



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:	Indigenous community-based monitoring, evaluation, and reporting in surface waters
Lead Applicant, Organization, or Community:	Alberta Environment and Protected Areas
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>	W-CMB-1-2324
Project Region(s):	Oil Sands Region
Project Start Year: <i>First year funding under the OSM program was received for this project (if applicable)</i>	2020-2021
Project End Year: <i>Last year funding under the OSM program is requested Example: 2024</i>	Continuing
Total 2023/24 Project Budget: <i>For the 2023/24 fiscal year</i>	\$1,176,511.00
Requested OSM Program Funding: <i>For the 2023/24 fiscal year</i>	\$1,176,511.00
Project Type:	Community Based Monitoring
Project Theme:	Surface Water
Anticipated Total Duration of Projects (Core and Focused Study (3 years))	Year 3
Current Year	Focused Study: Choose an item.
	Core Monitoring: Year 3

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>	Keegan Hicks
Job Title:	Aquatic Biologist
Organization:	Alberta Environment and Protected Areas
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Phone:	780-721-0914
Email:	Keegan.hicks@gov.ab.ca

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.

This work plan is for supporting Indigenous community-based monitoring, evaluation, and reporting activities of the Surface Water theme of the Oil Sands Monitoring Program. Indigenous Communities, GOA and ECCC scientific and technical staff, the ICBMAC, the Indigenous Community-Based Monitoring Facilitation Centre (ICBMFC), and contractors will work collaboratively on the following work plan objectives:

- Sub-objective 1: collaboratively work with Indigenous communities on surface water quality monitoring of lakes and rivers including design, monitoring, and reporting with support from Alberta Lake Management Society (ALMS);
- Sub-objective 2: build capacity among Indigenous communities by continuing to support monitoring and training activities related to fish and benthic invertebrate monitoring in waterbodies identified as important;
- Sub-objective 3: continue developing a “proof of concept” study for determining the pre-settlement baseline for fish communities in lake sediment cores using sediment DNA.

This work plan proposes to support at least 11 identified Indigenous communities including those submitting standalone aquatics work plans and abbreviated work plans nested to this work plan. Four abbreviated work plans were submitted to the PI of this SW ICBM work plan and include the following: Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Fort Smith Métis Council, and Peavine Métis Settlement.

The work plan will support ICBM projects for the following Indigenous communities:

- Sub-objective 1: Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Chipewyan Prairie Dene First Nation, Cold Lake First Nations, Conklin Métis Local 193, Peavine Métis Settlement, Willow Lake Métis Nation. Other communities may participate via training.
- Sub-objective 2: Athabasca Chipewyan First Nation, Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Chipewyan Prairie Dene First Nation, Cold Lake First Nations, Conklin Métis Local 193, Fort Smith Métis Council, Mikisew Cree First Nation, Peavine Métis Settlement, Smith’s Landing First Nation, Willow Lake Métis Nation. Other communities may participate.
- Sub-objective 3: Chipewyan Prairie Dene First Nation, Cold Lake First Nations. Other communities may be identified to participate in developing pre-development baselines in lake fish communities.

In addition to addressing community questions, the ICBM projects will also address program-wide questions developed by the OSM Oversight Committee and included in the scope of work, including (but not limited to):

- Are the fish healthy?
- Are changes in fish health and/or fish taste/texture due to oil sands development?
- Are the fish safe to eat?
- Are there enough fish to feed my family and community?
- Are the same fish there that used to be there
- Is the water safe to drink?

- Is water quality changing due to oil sands development?
- Is the water safe for the uses and resources I rely on and the other indicators that matter to me?
- Are benthic invertebrate communities similar to those in healthy waters?

The overall budget to deliver the core SW CBM program has more than double from 22/23 (426k) compared to the proposed 23/24 work plan (\$1.176 million). The primary reasons include 1) support for abbreviated work plans, 2) analytical support from AEP fish contracts, and 3) The # of ICBM programs proposed to be supported has doubled from 22/23. Below summarizes the budget by major categories to deliver on different aspects of the work plan:

- \$290,500: (Objectives 1-2) Supports grants to 4 ICBM programs (abbreviated work plans)
- \$214,600: (Objective 1) Contract with ALMS to support surface water quality monitoring for 7 ICBM programs
- \$278,875: (Objective 2) AEP analytical fish contracts that will support sample analysis for 9 ICBM programs (including Hg, metals, organics, stable isotopes, and ageing of fish)
- \$256,798: (Objective 3) A contract with the University of Victoria (Helbing Lab) to continue developing sediment DNA for back casting
- \$135,738: (Objectives 1-2), Salary, travel, consumable supplies, engagement and ICBM training from GOA/ECCC scientists and technical staff

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.

Development of Surface Water ICBM projects is a requirement of the SIKIC and under the guidance of the ICBMAC and the SW TAC. Community engagement, capacity building, and implementation of monitoring will enable communities to identify receptors and indicators, develop baselines, and generate data for surveillance of local natural and subsistence resources, document change, and investigate cause. Thus, ICBM projects will serve the mandate of the OSM program by addressing the three questions for aquatic ecosystems, via western science and Indigenous Knowledge (IK) in an adaptive framework. Are changes occurring to aquatic ecosystems? Are changes to aquatic ecosystems caused by oil sands activities? What is the contribution of oils sands development activities to changes in aquatic ecosystems, within the context of cumulative effects.

This work plan offers Indigenous communities (1) support – that has been lacking - to monitor surface water quality of lakes/streams and (2) capacity building, support, and training opportunities in fish and benthic invertebrate monitoring. This work plan also requests funds to continue an Indigenous-led study to define pre-development baseline of fish community composition.

2.0 Objectives of the Work Plan

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

The primary objective of this work plan is to support Indigenous community-based monitoring, evaluation, and reporting activities of the Surface Water theme of the Oil Sands Monitoring Program.

