



2023-2024 OSM WORK PLAN APPLICATION

This form will be used to assess the merits of the proposed work plan and its fit with the Oil Sands Monitoring (OSM) Program mandate and strategic priorities. Applicants must complete the form in its entirety. Applicants that fail to use this form and complete all sections in the timeframe will not be considered.

OSM Work Plan Submission Deadline: The deadline for submission of proposed work plans is October 31, 2022 at 4:30 PM Mountain Standard time . Late submissions will not be accepted.	October 31, 2022 4:30 PM MST
Decision Notification	Mid to Late March 2023

WORK PLAN COMPLETION

Please **Enable Macros** on the form when prompted.

The applicant is required to provide information in sufficient detail to allow the evaluation team to assess the work plan. Please follow the requirements/instructions carefully while at the same time being concise in substantiating the project's merits. The OSM Program is not responsible for the costs incurred by the applicant in the preparation and submission of any proposed work plan.

Privacy: The OSM Program is governed by the Freedom of Information and Protection of Privacy Act (FOIP) and may be required to disclose information received under this Application, or other information delivered to the OSM Program in relation to a Project, when an access request is made by anyone in the public. Applicants are encouraged to familiarize themselves with FOIP. All work plans are public documents.

Technical Requirements: When working on this form, please maintain Macros compatibility by always saving your draft and your final submission as a **Microsoft Word Macro-Enabled Document**, failure to do so will result in loss of form functionality. This form was created using Microsoft word 2016 on a PC and may not have functionality on other versions of Microsoft on PC or MACS.

Government Lead/Coordinator: All work plans under the OSM Program require either a government lead or a government coordinator. This will ensure that the financial tables (for Alberta Environment and Parks & Environment and Climate Change Canada) are completed accurately for work plan consideration. **However**, if an **Indigenous community, environmental nongovernmental organization** or any other **external partner** is completing a work plan proposal, they would **only** complete the **grant or contract budget component** of the **Human Resources & Financials Section** for their project. The government coordinator within Alberta Environment & Parks would be responsible for completing the remaining components of the Human Resources and Financial Section of this Work Plan Application, as they are responsible for contract and grant facilitation of successful submissions. All other sections outside of **Human Resources & Financials Section** of this work plan proposal are to be completed in full by all applicants.

Supplemental Materials: The OSM Program recognizes that majority of work planning submissions are a result of joint effort and monitoring expertise. Should the applicant wish to submit supplemental materials in addition to their application additional resources are available in the Work Planning Package accessible here: [2023-24 Work Planning Package \(Ctrl+CLICK\)](#)

Should you have any **questions** about completing this work planning form or uploading your final submission documents, please send all inquiries by email to: OSM.Info@gov.ab.ca.



WORK PLAN SUBMISSION

Upon completion of this application, please submit the appropriately named work plan (**Microsoft Word Macro-Enabled Document**) and all supporting documents to the link provided below. Failure to follow the naming convention provided may result in oversight of your application.

Please upload (by drag and dropping) the **WORK PLAN SUBMISSION & ALL SUPPORTING DOCUMENTS** here:

[**WORK PLAN SUBMISSION LINK \(CTRL+CLICK HERE\)**](#)

Please use the following file naming convention when submitting your **WORK PLAN**:

202324_wkpln_WorkPlanTitle_ProjectLeadLastNameFirstName

Example:

202324_wkpln_OilSandsResiduesinFishTissue_SmithJoe

If applicable, please use the following file naming convention when submitting your **supplementary or supporting files**. Please number them according to the guidance and examples provided:

202324_sup##_WorkPlanTitle_ProjectLeadLastNameFirstName

Examples:

202324_sup01_OilSandsResiduesinFishTissue_SmithJoe

202324_sup02_OilSandsResiduesinFishTissue_SmithJoe

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202324_sup10_OilSandsResiduesinFishTissue_SmithJoe

Do not resave your work plan or documents under any other naming conventions. If you need to make revisions and resubmit before the work planning deadline of October 31, 2022, **DO NOT** rename your submission. When resubmitting, simply resubmit with the exact naming convention so that it replaces the original submission. **DO NOT** add any additional components such as versioning or dates to the file naming convention. Please direct any questions regarding the submission or naming of submissions to OSM.Info@gov.ab.ca.



WORK PLAN APPLICATION

PROJECT INFORMATION	
Project Title:	Fort McKay Métis Community-Based Wetland Monitoring
Lead Applicant, Organization, or Community:	Fort McKay Métis Nation
Work Plan Identifier Number: <i>If this is an on-going project please fill the identifier number for 22/23 fiscal by adjusting the last four digits: Example: D-1-2223 would become D-1-2324</i>	N/A
Project Region(s):	Athabasca
Project Start Year: <i>First year funding under the OSM program was received for this project (if applicable)</i>	2020
Project End Year: <i>Last year funding under the OSM program is requested Example: 2024</i>	Intended to be a long-term monitoring program
Total 2023/24 Project Budget: <i>For the 2023/24 fiscal year</i>	\$331,094.00
Requested OSM Program Funding: <i>For the 2023/24 fiscal year</i>	\$331,094.00
Project Type:	Longterm Monitoring
Project Theme:	Wetlands
Anticipated Total Duration of Projects (Core and Focused Study (3 years))	Year 3
Current Year	Focused Study: Year 3 of 3
	Core Monitoring: Choose an item.

CONTACT INFORMATION	
Lead Applicant/ Principal Investigator: <i>Every work plan application requires one lead applicant. This lead is accountable for the entire work plan and all deliverables.</i>	Adi Adiele
Job Title:	Manager, Environment Land Use Sustainability
Organization:	Fort McKay Métis Nation
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Email:	aadiele@fortmckaymetis.com

PROJECT SUMMARY

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

In the space below please provide a summary (300 words max) 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.

For decades, Fort McKay Métis community members have raised concerns related to the cumulative impacts industrial development is having on regional wetlands and the effect this has on traditional livelihoods and culture. Despite these concerns, industrial development is prevalent in this region and major projects are expected to continue.

In 2019, Fort McKay Métis successfully implemented a three-year pilot community-based wetland monitoring program to answer key questions from the community relating to wetlands. In 2020, 2021, and 2022, Fort McKay Métis received funding through OSM to expand the community based wetland monitoring program and completed years 1 -3 of wetland monitoring at new locations – Island Lake was added in 2020, two sites in the McKay River watershed were added in 2021, and a site in the Dover River watershed was added in 2022. Fort McKay Métis are now applying for funding to continue community-based wetland monitoring, by completing year 4 of data collection at Island Lake, year 3 of data collection at the McKay River watershed sites, and year 2 of data collection at the Dover River watershed site. Continuing this monitoring project provides value to the community and to the OSM program.

This program has been designed to meet both the Fort McKay Métis' objectives for community-based monitoring, and the objectives of several OSM Programs.

Fort McKay Métis have identified five key objectives for community-based monitoring:

- 1) the use of both western science and Indigenous knowledge to measure indicators related to wetlands and understand change;
- 2) generate information that helps answer questions from the community;
- 3) build community capacity for environmental and social monitoring;
- 4) create meaningful employment opportunities for community members; and
- 5) create opportunities for youth and elders/land users to work together to support knowledge transfer and cultural sustainability.

These objectives are aligned with the goals outlined in the ICBM Integration Strategy and Implementation Plan and the Indigenous Community Based Monitoring Program Framework.

The western science data collection will integrate methods used by the core Oil Sands Monitoring Wetland Technical Advisory Committee where possible to ensure the data is comparable for regional analysis.

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.

Fort McKay Métis is building a regional community-based monitoring program that tracks changes in wetlands that are of key importance to them, as well as regionally important. Ultimately, Fort McKay Métis would like to carry out a community-driven, community-based monitoring program using a complementary set of biological and socio-cultural indicators at all important wetlands within their territory. They hope information generated through this type of program will help inform decision making related to land use and development planning within their traditional harvesting area. Many of the wetlands currently monitored within the Fort McKay Métis Harvesting Area are monitored for western science indicators and questions related to industrial development. These programs have not been specifically designed to answer community questions and they have not integrated Indigenous knowledge or cultural values in their designs.

