

## Work Plan Application

Project Information	
<b>Project Title:</b>	Indigenous Community-Based Monitoring, Evaluation, and Reporting in Surface Waters
<b>Lead Applicant, Organization, or Community:</b>	Keegan Hicks, Alberta Environment and Protected Areas
<b>Work Plan Identifier Number:</b> If this is an on-going project please fill the identifier number for 24/25 fiscal by adjusting the last four digits: <b>Example:</b> D-1-2425 would become D-1- <b>2425</b>	W-CBM-1-2425
<b>Project Region(s):</b>	Oil Sands Region
<b>Project Start Year:</b> First year funding under the OSM program was received for this project (if applicable)	2020-2021
<b>Project End Year:</b> Last year funding under the OSM program is requested <b>Example: 2024</b>	Continuing
<b>Total 2024/25 Project Budget:</b> From all sources for the 2024/25 fiscal year	\$1,379,791.70
<b>Requested OSM Program Funding:</b> For the 2024/25 fiscal year	\$1,379,791.70
<b>Project Type:</b>	Community Based Monitoring
<b>Project Theme:</b>	Surface Water
<b>Anticipated Total Duration of Projects (Core and Focused Study (3 years))</b>	Year 5
<b>Current Year (choose one):</b>	Focused Study -Select One-
	Core Monitoring Year 3 of 3

**Contact Information**

<b>Lead Applicant/ Principal Investigator:</b> Every work plan application requires one lead applicant. This lead is accountable for the entire work plan and all deliverables.	Keegan Hicks
<b>Job Title:</b>	Aquatic Biologist
<b>Organization:</b>	Alberta Environment and Protected Areas
<b>Address:</b>	4938 89th Street, Edmonton, Alberta, T6E 5K1
<b>Phone:</b>	780-721-0914
<b>Email:</b>	keegan.hicks@gov.ab.ca

## Project Summary

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

This work plan supports Indigenous community-based monitoring (ICBM), evaluation, and reporting activities of the surface water (SW) theme of the Oil Sands Monitoring Program. Indigenous Communities, AEPA and ECCC scientists, the ICBMAC, 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, training, monitoring, evaluation, and reporting. This is with support from the Alberta Lake Management Society modeling their Lake Keepers program.
- Sub-objective 2: build capacity among Indigenous communities by continuing to support design, training, monitoring, evaluation, and reporting related to fish and benthic macroinvertebrate monitoring;
- Sub-objective 3: Finalize 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 16 identified Indigenous communities including those submitting standalone and abbreviated work plans within the aquatic theme.

The overall budget to deliver the core SW ICBM program has increased by ~200k compared to 2023/2024. This is primarily driven by the increased number of communities (from both abbreviated and standalone work plans) engaged in this work plan. This has resulted in increased number of community grants, increased support required by ALMS, and increased support from AEPA and ECCC scientists. Below summarizes the budget by major category or sub-objectives:

- \$443,318: (Sub-objectives 1-2), Supports grants to 6 ICBM programs (abbreviated work plans attached)
- \$299,500: (Sub-objective 1), Contract with ALMS to support surface water quality monitoring for 11 ICBM programs (~25 lakes)
- \$275,963: (Sub-objective 2), AEPA analytical contracts that will support sample analysis (fish monitoring) for 13 ICBM programs
- \$75,000: (Sub-objective 2), Proposed new AEPA contract established with a human health expert to assess “are the fish safe to eat” supporting 5 ICBM programs
- \$234,760: (Sub-objectives 1-3), Salary, travel, consumable supplies, engagement, and ICBM training from GOA/ECCC scientists and technical staff
- \$51,250: (Sub-objective 3), To finalize sediment DNA project: development of pre-settlement baselines

## 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 is 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?

Key drivers of this work plan are to address community questions, which have support from ICBMAC and Oversight Committee and are included in the approved 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 macroinvertebrates similar to those in healthy waters?
- Are benthic macroinvertebrates changing over time?
- Are benthic macroinvertebrates changing due to oil sands development?

This work plan offers Indigenous communities (1) support to monitor surface water quality of lakes/streams, and (2) capacity building, support, and training opportunities in fish and benthic macroinvertebrate monitoring. This work plan will also finalize an Indigenous-led focused study to define pre-development baseline of fish community composition.

Many of the waterbodies of interest to Indigenous communities are lakes, and currently there is no lake monitoring program which has been identified as a knowledge gap in the OSMP. SW ICBM programs fill a large gap the OSMP in terms of monitoring surface water quality and fish in lakes throughout all oil sands regions including Peace, Athabasca, and Cold Lake. We are working closely with project leads of the lakes work plan W-LTM-S-6-2324 "Development of the design for an integrated OSM regional lake monitoring, evaluation, and reporting program" which will largely be influenced by existing CBM programs on lakes. This work plan currently supports monitoring efforts of the following 25 lakes: Beaver Lake, Lac La Biche, Pinehurst Lake, Wolf Lake, Cold Lake, Burnt Lake, Bourque Lake, Ethel Lake, Primrose Lake, Marie Lake, Rock Island Lake, Winefred lake, Cowper Lake, Garson Lake, Gypsie Lake, Kirby Lake, Grist Lake, Gregoire Lake, Christina Lake, Lake Claire, Lake Athabasca, Bohn Lake, Pelican Lake, Myers Lake, and Cheecham Lake. Additional lakes are being proposed for 2024/2025.

