Work Plan Application

Project Information	
Project Title:	Year 3: Lakeland Métis Community Moose Camera Tracking Project
Lead Applicant, Organization, or Community:	Lakeland Métis Community Association
Work Plan Identifier Number: If this is an on-going project please fill the identifier number for 24/25 fiscal by adjusting the last four digits: **Example:** D-1-2425 would become D-1-**2425**	B-CM-21-2425
Project Region(s):	Oil Sands Region
Project Start Year: First year funding under the OSM program was received for this project (if applicable)	2022
Project End Year: Last year funding under the OSM program is requested **Example: 2024**	2025
Total 2024/25 Project Budget: From all sources for the 2024/25 fiscal year	$75,000.00
Requested OSM Program Funding: For the 2024/25 fiscal year	$75,000.00
Project Type:	Community Based Monitoring
Project Theme:	Terrestrial Biological Monitoring
Anticipated Total Duration of Projects (Core and Focused Study (3 years))	Year 3
Current Year (choose one):	Focused Study Year 3 of 3
	Core Monitoring Year 3 of 3

Contact Information

Lead Applicant/ Principal Investigator: Every work plan application requires one lead applicant. This lead is accountable for the entire work plan and all deliverables.	Melina Power
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Project Summary

In the space below, please provide a summary of the proposed project that includes a brief overview of the project drivers and objectives, the proposed approach/methodology, project deliverables, and how the project will deliver to the OSM Program objectives. The summary should be written in plain language and **should not exceed 300 words**.

Lakeland Métis Community Association (LMCA) is planning for Year 3 of its community-based monitoring project to study the effects of Steam Assisted Gravity Drainage (SAGD) development on the occupancy of moose in the South Athabasca Oil Sands Area. The Project consists of collaboration between local Métis knowledge holders from LMCA and western scientists from Alberta Biodiversity Monitoring Institute (ABMI) to identify critical moose habitats and place wildlife cameras to track moose occupancy in relation to two SAGD projects as well as two reference areas. Métis harvesters will work with terrestrial ecologists to analyze the data which will collected and uploaded to Wild Trax https://www.wildtrax.ca/home.html
The main drivers of this Project are the need for collaboration between hunters and wildlife experts in assessing and monitoring the potential effects of SAGD operations on the presence/occupancy of moose in proximity to SAGD developments. Métis knowledge holders are skilled in the identification of moose habitats. Their skills are supplemented by input of ABMI's scientists on the placement of cameras, sampling methods and data collection techniques. The deliverables of the Project will be a dateset of geo-referenced photographs of moose occupancy in the South Athabasca Oilsands stored in Wild Trax that can be shared with OSM partners. In addition, annual progress reports will be provided and peer-reviewed papers will be produced describing the Project, its methods, findings and contributions to OSM questions about baseline conditions, effects of oil sands activity on moose and contribution to cumulative effects.

1.0 Merits of the Work Plan

All work plans under the OSM Program must serve the mandate of the program by determining (1) if changes in indicators are occurring in the oil sands region and (2) if the changes are caused by oil sands development activities and (3) the contribution in the context of cumulative effects. In the space below please provide information on the following:

- Describe the key drivers for the project identifying linkages to Adaptive Monitoring framework particularly as it relates to surveillance, confirmation and limits of change (as per OC approved Key Questions).
- Explain the knowledge gap as it relates to the Adaptive Monitoring that is being addressed along with the context and scope of the problem as well as the Source - Pathway - Receptor Conceptual Models .
- Describe how the project meets the mandate of the OSM Program or areas of limited knowledge is the work being designed to answer with consideration for the TAC specific Scope of Work Document (attached) and the Key Questions (attached)?
- Discuss results of previous monitoring/studies/development and what has been achieved to date. Please identify potential linkages to relevant sections of the State of Environment Report.

This project has established simultaneous reference conditions of moose occupancy in critical moose habitats without SAGD facilities present. In Year 2, the Project collected information on moose presence and movement in proximity to two SAGD facilities. As such, the Environmental Effects Monitoring (EEM) framework seeks to compare observations about moose occupancy between baseline conditions and two SAGD conditions. In this third year, the Project will add additional SAGD locations to compare to baseline or reference conditions. The Project is driven by the research question that asks what are the baseline conditions of moose occupancy in the South Athabasca Oilsands area and are there any SAGD (oil sands industry) related changes to moose presence? How do these observed changes fit with the current state of understanding of the cumulative effects of oil sands development on the local moose population? What are the pathways of SAGD effects on traditional harvesting of moose?

This project seeks to address a knowledge gap about how SAGD operations may impact moose occupancy within localized habitats through effects pathways related to noise, traffic, human presence, odours or visual disturbances. Within critical moose habitats, the SAGD facility, may generate effects on moose occupancy due to noise, human presence, traffic or other stimuli. The use of reference habitats without a SAGD facility will provide comparable baselines for moose occupancy.

This project contributes the the collection of baseline information, linkages to the effects of oils ands activities on moose, and discussions about cumulative effects by involving Indigenous harvesters in research about a keystone species for the exercise of Section 35 hunting rights. This project will further develop capacity for ongoing collaboration between LMCA and terrestrial ecologists in the analysis of data, the identification of cumulative effects pathways and the implementation of adaptive management frameworks.

This Project is utilizing the BADR (Before After Dose Response) study design which is being guided by LMCA knowledge holders in the site selection for camera locations. The BADR study design is the design utilized for the Terrestrial Based Monitoring (TBM) Program that integrates the monitoring of mammals, (cameras), birds (arus + banding) and other biodiversity indicators across the entire Oil Sands Region. The same wildlife camera monitoring SOPs are being used by LMCA as the ABMI uses across the OSM TBM Mammal monitoring program and none of the sites selected as part of this program overlap with TBM monitoring locations so this information will be adding to the OSM mammal monitoring program in areas of concern for communities.