This monitoring project will address the Surveillance section of the OSM Key Questions under the Wetlands column identifying how the wetland ecosystems have changed from baseline. Section 3.3.3.2.8 outlines how our project fits in the source-pathway-receptor conceptual models.

The Fort McKay Métis community based wetland monitoring program will answer specific questions being asked by the community, use Indigenous knowledge in all phases of the monitoring program, and use western science tools and methods that allow seamless integration with other OSM monitoring activities. The program will establish existing conditions at wetlands important to the community, collect scientific and socio-cultural data, build capacity for environmental monitoring within the community, and promote knowledge transfer between elders and youth. This monitoring program meets the mandate of the OSM program by tracking and reporting on changes in wetlands in the oil sands region and whether these changes can be attributed to oil sands activity.

Our project's linkages to adaptive monitoring include:

- Holding annual community meetings to review indicators;
- Centralize data within Fort McKay's data system; and
- Collaborating with the wetland TAC by sharing data and information and using consistent protocols.

The community is using traditional knowledge and a long history of time spent on the land to make decisions about the monitoring activities which makes them uniquely qualified to help the monitoring program evolve.

Our project fits within the Wetland Technical Advisory Committee (TAC) scope of work document under their section "Theme Area Work Planning: Monitoring Approach for 2023-24, Core Program Components/Key Methods" where they state that the wetland work will build on indigenous community-based monitoring from Fort McKay Métis Nation. Our project team communicates regularly with Danielle Cobbaert and Stephanie Connor to stay updated on the newest Wetland TAC protocols and site locations.

The Fort McKay Métis successfully established a pilot community based wetland monitoring program in 2019 and 2020 with Environment and Climate Change Canada funding and completed three years of the OSM monitoring program at Island Lake (2020-2022), two years of monitoring two sites in the McKay River watershed (2021-2022), and one year of monitoring in the Dover River watershed. During this time the program has created opportunities for elders, land users, and younger community members to connect and share their knowledge of the land. Brandon Paquette, a Fort McKay Métis community member, created the first draft of a plant ID book for plants important to the community. This book incorporates indigenous knowledge and was created by sourcing knowledge from elders in the community.

Year 4 of monitoring will build on the success and efficiencies of the current program.

2.0 Objectives of the Work Plan

List in point form the Objectives of the 2023/24 work plan below

- Continue an integrated monitoring program at four wetlands, one near Island Lake, two in the McKay River watershed, and one in the Dover River watershed, that includes both Indigenous knowledge and western science to measure indicators related to wetlands.
- Answer key questions from the community and generate information that contributes to the knowledge of environmental impacts from oil sands development by integrating monitoring protocols and data management.
- Continue to build community capacity for data collection, reporting, and evaluation through training and mentorship.

This work plan falls under the Indigenous Community Based Monitoring Advisory Committee. The Wetlands Theme is the most relevant for this long term independent study, as all indicator data will be collected within wetlands.

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 Sub Theme

Please select from the dropdown menu below the theme(s) your monitoring work plan relates to:

Wetlands

3.2 Core Monitoring or Focused study

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. For the purposes of 2023/24 work planning all Community Based Monitoring Projects are Focused Studies.

Focused Study (includes Community-Based Monitoring)

3.3 Sub Theme Key Questions

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:

Quantity

3.4.1.2 Surface Water Key Questions

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

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

Two baselines (or reference cases) have been established for each site (Fort McKay Métis Nation OSM CBM Wetland Report, 2022 – in progress). A pre-development case based on indigenous knowledge and community reports/resources (such as Community Knowledge Keeper), and a contemporary case based on existing available scientific information on surface water levels, and commensurate with the start of sampling at each site (i.e. Island Lake baseline case 2020, Red River baseline case 2021, Dover River baseline case 2022).

The Fort McKay Métis Nation Community-Based wetland monitoring program collects information on surface water to determine if changes in water levels within wetlands is affecting access, or the ability to harvest specific plants or animals associated with wetlands. To date, the Fort McKay Métis community-based wetland monitoring program funded by OSM has focused on fens and therefore no surface water monitoring using western science indicators has been completed.

Thresholds for different “use” Indicators, such as the ability to access harvest areas, or the ability to harvest healthy plants, have been described for the Fort McKay Métis Nation (HEG & FMMN, 2015).

2. 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?)

Community members have identified changes to water levels from baseline using indigenous knowledge. Water quantity and flow changes due to oil sands development could impact travel routes and these changes will be documented during the monitoring. In the context of cumulative effects, changes to surface water affect the travel routes that community members are able to use to access areas where they can spend time on the land. Source: Oil sands development, Pathway: changes to local surface water, Receptor: Changes to access routes.

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

Changes to surface water levels impacting travel routes have been identified by Fort McKay Métis community members' traditional knowledge for many years. An investigation of cause study could be completed.

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

Fort McKay Métis have raised concerns related to the effects of oil sands development in the McKay River Watershed (hydrologic alterations, contaminants, vegetation removal) on wetlands, and the water in the McKay River and surrounding areas. The community has also raised concerns about water levels



impacting access to Dover River. By collecting data on water levels in wetlands the monitoring program will inform indigenous concerns and monitor for any changes.

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

Yes

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

Yes, see the Wetland Theme section 3.3.3.2.6 for details.

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

The monitoring integrates our community-based monitoring program with knowledge of surface water flows in areas around the oil sands and our group is willing to work with the Surface Water TAC to collect surface water samples in nearby streams, rivers, or lakes where the data would be useful to them.

8. 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?

See Wetlands Theme section 3.3.3.2.8 for details.

9. How will this work advance understanding transition towards adaptive monitoring?

This work will advance understanding transition towards adaptive monitoring by reviewing the existing data each year to decide which monitoring is appropriate for the future years. Sites are selected based on their proximity to oil sands development, importance to the community, and distance from one another. Our project uses the existing western science data, input from elders and land users, and collaborates with the Wetland TAC to select appropriate sites for future monitoring.

Question 10 box will not allow text to be added, response is included here:
Yes, this work plan will provide data related to access route changes for programmatic state of the environment reporting and the Fort McKay Métis State of the Environment Report.

10. 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.

Click or tap here to enter text.

3.3.2 Groundwater Theme

3.3.2.1 Sub Themes:

Quantity

3.3.2.2 Groundwater Key Questions

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

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

Two baselines (or reference cases) have been established for each site (Fort McKay Métis Nation OSM CBM Wetland Report, 2022 – in progress). A pre-development case based on indigenous knowledge and community reports/resources (such as Community Knowledge Keeper), and a contemporary case based on existing available scientific information on hydrology, shallow groundwater levels, and commensurate with the start of sampling at each site (i.e. Island Lake baseline case 2020, Red River baseline case, 2021, Dover River baseline case 2022).

The Fort McKay Métis Nation Community-Based wetland monitoring program collects information on shallow groundwater to determine if changes in water levels within wetlands is affecting access, or the ability to harvest specific plants or animals associated with wetlands, and answer the basic question “Are wetlands drying up?”

Thresholds for different “use” Indicators, such as the ability to access harvest areas, or the ability to harvest plants, have been described for the Fort McKay Métis Nation (HEG & FMMN, 2015). Another threshold is based on the monitoring locations meeting wetland criteria, such as the water table being at or near the ground surface.

2. Are changes occurring in groundwater quality and/or quantity relative to baseline? If yes, is there evidence that the observed change is attributable to oil sands development? (*Describe source-pathway-receptor and/or conceptual models*) and what is the contribution in the context of cumulative effects?

Island Lake is a reference site. It is viewed as a clean, safe place unaffected by oilsands development. The two monitoring sites in the McKay River watershed and the Dover River watershed site are closer in proximity to Fort McKay and are at risk of impacts due to oil sands development. Community members are concerned that water diversions, dewatering, and land clearing from projects like Syncrude MLX will affect groundwater quality and quantity.

Groundwater levels and quality will be monitored in all four wetland locations using established shallow groundwater wells. See the Wetland Theme section for details.

It is not yet known if changes are occurring relative to baseline, but data collected in spring-fall 2022 from data loggers is expected to contribute insights to address this question.

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

Results are not yet fully known. If changes are occurring there may be a need for an investigation of cause.

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

Groundwater quantity will inform one question from Fort McKay Métis: Are wetlands drying out? Shallow groundwater well data will be used to determine if the groundwater levels are changing more than would be expected with natural variability between years.

