



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:	Development of the design for an integrated OSM regional lake monitoring, evaluation, and reporting program
Lead Applicant, Organization, or Community:	Surface Water TAC – Lakes Subcommittee
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>	Click or tap here to enter text.
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>	2023
Project End Year: <i>Last year funding under the OSM program is requested Example: 2024</i>	2024
Total 2023/24 Project Budget: <i>For the 2023/24 fiscal year</i>	\$107,500.00
Requested OSM Program Funding: <i>For the 2023/24 fiscal year</i>	\$42,550.00
Project Type:	Focus Study
Project Theme:	Surface Water
Anticipated Total Duration of Projects (Core and Focused Study (3 years))	Year 1
Current Year	Focused Study: Year 1 of 3
	Core Monitoring: Choose an item.

CONTACT INFORMATION	
Lead Applicant/ Principal Investigator: <i>Every work plan application requires one lead applicant. This lead is accountable for the entire work plan and all deliverables.</i>	Surface Water TAC - Lakes Subcommittee: David Barrett, Kern Lee*, Yi Yi, Mark McMaster, Keegan Hicks, Fred Wrona#, Megan Thompson, Darryl Chudobiak. *AEP Contact/lead #Collaborator lead
Job Title:	SVARE Research Chair and Professor
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Address:	2500 University Drive NW
Phone:	403-510-0326
Email:	frederickjohn.wrona@ucalgary.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.

In response to the direction and feedback from the Surface Water Technical Advisory Committee (TAC) and the Science and Indigenous Knowledge Integration Committee on the 2022/23 OSM lake-related workplan submissions, a Lakes Subcommittee has drafted this workplan outlining the proposed steps to be taken in 2023/24 to design an integrated, adaptive regional lake monitoring, evaluation and reporting (MER) program.

It is widely recognized that lakes and their associated catchments serve as important sentinels of environmental change in response to natural and anthropogenic point, and non-point, source drivers (atmospheric deposition, landscape disturbance, climate change). Lakes are effective sentinels because their physical, chemical, and biological properties respond rapidly to environmental change while also integrating information about changes over long time frames through paleolimnological records. Additionally, the sustainability of lakes and their catchments in the oil sands region are important to Indigenous communities from both cultural and subsistence use perspectives.

A range of lake sampling and research efforts have occurred in the AOSR over multiple decades by the Governments of Alberta and Canada (eg., RAMP, JOSMP, OSM), industry, academia, and local communities. However, a fully integrated, adaptive and prioritized MER design addressing key questions pertinent to the Oil Sands Monitoring program is lacking.

The objective of this 1-year focused study is to develop a proposed design for an integrated and adaptive MER lake program that addresses key community and regulatory issues/questions associated with observed and predicted environmental changes in the status of lake ecosystems in the AOSR. Through a series of workshops and virtual meetings, the approach will:

- 1) bring together relevant Indigenous and western science expertise, and stakeholder perspectives to identify priority issues/endpoints of concern, relevant stressor-response pathways, and associated lake ecosystems to be included in a regional OSM Lake MER program;
- 2) evaluate the state-of-knowledge of lake conditions based on analysis of historical data on priority lakes, to help support the development of a Lake MER program;
- 3) propose a future 5-year MER plan for lakes in the AOSR, starting in 2024/25 for review by SIKIC and the OSC.

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.

By utilizing historical data initially, this project will explicitly tie into the OSM Adaptive Monitoring framework and will collaborate/integrate with other relevant workplans (ie. Aquatic Ecosystem Health, other surface water monitoring efforts, etc). Identifying historical normal ranges in environmental endpoints, and thereby working to identify 'reference' conditions, the findings would be well suited to be integrated into the OSM Adaptive Monitoring framework. Additionally, the work would help to identify areas of concern that could then be prioritized and used to inform investigation of cause (IOC) studies, where appropriate.