Indigenous interests in rivers and streams are becoming increasingly identified as priorities to indigenous

communities. The core benthic macroinvertebrate monitoring program (W-LTM-S-4-202425) has been engaging and working with indigenous communities as part of baseline monitoring in the Athabasca and Cold Lake regions (Chipewyan Prairie Dene First Nation, Cold Lake First Nations, Conklin Métis Local 193, Willow Lake Métis Nation), as well as engaging with communities in the Peace region (Peavine Métis Settlement). This work plan will continue and expand work to better represent community interests. In addition, interest in river water quality monitoring has increased and an SOP is in development to support that initiative.

## 2.0 Objectives of the Work Plan

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

Sub-objectives include:

(1) Continue to support ICBM of surface water quality, via a contract with the Alberta Lake Management Society (ALMS). The ALMS Lake Keepers Program, with methodology and an analytical suite consistent with OSM core SW quality monitoring program, will provide (a) training, (b) sampling equipment, (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 7 communities. The number of communities supported by ALMS is growing with 11 communities identified to participate in monitoring in the 2024/2025 fiscal year. The following communities have identified (either through standalone work plans or abbreviated work plans) surface water quality monitoring support through the ALMS program. This includes the following: Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Chipewyan Prairie Dene First Nation, Cold Lake First Nations, Conklin Métis Local 193, Duncan's First Nation, Fort McMurray 468 First Nation, Owl River Métis Community Association, Peavine Métis Settlement, Peerless Trout First Nation, and Willow Lake Métis Nation. Other communities may participate via training.

(2) Continue to build capacity among Indigenous communities by continuing to support monitoring, reporting, and training activities related to fish and benthic macroinvertebrate monitoring in waterbodies identified as important. This will include participation of AEPA/ECCC scientists in environmental training camps and development of Standard Operating Procedures which incorporates western science and Indigenous knowledge. This will allow for training in fish health protocols and collection of benthic macroinvertebrates. In addition, this work plan allows ICBM to utilize existing AEPA contracts for fish related analysis (e.g., measuring Hg, PACs, trace metals, stable isotopes in fish tissues, and ageing of fish) to facilitate laboratory analysis and achieve consistency in results across core and ICBM programs. There will also be a continued collaboration between provincial AEPA fisheries biologists and Indigenous communities to conduct fisheries assessments (Fall Index Netting; FIN) on waterbodies identified as important for historic and/or current subsistence fishing. AEPA and ECCC scientists will also support communities in reporting of fish health, tissue concentrations, and benthic macroinvertebrates where identified which can support contribution to State of Environment Reporting.

AEPA and ECCC with support from Alberta Health is also proposing to establish a contract with a human health risk assessor to help address the OSM approved question "are fish safe to eat?" This was one of the recommendations from the ICBMAC Aquatic Workshop hosted by Beaver Lake Cree Nation (Oct 4-6, 2023). Five communities, who have baseline tissue residue data (e.g., mercury, metals, PACs) in lakes located in the OSM region, have demonstrated interest in participating in this project and include: Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Chipewyan Prairie Dene First Nation, Willow Lake Métis Nation, and Mikisew Cree First Nation. The analysis may include other provincial (Albert Health) and historical data (RAMP/JOSM) that is available on lakes/ivers of interest to these communities in the OSM region.

(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 (AEPA 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 observed change in fish communities. This focused study will be finalized in 2024/2025 including a report, recommendations, and standard operating procedures that will be provided to the program and interested communities who would like investigate pre-development baselines in the Oil Sands Region.

### 3.0 Scope

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

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

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

### 3.1 Theme

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

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

### 3.2 Core Monitoring, Focused Study or Community Based Monitoring

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

Community Based Monitoring

### Themes

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

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

### 3.3.1 Surface Water Theme

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

#### 3.3.1 Surface Water Theme:

##### 3.3.1.1 Sub Themes

Cross Cutting

#### 3.3.1.2 Surface Water Key Questions:

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

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

The core SW ICBM workplan supports the development of baselines using western science tools across multiple media (water, benthic macroinvertebrates, and fish) and regions/waterbodies of importance to Indigenous communities. Baseline with IK has already exists. Indigenous communities will establish current 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 (W-LTM-S-4-202425) and CPDFN and Cold Lake First Nation to sample sites of joint interest. Fish health sampling (including contaminant monitoring) is being done by multiple communities following protocols that are consistent with the core fish monitoring program (W-LTM-S-5-202425). 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 critical effect sizes (CES) in federal environmental effects monitoring (EEM) programs
- Benthic macroinvertebrates: 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.