Sub-objectives include:

(1) Continue to support ICBM of surface water quality, via a contract with the Alberta Lake Management Society (ALMS). The ALMS LakeKeepers Program, with methodology and an analytical suite consistent with core surface water quality monitoring, will provide (a) training, (b) sampling equipment, bottles, and COCs, (c) cost of shipping; (d) coordination of laboratory analyses, (e) data management, and (f) evaluation and reporting. A multi-year contract with ALMS began in 2022/23 and currently supports 5 communities. The number of communities supported by ALMS is growing with eight communities identified to participate in monitoring in fiscal 23-24. The following communities were identified: Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Chipewyan Prairie Dene First Nation, Cold Lake First Nations, Conklin Métis Local 193, Peavine Métis Settlement, and Willow Lake Métis Nation. Other communities may participate via training.

(2) Continue to build capacity among Indigenous communities by continuing to support monitoring and training activities related to fish and benthic invertebrate monitoring in waterbodies identified as important. This will include participation of GOA/ECCC scientists and technical staff in environmental training camps. This will allow for training in fish health protocols and collection of benthic macroinvertebrates (CABIN). In addition, this work plan allows ICBM to utilize existing AEP contracts for

fish related analysis (e.g. measuring Hg in fish) to facilitate laboratory analysis and achieve consistency in results across core and ICBM programs. There will also be a continued collaboration between provincial AEP Fisheries Biologists and Indigenous communities to conduct fisheries assessments (Fall Walleye Index Netting; FWIN) of waterbodies identified as important for historic and/or current subsistence fishing. Fiscal 23-24 surveys are planned for Gregoire (Willow) Lake, in collaboration with Willow Lake Métis Nation.

(3) Continue to support a "proof of concept" study for determining the pre-settlement "baseline" for fish communities in lakes. This Indigenous community-led study (Chipewyan Prairie Dene First Nation and Cold Lake First Nations), with government (GOA and ECCC) and academic (UVic) collaborators, is using DNA in dated sediment cores to reconstruct the presence/absence and abundance of fish species in lakes with known Indigenous Knowledge histories of change in fish communities. In 2023-2024, this work will continue to build the eDNA primers for additional fish species of interest to communities. This work will also explore it's applicability to other lakes of interest to Indigenous communities in the OSR.

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:

Surface Water

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.

Core 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:

Cross Cutting

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?

The core SW ICBM workplan supports the development of baselines using western science tools across multiple media (water, benthic invertebrates, and fish) and regions/waterbodies of importance to Indigenous communities. Baseline with IK has already been established. Indigenous communities, supported by the Alberta Lake Management Society (ALMS) will establish current conditions or “baselines” for water quality in lakes that are important to communities, but have had little monitoring from the OSM program. Another example includes the collaboration between the Core Biodiversity – Benthic Invertebrate Monitoring Program and CPDFN to sample sites of joint interest as part of Christina watershed baseline monitoring. Fish health sampling (including contaminant monitoring) is being done by multiple communities following protocols that are consistent with the core fish monitoring program. Some communities are only beginning to develop baseline while others are more advanced. Three years is considered the minimum amount of years to define baseline, and most communities do not have this.

Tools to establish thresholds or limits of change will include the following:

- Surface water quality: Canadian CCME and GOA surface water quality guidelines; triggers and limits for 38 indicators in the LARP SWQualMF
- Fish contaminants: CCME and GOA tissue residue guidelines for protection of wildlife consumers of aquatic biota; Health Canada and Alberta Health consumption advice for contaminants in fish
- Fish health: Using the well-established CES in federal EEM programs
- Benthic Invertebrates: CES are currently being developed using multivariate tools.
- Indigenous communities are developing Indigenous guidelines (e.g. triggers and limits) with Indigenous indicators from TK as well as continued collection during the ICBM studies.

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?)

The OSM program effectively utilizes GOA and ECCC to deliver a robust Surface Water monitoring program, with components for hydrology, surface water quality, benthic macroinvertebrates, and fish. Results can be viewed in the State of the Environment Reports, other reports, the peer-reviewed literature, etc. The core program cannot measure everything, everywhere, all the time, however. The OSM program has underutilized Indigenous communities that want to contribute to the OSM mandate, as well as address community questions. With Surface Water the primary focus for ICBM, we will continue supporting implementation of ICBM projects. These projects will result in developing baselines and understanding changes in natural and subsistence resources of importance to Indigenous communities, whether changes are due to oil sands development activities, and the context within cumulative effects.

Specifically, this workplan will support ICBM of surface water quality, benthic invertebrates, and fish, including

developing baselines, generating data for surveillance of natural and subsistence resources, and documenting (confirming) change

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

No unanticipated results to report at this time

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

ICBM programs are moving in this direction. There is core monitoring being conducted, but successes of knowledge translation to Indigenous communities have been limited. Communities want to participate in monitoring programs, including formulating questions, (co-)designing study approaches, collecting samples/data, and interpreting results. Our workplan addresses this deficiency, by asking for funds and support to engage with communities, provide capacity-building opportunities, and to implement CBM projects.

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

The ICBMAC provides clear instruction for ICBM projects for data management. Data produced from western science are "Open by default" and must be shared with the OSM program. Data produced from IK are "Protected by default"; IK data may be retained by communities. Starting in 2023/2024, we have been working with Service Alberta to begin populating the OSM data catalogue with Western Science data collected by Indigenous communities.

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

The ICBMAC provides clear instruction for methodology. For ICBM projects that involve western science, it is a requirement to use methods or SOPs consistent with those used for core monitoring. This requirement will be strictly adhered to for the implementation of ICBM projects. Principal investigators, with support from the ICBMFC have developed SOPs and these will be shared with Indigenous communities.

SOP training will be provided via virtual learning and "hands on" activities, including visits to communities for lake monitoring, fish camps, and CABIN training.