This work directly relates to identified gaps in the OSM program, specifically the presence of a cohesive lake monitoring program. Collating all available data on lake systems in the region will benefit the program and identifying historical trends in measured variables will help to inform future monitoring efforts. Additionally, this program will identify regions/lakes of concern and priority areas, based on input from multiple stakeholders and experts. The result will be a roadmap for future priority monitoring efforts for lake systems in the AOSR.

The work conducted under this program will consider response variables, including, for example: water quality/quantity and corresponding impacts on biological/ecological endpoints (e.g., fish health, components of the basal foodweb, etc). Notably, the aforementioned endpoints are used as examples only as a better understanding of existing stressor pathways and endpoints of concern will be derived from community engagement and the proposed workshops. Throughout the entire project, the team will be working with communities as closely as possible to identify and include priority endpoints and receptors to be included in historical analysis and the resulting MER plan. Where appropriate, the findings would then IOC studies to identify pressures, stressors, and pathways, thereby working within the source-pathway-receptor conceptual models.

A key principle related to ongoing refinement of a proposed regional lake MER plan will be based on ongoing analyses and input from regional communities, relevant stakeholders, and appropriate OSM governance structures (ie surface water TAC). Such an adaptive approach ensures that appropriate mitigation measures are being considered as are the criteria associated with measuring change and accounting for scale.

2.0 Objectives of the Work Plan

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

The objective of this 1-year focused study is to develop a proposed design for an integrated and adaptive MER lake program that addresses key community and regulatory issues/questions associated with observed and predicted environmental changes in the status of lake ecosystems in the AOSR. Through a series of workshops and virtual meetings, the approach will:

- 1) bring together relevant Indigenous and western science expertise, and stakeholder perspectives to identify priority issues/endpoints of concern, relevant stressor-response pathways, and associated lake ecosystems to be included in a regional OSM Lake MER program;
- 2) evaluate the state-of-knowledge of lake conditions based on analysis of historical data on priority lakes, to help support the development of a Lake MER program;
- 3) propose a future 5-year MER plan for lakes in the AOSR, starting in 2024/25 for review by SIKIC and the OSC.

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.

Focused Study (includes Community-Based Monitoring)

3.3 Sub Theme Key Questions

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

3.3.1 Surface Water Theme

3.3.1.1. Sub Themes:

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?

Coordinated efforts to identify changes across the OSM region have been limited. Accordingly, identifying any observed changes in this area is difficult. The work proposed to be done in the following year will be focused on identifying and quantifying baseline and normal variability, and the development of an updated, integrated monitoring program design. This will be done through a process of collaborative, cross-TAC discussions and workshops focusing on identifying current monitoring and research efforts, to help inform an updated monitoring program in future years. Defining baseline PAH values and hydrocarbon fractions may be feasible by utilizing historical lake sediment samples.

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?)

This program will focus on conducting a coordinated analysis of existing data and literature, and will help identify if changes are occurring, what the magnitude of changes are, and begin identifying attribution of change (where possible). The current status of lake monitoring has not been well documented/communicated and, as such, it is difficult to identify if changes have been occurring in the region. Therefore, existing historical data will be summarized and compiled for easier reference and processing as an initial step.

Statistical analyses will be used to provide quantification of the magnitude and timing of change, where present. The analysis will include an attempt to identify active stressor pathways from candidate pathways, where possible. Investigation of cause studies will be recommended for endpoints that are experiencing statistically significant and rapid change, which would then be able to better identify cumulative effects.

Source attribution analyses for observed change will be conducted where data is sufficient and will be used to inform subsequent IOC studies and the development of a future regional lake monitoring, evaluation, and reporting program as part of the surface water TAC.

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

Currently unknown. Identifying the presence and magnitude of changes is a core component of this program.

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

Indigenous concerns and endpoints will be included as part of this analysis, and Traditional Knowledge will be incorporated into historical analyses, wherever possible. Accordingly, we will be directly interfacing with the ICBMAC to inform priorities and content.