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 AEPA and ECCC to deliver a robust SW monitoring program, with components for hydrology, surface water quality, benthic macroinvertebrates, and fish. Results can be viewed in OSM Technical 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 as 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.

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



To our knowledge, there are no unanticipated results to report at this time. It would be up to the individual communities to identify change and recommend a study for investigation of cause.

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.

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. Currently, 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. Data collected from this program will follow the rules established by ICBMAC and the OSM program on data sharing protocols.

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 have developed SOPs including those for fish, benthic macroinvertebrates, and surface water quality. These have been shared and demonstrated to Indigenous communities via virtual webinars or "hands on" training at workshops/camps organized by individual communities or the program office. Principal investigators will continue to provide training where needed.

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 expectations 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 "new" Lake Monitoring work plan.

There are also strong linkages with surface water themed core monitoring programs (e.g., surface water, benthic macroinvertebrates, and fish) as leads from those programs are working closely with ICBM programs. Western science indicators identified in ICBM programs are consistent with those in core monitoring programs including how they are collected and analyzed (SOPs and analytical labs). There is strong integration between core and ICBM programs in terms of integrating monitoring sites, parameters, and threshold/limits of change.

Communities have also been encouraged to work closely together where there are overlapping interests in specific regions, sub-watershed, or lakes. Continuing to have ICBM workshops will encourage more collaboration and bring awareness of overlapping interests.

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 culturally relevant 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.

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 macroinvertebrates, and fish) will also work collaboratively with ICBM programs to help inform each other on adaptive monitoring approaches.

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.

This work plan will support state of the environment reporting when requested and when there is a process in place to do so. This will likely link to regional reporting (e.g. Peace, Athabasca, and Cold Lake) from core monitoring programs by thematic area (e.g., surface water, fish, and benthic macroinvertebrates)

## 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 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 investigate 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 are 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 macroinvertebrate communities similar to those in healthy waters?
- Are benthic macroinvertebrate communities changing over time?
- Are benthic macroinvertebrates changing due to oil sands development?

**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, 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. 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, AEPA and ECCC scientist, the ICBMAC, and contractors will work together 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, data management, analysis, and interpretation, and (3) implement monitoring in culturally relevant areas.

The workplan will support identified ICBM projects for the following 16 Indigenous communities:

Communities that submitted abbreviated work plans (attached this work plan):

Fort Smith Métis Council, Peavine Métis Settlement, Fort McMurray 468 First Nation Nation, Duncan's First Nation, Owl River Métis Community Association, Lakeland Métis

Communities submitting standalone work plans:

Athabasca Landing Métis Community Association, Beaver Lake Cree Nation, Chipewyan Prairie Dene First Nation, Cold Lake First Nations, Conklin Métis Local 193, Willow Lake Métis Nation, Athabasca Chipewyan First Nation, Mikisew Cree First Nation, Smith's Landing First Nation, Fort Chipewyan Métis 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](#)

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

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)

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)

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)

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)

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)

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

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

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

The project team will work with ICBMAC and Indigenous partners to develop plain-language annual reporting products that meet community needs. This will be communicated through webinars and workshops. Feedback will be requested on reporting products to ensure that information is accessible, and that there are continued improvements in this field.

## 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 work plan are in alignment with the SW TAC Scope of Work, and are using the OSMP's adaptive 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 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, BMI, 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 and this work plan will follow those recommendations on data management and data sharing.

Details for sub-objectives:

-Sub-objective 1:

Pending direction from each community, the ALMS LakeKeepers Program can publish Western science data to the Kisters data portal and OSM data catalogue. ALMS will also prepare an annual summary report and individual technical reports for each participating community on data collected from the previous calendar year.

-Sub-objective 2:

Western science data collected as part of objective two, such as fish health, fish tissue contaminants, or benthic invertebrates, will be disseminated to the OSM data catalogue pending community consent. AEPA and ECCC PI's will work collaboratively with communities on reporting on fish and benthic macroinvertebrates.

-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 adds to (complements) - and does not duplicate - core surface water quality, fish, and BMI 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 are 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?
- Are benthic macroinvertebrates changing due to oil sands development?

BMI monitoring has expanded in 2023-2024, with more communities engaging in CABIN training and benthic monitoring efforts. The CBM-BMI monitoring is nested within and enhances workplan W-LTM-S-4-2425 "Core Biodiversity Monitoring - Benthic Macroinvertebrates." This includes enhancing data poor regions such as the Cold Lake region. All analytical costs associated with CBM-BMI (i.e., BMI taxonomy, and associated water and sediment quality) are budgeted under the core BMI workplan.

Communities have also been encouraged to work closely together where there are overlapping interests in specific regions, sub-watershed, or lakes. For example, for 2024/2025, there are three communities identified as having interests in Lac la Biche. This has been brought to their attention, and communities have decided to divide and conquer, and to support each other in capacity building, and data sharing, so all communities interested have access to the data, while also avoiding duplication. Continuing to have ICBM workshops will encourage more collaboration and bring awareness of overlapping interests.