Community members are concerned that tailings storage, spills, and other unplanned releases may affect groundwater quality in wetlands and the McKay River. Groundwater samples will be analyzed to address this concern.



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

Yes

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

Yes, see the Wetland Theme section 3.3.3.2.6 for details.

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

See the Wetlands Theme section 3.3.3.2.7 for details.

8. 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?

See the Wetlands Theme section 3.3.3.2.8 for details.

9. How will this work advance understanding transition towards adaptive monitoring?

This work will advance understanding transition towards adaptive monitoring by reviewing the existing data each year to decide which monitoring is appropriate for the future years. Sites are selected based on their proximity to oil sands development, importance to the community, and distance from one another. Our project uses the existing western science data, input from elders and land users, and collaborates with the Wetland TAC to select appropriate sites for future monitoring.

10. 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.

Yes, this work plan will provide data related to groundwater levels and groundwater water quality changes for programmatic State of the Environment reporting and the Fort McKay Métis State of the Environment Report.

3.3.3 Wetlands Theme

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.

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

Two baselines (or reference cases) have been established for each site (Fort McKay Métis Nation OSM CBM Wetland Report, 2022 – in progress). A pre-development case based on indigenous knowledge and community reports/resources (such as Community Knowledge Keeper), and a contemporary case based on existing available scientific information and commensurate with the start of sampling at each site (i.e. Island Lake baseline case 2020, Red River baseline case, 2021, Dover River baseline case 2022).

The Fort McKay Métis Nation Community-Based wetland monitoring program collects information on shallow groundwater to determine if changes in water levels in wetlands is affecting access, or the ability to harvest specific plants or animals associated with wetlands. Thresholds for different "use" indicators, such as the ability to access harvest areas, or the ability to harvest plants, have been described for the Fort McKay Métis Nation (HEG & FMMN, 2015). Another threshold is based on the monitoring locations meeting wetland criteria, such as the water table being at or near the ground surface and supporting wetland vegetation.

2. 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?

Based on traditional knowledge, there is evidence that changes to wetlands are occurring due to oil sands development. This project will combine traditional knowledge and western science to track these changes. Preliminary western science data have not identified changes to wetlands and hydrological processes but more data is needed to confirm this.

The Island Lake site is a reference site. Fort McKay Métis want to make sure that this area remains healthy and free from oil sand development impacts. To confirm water in the area's wetlands are free from contaminants, groundwater samples will be collected at the Island Lake wetland site and analyzed, along with qualitative water data, shallow groundwater levels, and plant community composition.

The McKay River watershed sites and the Dover River watershed site are in areas affected by multiple oil sands projects. Shallow groundwater monitoring wells were installed, groundwater levels are being measured, groundwater quality samples were collected, and plant community composition is being documented. In the past, communities have raised concerns related to the effect mining and SAGD developments have on hydrological processes affecting wetlands (diversions, surface water and ground water withdrawal). Fort McKay Métis are also concerned wetlands may become contaminated from tailings pond seepage, spills, and the dust and emissions drifting from overburden piles, sulfur storage, trucks and roads, tailings storage, and mining operations.

Consistently collecting information for a common set of indicators at a reference site, and sites more directly affected by oil sands development helps the community and OSM understand the influence different drivers (i.e. oil sands productions, weather and climate, landscape factors) and pressures (land disturbance, surface water diversions, dewatering and other surface/groundwater withdrawals) have on the state of wetland health. It helps us understand how far the cumulative effects of oil sands development extend, and provides assurance to the communities that some areas remain safe for harvesting.

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

Results are not yet fully known. If changes are occurring there may be a need for an investigation of cause.

4. Are changes in wetlands informing Indigenous key questions and concerns?

The Fort McKay Métis wetland monitoring Programs was initially designed to help answer these questions (FMMN, HEG 2018; FMMN, HEG, AE 2019; FMMN, HEG, AE, 2020):

- Are wetlands drying out?
- Are there fewer healthy wetlands that can be used for traditional harvesting?
- Are there fewer animals using wetlands?
- Is it getting harder to predict how to travel through wetland and muskeg areas?
- Is the water in wetlands being polluted through air, by water run-off from industrial sites or through seepage?
- Are changes in wetland health affecting the way people use wetlands and how does this affect our culture?
- Are the reasons for communities travelling in/through wetlands changing – why?

In addition to these general questions, community members have questions and concerns specific to each monitoring location depending on their proximity to oil sands development. For example, the main question driving monitoring at Island Lake is "Are wetlands around Island Lake free from oil sands impacts"?

The Fort McKay Métis monitoring program uses both quantitative and qualitative methods to collect information for a number of environmental and socio-cultural indicators linked to wetlands. Quantitative (western science) methods follow OSM Program Requirements. The approach and methods used to collect qualitative information about indicators are aligned with best practices and the objectives the Fort McKay Métis have set out for community based monitoring programs:

1. To develop an integrated monitoring program that uses both indigenous knowledge and western science to measure indicators and understand change
2. To develop a program that answers key questions from the community and generates information that can better inform land use planning and decision making
3. To build community capacity for data collection, reporting, and evaluation
4. Create meaningful employment opportunities for community members that include spending time on the land, working to better understand environmental trends
5. Create opportunities for youth and Elders/land users to work together to support knowledge transfer and cultural sustainability

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

Scientific data will be produced in an open, integrated, and transparent manner and provided to the OSM Program data management system.

Scientific data will be processed and formatted to be compatible with the OSM Program data management system and provided to the OSM Program. Monitoring locations will be selected not to overlap with or duplicate ongoing OSM core monitoring but data will be compatible when the same indicators are used.

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

Draft Standard Operating Procedure from the OSM Wetland Technical Advisory Committee (TAC) for protocols in shallow groundwater level monitoring and vegetation cover monitoring are used. Stephanie Connor and Danielle Cobbaert (Wetland TAC) were contacted to ensure the materials and methods

used are consistent with the Wetland TAC core monitoring program and locations do not overlap. Additionally, the same laboratories will be used to analyze any groundwater or surface water samples collected to ensure the data is comparable.

Community members from Fort McKay Métis were trained in standard field sampling procedures for water quality, shallow groundwater level monitoring, and vegetation cover by the University of Northern British Columbia and experienced environmental scientists of Associated Environmental Consultants Inc. during the pilot community based monitoring program in 2019 and during monitoring in 2020-2022 under OSM. Qualitative information is recorded by community members in a format established for the 2019 pilot wetland monitoring program.

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

The proposed 2023 monitoring program builds on the successes and resources developed for the initial 2019 pilot project funded by an Environment and Climate Change Canada grant (Indigenous Fund for Community-Based Environmental Monitoring). Additionally, it builds on the success of the 2020-2022 OSM monitoring which integrates methods from the core programs under the OSM Wetland Technical Advisory Committee (TAC) while incorporating Indigenous knowledge in a community-based program.

This project integrates western science with Indigenous knowledge to monitor for changes in wetland health. Running this project as a focused study rather than a component of a core program allows the community the flexibility to create and run their own monitoring program using only the western science and socio-cultural indicators that are valuable to answer the questions posed by the community.

In addition to contributing to the community's goal of establishing a regional wetland monitoring program, this project has the potential to contribute to other monitoring programs being led by the Fort McKay Métis. Since 2018, Fort McKay Metis has worked to establish a surface and groundwater effects monitoring program on the McKay River. In 2020, OSM provided funding through the surface water TAC and the groundwater TAC that allowed Fort McKay Métis to continue this program. Information generated through established community-based wetland monitoring sites near existing/future mine sites will complement the existing surface and ground water monitoring programs, and help interpret the results generated from all three programs.

8. 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?

This monitoring program fits with the conceptual models for the wetlands and community-based monitoring themes and the overall OSM programmatic conceptual model as summarized below.

This project will advance the understanding of these conceptual models as Fort McKay Métis contribute knowledge directly related to valued components of each model, based on their unique perspective of a community that has been present on the land since pre-development. We will collect data that will contribute to knowledge specific to wetland impacts identified in the conceptual models. The data collected are related to western science and Traditional Ecological Knowledge (TEK) which is both aligned with the existing monitoring and enhances and expands it through the use of TEK.

If changes are observed, monitoring methods will be adapted to focus on investigating these changes and finding potential causes.