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

Yes

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

Analyses conducted under this program will utilize best practices for data management, statistical analyses and any other SOPs. Additionally, standardized sampling methods utilized by the CBM workplan, including those developed with the Alberta Lake Management Society (ALMS) will be used, where feasible. Work will be conducted in close collaboration with other workplans to identify relevant SOPs that can be incorporated (ie. Fish Health).

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

Work will be coordinated and directed by members of the lakes subcommittee (surface water TAC), Aquatic Ecosystem Health program, data integration TAC, groundwater TAC, other programs within the surface water TAC and, where possible, local stakeholders including relevant Indigenous communities to identify the potential sources of data available for historical analysis and the identification of meaningful endpoints. The findings of the work, including data analytical tools, will be provided to anyone working on lakes and other aquatic ecosystems in the region.

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?

The work included in this project will help to define an adaptive monitoring program for review and implementation in future years of the OSM program.

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

The results will directly inform the OSM Adaptive Monitoring framework and the analytical tools developed will be able to identify emerging issues as they arise, allowing for an expedited response and investigation of cause, where applicable.

Response to question 10 (as form will not allow it to be filled out): Data from the analyses and related interpretations will be provided to the Data Integration and Surface Water TACs to inform state of environment reporting efforts. This includes data summaries and graphics that could be used for public condition of environment reporting.

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.

Currently, limited analysis of OSM lake data in the region has been completed by the surface water TAC. This work will expand the scope of analyses, including the identification of tiers and triggers, and choice of relevant water quality, quantity, and biological/ecological indicators. The results will directly inform the OSM Adaptive Monitoring framework and the analytical tools developed will be able to identify emerging issues as they arise, allowing for an expedited response and investigation of cause, where applicable.

The findings of the historical data analysis component will also be valuable to policy and management decision makers, as it will allow them to understand current and historical states of these systems, including an improved delineation of historical baseline conditions against which to assess the magnitude and extent of current and future change. Historical data will be synthesized in such a way as to be easy to interpret and therefore can be easily used to inform future management decisions and recommend further research areas. It will also help provide a better understanding of stressor pathways, and if/how they might have changed over time as a result of shifts in activities and/or improvements in technology. From there, it will then help to identify potential stressor pathways of concern which then would be examined in more detail in future focused IOC studies.

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

Lake ecosystems and the surrounding watersheds are culturally important to local Indigenous communities. They are important for spiritual, cultural (including subsistence harvesting), and recreational purposes. Understanding the historical, current, and potential future state of these systems is of paramount importance to informing management actions aimed at conservation and protection. Keen interest has been shown by local Indigenous communities in actively participating in the design and implementation of a regional lake monitoring program that incorporates environmental endpoints that are relevant to the communities. This project will include input from relevant CBM efforts occurring in the AOSR, including lake water quality and fish monitoring programs. All efforts would be made to provide valuable training to those contributing to the program. In this first phase, we are undertaking a historical data analysis. In this first year and subsequent years of this program, Indigenous communities and related knowledge will be vital to informing the full suite of relevant indicators to be monitored and the network design on the landscape.

Does this project include an Integrated Community Based Monitoring Component?

No

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?

Yes

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.

The project team will work with Indigenous communities and, where applicable, their representatives to ensure that all community-specific protocols are adhered to. Where Indigenous Knowledge is involved, OCAP principals and considerations will be employed alongside any community-specific protocols that exist. The primary method of engagement on this workplan will be through workshops, however there will be an effort to allow for ongoing and continuous engagement from Indigenous communities at all stages of the project.

Indigenous communities and their representatives will be able to review and confirm any relevant details provided in a workshop setting by community members and/or representatives in the drafting/review stage of the final report. The project team is cognizant of the heavy demand on community members' time and will work to make involvement accessible.

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.

