

## Work Plan Application

<b>Project Information</b>	
<b>Project Title:</b>	CLFN Community Based Monitoring
<b>Lead Applicant, Organization, or Community:</b>	Cold Lake First Nations
<b>Work Plan Identifier Number:</b> If this is an on-going project please fill the identifier number for 24/25 fiscal by adjusting the last four digits: <b>Example:</b> D-1-2425 would become D-1-2425	
<b>Project Region(s):</b>	Cold Lake
<b>Project Start Year:</b> First year funding under the OSM program was received for this project (if applicable)	2024
<b>Project End Year:</b> Last year funding under the OSM program is requested <b>Example: 2024</b>	2028
<b>Total 2024/25 Project Budget:</b> From all sources for the 2024/25 fiscal year	
<b>Requested OSM Program Funding:</b> For the 2024/25 fiscal year	\$599,015
<b>Project Type:</b>	Community Based Monitoring
<b>Project Theme:</b>	Cross-Cutting
<b>Anticipated Total Duration of Projects (Core and Focused Study (3 years))</b>	Year 5
<b>Current Year (choose one):</b>	Focused Study Year 3 of 3
	Core Monitoring Year 1 of 3

**Contact Information**

<b>Lead Applicant/ Principal Investigator:</b> Every work plan application requires one lead applicant. This lead is accountable for the entire work plan and all deliverables.	James Janvier
<b>Job Title:</b>	Community Based Monitoring Lead
<b>Organization:</b>	Cold Lake First Nations
<b>Address:</b>	PO Box 2024, Cold lake, AB, T9M 1P5
<b>Phone:</b>	780-815-1869
<b>Email:</b>	jim.janvier@clfns.com

## 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**.

The Cold Lake First Nations Community-based monitoring programs have been constructed from generations of traditional knowledge about the land and vegetation, the water bodies, and the wildlife and fisheries. Over time, the integration of scientific methods and sampling techniques have been applied the programs to proceed further analysis of contaminants, and to receive accurate results of our sampling. CBM monitoring in the Cold Lake traditional area aims to address concerns from indigenous land users through the actions of collecting our own data, and sharing our monitoring information with community members and PI's. Opportunities are always available for youth, members, and elders to engage with program staff and exchange valuable information about land use and conservation.

CLFN has been continually expanding and developing the aquatics program, as well as the terrestrial biological monitoring programs. Over the years, our aquatics program has been growing from the focus of water quality and fisheries health, to adding other metrics such as beginning our benthic macro invertebrate work, as well as an interest in sampling small-bodied fish within the traditional territory. Our TBM programs have been working on developing methods to align with EIA baselines, and sampling important indicators from the community such as berries and pitcher plants. The muskrat monitoring program has also been under development and expanding trapping efforts into new areas in the territory. This year we will collaborate with the Groundwater TAC to support sampling of surface waters. We work collaboratively with PI's from across the OSM program.

Our deliverables will include an annual report for the aquatics and TBM programs. Each report will include the methods and equipment we used to collect our data; our data information and sampling results if available; as well as GIS maps for our sampling locations. We also participate in regional gatherings and events organized by ICBMAC.

## 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.

The Cold Lake First Nations OSM programs are continuing to develop by assessing culturally relevant indicators on the land directly, as well as engagement with community land users. These assessments provide valuable indigenous and traditional knowledge about the land and vegetation, water bodies, and the wildlife and fisheries. This information is molded with western science methodologies for the purpose of collecting and analyzing samples in a lab to produce accurate results. Our approach to capacity development links organizational and staff development to ensure we are running a program with deep roots in the community.

This program integrates aquatics, terrestrial biological monitoring and groundwater themes in the OSM program. These approaches target measurements of effects across the stressor, pathway, response continuum on the applicable conceptual models. Our approach is to follow the core program to ensure we are supporting adaptive monitoring objectives on western science components and lead with community members to ensure the program is adapting to new and emerging concerns.

The Cold Lake Oil Sands region suffers from a different set of impacts than the minable region. Impacts are often less acute but more widely distributed. This necessitates a broader focus on the scope and scale of the monitoring program favouring disturbance gradient based approaches rather than reference-impact designs.

