



# 2022-2023 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 <b>October 5, 2021 at 4:30 PM Mountain Standard time.</b>	<b>October 5, 2021</b> 4:30 PM MST
<b>Decision Notification</b>	Mid to Late January 2022

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.

## 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.

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.

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.

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 Form and Distribution Package, accessible here: [Work Planning Form and Distribution Package](#)

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](mailto: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**:

**202223\_wkpln\_WorkPlanTitle\_ProjectLeadLastNameFirstName**

**Example:**

202223\_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:

**202223\_sup##\_WorkPlanTitle\_ProjectLeadLastNameFirstName**

**Examples:**

202223\_sup01\_OilSandsResiduesinFishTissue\_SmithJoe

202223\_sup02\_OilSandsResiduesinFishTissue\_SmithJoe

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202223\_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 5, 2021, **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](mailto:OSM.Info@gov.ab.ca).



## WORK PLAN APPLICATION

PROJECT INFORMATION	
<b>Project Title:</b>	Surface Water Quantity Monitoring – Water Levels and Flows
<b>Lead Applicant, Organization, or Community:</b>	Environment and Climate Change Canada
<b>Work Plan Identifier Number:</b> <i>If this is an on-going project please fill the identifier number for 20/21 fiscal by adjusting the last four digits: <b>Example:</b> D-1-2020 would become D-1-<b>2022</b></i>	W-LTM-S-1-2023
<b>Project Region(s):</b>	Oil Sands Region
<b>Project Start Year:</b> <i>First year funding under the OSM program was received for this project (if applicable)</i>	Since Inception of OSM
<b>Project End Year:</b> <i>Last year funding under the OSM program is requested <b>Example:</b> 2022</i>	Ongoing – Core Monitoring
<b>Total 2022/23 Project Budget:</b> <i>For the 2022/23 fiscal year</i>	\$1,890,000.00
<b>Requested OSM Program Funding:</b> <i>For the 2022/23 fiscal year</i>	\$1803,311.00
<b>Project Type:</b>	Longterm 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</b>	<b>Focused Study:</b> Choose an item.
	<b>Core Monitoring:</b> Year 1

CONTACT INFORMATION	
<b>Lead Applicant/ Principal Investigator:</b> <i>Every work plan application requires one lead applicant. This lead is accountable for the entire work plan and all deliverables.</i>	Malcolm Conly
<b>Job Title:</b>	Regional Chief, North & West, National Hydrological Services – Water Survey of Canada
<b>Organization:</b>	Environment and Climate Change Canada
<b>Address:</b>	11 Innovation Blvd, Saskatoon, Saskatchewan S7N 3H5
<b>Phone:</b>	306-975-4833
<b>Email:</b>	Malcolm.conly@ec.gc.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.

Project Description for the surface water quantity does not substantially change from previous years given the foundational nature of these data for the program. Water levels are monitored at key nodes throughout the lower Athabasca River system. These nodes represent the core hydrometric network, which is integrated with all elements of the core water-monitoring program. Water level data are used to calculate river and stream discharge, to assess hydrologic status and trends, and support calculation of water chemistry loads, interpretation of aquatic chemistry and ecosystem (fish and benthos) monitoring information, water quantity management and predictive modelling. Water level data are transmitted via satellite or cellular telemetry and are available in near-real time through Alberta Environment and Parks (AEP) and Water Survey of Canada (WSC), which is key to supporting public safety through flood-preparedness in local communities as well as downstream communities.

This work plan supports the operation and maintenance of hydrology climate station network (7 stations) in addition to four snow surveys in oil sands region. Climate data are required for various purposes including predictive modelling (i.e. hydrology, water quality, air quality, air dispersion etc.) and interpretation of monitoring data being collected under air quality/air depositions and hydrology long-term core monitoring programs of OSM. In addition, climate data are also being used to support the regulatory requirements as a part of EPEA approval conditions.

The operation of hydrometric and climate stations will be managed in the context of local and national restrictions and guidelines associated with COVID-19. While the operations of hydrometric stations are considered a critical service, safety of staff will be central to the decisions associated with managing the station operations. Every effort will be made to maintain operations, however there may be disruptions. Notwithstanding, increased vigilance on real-time data will be employed to determine whether data quality is affected and will be flagged accordingly. Every effort will be made to maintain continuous data production in order to have the best available data accessible to end users in a near real-time platform.

## 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 the EEM 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 EEM framework 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
- Discuss results of previous monitoring/studies/development and what has been achieved to date.

The establishment of long-term hydrologic/hydrometric & climate data record in the region supports:

- hydrological characterization of watersheds (LAR) including understanding of natural variability and assessment of hydrological changes in the basin including status, trends and patterns of fresh water supplies in the region.
- development of total loading for water and sediment quality, rather than only concentrations of select pollutants.
- the interpretation of data collected for freshwater aquatic ecosystem including lentic, lotic and wetlands (i.e. water quality, air quality & dispersion, sediment quality, benthic invertebrate community, and fish health & population) by placing in context current hydrological conditions relative to historical mean or extreme conditions;
- establishing baseline conditions to better understand the impacts of anthropogenic activities and climate change on the hydrology of region.
- climate data and changing conditions in the region will provide important information as drivers (or co-variants) for other environmental changes
- predictive modelling by providing critical hydro-meteorological boundary conditions and input data for model development, calibration and verification that further form the basis of environmental impact assessments and operational water management plans.
- the assessment of navigational challenges in Athabasca River and Peace-Athabasca Delta;
- the assessment of Environmental Base Flows (EBF) for protection of aquatic ecosystem.
- public reporting of annual and inter-annual variability in hydrological conditions.

## 2.0 Objectives of the Work Plan

List in point form the Objectives of the 2022/23 work plan below

The following are the specific objectives for an enhanced climate, hydrologic & hydrometric monitoring in the oil sands region of Alberta:

- Ongoing operation and maintenance of Water Survey of Canada (WSC) hydrometric network.
- Obtaining land disposition authorizations under Alberta Public Lands Act to ensure compliance.
- Undertake operation and maintenance of Climate Monitoring stations
- Conduct snow surveys at four locations within the oil sands region
- Conduct suspended sediment monitoring on the Athabasca River below Fort McMurray.
- Implement hydro-acoustic techniques for continuous monitoring of sediment utilizing standard operating procedures and techniques employed by the USGS.
- Produce annual reporting of hydrological conditions at OSM operated hydrometric stations.

Note:

- Several objectives and milestones for the program may be affected by circumstances related to COVID-19 and implications of national, provincial and regional health restrictions that may be imposed.
- Completion of station metadata, specifically establishing CGVD 2013 datum for remaining stations may be delayed for some stations
- Completion of Land Disposition Authorizations under PLA will be dependent on availability of Provincial Authorities to process applications.

It should be noted, that Water Survey of Canada will continue to follow strict protocols, developed and employed nationally, to minimize the threat to staff and communities with respect to COVID-19. Four key documents form the foundation of a COVID-19 Management plan for the program:

- a) National Hydrological Services (Water Survey of Canada) COVID Contingency Plan
  - b) COVID-19 Cleaning Equipment and Field Work Sites Task Hazard Analysis and Safe Working Practices
  - c) COVID-19 Working in Close Proximity Safe Working Practices
- and
- d) COVID-19 – Non-Standard Accommodations Guidelines

In addition, Water Surevey of Canada staff will respect all provincial and municipal guidelines and restrictions that may be established from time to time (e.g. community access restrictions).

### 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)
- integrate western science with Indigenous Community-Based Monitoring
- addresses the EEM framework 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 2022/23 work planning all Community Based Monitoring Projects are Focused Studies.

Core Monitoring

### 3.3 Sub Theme Key Questions

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

#### 3.3.1 Surface Water Theme

##### 3.3.1.1. Sub Themes:

Quantity

##### 3.4.1.2 Surface Water Key Questions

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

1. Are changes occurring in water quality, biological health (e.g., benthos, fish) and/or water quantity/flows, to what degree are changes attributable to oil sands activities, and what is the contribution in the context of cumulative effects?

Hydrological characterization including understanding of natural variability and assessment of hydrological changes in the basin including status, trends and patterns of fresh water supplies in the region, contributes to understanding where there are changes or whether conditions are within the range of natural variability. It also provides a context for understanding and interpreting other water/sediment quality and biological data by providing hydrological context.

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

Establishing a baseline and reporting on status/trends in hydrology provides a context for understanding impacts and whether they are due to anthropogenic activities, climate change or have compounded influences. This will certainly support addressing Indigenous concerns about water availability in the region and quality of aquatic ecosystem. Further, these data can be used to report on water levels and flows for navigation.

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

All data produced follow National Standards for data collection and dissemination as established by Water Survey of Canada and are in accordance with processes followed by the World Meteorological Organization (WMO). All data collected and managed by Water Survey of Canada are publicly available and being ingested into OSM's Kister (WISKI) system.

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

YES - Water Survey of Canada (as well as the Meteorological Service of Canada) is ISO Certified. All program delivery follows National Standard Operating Procedures.

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

All hydrometric and climate data collected is publicly available. All hydrometric data collection platforms have been established with satellite telemetry allowing for near-real time accessibility to water levels and flows (for stations where rating relationships are well established). Many OSM projects access the near real-time data for planning field logistics to ensure safety and scientific integrity of their program. Historic data is made accessible via Water Office allowing for integrated use for the interpretation of results. All hydrometric & sediment data collected under this work plan supports



predictive model development by providing critical model inputs as well as for calibration and validation of the model outputs. Further, Indigenous communities can use the data for navigational challenges and collected data also support the Lower Athabasca Regional Plan (LARP) management frameworks (e.g. surface water quantity and quality). Further, where possible hydrometric monitoring has been integrated with other OSM core monitoring (e.g. co-location of water quality and hydrometric monitoring stations).

6. 7.6. Where does the monitoring fit on the conceptual model within the EEM framework for the theme area and relative to the conceptual model for the OSM Program theme area? How will this work advance understanding transition towards of the conceptual model EEM framework?

This workplan monitors climate (pressure) and hydrology (pressure & stressor) as identified on the Surface Water Conceptual Model of the OSM Programmatic Conceptual Model. Hydrology and climate monitoring are both core monitoring components and are key pressures or stressors that fall under the baseline tier of monitoring as they provide fundamental data required to support the interpretation of other OSM monitoring data (collected under different tiers of monitoring) including water quality, fish health and community, benthic invertebrates, air quality, terrestrial ecology, etc. For example, stream flow data are required for mass balance or loading calculation with measured concentration of a contaminant. In addition, retrospective hydrological cumulative effects modelling requires climate data as a forcing dataset to the model to generate surface runoff (and thus stream flows) that are calibrated and validated through monitored stream flow and water level data. Moreover, baseline “tier” hydrology data (i.e. ongoing continuous record) are required as they support multiple purposes including reporting to meet legislated requirements, public safety (floods, aboriginal navigational index), compliance of water withdrawal conditions (under the Water Act), etc. Further, the hydrological regime of the Athabasca River is highly variable (inter-annual and intra-annual) and a minimum of 30 years of continuous monitoring records are required to establish a reasonable baseline (aligned with climate normals).

7. Is the work plan contributing to Programmatic State of Environment Reporting?

Yes, data collected as part of this ongoing core monitoring activity has contributed to the OSM State of Environment Reporting. While there are discernible hydrological patterns that are observed in the cold-regions hydrological regime of the Lower Athabasca basin, there is still a high level of variability within and between years. For tributaries to the Lower Athabasca River peak runoff is driven by spring snow melt but can also be strongly influenced by summer precipitation events. The Athabasca River often has dual runoff peaks, first dominated by spring snow melt runoff events from the many tributaries. A second peak in the early summer is driven by mountain snowmelt in the headwaters of the Athabasca River. During the winter, flows decline on both tributaries and on the main stem of the Athabasca River. Given the inherent variability, a hydrological monitoring network must operated for many years to capture the full range of flow conditions. The hydrometric network was rationalized several years ago in consultation with industry (via COSIA) in order to meet a multitude of requirements including scientific initiatives that align with the broader scientific needs of the OSM monitoring program (e.g., water quality, biotic monitoring etc.). Moreover, the hydrometric and hydrological monitoring program addresses and supports key aspects of the pathway element of overall program conceptual model.

### 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. Are changes occurring in groundwater quality and/or quantity, to what degree are changes attributable to oil sands activities, are changes affecting other ecosystems, and what is the contribution in the context of cumulative effects?

Click or tap here to enter text.

2. 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.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

6. Where does the monitoring fit within the EEM framework and relative to the theme area? How will this work advance transition towards the EEM framework?

Click or tap here to enter text.

7. Where does the monitoring fit on the conceptual model for the theme area and relative to the conceptual model for the OSM Program? How will this work advance understanding of the conceptual model?

Click or tap here to enter text.

8. Is the work plan contributing to Programmatic State of Environment Reporting?

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 Wetland - Key Questions**

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

1. Are changes occurring in wetlands due to contaminants and hydrological processes, to what degree are changes attributable to oil sands activities, and what is the contribution in the context of cumulative effects?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

6. Where does the monitoring fit within the EEM framework and relative to the theme area? How will this work advance transition towards the EEM framework?

Click or tap here to enter text.

7. Where does the monitoring fit on the conceptual model for the theme area and relative to the conceptual model for the OSM Program? How will this work advance understanding of the conceptual model?

Click or tap here to enter text.

8. Is the work plan contributing to Programmatic State of Environment Reporting?

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. Are changes occurring in air quality, to what degree are changes attributable to oil sands emissions, and what is the contribution in the context of cumulative effects?

Click or tap here to enter text.

2. Are changes informing Indigenous key questions and concerns?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

6. Where does the monitoring fit within the EEM framework and relative to the theme area? How will this work advance transition towards the EEM framework?

Click or tap here to enter text.

7. Where does the monitoring fit on the conceptual model for the theme area and relative to the conceptual model for the OSM Program? How will this work advance understanding of the conceptual model?

Click or tap here to enter text.

8. Is the work plan contributing to Programmatic State of Environment Reporting? (Answer Box)

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. Are changes occurring in terrestrial ecosystems due to contaminants and landscape alteration, to what degree are changes attributable to oil sands activities, and what is the contribution in the context of cumulative effects?

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

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

Click or tap here to enter text.

6. Where does the monitoring fit within the EEM framework and relative to the theme area? How will this work advance transition towards the EEM framework?

Click or tap here to enter text.

7. Where does the monitoring fit on the conceptual model for the theme area and relative to the conceptual model for the OSM Program? How will this work advance understanding of the conceptual model?

Click or tap here to enter text.

8. Is the work plan contributing to Programmatic State of Environment Reporting?

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. Where does the monitoring fit within the EEM framework and relative to the theme area? How will this work advance transition towards the EEM framework?

Click or tap here to enter text.

5. Where does the monitoring fit on the conceptual model for the theme area and relative to the conceptual model for the OSM Program? How will this work advance understanding of the conceptual model?

Click or tap here to enter text.

6. Is the work plan contributing to Programmatic State of Environment Reporting?

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 give consideration for the EEM framework and the approved Key Questions.

This monitoring program directly supports the implementation of Lower Athabasca Regional Plan and associated management framework e.g. LAR Surface Water Quantity Management Framework and LAR Surface Water Quality Management Framework. Further, water level and flow data collected under this program are being used to confirm regulatory compliance with water licenses issued under the Water Act (to industry, municipalities, etc.). Many of the mines are obligated to provide estimates of annual runoff into local tributaries, for which they use data from WSC stations to support their reporting. In addition, some mines are required to compare changes in loadings within the rivers, which requires flow data, as compared to the previous five years (e.g., Muskeg River, Athabasca River). Hydrometric data collected on the Athabasca River is also used to establish and support application of limits and triggers within the context of environmental management in the region.

## 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

All hydrometric stations operated in the Oil Sands region as well as in the Peace-Athabasca Delta (note: PAD hydrometric stations are not funded under the OSM program) have satellite telemetry to provide near real-time access to water level and flow data. Data is available to support local logistics for researchers and others traveling on the waterways. Near real-time availability of water levels may be coupled with local and Indigenous knowledge to provide insight on transportation/navigation and accessibility. Those unfamiliar with the implications of varying water levels/flows on the logistics of access and transportation on the regional waterways would be strongly encouraged to engage with local knowledge holders to ensure safe and successful logistics.

Does this project include an Integrated Community Based Monitoring Component?

No



## 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 can be assessed against a baseline condition. As relevant give consideration for the EEM framework and the approved Key Questions.

Changes in environmental conditions (for example, stream flows, water levels, precipitation, temperature etc.) could be assessed relative to baseline (reference) and other established triggers and limits. For example, triggers and limits identified in Surface Water Quantity Management Framework of LARP will be used to assess the deviation from the intended outcome for the water quantity of Lower Athabasca River. A trend analysis could be conducted (where longer periods of record are available) to understand the trend in change (for example increasing or decreasing streamflows in a particular month). With longer records, statistical validity of trends could also be established.

## 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 give consideration for the EEM framework and the approved Key Questions.

Some of the approved key questions identified under surface water quantity are:

1. Has water quantity changed from baseline?
2. What is water quantity compared to limits of change, including government standards and Indigenous indicators? For example, CCME guidelines, Indigenous guidelines, Aboriginal Base Flow and Aboriginal Extreme Flow?
3. Do changes in water quantity have effects on aquatic resources, ecology, human health and wellbeing?

The key environmental indicators that can be used to answer the approved key questions are stream flow, water level and climate variables (e.g. precipitation, temperature etc.) which can be used to track the state of environment at regional and sub-regional scale.

There are discernible hydrological patterns that are observed in the cold-regions hydrological regime of the Lower Athabasca basin, but there is also a high level of variability within and between years. In addition, there is variability in runoff regimes between the main stem of the Athabasca River (regional scale) and the tributaries (sub-regional or sub-watershed scale) to the Athabasca River. The hydrometric monitoring network is designed to accommodate the various scale differences in the watersheds (regional to sub-regional), which allows for comparing and contrasting regional hydrological influences from sub-regional influences on the hydrologic responses in the Oil Sands region. