

2018-19 Work Plan Template

All fields with an * are mandatory

Project Description Summary			Co-Chair Decision (March 8, 2018)
Date *	Project/Work Plan Identifier (if applicable)	Program Type and Strategic Alignment *	<p>* Decision Pool A: Workplan approved but at a reduced funding level.</p> <p>* Approved at \$326,250</p> <p>* Approval is granted for completion of the survey portion of this work - funding for DNA analysis is not approved.</p> <p>* Deliverables for this level of funding are to be clarified and an amended workplan submitted before March 23, 2018 to the Oil Sands Monitoring Secretariat.</p> <p>* It is a requirement of funding that key members of the project team participate in a Biological Monitoring Integration Workshop to be informed by the Oil Sands Monitoring Secretariat</p> <p>* Decisions on future funding are dependent upon the outcomes of the Biological Monitoring Integration Workshop as well as discussion with the Oil Sands Monitoring Program leadership as coordinated by the OSM Secretariat on the distinction between the provincial versus OSM aspects of this activity</p> <p>*Funding expectations: as a minimum an annual progress report is required by February 28, 2019. All publications or products resulting from this work requires acknowledgement of funding from the Oil Sands Monitoring Program and are to be provided to the Oil Sands Monitoring Secretariat for tracking and any programmatic communications purposes. Work funded through the Oil Sands Program will be available for public dissemination.</p>
19/01/2018	B-MD-1-1819	OSM - Focus Study	
Program Category *	Status *	Dept. ID	
Biodiversity, Land, Ecosystem Health Sciences	Existing Project	1104	
Project Leadership / Contact information			
Project Title *	Key Words (max 10) *		
Biotic Response of Ungulates to Oil Sands Activity	Woodland caribou, Rangifer tarandus caribou, population estimate, non-invasive genetic sampling (NGS), species at risk,		
Surname *	Given Name *	Title *	
Slater	Simon	Terrestrial Ecologist	
Organization *	Department	Division	
Alberta Provincial	Environment and Parks	Environmental Monitoring and Science	
Branch *	Section/Unit (if applicable)	Phone *	
Science	Biodiversity and Ecosystem Health Sciences	780-229-7287	
Email *	Mailing Address	City	
simon.slater@gov.ab.ca	9888 Jasper Avenue	Edmonton, AB	
Postal Code	EMSD Executive Owner (If Applicable)		
T5J 5C6	Monique Dube		
Project Information			
Project Objective(s) (Bullet Form) *	<ol style="list-style-type: none"> 1. Woodland caribou population size estimates in the oil sands region of Alberta. 2. Improved capture mark recapture estimates for woodland caribou in Alberta. 3. Spatially-explicit capture mark recapture estimates for woodland caribou in the oil sands region of Alberta. 4. Sensitivity/power analysis of NGS field methods for woodland caribou. 5. Standard operating procedures and QA/QC protocols for woodland caribou DNA collection and analysis. 		
Plain Language Overview (100 words) *	The objective of this Oil Sands Monitoring (OSM) Focused Study is to implement a robust non-invasive genetic sampling (NGS) program to estimate population size and composition of woodland caribou within the oil sands region through the collection of fecal pellet samples. Following the completion of the 2018-19 survey, we plan to review and evaluate the findings to assess whether repeated sampling would be valuable.		
Project Duration *	Project Original Start Date *	Estimated Completion Date *	
Multi-Year	01/04/2013	31/03/2022	
Specify Objectives This Project Will Address in 2018/2019. *	<ol style="list-style-type: none"> 1. Woodland caribou population size estimates in the oil sands region of Alberta. 2. Improved capture mark recapture estimates for woodland caribou in Alberta. 3. Spatially-explicit capture mark recapture estimates for woodland caribou in the oil sands region of Alberta. 4. Sensitivity/power analysis of NGS field methods for woodland caribou. 5. Standard operating procedures and QA/QC protocols for woodland caribou DNA collection and analysis. 		
Specify Objectives This Project Will Address Beyond 2018/19 (if multi-year). *	To be determined after project review.		
List Key Questions/Hypotheses Related to Each Objective Stated Above. *	Not applicable		
Main Assumptions, Constraints, Dependencies. *	<p>Assumptions: Suitable weather conditions to conduct surveys, skilled staff will be retained to deliver the project.</p> <p>Constraints: Woodland caribou fecal pellet surveys can only be conducted during suitable winter weather. Sufficient snow depth, temperatures below -10C, low wind speeds and clear skies. This combination of factors generally limits this type of work to the period between December 1 and March 15.</p> <p>Dependencies: Sufficient staff resources.</p>		
Partner Categories (select all that apply) * A partner is an individual, group, agency, community etc. that is an active participant in the project and in achieving the project deliverables.	Knowledge System *	Location (select all that apply) *	
<input type="checkbox"/> Federal Government <input checked="" type="checkbox"/> Another AEP Division <input type="checkbox"/> Another GoA Department <input checked="" type="checkbox"/> University/Academic Institution <input type="checkbox"/> Solely delivered by GoA <input type="checkbox"/> Citizen Science <input type="checkbox"/> Indigenous Community or Organization <input type="checkbox"/> ENGO <input type="checkbox"/> Other	Classical Science	<input type="checkbox"/> Office or Laboratory <input checked="" type="checkbox"/> Sub-regional <input type="checkbox"/> Transboundary (provincial/territorial) <input checked="" type="checkbox"/> Lower Peace Region <input type="checkbox"/> Upper Peace Region <input type="checkbox"/> North Saskatchewan Region <input type="checkbox"/> Red Deer Region <input checked="" type="checkbox"/> Lower Athabasca Region <input type="checkbox"/> Upper Athabasca Region	
AEP ONLY: Strategic Alignment to EMSD Outcomes			
AEP ONLY: Strategic Alignment to EMSD Science Plan, select 1-2 areas that apply (if Applicable)			
Ecosystems and Predicting Change			
Human Relationship with the Environment			
AEP ONLY: Strategic Alignment to AEP Departmental Outcomes			
AEP ONLY: Environmental and Ecosystem Health and Integrity	AEP ONLY: Sustainable Economic Diversity	AEP ONLY: Social Well-Being	
Biodiversity	No	No	
AEP ONLY: Protected Public Health and Safety from Environmental			
No			