## 2.0 Objectives of the Work Plan

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

- Continue to investigate the effects of winter access roads on pitcher plants;
- Continue pilot work on berry abundance;
- Continue Regional Muskrat Surveillance program;
- Support Deployment of a BADR Landscape Unit in the region and begin long term monitoring ;
- Build capacity for TBM monitoring;
- Deploy community-based surveillance fisheries monitoring program;
- Contribute fish tissue samples to the OSM aquatic monitoring program for contaminants analysis;
- Deploy ALMS lake monitoring program in the region;
- Conduct BMI sampling, send samples to ECCC for analysis;
- Conduct small-bodied fish work in 4 different lakes;
- Compare small-bodied fish contaminants to recent EIA;
- Document small-bodied fish assemblages in the 4 sampled lakes;
- Support ongoing training in CBM methods for other communities.
- Support groundwater TAC isotope sampling

### 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:

- |   |   |   |                                   |
|---|---|---|-----------------------------------|
| <input type="checkbox"/> Air                            | <input checked="" type="checkbox"/> Groundwater                 | <input checked="" type="checkbox"/> Surface Water | <input type="checkbox"/> Wetlands |
| <input checked="" type="checkbox"/> Terrestrial Biology | <input type="checkbox"/> Data Management Analytics & Prediction | <input checked="" type="checkbox"/> 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.

- |   |   |   |                                  |
|---|---|---|----------------------------------|
| <input type="checkbox"/> Air                    | <input checked="" type="checkbox"/> Groundwater | <input checked="" type="checkbox"/> Surface Water | <input type="checkbox"/> Wetland |
| <input checked="" type="checkbox"/> Terrestrial | <input type="checkbox"/> Cross-Cutting          |   |                                  |

### 3.3.1 Surface Water Theme

Please select from the dropdown menus below the sub-theme(s) your monitoring work plan relates to and address the Key Questions:

#### 3.3.1 Surface Water Theme:

##### 3.3.1.1 Sub Themes

Cross Cutting

#### 3.3.1.2 Surface Water Key Questions:

Explain how your surface water monitoring program addresses the key questions below.

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

No

Are changes occurring in water quality, biological health (e.g., benthos, fish) and/or water quantity/flows relative to baseline? 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?)

This project assesses changes in both biotic and abiotic factors. It looks at fish health through standard fish health exams as well as contaminant analysis. It also assesses benthos health using the CABIN protocol looking at the relative abundance of species. It monitors changes water quality which are primarily linked to cumulative effects pathways as opposed to contaminants of concern. Monitor more lakes using the sampling and monitoring methods developed by ALMS. This monitors the receptor and how lake are changing over time.

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

No

Are changes in water quality and/or water quantity and/or biological health informing Indigenous key questions and concerns?

Our work on Large-bodied fish and water potability specifically addresses community concerns. Water quality, benthos, and small-bodied fish address ecosystem health concerns.

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

Yes

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

Yes

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

Our work uses and promotes integrated methods between communities. CLFN helps support neighboring communities by providing training and logistical support on fisheries and water quality monitoring. We participate in cross community activities and support region-wide program development.

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?

Our program focuses on receptors and their response

How will this work advance understanding transition towards adaptive monitoring?

This program is, over time, moving from primary indigenous indicators into more responsive indicators.

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.

### 3.3.2 Groundwater Theme:

Please select from the dropdown menus below the sub-theme(s) your monitoring work plan relates to and address the Key Questions:

#### 3.3.2.1 Sub Themes

Quantity

#### 3.3.2.2 Groundwater Key Questions:

Explain how your groundwater monitoring program addresses the key questions below.

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

No

Are changes occurring in groundwater quality and/or quantity relative to baseline? 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?

Yes, See TAC report

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

Potentialy yes

Are changes in groundwater quality and/or quantity informing Indigenous key questions and concerns Indigenous concerns and health?

Yes

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

yes

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

Yes

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

Sampling will be defined by TAC and PI's

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?

Response

How will this work advance understanding transition towards adaptive monitoring?

Supporting the groundwater TAC in obtaining surface samples for isotope chemistry will help determine the separation between surface water and groundwater inputs to groundwater dependent ecosystems and downstream waterbodies.

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.

As determined by the Groundwater TAC

### 3.3.5 Terrestrial Biology Theme

#### 3.3.5.1 Sub Themes

#### Cross-Cutting

#### 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?

No

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?

