 4,
543	describe:
544	a) The objective of the monitoring
545	b) Relevant mitigation measures
546	 Methods or monitoring approach for data collection;
547	d) Metrics to be measured;
548	e) Frequency and duration of monitoring; and,
549	f) Supporting documents and protocols from other monitoring plans.
550	
551	A table(s) in the following format could be used to summarize information presented
552	in Sections 3, 4 and 5.

554 Table 1: Example summary table of WWHPP 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 land fill	1.Segregation of food wastes and packaging for incineration 2.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 project	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 <1km of the project	Wildlife observations and sign monitoring surveys Wildlife sightings and encounters reported by all employees	Weekly Daily	Wildlife Surveillance SOP

555

6. ADAPTIVE MANAGEMENT

This section is intended to provide a description of the structured response strategy 559 that the operator will use to link its monitoring results to its management responses. It 560 includes identification of how the monitoring results may be incorporated into 561 improving monitoring protocols, mitigation measures taken or other management 562 responses for each type of monitoring the operator proposes. The use of action levels 563 or tiered thresholds based on the monitoring metrics identified in the monitoring 564 section is encouraged to determine when action will be taken and which actions will 565 be taken depending on the circumstances. At lower action levels, an appropriate 566 response could be to increase monitoring intensity and/or begin to identify mitigation 567 options. At higher levels, further investigations into sources of the problem and 568 implementation of more intensive mitigation measures could be appropriate. This 569 section should identify: 570

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- a) The objective in terms of the impact to be mitigated
- b) The key mitigation strategies,
- c) The metrics to be collected,
 - d) Tiered action levels (with rationale for their selection), and
 - e) Management responses appropriate to each action level.
- 576 This information could be presented as text or in a table format. An example is 577 provided in Table 2.
- 578 Table 2: Example adaptive management summary table

Objective	Mitigation Strategies/ Monitoring approach	Metrics	Action Levels	Management Responses
To prevent wildlife attraction and habituation	Surveillance monitoring to identify wildlife presence on site	Number of days that a wolverine/ fox/bear is detected at project 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 project site 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

Objective	Mitigation Strategies/ Monitoring approach	Metrics	Action Levels	Management Responses
	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

581

580 7. REPORTING PROTOCOLS

- 582 Describe the procedure, format and frequency for reporting on implementation of the 583 WWHPP.
- 584 The schedule for submitting such reports depends on the type of information that is 585 being reported on:
- All projects are expected to immediately report wildlife incidents (wildlife injury/mortality, use of deterrents, threats from wildlife to human safety or property) to ENR. Reporting procedures should be outlined in SOP's for wildlife incidents.
- Proponents are encouraged, at minimum, to submit wildlife sighting data to ENR's Wildlife Management Information System (WMIS) on an annual basis.
 More frequent reporting may be required in specific cases. Proponents can indicate whether the data can be made pulblicly available, only for use by the GNWT, or if the Proponent should be contacted directly by users requesting the data.
- Short-term projects (≤5 yrs) should provide a summary report on the WWHPP at the end of the project.
- The WWHPP for long-term projects (>5 yrs) will outline a schedule to provide updates or comprehensive summary reports on the WWHPP at regular intervals throughout the life of the project.
- A summary report should include the results of mitigation and surveillance monitoring, wildlife incidents, a discussion of the effectiveness of mitigation, lessons learned and unpredicted impacts, and recommended changes to mitigation measures, design features or monitoring protocols to meet the objectives of the WWHPP.
- The schedule for submitting summary reports should consider the timing of other major report review processes and capacity of the parties that are reviewing them. For example, it may be preferable to submit annual WWHPP monitoring reports at a different time of year from other major summary reports (e.g. aquatics effects

610 monitoring programs etc.). This way, parties are more likely to have the capacity to 611 conduct a thorough review and provide meaningful feedback.

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Table 3: Where to submit data and WWHPP summary reports.