To date, LMCA has recruited and trained LMCA hunters in collaboration with ABMI in the use of field cameras, methods for site selection and field placement. Two SAGD sites and two reference sites have already been chosen and up to 30 camera stations have been placed at 4 sites. In year 3 of the Project, additional camera stations will be established and data analysis will be conducted on data collected so far in Years 1 and 2. The use of Wild Trax will enable a broader sharing of the collected data for use by policy makers, academics and government scientists.

2.0 Objectives of the Work Plan

List in point form the objectives of the 2024/25 work plan below

-Compare moose occupancy in the reference moose habitats to habitats in proximity to SAGD operations
-Determine whether SAGD operations have observable effects on moose occupancy to contribute to local discussions on the effects of SAGD operations on hunting success.
-Combine local Indigenous knowledge about moose habitat with techniques of wildlife camera tracking and data management using WildTrax which allows for remote uploads, analysis and sharing of trail camera data.

3.0 Scope

Evaluation of Scope Criteria (Information Box Only- No action required)

Your workplan will be evaluated against the criteria below. A successful workplan would:

- Be in scope of the OSM Program (e.g., regional boundaries, specific to oil sands development, within boundaries of the Oil Sands Environmental Monitoring Program Regulation)
- consider the TAC-specific Scope of Work document and the key questions
- integrate western science with Indigenous Community-Based Monitoring)
- address the Adaptive Monitoring particularly as it relates to surveillance, confirmation and limits of change as per approved Key Questions.
- have an experimental design that addresses the Pressure/Stressor, Pathway/Exposure, Response continuum
- produce data/knowledge aligned with OSM Program requirements and is working with Service Alberta
- uses Standard Operating Procedures/ Best Management Practices/ Standard Methods including for Indigenous Community-Based Monitoring

3.1 Theme

Please select the theme(s) your monitoring work plan relates to:

☐ Air	☐ Groundwater	☐ Surface Water	☐ Wetlands
☑ Terrestrial Biology	☐ Data Management Analytics & Prediction		☐ Cross Cutting

3.2 Core Monitoring, Focused Study or Community Based Monitoring

Please select from the dropdown menu below if the monitoring in the work plan is “core monitoring” and/or a “focused study”. Core monitoring are long term monitoring programs that have been in operation for at least 3 years, have been previously designated by the OSM program as core, and will continue to operate into the future. Focused studies are short term projects 1-2 years that address a specific emerging issue.

Community Based Monitoring

Themes

Please select the theme from the options below. Select all that apply.

☐ Air	☐ Groundwater	☐ Surface Water	☐ Wetland
☑ Terrestrial	☐ Cross-Cutting		

3.3.5 Terrestrial Biology Theme

3.3.5.1 Sub Themes

Wildlife

3.3.5.2 Terrestrial Biology - Key Questions:

Explain how your terrestrial biological monitoring program addresses the key questions below.

Has baseline been established? Have thresholds or limits of change been identified?

Baselines for moose occupancy are currently being obtained using simultaneous monitoring of moose occupancy at two reference sites along with two sites in proximity to SAGD facilities. The data used to establish baselines was collected at the end of Year 1 (2022-23) and will inform the identification of baselines and limits of change in relation to SAGD facilities in subsequent years, including during Years 2 (current year) and Year 3 to which this proposal refers.

Are changes occurring in terrestrial ecosystems due to contaminants and landscape alteration? If yes, is there evidence that the observed change is attributable to oil sands development? (Describe source-pathway-receptor and/or conceptual models) and what is the contribution in the context of cumulative effects?

Data collection for Year 1 has been completed and analysis is underway on Year 2 data to evaluate whether changes to terrestrial ecosystem due to landscape alteration have altered moose occupancy in relation to SAGD facilities. If there is a significant difference in the occupancy of moose between SAGD facilities and reference sites, it may be possible to identify sources and pathways of effects, including the contribution of SAGD facilities to the cumulative effects of moose habitat alteration.

Are there unanticipated results in the data? If yes, is there need for investigation of cause studies?

Data analysis is still underway.

Are changes in terrestrial ecosystems informing Indigenous key questions and concerns?

Landscape alteration for SAGD development including the construction of roads, well pads, pipelines, powerlines and production facilities have generated visible changes to the terrestrial ecosystem in the South Athabasca Oilsands area that has raised LMCA's level of concern over impacts to moose occupancy. LMCA harvesters have questioned the effects of SAGD development on the availability of moose and potential success in moose harvesting. This research project has been designed to address these key Indigenous questions and concerns.

Are data produced following OSM Program requirements and provided into the OSM Program data management system?

Data produced will follow OSM data review and tracking form, SIKIC and ICBMAC protocols for data sharing and protection of confidential information or Indigenous Knowledge. Collaboration between LMCA and ABMI has resulted in a greater degree of methodological rigour in camera placement and data analysis.

Do methodologies use relevant Standard Operating Procedures/ Best Management Practices/ Standard Methods?