Please see the TBM core work plan for a full discussion of the BADR design. CLFN will lead two complimentary components to BADR that focus on changes in plant abundance in the oil sands region. Pitcher plants are thought to be directly impacted by the construction of winter access roads and this project will attempt to quantify this effect. Blueberry productivity is observed to be declining in the region and this work looks at the problem as a cumulative effects issue. This is very different than past attempts at berry work which defined the problem as a contaminants issue. The berry work looks at productivity across several disturbance types and stand ages to gain an understanding of how forest conditions impact productivity. We will also support the Regional Muskrat Surveillance work led by ECCC. This program supports the characterization of muskrat heath across regional gradients of oil sands impacts and cumulative effects.

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

No

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

The BADR method is well formulated to support answering key questions about changes in biodiversity. CLFN is adding three components that specifically address indigenous concerns in the region. In future it is likely that we will build more on the BADR methods once there is an LU in the area.

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

Yes

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

Yes

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

Our TBM work is fully integrated with the BADR program and the methods have been co-designed by the BADR PI's. These methods are designed to be easy to scale and will be made readily available for other communities in the program. We are doing the pitcher plant work in collaboration with CPDFN and we see obvious future linkages with the wetland theme area. We are also participating in the Regional Muskrat Surveillance Program which focuses heavily on collaboration with other communities and other theme areas.

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?

Our program focuses on receptors and their response.

How will this work advance understanding transition towards adaptive monitoring?

This program is, over time, moving from primary indigenous indicators into more responsive indicators.



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.

## 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.

CLFN aquatics work has been developed with a close alignment to the Alberta fisheries management policies. This includes conservation, sport fishing, and subsistence harvest. If catch levels change overtime, it may cause changes in sport fishing regulations and allocations. The water quality work CLFN conducts may help identify the gaps in fisheries information to better understand the effects of basin scale changes in disturbance levels. We work across a gradient of disturbance and fishing pressure to identify effects in time to change management policy.

Our small-bodied fish work will focus on contaminant analysis. This will be compared to a baseline that was submitted in an EIA in 2016. If there are differences in data, we can continue to monitor in certain areas. Our benthic invertebrates work will be completed using CABIN techniques. The benthos work will focus on aquatic benthic invertebrates to correlate with water quality. Benthos will be worked in with our small-bodied fish.

The TBM work CLFN conducts is linked closely to the recent draft of the Cold Lake Sub Regional Plan (CLSRP). The CLSRP addresses the balance of disturbance on the land base in order to protect critical caribou habitat in the area. This requires some substantial changes to management policy, and it is important that monitoring work will be robust. Overtime, the changes in development patterns, restoration requirements, and wildlife management policy will have effects on both habitat and wildlife populations. Deploying the BADR method in this region will enhance the ability of both policy makers and regulators to make adaptive management decisions.

Our work on key vegetation of concern to indigenous communities will help to identify and describe any impacts to an area, as well as provide valuable information for ecosite specific management changes contained in the CLSRP. For example, pitcher plants are likely to grow in caribou biophysical habitat, so caribou conservation measures could have a positive impact on pitcher plant communities in the CLSRP area.

## 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

Our workplan is a community based monitoring program. We facilitate the deployment of western science approaches and combine this with key community indicators. This includes fish health, water quality, key plant species which are culturally relevant receptors and apart of the section 35 rights. Our program builds the capacity of CLFN members to engage in monitoring by putting staff in the drivers seat to execute the

work. Our approach to data management is to separate subjective and objective observations made by our program. Objective measurements, like fish weight or dissolved oxygen levels, are open by default and freely shared with the program. Subjective observations like fish taste or berry quality are not disclosed to the program and kept confidential by CLFN. The interpretation of both subjective and objective observations is done by CLFN in collaboration with staff and members.

Efforts this year will continue to generate some dialogue in the community about TBM. CLFN has done intensive work in the context of caribou recovery around community concerns related to the impact of oil sands development, but the BADR approach is much broader. There are obvious opportunities to engage the community on a number of key issues (scope, scale, areas of concern, key indicators). CLFN has consistently taken the position that BADR should be deployed as designed first, and then we would have the discussion about whether it meets community needs.

Does this project include an Integrated Community Based Monitoring Component?

Yes

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?

CLFN follows its own internal processes around confidentiality, information release, participant waivers, and licensing of reporting. CLFN collects, stores and manages its own data - a capability that has been developed from over 30 years of community based knowledge collection. The OSM program does not do formal, structured, work on knowledge collection. Instead we focus on integrating our knowledge holders into field operations and project management to drive both the design and operation of the 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.