## 10.0 Work Plan Approach/Methods

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 and waterbodies of interest
- (b) ALMS: Training of new Indigenous partners on water quality monitoring protocols (summer and winter sampling) both virtually through webinars and site visits/workshops.
- (c) ALMS: Delivery of sampling equipment
- (d) ALMS: Coordination of sample receipt and analysis
- (e) ALMS: Data management
- (f) ALMS: Data reporting

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

Project phases/tasks:

- (a) Community engagement
- (b) Coupled monitoring (fish and benthic macroinvertebrates) and training
- (c) Continued co-creation of SOPs which incorporate western science and Indigenous knowledge so that monitoring is consistent across OSM core and ICBM workplans.
- (c) Complete laboratory analyses of fish tissues, ageing structures, and benthic macroinvertebrates through AEPA contracts
- (d) Support data management (western science data) including making data publicly available on the OSM data catalogue and/or Kisters portal if consent given by the community
- (e) Support communities with analysis, evaluation, and reporting of data. This includes the support from a human health risk assessor to address the community question "are fish safe to eat" utilizing available fish contaminant data provide by communities.

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 2022/2023), including species inventory
- (b) Field sampling (completed in 2023/2024)
- (c) Laboratory analyses for dating and eDNA (to be completed in 2024/2025)
- (d) eDNA training workshop (Fall 2024)
- (d) Analysis, interpretation, and reporting (to be completed 2024/2025)

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 and rivers that are important to communities, but have not been monitored by the OSM Program and the AEPA 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.

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

- Indigenous communities are developing Indigenous guidelines (e.g. triggers and limits) for Indigenous indicators based on TK as well as continued collection during the CBM studies.
- Surface water quality: 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 macroinvertebrates: CES are being developed using multivariate tools.

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

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

### Sub-objective 1: ALMS LakeKeepers Program

**SITE SELECTION AND SAMPLE FREQUENCY:** Collaborating communities will be identified with the support of GOA and ICBMAC. 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.

**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: observations (e.g., weather conditions) are recorded on each sampling trip. Additional environmental observations (e.g., ice thickness) 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 meter).

-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 and field blanks to be taken.

PARAMETERS: See Indicators box (next)

DATA MANAGEMENT: Data will be managed through the OSM Kisters Platform. If communities consent, this data will be made live and uploaded where data can either be extracted or visualized directly in the online portal. Data will also be loaded (with communities consent) to the OSM data catalogue which allows access to bulk downloads.

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.

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. -

- 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 Kisters.
- 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, study design, evaluation, and reporting, and collaborative establishment of baseline. The following SOP have been developed for ICBM of fish and BMI:

- ECCC Guidance on Benthic Invertebrate ICBM\_2023
- FISH-SOP-001-00: Developing an Indigenous Community-Based Monitoring Program for Fish
- FISH-SOP-003-00: Fish Contaminant Sampling
- FISH-SOP-005-00: Fish Assemblage Monitoring
- FISH-SOP-007-00: Fish Histology Sampling

ECCC and AEPA will continue to work with Indigenous communities on co-development of SOPs that are required for aquatic monitoring which incorporates western science and Indigenous knowledge.

Sub-objective 3: Chipewyan Prairie Dene First Nation and Cold Lake First Nations have been working collaboratively with AEPA and ECCC scientific 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 scientific 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 AEPA/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.

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 obtained from 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 and dissolved Mercury and methyl mercury, stable isotopes

YSI Depth Profiles:

Dissolved Oxygen, Water Temperature

Observations: 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, NO<sub>3</sub>, NO<sub>2</sub>, 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 and liver contaminants: PACs, Hg, metals, and stable isotope ratios (D15N, D13C, D34S). Fish and benthic macroinvertebrates communities (species richness,

diversity, bray-curtis). Fall index netting. Water quality, sediment quality (PACs, metals) and chlorophyll a from periphyton are also collected as supportive environmental information at benthic sites.

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.

Details for sub-objectives:

-Sub-objective 1: The ALMS LakeKeepers Program will prepare an annual summary report and individual technical reports for each participating community. If requested, ALMS can present on results to individual communities either in person or virtually. ALMS can also provide communication materials (e.g. PPT, graphs etc.) for which community representatives can share with and present to community members.

-Sub-objective 2: A series of ICBM SOPs have been developed for designing and deploying monitoring programs related to both fish and benthic macroinvertebrates. These will continue to be shared and demonstrated in person (or virtually) at organized gatherings, workshops, or community camps. SOPs are living documents thus will continue to be improved and new SOPs are in development. If requested, AEPA/ ECCC can produce communication materials (including results on fish and benthic macroinvertebrates) that can be shared and presented to Indigenous communities.

- 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. A training workshop will be organized by AEPA and University of Victoria to train community on eDNA methods. An SOP or “how to guide” will be developed and shared so that other communities could apply similar approaches for developing pre-development baselines.