This project is utilizing the BADR (Before After Dose Response) study design which is being guided by LMCA knowledge holders in the site selection for camera locations. The BADR study design is the design utilized for the Terrestrial Based Monitoring (TBM) Program that integrates the monitoring of mammals, (cameras), birds (arus + banding) and other biodiversity indicators across the entire Oil Sands Region. The same wildlife camera monitoring SOPs are being used by LMCA as the ABMI uses across the OSM TBM Mammal monitoring program and none of the sites selected as part of this program overlap with TBM monitoring locations so this information will be adding to the OSM mammal monitoring program in areas of concern for communities. The methodology is based on the multiple evidence based approach to Community Based Monitoring which combines Indigenous Knowledge and Western Scientific perspectives as equal but distinct sources of knowledge and expertise in the design of the CBEM. In this case, LMCA hunters, Elders and knowledge holders collaborated with terrestrial ecologists from ABMI to identify critical moose habitats and select study sites. The use of standard camera tracking methods follows best practices and scientific rigor with input from ABMI. The collaboration between LMCA knowledge holders and ABMI scientists in the

selection of sites, placement of cameras and in the analysis of the photo data will generate compelling data on the local effects of SAGD facilities on moose occupancy and the potential effects pathways to traditional hunting of moose for food.

How does the monitoring identify integration amongst projects, themes or with communities?

Moose hunting is a core harvesting activity for Indigenous communities across the Oil Sands Area. Contributing to assessment of the cumulative effects of oil sands activity on the moose population in the South Athabasca Oil Sands is of interest to every Indigenous community in the region.

With consideration for adaptive monitoring, where does the proposed monitoring fit on the conceptual model for the theme area relative to the conceptual model for the OSM Program?

Wildlife camera tracking as a monitoring method for the occupancy of moose will contribute to baseline conditions, identify the effects of SAGD operations on local behaivour of moose and provide data on the limits of change to moose occupancy, and provide additional data to inform discussions about the cumulative effects of Oil Sands Development on moose and the conditions for the successful hunting of moose by Indigenous people within the South Athabasca Oilsands Area. The data collected during this study can inform adaptive management of moose habitats through enhanced sharing of knowledge between Indigenous harvesters and western scientists, including OSM and AEP staff and terrestrial ecologists.

How will this work advance understanding transition towards adaptive monitoring?

The methodology developed for this project which includes close collaboration between LMCA knowledge holders and western scientists can inform best practices for adaptive monitoring in other areas, for additional species and in relation to other monitoring themes. The data collected will also enhance the adaptive monitoring and management of terrestrial habitats through the generation of multiple evidence based information to inform decision making. By combining western science with Indigenous knowledge in the analysis of the data and reporting of findings, the OSM Program will have access to a more fulsome description of sources of effects, pathways of effects and limits of change.

Is the work plan contributing to Programmatic State of Environment Reporting? If yes, please identify potential linkages to relevant sections of the State of Environment Report.

The photos generated by this Project and the accompanying analysis of moose occupancy in relation to oil sands SAGD facilities consisting of a multiple evidence based collaboration between Indigenous Knowledge Holders and western scientists will enhance the quality, breadth and integrity of the data available for environmental reporting in the oil sands area.

4.0 Mitigation

Evaluation of Mitigation Criteria (Information Box Only- No action required)
Your workplan will be evaluated against the criteria below. A successful workplan would potentially inform:

- efficacy of an existing regulation or policy
- an EPEA approval condition
- a regional framework (i.e., LARP)
- an emerging issue

Explain how your monitoring program informs management, policy and regulatory compliance. As relevant consider adaptive monitoring and the approved Key Questions in your response.

The OSM program asks if oil sands activity has generated changes to local conditions, in this case moose habitat fragmentation and occupacny. The OSM also asks if the observed changes are attributed to oil sands development. Further, it asks what are the stressors that contribute to cumulative effects. In this case, the Project will provide a localized example of a potential contribution to moose occupancy in relation to SAGD facilities, compared with reference conditions (simultaneous baseline cases). This will enable further study into the stressors caused by SAGD faciltiies as a source of change to moose habitat and its effects on occupancy. Is the effect pathway primarily because of noise, odour, presence of humans, habitat fragmentation, etc ? This can contribute to further research and investigation into cumulative effects of SAGD operations on moose across multiple effects pathways.

5.0 Indigenous Issues

Evaluation of Indigenous Issues Criteria (Information Box Only- No action required)
Your workplan will be evaluated against the criteria below. A successful workplan would potentially:

- Investigate Indigenous communities key questions and concerns
- Includes culturally relevant receptor(s) and indicator(s)
- Include or be driven by Indigenous communities (participatory or collaborative)
- Develop capacity in Indigenous communities
- Include a Council Resolution or Letter of Support from one or more Indigenous communities
- Describe how ethics protocols and best practices regarding involvement of Indigenous peoples will be adhered to
- Provide information on how Indigenous Knowledge will be collected, interpreted, validated, and used in a way that meets community Indigenous Knowledge protocols

Explain how your monitoring activities are inclusive and respond to Indigenous key questions and concerns and inform the ability to understand impacts on concerns and inform Section 35 Rights

This Project is designed and led by an Indigenous Community, namely LMCA. The origin of the Project came out of consultation with LMCA members who are moose hunters and who are concerned about the effects of SAGD operations on the local moose population. The choice of terrestrial biology and particularly moose habitat and moose occupancy as themes for monitoring were made by LMCA harvesters. LMCA is leading the study in order to further develop its capacity for monitoring, particularly using wildlife camera tracking and remote sensing. LMCA has internal protocols for the protection and dissemination of its Indigenous Knowledge based on free, prior and informed consent among individual participants and community consent to authorize sharing of knowledge in the form of datasets, photographs, observations, etc. Data collection, ownership, control and dissemination of Indigenous knowledge based information will follow the Ethical Guidelines for Indigenous Community Based Monitoring in the Oil Sands Monitoring Program.

Does this project include an Integrated Community Based Monitoring Component?