Information Type	Where to submit	Timing/Frequency	Notes
Wildlife	Regional ENR	Immediately	See Appendix 4a for contact
incidents	office		information
Wildlife	ENR Wildlife	Annually	WMISTeam@gov.nt.ca
sightings	Management		_
	Information System		
	(WMIS)		
WWHPP	ENR Regional	Short-term projects (≤5 yrs)	See Appendix 4a for contact
Summary	office	 at the end of the project 	information
Report			
	ENR Wildlife	Long-term projects (>5 yrs) -	
	Division HQ	regular intervals to be	
		defined on a project-specific	
	Land and Water	basis.	
	Board		
			http://nwtdiscoveryportal.enr.gov.nt.c
	CIMP Discovery		a/geopoital/catalog/main/nome.page
	Portal'		

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¹Proponents are encouraged to submit their WWHPP, monitoring data, and WWHPP
 summary 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:

- 619 http://nwtdiscoveryportal.enr.gov.nt.ca/geoportal/catalog/main/home.page
- 621 8. LITERATURE CITED
 - 9. GLOSSARY

Provide definitions of terms and acronyms used throughout the report.

10. APPENDICES

- a) Standard Operating Procedures (SOPs).
- **b)** Monitoring forms/data collection sheet template(s).
- c) Reporting forms template(s).
- d) WWHPP revisions tracking table.
 - e) Measures, conditions and developer commitments concordance table
- 632 Provide a summary table of measures, permit conditions, and developer 633 commitments and indicate the section(s) of the WWHPP and or WEMP in 634 which they are addressed.
- 635

636 **4.2 WEMP Annotated Table of Contents**

637

It is expected that WEMPs will contain each of the following main sections, however the specific contents of each section will depend on the nature and scale of each project, and any collaborative monitoring or research programs undertaken with other parties. The items listed under the sections below are not intended to be exhaustive. Certain sections of the WEMP may be excluded from preliminary drafts, as they would be developed throughout the regulatory process (e.g. Section 1(b)).

044	
645	1. INTRODUCTION
040	a) Fulpose and Objective(s) of the WEIMF
647	The purposes and objectives of the WEMP could include any or all of the
648	following:
649	i. Testing and/or verifying impact predictions.
650	ii. Testing effectiveness of mitigation measures or remedial
651	measures for effects that extend beyond the direct footprint of
652	the project.
653	iii. Collaborating on population-level, range-level, and/or multi-scale
654	monitoring of VECs to evaluate cumulative effects.
655	iv. Special studies that contribute to better understanding an impact
656	pathway or addressing knowledge gaps.
657	v. Supporting monitoring, research programs or regional-scale
658	cumulative effects management initiatives led by other agencies
659	through contribution of funding or in-kind support.
660	
661	b) Measures, conditions and developer commitments concordance table.
662	Provide a summary table of measures, permit conditions, and developer
663	commitments relevant to wildlife and indicate the sections of the WEMP in
664	which they are addressed. This table can also be provided as an appendix.
665	c) Engagement
666	Describe any external agreements, MOUs, community engagement that is
667	applicable to the development, implementation and review of the WEMP.
668	d) Associated operational or management plans
669	
670	Provide an overview of other management or monitoring plans which may
671	contain mitigation and monitoring measures that are relevant to the WEMP,
672	including connections with the WWHPP.
673	
674	
675	

676	
677	2. PROJECT DESCRIPTION
678	a) Provide a basic overview of the proposed development, location, local
679	environment and climate, project infrastructure, points and modes of
680	access, development schedule or work plan, and project duration.
681	b) Provide a map of the project location, including location of any other
682	existing developments and infrastructure in the area, and a detailed map(s)
683	of the project footprint.
684	
685	3. PREDICTED EFFECTS AND MONITORING FOR VALUED ECOSYTEM
686	COMPONENTS
687	a) List of VECs addressed in the WEMP and their assessment and listing
688	status under the federal Species at Risk Act (SARA), Committee on the
689	Status of Endangered Wildlife in Canada (COSEWIC), territorial Species at
690	Risk (NWT) Act and or the NWT Species at Risk Committee (SARC) if
691	applicable.
692	
693	 b) Summary of the types of predicted residual impacts on wildlife.
694	
695	Provide a summary by VEC of the principal predicted residual impacts that
696	will be addressed by the WEMP. These will normally have been identified
697	in the environmental assessment process.
698	
699	This section could include, for example, a brief summary of predicted
700	impacts such as habitat loss, sensory disturbance, zone of influence or
701	impacts to wildlife health.
702	
702	
703	c) Definition of VEC-specific spatial/temporal study boundaries
704	Provide a description and maps of VEC-specific study area boundaries,
705	temporal boundaries and rationale for their selection.
706	
707	d) VEC-specific monitoring programs
708	
709	This section might be further broken down into different project phases if
710	monitoring approaches or requirements vary according to project phase.
711	For each VEC-specific monitoring program provide the following:
712	I. Objectives and limitations of the monitoring program
713	II. For each predicted effect describe:
714	i. Prediction to be tested including quantitative predictions or
715	thresholds from the EIS or DAR
716	ii. Monitoring plan:
717	 Variable(s) to be measured (i.e. metrics),