Indigenous engagement on the project will be focused on the identification of indicators of concern. However, throughout this stage of the project, and future work on historical trend analyses, the project team may collect IK. When this process occurs, guidance from community members, and other relevant partners will be solicited.

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

Indigenous communities and their representatives will be able to review and confirm any relevant details provided in a workshop setting by community members and/or representatives in the drafting/review stage of the final report.

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

Through the workshop process and at all stages of the project, Indigenous Communities will be providing a platform for providing direction and feedback on the development of an integrated regional lake monitoring, evaluation, and reporting program. Additionally, ongoing feedback and engagement on such a program will be encouraged.

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

Click or tap here to enter text.



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?

Click or tap here to enter text.

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.

Through the utilization of historical data, this project will very specifically work to identify the presence or absence of change and will contribute to defining reference conditions in lakes in the region. Though restricted to the available historical data, a broad range of chemical and biological endpoints will be considered and included in our analysis. As previously mentioned, this work supports an adaptive monitoring framework design for lake systems in the region. It also begins to form the basis for future investigation of cause questions following the adaptive monitoring framework's key questions (ie. Has water quality changed from baseline? Do contaminants of concern have effects on aquatic ecosystem health).

Through involvement of Indigenous representatives from the surface water TAC and, dependent upon availability, local communities, the range of environmental indicators will be further refined.

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.

Due to the scale of lakes in the region, phase one of this project is focused on watershed (ie. Athabasca)-scale impacts. The watershed scale approach allows for both a regional and sub-regional understanding of how these systems are changing. This workplan is focused on identifying key regional lakes to be analyzed and will look to involve Indigenous communities. Moreover, the project will begin to improve characterization of contaminant sources (atmospheric deposition, and watershed disturbance) and will provide insights into possible adverse outcome pathways associated with contaminant loadings. The specific scale and scope of future monitoring efforts will be driven/defined by the outcomes of proposed stakeholder workshops.

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.

The historical data will be centralized in a single database, which will be then made available on the Oil Sands Monitoring data platform. Any analytical tools developed will also be made available to researchers, policy-makers, interested communities, and any other interested parties.

Technical reports and associated peer-reviewed journal publications will be made open-access to allow for a larger reach, and each publication will be accompanied by a plain language fact sheet for dissemination, as desired. All data and analyses will be openly shared with the OSM program promptly.

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.

Capacity for this work exists across government and academic institutions, and within relevant communities. This work will be collaboratively stewarded by the lakes subcommittee within the surface water TAC.

The scope of this work has been discussed with appropriate Surface Water TAC members and it has been confirmed that the proposed work is not duplicative of existing efforts. All analyses will be done using the best standard operating procedures available, to encourage integration and compatibility with other monitoring initiatives, including ICBM workplans.

The close collaboration/partnership with the University of Calgary allows for coordinated efficiencies in the organizing of workshops, access to student support, and in-kind and actual funding through existing funds at the University of Calgary (\$65,000).

10.0 Work Plan Approach/Methods

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

Systematic review of existing research/data analysis

- collation of existing data datasets from differing sources
- summarizing of existing spatiotemporal analyses on collated historical datasets to inform workshop efforts.
- Identification of areas of concern based on analysis and input from ICBMC
- Contribution to SoE reporting, where appropriate

Throughout the project, workshops will be identified by the lakes subcommittee, as necessary, to inform and develop an updated, adaptive regional lake monitoring, evaluation, and reporting plan.

10.2 Describe how changes in environmental Condition will be assessed *

This project will conform to the recommendations of SIKIC and the surface water TAC on how data should inform the identification of appropriate baseline conditions. Comparisons will include assessing conditions over time and in relation to industrial and other anthropogenic stressors. Comparisons of sites across the AOSR will be examined controlling for lake-specific variation in indicators. Indicators will be identified through the planned multi-stakeholder planning process workshops.

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

This work will determine/reference conditions, and help to define tiers and triggers based on historical data at the direction of SIKIC and the surface water TAC.