<p>AEP ONLY: IMAG/IMSC Information Needs, Please Specify Which Need(s) is Being Addressed. File location M:\EMSD\Common\Portfolio Mgmt System Shared Docs</p>	<p>Biodiversity Reference Number 36 - Species at Risk Monitoring. Addressing monitoring gaps and enhancing woodland caribou management. The Government of Canada, through the approved Boreal Woodland Caribou recovery strategy, is influencing the Government of Alberta's position and activities in relation to woodland caribou. These considerations influence the geographic scope and type of actions which are being implemented and contemplated in relation to woodland caribou management and recovery. Also, the nature of the work will support the efforts of industry, environmental interest groups, First Nations, and others to delivery effective woodland caribou management and recovery activities and program - the OSM woodland caribou monitoring program is integral to these endeavors.</p>
<p>AEP ONLY: How This Project Will Address Each Strategic Theme Selected Above.</p>	<p>This project addresses the theme "Environmental and Ecosystem Health and Integrity" by generating knowledge that is relevant to communities, stakeholders, and decision makers.</p>
<p>Project Methodology</p>	
<p>List the Key Project Phases and Provide Bullets for Each Major Task Under Each Project Phase. *</p>	<p>Q1. a. Organize laboratory analysis and ship 2017-18 caribou DNA samples to Trent University; b. Prepare summary report for caribou range surveyed in 2017-18 Q2. a. Draft RFPs and RFPs; b. Draft work plan for program delivery, including schedules for all personnel. Q3. a. RFPs and RFPs reviewed, air charter companies selected for each WMU; b. 1 Caribou fecal DNA survey (weather permitting). Q4. a. 2-3 Caribou fecal DNA surveys (weather permitting); b. Data entry, processing (data QA/QC).</p>
<p>Describe How Changes in Environmental Condition Will Be Assessed. *</p>	<p>Changes in environmental condition will be assessed by repeated measures of selected parameters at multiple times, and comparing values among measurement events.</p>
<p>Are There Benchmarks (e.g., objectives, tiers, triggers, limits, reference conditions, thresholds, etc.) Being Used to Assess Changes in Environmental Condition? If So, Please Describe, If Not, State "NONE". *</p>	<p>NONE</p>
<p>Provide a Brief Description of the Methods by Project Phase. * Please expand to see entire description</p>	<p>Woodland Caribou (<i>Rangifer tarandus caribou</i>) are listed as a Threatened species in Alberta under the Wildlife Act, and in Canada under the Species At Risk Act (SARA). Habitat alteration resulting from industrial footprint, and in some cases forest fires, and subsequent increased predation rates are the primary drivers of caribou population decline in Alberta (Hervieux et al. 2013). Alberta Environment and Parks (AEP) are responsible for delivering the enhanced woodland caribou monitoring component of the Biotic Response Monitoring Program under the OSM initiative. This program builds on current caribou monitoring done by AEP and is testing procedures and techniques to facilitate estimates of caribou population size and composition of woodland caribou within the oil sands region of Alberta. The program is using non-invasive genetic sampling (NGS) methods and techniques developed by Ball et al. (2007) and Hettinga et al. (2012). These NGS methods were developed in Manitoba and Saskatchewan for boreal woodland caribou and present an opportunity to extend these methods to caribou populations in Alberta. Using the program MARK (White and Burnham 1999) and several years of DNA sampling, Hettinga et al. (2012) estimated encounter rates, apparent survival rates, rates of population change and population sizes. Methods: a. Study Area: The study area consists of the 7 designated caribou ranges that overlap the oil sands region of Alberta, including: East Side Athabasca River, Cold Lake, Richardson, West Side Athabasca River, Red Earth, Nipisi and Slave Lake (Figure 1). Following the methods outlined by Hettinga et al (2012) and using techniques described by Ball et al. (2007 and 2010) we plan to sample the Richardson caribou range in 2018-19 using non-invasive survey methods. b. Collection Sites: Caribou populations will be systematically surveyed by fixed-wing aircraft in the winter. The three sampling periods will occur roughly a month apart from December to March depending on weather conditions. Transect lines spaced 3 km apart are flown at 160km/hr and at 150-250 meters above the ground. Each fixed-wing aircraft will have 2 observers to record and map the location of caribou activity, including caribou sightings, tracks, and cratering sites. The estimated distance and direction from the mark location is recorded to help facilitate sample collection. c. Sample Collection: Using a rotary-wing aircraft and a separate team of 2-3 biologists, collection sites identified by the fixed-wing crew are visited to collect fecal pellet samples. At each site, approximately 1.4 times more samples are collected than the number of caribou estimated to be present at the site, since 30% of the samples are likely to be replicates (Hettinga et al. 2012). A minimum of 12 pellets per sample are collected. Pellets frozen together in a patty are selected over collecting single pellets to reduce the potential of collecting pellets from multiple animals in the same sample. Samples are collected using disposable latex gloves and placed in sterile Whirl-Pak™ sample bags. At each site the site location, date, time, estimated number of caribou, time since presence of caribou, number of samples collected, and evidence of other ungulate species in the area are recorded. The samples are kept frozen and are stored in a cooler onboard the aircraft. d. Sample Storage: All samples are stored in a freezer at -20C. The samples are shipped frozen to the Natural Resources DNA Forensics and Profiling Centre at Trent University in Peterborough, Ontario for genetic analysis. e. Genetic Profiling and analysis: Collaborative research continues with Dr. Paul Wilson at Trent University, a Canada Research Chair (CRC) in DNA Profiling of wildlife species. Drs. Wilson and Micheline Manseau of Parks Canada and the Natural Resource Institute (NRI), University of Manitoba, have maintained a 10-year collaborative research project on the conservation genetics of caribou. References: Ball, M. C., L. Finnegan, M. Manseau, and P. Wilson. 2010. Integrating multiple analytical approaches to spatially delineate and characterize genetic population structure: an application to boreal caribou (<i>Rangifer tarandus caribou</i>) in central Canada. <i>Conservation Genetics</i> 11:2131-2143. Ball, M. C., R. Pither, M. Manseau, J. Clark, S. D. Petersen, S. Kingston, N. Morrill, and P. Wilson. 2007. Characterization of target nuclear DNA from faeces reduces technical issues associated with the assumptions of low-quality and quantity template. <i>Conservation Genetics</i> 8:577-586. Hervieux, D., M. Hebblewhite, N.J. DeCesare, M. Russell, K. Smith, S. Robertson, and S. Boutin. 2013. Widespread declines in woodland caribou (<i>Rangifer tarandus caribou</i>) continue in Alberta. <i>Can. J. Zool.</i> 91:872-882. Hettinga, P. N., A. N. Arnason, M. Manseau, D. Cross, K. Whaley, P. J. Wilson. 2012. Estimating size and trend of the North Interlake woodland caribou population using fecal-DNA and capture-recapture models. <i>The Journal of Wildlife Management</i> 76(6): 1153-1164. White, G. C., and K. P. Burnham. 1999. Program MARK: survival estimation from populations of marked animals. <i>Bird Study</i> 46:S120-S139</p>
<p>List the Key Indicators Measured. *</p>	<p>Woodland caribou population estimates</p>
<p>Describe Sample Handling Procedures, if Not Applicable, State N/A. *</p>	<p>N/A, see methods</p>
<p>List SOPs that Will Be Used, if Not Applicable, State N/A. *</p>	<p>N/A, see methods</p>
<p>Describe the QA/QC Plan, if Not Applicable, State N/A. *</p>	<p>N/A</p>
<p>Describe How Indigenous Communities are Involved in the Project Design, Data Collection, and Analysis (Knowledge Co-creation) and How is their Consent Sought. If Not Applicable, State N/A. *</p>	<p>None to date</p>

Components Delivered by Others		
List by Project or Project Phase Each Component That Will Be Delivered by An External Party (Including analytical laboratories) and Name the Party. State None if Not Required. *	1. Ungulate surveys require rotary-wing aircraft to complete. Contracts will be assigned for each WMU through an open RFP process. The companies will be selected in the fall of 2018 based on the RFP evaluation. 2. Genetic analysis done by Trent University DNA lab through a grant agreement with Operations Division	
Will These Components be Delivered Under Grant or Contract or Both? Please Describe and Name the Associate Work Plan/Grant/Contract for These Services if Not Included Within This Work Plan. *	1. Aircraft services will be delivered under contract. Contracts will be in place from November 1 to March 31. 2. Grant agreement facilitated by the Operations Division.	
Monitoring Site Locations and Coordinates (for all sites, please add them to the Monitoring Site Location tab - a separate excel sheet)		
Attach Map of Locations. Distinguish Indicators by Station if Necessary. Distinguish Sampling Frequency by Station if Necessary.	See attached map. The study area is outlined by woodland caribou ranges that overlap the oil sands region. This includes the Cold Lake, ESAR, WSAR, Red Earth, Richardson, Nipisi and Slave Lake caribou ranges.	
Project Schedule		
FOR OIL SANDS MONITORING PROJECTS ONLY: A coordinated field monitoring schedule for the OSM Program is required. Please complete the attached document named "OSM Program Field Monitoring Schedule" in addition to this work plan. Fill as much as you can recognizing that scheduling changes will occur and the scheduling document will be updated regularly. Please note the scheduling document will be shared with stakeholders.	See attached. These woodland caribou surveys and schedule are highly dependent on snow conditions and weather.	
FOR OIL SANDS MONITORING PROJECTS ONLY: Have You Coordinated With Other Project Leads On Field Logistics? If So, Please Specify. *	N/A	
Other		
Additional Details.	N/A	
Will Capacity Building and Training be a Component of the Project and if So, Explain How. If Not, State N/A. *	N/A	
Environmental Impact and Considerations.	N/A	
Data Management and Digital Assets		
Will Data be Produced as a Result Of This Project? *	Type of Quantitative Data Variables	Frequency Of Collection
Yes	Other	Other
Data Collection Period: Start Date - End Date 01/04/2018 - 31/03/2019	Timeline For Upload Period: Start Date - End Date 01/04/2019 - 31/03/2020	
Is There a Data Sharing Agreement? (Yes or No).	No	
Will the Data Include Traditional Knowledge as Defined by and Provided by an Indigenous Representative, Community or Organization (Yes / No).	No	
Platform/Location of Data Storage.	EMSD M Drive	
Project Deliverables		
Proposed 2018-19 Deliverable Type (for each deliverable outline document, presentation, meeting, etc.)		
<input type="checkbox"/> Peer-reviewed Journal Publication	<input type="checkbox"/> Peer-reviewed Conference Proceeding	<input type="checkbox"/> Non-peer reviewed Conference Proceeding
Q1 - Deliverable, Comments	Q1 - Deliverable, Comments	Q1 - Deliverable, Comments
Q2 - Deliverable, Comments	Q2 - Deliverable, Comments	Q2 - Deliverable, Comments
Q3 - Deliverable, Comments	Q3 - Deliverable, Comments	Q3 - Deliverable, Comments

Q4 - Deliverable, Comments	Q4 - Deliverable, Comments	Q4 - Deliverable, Comments
<input checked="" type="checkbox"/> Technical Report	<input type="checkbox"/> Book Chapter	<input type="checkbox"/> Public Dissemination Document
Q1 - Deliverable, Comments	Q1 - Deliverable, Comments	Q1 - Deliverable, Comments
Q2 - Deliverable, Comments	Q2 - Deliverable, Comments	Q2 - Deliverable, Comments
Q3 - Deliverable, Comments	Q3 - Deliverable, Comments	Q3 - Deliverable, Comments
Q4 - Deliverable, Comments	Q4 - Deliverable, Comments	Q4 - Deliverable, Comments
Technical report on ESAR, Cold Lake and WSAR caribou DNA program, providing a summary of results to date on estimated caribou population size based on capture mark recapture (CMR) analysis. Completed by Trent University		
<input type="checkbox"/> Conference Presentation(s)	<input type="checkbox"/> Stakeholder Presentation	<input type="checkbox"/> Key Engagement/Participation Meeting *
Q1 - Deliverable, Comments	Q1 - Deliverable, Comments	Q1 - Deliverable, Comments
Choose one	Choose one	Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
Q2 - Deliverable, Comments	Q2 - Deliverable, Comments	Q2 - Deliverable, Comments
Choose one	Choose one	Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
Q3 - Deliverable, Comments	Q3 - Deliverable, Comments	Q3 - Deliverable, Comments
Choose one	Choose one	Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
Q4 - Deliverable, Comments	Q4 - Deliverable, Comments	Q4 - Deliverable, Comments
Choose one	Choose one	Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
<input type="checkbox"/> EMSD Strategic & Operational Publication	<input checked="" type="checkbox"/> Other Documents	
Q1 - Deliverable, Comments	Q1 - Deliverable, Comments	
Q2 - Deliverable, Comments	Q2 - Deliverable, Comments	
Q3 - Deliverable, Comments	Q3 - Deliverable, Comments	
Q4 - Deliverable, Comments	Q4 - Deliverable, Comments	
		1. Annual Progress Report 2. Develop SOP, QA/QC documents for DNA methods and analysis.
Proposed Deliverables After 2018/2019 for the project funds received in 2018/2019		
<input type="checkbox"/> Peer-reviewed Journal Publication	<input type="checkbox"/> Peer-reviewed Conference Proceeding	<input type="checkbox"/> Non-peer reviewed Conference Proceeding
Q1 - Deliverable, Comments	Q1 - Deliverable, Comments	Q1 - Deliverable, Comments

Q2 - Deliverable, Comments	Q2 - Deliverable, Comments	Q2 - Deliverable, Comments
Q3 - Deliverable, Comments	Q3 - Deliverable, Comments	Q3 - Deliverable, Comments
Q4 - Deliverable, Comments	Q4 - Deliverable, Comments	Q4 - Deliverable, Comments
<input type="checkbox"/> Technical Report	<input type="checkbox"/> Book Chapter	<input type="checkbox"/> Public Dissemination Document
Q1 - Deliverable, Comments	Q1 - Deliverable, Comments	Q1 - Deliverable, Comments
Q2 - Deliverable, Comments	Q2 - Deliverable, Comments	Q2 - Deliverable, Comments
Q3 - Deliverable, Comments	Q3 - Deliverable, Comments	Q3 - Deliverable, Comments
Q4 - Deliverable, Comments 1. Spatially-explicit capture mark recapture estimates for woodland caribou in the oil sands region of Alberta. 2. Sensitivity/power analysis of NGS field methods for woodland caribou.	Q4 - Deliverable, Comments	Q4 - Deliverable, Comments
<input type="checkbox"/> Conference Presentation(s)	<input type="checkbox"/> Stakeholder Presentation	<input type="checkbox"/> Key Engagement/Participation Meeting *
Q1 - Deliverable, Comments Choose one	Q1 - Deliverable, Comments Choose one	Q1 - Deliverable, Comments Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
Q2 - Deliverable, Comments Choose one	Q2 - Deliverable, Comments Choose one	Q2 - Deliverable, Comments Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
Q3 - Deliverable, Comments Choose one	Q3 - Deliverable, Comments Choose one	Q3 - Deliverable, Comments Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
Q4 - Deliverable, Comments Choose one	Q4 - Deliverable, Comments Choose one	Q4 - Deliverable, Comments Name of Meeting, Year, Location, Dates, Participant Groups and Number of Participants.
<input type="checkbox"/> EMSD Strategic & Operational Publication	<input type="checkbox"/> Other Documents	
Q1 - Deliverable, Comments	Q1 - Deliverable, Comments	
Q2 - Deliverable, Comments	Q2 - Deliverable, Comments	