## 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 (ALMS) (contract: to support delivery of the ICBM water quality monitoring program). Analytical work is contracted (through ALMS) to the following labs:

- Bureau Veritas (Analytical laboratory - routine, nutrients, carbon)
- Innotech Alberta (Analysis of trace metals)
- SGS AXYS (Analysis of PACs)
- Biogeochemical Analytical Laboratory Services (Analysis of total/dissolved MeHg and Hg)

The following Indigenous communities are participating in the ALMS program and are supported by an OSM grant, either through a standalone workplan or abbreviated workplan. This includes the following communities:

- Athabasca Landing Métis Community Association (Grant - standalone workplan)
- Beaver Lake Cree Nation (Grant - standalone workplan)
- Chipewyan Prairie Dene First Nation (Grant - standalone workplan)
- Cold Lake First Nations (Grant - standalone workplan)
- Owl River Métis Community Association (Grant - abbreviated workplan)
- Willow Lake Métis Nation (Grant - standalone workplan)
- Conklin Métis Local 193 (Grant - standalone workplan)
- Peavine Métis Settlement (Grant - abbreviated workplan)
- Fort McMurray 468 First Nation (Grant - abbreviated workplan)
- Duncan's First Natino (Grant - abbreviated workplan)

Sub-objective 2:

- Biogeochemical Analytical Laboratory Services (Contract: analysis of Hg/Isotopes in fish)
- SGS AXYS (Contract: analysis of PACs in fish)
- North/South Consulting (Contract: ageing of fish)
- Bureau Veritas (Contract: analysis of metals in fish)
- Cordillera Consulting (Contract: analysis of BMI in fish)

The following Indigenous communities are participating in either fish and/or benthic macroinvertebrate programs and are supported by an OSM grant, either through a standalone workplan or abbreviated workplan. This includes the following communities:

- Athabasca Landing Métis Community Association (Grant - standalone workplan)
- Beaver Lake Cree Nation (Grant - standalone workplan)
- Chipewyan Prairie Dene First Nation (Grant - standalone workplan)
- Cold Lake First Nations (Grant - standalone workplan)
- Willow Lake Métis Nation (Grant - standalone workplan)
- Conklin Métis Local 193 (Grant - standalone workplan)
- Fort Smith Métis Council (Grant - abbreviated workplan)
- Fort McMurray 468 First Nation (Grant - abbreviated workplan)
- Peavine Métis Settlement (Grant - abbreviated workplan)
- Athabasca Chipewyan First Nation (Grant - standalone workplan)
- Mikisew Cree First Nation (Grant - standalone workplan)
- Smith's Landing First Nation (Grant - standalone workplan)
- Lakeland Métis (Grant - abbreviated workplan)

Sub-objective 3:

- University of Victoria (Grant)
- Chipewyan Prairie Dene First Nation (Grant - standalone workplan)
- Cold Lake First Nations (Grant - standalone workplan)
- TBD (laboratory analysis for dating sediment cores)

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

### 13.0 Data Sharing and Data Management

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

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

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

*Indigenous Knowledge is defined as:*

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

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

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

Yes

13.2 Type of Quantitative Data Variables:

Both

13.3 Frequency of Collection:

Other

13.4 Estimated Data Collection Start Date:

May 1, 2024

13.5 Estimated Data Collection End Date:

March 31, 2025

13.6 Estimated Timeline For Upload Start Date:

Jan 13, 2025

13.7 Estimated Timeline For Upload End Date:

December 1, 2025

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

Yes



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

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

Name of Dataset	Location of Dataset (E.g.:Path, Website, Database, etc.)	Data File Formats (E.g.: csv, txt, API, accdb, xlsx, etc.)	Security Classification
Surface water quality	Kisters and OSM data catalogue pending community consent		Open by Default
Fish health and tissue contaminants	OSM data catalogue pending community consent		Open by Default
BMI	OSM data catalogue/ CABIN Portal pending community consent		Open by Default
ICBM IK	TBD		Protected by Default

**14.0 2024/25 Deliverables**

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

Type of Deliverable	Delivery Date	Description
Key Engagement/Participation Meeting	Q2	Support ICBM monitoring activities (fish camps, CABIN, surface water quality)
Key Engagement/Participation Meeting	Q3	ICBM eDNA training workshop
Key Engagement/Participation Meeting	Q4	Workshop/webinar on presentation of ICBM project leads (abbreviated workplans) funded by ADM-1
Key Engagement/Participation Meeting	Q4	Support ICBM monitoring activities (fish camps, training)
Other (Describe in Description Section)	Q4	Draft report of a Human Health Risk Assessment for ICBM fish tissue residue data
Other (Describe in Description Section)	Q4	Draft report of ICBM surface water quality
Other (Describe in Description Section)	Q4	Draft manuscript: reconstructing past fish communities using sediment eDNA
Key Engagement/Participation Meeting	Q1	Support ICBM monitoring activities (Surface water quality)
Key Engagement/Participation Meeting	Q3	Support ICBM monitoring activities (fish camps, CABIN, surface water quality)
OSM Program Annual Progress Report (required)	Q4	Provide annual report as required
Condition of Environment Report	Q4	Participate in State of Environment reporting where required