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

The ICBMAC provides clear integration expectations, including (i) ensuring respectful and equitable co-production of IK and western science data, (ii) using common methods or SOPS for field data collection and measurement, (iii) avoiding duplication/redundancies, and (iv) avoiding knowledge silos and knowledge appropriation. These expectation will be strictly followed for engagement, capacity building, and implementation of monitoring.

Because there is a strong lake monitoring component in all sub-objectives of this work plan (sub-objectives 1, 2, and 3), this ICBM work will inform and integrate with the Lake Monitoring work plan being proposed for 2023/2024.

There are also strong linkages with surface water themed core monitoring programs (e.g. surface water, benthos, and fish programs) as leads (PI's) from those programs are working closely with ICBM programs. For example, this may include integrating monitoring sites, endpoints, and thresholds/limits of change.

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?



Engagement, capacity building, and implementation of ICBM will enable communities to identify receptors and indicators, develop baselines, and generate data for surveillance of local natural and subsistence resources, document change, and investigating cause. Thus, ICBM projects will serve the mandate of the program by addressing the three questions for aquatic ecosystems, via western science and IK in an adaptive framework. Are changes occurring to aquatic ecosystems? Are changes to aquatic ecosystems caused by oil sands activities? What is the contribution of oils sands development activities to changes in aquatic ecosystems, within the context of cumulative effects.

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

This program will support the development of baselines in waterbodies of interest to Indigenous communities. Once baseline or current conditions are established, the goal for ICBM programs should be to move towards adaptive monitoring. Most ICBM programs are in the early stages and have not reach this point in their monitoring programs.

Core monitoring programs (including water, benthic invertebrates, and fish) will also work collaboratively with ICBM programs to help each other inform on adaptive monitoring approaches.

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:

Choose an item.

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?

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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.



3.3.3 Wetlands Theme

3.3.3.1 Sub Themes:

Choose an item.

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?

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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.



3.3.4 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?

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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.



3.3.5 Terrestrial Biology Theme

3.3.5.1 Sub Themes:

Choose an item.

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?

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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.



3.3.6 Cross-Cutting Across Theme Areas

3.3.6.1 Sub Themes:

Choose an item.

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

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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?

Click or tap here to enter text.

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

Click or tap here to enter text.

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.

Click or tap here to enter text.

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.

Adaptive (EEM) Framework: Engagement, capacity building, and implementation of ICBM will enable communities to identify receptors and indicators, develop baselines, and generate data for surveillance of local natural and subsistence resources, document change, and investigating cause. Thus, ICBM projects will serve the mandate of the program by addressing the three questions for aquatic ecosystems, via western science and IK in an adaptive framework. Are changes occurring to aquatic ecosystems? Are changes to aquatic ecosystems caused by oil sands activities? What is the contribution of oils sands development activities to changes in aquatic ecosystems, within the context of cumulative effects.

Approved key questions: The ICBM projects that this workplan supports will address key questions developed, including (but not limited to):

- Are the fish healthy?
- Are changes in fish health and/or fish taste/texture due to oil sands development?
- Are the fish safe to eat?
- Are there enough fish to feed my family and community?
- Are the same fish there that used to be there
- Is the water safe to drink?
- Is water quality changing due to oil sands development?
- Is the water safe for the uses and resources I rely on and the other indicators that matter to me?
- Are benthic invertebrate communities similar to those in healthy waters?
- Are benthic invertebrate communities changing over time?

Land-Use Framework: The Lower Athabasca Regional Plan (LARP), which includes the Athabasca and Cold Lake oil sands regions, has a Surface Water Quality Management Framework (SWQualMF) that currently does not utilize data from the OSM program. The LARP SFQualMF is under review, however, and may in the future utilize OSM surface water quality data to set and monitor triggers and limits for indicators. These data are likely to come from core monitoring and not ICBM projects. Of note, however, Indigenous communities are developing Indigenous guidelines (e.g., triggers, limits) with Indigenous indicators.

EPEA deemed compliance: In general related to aquatic ecosystems, EPEA compliance conditions require monitoring for the effects of oil sands operations on water and sediment quality and aquatic biota, including fish, benthos, and aquatic habitat. The ICBM projects supported by this workplan will monitor surface water quality benthos, and fish. The western science data resulting from the ICBM projects are “Open by default” and must be shared with the OSM program. ICBM projects, therefore, may be considered to contribute to deemed compliance.

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 workplan specifically targets a gap in the OSM program: being inclusive and responding to Indigenous concerns. Communities, GOA and ECCC scientific and technical staff, the ICBMAC, the ICBM Facilitation Centre, and contractors will work collaboratively to (1) develop collaborative and participatory projects, based on community questions related to Oil Sands developments and ICBMAC guidelines, (2) build capacity / provide training in project management, (western science-based) monitoring, and data management, analysis, and interpretation, and (3) implement monitoring.

The workplan will support identified ICBM projects for the following 11 Indigenous communities:

Communities that submitted abbreviated workplans (attached this work plan):
Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Fort Smith Métis Council, and Peavine Métis Settlement.

Communities submitting standalone workplans:
Chipewyan Prairie Dene First Nation, Cold Lake First Nations, Willow Lake Métis Nation, Athabasca Chipewyan First Nation, Mikisew Cree First Nation, Conklin Métis Local 193, Smith's Landing First Nation.

Does this project include an Integrated Community Based Monitoring Component?

Yes

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

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



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

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

This question is addressed by each specific community who submitted an abbreviated work plan (attached)

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.

This question is addressed by each specific community who submitted an abbreviated work plan (attached)

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.

This question is addressed by each specific community who submitted an abbreviated work plan (attached)

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

This question is addressed by each specific community who submitted an abbreviated work plan (attached)

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

This question is addressed by each specific community who submitted an abbreviated work plan (attached)

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

This question is addressed by each specific community who submitted an abbreviated work plan (attached)

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?

This question is addressed by each specific community who submitted an abbreviated work plan (attached)

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.