(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 *

Data mining of historical data, monitoring efforts, environmental impact assessment reports, and community monitoring efforts on lakes in the AOSR.

Statistical analysis to identify and quantify trends in water quality and biological parameters, and additional endpoints as identified by Indigenous communities.

Identification of key endpoints of concern to Indigenous communities, through workshops

Identification of key areas that require further focused work and possible community partners for this work.

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

A suite of aquatic physical and chemical endpoints (ie N, P, salinity, conductivity, temperature) and biological endpoints (chlorophyll a, phytoplankton, zooplankton communities, etc). In addition, Indigenous community-relevant indicators will be identified through the workshop process.

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.

Community-relevant knowledge translation products will be developed and distributed. In addition, peer-reviewed scientific publications will be produced based on the findings of this project. Additionally, products aimed at the general public will be compiled to help to communicate the findings of the project to additional audiences (eg. infographics, condensed summaries, etc).

The reports and documentation resulting from workshops and synopsis reporting will be provided to members of the surface water TAC for their review, prior to the end of the project. Additionally, a final proposed integrated regional lake MER structure will and implementation plan will be presented at end of the project will be provided to the TAC and members of SIKIC for consideration.

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

The University of Calgary (Wrona/Barrett) will support the coordination of workshops through identified UCalgary-OSM processes. Additionally, working with members of the lakes subcommittee and relevant contributors, Wrona/Barrett will lead the production of workshop summary reporting and the final submitted regional lake MER implementation document. UCalgary will also, via the hiring of a student, will help support historical data synthesis and analysis efforts; the expectation is that AEP and ECCC will provide scientific input and data analyses/synthesis, as required.

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

13.0 Data Sharing and Data Management

For 2022-23 the following approach will be taken by the OSM Program related to data sharing.

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

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

Indigenous Knowledge is defined as:

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

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

Data Sharing and Data Management *Continued*

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

YES

13.2 Type of Quantitative Data Variables:

Both

13.3 Frequency of Collection:

Other

13.4 Estimated Data Collection Start Date:

Click or tap to enter a date.

13.5 Estimated Data Collection End Date:

Click or tap to enter a date.

13.6 Estimated Timeline For Upload Start Date:

Click or tap to enter a date.

13.7 Estimated Timeline For Upload End Date:

Click or tap to enter a date.

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
Annotated database of water quality, quantity, biological endpoints. (Building upon synthesis publication of Arciszewski et al 2021)	Database (local)	CSV and/or .mdb	Open by Default
Indigenous Knowledge communicated from engagement activities including workshops. Will not be publicly	Word document (Local – UCalgary)	.docx	Protected by Default



<p>available until/if appropriate permissions are granted from communities. Will be kept as a separate appendix/document to any workshop summaries and resulting final reports</p>			
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14.0 2023/24 Deliverables

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

Type of Deliverable	Delivery Date	Description
Key Engagement/Participation Meeting	Q1	Initial meetings with key stakeholders and experts to identify key questions, scope, and priorities (including systems and indicators) to be addressed under a newly designed regional lake monitoring, evaluation, and reporting program.
Technical Report	Q1	Workshop #1 Summary report
Key Engagement/Participation Meeting	Q2	Second meeting. Building on meeting 1, continuation and refinement of a proposed regional lake monitoring, evaluation, and reporting program.
Technical Report	Q2	Workshop #2 summary report
Technical Report	Q3	Initial draft of integrated OSM regional lake monitoring, evaluation, and reporting plan (including appendices summarizing analyses done to inform design)
Technical Report	Q4	Finalized version of integrated OSM regional lake monitoring, evaluation, and reporting plan (including appendices summarizing analyses done to inform design)
Other (Describe in Description Section)	Q4	Formal presentation of proposed plan to SIKIC.
OSM Program Annual Progress Report (required)	Q4	Annual progress reporting

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.

Oversight for the project will be provided by the surface water TAC lake subcommittee. Scientific expertise from provincial and federal government departments/agencies, academia, ENGOs, and community-based knowledge holders will be involved:

- Alberta Government
 - Dr Kern Lee* – Government of Alberta project management support. Historical data analysis
 - Dr Yi Yi* – Historical data analysis and project support
 - Dr Keegan Hicks* – Biological/Ecological and interfacing with CBM lake program
 - Dr Colin Cooke – Acid sensitive lakes, paleolimnology, atmospheric transport and historical program knowledge.
 - Dr Jean Birks – Groundwater-surface water interactions, water balance – InnoTech Alberta
- ECCC
 - Dr Mark McMaster* – Fish health, Indigenous Indicators, Surface Water TAC co-lead
 - Dr Erin Ussery – Fish health ICBM team lead
- Others
 - Dr Fred Wrona* – SVARE Research Chair - University of Calgary
 - Dr Prabha Rupasinghe – GIS/Spatial analysis – University of Calgary
 - Dr David Barrett* – Hydroecology and cold-region lake processes – University of Calgary
 - ICBMAC – representative to be determined
 - Bradley Peters - Alberta Lake Management Society – Provincial lake management knowledge and CBM lake program interface
 - Dr Megan Thompson* – Industry/Private Sector
 - Darryl Chudobiak* – Industry/Private Sector

*Denotes a member of the surface water TAC Lake Subcommittee

Project management and oversight will be performed by the Lake Subcommittee members

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
Lee, Kern	AEP PI / data analysis / support. ** % Time allocation is representative of salary allocation, but not indicative of actual time contributed to the project	0%
Yi, Yi	Data analysis/support; ** % Time allocation is representative of salary allocation, but not indicative of actual time contributed to the project	0%
Cooke, Colin	Data analysis/support and historical program information; ** % Time allocation is representative of salary allocation, but not indicative of actual time contributed to the project	0
Hicks, Keegan	Data analysis/support and ICBM project interface; ** % Time allocation is representative of salary allocation, but not indicative of actual time contributed to the project	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>	Part of Lakes Subcommittee – fish monitoring program representative	5%
<i>Ussery, Erin</i>	Fish health ICBM Lead	5%

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

Section 16.2 Financing

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

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

Table 16.2.1 Funding Requested BY ALBERTA ENVIRONMENT & PARKS

Organization – Alberta Environment & Parks ONLY	Total % time allocated to project for AEP staff	Total Funding Requested from OSM
Salaries and Benefits <i>(Calculated from Table 16.1.1 above)</i>	0.00%	\$0.00
Operations and Maintenance		
Consumable materials and supplies		\$0.00
Conferences and meetings travel		\$0.00
Project-related travel		\$0.00
Engagement		\$0.00
Reporting		\$0.00
Overhead		\$0.00
Total All Grants <i>(Calculated from Table 16.4 below)</i>		\$42,550.00
Total All Contracts <i>(Calculated from Table 16.5 below)</i>		\$0.00
Sub- TOTAL <i>(Calculated)</i>		\$42,550.00
Capital*		\$0.00
AEP TOTAL <i>(Calculated)</i>		\$42,550.00

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

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

Table 16.2.2 Funding Requested BY ENVIRONMENT & CLIMATE CHANGE CANADA

Organization – Environment & Climate Change Canada ONLY	Total % time allocated to project for ECCC staff	Total Funding Requested from OSM
Salaries and Benefits FTE <i>(Please manually provide the number in the space below)</i>		
Salaries and Benefits		\$0.00
Operations and Maintenance		
Consumable materials and supplies		\$0.00
Conferences and meetings travel		\$0.00
Project-related travel		\$0.00
Engagement		\$0.00
Reporting		\$0.00
Overhead		\$0.00
ECCC TOTAL <i>(Calculated)</i>		\$0.00

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

Table 16.3

Complete ONE table per Grant recipient.