OSM PROGRAMMATIC CONCEPTUAL MODEL

PRESSURES

Pressures relating to our monitoring include land disturbance, industrial water use, and oil sands production.

STRESSORS

These pressures will lead to the following stressors addressed by our project:

- Increased access
- Elimination of streams, wetlands, and lakes
- Surface water diversions/withdrawals
- Contaminants

PATHWAYS

These stressors will be seen in the following pathways included in our project:

- Groundwater levels, flows & supply – this project will measure groundwater levels near wetland edges to determine if groundwater levels are changing. Groundwater quality will also be measured by collecting and analyzing groundwater samples.
- Invasive species – Vegetation species will be recorded which will capture invasive species percent cover in relationship to native species cover as well as traditionally and culturally important plants.
- Wildlife harvesting – Incidental wildlife and human access routes will be recorded for comparison in future years.

RESPONSE

The response from these pathways is expected to be a change to health, biodiversity, and distribution of wetlands and their valued components.

VALUED COMPONENTS

Any impacts will be measured based on the valued components of ecosystem structure and function, traditional resources & cultural practices, and access to land.

COMMUNITY BASED MONITORING CONCEPTUAL MODEL

PRESSURES

Our project relates to all of the oil sands related pressures (landscape disturbance, air emissions, and industrial water use).

STRESSORS

Our project relates to all four of the stressors in the model:

- Habitat loss, fragmentation, disturbance;
- Contaminants;
- Water withdrawals; and
- Water regulation.

PATHWAYS

The pathways addressed by our monitoring indicators include water transport and altered habitat.

CBM & INDIGENOUS INDICATORS / OBSERVATIONS OF CHANGE:

- Wildlife abundance
- Water quality
- Drying Lakes, Creeks & Wetlands (habitat quality)

VALUED COMPONENTS

The valued components that will be recorded include:

- Quality of Traditional Resources,
- Access to Traditional Land & Resources, and
- Perception of Environment

All three of these valued components could lead to a loss or reduction in the observation of traditional and cultural practices.

WETLAND CONCEPTUAL MODEL

DRIVERS

The driver related to our monitoring is oil sands development.

PRESSURES

This driver has led to pressures including Surface Water Diversions, Ground & Surface Withdrawals, and Oil Sands Contaminants.

PATHWAYS

These pressures are being monitored through pathways including Changes to Local Surface Water, Changes to Local Groundwater, and Transport via Surface Water, Groundwater, Atmospheric Deposition.

WETLAND STRESSORS

Wetland stressors included in our monitoring include Changes to Recharge & Discharge Patterns.

WETLAND ECOSYSTEM STATE

Changes to wetland ecosystem state will be measured through Changes to Wetland Ecosystem Structure.

WETLAND IMPACTS (VALUED COMPONENTS)

The valued components measured by our indicators include:

- Loss of Wetland Ecosystem Services,
- Decreased Health of Culturally Important Species,
- Changes to Wetland Navigation, and
- Loss of Traditional Way of Life.

9. How will this work advance understanding transition towards adaptive monitoring?

This work will advance understanding transition towards adaptive monitoring by reviewing the existing data each year to decide which monitoring is appropriate for the future years. Sites are selected based on their proximity to oil sands development, importance to the community, and distance from one another. Our project uses the existing western science data, input from elders and land users, and collaborates with the Wetland TAC to select appropriate sites for future monitoring.

10. 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.

Yes, providing data for programmatic State of the Environment reporting and the Fort McKay Métis State of the Environment Report.



3.3.4 Air Theme

3.3.4.1 Sub Themes:

Choose an item.

3.3.4.2 Air & Deposition - Key Questions

Explain how your air & deposition monitoring program addresses the key questions below.

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

Air quality and deposition are not addressed in this work plan.

2. Are changes occurring in air quality? 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?

N/A

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

N/A

4. Are changes in air quality informing Indigenous key questions and concerns?

N/A

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

N/A

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

N/A

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

N/A

8. 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?

N/A

9. How will this work advance understanding transition towards adaptive monitoring?

N/A

10. 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.

N/A

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.

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

Vegetation cover and wildlife observation data will be collected in all wetlands. The Island Lake site will be used as a baseline for change because it is far from oil sands impacts. The extent of change to vegetation cover and wildlife will be compared to the first year of monitoring data where historical data does not exist. Traditional knowledge of vegetation and wildlife will also be used to identify historical conditions where it is known. Detailed information can be found in the Wetlands Theme section.

2. 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?

Yes, see the Wetlands Theme section 3.3.3.2.2 for details.

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

No unanticipated results yet. More data is needed to draw meaningful conclusions related to the terrestrial data. Wetland data is the main focus of our project.

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

Yes, see the Wetlands Theme section 3.3.3.2.4 for details.

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

Yes, see Wetlands Theme section 3.3.3.2.5 for details.

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

Yes, see Wetlands Theme section 3.3.3.2.6 for details.

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

Yes, see Wetlands Theme section 3.3.3.2.7 for details.

8. 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?

Yes, see Wetlands Theme section 3.3.3.2.8 for details.

9. How will this work advance understanding transition towards adaptive monitoring?

Yes, see Wetlands Theme section 3.3.3.2.9 for details.



10. 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.

Yes, the work plan is providing data for programmatic State of the Environment reporting and the Fort McKay Métis State of the Environment Report.



3.3.6 Cross-Cutting Across Theme Areas

3.3.6.1 Sub Themes:

QA/QC/Standards/Methods

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

N/A

3.3.6.2 Cross-Cutting - Key Questions

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

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

All data collected will follow written protocols to ensure the data collected at different sites and in different years is comparable. All western science data collected will be provided to the OSM Program data management system.

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

Yes, the methodologies are based on the methods used in the core monitoring for wetlands for overlapping indicators between this focus study and the core programs.

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

The monitoring integrates wetlands, surface water, groundwater, and Indigenous community-based monitoring which are all necessary to identify changes to wetland health, which is directly related to wetland functions that rely on key ecosystem processes such as wetland hydrology. Communication with the Wetlands TAC has ensured the western science data will be easily compatible with current datasets collected by the core monitoring programs which can be analyzed on a regional scale.

4. 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?

This monitoring program fits with the conceptual models for the wetlands and community-based monitoring themes and the overall OSM programmatic conceptual model as summarized below.

This project will advance the understanding of these conceptual models as Fort McKay Métis contribute knowledge directly related to valued components of each model, based on their unique perspective of a community that has been present on the land since pre-development. We will collect data that will contribute to knowledge that is specific to wetland impacts identified in the conceptual models. The data collected are related to western science and Traditional Ecological Knowledge (TEK) which is both aligned with the existing monitoring and enhances and expands it through the use of TEK.

OSM PROGRAMMATIC CONCEPTUAL MODEL
PRESSURES
Pressures relating to our monitoring include land disturbance, industrial water use, and oil sands production.

STRESSORS
These pressures will lead to the following stressors addressed by our project:

- Increased access
- Elimination of streams, wetlands, and lakes

- Surface water diversions/withdrawals
- Contaminants

PATHWAYS

These stressors will be seen in the following pathways included in our project:

- Groundwater levels, flows & supply – this project will measure groundwater levels near wetland edges to determine if groundwater levels are changing
- Invasive species – Vegetation species will be recorded which will capture invasive species percent cover in relationship to native species cover as well as traditionally and culturally important plants.
- Wildlife harvesting – Incidental wildlife species and human access routes will be recorded for comparison in future years.

RESPONSE

The response from these pathways is expected to be a change to health, diversity, and distribution of wetlands and their valued components.

VALUED COMPONENTS

Any impacts will be measured based on the valued components of ecosystem structure and function, traditional resources & cultural practices, and access to land.

COMMUNITY BASED MONITORING CONCEPTUAL MODEL

PRESSURES

Our project relates to all of the oil sands related pressures (landscape disturbance, air emissions, and industrial water use).

STRESSORS

Our project relates to all four of the stressors in the model:

- Habitat loss, fragmentation, disturbance;
- Contaminants;
- Water withdrawals; and
- Water regulation.

PATHWAYS

The pressures addressed by our monitoring indicators include water transport and altered habitat.