CLFN does not intend to conduct structured information sharing.

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.

No

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

Knowledge holders work directly with the department on the collection of information and in most cases participate in reporting as well. The department is advised by a committee that includes knowledge holders and elders.

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

CLFN works with community members and staff using a participatory approach to develop and monitor indicators. This approach is primarily based on having members lead field work and participate in the monitoring design. Our annual work plans are linked directly to operational plans that are submitted to leadership and administration annually.

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

Our program directly benefits the community in many ways. Our work is done primarily out of the English Bay reserve where we are the largest single employer. We focus on providing opportunities for youth to engage and develop skills that support their interest in land based activities. We focus on capacity development through a combination of internal and external training including OSM field camp training and collaboration with neighboring communities. Our management team links with other CLFN departments such as education and employment and training to access capacity development resources in addition to those that we design ourselves or coordinate with external partners. Our monitoring program has been developing capacity for several years and operates without significant input from external consultants. CLFN members develop and execute this program through a department of the Nation that is responsible to both council and the community.

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?

We make information available to the community through annual reporting as well as through one on one engagement with members. If anyone ever has a question we meet to discuss the issue and provide an honest assessment of what the OSM program shows about the impacts.

## 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 change 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.

Our general approach to measuring change is to look across disturbance gradients. We create these gradients at both the local and regional scales. This is a key reason why we partner with other communities - to increase the statistical power of the comparisons. The TBM work will continue to be important in the future as the CLSRP begins to change disturbance and restoration patterns on the land base. Wherever possible we look at both individual and population metrics. This is particularly true for our fisheries work as we do detailed exams of individual fish but also track health at the population level. We intend to continue this approach with our muskrat surveillance. This year we will be continuing to monitor changes against Baseline EIA's.

## 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.

The scale for CLFN is its territory. It has been historically very difficult for anyone to conduct monitoring in the majority of CLFN territory because it is a military training facility (CLAWR). We try and cover as much of the territory as possible with our monitoring efforts but keep the measurement scales relevant to community members. Our work is primarily at the sub regional level and ideally will be closely linked to the CLRSP where the management of oil sands disturbance is being closely considered.

## 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.

Our monitoring program provides data to the PI's of core programs who report that out through the OSM channels. In addition, we report to the CLFN community via the CLFN reporting channels which include directly to leadership, administration, and the community. An annual report for each program is created in plain language format.

## 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.

CLFN CBM work builds capacity at the community level to take the lead on the local implementation of monitoring the OSM programs. Our FTE cost is half what the GOA uses for budgeting, and we can deliver communication benefits in local communities. Our program leverages in kind contributions such as capital that OSM cannot pay for (boats, trucks, buildings, ATVs, etc.) and we operate out of buildings with utilities paid for by CLFN. Our insurance and financial auditing costs are paid for by the CLFN Lands and Resources department. We collaborate with neighboring nations at no cost and submit analytical work through the relevant OSM contracts. We work efficiently with core program PI's to avoid duplication. CLFN's programs focus on filling gaps in existing monitoring data and results. Our programs also function on seasonal staffing contracts with program leads being assigned primary roles in execution.

## 10.0 Work Plan Approach/Methods

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

### Aquatics Program Monitoring:

- Conduct regional surveillance on fish health and water quality;
- Continue ALMS data collection protocol;
- Dissect fish, collect tissue samples and submit to laboratory;
- Deploy and service instrumental data loggers;
- BMI survey work according to CABIN protocols;
- Conduct small-bodied fish survey work, send samples for analysis and compare to baseline in the EIA documents.

### Terrestrial Biological Monitoring:

- Support BADR LU wildlife camera / ARU deployment and service (PI dependent)
- Support BADR LU wildlife data analysis;
- Continue blueberry abundance monitoring;
- Continue Pitcher Plant Monitoring;
- Conduct Transect work to assess pitcher plant abundance;
- Continue to survey muskrat locations, and plan trapping missions;
- Trap muskrats;
- Dissect muskrats using standard protocols and submit samples.

Describe how changes in environmental Condition will be assessed

Changes are assessed relative to baseline data where it is available, and relative to previous surveillance monitoring data where it does not exist. In some cases, data is compared to other communities in the region (muskrats, pitcher plants). In other cases, change might be compared to a historical baseline linked to meaningful rights practice (berry productivity, ungulate and fur bearers abundance).