No

If YES, please complete the ICBM Abbreviated Work Plan Forms and submit using the link below

ICBM WORK PLAN SUBMISSION LINK

5.1 Alignment with Interim Ethical Guidelines for ICBM in the OSM Program

Are there any community specific protocols that will be followed?

LMCA has internal protocols for the protection and dissemination of its Indigenous Knowledge based on free, prior and informed consent among individual participants and community consent to authorize sharing of knowledge in the form of datasets, photographs, observations, etc. Data collection, ownership, control and dissemination of Indigenous knowledge based information will follow the Ethical Guidelines for Indigenous Community Based Monitoring in the Oil Sands Monitoring Program.

Does the work plan involve methods for Indigenous participants to share information or knowledge (e.g. interview, focus group, survey/structured interview), or any other Indigenous participation? If yes, describe how risks and harms will be assessed, and the consent process that will be used.

Yes the work plan includes opportunities for Indigenous participants to share knowledge in site selection, field camera placement, during data analysis workshops and in preparation of publication of findings. Free prior and informed consent will be obtained from participants and collection and treatment of Indigenous knowledge will follow the Ethical Guidelines for Indigenous Community Based Monitoring in the Oil Sands Monitoring Program. Risks and potential harms will be assessed using self-reporting by participants and periodic reinforcement and repetition that free, prior and consent has been obtained from participants prior to each meeting, focus group or work session.

Do the activities include any other collecting/sharing, interpreting, or applying Indigenous knowledge? Please describe how these activities will be conducted in alignment with the Interim Ethical Guidelines, and any community-based protocols and/or guidelines that may also apply.

The collection and use of Indigenous Knowledge will be conducted in alignment with the Interim Ethical Guidelines and LMCA's own internal process for engaging with members, collecting Indigenous Knowledge and publishing findings. These are based on free, prior and informed consent, community-based ownership, control, access and possession of any information collected and inclusion of traditional knowledge holders as co-authors in any publications resulting from this project.

Indicate how Indigenous communities / Indigenous knowledge holders will be involved to ensure appropriate analysis, interpretation and application of data and knowledge.

LMCA is organizational lead for this study. Indigenous Knowledge will inform site and study area selection, field camera placement, data analysis and reporting. LMCA harvesters will provide their observations and input to analyze data during a series of workshops. All data collected will be retained by LMCA and stored in a database owned and controlled by LMCA and the decision to post any photos to Wild Trax will be made by LMCA, including restrictions on level of public access. Any publications resulting from this Project will be developed in collaboration with LMCA and external consultants and LMCA Indigenous Knowledge holders will be identified as co-authors on any publication.

How are Indigenous communities involved in identifying or confirming the appropriateness of approach, methods, and/or indicators?

LMCA and its harvesters/community members provided the origins for this study based on the identification of changes to moose habitat and moose occupancy in relation to SAGD development as a key Indigenous community concern or question. The choice of moose as a species for study, the use of field camera tracking as a method and the selection of sites for study were all made by LMCA and its harvesters based on Indigenous Knowledge and key community concerns.

How does this work plan directly benefit Indigenous communities? How does it support building capacity in Indigenous communities?

This Project has already expanded community capacity to participate in adaptive monitoring through collaboration in field camera methodology and camera placement with ABMI. 30 community members have participated in workshops for Year 1 of this Project and 4 harvesters have been identified to work part time as field camera placement monitors. Participation in this project has also enhanced LMCA's capacity to participate in adaptive monitoring for other species including caribou, wood bison and wolverine through other programs and initiatives beyond the scope of this OSM proposal.

How is the information from this work plan going to be reported back to Indigenous communities in a way that is accessible, transparent and easy to understand?

The findings of this study will published as an article in a peer reviewed journal with participating community members as co-authors. Community members will have an opportunity to provide input into the analysis of the moose photos collected during the study at a series of workshops which will include time to co-author and provide input into the draft publication. LMCA community members will discuss the contribution of SAGD facilities on moose occupancy in light of their findings. Community members will also be consulted during the phase of revisions and edits to the article. The article itself will be available to community members as a record of involvement and as a source of pride in contributing to the scientific literature.

6.0 Measuring Change

Evaluation of Measuring Change Criteria (Information Box Only- No action required)

Your workplan will be evaluated against the criteria below. A successful workplan would potentially:

- assess changes in environmental conditions compared to baseline (e.g., validation of EIA predictions)
- report uncertainty in estimates and monitoring is of sufficient power to detect change due to oil sands development on reasonable temporal or spatial scales
- include indicators along the spectrum of response (e.g., individual, population, community)
- focus on areas of highest risk (where change is detected, where change is greater than expected, where development is expected to expand collection of baseline).
- measure change along a stressor gradient or a stressor/reference comparison

Explain how your monitoring identifies environmental changes and how can be assessed against a baseline condition. As relevant, consider adaptive monitoring, the TAC specific Scope of Work document and the Key Questions in your response.

In the case of existing SAGD operations, observing moose occupancy against a pre-development baseline is not possible. Instead, by choosing critical moose habitats in the South Athabasca Oil Sands Area, two in proximity to SAGD facilities and two reference areas, the Project's methodology creates a simultaneous baseline condition. The wildlife camera tracking will involve moose without SAGD present and moose with SAGD present in critical habitats. Any changes in occupancy can be attributed to SAGD operations and related disturbance to habitat. In this third year, additional reference/baseline locations and additional SAGD locations will be chosen and cameras placed to see if the SAGD has any impact on moose occupancy at other locations in addition to those chosen in Years 1 and 2.