## 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: ICBM Surface water quality monitoring

Communities supported by ALMS - surface water quality program:

- Athabasca Landing Métis Community Association
- Beaver Lake Cree Nation
- Chipewyan Prairie Dene First Nation
- Cold Lake First Nations
- Conklin Métis Local 193
- Duncan's First Nation (new)
- Fort McMurray 468 First Nation (new)
- Owl River Métis Community Association (new)
- Peavine Métis Settlement
- Peerless Trout First Nation (new)
- Willow Lake Métis Nation

Support delivery, training, evaluation and reporting of surface water quality:

- Alberta Lake Management Society (Kurstyn Cappis; Bradley Peter)
- Keegan Hicks, Aquatic Biologist, AEPA
- Kristin Hynes, Invertebrate Biologist, AEPA
- Sarah Hustins, Surface Water Quality Technologist, AEPA
- Meghan House, Surface Water Quality Technologist, AEPA
- Tye Dubrule, Surface Water Quality Technologist, AEPA
- Cheryl Hummel, Surface Water Quality Technologist, AEPA
- Mark McMaster, Research Scientist, ECCC
- Erin Ussery, Research Scientist, ECCC
- Lucie Levesque, Aquatic Scientist, ECCC

### Sub-objective 2: Fish and BMI monitoring

Communities participating in fish and/or BMI monitoring:

- 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
- Fort Chipewyan Métis Nation
- Smith's Landing First Nation

Support training, monitoring, evaluation and reporting of fish and BMI monitoring:

- Erin Ussery, Research Scientist, ECCC
- Mark McMaster, Research Scientist, ECCC

- Lucie Levesque, Aquatic Scientist, ECCC
- Keegan Hicks, Aquatic Biologist, AEPA
- Kristin Hynes, Invertebrate Biologist, AEPA
- Justin Hanisch, Invertebrate Biologist, AEPA
- Jennifer Puhallo, Environmental Public Health Scientist, Alberta Health
- Angela Crowe, Environmental Public Health Scientist, Alberta Health
- Nancy Glozier, Aquatic Scientist, ECCC

Sub-objective 3: lake sediment cores using sediment DNA

- Chipewyan Prairie Dene First Nation
- Cold Lake First Nations
- University of Victoria - Caren Helbing Laboratory
- Keegan Hicks, Aquatic Biologist, AEPA
- Colin Cooke, Aquatic Scientist, AEPA
- Mark McMaster, Research Scientist, ECCC
- Erin Ussery, Research Scientist, ECCC

## 16.0 Project Human Resources & Financing

### Section 16.1 Human Resource Estimates

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

**Table 16.1.1 AEPA**

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

Name (Last, First)	Role	%Time Allocated to Project
Hicks, Keegan	PI, Aquatic Biologist	50
Hynes, Kristin	Support with Objective 1 and 2	25
Hanisch, Justin	Support with Objective 2, in kind	0
Cooke, Colin	Support with Objective 3, in kind	0
Dubrulle, Tye	Support with Objective 1 and 2, in kind	0
House, Meghan	Support with Objective 1 and 2, in kind	0
Hummel, Cheryl	Support with Objective 1 and 2, in kind	0
Hustins, Sarah	Support with Objective 1 and 2, in kind	0

**Table 16.1.2 ECCC**

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

Name (Last, First)	Role	%Time Allocated to Project
Ussery, Erin	Co-PI, Support with Objects 1-3, in kind	10
McMaster, Mark	Support with Objects 1-3, in kind	10
Levesque, Lucie	PI (benthics) Support with Objects 1-2, in kind	85
TBD	Technical support - Objective 2, in kind	30
Nancy Glozier	Technical support - Objective 2, in kind	0
Thomas Clark	Technical support - Objective 2, in kind	5
Jessie Cunningham	Technical support - Objective 2, in kind	5
Abby Wynia	Technical support - Objective 2, in kind	5

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

#### Section 16.2 Financing

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

### PROJECT FINANCE BREAKDOWN TEMPLATE

**Table 16.2.1 Funding Requested BY ALBERTA ENVIRONMENT & PROTECTED AREAS**

Organization - Alberta Environment & Protected Areas ONLY	Total % time allocated to project for AEPA staff	Total Funding Requested from OSM
Salaries and Benefits (Calculated from Table 16.1.1 above)	85	\$102,000.00
<b>Operations and Maintenance</b>		
<b>Consumable materials and supplies</b>		\$14,500.00
<b>Conferences and meetings travel</b>		\$1,600.00
<b>Project-related travel</b>		\$18,400.00

