Work Plan Application

Project Information	
Project Title:	Conklin Environmental Monitoring
Lead Applicant, Organization, or Community:	Conklin Resource Develoment Advisory Committee on behalf of Conklin Metis Local 193
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**	WL-PD-10-2122
Project Region(s):	Athabasca
Project Start Year: First year funding under the OSM program was received for this project (if applicable)	2019
Project End Year: Last year funding under the OSM program is requested **Example: 2024**	Ongoing
Total 2024/25 Project Budget: From all sources for the 2024/25 fiscal year	$438,186.00
Requested OSM Program Funding: For the 2024/25 fiscal year	$438,186.00
Project Type:	Community Based Monitoring
Project Theme:	Cross-Cutting
Anticipated Total Duration of Projects (Core and Focused Study (3 years))	Year 5
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.	Kimberly Desjarlais
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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**.

The monitoring program addresses the impact of Oil Sands development on the Conklin community. Conklin is situated in an area with significant traditional harvesting ties and Christina Lake, a resource for food, water, culture, and recreation. The project's drivers and objectives are understanding impacts in the region and how they relate to Oil sands development (OSD) and community wahkotowin.
As a CBM, the workplan will continue to prioritize community feedback, capacity building, and training. We will work towards a better understanding of Traditional Knowledge Indicators related to Oil Sands impacts. As well, the program will work with TACs and Partners where in alignment with goals.
Collaborative discussions with TAC representatives (Wetlands, Aquatics, Camera/ARU) are central to maintaining project alignment and promoting further knowledge sharing. Traditional knowledge indicators (TKI) have been discussed and developed as part of ongoing engagement meetings and when working with community partners in the field.
In 2024-2025 the focus of the program is the continuation of the previous cross-cutting monitoring that encompassed fish health, wetlands, cameras/arus, water quality, and water quantity. Training community members in western science and building understanding of TKI observations is a priority.
The project's goal remains the accumulation of data to enhance the communities understanding on the impact of surrounding OSD. This includes assessing effects on community-identified wetlands, lakes, streams, and wildlife. Key objectives are confirming the health of Christina Lake, assessing the presence/ health of wildlife, wetland health and biodiversity related to oil sands impacts. The project deliverables will include an annual monitoring report, community brochure & presentation, as well as multiple community engagement sessions where the results will be provided in plain language.

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.

Conklin has been collecting Western science environmental data in the region since 2019. Monitoring data has been collected to answer the main community question: are Oil Sands developments near Conklin impacting the environment in the region. The data collected relates to water quality, quantity, wildlife, aquatics, and wetland habitat. To date, western science monitoring data does not provide a clear link to industrial impacts at monitoring sites but has aided in the development of a benchmark against which future data can be compared. Given the large degree of industry that exists in the region, the monitoring also serves the purpose of providing the community with a Western science background of the environmental state of their community. The monitoring proposed in this workplan includes surface water quantity (stream level and flow) & quality, shallow groundwater quantity (level) & quality, wetland vegetation (habitat change), fish health, as well as wildlife cameras & ARU recordings (wildlife presence & traditional interpretations of health). There is an intended focus in 2024-2025 to prioritize the development and understanding of impacts observed through traditional knowledge indicators. These factors have helped the community understand changes to their ability to engage in traditional and cultural practices such as hunting, fishing, and plant collection in the past. The intent is to continue to monitor these environmental factors and work towards further understanding of the impacts on their traditional experiences as well as the potential stressors of that change.

The monitoring program's intent is to continue to develop a firm baseline foundation from which to compare future years and to determine if water-associated habitats (wetlands, lakes, streams) and wildlife habitat users are changing. If changes are observed in these habitats the data collected will aid in understanding if the change can be attributed to oil sands developments in the region. The current network of 12 wetland sites and 17 lake & stream sites in the Conklin area are focused on areas that were considered important to the community and spread throughout the region with varying distance relationships to oil sands developments.

The program continues to prioritize the development and building of community capacity for monitoring and environmental data collection as well as providing improved community confidence in areas such as the health of the fish species in Christina Lake, the amount and distribution of available traditionally valuable wetland plant species, wildlife usage of wetland areas, and water quantity in the lake and streams. In 2024-2025 we are looking to include more specific traditional knowledge indicators of the health of wildlife species based on the results of camera work that was begun in 2022.

2.0 Objectives of the Work Plan

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

1. Understand what the impact of the surrounding oil and gas lease development is on community-identified wetlands including

a. Gathering additional data on existing wetland, lake, and stream sites to identify variations year over year as well as measure results against provincial environmental quality guidelines and recognized standards.

b. Continuing to assess if additional sites will improve the programs' ability to detect and observe environmental changes.

2. Continue ongoing capacity building of Conklin community members in water quality/quantity, vegetation identification, wildlife camera, ARU, and mini-met station deployment, management, and data

interpretation and leading to:
a. additional sustainable, full-time employment within the Community-approved consulting company leading the program and potential other environmental companies in the region, allowing local residents an opportunity to work and live in Conklin. Connection with federal research program further providing mentorship to community workers and youth.
b. continued and further development of 8 to 12 Conklin community members with knowledge in sampling techniques and equipment management. Indicator Development and formulation and interpretation of the data collection results.
3. Proceed with the ongoing feedback loop of reciprocity. Western scientists providing program results to the community and incorporating community knowledge and input into the program (prioritizing traditional knowledge indicators).
4. Produce rigorous data that feeds into the core programs to help drive environmental policy and best practices going forward. Program will continue using source-pathway-effect based process including predicted In Situ facility 'source' that effects the environment (wetlands, lakes, streams), including land disturbance (well pads, linear structures), groundwater dewatering, emissions. Conklin will work with OSM TACS to update as needed for standardized methodology while also meeting community goals.
5. Confirm that (source) Oil Sands production's (stressor) increased settlement/land disturbance and contaminants are impacting (pathways) wildlife harvesting, water quantity and quality, fishing, and culturally important vegetation (response) influence on Indigenous harvesting patterns/loss of traditional and cultural practices.
6. Work with community to further understand harvesting patterns and Indigenous indicators relating to fish and wildlife presence, wildlife health, traditional plant abundance and health.

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		

3.3.1 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?

Conklin has established baseline data for water quality and water quantity as well as general field parameters (EC, pH, DO) since 2018 at 12 separate wetland shallow groundwater sites and 17 stream and lake surface water sites. At this time thresholds based on this data have not been established, however comparison to AEP environmental guidelines for surface waters has been used as a benchmark to compare observations against. Anomalous data is reviewed as a component of reporting and analysis.

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?)

Changes have been observed in flows and water levels however at this time it appears to be mostly based on year to year and seasonal variations and correlates strongly with the monitored precipitation in the region. Fish health has also appeared to be consistent, however there continues to be a relatively small sample size as part of that program. Currently there is no direct western science evidence of impacts from oil sands developments. Based on the project setup if changes were to be observed at specific locations or streams then there would be potential to isolate those results and further assess the impacts upstream of the location and refine the potential source of the impact.
Community experience and knowledge have shared observations of changes with majority of the change from pre-development. The recency of ongoing monitoring means that this is not captured within the existing dataset, however, the data still provides some assurance that if additional changes or trends occur they will be captured.

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

Not to date

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

Current data showing that fish health in general is good and that water quality are predominately within guidelines as well as quantity has been reflective of the region, and not at this time directly impacted by oil sands is providing the community with some assurances that they can continue to use Christina Lake for traditional activities including fishing.

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

Previously data to my knowledge has not been incorporated into OSM data management systems, however the intent of the project is to provide data that is capable of being incorporated. Data has been collected following SOPs where applicable and where the methods align with the goals of the community. ALMS data has been collected and provided from ALMS directly to two lake sites to date.

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

Yes, wherever possible SOPs will be followed, and lab analysis will be conducted at the same labs as the core program. This will include surface water data collection, flow collection, ABMI SOPs and use of WIldTrax, and ALMS standards for collection

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

The monitoring of surface water in the program has a direct connection with the wetland and shallow groundwater elements of the Conklin regional monitoring as these areas are mostly connected with the lake itself, and if not aspects of the same watershed. As well the connections between water quality, water quantity, fish, and wildlife, as well as wetlands are all interrelated because of their reliance on water.

The community finds each of these elements a related environmental concern and reiterates their collective importance to engaging in a meaningful connection to their cultural traditions. Christina Lake is also an important waterbody to more communities than just Conklin and the data collected here can be compared against other surface water monitoring programs in the region and shared with other communities.

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?

The community questions on surface water relate to understanding if changes are occurring to the water quality in community used lakes, namely Christina. Are these impacts attributable to oil sands developments in the region and are there trends in water quality that are changing. The quality of the water in the region has the potential to impact fish, invertebrates, human health, and traditional use of the lake. The monitoring program looks to assess stressors observed by measuring acidity, nutrients, organic and inorganic substances as well as hydrology. The program will continue to adapt to community concerns as well as the results of the program that may guide additional monitoring studies.

How will this work advance understanding transition towards adaptive monitoring?

Continuing to collect additional data aids in the ongoing development of a more robust dataset that can be used to compare future data against. As we grow confidence in the existing state of the environment in future years can potentially move towards a reduced monitoring state with triggers that would align with community indicators, western science, and allow for a reduction in monitoring while maintaining community confidence in the program.

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 program itself contributed information into the ICBMAC state of the environment report related to Community Based Monitoring.

3.3.3 Wetland Themes

3.3.3.1 Sub Themes

Cross-Cutting

3.3.3.2. Wetlands - Key Questions:

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

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

Conklin has sites with varying levels of historic data as the program has developed over time. Currently there are 12 sites with at least 2 years of existing data. At this time no monitoring data has been used to develop a specific threshold or limit of change, however there is a developing understanding of a 'baseline' condition for the region, though it is an as-is baseline and does not preclude majority of the existing regional oil sands development. Existing regulatory guidelines are being used as a current threshold of impacts; however, these have been developed to provide general guidance on water quality and do not capture thresholds related to change in vegetation health, diversity, or abundance. In collaboration with Dabros team whose research can provide supporting baseline information on the status of Conklin wetlands as well as the working towards the identification of the limits of change in wetlands.

Are changes occurring in wetlands due to contaminants and hydrological processes? 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?

Since monitoring began on the Conklin program plots there have not been observable changes to wetlands that appear to be outside of the range of natural variation. There are some water quality parameter exceedances for metals that have been observed multiple times at sites, however at this time there is not a link to oil sands developments. The sites that have been chosen are generally in areas outside of perceived impacts to monitor regional level changes.

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

Not at this time

Are changes in wetlands informing Indigenous key questions and concerns?

The data collected to date is setting up a context of current baseline conditions for wetlands in the region. The data to date has provided the community with an understanding of the current scenario but at this stage does not fully answer any of their questions. The goal will be to continue to work with the community to gather enough data both spatially and temporally to potentially provide a western science context for the community experience. Key community concerns will continue to be incorporated as well as further incorporating a traditional understanding of the changes in the region to wetlands that are impacting their way of life.

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

Data is collected based on the SOPs provided by AEP and in discussion with AEP staff and applicable TACs. At this time data is not being incorporated into the OSM Program data management system, however the community remains open to supporting this and in 2023-2024 have committed to sharing data however the specifics have not been finalized.

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

Field observations and collection are based on the SOPs provided by AEP and in discussion with AEP staff and TACs. Water quality lab samples utilize the same labs as the OSM program. Industry standard methods

for scientific data collection, storage, and analysis will be followed.

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

There is a natural connection between waterbodies within a watershed so there is a connection to the water monitoring that we conduct as part of the lake surface water monitoring. As well many wildlife species in the region rely on wetlands as a component of their habitat. The wetland program has included wildlife cameras and ARUs for the last year and also provides a connection to the community understanding of wildlife populations and habitat usage in the region. In 2023/2024 Wildlife Health as traditional indicator will attempt to be assessed by community members. The region that is included in this wetland monitoring program extends around Conklin and is in areas that are also used by other communities, however at this time the study has focused on areas important to the Conklin community.

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?

The monitoring program is designed to assess the current state of wetlands in the Christina Lake region including changes to ecosystem structure, declines in the abundance of culturally important species, changes to ecosystem services, and changes vegetation abundance and diversity. If changes are detected there is the potential to adapt and pursue more detailed assessment of the specific pressures that are potentially related to the Oil Sands impacts. As well if changes are not observed, the development of seasonal and natural variations can be developed into baseline values that can guide future monitoring providing a reference to compare changes from.

How will this work advance understanding transition towards adaptive monitoring?

Collecting data, evaluating the ecological state of the peatlands, and identifying impacts of Oil Sands development on the local Metis community will allow for the planning of future activities, inform decision-making, and improve the outcomes for all stakeholders involved - the community, industry, and the environment. Additional data collection both on a temporal scale and with an integrated discipline perspective (including ARU/Camera/Invert data) will provide the opportunity to develop a broader range of baseline observations to changes at each wetland. The development of monitoring triggers requires a detailed understanding of existing site conditions and expected seasonal and natural variation. Additional integration between disciplines will allow a more holistic set of triggers to be developed. Ideally, the data collected will be used to continue to develop and adapt monitoring plans as well as industry policies that result in the best possible outcome for all parties involved, considering the cultural, social, economic, and environmental values of the Conklin Metis.

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 program itself contributed information into the ICBMAC state of the environment report related to Community Based Monitoring.

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?

There are currently 2 years of wildlife data that were collected as a part of the wetland program using cameras at wetland sites. The cameras were paired with ARUs and additional deployments were completed in 2023 with technical support from the ABMI team.

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?

The community has observed changes in wildlife populations which have reduced their ability to harvest as effectively. At this time, the community believes it is caused by the surrounding industry and development. They have observed a reduction in the wildlife, particularly game species that has coincided with the timeline of industrial development particularly in large game species, like Moose. Camera and ARU deployments are intended to help explore wildlife usage of wetland habitats as well as to assess and monitor wildlife health as seen in images. Data collection of static and repeat photography at locations is looking to help quantify occupancy times for wildlife in wetlands.

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

Not at this time

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

Yes, community members are concerned that the pace and scale of development has impacted wildlife populations and patterns in the region, which in turn has reduced their ability to hunt and enjoy the wildlife around Conklin.

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

Photo and ARU data is being managed within Wildtrax

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

Photo and ARU data collection is being completed following ABMI protocols where possible.

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

Monitoring in 2023 was conducted at the wetland sites as well as at locations near stream monitoring sites around Christina Lake integrated with surface water monitoring sites. Camera and ARU data is stored in Wildtrax and able to be shared with community members and whoever the community provides access, which could potentially include other communities or stakeholders. The ARU data around the lake has the potential to support quantification of boat use in the lake, however at this time, this is only a potential trial use of the data and is not confirmed.

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?

The intent of the program is to monitor existing integrated wetland sites and surface water sites and incorporate cameras and ARU. Currently the camera/aru program does not have a sufficient data set to

provide an effective baseline, but it will provide a context for wildlife usage at locations we are monitoring for potential impacts. As we build out the dataset of the Camera/ARU program, and trial potential methods for quantifying wetland occupancy, the intent is to provide support to the community question of “are wildlife populations reduced, less healthy, and changing habits due to oil sands development”. Over time trials in the effectiveness of cameras and arus to meet this question will adjust so we can improve the effectiveness of our monitoring over time.

How will this work advance understanding transition towards adaptive monitoring?

This program will provide a stronger context of the responses to stressors on the landscape as we are measuring pathways as part of the wetland and surface water quality programs, measuring changes in the response should help give confidence to the results of the other studies, as well as provide value to the community in understanding the health and habits of regional wildlife populations better. If wildlife population or wetland use can be quantified effectively there is potential that monitoring of other stressors can be reduced and wildlife occupancy could be used as a trigger for more in depth monitoring of other environmental factors, like water quality and vegetation diversity

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 program itself contributed information into the ICBMAC state of the environment report related to Community Based Monitoring.

3.3.6 Cross-Cutting Across Theme Areas

3.3.6.1 Sub Themes

-Select One-

If “Other” was selected from the drop down list above please describe below:

3.3.6.2 Cross-Cutting - Key Questions:

Explain how your cross-cutting biological monitoring program addresses the key questions below.

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

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

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

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?

How will this work advance understanding transition towards adaptive monitoring?

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.

It is Conklin's belief that the data gathered from their monitoring programs will feed into regional Core Wetland data to provide evidence of impact from oil sands development that will in turn drive necessary mitigation measures and land use planning in the region. The monitoring should parallel and eventually combine with Industry EPEA approvals for environmental monitoring where possible, such as wetlands, surface water, and wildlife programs. The coordination/combination of AEP and AER should drive a less redundant process that incorporates both on lease and off lease sites and subsequent data. With reduced redundancy and improved spatial and temporal range of data there should be additional capacity in the data to improve operational and end of life environmental performance for surrounding Oil Sands developments.

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

1) Conklin has raised concerns regarding impacts of the numerous oil sands leases surrounding Conklin. These concerns relate largely to impact on the ability to harvest, human health, and the ability to enjoy their environment - essentially a change in wahkotowin. Oil Sands development is thought to impact harvesting through emissions, water drawdown, poor water quality and land disturbance, impacting the presence of wildlife and plant use for food and medicinal purposes. Human health has been perceived to be impacted in much the same way with a reduction in ability to follow cultural practices due to a decrease in the health of wetlands, lakes, streams, and wildlife.

2) Conklin Community Members have selected key wetlands areas, streams, and lakes of high concern in the area that serve as focus sites for the monitoring program. In addition, community members have identified culturally important plants to be highlighted in the vegetation monitoring at each wetland.

3) There is ongoing development for core wetland, fish, water, and wildlife indicators and protocols that are highly valued by the community and can be collected by the community. Some examples of indicators that we are looking to include in reporting are the appearance of fish and if they look healthy to eat, the firmness of the fish, the appearance of animal fur, and the density of traditionally important species.

4) The Conklin Community Consultant Entity has hired and trained members of the Metis Local 193 to participate in the monitoring field work. The intent has always been to include as much community participation and employment as feasible. The workplan and program budget have been developed to create longer term employment and training opportunities to members of the Metis local 193 in Conklin. In addition, 6 to 12 more community members participate in training each year for water quality and

quantity sampling, well installation, fish programming, vegetation plotting, wildlife camera and ARU deployment and retrieval and mini-met station set-up. Also, at the beginning of each year, a general community invite goes out to the community to meet, review, and discuss the previous years results and to review any potential changes to the program for the coming year. This is also a meeting where concerns about ongoing impacts can be raised, and any observations of the environment can be shared to feed into the monitoring program and provide a means to adapt to ongoing community concerns where possible and within the scope of the OSM program.
One aspect of reconciliation is to directly involve Indigenous peoples where work occurs within their traditional lands. Direct participation in research components, including decisions on experimental design, data gathering in the field, data analysis, and input into interpretation of results, would allow inclusion of Indigenous perspective into western science. This also provides an opportunity for positive discoveries, such as mapping the locations and prevalence of a medicinally important plant, Frog Pants (Sarracenia purpurea), for Indigenous harvest and acquisition or discovering areas of high berry-bush density for community gathering opportunities and a chance to reconnect with their wahkotowin. Providing employment to Conklin youth presents an opportunity for capacity building and connection. Furthermore, it would enhance relationship building and trust with the community.
5) We are working with the community to provide monitoring program information that is valued and effectively communicated. The CRDAC provides and annual community brochure highlighting the program, its methods, and the results. An open invitation goes out each year to have community provide input to the program and to go over the historic data, results, and analysis. This time is meant to be both a sharing of data but also of knowledge and experience. The lived experience of the community is the framework that the program is intended to be built around and to monitor in a way that helps ensure long term improvements to the communities wahkotowin.

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?

There are no community specific protocols that have been required by the community at this time. Ongoing data sharing protocols are being worked out with new types of data (camera/audio). All historic reports have been provided to the community with the goal of sharing them through the CRDAC website for transparency.

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.

There are multiple avenues for Indigenous participation with data sharing and planning groups occurring annually as well as field surveys and training conducted with community members. Risks and Harms are an ongoing component of any of the work conducted as part of this workplan with pre-field safety discussions giving opportunity for everyone to bring up potential risks and mitigations as well as the need for everyone to understand and participate in conducting all our work safely. In the case of any incidents there is a protocol to ensure it is responded to, communicated to reduce the likelihood it occurs again, and investigated to determine the root cause of the risk. If there are any concerns brought up by community partners, then those concerns will be addressed and documented to the degree they wish them to be. These can include locations for monitoring, specific priority areas, and areas for hunting/harvesting.

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 of any and all indigenous knowledge is led by the community members involved. Any concerns, historical observations, or knowledge of the area is recorded and used to the benefit of the program and community. In the past traditional knowledge and experience has been used to guide the locations of monitoring as well as specific species of plants to highlight in the analysis. It is important that any community member sharing knowledge is aware of how that information is going to be used and where it will be shared, prior to doing so. As well there has been an added focus on using the traditional names for the names of places, plants, and animals throughout the program. Regular meetings will be held with community members to ensure an integration of their knowledge. Scientific data will all be shared including ecological findings to benefit the community and their wahkotowin. Suggestions for alternate ways to incorporate knowledge sharing that considers risks, facilitates healthy relationships, ensures equal participation, and respects cultural values will be addressed.

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

Community members including Elders are provided with an annual meeting to go over the previous year's program as well as looking forward to this year's program and identifying any changes they are not seeing captured in the data analysis. All data and reports are shared with the community as well as a technical summary in the form of a pamphlet. In the annual community meetings members and western scientists can learn and share from each other's experiences and observations and look for ways to further align the monitoring to increase the value back to the community. For 2024-2025 there will be more regularly scheduled meetings in which scientific and traditional knowledge will be exchanged. Local community members will have the opportunity to contribute to the research by participating in the study design, data collection, analysis, and presentation of findings. Writing and reporting will be encouraged as well, as there is ongoing work expanding community capacity and participation in more forms of data review, analysis, interpretation, and reporting.

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

During regular community meetings, local community members will be encouraged to provide input on the study design and contribute traditional knowledge that will aid in in ongoing project development. Community concerns about the research, methods, design, or other factors will be addressed during these meetings before data collection and analysis occurs to ensure that the study is appropriate and does not

infringe on the community in any way. Indicators used historically on the program have focused on aligning more with the Core program in areas of traditional importance, the Program has been working with community to capture more community valued and focused indicators from participants in the program.

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

The work plan is intended to benefit the community in three primary ways. The development and documentation of environmental knowledge within the region that supports their land use and provides evidence of impacts, where they are occurring and to what degree. The workplan also involves capacity building specifically in the training both as part of larger community sessions and meetings as well as on site meetings in the wetlands and around the lake. Community members are trained in scientific data collection techniques and whenever feasible local community members are hired and trained in both safety and have been able to work on other industry projects in the region as well. The intent is to ensure that there are ongoing employment opportunities to community members in Conklin in environmental monitoring and assessment both directly related to OSM programs and industry consulting work. Additional collaborations with multiple groups have allowed for additional employment and training opportunities for community members to participate in scientific programs and build capacity. The connections developed also foster the potential development of improved relationships between government, industry, and the community, where we are able to learn, grow, and build trust by sharing knowledge with one another.

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?

Monitoring reports in the past have always been provided to the community to ensure they have access to everything that is conducted. This format however is quite long and not accessible for everyone in the community; as such, a presentation and pamphlets summarizing the program in accessible language have been created in the past for distribution in the community. Annual meetings have also provided additional context and a space for questions and answers to community members. The intent going forward is to work with the community to host more of the data and results in a manageable way for community Access. WildTrax is being used and shared with the community members for applicable data (cameras/aru) and a plan for additional regular meetings to connect community members both with participants in the program and scientists to ensure a regular sharing of knowledge, experience, and information on the state of the environment in the region.

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.

Conklin region has 12 wetland sites and 17 lake and stream sites at surrounding Christina Lake. Wetland sites have extended over time and provide a regional monitoring approach. All sites were selected based on community input and ability to access. Over time the monitoring will assess for trends and changes in vegetation communities. Vegetation parameters were chosen to allow comparisons of vegetation communities for wetland types over time, this includes species % cover, and traditional species as a percentage of total cover. For monitored water levels and flows, data will be compared to previous years looking for potential impacts from industry water drawdowns and compared against precipitation data from program MET stations. For water quality, parameters will be measured against previous years as well as against provincial environmental quality guidelines. This monitoring will look for potential oil sands contaminant impacts. At this time the monitoring is developing an understanding of current conditions and over time sites may be compared to their respective disturbance levels in terms of proximity to Oil Sands projects.

The addition of Camera & ARU data in has yet to develop to a baseline level, however the intent is to use the cameras to observe wetland habitat usage as well as to assess perceived wildlife health using traditional indicators. There is intent to trial quantifying habitat residency for wildlife by recording photos at timed intervals to track usage in an area over a time span.

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 Conklin environmental monitoring program aligns wherever possible with the OSM Core programs that focus on stressors from the in situ region of the oil sands around Conklin. The program details below will help answer the Core question of if the impacts/changes to wetlands, surface water, and wildlife are due to oil sands development or cumulative effects from other development activities.
Shallow Groundwater & Surface water Quantity:
• Alteration of flows and water levels to water bodies caused by groundwater or surface water withdrawals or changes in runoff.

Shallow Groundwater & Surface water Quality:
• Changes in groundwater & surface water quality;

• Suspended sediment inputs;
• Leaks and spills; and,
• Deposition of acidifying substances.

Wetlands:
• Changes to hydrology such as restricted water flow, resulting in changes to water levels and water quality affecting vegetation communities;
• Habitat loss and fragmentation resulting in changes to vegetation community, diversity, cover, and vigour or changes in community type potentially altering wildlife habitat; and,
• Changes to water quality from leaks, spills, run-off and atmospheric deposition resulting in decreased species richness and diversity, cover, and vigour or changes in community structure.

Wildlife:
• The inclusion of wildlife cameras and ARUs at locations located as part of the rest of the program will monitor wildlife usage of the region as well as wildlife health
• This data will feed into other OSM initiatives as it will follow ABMI camera and ARU protocols as well as be connected to training and data sharing with the ABMI and Wildtrax

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.

Data gathering/monitoring will be in compliance with SOPs supplied by the respective TACs (wetlands, surface water, cameras & ARU SOPs specifically) where applicable and in alignment with community goals. The Conklin environmental team has experienced community members and consultants that work together following best practice/SOPs for site setup and installation, observation, data retrieval and lab sampling procedures. The Conklin data will be provided to the respective TACs requesting data. In addition the data will be analyzed by the Conklin team and a report is created for the Conklin Team and Community purposes.
In addition, an illustrated community brochure and presentation are created annually and made readily available containing highlights of the program for the community. This brochure and presentation are written in plain language where possible and provide insights into the relationship between the monitoring and key community questions. This data are also shared in regularly scheduled community meetings to ensure that all of the community is able to share, ask questions, provide their input and perspective, and respond to the results of the program.

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.

The Environmental program had previously fit within the OSM Core Wetland program with intention to follow the Wetland TAC SOP. The inclusion of the Christina Lake program based on conversations in 2022 and going forward as part of this workplan was to align it with the Surface Water program where it met community goals. For 2023 the sampling was partnered with ALMS for ongoing monthly samples in addition to the summer water quality samples historically collected as part of the program. The Christina Lake Monitoring Program has had rigorous data gathering historically via ECCC funding. The collaboration with Alberta Lake Management Society (ALMS) Lake keepers program was effective in 2023-2024 and is planned to continue. As well aligning with the Surface Water program SOPs where applicable will help ensure data efficiency between programs.

The Consultant – the Community Approved entity hires Metis Local 193 members as employees and for sustainable work, works with additional community members for training and retrieving community input and feedback to discuss and incorporate into the program. Currently, the community has chosen the areas

for wetland sites as well as identified additional community valued vegetation species to incorporate into the monitoring process. The Christina Lake program was developed in a similar manner and the incorporation of wildlife cameras and ARUs as a component of this workplan has been community driven. Community members, through employment or as community field representatives are typically two thirds to three quarters of the field work force. Community member inclusion helps the understanding of the pressure-stressor-pathways-response framework and can confirm and dispel perceptions around vegetation diversity, water quality/quantity, wildlife health, and fish health relating back to oil sand development impacts.

• Changes in wetland ecosystem condition will be assessed in relation to key oil sands pressures of concern including atmospheric deposition, landscape disturbance and hydrologic alteration. Other factors that may affect wetland change in the region such as inter-annual weather variability, underlying landscape factors, and fire history will be treated as covariates.

• Wetland condition will be assessed at each site: including hydrology (precipitation and water level), water quality, plant community composition and structure, benthic invertebrate community composition (only at shallow open water wetlands), and wildlife distribution (cameras), and bird and amphibian community composition (using acoustic recording units).

• Sentinel wetland sites will be monitored annually to determine the effects of inter-annual climate variability on wetland condition, which is a key natural stressor affecting wetlands.

• Remote sensing data will be used periodically to assess changes in wetland condition (location, areal extent, and wetland class) over time across the region. Long-term wetland monitoring sites will be used to validate wetland inventories. A pilot scale project using lidar data to detect changes in wetland vegetation canopy height shows promising results that may be applied further in the future

• Changes in surface water quality and quantity to Christina Lake and its inflow and outflow streams are monitored and results are compared against historical data and provincial guidelines. Opportunities to collect benthics at streams in the program will also be assessed to provide additional context to water quality samplings as benthics can show larger temporal water quality issues, if there have been acute events that are non-detected.

• Observed impacts in surface water will be assessed annually and any noted issues will be assessed relative to upstream industry and potential sources of impacts.

10.0 Work Plan Approach/Methods

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

1. Community Program Update and Feedback Sessions
a. Community Meeting and presentation of last year's program results and plan for the upcoming year. This will include the potential for discussing training opportunities and to ensure that training and monitoring are in alignment with community goals and needs. This time will also be used to ensure there is opportunity for knowledge and experience sharing between all parties associated with the monitoring program (i.e., integration of western science with traditional knowledge).
b. Meet with Conklin Community to discuss the definitions of wahkotowin and goals of the project, including assessing changes to region as a result of Oil Sands development

2. Monitoring Wahkotowin
a. Data collection on the changes to wahkotowin as a result of oil and gas development in the Conklin region.

3. Knowledge Exchanges
a. Ongoing community meetings to undergo knowledge exchanges and share stories. Attendance of Conklin Cultural Camp.
b. Findings of summer research shared in informal round table settings.
c. After the field season, knowledge exchange meetings will shift in focus to next steps, including approaches to data analysis, dissemination of information to the broader community (including the rest of Conklin and a wider scientific audience), and understanding how to address community concerns (e.g., what will this project continue to be used for).
6. April Field Visit (Early Spring)
a. Setup of field monitoring equipment, Cameras, ARU's, and MET stations
b. Ensuring shallow wells at field sites are functional and in good condition, completing or planning to maintain and repairing any site deficiencies
c. Potential for an Environmental Field Camp between community members, the communities chosen consultant and technical leads from the related TACs, such as benthic invertebrate training, surface water sampling, wetlands methods, camera & ARU setup. This field camp may not be possible during the April field visit but based on availability of community members and technical scientists from the program will be arranged to optimize the experience for the community. In 2023-2024 this training budget was used during multiple individual components as one single "camp week" was not able to be coordinated
d. Meet with Conklin Community to discuss the definitions of wahkotowin and goals of the project, including assessing changes to region as a result of O&G development
7. May Field Visit (Spring)
a. Water quality measurement at wetland sites, stream sites, and lake sites
b. Water quantity measurements at wetland sites and stream flow stations
c. Installation of transducers at shallow wells
8. July Field Visit (Summer)
a. Water quality measurement at wetland sites, stream sites, and lake sites
b. Water quantity measurements at wetland sites and stream flow stations
c. Vegetation assessments at wetland plots including species, coverage, pH, EC, and moisture values throughout each plot
9. Fish Assessments (Summer/Fall)
a. Completing the fish components of the program including community catch and assessment
b. Program intended to align with provincial protocols and will be developed in alignment with the SOPs from the facilitation centre where applicable, but the fishery component will also be community driven in ensuring that the areas and specific fish they are interested in are being assessed adequately.
10. October Field Visit (Fall)
a. Water quality measurement at wetland sites, stream sites, and lake sites
b. Water quantity measurements at wetland sites and stream flow stations

c. Take down of MET stations, removal of ARUs and Transducers
d. Camera download and restock (SD Cards & battery replacement)
11. Christina Lake Program Reporting
a. Consultant works with retrieved data through biologists, ecologists, hydrologists and hydrogeologist to interpret and to create a report. Consultant works with community member lead to create a community brochure with a summary of program and results.

Describe how changes in environmental Condition will be assessed

Changes in surface water condition will be assessed in relation to key oil sands pressures of concern including contaminants (water and soil transport) and water drawdowns.
• Fish protocol will work towards being standardized with Core protocols to ensure consistency. Tissue samples will be sent to a consistent lab as the Core program
• Long-term surface water and shallow groundwater monitoring sites will be used to validate data inventories as well as compared against the existing monitoring record for anomalies
• Changes in wetland ecosystem condition will be assessed in relation to key oil sands pressures of concern including landscape disturbance and hydrologic alteration. Other factors that may affect wetland change in the region such as inter-annual weather variability, underlying landscape factors, and fire history will be treated as covariates.
• Wetland condition will be assessed at each site: including hydrology (precipitation, water level), water quality, sediment quality, plant community composition and structure, meteorological data (mini-met stations), wildlife presence (cameras) and bird and amphibian community composition (using acoustic recording units).
• Wetland sites will be monitored annually to determine the effects of inter-annual climate variability on wetland condition, which is a key natural stressor affecting wetlands.
• Long-term wetland monitoring sites will be used to validate wetland inventories
• Knowledge exchanging with the local community will also provide insight into the ecological changes occurring in the study area, from the perspective of the people that live there.

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

Yes, field parameters and water quality are measured against provincial Environmental Quality Guidelines. This distance is considered to be undisturbed area and serves as our reference plots. Past knowledge of the peatland system before industrial development, obtained from community elders, may also serve as environmental benchmarks.

(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

Shallow Groundwater & Field Parameters:
1) The following shallow groundwater sampling methodology was used during the sampling event:
a) Before sampling, the static groundwater level was measured in each monitoring well using a hand-held water level tape;
b) All wells were purged of standing water using a Monoflex polyvinyl chloride (PVC) bailer or Peristaltic Pump (pump) with DI rinsed tubing;
c) The temperature, electrical conductivity (EC), and pH were measured during the purging process until measurements stabilized to within +/- 0.5˚C, 2% EC and 0.1 pH units, respectively;
d) Measurements of temperature, EC, and pH were recorded after stabilization of readings;
e) Samples were then collected using clean-sampling protocols, and those requiring filtering (0.45 um) and chemical preservation were treated as such in the field;
f) Once collected, water samples were placed in ice-filled coolers to ensure chemical integrity during transport from Conklin, Alberta to Bureau Veritas Laboratory in Edmonton, AB or stored and shipped to the relevant Innotech Lab; and