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

Potability of surface water; Mercury guidelines in fish; Historical baselines for berry productivity; Wildlife abundance, and fur bearers abundance.

(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

### Aquatics:

Fish are harvested with the use of gill nets which are set in 7 different lakes in CLFN territory (Bourque, Burnt, Cold, Ethel, Marie, May, and Primrose Lakes). During each net event, the net is in the water for a period of ~24 hours or less. The methods used to harvest fish from the net is designed to replicate rights practice. Each fish is weighed and measured, and an inspection of overall health and deformities/parasites is completed. A small subset (3-5) of fish are dissected using the standard fish health exam procedure. Measurements are collected and samples are held for analysis in the future. All data is entered into a master spreadsheet. The majority of the fish are not dissected, and is distributed to community members. We communicate with members and receive feedback on the quality of fish we are providing. Whenever possible, we pull vertical logs of the water quality with a YSI probe (temperature, DO, conductivity, and chlorophyll). We also conduct regular spot measurements in all the lakes, creeks, and rivers with a YSI probe, as well as deploy water quality loggers for long-term data in areas where members might practise recreational activities, such as swimming. Periodically, we collect water samples and submit them for routine potability. We also will collect small-bodied fish from 4 lakes within CLFN traditional territory (Burnt, Ethel, Marie, and May Lakes). Ten fish will be combined to create a homogeneous mixture that will

be sent in for contaminant analysis. This will be done for each of the lakes. The samples from May Lake and Marie Lake will be compared to a recent EIA submitted in 2016. Benthic Invertebrate work continue, as staff have completed CABIN training as Field Assistants, and are working to complete courses for the Field Technician status. Creeks and rivers are selected based on the substrate, and are sampled at peak productivity typically in the fall season. All sampling is done according to CABIN sampling protocols.

#### Terrestrial Biological Monitoring:

CLFN will work with the core program on BADR LU deployment. Please see the core TB< program for details. For the blueberry productivity work, we locate transects in A1 jack pine stands containing berry plants. Transects in oil sands areas are located across a disturbance feature, and three plots (3m<sup>2</sup>) are collected at the edge, interior and control locations. At each plot, berries are harvested and the weight is measured, as well as a volume estimation. Canopy closure information is also determined, as well as other vegetation data. Trees are also cored to establish the stand age. Soil temperature and moisture loggers will be deployed at a subset of sites. A detailed pitcher plant survey methodology is contained in an addendum to this proposal. 5 locations will be continually monitored, as well as adding 3 more locations. Pitcher plants are surveyed on transects that cross winter road features. Muskrat work will be conducted under the Regional Muskrat Surveillance Program. CLFN will scout locations to help understand muskrat house density, and then select a subset of locations across disturbance gradients to trap muskrats for dissection. Samples will be submitted to ECCC along with all the relevant information.

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

- Fish harvest levels;
- Fish health condition;
- Fish stomach fat;
- Fish length and weight;
- Fish quality;
- Small-bodied fish species assemblage and mercury concentration;
- Water temperature, Dissolved oxygen levels, Chlorophyll;
- Water potability;
- Blueberry abundance;
- Pitcher plant abundance;
- Muskrat abundance;
- Muskrat condition;
- Other fur bearer abundance;
- Ungulate abundance.



## 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.

CLFN will work with other communities and PI's to produce training methods. We also report to the community through appropriate channels, including face-to-face interaction. Our primary reporting channel is to administration, and from there is to leadership and the community. We report to the OSM program through annual reports for each program, and the submission of data collected for the fiscal year. Where possible, we attend workshops and present at conferences.

## 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

- Routine potability- ALS Laboratories;  
- Microcystin- ALS Laboratories;  
- Mercury in fish tissue - U of A;  
- Muskrat tissue samples - ECCC;  
All analytical work is coordinated through PI's with the exception of routine Potability and Microcystin.