Q3 - Deliverable, Comments	Q3 - Deliverable, Comments
Q4 - Deliverable, Comments	Q4 - Deliverable, Comments 1. Annual Progress Report. 2. Standard operating procedures and QA/QC protocols for woodland caribou DNA collection and analysis.
All Completed Products	
date (consistent format for the fields below). Add rows as required. if a multi-year project, specify all completed products to	
Journal Paper	
Required Format: Author (follow APA citation format), Year, Title, Journal, Volume, Page Numbers, Open or Closed and Document Location	
Example: Jacoby, W. G. (1994). Public Attitudes Toward Government Spending. American Journal of Political Science, 38(2), 336-361. Fearon, J. D., & Laitin, D. D. (2003). Ethnicity, Insurgency, and Civil War. American Political Science Review, 97(01), 75. doi: 10.1017/S0003055403000534	
1)	
2)	
3)	
4)	
5)	
Technical Report	
Required Format: Author, Year, Title, Publisher Location, Name of Publisher, Publisher, Document Location	
Example: Author, F.M. (Publication Year). Title of Report (Report No. XXX). Publisher City, State: Publisher	
1)	
2)	
3)	
4)	
5)	
Book Chapter	
Required Format: Author, Year, Title of Paper, Editors, Title of Book, Page Numbers, Location of Publisher, Name of Publisher, Document Location	
Example: Hemingway, E. (1999). The Killers. In J. Updike & K. Kenison (Eds.), The Best American Short Stories of the Century (pp.78-80). Boston, MA: Houghton Mifflin)	
1)	
2)	
3)	
4)	
5)	
Conference Proceeding	
Required Format: Author, Year, Title of Paper, Editors, Title of Proceedings, Name of Conference Location of Conference, Publisher Location, Name of Publisher, Document Location	
Example: Author of Paper, A., & Author of Paper, B. (Year, Month date). Title of Paper. In A. Editor, B. Editor, & C. Editor. Title of Published Proceedings. Paper Presented at Title of Conference: Subtitle of Conference, Location (inclusive page numbers). Place of Publication: Publisher.)	
1)	
2)	
3)	
4)	
5)	
Public Dissemination Document	
Required Format: Author, Year, Title, Journal / Report, Volume, Publisher, Page Number, Number of Pages, Document Location	
1)	
2)	
3)	
4)	
5)	
AEP ONLY: EMSD Strategic and Operational Publication	
Required Format: Author, Year, Title, Publisher Location, Name of Publisher, Publisher, Document Location	
1)	
2)	
3)	
4)	
5)	
Other Documents	
Detailed Information of Other Documents	
1)	
2)	
3)	
4)	
5)	
Conference Presentation	
Required Format: Presenter, Date, Location, Title, Platform or Poster, Conference Name	
1) Slater, S. 2015. Woodland Caribou (Rangifer tarandus caribou) Monitoring in the Oil Sands Region. Living with Caribou: Forestry, Land-Use and Policy Technical Session, Canadian Institute of Forestry, November 19, 2015. Poster Presentation.	
2) Sztaba, A. 2015. Enumeration of woodland caribou in the oil sands region. Oil Sands Symposium, Edmonton AB, Feb 24-25 2015. Poster Presentation.	
3)	