g) All samples were collected for a comprehensive suite of chemical analytes based on the Core programs guidance be it the Wetland or Surface Water programs including:
i) Routine potability (major ions, alkalinity, hardness, and total dissolved solids [TDS]);
ii) Nutrients and indicators such as nitrate, nitrite, chlorophyll a (open water sites), phosphorous, orthophosphate and carbonaceous biochemical oxygen demand (BODc);
iii) Total and dissolved metals and trace elements.
h) Field Measurements, Sampling and Handling QA/QC
i) Throughout the duration of the water sampling program, the following standards were employed:
i) Nitrile gloves were worn and replaced at each sampling location (multiple times as appropriate) to eliminate the potential for cross contamination; Clean hands dirty hands protocol used where applicable.
j) Water levels were measured from wells as 'metres below top of casing' (mbtoc);
k) All meters used for field measurement testing were calibrated on site each morning;
l) New bailers and bailing rope were installed at each well and replaced as appropriate;
m) All samples were stored and shipped in third party laboratory supplied bottles and coolers with adequate ice to maintain required temperatures; and
n) All samples were packaged with completed Chain of Custody (CoC) forms and delivered to the Bureau Veritas or Innotech – either directly or via Courier.
o) Laboratory QA/QC
i) For quality assurance purposes, Laboratory regularly uses calibration checks, surrogate matrix spikes, blanks, and laboratory duplicates during analyses. Following receipt of the Certificate of Analysis (CoA), HGC staff reviews the final results of the report and would provide details if there were any deviations or exceptions to the above.
Vegetation:
p) Vegetation parameters (species inventory, strata, height, and percent cover) were assessed and recorded at all wetland sites. At each site the forb, graminoid, and bryophyte layers were observed and recorded within each surveyed plot (12 sites in the program, 3 transects per site, 5 plots per transect, for 180 plots). At each site, two transects were chosen at random to be observed annually. Vegetation parameters were chosen to allow comparisons of vegetation communities for wetland types over time.
Surface Water Sampling
q) In-situ water quality field parameters (temperature, EC, pH, dissolved oxygen, and turbidity) are measured using a YSI Professional Plus handheld multi-parameter unit;
r) water sample(s) are collected directly from the intended stream and the water is poured into the appropriate laboratory supplied bottles;
s) A Van Dorn sampler is used to collect both shallow and deep lake samples;
t) Water samples are placed in an ice-filled cooler for transport from Conklin, Alberta to Bureau Veritas in Edmonton, Alberta or Innotech Labs; and
u) Standard CoC protocols are followed at all times.
v) Surface water samples are collected for a comprehensive suite of chemical analytes including:
i) Routine potability (major ions, alkalinity, hardness, and TDS);
ii) Nutrients and indicators such as nitrate, nitrite, chlorophyll a, phosphorous, orthophosphate and BODc;
iii) Total metals and trace elements;
iv) BTEX and PHC F1 and F2 (at select locations).; and
v) PACs (at select locations).
vi) Microcystin (at select locations).
w) ALMS methods and sample parameters will be collected at two site as part of this workplan
Wildlife/Amphibians/Birds:
x) OSM SOP protocol will be followed and includes training from the ABMI on their protocol, methods and study design.
Fish Data
y) Depending on year, fish data, if received from the provincial Fall Index Netting (FIN) program includes fork, total length, weight, gender life stage, spawning, maturity. When fish are pulled from the Lake by the Conklin team, fish are dissected and observed by an aquatics expert in collaboration with community members. Fish evaluations will mimic surface water/aquatics SOP for upcoming years. If possible

additional aquatics monitoring and training will be organized based on community interest and support.

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

Core wetland indicators are measured at all wetland monitoring sites unless otherwise indicated include:
1) Meteorology (mini met stations measure precipitation, soil moisture, and temperature during the growing season, they are setup to ensure that one MET station is within 15 km of each wetland site) These also provide reasonable coverage for the area around Christina Lake.
2) Hydrology (water level and barometric pressure is measured continuously throughout the growing season)
3) Water quality following the SOPs provided by AEP (Trace metals, routine, nutrients, and isotopes for all wetland sites. At open water wetland sites PACs, Chlorophyll a, and mercury is also collected)
4) Plant community composition and structure including height, soil pH, EC and moisture which can be used to validate Light Distance and Ranging (LiDar) and other remote sensing data.
5) Traditionally valuable plant species abundance
6) Bird and amphibian community composition (using acoustic recording units).
7) Mammal community composition (using trail cameras)
8) Autonomous Recording Unit (ARU), Wildlife Camera and Mini-Met Stations.
9) Core Surface Water indicators are measured at all stream and well sites unless otherwise indicated include:
10) Hydrology (water level and stream flow; velocity, width, depth)
11) Water quality – major ions, routine, trace elements, polycyclic aromatic compounds, microcystin, nutrients, mercury, and total metals are analyzed. The intent is to follow current surface water quality guidelines and monitoring protocols as well follow ALMS sampling for a subset of sampling
12) Trialing residency time for large mammals in wetlands
13) Trialing usage of ARU on lake program to record and document motorized boat usage and noise of Christina Lake as a potential
14) Trialing usage of camera photos to be used for identifying traditionally important measures of wildlife health

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.

1) Water quality, water quantity, field parameters (pH, EC, temperature, and DO), standard vegetation plots (not including meandering transects for cultural plants) wildlife and ARU data will be gathered as per SOP methodologies with data provided back to feed the regional OSM program as requested.
2) The Conklin Environmental Team has an open meeting with Conklin community members to present the previous year's results and get feedback and input for upcoming programs. Community members participate in all field studies. Community comments are recorded and potentially included in the annual report for review and possible inclusion for future programs. A community brochure is created each year with the results of the monitoring program and highlighting exceedances and red flags. Historic reports and future data are made available to the community with the intent of being uploaded to their community web page including executive summaries. The intent is to create additional opportunities for knowledge sharing with the community including hosting additional mid season meetings

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

1) Higher Ground Consulting (including Conklin Metis Local 193 employees) – Provides Field Leads and field seconds (and sometime a supporting third field staff, when necessary) for each field component of the Conklin Environmental Monitoring Program. Please note that Higher Ground employs Conklin Metis 193 members for full time seasonal work. There is always at least 50% Conklin Metis Local 193 employees in each field Program.
2) Higher Ground professional designated employees' complete majority of the reporting and scientific data analysis, efforts are made to incorporate community members to participate in reporting phases where there is interest in learning and capacity to do so.
3) Laboratories
a) InnoTech – Trace Metals, Routines.
b) Bureau Veritas – Nutrients, BTEX
c) InnoTech-Victoria – d180, d2H
d) BASL - Mercury
4) Oak Environmental: Field Equipment Rental, Groundwater and Vegetation Field Kits.
5) Christina Lake Lodge – Boat Rentals
6) The Printing House – Printing of Community Brochure
7) Alberta Biodiversity Monitoring Institute: Camera & ARU Training & Support
8) Canadian Aquatic Biomonitoring Network: Benthic Invertebrate Training
9) Alberta Lake Management Society – Water Quality sampling support

*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:

Apr 1, 2024

13.5 Estimated Data Collection End Date:

Oct 31, 2024

13.6 Estimated Timeline For Upload Start Date:

Jan 1, 2025

13.7 Estimated Timeline For Upload End Date:

Mar 1, 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
ARU & Camera Data	WildTrax	.jpg, .wav/w4v, and .csv	Protected by Default
Groundwater Quality	Database	.csv, .xlsx, or geopackage	Open by Default
Vegetation	Database	.csv, .xlsx, or geopackage	Open by Default
Field Paramaters	Database	.csv, .xlsx, or geopackage	Open by Default
Weather Data	Database	.csv, .xlsx, or geopackage	Open by Default
Surface Water Quantity	Database	.csv, .xlsx, or geopackage	Open by Default
Surface Water Quality	Database	.csv, .xlsx, or geopackage	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	Summary report of all data gathered including methods, results, and analysis. Any guideline exceedances are included as well as deviations or anomalies from historical data. Community communications are captured, and recommendations are put forth
Stakeholder or Community Presentation	Q4	Stakeholder or Community Presentation
OSM Program Annual Progress Report (required)	Q4	Summary report provided by all the members of the team

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.