CBM & INDIGENOUS INDICATORS / OBSERVATIONS OF CHANGE:

- Wildlife abundance
- Water quality
- Drying Lakes, Creeks & Wetlands (habitat quality)

VALUED COMPONENTS

The valued components that will be recorded include:

- Quality of Traditional Resources,
- Access to Traditional Land & Resources, and
- Perception of Environment

All three of these valued components could lead to a loss of traditional and cultural practices.

WETLAND CONCEPTUAL MODEL

DRIVERS

The driver related to our monitoring is oil sands development.

PRESSURES

This driver has led to monitoring the results of pressures including Surface Water Diversions, Ground & Surface Withdrawals, and Oil Sands Contaminants.

PATHWAYS

These pressures are being monitored through pathways including Changes to Local Surface Water, Changes to Local Groundwater, and Transport via Surface Water, Groundwater, Atmospheric Deposition.

WETLAND STRESSORS

Wetland stressors included in our monitoring include Changes to Recharge & Discharge Patterns.

WETLAND ECOSYSTEM STATE

Changes to wetland ecosystem state will be measured through Changes to Wetland Ecosystem Structure.

WETLAND IMPACTS (VALUED COMPONENTS)

The valued components measured by our indicators include:

- Loss of Wetland Ecosystem Services,
- Decreased Health of Culturally Important Species,
- Changes to Wetland Navigation, and
- Loss of Traditional Way of Life.

5. How will this work advance understanding transition towards adaptive monitoring?

See Wetlands Theme section 3.3.3.2.5.

6. 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.

Yes, this work plan is providing data for programmatic State of the Environment reporting and the Fort McKay Métis State of the 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.

Our monitoring program will inform management, policy, and regulatory compliance by documenting changes in wetland indicators using Indigenous knowledge and scientific methods and making recommendations for adaptive management whenever possible. If current industrial development in the area is in environmental compliance yet wetland changes are documented then it will inform policy makers that current legislation is not sufficient for the desired outcome. This project will also document information about the valued components of wetlands that Fort McKay Métis traditionally use which will inform policy makers when assessing gaps in current regulatory processes.

The project aligns with the Strategic Direction of the Lower Athabasca Regional Plan of "Inclusion of Aboriginal Peoples in Land-Use Planning" that intend to collect traditional ecological knowledge to inform land and natural resource planning in the region. Additionally, the information collected will inform Fort McKay Métis decision-making on continued traditional use and access.

5.0 Indigenous Issues

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

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

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

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

This program is led by Fort McKay Métis in collaboration with Associated Environmental Consultants Inc., and the Human Environment Group Ltd. The first three years of this OSM-funded project with the same collaborators was proven successful from 2020-2022. Our monitoring activities are initiated by the Fort McKay Métis community and inform questions posed by the community relating to regional wetland health. The data are collected by the community relating to socio-cultural and western science indicators at locations chosen or confirmed at a community meeting each year. The indicators will answer questions relating to overall wetland health, traditional use and harvesting, water quality, and shallow groundwater levels. This project will build community capacity for future environmental monitoring. All research questions and indicators are approved by Fort McKay Métis collaboratively during project development and any comments or concerns are addressed at a community meeting prior to each year of monitoring to ensure full consent is received. Monitoring activities may be staged from a camp (if public health restrictions and the site allow) where elders, land users, and community monitors will work together throughout all aspects of the program. All program activities are structured to facilitate the transfer of knowledge, skills, and values among participants.

Does this project include an Integrated Community Based Monitoring Component?

No

If YES, please complete the [ICBM Work Plan Forms](#) and submit using the link below

Please note that completion of the ICBM template is mandatory if yes is indicated above and must be submitted along with each work plan that includes an integrated CBM component

[ICBM WORK PLAN SUBMISSION LINK \(CTRL+CLICK HERE\)](#)

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

1. Are there any community specific protocols that will be followed?

Yes, informal community protocols for respectful data collection on traditional lands will be followed.

2. 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.

Although this project is led by the Fort McKay Métis community, there are still considerations made for respectful data collection. This project was created to answer questions from the Fort McKay community in a collaborative way by collecting and analyzing traditional knowledge and western science data.

Traditional knowledge: Indigenous participants from Fort McKay share traditional knowledge and stories of the land including the history of how the land was shaped and the history of land users. This information is collected through informal interviews where formal consent is received prior to information being collected. Data collection methods are reviewed to ensure the knowledge holder can consent to them (i.e., collecting notes, voice recording, photos, videos). Fort McKay Metis have standard consent forms that are signed before interviews or data collection begins.

Western science: Indigenous participants from Fort McKay are involved with the site selection, access route planning, and data collection. Any changes to western science methods are reviewed with the community prior to their use to ensure they are still in the best interest of the community. For example, samples and biomass removed from the land are limited to what is necessary for the intent of the data.

Reports and deliverables are reviewed by the community prior to being shared to ensure the data and photos are consistent with the consent provided. Risks and harms were assessed prior to the start of this wetland monitoring project. The community staff that are actively involved in the program, and our team (some who have worked for decades with community of Fort McKay) understand the potential for risks and harms that are present. The collaboration with key community members, the Human Environment Group, and open communication has mitigated these risks and harms. This is ultimately a community driven project.

3. 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 project involves collecting, sharing, interpreting, and applying indigenous knowledge; and it aligns with the Interim Ethical Guidelines as explained below.

1. Respectful Relationships are the Foundation of Collaboration

Community members have been an integral part of the team conceptualizing, designing and implementing the community based wetland program. Community members have:

- Defined program objectives
- Identified monitoring questions
- Selected Indicators for monitoring effects to wetlands
- Made recommendations for monitoring locations
- Participated in field program
- Review reports, contribute photos, own, store and control program data

2. Indigenous and Western Science Knowledge Systems are Valid and Complementary

This project values both indigenous and western science knowledge systems and they each form a valued portion of the project and complement each other. This is reflected in the annual reports that present monitoring results from both knowledge systems on equal footing.

3. Working with Multiple Knowledge Systems Requires an Interdisciplinary Approach

An interdisciplinary approach has been implemented for this project. This includes selecting a diverse team, including community members, social scientists, and wetland scientists to collect and report on information from multiple knowledge systems. We are aware of gaps in skills and training and have been working to support the community in closing these gaps.

4. Meaningful and Equitable Community Participation is Essential

The community is not just participating in the project, they are leading the project. The project includes community members of all ages and genders that are interested in contributing.

5. Risks and Harms are Assessed from Indigenous and Western Science Perspectives and Local Experiences

Since the community directs the project, there are no issues with creating space for indigenous knowledge holders. The project was set up in a way that the identification of indicators was not rushed, and the pace of the monitoring activities does not erode trust or relationships.

6. Opportunities and Benefits are Informed by Community Needs and Interests

Results are shared through posters, skills are shared between community members throughout the project, community knowledge holders are recognized during the project and in deliverables, and methods used for community engagement are included in the final reporting.

7. Prior Informed Consent is an Ongoing Process and Commitment

Fort McKay Métis Consent Forms are signed by each participant at the beginning of the field season, before information collection begins. These forms are stored with project information in Community Knowledge Keeper. Community members are aware of the full scope of the project and where their information is included. Draft reports and posters are reviewed with participants to ensure they are happy with the way information is presented, including quotes, and photographs. Consent is never assumed and is an ongoing process.

8. Indigenous Knowledge is Shared Through Culturally Appropriate Processes

Indigenous knowledge and the format for collecting and sharing it is discussed with the knowledge holder. Collecting indigenous knowledge is not rushed or completed in a rigid manner, limits of sharing are respected, and knowledge holders are appropriately recognized for their contributions.

9. Indigenous Knowledge Requires Specific Protections from Misrepresentation, Misuse and Misappropriation

Indigenous knowledge is carefully collected and reported to preserve the original intent of the information. The community owns these data after collection.

10. Indigenous Communities are the Owners and Stewards of Community-Based Monitoring Data and Information

The plan for collecting and sharing data was discussed early in OSM planning. The community drives this project and is in control of where and when data is shared and reported. Fort McKay Métis own all data.

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

The Fort McKay Métis community leads this project and any data collected and interpreted is completed by community members and results are reviewed by the community prior to submission. Explicit consent for any traditional knowledge included in reporting and how it is included is key to the success of the project.

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

The Fort McKay Métis community holds a meeting before beginning the project each year where the project as a whole is discussed and any concerns can be voiced. Additionally, the project involves many site visits where community members can voice concerns at any time and changes can be made accordingly. The indicators were selected by the community members prior to the start of this wetland monitoring project.

6. How does this work plan directly benefit your community? How does it support capacity building in your community?

This work plan directly benefits the Fort McKay Métis community by fulfilling the five key objectives of the project:

- 1) the use of both western science and Indigenous knowledge to measure indicators related to wetlands and understand change;
- 2) generate information that helps answer questions from the community;
- 3) build community capacity for environmental and social monitoring;
- 4) create meaningful employment opportunities for community members; and
- 5) create opportunities for youth and elders/land users to work together to support knowledge transfer and cultural sustainability.

Community members have built capacity to select wetland monitoring sites, assist in planning site visits, data collection, and compiling data into formats that are meaningful to the community, such as a plant book.

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

Information from this work plan will be reported back to the Fort McKay community in a similar way to previous years. This includes a report containing all data and OSM program reporting requirements as well as posters that summarize data from each site and the project as a whole. The posters are printed and displayed in a public area of the community and contain text as well as photos and graphics to make the data accessible.

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.

Changes to wetlands will be assessed using the indicators for the following wetland values: vegetation community composition and plant harvesting, ground water quality, ground water levels, access to cultural sites and traditional harvesting areas, wildlife and wildlife harvesting, cultural transmission of skills and knowledge.

Changes in environmental condition will be assessed by comparing results to historical conditions whenever possible using Indigenous knowledge or previous data collected through other studies in the area. Where no data is available (such as Island Lake), the first year of monitoring will be used as baseline conditions for comparison in future years.

Our project fits within the Wetland TAC scope of work document under the section "Theme Area Work Planning: Monitoring Approach for 2023-24, Core Program Components/Key Methods" which states that the wetland work will build on work completed by indigenous community-based monitoring from Fort McKay Métis Nation. Our project team communicates regularly with Danielle Cobbaert and Stephanie Connor to stay updated on the newest Wetland TAC protocols and site locations.

7.0 Accounting for Scale

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

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

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

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

This monitoring will use methods and materials aligned with core monitoring programs in the wetland Technical Advisory Committee (TAC) which will allow the data to contribute to regional monitoring. The sub-regional scale will be at a wetland level and will monitor ground water levels, ground water quality, vegetation, and wildlife which will be analyzed for the many interactions that may be causing the conditions.

Our project fits within the Wetland TAC scope of work document under the section "Theme Area Work Planning: Monitoring Approach for 2023-24, Core Program Components/Key Methods" which states that the wetland work will build on work completed by indigenous community-based monitoring from Fort McKay Métis Nation. Our project team communicates regularly with Danielle Cobbaert and Stephanie Connor to stay updated on the newest Wetland TAC protocols and site locations.

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.

This monitoring program will be a collaboration between the Fort McKay Métis community, Associated Environmental Consultants Inc., and the Human Environment Group to collect data with consistent formats and methods as found within the Technical Advisory Committee (TAC) core monitoring programs. This will result in the western science data produced in a useful format that can be shared with the interested TACs. The Fort McKay Métis community led the first two years of this OSM project in 2020-2021 and the results were summarized in a year end report and on posters. The 2022 data will be summarized in the same way. The same collaborators also completed a four year pilot project (2019-2022) through Environment and Climate Change Canada where a report was produced each year containing all locations, methods, results, and data sheets, along with a set of posters. The posters were successful in engaging community members, for example at the fall harvesting festival in 2019, demonstrating their effectiveness for this audience. For each year of monitoring, a similar report containing the results and datasheets will be completed and a set of posters created, to document progress each year for the OSM program.

Our project fits within the Wetland TAC scope of work document under the section "Theme Area Work Planning: Monitoring Approach for 2023-24, Core Program Components/Key Methods" which states that the wetland work will build on indigenous community-based monitoring from Fort McKay Métis Nation. Our project team communicates regularly with Danielle Cobbaert and Stephanie Connor to stay updated on the newest Wetland TAC protocols and site locations.

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 monitoring integrates methods from the core programs under the Wetland Technical Advisory Committee (TAC) while incorporating Indigenous knowledge in a community-based program. Results will be shared with the relevant TACs and monitoring design avoids existing monitoring locations to avoid duplication. This project is entirely community-based with the Fort McKay Métis community and integrates western science with Indigenous knowledge to monitor for changes in wetland health.

Efficiency was gained by beginning this project through funding from Environment and Climate Change Canada and using the same project team members. Standardized and consistent methods year to year maintain this efficiency.

Our project fits within the Wetland TAC scope of work document under their section "Theme Area Work Planning: Monitoring Approach for 2023-24, Core Program Components/Key Methods" where they state that the wetland work will build on indigenous community-based monitoring from Fort McKay Métis Nation. Our project team communicates regularly with Danielle Cobbaert and Stephanie Connor to stay updated on the newest Wetland TAC protocols and site locations.

10.0 Work Plan Approach/Methods

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

Phase 1: Develop a list of questions and concerns from the Fort McKay Métis community relating to wetland health.

Status: COMPLETED September 2018 (Fort McKay Métis Sustainability Centre 2018).

- Compile a document that lists Fort McKay Metis concerns, traditional use, and knowledge relating to wetlands in the region.

Phase 2: Complete a pilot community-based wetland monitoring project in one wetland complex.

Status: COMPLETED 2019 and 2020 funded by Environment and Climate Change Canada (Associated Environmental Consultants Inc. & Human Environment Group 2019).

- Choose one important wetland complex with the community for the pilot project
- Develop a list of wetland indicators with the community
- Train community members for wetland monitoring
- Complete field work at three locations within the wetland complex
- Compile data and report on the results
- Validate report and recommendations with community members

Phase 3: Expand the wetland monitoring pilot project into a comprehensive wetland monitoring program

Status: COMPLETED in 2020 through OSM year 1 funding

- Meet with the Fort McKay Metis community to select a new monitoring site from the existing list of priority areas and confirm access, coordinate monitoring program participants, and review methods.
- Review existing data from nearby environmental monitoring programs.
- Continue working with community members who participated in the 2019 pilot project and train additional community members to support monitoring activities.
- Expand indicators used in the 2019 pilot project and modify western science data collection to incorporate methods used by the Oil Sands Monitoring program Wetland Technical Advisory Committee (TAC) and Surface Water TAC.
- Collect field data using western science and Indigenous knowledge at Island Lake during one annual visit.

Phase 4: Continue field data collection in the wetland complex, analyze data, and report on results for additional years.

Status: IN PROGRESS, started in 2021, continue through 2023 and beyond with OSM funding.

- Continue monitoring at the site near Island Lake by conducting one site visit to collect data on vegetation, groundwater quality, wildlife, and shallow groundwater levels.
- Continue monitoring at the two sites in the McKay River watershed (added in 2021) and one site in the Dover River watershed (added in 2022) by conducting three site visits for monitoring vegetation, groundwater quality, wildlife, and shallow groundwater levels. Visit 1 will be used to deploy groundwater data level loggers in spring, visit three will be used to collect the groundwater data level loggers in the fall. The second site visit will collect all other data in the middle of the growing season.
- Report on results

10.2 Describe how changes in environmental Condition will be assessed *

Changes to wetland condition will be assessed using the following indicators: vegetation community composition, water quality, groundwater levels, access and traditional use and cultural activities.

Changes in environmental condition will be determined by comparing results to historical data (including Indigenous knowledge), and previous data collected through other studies in the area. Where no data is available, the first year of monitoring will be used as existing conditions for comparison in

future years. The results will be used to answer the community's questions related to changes in wetland condition in the vicinity of industrial oil sands development and expansion.

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

Shallow ground water quality data will be compared to Alberta Environment and Parks Environmental Quality Guidelines for Alberta Surface Waters (AEP 2018), since the samples are collected close o the ground surface and are likely influenced by surface water. Regional reference conditions established in literature are also used as a benchmark for isotope samples.

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

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

COMPLETE
Phase 1: Develop a list of questions and concerns from the Fort McKay Métis community relating to wetland health.
Methods:

- Literature review/search of community database
- Community meetings to identify wetlands of concern, record wetland questions and concerns
- Reporting

COMPLETE
Phase 2: Complete a pilot community-based wetland monitoring project in one wetland complex.
Methods:

- Community meeting to develop a list of wetland indicators and choose a monitoring location
- Develop a monitoring plan and prepare for the field assessment
- Community member training in the field to collect the required data
- Field data collection
 - o Vegetation: dominant woody vegetation in 10 m diameter circular plot and in 1 m square quadrats for herbaceous species along a 30 m transect at three locations.
 - o Hydrology: depth to water table was recorded at vegetation transect locations using shallow groundwater monitoring wells.
 - o Water quality: water in the wetland was measured for dissolved oxygen, pH, conductivity, visual qualities (e.g., colour, odour, surface residue, and transparency), and samples were sent to a lab for analysis of additional parameters.
 - o Cultural use: (harvesting, access, habitation, interactions with industry and non-indigenous users). Indigenous knowledge exchange from elders to family and community members was audio recorded and recorded on datasheets.
- Reporting to Environment and Climate Change Canada to summarize the program methods and discuss results.
- Validation of the reporting and program recommendations with community members at a harvest camp.

COMPLETE
Phase 3: Expand the wetland monitoring pilot project to include a new site in a different, important wetland area.
Methods:

- Meet with the Fort McKay Metis community to choose a site important to the community, consider access routes, coordinate monitoring teams, and confirm methods. Island Lake was chosen.
- Review any existing data from nearby environmental monitoring programs to ensure efforts are not duplicated.

- Continue working with community members who participated in the 2019 ECCC pilot project and train additional community members to support monitoring activities.
- Expand indicators used in the 2019 pilot project and modify western science data collection to incorporate methods used by the Oil Sands Monitoring program Wetland Technical Advisory Committee (TAC) and Surface Water TAC.

Collect data on:

- Vegetation percent cover by species along transects
- Incidental wildlife observations
- Surface water quality
- Benthic macroinvertebrates
- Depth to water table using shallow groundwater monitoring wells
- cultural use and Indigenous knowledge (harvesting, water use, access, interactions with industry or non-indigenous users)

STARTED IN 2021, PLANNED TO CONTINUE IN 2023 AND BEYOND USING OSM FUNDING

Phase 4: Continue field data collection in the wetland complexes, analyze data, and report on results.

- Hold a community meeting to confirm access routes, a monitoring team, and methods.
- Review any existing data from nearby environmental monitoring programs to ensure efforts are not duplicated.
- Continue monitoring at one site near Island Lake by conducting one site visit for data collection on vegetation, groundwater quality, wildlife, and shallow groundwater levels.
- Continue monitoring at two sites in the McKay River watershed (added in 2021) and one site in the Dover River watershed (added in 2022) by conducting three site visits for monitoring vegetation, groundwater quality, wildlife, and shallow groundwater levels. Visit 1 will be used to deploy groundwater data level loggers in spring, visit three will be used to collect the groundwater data level loggers in the fall. The second site visit will collect all other data in the middle of the growing season.
- Report on results

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

- Vegetation percent cover by species
- Hydrology (shallow groundwater levels)
- Wildlife observations
- Groundwater quality
- Socio-cultural indicators describing community member's experiences relating to each of the above indicators as well as access and interactions with industry or non-indigenous land users

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.

The methods, results, and datasheets will be included in a report completed after each year of monitoring. The end-users of the monitoring program are the Fort McKay Métis community who have reports documenting their concerns relating to wetlands and a pilot project documenting wetland health. These annual reports will add to their collection of data documenting change on their land. The results will also be presented in poster format at an annual harvest camp where the community can discuss the results and provide feedback for future monitoring.

The monitoring program will be presented at the SETAC North America conference in Fall 2022 to share learnings of the project. Additionally, the plant book created by Brandon Paquette will be used throughout the community as a resource for identifying traditional names and uses of various common plants.

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

Phase 1: Develop a list of questions and concerns from the Fort McKay Métis community relating to wetland health.

Status: COMPLETED IN September 2018 (Fort McKay Métis Sustainability Centre 2018).

Delivery: Completed in collaboration with the Human Environment Group under the Government of Alberta's Environment Monitoring and Science Division

Phase 2: Complete a pilot community-based wetland monitoring project in one wetland complex (McClelland Lake Wetland Complex).

Status: COMPLETED IN 2019 and 2020 funded by Environment and Climate Change Canada (Associated Environmental Consultants Inc. & Human Environment Group 2019).

Delivery: Completed by the Fort McKay Métis community in collaboration with Associated Environmental Consultants Inc. and the Human Environment Group under an Environment and Climate Change Canada grant. ALS Environmental laboratory was used for analysis of surface water samples.

Phase 3: Expand the wetland monitoring pilot project to monitor other important wetlands in the Fort McKay Metis harvesting area (add Island Lake wetland as a reference site)

Status: COMPLETED IN 2020 through OSM funding

Delivery: Completed by the Fort McKay Métis community in collaboration with Associated Environmental Consultants Inc. and the Human Environment Group entirely funded by the Oil Sands Monitoring program. Laboratories used include Bureau Veritas, Innotech Vegreville, and Innotech Victoria because they are the labs used by the Wetland TAC and this will ensure our data is comparable in regional datasets.

Phase 4: Continue field data collection at the existing four sites

Status: STARTED IN 2021, PLANNED TO CONTINUE IN 2023 AND BEYOND USING OSM FUNDING

Delivery: This will be completed by the Fort McKay Métis community in collaboration with Associated Environmental Consultants Inc. and the Human Environment Group, tentatively funded by the OSM



program. Laboratories used will align with those used by the Wetland TAC.

*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 2022-23 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.

Data Sharing and Data Management *Continued*

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:

2023-04-01

13.5 Estimated Data Collection End Date:

2023-10-31

13.6 Estimated Timeline For Upload Start Date:

2023-12-01

13.7 Estimated Timeline For Upload End Date:

2024-03-31

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 table and then clicking on the blue "+" symbol 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
Vegetation cover	Fort McKay community database and Wetland TAC data storage location	xlsx	Open by Default
Groundwater levels	Fort McKay community database and Wetland TAC data storage location	xlsx	Open by Default
Groundwater quality	Fort McKay community database and Wetland	xlsx	Open by Default



	TAC core monitoring program data storage location		
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<i>Indigenous knowledge – vegetation, wildlife, water levels, water quality, access routes, interactions with industry or non-indigenous land users</i>	Fort McKay Community database	pdf	Protected by Default
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14.0 2023/24 Deliverables

Add an additional deliverable by clicking on the table and then clicking on the blue "+" symbol on the bottom right side of table.

Type of Deliverable	Delivery Date	Description
OSM Program Annual Progress Report (required)	Q4	Annual report summarizing methods, results, and data from 2023 monitoring.
Stakeholder or Community Presentation	Q3	Annual presentation at the harvest camp discussing the results with the community. Subject to public health restriction limitations.

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.

Craig Mahoney – Alberta Environment and Parks

Craig will be the contract manager and the point of contact for establishing the contract between AEP and Fort McKay Métis Nation outlined in this work plan. Invoices related to the activities funded through this contract will be sent to Craig for processing.

Adi Adiele – Fort McKay Métis Nation

Adi will coordinate the Project Team, track the budget, complete financial reporting, and provide overall project management and coordination between project technical experts and community members.

Adi is a Geoscientist with over 10 years' experience in building and leading diverse technical teams with focus in managing and coordinating stake holder's engagement, environmental site assessments, contaminant and physical hydrogeology projects for numerous clients. Adi is active member of APEGA and ACSA as a professional Geologist and National Construction Safety Officer in Alberta. Adi was also involved in the 2019 and 2020 pilot wetland monitoring project and 2020, 2021, and 2022 OSM monitoring project.

Carrie Oloriz – the Human Environment Group

Carrie will be the socio-cultural and TEK specialist who helps develop the plan for the community-based wetland monitoring program. She will also deliver training on socio-cultural monitoring techniques, survey methods and documenting TEK. She will help coordinate community participation and provide support in the field.

Carrie has worked in various capacities for the Fort McKay Métis since 2014. On behalf of the community, she has been involved in multiple Traditional Land Use Assessments, Integrated Cultural Assessments, community monitoring programs, technical reviews and facilitated several community meetings to discuss matters related to wetlands, fisheries work, community-based monitoring, social programs, cultural issues, Aboriginal Rights and knowledge systems. Since 1995, Carrie has completed numerous projects for the Fort McKay community, the Athabasca Tribal Council, other Aboriginal communities, multi-stakeholder organizations, government agencies and industry proponents in NE Alberta. Carrie was involved in Fort McKay Métis' 2018 wetland study, the Fort McKay Métis 2019, 2020, 2021 and 2022 pilot wetland monitoring project with ECCC, and the 2020, 2021 and 2022 OSM wetland monitoring projects.

Kristen Andersen – Associated Environmental Consultants Inc.

Kristen will be the technical wetland specialist who helps develop the plan for the community-based wetland monitoring program. She will also deliver training on biological monitoring techniques, wetland mapping and classification and provide support in the field.

Kristen has over 20 years of experience specializing in comprehensive wetlands services including wetland assessment and reclamation as a consultant. Kristen is passionate about education and has been a wetland instructor at the University of Alberta Faculty of Extension for the past 10 years. Her expertise includes vegetation, soils, and hydrology monitoring, functional assessment, remote sensing and wetland restoration. She also runs workshops for the instruction of stream restoration techniques through Associated Environmental. As a volunteer for the Alberta Native Plant Council, she teaches workshops related to plant identification. Kristen was involved in the 2019 and 2020 pilot wetland monitoring project as well as the 2020, 2021, and 2022 OSM monitoring project.

No personnel or expertise gaps for successful completion of the project relative to the OSM program mandate have been identified.





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 AEP 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 AEP

Add an additional AEP Staff member by clicking on the table and then clicking on the blue "+" symbol on the bottom right side of 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
Click or tap here to enter text.	Click or tap here to enter text.	0%

Table 16.1.2 ECCC

Add an additional ECCC Staff member by clicking on the table and then clicking on the blue "+" symbol on the bottom right side of table. The total FTE (Full Time Equivalent) is Auto Summed in Table 16.2.2

Name (Last, First)	Role	% Time Allocated to Project
Click or tap here to enter text.	Click or tap here to enter text.	0%

The tables below are the financial tables for Alberta Environment & Parks (AEP) 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 (ctrl + click the link below). Please note that completion of this Project Finance Breakdown Template is mandatory and must be submitted along with each workplan.

[PROJECT FINANCE BREAKDOWN TEMPLATE \(CTRL+CLICK HERE\)](#)

Table 16.2.1 Funding Requested BY ALBERTA ENVIRONMENT & PARKS

Organization – Alberta Environment & Parks ONLY	Total % time allocated to project for AEP staff	Total Funding Requested from OSM
Salaries and Benefits <i>(Calculated from Table 16.1.1 above)</i>	0.00%	\$0.00
Operations and Maintenance		
Consumable materials and supplies		\$0.00
Conferences and meetings travel		\$0.00
Project-related travel		\$0.00
Engagement		\$0.00
Reporting		\$0.00
Overhead		\$0.00
Total All Grants <i>(Calculated from Table 16.4 below)</i>		\$134,400.00
Total All Contracts <i>(Calculated from Table 16.5 below)</i>		\$196,694.00
Sub- TOTAL <i>(Calculated)</i>		\$331,094.00
Capital*		\$0.00
AEP TOTAL <i>(Calculated)</i>		\$331,094.00

* 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 <i>(Please manually provide the number in the space below)</i>		
Salaries and Benefits		\$0.00
Operations and Maintenance		
Consumable materials and supplies		\$0.00
Conferences and meetings travel		\$0.00
Project-related travel		\$0.00
Engagement		\$0.00
Reporting		\$0.00
Overhead		\$0.00
ECCC TOTAL <i>(Calculated)</i>		\$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 the table and then clicking on the blue "+" symbol on the bottom right side of table. The total of all Grants is Auto Summed in Table 16.2.1

GRANT RECIPIENT - ONLY: Name	Adi Adiele
GRANT RECIPIENT - ONLY: Organization	Fort McKay Métis Nation
Category	Total Funding Requested from OSM
Salaries and Benefits	\$43,000.00
Operations and Maintenance	
Consumable materials and supplies	\$21,000.00
Conferences and meetings travel	\$4,000.00
Project-related travel	\$16,500.00
Engagement	\$40,400.00
Reporting	\$9,500.00
Overhead	\$0.00
GRANT TOTAL <i>(Calculated)</i>	\$134,400.00

Table 16.4

Complete ONE table per Contract recipient.

Add a Recipient by clicking on the table and then clicking on the blue "+" symbol on the bottom right side of 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	Kristen Andersen
CONTRACT RECIPIENT - ONLY: Organization	Associated Environmental Consultants Inc.
Category	Total Funding Requested from OSM
Salaries and Benefits	\$91,875.00
Operations and Maintenance	
Consumable materials and supplies	\$365.00
Conferences and meetings travel	\$0.00
Project-related travel	\$6,825.00
Engagement	\$10,920.00
Reporting	\$27,300.00
Overhead	\$0.00
CONTRACT TOTAL <i>(Calculated)</i>	\$137,285.00
CONTRACT RECIPIENT - ONLY: Name	Carrie Oloriz
CONTRACT RECIPIENT - ONLY: Organization	Human Environment Group
Category	Total Funding Requested from OSM
Salaries and Benefits	\$24,654.00
Operations and Maintenance	
Consumable materials and supplies	\$1,365.00
Conferences and meetings travel	\$0.00
Project-related travel	\$8,400.00
Engagement	\$5,124.00
Reporting	\$19,866.00
Overhead	\$0.00
CONTRACT TOTAL <i>(Calculated)</i>	\$59,409.00

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 <i>Sums totals for salaries and benefits from AEP and ECCC ONLY</i>	\$0.00
Operations and Maintenance	
Consumable materials and supplies <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Conferences and meetings travel <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Project-related travel <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Engagement <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Reporting <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Overhead <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Total All Grants (from table 16.2.1 above) <i>Sums totals for AEP Tables ONLY</i>	\$134,400.00
Total All Contracts (from table 16.2.1 above) <i>Sums totals for AEP Tables ONLY</i>	\$196,694.00
Sub- TOTAL	\$331,094.00
Capital* <i>Sums total for AEP</i>	\$0.00
GRAND PROJECT TOTAL	\$331,094.00

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 budget will be held by Fort McKay Métis and managed using a detailed budget spreadsheet. Any cost overruns will be assessed to see if there is a realistic reason for the additional cost or if there is a solution where the additional cost can be avoided. Unavoidable additional costs will be recorded and the budget will be rearranged where possible to balance it. Budget which has not been spent will be used to create educational materials relating to the wetland monitoring program, or to present the results at a conference.

This project is a continuing project and the budget was underspent in 2020 due to funds being released later than expected leading to a reduced scope. The 2021 scope was completed within the allotted budget, and the 2022 scope is not yet complete but is expected to be completed within 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 blue "+" symbol on the bottom right side of table.

DESCRIPTION	SOURCE	EQUIVALENT AMOUNT (\$CAD)
Click or tap here to enter text.	Click or tap here to enter text.	\$0.00
TOTAL		\$0.00



19.0 Consent & Declaration of Completion

Lead Applicant Name

Adi I. Adiele

Title/Organization

Manager, Environment & Land Use Sustainability, Fort McKay Métis Nation

Signature

Adi Adiele

Date

2022-10-31

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

Craig Mahoney

Title/Organization

Wetland Scientist, Alberta Environment and Parks

Signature

Craig Mahoney

Date

2022-10-31



PROGRAM OFFICE USE ONLY

Governance Review & Decision Process

this phase follows submission and triggers the Governance Review

TAC Review (Date):

Click or tap to enter a date.

ICBMAC Review (Date):

Click or tap to enter a date.

SIKIC Review (Date):

Click or tap to enter a date.

OC Review (Date):

Click or tap to enter a date.

Final Recommendations:

Decision Pool:

Choose an item.

Notes:

Click or tap here to enter text.

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):

Click or tap to enter a date.

SIKIC Review (Date):

Click or tap to enter a date.

OC Review (Date):

Click or tap to enter a date.

Comments:

Decision Pool:

Choose an item.

Notes & Additional Actions for Successful Work Plan Implementation:

Click or tap here to enter text.