ICBM projects supported by this workplan are using the OSM-program's adaptive (EEM-framework) monitoring framework to measure change: define baseline, conduct surveillance monitoring to evaluate state of the environment, confirm changes that are outside natural variability, and use focus studies to investigate causes.

Back casting is also being applied in this program by assessing DNA in sediment cores to understand changes in fish communities pre and post development. Back casting is also being applied with IK for water quality/clarity indicators, for example.

With ICBM projects in development, the focus is, for the approved key questions developed by the OSM Oversight Committee and for questions developed by communities related to local natural and subsistence resources, to identify receptors and indicators and to begin/continue generating western science data to develop baselines. Ultimately, the goal is for mature ICBM programs that conduct surveillance monitoring to evaluate state of the environment, confirm changes that are outside natural variability, use focus studies to investigate causes, compare effects to limits of change/thresholds, and provide an understanding for impacts on Section 35 Rights.

IK baselines are fully developed. Engagement, capacity building, and monitoring activities will provide opportunities for communities to document IK baselines and measure change of IK indicators.

The collection of western science and IK data will allow braiding of the two knowledge systems.

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.

ICBM projects are in the development stage, and designs are being formulated. The ICBMAC has provided clear guidance that ICBM projects may not duplicate core or other ICBM programs. Sampling stations for ICBM projects should be complementary to core stations. Integration will allow for collection of data from stations that are important to Indigenous (subsistence) uses, which currently are not (well) represented in the core surface water quality, benthic invertebrate, and fish monitoring designs.

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.

ICBMAC has provided clear guidance on data management. Western science data must be "Open by Default" and IK is "Protected by Default".

Details for sub-objectives:

-Sub-objective 1: The ALMS LakeKeepers Program will publish Western science data to the Gordon Foundation's DataStream and will prepare an annual summary report and individual technical reports for each participating community.

-Sub-objective 2: Additional western science data collected as part of objective two, such as fish health, contaminants, or benthic invertebrates will be disseminated on the OSM data catalogue.

-Sub-objective 3: For the "proof of concept" study for determining the pre-settlement "baseline" for fish communities in lakes, results will be presented to participating Indigenous communities, the OSM Program (e.g., the SW TAC, ICBMAC, SIKIC), and the greater scientific community. One or more manuscripts, as well as the full dataset, will also be published in a peer-reviewed journal or journals.

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.

ICBM projects add to (complement) – and do not duplicate – core surface water quality, fish, and benthic invertebrate monitoring.

This coupled core-ICBM approach will allow the OSM Surface Water component to better address the following key questions:

- Are the fish healthy?
- Are changes in fish health and/or fish taste/texture due to oil sands development?
- Are the fish safe to eat?
- Are there enough fish to feed my family and community?
- Are the same fish there that used to be there
- Is the water safe to drink?
- Is water quality changing due to oil sands development?
- Is the water safe for the uses and resources I rely on and the other indicators that matter to me?
- Are benthic invertebrate communities similar to those in healthy waters?
- Are benthic invertebrate communities changing over time?

10.0 Work Plan Approach/Methods

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

Sub-objective 1: collaboratively work with Indigenous communities on surface water quality monitoring of lakes and rivers including design, monitoring, and reporting with support from Alberta Lake Management Society (ALMS)

Project phases/tasks:

- (a) Identify and confirm participation of Indigenous communities (complete)
- (b) Establish contract between GOA and ALMS (completed in 22/23)
- (c) ALMS: Training of Indigenous partners on water quality monitoring protocols (in progress, to be completed 23-24)
- (d) ALMS: Delivery of sampling equipment (to be completed 23-24)
- (e) ALMS: Coordination of sample receipt and analysis (to be completed 23-24)
- (f) ALMS: Data management (to be completed 23-24)
- (g) ALMS: Data reporting (to be completed 23-24)

Sub-objective 2: build capacity among Indigenous communities by continuing to support monitoring and training activities related to fish and benthic invertebrate monitoring in waterbodies identified as important;

Project phases/tasks:

- (a) Community engagement (in progress, to be completed 23-24)
- (b) Coupled monitoring (fish and benthic macroinvertebrates) and training (to be completed 23-24)
- (c) Complete laboratory analyses of fish tissues and ageing structures (to be completed 23-24)
- (d) Support data management (western science data) including making data publically available on the OSM data catalogue
- (e) Support communities with analysis, interpretation, and reporting of data (to be completed 23-24)

Sub-objective 3: continue developing a “proof of concept” study for determining the pre-development baseline for fish communities in lakes using sediment DNA. Project phases/tasks:

- (a) Study design (build on design previously established in 22/23), including species inventory
- (b) Establish a grant and contracts between GOA and laboratories (to be completed 23-24)
- (c) Field sampling (to be completed 23-24)
- (d) Laboratory analyses for dating and eDNA (to be completed 23-24)
- (e) Analysis, interpretation, and reporting (to be completed 23-24)

10.2 Describe how changes in environmental Condition will be assessed *

Community engagement, capacity building, and implementation of ICBM projects will enable communities to develop baselines, generate data for surveillance of local natural and subsistence resources, document change, and investigate cause. Thus, ICBM projects will serve the mandate of the OSM program in an adaptive framework.

Sub-objectives 1, 2, and 3 will support developing baselines. Sub-objective 1 will set baselines for water quality in lakes that are important to communities, but have had little monitored by the OSM Program and the GOA Provincial Program. Sub-objective 2 is largely building capacity through training and collaborative monitoring and will support communities in setting baselines for fish (e.g. fish health, fish contaminants) and benthic macroinvertebrates. Sub-objective 3 will support communities in determining the pre-development “baseline” for fish communities in lakes.