4)		
5)		
Stakeholder Presentation		
Required Format: Presenter, Date, Location, Title, Platform or Poster, Name of Meeting		
1)		
2)		
3)		
4)		
5)		
Key Engagement/Participation Meeting		
Required Format: Meeting Host, Date, Location		
1)		
2)		
3)		
4)		
5)		
Human Resources / Staffing Plan (roles and responsibilities)		
Name & Role	Organization	Responsibilities
Dan Farr	EMSD	OSM Program lead - personnel recruitment, timely delivery of outcomes, reporting
Simon Slater	EMSD	Project lead - project administration, human and resource allocation, work planning, logistics,
Dave Hervieux	Operations	Provincial Woodland Caribou Coordinator - Project oversight, work planning, grant agreement with Trent University
Agnieszka Sztaba	EMSD	Project staff - Logistics, planning, conducting caribou surveys, data entry, data analysis and report writing
Andrew Braid	EMSD	Project staff - Logistics, planning, conducting caribou surveys, data entry, data analysis and report
Brett Sarchuk	EMSD	Project staff - Logistics, planning, conducting caribou surveys, data entry, data analysis and report
Wildlife Biologists	Operations	Survey Biologist - conducting caribou surveys
AEP ONLY: Additional Human Resources Required from EMSD		
Name & Role	Branch - Section	Estimated time (% of annual FTE)
Simon Slater / Terrestrial Ecologist	Science – Land, Biodiversity and Ecosystem Health	30
Agnieszka Sztaba / Terrestrial Biologist	Science – Land, Biodiversity and Ecosystem Health	20
	Science – Land, Biodiversity and Ecosystem Health	20
Andrew Braid / Terrestrial Biologist	Science – Land, Biodiversity and Ecosystem Health	15
Dan Farr	Science – Land, Biodiversity and Ecosystem Health	20
Brett Sarchuk / Terrestrial Biologist		
Financial Details and Budget Request		
Source of Funding Requested Year 1 - 2018/19		
	AEP ONLY: EMSD	OSM
Salaries and Benefits - AEP Chargeback		126,000
Salaries and Benefits - New OSM Staff		0
Salaries and Benefits - in-kind support from Operations - regular salary time		0
Operations and Maintenance		8,000
Consumable materials and supplies		4,000
Conferences and meetings travel		3,000
Field work travel		35,250
Field work overtime		0
Engagement		0
Reporting		0
External Contracts - Aircraft contracts		150,000
Overhead		0
Grants (Trent University: in-kind support from Operations)		(60,000)
Capital		
Total budget request for the year	0	326,250
Total budget approved		
Source of Funding Requested Year 2 - 2019/20		
	AEP ONLY: EMSD	OSM
Salaries and Benefits - AEP Chargeback		
Salaries and Benefits - New OSM Staff		
Salaries and Benefits - in-kind support from Operations - regular salary time		
Operations and Maintenance		
Consumable materials and supplies		
Conferences and meetings travel		
Field work travel		
Field work overtime		
Engagement		
Reporting		
External Contracts - Aircraft contracts		
Overhead		
Grants (Trent University: in-kind support from Operations)		
Capital		
Total budget request for the year	0	0
Total budget approved		
Source of Funding Requested Year 3 - 2020/21		
	AEP ONLY: EMSD	OSM
Salaries and Benefits - AEP Chargeback		
Salaries and Benefits - New OSM Staff		
Salaries and Benefits - in-kind support from Operations - regular salary time		
Operations and Maintenance		
Consumable materials and supplies		
Conferences and meetings travel		
Field work travel		
Field work overtime		
Engagement		
Reporting		