Kimberly Desjarlais: CRDAC and Higher Ground Consulting Employee and Metis Local 193 Member – Project Administrator and Community Liaison. Desjarlais, a Métis Local 193 member from the Community of Conklin, has been with HGC for over three years, helping lead field studies in wetlands. Through HGC's capacity-building commitment to Indigenous communities, Kim mentors and trains fellow Conklin residents as they look to build their skillset and gain a better understanding of the industrial development occurring in their backyard. With 15 years of environmental experience in Western Canada, Kim helps bridge the gap between perceived and actual effects by utilizing and combining her knowledge in both western science and traditional knowledge.

Ryan Powder: Higher Ground Consulting Employee and Metis Local 193 Member – Powder has supported environmental field work for multiple years with experience on multiple different programs in the area of water monitoring, including water quality and quantity monitoring as well as field parameters gathering. She has supported Camera and ARU work as well as received ABMI training.

Cameron Johnston: Higher Ground Consulting - B.Sc.,P. Biol – Environmental Lead - Johnston has worked in environmental consulting since 2008, with the last decade of his experience focused on wetlands, vegetation, and water related projects. He is experienced in wetland and surface water monitoring programs for largescale oil sands projects as well as smaller scale developments and community-based monitoring. Johnston has also provided baseline vegetation assessments for multiple industrial sectors, surveyed and reported for wetland impacts, consulted clients on rare plant mitigations, and managed the vegetation component on numerous projects from field surveying to regulatory applications. Johnston's environmental background as well as technical data management and GIS experience allow him to work directly with the environmental reporting and data components to ensure efficient and effective reporting and deliverables. He is also an educator and has conducted field training with indigenous communities in the province as well was taught water management in both a formal classroom and field setting. Cameron will lead/oversee field studies and the environmental reporting as well as project management

Alex Lake: Higher Ground Consulting – B.Sc. – Biologist – Lake has experience working in a variety of sectors as an analyst, environmental technician, and researcher. Lake's areas of expertise include environmental monitoring, data analysis, GIS, freshwater science, and technical report writing.
Alex has worked in marine and freshwater environments, oil and gas, sustainable urban agriculture, infrastructure, government, and academia sector projects. Alex excels when working on complex and multi-faceted environmental projects and is distinguished for his ability to both operate as a field consultant and data analyst in addressing environmental issues. He is passionate in his role as a scientific steward for the environment and believes industry and environmental protection and regulation can work together in tandem. Lake's zeal for bird watching, outdoorsmanship, and current events often work in parallel with his biological workload. Lake has enjoyed working on the community monitoring project now for two years and taken a key role in supporting field work, planning, and community meetings.

Chris Stoesz: Higher Ground Consulting – P. Bio – Fisheries Lead - Stoesz has over 20 years of experience in the consulting sector. He has been involved in managing the aquatic ecology component of a variety of projects, including pipeline projects, oil sands environmental impact assessments (EIAs), fish health studies for environmental effects monitoring (EEM) as well as attaining regulatory approvals for construction and fish habitat enhancement projects. Stoesz is very experienced working with the Water Act and the Fisheries Act, and has been responsible for attaining multiple project approvals on time via creative offsetting plans. He is an experienced project manager, is well-versed in field data collection

methods, data analysis, and reporting. Chris has designed and implemented short and long-term monitoring programs for instream construction projects and accidental industrial releases, as well as responding to initial spill response.

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

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)	$438,186.00
Total All Contracts (Calculated from Table 16.5 below)	$0.00
Sub-Total (Calculated)	$438,186.00
Capital*	
AEPA TOTAL (Calculated)	$438,186.00

* 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
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	Kimberly Desjarlais
GRANT RECIPIENT - ONLY: Organization	Conklin Resource Development Advisory Committee
Category	Total Funding Requested from OSM
Salaries and Benefits FTE	$172,888.10
Operations and Maintenance	
Consumable materials and supplies	$91,420.00
Conferences and meetings travel	$15,800.00
Project-related travel	$16,335.00
Engagement	$46,040.00
Reporting	$71,068.00
Overhead	$24,634.90
GRANT TOTAL (Calculated)	$438,186.00

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	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**	$438,186.00
Total All Contracts (from table 16.2.1 above) **Sums totals for AEPA Tables ONLY**	$0.00
SUB-TOTAL (Calculated)	$438,186.00
Capital* **Sums total for AEPA**	
GRAND PROJECT TOTAL	$438,186.00

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.

The Conklin Environmental team will manage with attention to detail on quality, scope, schedule and costs. Higher Ground Consulting manages timesheets and expenses through the Unanet Project Management Software System, which tracks hours per human resource and costs. Time is entered on a weekly basis to track work scope and budget. Risks relating to scope and budget include: Significant inclement weather could reduce community participation, timing if inclement weather could increase standby days and reduce productivity. In 2023/2024 the project is on pace to be under spent from the original work plan, efficiencies in the program relative to anticipated field timelines reduced total field time as well as a reduction in water quality sampling costs. As well the field program had a reduced trip as there was not time to fit in an early spring program visit to collect data earlier in the Spring. It is anticipated that in the 2024-2025 program will have program confirmation prior to initial trip needs and be able to fulfill its anticipated budget

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)
	TOTAL	$0.00

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

Kimberly Desjarlais

Title/Organization

Environmental & Environment Coordinator – Conklin Resource Development Advisory Committee

Signature

Kimberly Desjarlais Digitally signed by Kimberly Desjarlais
Date: 2024.04.22 08:43:24 -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