Add a Recipient by clicking on the table and then clicking on the blue "+" symbol on the bottom right side of table. The total of all Grants is Auto Summed in Table 16.2.1

GRANT RECIPIENT - ONLY: Name	Click or tap here to enter text.
GRANT RECIPIENT - ONLY: Organization	Click or tap here to enter text.
Category	Total Funding Requested from OSM
Salaries and Benefits	\$16,000.00
Operations and Maintenance	
Consumable materials and supplies	\$5,000.00
Conferences and meetings travel	\$0.00
Project-related travel	\$0.00
Engagement	\$16,000.00
Reporting	\$0.00
Overhead	\$5,550.00
GRANT TOTAL <i>(Calculated)</i>	\$42,550.00

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	Click or tap here to enter text.
Category	Total Funding Requested from OSM
Salaries and Benefits	\$0.00
Operations and Maintenance	
Consumable materials and supplies	\$0.00
Conferences and meetings travel	\$0.00
Project-related travel	\$0.00
Engagement	\$0.00
Reporting	\$0.00
Overhead	\$0.00
CONTRACT TOTAL <i>(Calculated)</i>	\$0.00

Table 16.5 GRAND TOTAL Project Funding Requested from OSM Program

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

Category	Total Funding Requested from OSM
Salaries and Benefits <i>Sums totals for salaries and benefits from AEP and ECCC ONLY</i>	\$0.00
Operations and Maintenance	
Consumable materials and supplies <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Conferences and meetings travel <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Project-related travel <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Engagement <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Reporting <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Overhead <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
Total All Grants (from table 16.2.1 above) <i>Sums totals for AEP Tables ONLY</i>	\$42,550.00
Total All Contracts (from table 16.2.1 above) <i>Sums totals for AEP Tables ONLY</i>	\$0.00
Sub- TOTAL	\$42,550.00
Capital* <i>Sums total for AEP</i>	\$0.00
GRAND PROJECT TOTAL	\$42,550.00

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 design and funding model associated with this project will help to limit the risk. Some funds (\$65,000) and expertise/management support are being proposed to be provided by the existing UCalgary - OSM grant.

The greatest risks exist from unforeseen circumstances limiting the ability to host workshops.

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)
Cost of one workshop facilitation and reporting	UofC-OSM grant	\$16,000.00
Research associate salaries (Barrett – 40%, Rupasinghe – 10%)	UofC-OSM grant	\$34,000.00
Student Support	UofC-OSM grant	\$10,000.00
Report production costs	UofC-OSM grant	\$5,000.00
TOTAL		\$65,000.00



19.0 Consent & Declaration of Completion

Lead Applicant Name

Fred Wrona on behalf of the surface water TAC lakes subcommittee

Title/Organization

Lakes Subcommittee – c/o University of Calgary (WRONA)

Signature

Frederick John Wrona

Date

2022-10-31

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

Kern Lee

Title/Organization

Alberta Environment and Parks

Signature

Kern Lee

Date

2022-10-31



PROGRAM OFFICE USE ONLY

Governance Review & Decision Process

this phase follows submission and triggers the Governance Review

TAC Review (Date):

Click or tap to enter a date.

ICBMAC Review (Date):

Click or tap to enter a date.

SIKIC Review (Date):

Click or tap to enter a date.

OC Review (Date):

Click or tap to enter a date.

Final Recommendations:

Decision Pool:

Choose an item.

Notes:

Click or tap here to enter text.

Post Decision: Submission Work Plan Revisions Follow-up Process

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

ICBMAC Review (Date):

Click or tap to enter a date.

SIKIC Review (Date):

Click or tap to enter a date.

OC Review (Date):

Click or tap to enter a date.

Comments:

Decision Pool:

Choose an item.

Notes & Additional Actions for Successful Work Plan Implementation:

Click or tap here to enter text.