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718	 Sample size,
719	 Sampling frequency,
720	 Power analysis to support the sampling design,
721	 Methods and equipment for recording data,
722	 Maps of sampling locations, transects, etc.,
723	 Methods for statistical analysis and thresholds for
724	statistical significance, and
725	 Frequency of in-depth analysis (e.g. some trends or
726	changes may take several years to detect; therefore in-
727	depth analysis would not be required on an annual
728	basis).
729	III. Adaptive Management
730	 Where applicable, describe how monitoring data collected as
731	part of the WEMP will be used to evaluate the effectiveness of
732	mitigation measures described in the WWHPP, what actions
733	will be taken if monitoring indicates that impacts to wildlife or
734	habitat have exceeded predictions, predefined action levels or
735	thresholds, and the process for periodic review of WEMP
736	monitoring programs to ensure they are fulfilling their intended
737	objective. See Section 6 of the WWHPP Table of Contents for
738	an example of a summary table for Adaptive Management.
739	
740	IV. Description of participation in or contribution to other monitoring
741	programs or species-based initiatives that are not tied to testing
742	project-specific effects predictions (e.g. participation in a regional
743	monitoring program, or financial/in-kind contributions to
744	monitoring/research programs or cumulative effects management
745	initiatives led by other parties such as government, communities or
746	academia) but that still support the objectives of the WEMP.
747	
748	A table(s) could be used to summarize information presented in Sections 3 on a VEC
749	by VEC basis.
750	
751	4. REPORTING
752	Describe how data will be stored and managed and who it will be shared with.
753	5
754	Describe how often monitoring results will be reported on and what will be
755	discussed in the report. For example, reports could include a discussion of the
756	accuracy of impact predictions, success of mitigation measures, new measures
757	implemented through adaptive management and recommendations for the
758	following monitoring cycle. The schedule for submitting such reports will depend
759	on the specifics of each monitoring program and type of information that is being
760	collected.

761	
762	Comprehensive reporting schedules will be determined on a case by case basis;
763	however it is expected that Proponents will sumbit a brief summary of their WEMP
764	monitoring activities on an annual basis including, if required, a description of any
765	changes to monitoring protocols or schedules, and a rationale for those changes.
766	
767	Describe who the reports will be shared with the process for review of the reports
768	and consideration of feedback for making adjustments to the WEMP
760	
705	
770	Proponents are encouraged to submit WEMP data to ENR's Wildlife Information
771	Management System (WMIS). Proponents can indicate whether the data can be
772	made pulblicly available, only for use by the GNW I, or if the Proponent should be
773	to discuss the best way to submit your data
//4	to discuss the best way to submit your data.
775	
776	Proponents are also encouraged to submit their WEMP, WEMP monitoring data,
777	and WEMP reports to the NWT Discovery Portal to ensure such information is
778	publicly accessible and contributes to the broader body of NWT environmental
779	monitoring knowledge. Proponents should consult with ENR and other parties to
780	assess whether data may be of a confidential of sensitive hature before it is
/01	
782	http://nwtdiscoveryportal.enr.gov.nt.ca/geoportal/catalog/main/home.page
783	
784	
785	5. LITERATURE CITED
786	
787	6. GLOSSARY
788	Provide definitions of terms and acronyms used throughout the report.
789	
790	7. APPENDICES
791	a) Measures, conditions and developer commitments concordance table
792	Provide a summary table of measures, permit conditions, and developer
793	commitments relevant to the WEMP and indicate the sections of the WEMP in
794	which they are addressed.
795	b) WEMP revisions tracking table
796	
790	c) Field data forms
798	
700	
122	

APPENDIX 1: Resource List

Legislation

Northwest Territories Devolution Act, assented to March 25, 2014. Government of Canada. Available at http://laws-lois.justice.gc.ca/eng/AnnualStatutes/2014 2/FullText.html

Wildlife Act, Northwest Territories. 1988, amended April 1, 2014. Government of the Northwest Territories. Available at http://www.justice.gov.nt.ca/PDF/ACTS/Wildlife.pdf

Bill 3 New *Wildlife Act,* Northwest Territories. In effect November 2014. Government of the Northwest Territories. Available at http://www.enr.gov.nt.ca/sites/default/files/documents/wildlife_act.pdf

Plain Language Summary of New *Wildlife Act*, Northwest Territories. Government of the Northwest Territories. Available at

http://www.enr.gov.nt.ca/sites/default/files/content/wildlife_act_plain_language.pdf

Mackenzie Valley Resource Management Act. 1998, amended April 1, 2014. Available at <u>http://laws-lois.justice.gc.ca/eng/acts/m-0.2/FullText.html</u>

Canadian Environmental Assessment Act. 2012, amended November 25, 2013. Available at http://laws-lois.justice.gc.ca/PDF/C-15.21.pdf

Aboriginal Affairs and Northern Development Canada. Modern Treaties. Webpage: <u>https://www.aadnc-aandc.gc.ca/eng/1100100025047/1100100025050</u>

Link to all final and interim agreements related to land, resources and governance with Aboriginal groups in the NWT.

Policies and Guidelines

Mackenzie Valley Land and Water Board. June 1, 2013. Engagement and Consultation Policy. Available at

http://mvlwb.com/sites/default/files/documents/wg/MVLWB%20Engagement%20and%20Consultatio n%20Policy%20-%20May%2015.pdf

Mackenzie Valley Land and Water Board. June 1, 2013. Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits. Available at http://mvlwb.com/sites/default/files/documents/wg/MVLWB%20Engagement%20Guidelines%20for%20Holders%20of%20LUPs%20and%20WLs%20-%20Jun%201_13.pdf

Wek'eezhii Land and Water Board. October 17, 2010. Guidelines for Adaptive Management – a Response Framework for Aquatic Effects Monitoring. Available at:

http://mvlwb.com/sites/default/files/documents/Final-Draft-Response-Framework-for-Aquatic-Effects-Monitoring-Oct-17-2010.pdf

Regulatory Boards

Mackenzie Valley Review Board. Website http://www.reviewboard.ca/

Environmental Impact Review Board. Website http://www.eirb.ca/

Mackenzie Valley Land and Water Board. Website http://mvlwb.com/

Wek'èezhìi Land and Water Board. Website http://wlwb.ca/

Sahtu Land and Water Board. Website http://slwb.com/

Gwich'in Land and Water Board. Website http://glwb.com/

Environmental Impact Screening Committee. Website http://www.screeningcommittee.ca/

Renewable Resource Boards

Gwich'in Renewable Resource Board. Website http://www.grrb.nt.ca/

Sahtu Renewable Resource Board. Website http://www.srrb.nt.ca/

Wek'èezhìi Renewable Resource Board. Website http://wrrb.ca/

Inuvialuit Game Council. Website http://www.jointsecretariat.ca/igc.html

Wildlife Management Advisory Council (NWT). Website http://www.jointsecretariat.ca/wmacnwt.html

Land Use Planning Boards

Gwich'in Land Use Planning Board. Website http://www.gwichinplanning.nt.ca/

Sahtu Land Use Planning Board. Website http://www.sahtulanduseplan.org/website/webcontent/index.html

Dehcho Land Use Planning Committee. Website http://www.dehcholands.org/home.htm

Tlicho Government. Website http://www.tlicho.ca/

Technical Resources

Rescan. 2012. *Joint Regional Grizzly Bear DNA Proposal, 2012 DRAFT*. Prepared for BHP Billiton Canada Inc., De Beers Canada Inc., and Rio Tinto Canada by Rescan Environmental Services Ltd.: Vancouver, British Columbia. Available at

http://www.mvlwb.ca/Boards/WLWB/Registry/2012/W2012L2-0001/W2012L2-0001%20-%20Ekati%20-%20WEMP%20-%202012%20Regional%20Grizzly%20Bear%20DNA%20Proposal%20-%20Draft%20-

<u>%202012%20Regional%20Grizzly%20Bear%20DNA%20Proposal%20-%20Draft%20-</u> <u>%20Aug%201_13.pdf</u>

Government of the Northwest Territories. August 2011. A Barren-ground Caribou Management Strategy for the Northwest Territories 2011-2015. Government of the Northwest Territories, Department of Environment and Natural Resources. Available at <u>http://www.enr.gov.nt.ca/sites/default/files/strategies /2011-2015_barren-</u> ground_caribou_management_strategy.pdf

Government of the Northwest Territories. May 2009. Safety in Grizzly and Black Bear Country. Brochure. Government of the Northwest Territories, Department of Environment and Natural Resources. Available at <u>http://www.enr.gov.nt.ca/sites/default/files/brochures/bear_safety.pdf</u>

Government of the Northwest Territories. June 2007. Flying Low? Brochure. Government of the Northwest Territories, Department of Environment and Natural Resources. Available at http://www.enr.gov.nt.ca/sites/default/files/brochures/lowflyingaircraft-brochure.pdf

Environment Canada. 2011. Reducing Impacts to Birds From Exploration and Research Projects on the Arctic Tundra. Technical Report Series No. 522 Canadian Wildlife Service Prairie and Northern Region. Government of Canada. Available at http://publications.gc.ca/collections/collection_2014/ec/CW66-307-2012-eng.pdf

Peck, K., Carrière, S., Lecomte, N. 2012. The Nunavut and Northwest Territories Raptor Database: User's Manual. Government of Nunavut and the Government of the Northwest Territories. Available at http://env.gov.nu.ca/sites/default/files/raptordb.pdf

Aboriginal Affairs and Northern Development Canada. Northern Land Use Guidelines Series.

- 1. Volume 5: Access Roads and Trails. Available at <u>https://www.aadnc-</u> aandc.gc.ca/DAM/DAM-INTER-NWT/STAGING/texte-text/nlug5_1323108964042_eng.pdf
- 2. Volume 6: Camp and Support Facilities. Available at https://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-NWT/STAGING/texte-text/nlug6_1313789162200_eng.pdf
- 3. Volume 7: Pits and Quarries. Available at https://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-NWT/STAGING/texte-text/ntr_pubs_nlug7_1330552909157_eng.pdf
- 4. Volume 9a: Northwest Territories Seismic Guidelines. Available at http://www.assembly.gov.nt.ca/sites/default/files/12-06-13td37-173.pdf

Energy Resource Conservation Board. 2007. Directive 038: Noise Control. Government of Alberta. Available at http://www.aer.ca/documents/directive038: Noise Control. Government of Alberta.

Government of the Northwest Territories. 2013. Dust Suppression Guidelines. Available at http://www.enr.gov.nt.ca/sites/default/files/guidelines/dustsupression.pdf

APPENDIX 2: Draft Cumulative Effects Assessment and Management Framework

November 18, 2014: A draft framework document is being prepared for a separate review process and the final will be included in the final guidelines.

APPENDIX 3: Regional Initiatives Summary

Cumulative Effects Monitoring Program for Wildlife in the Slave Geological Province

Recognition that effects monitoring for large-ranging wildlife species required as part of a Wildlife Effects Monitoring Program (WEMP) is best focused at large spatial and temporal scales has prompted coordination of some monitoring approaches in the Slave Geological Province (SGP). This recognition has led to the development of the Cumulative Effects Monitoring Program for Wildlife in the Slave Geological Province (SGP). Some of the key initiatives are listed below.

Operators of development projects in the SGP for which a WEMP is appropriate are encouraged to discuss options for collaboration, contribution or development of special studies in any of these areas. For more information please contact: **Andrea Patenaude, Wildlife Biologist (Environmental Assessment and Habitat), 867-920-6487.**

Carnivores:

Through monitoring workshops hosted by the Government of the Northwest Territory (GNWT) Department of Environment and Natural Resources (ENR), DDMI (Diavik Diamond Mine), DDEC (Ekati Diamond Mine), and DeBeers Canada (Snap Lake & Gahcho Kue) have harmonized monitoring objectives and approaches for grizzly bear and, along with the GNWT, wolverine. The agreed-upon monitoring objective for both wolverine and grizzly bear is "to provide estimates of wolverine/grizzly bear distribution in the study area over time." It has been agreed that DNA hair-snagging is the best approach to address this objective, and draft standardized monitoring protocols for monitoring both species in tundra habitat are being developed. Similar approaches have been used by government and industry in Nunavut. While each mine continues to collect data around their individual projects, they are also contributing to the collection of demographic data over larger scales. These data will be used to generate density information, which can inform cumulative effects (CE) assessment and species management for carnivores and caribou.

Caribou:

The process of harmonizing research objectives and standardizing approaches for caribou in the SGP is still ongoing. Existing monitoring objectives are:

a) To determine if caribou behaviour changes with distance from the mines. Addressing this objective may involve routine behaviour monitoring. Executed properly, with careful consideration for observer bias, conditions, and multiple other co-variables, behaviour data has the potential to allow activity budgets to be developed and scaled

up to model energetic costs on caribou in encounters with various project components (i.e., roads, infrastructure, etc.). Currently, standard approaches for monitoring caribou behaviour have yet to be developed.

- b) To determine whether the zone of influence (ZOI) changes in relation to mine activity. Based on analysis of historical collaring data and aerial surveys, ZOI around the Diavik and Ekati mines in the SGP has been estimated to be 14km (Boulanger et al 2011). The extent to which ZOI might change given mitigations or changes in production levels is still seen by many as an outstanding question. Given the high cost and often low data return of survey flights around the mines (particularly, when caribou are not present in high numbers), determining the conditions under which flights are reasonable needs to be examined. Alternative methods or actions that can be taken by operators in the SGP in absence of aerial flights also needs to be examined. A Caribou ZOI Technical Task Group is currently developing guidance for monitoring ZOI and approaches to understanding the mechanisms underlying this effect.
- c) To determine the key factors contributing to changes in caribou abundance and distribution in the study area over time. While monitoring of distribution and abundance in the Bathurst herd is conducted by ENR, interest has been expressed by mining companies to contribute to monitoring and research programs that improve the understanding of factors that affect the health and trend of caribou herds and other species. As abundance and distribution data is fundamental to any CE monitoring program, contributions to government programs to conduct this fundamental monitoring and barren-caribou range planning is being considered as one way industry can support CE assessment, monitoring and management work at the regional level.

Other species:

Any other species for which a concern has been identified at the local level can be the focus of a regional approach to monitoring. For example, community concerns in forested area of the SGP regarding moose changes in trend and distribution could be an option. GNWT also has protocols, collects data and is continually seeking partners to implement localized monitoring of small mammals and raptors.

Key Knowledge Gaps in the SGP:

Most of the priority information needs for the SGP have emerged from identification of the Bathurst barren-ground caribou herd as a priority valued component for monitoring, assessing, and managing cumulative effects. Further work is required in the following areas:

- Development of protocols for carnivores in forested areas.
- Development of standardized protocols for monitoring caribou behaviour.
- Determining the causative mechanisms for caribou ZOI. What mitigations can impact ZOI?
- Vegetation classification for the SGP.
- Development of base habitat model (resource selection function) for the range of the Bathurst caribou herd.
- Seasonal changes in vegetation biomass.
- Seasonal activity budgets for barren-ground caribou (especially as it relates to disturbance from insects and human/industrial activity).
- Human disturbance spatial data for the region.
- Response relationships between CE stressors and caribou population abundance.
- Impact of fire, fire severity and regenerations rates on range use.

APPENDIX 4: Examples of 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

2014

Bear Occurrence Procedures Manual



Environment & 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 Regional Contacts listed below:

North Slave Region							
	Wildlife Emergency	(867) 873 - 7181 (24 Hours)					
	Yellowknife	(867) 873 - 7184					
	Fax:	(867) 873 - 6230					
South S	Slave Region						
	Wildlife Emergency	(867) 872 - 0400 (24 Hours)					
	Fort Smith	(867) 872 - 6400					
	Fax:	(867) 872 - 4250					
Inuvik F	Region						
	Wildlife Emergency	(867) 678 - 0289 (24 Hours)					
	Inuvik	(867) 678 - 6650					
	Fax:	(867) 678 - 6659					
Sahtu F	Region						
	Wildlife Emergency	(867) 587 - 2422 (24 Hours)					
	Norman Wells	(867) 587 - 3500					
	Fax:	(867) 587 - 3516					
Deh Ch	no Region						
Don Or	Wildlife Emergency	(867) 695 - 7433 (24 Hours)					
	Fort Simpson	(867) 695 - 7450					
	Fax:	(867) 695 - 2381					
	τ α λ .	(007) 030 - 2001					

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.

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 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 reduce 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 reduce 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.

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.



Environment & Natural Resources (ENR) Bear Occurrence Checklist

Fill out or check all that apply											
1. Complainant Deta	1. Complainant Details:										
Name, job title and											
Contact information:											
Location of											
complainant:											
(coordinates, lake or property name)											
Other on-site contact											
(wildlife monitors/site											
supervisors)			_								
2. Bear Occurrence	Deta	alls:							٩		
Date/Time:					Loc	cation: ordinates, lake	e or n	property			
					nan	ne)					
Type of bear		sightin	g	🗆 er	ncoui	nter		injury		□ Ear	mortality r taa/tattoo #
occurence.		Other,	explain:								
Number of bears:					# o	f cubs					
Туре:		black				grizzly				unkno	own
Sex :		male				female				unkno	own
Age Class:		cub (<:	1)	🗆 ju	venil	e		adult			unknown
Behaviour:		fearful		n no	ot fea	arful		aggressive	2		other
General Observations		moving	toward sit	te		moving av	way	from site		at site	2
Other observations:											
mortality, injury, den site,											
number of cubs, etc.)		No	If yos, or	nlain							
involved in a previous		NU	ii yes, ex	piain:							
incident:		Yes									
Did the bear obtain a		No	lf yes, ex	plain:							
reward		Yes									
Any property damage		No	lf yes, ex	plain:							
or loss of life:		Yes									

3. Detection/Deterrent:									
Detection s site:	system on		Alarm			og	 Motion detector 		D Other:
Deterrence	e on site:		Bear boa	ards		Auditory (Yelling/Flares/All Whistle/Crackers	Auditory (Yelling/Flares/Alarm/Horn/Bell/ Whistle/Cracker shells)		ojectile Bullets/Firearms)
			Electric F	ence		Chased (Dog, vehicle)		🗆 Ot	her:
Was deterr	rence used:		No	Explain	n:	1			
			Yes						
Was the de	eterrence		No	Explain	n:				
successful:			Yes						
Present sta with dates	atus of bear :		at large	L	🗆 Ca	ptured	□ deterred		□ other
4. Additio	onal Commei	nts							



Camp Waste & Wildlife Attraction

Fall 2014

Manual

To prevent or reduce 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 reduces 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 tunnelling.
- 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 reduce amount of domestic waste produced.
- Implement a camp waste segregation system (recyclables, combustible, noncombustible 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 may bean acceptable method of camp waste disposal but it should be considered only as a last resort when alternative methods or storage and removal off-site are not feasible. There are additional 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).

- 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.
- Olls, gas or grease should be stored in a manner that is inaccessible to wildlife.

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

- Occurences 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.













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



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 a 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 a bird nest 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. 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
- 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 Yellowknife Fax: (867) 873 - 7181 (24 Hours) (867) 873 - 7184 (867) 873 - 6230

South Slave Region

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

Inuvik Region

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

Sahtu Region

Wildlife Emergency Norman Wells Fax:

Deh Cho Region Wildlife Emergency Fort Simpson Fax: (867) 587 - 2422 (24 Hours) (867) 587 - 3500 (867) 587 - 3516

(867) 695 - 7433 (24 Hours) (867) 695 - 7450 (867) 695 - 2381

Northwest Territories Environment and Natural Resources Occurrence

Date/Time:

Date Reported:

Wildlife Incident Record

MAIN CONTACT INFORMATIO	N								
NAME:									
ADDRESS:	RESS:								
HONE NUMBER:									
Location of Complaint:	laint:								
(coordinates, lake, camp)	ates, lake, camp)								
Details Taken by:									
Location of Incident:									
Type of Incident:	Encounter	□ Nuisance	D Wildlife Mortali	Wildlife Injured	Defensive Other:				
Species:	□ Black Bear	□ Grizzly Bea	ar 🗆 Fox 🗆 Wo	erine 🗆 Wolf 🗆 Cai	ibou 🗆 Bird 🗆 Other:				
	□ Male		Age Class:	Adult					
Sex:	□ Female			□ Juvenile					
	Unknown		_	🗆 Cub					
				🗆 Unknown					
Details of Incident: (moven	nent, behavi	our, reason f	for attraction, p	operty damage, etc	c.)				

Details of Actio	n Taken: (reporting, deterrence type, disposal, removal of attractant, etc.)
DATE: mm/dd/yy	

Was the incider	nt resolved?		Yes		No		
Has Environme	nt & Natural Resources been contacted?						
Contact Name:			Yes		No		
Date/Time Reported:							



ACCESS/ROAD WILDLIFE OBSERVATIONS

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