7.0 Accounting for Scale

Evaluation of Accounting for Scale Criteria (Information Box Only- No action required)

Your workplan will be evaluated against the criteria below. A successful workplan would potentially be:

- appropriate to the key question and indicator of interest
- relevant to sub-regional and regional questions
- relevant to organism, population and/or community levels of biological organization
- where modelled results are validated with monitored data
- where monitoring informs on environmental processes that occur at a regional scale. e.g. Characterizing individual sources to gain a regional estimate of acid deposition and understand signal from individual contributing sources.

Explain how your monitoring tracks regional and sub-regional state of the environment, including cumulative effects. As relevant, consider adaptive monitoring, the TAC specific Scope of Work document and the Key Questions in your response.

This project will take place at a subregional scale within critical moose habitats in proximity to SAGD plants compared to reference areas removed from SAGD operations. The SAGD plants will be within the South Athabasca Oil Sands Area in the Conklin-Leismer area and the control group will be in a location with simliiar vegetation, topography and habitat suitability but away from the SAGD operations, that is, outside of a 5 km buffer of SAGD leases. The location and density of camera traps and the number of cameras at each location is informed by Wild Trax and terrestrial biologists using standard methods for measuring occupancy including placement of cameras, number of cameras and criteria for site selection.

8.0 Transparency

Evaluation of Transparency Criteria (Information Box Only- No action required)
Your workplan will be evaluated against the criteria below. A successful workplan would potentially include:

- a plan for dissemination of monitoring data, including appropriate timing, format, and aligns with OSM program data management plan
- demonstrated transparency in past performance
- identified an annual progress report as a deliverable
- reporting of monitoring results occurs at timing and format that is appropriate for recipient audience.

Explain how your monitoring generates data and reporting that is accessible, credible and useful. As relevant, consider adaptive monitoring, the TAC specific Scope of Work document and the Key Questions in your response.

The trail camera data will be made available to OSM and other researchers using Wild Trax and annual reporting is included as a deliverable. The study findings will be published and submitted to a journal for peer review.

9.0 Efficiency

Evaluation of Efficiency Criteria (Information Box Only- No action required)
Your workplan will be evaluated against the criteria below. A successful workplan would include:

- appropriately addressed a risk-informed allocation of resources
- identified the role and justification for each staff member on the proposed work plan
- identified in-kind and leveraged resources (e.g., resources and approaches are appropriately shared with other OSM projects where possible)
- established partnerships (value-added) and demonstrated examples of coordinated efficiencies (e.g., field, analytical)
- identified co-location of monitoring effort
- demonstrated monitoring activities and information collected are not duplicative
- considered sampling/measurement/methods compatibility to other data sources (e.g., AER)

Explain how your monitoring is integrated with other OSM projects and incorporates community-based participation and/or engagement in proposed monitoring activities. As relevant, consider adaptive monitoring, the TAC specific Scope of Work document and the Key Questions in your response.

This Project will complement existing OSM projects performed by Indigenous communities without duplicating efforts of other groups. This Project focuses on moose which is a cultural keystone species for all Indigenous groups in the oil sands. By providing a variety of datasets (in this case photos) from new camera sites, this Project will enhance the quality of data available to OSM participants to better identify cumulative effects of oil sands activity on a species of particular interest to Indigenous people for the exercise of hunting rights. The Project will be focused on communication and input from TACs and Principal Investigators on Terrestrial Biology Monitoring to ensure efficiency and collaboration. This will ensure this Project compliments and does not replicate aspects of existing core monitoring in the South Athabasca Oil Sands Area

10.0 Work Plan Approach/Methods

List the Key Project Phases and Provide Bullets for Each Major Task under Each Project Phase

Phase 1 - Project Planning for Year 3
-Collaboration between LMCA harvesters and ABMI to revisit findings from Year 2, adapt monitoring sites and camera placement and identify new sites for monitoring for Year 3, two more in proximity to SAGD plants and two more reference locations.
-Collaboration with ABMI and Terrestrial Biological Monitoring TACs and Principal Investigators to identify areas for camera coverage, reduce redundancy, collaborate on data sharing, budget camera needs
Phase 2 – Field Installation – Remote Sensing
-Placement of sets of wildlife cameras at each of the four locations, in collaboration with ABMI
-Camera maintenance and replacement of batteries and SD cards at existing locations.
Phase 3 -Data Analysis
-Data management and preliminary data analysis (identification of moose, removal of non-moose photos, observations of moose occupancy at each location)
-Monitoring participant engagement to provide input on findings, analyze data and draft publication.
Phase 4 -Reporting
-Annual Reporting
-Data sharing protocols
-Publication of article and findings for peer review

Describe how changes in environmental Condition will be assessed

Observations of moose occupancy and behaviour at reference locations will establish a simultaneous baseline by which to compare moose occupancy and behaviour from photos taken in wildlife camera traps at SAGD locations. This program utilizes the BADR (Before After Dose Response) study design which is being guided by LMCA knowledge holders in the site selection for camera locations. The BADR study design is the design utilized for the Terrestrial Based Monitoring (TBM) Program that integrates the monitoring of mammals, (cameras), birds (arus + banding) and other biodiversity indicators across the entire Oil Sands Region. The same wildlife camera monitoring SOPs are being used by LMCA as the ABMI uses across the OSM TBM Mammal monitoring program and none of the sites selected as part of this program overlap with TBM monitoring locations so this information will be adding to the OSM mammal monitoring program in areas of concern for communities.

Are there Benchmarks Being Used to Assess Changes in Environmental Condition? If So, Please Describe, If Not, State "NONE"

Reference locations and conditions are provided by the use of cameras at locations outside of the 5 km buffer of SAGD leases

(e.g., objectives, tiers, triggers, limits, reference conditions, thresholds, etc.)