<b>Engagement</b>	\$1,000.00
<b>Reporting</b>	
<b>Overhead</b>	
Total All Grants (Calculated from Table 16.4 below)	\$443,318.00
Total All Contracts (Calculated from Table 16.5 below)	\$701,713.00
Sub-Total (Calculated)	\$1,282,531.00
<b>Capital*</b>	
AEPA TOTAL (Calculated)	\$1,282,531.00

\* The Government of Alberta Financial Policies (*Policy # A600*) requires that all **capital asset** purchases comply with governmental and departmental legislation, policies, procedures, directives and guidelines. **Capital assets** (*Financial Policy # A100*, Government of Alberta, January 2014) are tangible assets that: have economic life greater than one year; are acquired, constructed, or developed for use on a continuing basis; are not held for sale in ordinary course of operations; are recorded and tracked centrally; have a cost greater than \$5,000.

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

**Table 16.2.2 Funding Requested BY ENVIRONMENT & CLIMATE CHANGE CANADA**

Organization - Environment & Climate Change Canada ONLY	Total % time allocated to project for ECCC staff	Total Funding Requested from OSM
Salaries and Benefits FTE (Please manually provide the number in the space below)	33	\$30,738.47
<b>Operations and Maintenance</b>		
Consumable materials and supplies		\$7,766.60
Conferences and meetings travel		
Project-related travel		\$53,498.17
Engagement		
Reporting		
Overhead		\$5,257.46
<b>ECCC TOTAL</b> (Calculated)		<b>\$97,260.70</b>

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

**Table 16.3**

**Complete ONE table per Grant recipient.**

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

GRANT RECIPIENT - ONLY: Name	
GRANT RECIPIENT - ONLY: Organization	Duncan's First Nation
Category	Total Funding Requested from OSM
Salaries and Benefits FTE	
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$800.00
Conferences and meetings travel	\$7,070.00
Project-related travel	\$41,250.00
Engagement	\$10,940.00
Reporting	\$8,040.00
Overhead	\$6,810.00
GRANT TOTAL (Calculated)	\$74,910.00
GRANT RECIPIENT - ONLY: Name	
GRANT RECIPIENT - ONLY: Organization	Peavine Métis Settlement
Category	Total Funding Requested from OSM
Salaries and Benefits FTE	\$44,000.00
<b>Operations and Maintenance</b>	
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	\$3,000.00
GRANT TOTAL (Calculated)	\$75,000.00
GRANT RECIPIENT - ONLY: Name	
GRANT RECIPIENT - ONLY: Organization	Fort Smith Métis Council



Category	Total Funding Requested from OSM
Salaries and Benefits FTE	\$44,000.00
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$24,067.39
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	\$6,932.61
GRANT TOTAL (Calculated)	\$75,000.00
GRANT RECIPIENT - ONLY: Name	Lakeland Métis
GRANT RECIPIENT - ONLY: Organization	
Category	Total Funding Requested from OSM
Salaries and Benefits FTE	\$25,000.00
<b>Operations and Maintenance</b>	
Consumable materials and supplies	
Conferences and meetings travel	\$1,500.00
Project-related travel	\$3,500.00
Engagement	\$21,500.00
Reporting	\$17,500.00
Overhead	
GRANT TOTAL (Calculated)	\$69,000.00
GRANT RECIPIENT - ONLY: Name	Owl River Métis Community Association
GRANT RECIPIENT - ONLY: Organization	
Category	Total Funding Requested from OSM
Salaries and Benefits FTE	\$24,000.00
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$5,000.00

Conferences and meetings travel	
Project-related travel	\$2,000.00
Engagement	\$21,000.00
Reporting	\$16,181.82
Overhead	\$6,818.18
GRANT TOTAL (Calculated)	\$75,000.00
GRANT RECIPIENT - ONLY: Name	Fort McMurray 468 First Nation
GRANT RECIPIENT - ONLY: Organization	
Category	
Salaries and Benefits FTE	Total Funding Requested from OSM \$67,500.00
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$2,000.00
Conferences and meetings travel	
Project-related travel	
Engagement	\$4,908.00
Reporting	
Overhead	
GRANT TOTAL (Calculated)	\$74,408.00

**Table 16.4**

**Complete ONE table per Contract recipient.**

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

CONTRACT RECIPIENT - ONLY: Name	
CONTRACT RECIPIENT - ONLY: Organization	SGS AXYS (PACs in fish tissue)
Category	Total Funding Requested from OSM
Salaries and Benefits	
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$181,012.00
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	\$181,012.00
CONTRACT RECIPIENT - ONLY: Name	
CONTRACT RECIPIENT - ONLY: Organization	Bureau Veritas (metals in tissue)
Category	Total Funding Requested from OSM
Salaries and Benefits	
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$43,381.00
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	\$43,381.00
CONTRACT RECIPIENT - ONLY: Name	

CONTRACT RECIPIENT - ONLY: Organization	Biogeochemical Analytical Services Laboratory (mercury in tissue)
Category	Total Funding Requested from OSM
Salaries and Benefits	
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$28,070.00
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	\$28,070.00
CONTRACT RECIPIENT - ONLY: Name	
CONTRACT RECIPIENT - ONLY: Organization	North/South (fish ageing)
Category	Total Funding Requested from OSM
Salaries and Benefits	
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$12,000.00
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	\$12,000.00
CONTRACT RECIPIENT - ONLY: Name	
CONTRACT RECIPIENT - ONLY: Organization	TBD - sediment dating
Category	Total Funding Requested from OSM
Salaries and Benefits	
<b>Operations and Maintenance</b>	

Consumable materials and supplies	\$51,250.00
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
<b>CONTRACT TOTAL</b> (Calculated)	\$51,250.00
<b>CONTRACT RECIPIENT - ONLY: Name</b>	Alberta Lake Management Society
<b>CONTRACT RECIPIENT - ONLY: Organization</b>	
<b>Category</b>	
	Total Funding Requested from OSM
Salaries and Benefits	\$75,000.00
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$174,500.00
Conferences and meetings travel	\$5,000.00
Project-related travel	\$18,000.00
Engagement	\$2,000.00
Reporting	\$25,000.00
Overhead	
<b>CONTRACT TOTAL</b> (Calculated)	\$299,500.00
<b>CONTRACT RECIPIENT - ONLY: Name</b>	TBD - Human Health Risk Assessment
<b>CONTRACT RECIPIENT - ONLY: Organization</b>	
<b>Category</b>	
	Total Funding Requested from OSM
Salaries and Benefits	
<b>Operations and Maintenance</b>	
Consumable materials and supplies	
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	\$75,000.00

Overhead	
CONTRACT TOTAL (Calculated)	\$75,000.00
CONTRACT RECIPIENT - ONLY: Name	TBD - Stable Isotopes in fish tissue
CONTRACT RECIPIENT - ONLY: Organization	
Category	
Salaries and Benefits	Total Funding Requested from OSM
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$11,500.00
Conferences and meetings travel	
Project-related travel	
Engagement	
Reporting	
Overhead	
CONTRACT TOTAL (Calculated)	\$11,500.00

**Table 16.5 GRAND TOTAL Project Funding Requested from OSM Program**

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

Category	Total Funding Requested from OSM
Salaries and Benefits Sums totals for salaries and benefits from AEPA and ECCC ONLY	\$132,738.47
<b>Operations and Maintenance</b>	
Consumable materials and supplies Sums totals for AEPA and ECCC ONLY	\$22,266.60
Conferences and meetings travel Sums totals for AEPA and ECCC ONLY	\$1,600.00
Project-related travel Sums totals for AEPA and ECCC ONLY	\$71,898.17
Engagement Sums totals for AEPA and ECCC ONLY	\$1,000.00
Reporting Sums totals for AEPA and ECCC ONLY	\$0.00
Overhead Sums totals for AEPA and ECCC ONLY	\$5,257.46
Total All Grants (from table 16.2.1 above) <b>Sums totals for AEPA Tables ONLY</b>	\$443,318.00
Total All Contracts (from table 16.2.1 above) <b>Sums totals for AEPA Tables ONLY</b>	\$701,713.00
SUB-TOTAL (Calculated)	\$1,379,791.70
Capital* <b>Sums total for AEPA</b>	
<b>GRAND PROJECT TOTAL</b>	<b>\$1,379,791.70</b>

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.

This program was considered underspent in the previous year due to GOA accounting errors.

Foreseeable risks to the program include:

- Delays in work plan decisions (resulting in changes to monitoring schedule)
- Delays in contract and grant approvals due to AEPA processes and/or delayed workplan decision
- Unexpected events may modify/reduce monitoring by Indigenous community members (e.g., reduced water quality, fish monitoring, or CABIN) resulting in reduced use of AEPA contract.

**18.0 Alternate Sources of Project Financing - In-Kind Contributions**

**Table 18.1 In-Kind Contributions**

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

Description	Source	Equivalent Amount (\$CAD)
	<b>TOTAL</b>	<b>\$0.00</b>



**19.0 Consent & Declaration of Completion**

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

I acknowledge and understand.

**Lead Applicant Name**

Keegan Hicks

**Title/Organization**

Alberta Environment and Protected Areas

**Signature**

Keegan.Hicks  Digitally signed by Keegan.Hicks  
Date: 2023.11.03 15:45:23 -06'00'

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

**Title/Organization**

**Signature**

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

**Governance Review & Decision Process**

this phase follows submission and triggers the Governance Review

**TAC Review (Date):**

**ICBMAC Review (Date):**

**SIKIC Review (Date):**

**OC Review (Date):**

**Final Recommendations:**

**Decision Pool:**

**Notes:**

**Post Decision: Submission Work Plan Revisions Follow-up Process**

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

**ICBMAC Review (Date):**

**SIKIC Review (Date):**

**OC Review (Date):**

**Comments:**

**Decision Pool:**

**Notes & Additional Actions for Successful Work Plan Implementation:**

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Signature