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

The following will be considered when assessing changes in environmental conditions:

- Surface water quality: Canadian CCME and GoA surface water quality guidelines; triggers and limits for 38 indicators in the LARP SWQualMF
- Fish contaminants: CCME and GOA tissue residue guidelines for protection of wildlife consumers of aquatic biota; Health Canada and Alberta Health consumption advice for contaminants in fish
- Fish health: Using the well-established CES in the EEM program
- Benthic Invertebrates: CES are being developed using multivariate tools.
- Indigenous communities are developing Indigenous guidelines (e.g. triggers and limits) with Indigenous indicators from TK as well as continued collection during the CBM studies.

(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 *

Sub-objective 1: ALMS LakeKeepers Program

SITE SELECTION AND SAMPLE FREQUENCY:

Collaborating communities will be identified with the support of GOA and the ICBM Facilitation Centre. Communities will determine priority waterbodies to be monitored as part of this project. Communities will select one or two waterbodies each season. ALMS will assist with site selection on priority waterbodies. Sampling will occur during the summer and winter season. Samples will be collected once each in June, July, August, September, December, January, February, and March.

TRAINING:

Training will be delivered using a combination of online training videos, written protocols, and site visits. ALMS currently has training videos for sample collection, field filtering, sample processing, and shipping. ALMS also has existing written protocols and field sheets. This contract proposes that a program coordinator will visit communities for in-person summer and winter training if required.

EQUIPMENT:

Equipment will be shipped or delivered in person at the start of each season. Equipment provided includes:

- YSI ProODO and 20 meter cable
- Chlorophyll-a filtration kit
- Ice auger
- Tape and weight
- Secchi disk
- Bottle sets and preservatives
- Sample cooler
- Ice packs
- Field Sheets
- Training manual
- Gloves and safety goggles
- Handheld GPS device
- Ice thickness gauge
- Hot water bottle

METHODOLOGY:

One sample site on each lake, determined in collaboration with ALMS and community participants, will be visited. Summer sampling will require the use of a personal watercraft, and winter sampling may require the use of a personal vehicle or snowmobile. Samples will be collected according to ALMS' LakeKeepers program protocols.

-Environmental Observations: these observations are recorded on each sampling trip. Additional environmental observations will be recorded during winter sampling.

-Secchi Disk Depth: Secchi disk measurements for water clarity are recorded during summer sampling events. These are collected on the shady side of the boat, with sunglasses removed. The depth at which the Secchi disk disappears, and reappears, are recorded. The average of these two depths is recorded on the field sheet.

-Bottom Depth: Bottom depth of the sample site is recorded using a tape and weight.

-Profiles: Calibration of dissolved oxygen on the YSI-ProODO water quality probe are performed before each sampling event. Dissolved oxygen and temperature measurements are collected as vertical profiles using the YSI-ProODO at depth intervals appropriate for the lake depth (usually every 1.0 metre).

-Water Chemistry: Bottles are labelled with the date and time prior to sample collection. Bottles are rinsed three times sub-surface. Samples are collected as hand grabs at 0.5 m depth while wearing sampling gloves.

-Filtration: Chlorophyll-a samples will be filtered in triplicate using GFC filter papers. The volume of water used to filter each sample are recorded on field sheets. Filters will be frozen prior to sample shipment.

-Sample Shipment: Samples will be delivered to the ALMS office in Edmonton via a courier service. ALMS will handle the completion of chain of custody documents and the delivery of samples to their respective laboratories.

Quality Assurance and control measures will be implemented at multiple stages throughout the sampling program. QA procedures includes training prior to sampling, contact prior to and after sampling events, volunteers performing calibration of the water quality probe, and visually evaluating samples and field sheets before sample analysis and data input is initiated. QC procedures include submitting chlorophyll-a samples in triplicate, and periodically requiring duplicate field samples to be taken.

PARAMETERS: See Indicators box (next)

DATA MANAGEMENT:

Data will be managed through the Gordon Foundation's DataStream. DataStream is a free, open access, online portal for freshwater data. Data uploaded to DataStream provides data visualization tools, an interactive map interface, and the option to download raw data. ALMS will rely on existing data sharing agreements between communities and the Government of Alberta.

REPORTING:

An annual summary report will be compiled following each fiscal year. This report will summarize metrics related to community participation, sample sites, and sample frequency. A comparison of key results across lakes will be provided. Other common themes of interest may be addressed.

Individual technical reports will be provided to each participating community on an annual basis. This report will describe and display all results collected during summer and winter sampling events. Where appropriate, parameters will be compared to existing water quality guidelines. Data will be compared across years where multiple years of data exist. The scope of this project does not allow for the incorporation of traditional ecological knowledge into the annual reporting process.

ANNUAL PROJECT TIMELINE:

April-June: Field season preparation, equipment purchasing, and training.

- Identification of participating communities.
- Refining protocols and parameters based on community needs.
- Purchasing and delivery of sampling equipment to communities.
- Site visit for in-person training where required.
- Completion of annual reporting.

June-October: Completion of monthly sampling trips during the open water season.

- Samples collected once each in June, July, August, and September.
- Coordination of sample receipt and delivery to analytical labs.
- Ongoing data management.

October-January: Data management and winter field season preparation.

- Uploading of summer data to DataStream.

- Purchasing and delivery of winter sampling equipment.
- Site visit for in-person training where required.
- Completion of first sampling event in December.

January-April: Completion of monthly sampling trips during ice on season and annual reporting

- Completion of monthly winter sampling events.
- Ongoing data management.
- Uploading winter data to DataStream.
- Coordination of sample receipt and delivery to analytical labs.
- Preparation for annual reporting.

NOTES:

GOA and ALMS have a long-established relationship for co-delivering surface water quality monitoring for the Province. ALMS is co-located with GOA's Edmonton Field Office (McIntyre) and uses the same sampling procedures and analytical laboratories and methodologies as the GOA and OSM program.

Sub-objective 2: GOA and ECCC technical and scientific staff will continue to support ICBM program where required to train on SOPs (e.g. fish health and CABIN), support fish and other monitoring camps, and support communities with analytical laboratories, data management, evaluation, and reporting.

Sub-objective 3: Chipewyan Prairie Dene First Nation and Cold Lake First Nations have been working collaboratively with core scientific and technical staff and the Caren Helbing Laboratory (University of Victoria), to conduct a "proof of concept" study for determining the pre-settlement "baseline" for fish communities in lakes. The communities have identified lakes with known IK histories of change in fish communities. The communities and core scientific and technical staff will collect sediment cores that will then be extruded and sectioned with techniques to prevent cross contamination of core sections. Subsamples will be analyzed for (a) radioisotopes (i.e., Ra-226, Pb-210, and Cs-137) to determine sediment age and (b) for DNA of fish species. Sediment DNA assays for fish species will be developed by the Helbing Laboratory, with voucher specimens provided by communities and the GOA/ECCC. Collectively, data will be used to reconstruct the presence/absence and abundance of fish species. Results will be shared among collaborators, with the OSM program, and disseminated broadly via peer-reviewed publications.

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

Sub-objective 1: ALMS LakeKeepers Program

Parameters proposed as part of this project represent those important for determining ecological health, as well as additional parameters specific to impacts from oil and gas development. Parameters collected are comprised of grab samples, lake profiles, and environmental observations. Community partners may identify additional parameters of interest to them. The ability to include parameters in this program will be dependent on the hold time requirements of each parameter, and the capabilities of the YSI-ProODO probe. Proposed parameters include:

Grab samples:

Routine (Lentic A)*

TP

TKN

Microcystin

Chlorophyll-a

Polycyclic Aromatic Hydrocarbons

Metals

Total Mercury

Profiles:

Dissolved Oxygen
Water Temperature

Observation:

Air Temperature

Wind Speed

Wind Direction

Percent Cloud Cover

24 Hour Rainfall/Snowfall

Turbidity / Water Colour

Ice Thickness

Ice Colour

Snow Thickness & Coverage

Secchi Depth

Cyanobacteria Bloom Presence and Condition

*Routine Lentic A includes: Nitrogen (total), TKN, NO₃, NO₂, Ammonia-N, Silica (reactive), Total Kjeldahl Nitrogen, Total Phosphorus-Dissolved-Lab Filtered, Total Phosphorus, Total Suspended Solids, Dissolved Organic Carbon, Dissolved Inorganic Carbon, Alkalinity, Chloride/Sulphate, Conductivity, Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, Hardness, Ion Balance, Nitrate Plus Nitrite, Nitrate, Nitrite, pH, Anion Sum, Cation Sum, Total Dissolved Solids

Sub-objective 2: : Fish weight, fish length, fish age, gonad weight, liver weight, condition factor, gonadosomatic indices, liver somatic indices, muscle PACs, Hg, metals, and stable isotope ratios (D15N, D13C). Fish and Benthic macroinvertebrate communities. Fall walleye index netting.

Sub-objective 3: Radioisotopes (i.e., Ra-226, Pb-210, and Cs-137) to determine sediment age; eDNA of fish species.

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.

Western science data must be "Open by Default" and IK is "Protected by Default".

Details for sub-objectives:

-Sub-objective 1: The ALMS LakeKeepers Program will publish Western science data to the Gordon Foundation's DataStream and will prepare an annual summary report and individual technical reports for each participating community. Presentation on results to individual communities will be possible.

-Sub-objective 2: Fish and BMI data will be made available to the OSM program via the data catalogue.

-Sub-objective 3: For the "proof of concept" study for determining the pre-settlement "baseline" for fish communities in lakes, results will be presented to participating Indigenous communities, the OSM Program (e.g., the SW TAC, ICBMAC, SIKIC), and the greater scientific community. One or more manuscripts, as well as the full dataset, will also be published in a peer-reviewed journal or journals.

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

Sub-objective 1:

Alberta Lake Management Society
 Bureau Veritas
 Innotech Alberta
 SGS AXYS
 Biogeochemical Analytical Laboratory Services
 Athabasca Landing Métis Community Association
 Beaver Lake Cree Nation
 Chipewyan Prairie Dene First Nation
 Cold Lake First Nations
 Owl River Métis Community Association
 Willow Lake Métis Nation
 Conklin Métis Local 193
 Peavine Métis Settlement
 Other communities may participate via training.
 ICBM Facilitation Centre

Sub-objective 2:

Biogeochemical Analytical Laboratory Services
 SGS AXYS
 North/South Consulting
 Bureau Veritas
 Cordillera Consulting
 Athabasca Landing Métis Community Association
 Beaver Lake Cree Nation
 Chipewyan Prairie Dene First Nation
 Cold Lake First Nations

Willow Lake Métis Nation
Conklin Métis Local 193
Fort Smith Métis Council
Peavine Métis Settlement
Athabasca Chipewyan First Nation
Mikisew Cree First Nation
Smith's Landing First Nation
ICBM Facilitation Centre
Other communities may participate via training.

Sub-objective 3
Chipewyan Prairie Dene First Nation
Cold Lake First Nations
INRS (sediment dating)
University of Victoria

*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:

Continuous

13.3 Frequency of Collection:

Other

13.4 Estimated Data Collection Start Date:

2023-06-01

13.5 Estimated Data Collection End Date:

2024-03-31

13.6 Estimated Timeline For Upload Start Date:

2023-12-01

13.7 Estimated Timeline For Upload End Date:

2024-12-01

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
<i>Surface water quality data (ALMS)</i>	Gordeon Datastream Foundation	CSV	Open by Default
<i>Fish contaminant data (hg, metals, PACs)</i>	OSM data catalogue	CSV	Open by Default
<i>BMI data</i>	OSM data catalogue	CSV	Open by Default



<i>Pre-development baseline (fish communities)</i>	Journal publication	CSV	Open by Default
ICBM IK	TBD	TBD	Protected by Default

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	Click or tap here to enter text.
Other (Describe in Description Section)	Q4	ALMS: data management; data uploaded to datastreams
Other (Describe in Description Section)	Q4	Distribute datasets generated under GOA contracts (e.g. fish contaminants, age) to communities and disseminate to the OSM data catalogue
Peer-reviewed Journal Publication	Q4	Draft manuscript on pre-development baseline provided by University of Victoria
Stakeholder or Community Presentation	Q4	Presentation of results on pre-development baseline using sediment DNA

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.