External Contracts - Aircraft contracts		
Overhead		
Grants (Trent University: in-kind support from Operations)		
Capital		
Total budget request for the year	0	0
Total budget approved		

Source of Funding Requested Year 4 - 2021/22		
	AEP ONLY: EMSD	OSM
Salaries and Benefits - AEP Chargeback		
Salaries and Benefits - New OSM Staff		
Salaries and Benefits - in-kind support from Operations - regular salary time		
Operations and Maintenance		
Consumable materials and supplies		
Conferences and meetings travel		
Field work travel		
Field work overtime		
Engagement		
Reporting		
External Contracts - Aircraft contracts		
Overhead		
Grants (Trent University: in-kind support from Operations)		
Capital		
Total budget request for the year	0	
Total budget approved		
Budget Request for the Entire Project	0	326,250

Project Approval(s)		
Proposal Submitted by		
Surname	Given Name	Organization
Slater	Simon	EMSD
Signature	Date	
X _____ Simon Slater Terrestrial Ecologist	12/02/2018	

Proposal for OSM Reviewed by		
EMSD Executive Director	Signature	Date
Dan Farr for Bill Donahue	X _____ Bill Donahue Executive Director, Science	12/02/2018

AEP Administrator/Coordinator - Review	Signature	Date

ECCC Administrator/Coordinator - Review	Signature	Date

OSM Project Approved by		
AEP Co-Lead for OSM	Signature	Date
ECCC Co-Lead for OSM	Signature	Date

AEP ONLY: Proposal for EMSD Reviewed by		
EMSD Director	Signature	Date

AEP ONLY: EMSD Project Approved by		
EMSD Executive Director	Signature	Date

EMSD Chief Scientist	Signature	Date

OSM / EMSD Project Has Not Been Approved		
Project Status	Date Notified	Date Required
The project is conditionally approved. The following conditions are required before approval is granted.		

List the Condition(s)	
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Condition(s) Addressed / Approval Granted	
Choose one	

OSM / EMSD Approval Post Removal of Condition(s)		
Name & Title	Signature	Date

Add All Monitoring Site Locations and Coordinates (insert more rows if required)

Site Identifier *	Location Name *	Long/Lat *Centre of caribou range
Site 1		
ESAR	East side of the Athabasca River	111° 32' 39.30" W 56° 0' 52.89" N
CL	Cold Lake	110° 42' 46.89" W 55° 12' 17.05" N
WSAR	West side of the Athabasca River	113° 4' 39.45" W 56° 30' 17.26" N
RE	Red Earth	113° 58' 37.84" W 57° 31' 30.39" N
SL	Slave Lake	114° 19' 13.78" W 55° 3' 25.82" N
NIP	Nipisi	114° 46' 26.29" W 55° 50' 32.74" N
RICH	Richardson	110° 38' 28.57" W 57° 46' 32.25" N
Site 8		
Site 9		
Site 10		
Site 11		
Site 12		
Site 13		
Site 14		
Site 15		