\*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:

Both

13.3 Frequency of Collection:

Other

13.4 Estimated Data Collection Start Date:

Sep 19, 2019

13.5 Estimated Data Collection End Date:

Sept 19, 2025

13.6 Estimated Timeline For Upload Start Date:

Mar 1, 2025

13.7 Estimated Timeline For Upload End Date:

Jan 1, 2025

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

No

**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
Fish Health Exams	CLFN Share point	xlsx	Open by Default
Fish Harvest	CLFN Share point	xlsx	Open by Default
YSI Logs	CLFN Share point	xlsx	Open by Default
Water Logger data	CLFN Share point	xlsx	Open by Default
Muskrat Health Log	CLFN Share point	xlsx	Open 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
Technical Report	Q4	Surface Water and Fisheries
Technical Report	Q4	TBM

## 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.

Jim Janvier - CBM Lead - Diploma with honors in Environmental Science - Conservation and Reclamation. Has 5 years of experience working with CLFN CBM program. Has helped deploy the the Pitcher plant and Berry monitoring programs for CLFN, and is a CLFN band member.

Nikita Lattery - Aquatics Lead - dual Diploma in Environmental Science - Wildlife & Fisheries Conservation; Water Conservation & Management. 4 Years experience with the CLFN CBM Program as a field and lab tech. Is a HLFN band member.

Findlay MacDermid - Dene Ni Nenne Manager - MSc in Ecosystem Biogeochemistry. CBM program lead and SIKIC member. Extensive experience deploying community based monitoring programs and working the OSM program on integration.

Rae Boisvert- Forester, holds a Masters Degree in Indigenous Resource Management. Former Alberta Parks employee, and former instructor at Portage College. She supports the vegetation work and will train CLFN techs.

Carla Incontri - Masters Degree in GIS. She supports the development and deployment of direct-to-digital data collection using ArcGIS online. She also supports site selection for the veg work.

Nicole Nicholls- CLFN consultation manager. Nicole's background is in anthropology and she helps drive the community engagement and social science side of the work we do. She is also responsible for a lot of the strategic direction of the program.

## 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)	0	\$0.00
<b>Operations and Maintenance</b>		
<b>Consumable materials and supplies</b>		
<b>Conferences and meetings travel</b>		
<b>Project-related travel</b>		
<b>Engagement</b>		
<b>Reporting</b>		
<b>Overhead</b>		
Total All Grants (Calculated from Table 16.4 below)		\$599,015.00
Total All Contracts (Calculated from Table 16.5 below)		\$0.00
Sub-Total (Calculated)		\$599,015.00
<b>Capital*</b>		
AEPA TOTAL (Calculated)		\$599,015.00

\* 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)	0	\$0.00
<b>Operations and Maintenance</b>		
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	Cold Lake First Nations
GRANT RECIPIENT - ONLY: Organization	Indigenous Organization
Category	Total Funding Requested from OSM
Salaries and Benefits FTE	\$537,675.00
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$6,240.00
Conferences and meetings travel	
Project-related travel	\$10,000.00
Engagement	
Reporting	
Overhead	\$45,100.00
GRANT TOTAL (Calculated)	\$599,015.00



**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	
CONTRACT RECIPIENT - ONLY: Organization	
Category	
Salaries and Benefits	Total Funding Requested from OSM
<b>Operations and Maintenance</b>	
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
<b>Operations and Maintenance</b>	
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) <b>Sums totals for AEPA Tables ONLY</b>	\$599,015.00
Total All Contracts (from table 16.2.1 above) <b>Sums totals for AEPA Tables ONLY</b>	\$0.00
SUB-TOTAL (Calculated)	\$599,015.00
Capital* <b>Sums total for AEPA</b>	
<b>GRAND PROJECT TOTAL</b>	\$599,015.00

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.

Cost management will be done in collaboration with the program office. This application is being written only half way through the 22-23 grant cycle so it is impossible to say if it will be over or under spent. Historically CLFN has brought these projects in on time and on budget. The biggest risks to CLFN are CLAWR access and staffing.

## 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)
Office Space	CLFN	\$30,000.00
Insurance	CLFN	\$15,000.00
Utilities	CLFN	\$15,000.00
	<b>TOTAL</b>	<b>\$60,000.00</b>

**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**

James Janvier

**Title/Organization**

CBM Lead

**Signature**

James Janvier  Digitally signed by James Janvier  
Date: 2023.11.02 16:53:32 -06'00'

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

**Title/Organization**

**Signature**

James Janvier  Digitally signed by James Janvier  
Date: 2023.11.02 16:53:43 -06'00'

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

**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:**

**James Janvier**

 Digitally signed by James Janvier  
Date: 2023.11.02 16:55:59 -06'00'  
\_\_\_\_\_  
Signature