Sub-objective 1:

Athabasca Landing Métis Community Association
 Beaver Lake Cree Nation
 Chipewyan Prairie Dene First Nation
 Cold Lake First Nations
 Owl River métis Community Association
 Willow Lake Métis Nation
 Peavine Métis Settlement
 Keegan Hicks, Aquatic Biologist, AEP
 Kristin Hynes, Invertebrate Biologist, AEP
 Sarah Hustins, Surface Water Quality Technologist, AEP
 Meghan House, Surface Water Quality Technologist, AEP
 Tye Dubrule, Surface Water Quality Technologist, AEP
 Mark McMaster, Research Scientist, SW TAC lead, ECCC
 Erin Ussery, Research Scientist, ECCC
 Lucie Levesque, Aquatic Scientist, ECCC
 Alberta Lake Management Society (Bradley Peter, Caleb Sinn, and Kurstyn Cappis)
 ICBM Facilitation Centre

Sub-objective 2:

Athabasca Landing Métis Community Association
 Beaver Lake Cree Nation
 Chipewyan Prairie Dene First Nation
 Cold Lake First Nations
 Willow Lake Métis Nation
 Conklin Métis Local 193
 Peavine Métis Settlement
 Athabasca Chipewyan First Nation
 Mikisew Cree First Nation
 Smith's Landing First Nation
 Keegan Hicks, Aquatic Biologist, AEP
 Mark McMaster, Research Scientist, SW TAC lead, ECCC
 Erin Ussery, Research Scientist, ECCC
 Kristin Hynes Invertebrate Biologist, AEP
 Lucie Levesque, Aquatic Scientist, ECCC
 Sarah Hustins, Surface Water Quality Technologist, AEP
 Meghan House, Surface Water Quality Technologist, AEP
 Tye Dubrule, Surface Water Quality Technologist, AEP
 Rebecca Baldwin, AEP Fisheries Biologist
 ICBM Facilitation Centre

Sub-objective 3

Chipewyan Prairie Dene First Nation
 Cold Lake First Nations
 University of Victoria – Caren Helbing Laboratory
 Keegan Hicks, Aquatic Biologist, AEP
 Colin Cooke, Aquatic Scientist, AEP



Paul Drevnick, Aquatic Scientist
Mark McMaster (Research Scientist, SW TAC lead), ECCC
Erin Ussery (Research Scientist), ECCC
INRS (sediment dating)

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
Hicks, Keegan	PI, Aquatic Biologist	30%
Hynes, Kristin	Training and support for ICBM	10%
Cooke, Colin	Support with Objective 3, in kind	0%
Dubrule, Tye	Support objectives 1 and 2; in kind	0%
House, Meghan	Support objectives 1 and 2; in kind	0%
Click or tap here to enter text.	Click or tap here to enter text.	0
Hustin, Sarah	Support with Objectives 1 and 2, in kind	0%
Lee, Kern	Support with Objective 1	0%
Yi, Yi	Support with Objectives 1	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
<i>McMaster, Mark</i>	Support with Objects 1-3	0%
<i>Levesque, Lucie</i>	Support with Objectives 1-2	0%
<i>Ussery, Erin</i>	Support with Objectives 1-3	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>	40.00%	\$48,000.00
Operations and Maintenance		
Consumable materials and supplies		\$28,000.00
Conferences and meetings travel		\$3,000.00
Project-related travel		\$15,000.00
Engagement		\$2,400.00
Reporting		\$0.00
Overhead		\$0.00
Total All Grants <i>(Calculated from Table 16.4 below)</i>		\$547,298.00
Total All Contracts <i>(Calculated from Table 16.5 below)</i>		\$493,475.00
Sub- TOTAL <i>(Calculated)</i>		\$1,137,173.00
Capital*		\$0.00
AEP TOTAL <i>(Calculated)</i>		\$1,137,173.00

* 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		\$8,400.00
Conferences and meetings travel		\$5,000.00
Project-related travel		\$25,200.00
Engagement		\$0.00
Reporting		\$0.00
Overhead		\$738.00
ECCC TOTAL <i>(Calculated)</i>		\$39,338.00

* 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	Click or tap here to enter text.
GRANT RECIPIENT - ONLY: Organization	Athabasca Landing Métis Community Association (ALMCA)
Category	Total Funding Requested from OSM
Salaries and Benefits	\$19,000.00
Operations and Maintenance	
Consumable materials and supplies	\$19,950.00
Conferences and meetings travel	\$1,000.00
Project-related travel	\$8,350.00
Engagement	\$4,200.00
Reporting	\$12,500.00
Overhead	\$4,000.00
GRANT TOTAL <i>(Calculated)</i>	\$69,000.00
GRANT RECIPIENT - ONLY: Name	Click or tap here to enter text.
GRANT RECIPIENT - ONLY: Organization	Beaver Lake Cree Nation
Category	Total Funding Requested from OSM
Salaries and Benefits	\$53,000.00
Operations and Maintenance	
Consumable materials and supplies	\$2,000.00
Conferences and meetings travel	\$5,000.00
Project-related travel	\$7,000.00
Engagement	\$3,000.00
Reporting	\$2,500.00
Overhead	\$0.00
GRANT TOTAL <i>(Calculated)</i>	\$72,500.00
GRANT RECIPIENT - ONLY: Name	Click or tap here to enter text.
GRANT RECIPIENT - ONLY: Organization	Peavine Métis Settlement
Category	Total Funding Requested from OSM
Salaries and Benefits	\$40,000.00
Operations and Maintenance	
Consumable materials and supplies	\$3,000.00
Conferences and meetings travel	\$10,000.00
Project-related travel	\$10,000.00
Engagement	\$4,000.00
Reporting	\$1,000.00
Overhead	\$7,000.00
GRANT TOTAL	\$75,000.00