Provide a Brief Description of the Western Science or Community-Based Monitoring Indigenous Community-Based Monitoring Methods by Project Phase

Phase 1 – Indigenous Knowledge is used to identify key moose habitat and select locations for monitoring while western scientists advise on camera placement methods and number of cameras at each location.
Phase 2 – field installation involves collaboration between IK holders and scientists
Phase 3 – Data analysis involves collaboration between IK holders and ecologists
Phase 4 – Reporting and data sharing with permission of LMCA is performed primarily by western scientists with edits and review provided by LMCA monitoring participants

List the Key Indicators Measured, If Not Applicable, State N/A

Geo-referenced photographs featuring numbers of moose occupaying areas as measured by sets of cameras by date and time at both SAGD and reference locations

11.0 Knowledge Translation

In the space below, please provide the following:

- Describe the plan for knowledge transfer and distribution of learnings from the project. This could include workshops, publications, best practice documentation, marketing plan, etc.
- Demonstrate that the knowledge transfer plan is appropriate for the intended end-users.

Knowledge will be shared at a planning workshop to identify critical moose habitats, choose locations close to SAGD plants and choose a control location.
Further, knowledge transfer and sharing between terrestrial ecologists and Métis IK holders will occur at planning and training workshop on the use of trail cameras and in process to choose camera placement.
Collaborative data anlaysis of photos and observations of occupancy and behavour of moose on the trail cameras provides an additional opportunity for collaboration and knowledge transfer both ways, between IK holders and scientists.
Finally, workshops to analyze data, assess the sources of effects on moose occupancy and draft a publication to be submitted for peer review will provide extensive opportunities for knowledge sharing within the community and with the outside word, including among policy makers and scientists through the scientific literature.

12.0 External Partners

List by project or project phase each component that will be delivered by an external party (including analytical laboratories) and name the party. Describe and name the associate work plan/grant/contract for these services. * state none if not required

-ABMI/Wild Trax for training and data management, assistance with analysis of findings - David Evans.
-Oak Road Concepts – Dermot O'Connor, IK research facilitator.

*To ensure complete work plan proposal submission, all grants and contracts listed in this section should also be captured in Grants & Contracts.

13.0 Data Sharing and Data Management

For 2024-25 the following approach will be taken by the OSM Program related to data sharing.

For all work plans of a **western science** nature funded under the OSM Program, data sharing is a condition of funding and must align with the principle of **"Open by Default"**. In this case, all data is to be shared with the OSM Program as directed by the OSM Program Data Management work plan.

For all work plans involving **Indigenous Knowledge** as defined below and funded under the OSM Program, data sharing is a condition of funding and the Indigenous Knowledge components of the work plan must align with the principle of **"Protected by Default".** In this case, all data as defined as Indigenous Knowledge, are to be retained by the Indigenous community to which the Indigenous Knowledge is held.

Indigenous Knowledge is defined as:

*"*The knowledge held by First Nations, Inuit and Métis peoples, the Aboriginal peoples of Canada. Traditional knowledge is specific to place, usually transmitted orally, and rooted in the experience of multiple generations. It is determined by an Aboriginal community's land, environment, region, culture and language. Traditional knowledge is usually described by Aboriginal peoples as holistic, involving body, mind, feelings and spirit. Knowledge may be expressed in symbols, arts, ceremonial and everyday practices, narratives and, especially, in relationships. The word tradition is not necessarily synonymous with old. Traditional knowledge is held collectively by all members of a community, although some members may have particular responsibility for its transmission. It includes preserved knowledge created by, and received from, past generations and innovations and new knowledge transmitted to subsequent generations. In international or scholarly discourse, the terms traditional knowledge and Indigenous knowledge are sometimes used interchangeably.*"*

This definition was taken from the Canadian Government's Tri-council Policy Statement for Ethical Research involving Humans (Chapter 9, pg. 113) and is an interim definition specific to the Oil Sands Monitoring Program.

13.1 Has there, or will there be, a Data Sharing agreement established through this Project? *

Yes

13.2 Type of Quantitative Data Variables**:**

Discrete

13.3 Frequency of Collection:

Monthly

13.4 Estimated Data Collection Start Date:

November 4, 2022

13.5 Estimated Data Collection End Date:

March 31, 2025

13.6 Estimated Timeline For Upload Start Date:

November 30, 2023

13.7 Estimated Timeline For Upload End Date:

March 31, 2025

13.8 Will the data include traditional knowledge as defined by and provided by an Indigenous representative, Community or Organization?

Yes

Table 13.9 Please describe below the Location of Data and Data Type:

Add a Data Source by clicking on the add row on the bottom right side of table

Name of Dataset	Location of Dataset (E.g.:Path, Website, Database, etc.)	Data File Formats (E.g.: csv, txt, API, accdb, xlsx, etc.)	Security Classification
LMCA Moose Camera Photos & Observations	Website - Wild Trax	html	Protected by Default

14.0 2024/25 Deliverables

Add an additional deliverable by clicking on the add row on the bottom right side of table

Type of Deliverable	Delivery Date	Description
Key Engagement/Participation Meeting	Q1	Planning workshop with LMCA harvesters to analyze findings from Year 2 and Plan location and placement of cameras for Year 3
Other (Describe in Description Section)	Q2	Wildlife photos will be collected/ retrieved and uploaded to Wild Trax on a monthly basis. Collection/ retrieval and analysis will be ongoing from Q2 through Q4
Key Engagement/Participation Meeting	Q3	Findings are reviewed and analyzed by LMCA harvesters and drafting of publication of findings begins
OSM Program Annual Progress Report (required)	Q4	At the end of each fiscal year, OSM progress report will be provided.
Peer-reviewed Journal Publication	Q4	After workshops with harvesters to review and analyze results, draft publication and review by LMCA, final publication is submitted for peer review in a journal

15.0 Project Team & Partners

In the space below please provide information on the following:

- Describe key members of the project team, including roles, responsibilities and expertise relevant to the proposed project.
- Describe the competency of this team to complete the project.
- Identify any personnel or expertise gaps for successful completion of the project relative to the OSM Program mandate and discuss how these gaps will be addressed.
- Describe the project management approach and the management structure.

Melina Power will act as Project Lead and Project Manager. Melina has more than 10 years of experience in consultation and engagement with Proponents and the Alberta Government over the effects of oil sands developments on Métis rights and harvesting practices. Melina will oversee the activities of several consultants.

David Evans and Cassondra Stevenson of ABMI will continue to provide training on the use of wildlife camera placement and sampling, scientific methods and will collaborate with IK holders to identify moose occupancy and support collaborative data analysis. Evans and Stevonson along with Marcus Becker and Dermot O'Connor will collaborate with LMCA on the publication of findings and preparation of an article for peer review.

Marcus Becker of ABMI will provide support with data analysis and reporting of findings and dissemination of findings through Wild Trax and will collaborate with LMCA on publication of peer reviewed article.

Dermot O'Connor of Oak Road Concepts specializes in the documentation of Indigenous Knowledge-based information and follows strict data sharing protocols based on free, prior and informed consent. Dermot will assist with reporting for this project including facilitating workshops to document input of LMCA harvesters on data analysis and drafting the publication.

16.0 Project Human Resources & Financing

Section 16.1 Human Resource Estimates

Building off of the competencies listed in the previous section, please complete the table below. Add additional rows as necessary. This table must include **ALL staff involved** in the project, their role and the % of that staff's time allocated to this work plan. The AEPA calculated amount is based on an estimate of $120,000/year for FTEs. This number cannot be changed. The OSM program recognizes that this is an estimate.

Table 16.1.1 AEPA

Add an additional AEPA Staff member by clicking on the add row below the table. The total FTE (Full Time Equivalent) is Auto Summed (in Table 16.2.1) and converted to a dollar amount.

Name (Last, First)	Role	%Time Allocated to Project

Table 16.1.2 ECCC

Add an additional ECCC Staff member by clicking on the add row below the table. The total FTE (Full Time Equivalent) is Auto Summed (in Table 16.2.2) and converted to a dollar amount.

Name (Last, First)	Role	%Time Allocated to Project

The tables below are the financial tables for Alberta Environment & Protected Areas (AEPA) and Environment & Climate Change Canada. All work plans under the OSM Program require either a government lead or a government coordinator.

Section 16.2 Financing

The OSM Program recognizes that many of these submissions are a result of joint effort and monitoring initiatives. A detailed "PROJECT FINANCE BREAKDOWN" must be provided using the Project Finance Breakdown Template provided, accessible here. Please note that completion of this Project Finance Breakdown Template is mandatory and must be submitted along with each workplan.

PROJECT FINANCE BREAKDOWN TEMPLATE

Table 16.2.1 Funding Requested BY ALBERTA ENVIRONMENT & PROTECTED AREAS

Organization - Alberta Environment & Protected Areas ONLY	Total % time allocated to project for AEPA staff	Total Funding Requested from OSM
Salaries and Benefits (Calculated from Table 16.1.1 above)		
Operations and Maintenance		
Consumable materials and supplies		
Conferences and meetings travel		
Project-related travel		
Engagement		
Reporting		
Overhead		
Total All Grants (Calculated from Table 16.4 below)		$0.00
Total All Contracts (Calculated from Table 16.5 below)		$75,000.00
Sub-Total (Calculated)		$75,000.00
Capital*		
AEPA TOTAL (Calculated)		$75,000.00

* The Government of Alberta Financial Policies (*Policy # A600*) requires that all **capital asset** purchases comply with governmental and departmental legislation, policies, procedures, directives and guidelines. **Capital assets** (*Financial Policy # A100*, Government of Alberta, January 2014) are tangible assets that: have economic life greater than one year; are acquired, constructed, or developed for use on a continuing basis; are not held for sale in ordinary course of operations; are recorded and tracked centrally; have a cost greater than $5,000.
Some **examples of capital asset equipment include:** laboratory equipment, appliances, boats, motors, field equipment, ATV's/snowmobiles, stationary equipment (pier/sign/weather), fire/safety equipment, pumps/tanks, heavy equipment, irrigation systems, furniture, trailers, vehicles, etc. (*Financial Policy # A100*, Government of Alberta, January 2014).

Table 16.2.2 Funding Requested BY ENVIRONMENT & CLIMATE CHANGE CANADA

Organization - Environment & Climate Change Canada ONLY	Total % time allocated to project for ECCC staff	Total Funding Requested from OSM
Salaries and Benefits FTE (Please manually provide the number in the space below)		
Operations and Maintenance		
Consumable materials and supplies		
Conferences and meetings travel		
Project-related travel		
Engagement		
Reporting		
Overhead		
ECCC TOTAL (Calculated)		$0.00

* ECCC cannot request capital under the OSM program. Any capital requirements to support long-term monitoring under the OSM program should be procured by Alberta and captured in that budget table.

Table 16.3

Complete ONE table per Grant recipient.

Add a Recipient by clicking on add table below the table. The total of all Grants is Auto Summed in Table 16.2.1

GRANT RECIPIENT - ONLY: Name	
GRANT RECIPIENT - ONLY: Organization	
Category	Total Funding Requested from OSM
Salaries and Benefits FTE	
Operations and Maintenance	
Consumable materials and supplies	
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
GRANT TOTAL (Calculated)	$0.00

Table 16.4

Complete ONE table per Contract recipient.

Add a Recipient by clicking on add row below the table.. This section is only to be completed should the applicant intend to contract components or stages of the project out to external organizations. The total of all Contracts is Auto Summed in Table 16.2.1

CONTRACT RECIPIENT - ONLY: Name	Melina Power
CONTRACT RECIPIENT - ONLY: Organization	Lakeland Métis Community Association
Category	Total Funding Requested from OSM
Salaries and Benefits	$15,000.00
Operations and Maintenance	
Consumable materials and supplies	$2,500.00
Conferences and meetings travel	$1,500.00
Project-related travel	
Engagement	
Reporting	
Overhead	$10,000.00
CONTRACT TOTAL (Calculated)	$29,000.00
CONTRACT RECIPIENT - ONLY: Name	Dermot O'Connor
CONTRACT RECIPIENT - ONLY: Organization	Oak Road Concepts
Category	Total Funding Requested from OSM
Salaries and Benefits	$12,500.00
Operations and Maintenance	
Consumable materials and supplies	
Conferences and meetings travel	$1,500.00
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	$14,000.00
CONTRACT RECIPIENT - ONLY: Name	Lakeland Métis Monitors (4 individuals)

CONTRACT RECIPIENT - ONLY: Organization	
Category	Total Funding Requested from OSM
Salaries and Benefits	$30,000.00
Operations and Maintenance	
Consumable materials and supplies	
Conferences and meetings travel	$2,000.00
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	$32,000.00
CONTRACT RECIPIENT - ONLY: Name	
CONTRACT RECIPIENT - ONLY: Organization	
Category	Total Funding Requested from OSM
Salaries and Benefits	
Operations and Maintenance	
Consumable materials and supplies	
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	$0.00

Table 16.5 GRAND TOTAL Project Funding Requested from OSM Program

The table below is auto calculated, please do not try to manually manipulate these contents.

Category	Total Funding Requested from OSM
Salaries and Benefits Sums totals for salaries and benefits from AEPA and ECCC ONLY	$0.00
Operations and Maintenance	
Consumable materials and supplies Sums totals for AEPA and ECCC ONLY	$0.00
Conferences and meetings travel Sums totals for AEPA and ECCC ONLY	$0.00
Project-related travel Sums totals for AEPA and ECCC ONLY	$0.00
Engagement Sums totals for AEPA and ECCC ONLY	$0.00
Reporting Sums totals for AEPA and ECCC ONLY	$0.00
Overhead Sums totals for AEPA and ECCC ONLY	$0.00
Total All Grants (from table 16.2.1 above) **Sums totals for AEPA Tables ONLY**	$0.00
Total All Contracts (from table 16.2.1 above) **Sums totals for AEPA Tables ONLY**	$75,000.00
SUB-TOTAL (Calculated)	$75,000.00
Capital* **Sums total for AEPA**	
GRAND PROJECT TOTAL	$75,000.00

Some **examples of capital asset equipment include:** laboratory equipment, appliances, boats, motors, field equipment, ATV's/snowmobiles, stationary equipment (pier/sign/weather), fire/safety equipment, pumps/tanks, heavy equipment, irrigation systems, furniture, trailers, vehicles, etc. (*Financial Policy # A100*, Government of Alberta, January 2014).

17.0 FINANCIAL MANAGEMENT

The OSM Program reserves the right to reallocate project funding during the current fiscal year on the basis of project performance and financial overspend or underspend.

☑ Please check this box to acknowledge you have read and understand

In the space below please describe the following:

- Discuss how potential cost overruns and cost underruns will be managed.
- If this is a continuing project from last year, identify if this project was overspent or underspent in the previous year and explain why.
- Describe what risks and/or barriers may affect this project.

Costs overruns or underruns will be managed by quarterly financial forecasting and tracking based on a risk management approach. Project planning phase will include coordination, scheduling, role definition, task allocation and deliverables tracking. Regular data sharing and discussion meetings each quarter will be accompanied by budget and project management update.

18.0 Alternate Sources of Project Financing - In-Kind Contributions

Table 18.1 In-Kind Contributions

Add an In Kind Contribution by clicking on the table and then clicking on the add row on the bottom right side of table.

Description	Source	Equivalent Amount ($CAD)
Guidance on site selection and camera placement; input on data analysis and review of published drafts of articles.	Alberta Biodiversity Monitoring	$20,000.00
	TOTAL	$20,000.00

19.0 Consent & Declaration of Completion

Should your application be successful, The OSM Program reserves the right to publish this work plan application. Please check the box below to acknowledge you have read and understand:

☑ I acknowledge and understand.

Lead Applicant Name

Melina Power

Title/Organization

President, Lakeland Métis Community Association

Signature

Melina Power Digitally signed by Melina Power Date: 2024.04.30 20:44:18 -06'00'

Government Lead / Government Coordinator Name (if different from lead applicant)

Title/Organization

Signature

Please save your form and refer to the instructions page for submission link.

Program Office Use Only

Governance Review & Decision Process

this phase follows submission and triggers the Governance Review

TAC Review (Date):

ICBMAC Review (Date):

SIKIC Review (Date):

OC Review (Date):

Final Recommendations:
Decision Pool:

Notes:

Post Decision: Submission Work Plan Revisions Follow-up Process

This phase will only be implemented if the final recommendation requires revisions and follow-up from governance

ICBMAC Review (Date):

SIKIC Review (Date):

OC Review (Date):

Comments:
Decision Pool:

Notes & Additional Actions for Successful Work Plan Implementation:

Signature