(Calculated)	
GRANT RECIPIENT - ONLY: Name	Click or tap here to enter text.
GRANT RECIPIENT - ONLY: Organization	Fort Smith Métis Council
Category	Total Funding Requested from OSM
Salaries and Benefits	\$35,000.00
Operations and Maintenance	
Consumable materials and supplies	\$39,000.00
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	0
GRANT TOTAL (Calculated)	\$74,000.00
GRANT RECIPIENT - ONLY: Name	Caren Helbing
GRANT RECIPIENT - ONLY: Organization	University of Victoria
Category	Total Funding Requested from OSM
Salaries and Benefits	\$64,438.00
Operations and Maintenance	
Consumable materials and supplies	\$130,000.00
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	\$10,000.00
Overhead	\$52,360.00
GRANT TOTAL (Calculated)	\$256,798.00

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	Click or tap here to enter text.
CONTRACT RECIPIENT - ONLY: Organization	Alberta Lake Management Society (ALMS)
Category	Total Funding Requested from OSM
Salaries and Benefits	\$135,985.50
Operations and Maintenance	
Consumable materials and supplies	\$70,960.00
Conferences and meetings travel	\$0.00
Project-related travel	\$7,654.50
Engagement	\$0.00
Reporting	\$0.00
Overhead	\$0.00
CONTRACT TOTAL <i>(Calculated)</i>	\$214,600.00
CONTRACT RECIPIENT - ONLY: Name	Click or tap here to enter text.
CONTRACT RECIPIENT - ONLY: Organization	SGS AXYS
Category	Total Funding Requested from OSM
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	\$143,000.00
Conferences and meetings travel	\$0.00
Project-related travel	\$0.00
Engagement	0
Reporting	0
Overhead	0
CONTRACT TOTAL <i>(Calculated)</i>	\$143,000.00
CONTRACT RECIPIENT - ONLY: Name	Click or tap here to enter text.
CONTRACT RECIPIENT - ONLY: Organization	Biogeochemical Analytical Laboratory Services (Hg)
Category	Total Funding Requested from OSM
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	\$33,600.00
Conferences and meetings travel	\$0.00
Project-related travel	0
Engagement	0
Reporting	0



Overhead	0
CONTRACT TOTAL <i>(Calculated)</i>	\$33,600.00
CONTRACT RECIPIENT - ONLY: Name	Click or tap here to enter text.
CONTRACT RECIPIENT - ONLY: Organization	Bureau Veritas
Category	Total Funding Requested from OSM
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	\$48,000.00
Conferences and meetings travel	\$0.00
Project-related travel	\$0.00
Engagement	0
Reporting	0
Overhead	0
CONTRACT TOTAL <i>(Calculated)</i>	\$48,000.00
CONTRACT RECIPIENT - ONLY: Name	Click or tap here to enter text.
CONTRACT RECIPIENT - ONLY: Organization	North/South Consulting
Category	Total Funding Requested from OSM
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	\$11,200.00
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	0
CONTRACT TOTAL <i>(Calculated)</i>	\$11,200.00
CONTRACT RECIPIENT - ONLY: Name	Click or tap here to enter text.
CONTRACT RECIPIENT - ONLY: Organization	Institute National de la Recherche Scientifique
Category	Total Funding Requested from OSM
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	\$35,475.00
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	0
CONTRACT TOTAL <i>(Calculated)</i>	\$35,475.00
CONTRACT RECIPIENT - ONLY: Name	Click or tap here to enter text.
CONTRACT RECIPIENT - ONLY: Organization	Biogeochemical Analytical Laboratory Services (Stable Isotopes)



Category	Total Funding Requested from OSM
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	\$7,600.00
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	0
CONTRACT TOTAL <i>(Calculated)</i>	\$7,600.00

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>	\$48,000.00
Operations and Maintenance	
Consumable materials and supplies <i>Sums totals for AEP and ECCC ONLY</i>	\$36,400.00
Conferences and meetings travel <i>Sums totals for AEP and ECCC ONLY</i>	\$8,000.00
Project-related travel <i>Sums totals for AEP and ECCC ONLY</i>	\$40,200.00
Engagement <i>Sums totals for AEP and ECCC ONLY</i>	\$2,400.00
Reporting <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Overhead <i>Sums totals for AEP and ECCC ONLY</i>	\$738.00
Total All Grants (from table 16.2.1 above) <i>Sums totals for AEP Tables ONLY</i>	\$547,298.00
Total All Contracts (from table 16.2.1 above) <i>Sums totals for AEP Tables ONLY</i>	\$493,475.00
Sub- TOTAL	\$1,176,511.00
Capital* <i>Sums total for AEP</i>	\$0.00
GRAND PROJECT TOTAL	\$1,176,511.00

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 PI will perform a quarterly review of the budget and deliverables. Deviations from the proposed workplan will be reported to the OSM program office, and management actions may be taken to facilitate meeting of budget and deliverable expectations.

Foreseeable risks to the program include:

- Delays in contract approvals, if the workplanning schedule is modified
- The COVID-19 pandemic may preclude in-person community engagement and capacity building and postpone monitoring. We will proceed as allowed by Federal, Provincial, and Indigenous governments.



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

Keegan Hicks

Title/Organization

Aquatic Biologist/Government of Alberta

Signature

Click or tap here to enter text.

Date

2022-10-31

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

Click or tap here to enter text.

Title/Organization

Click or tap here to enter text.

Signature

Click or tap here to enter text.

Date

Click or tap to enter a date.



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.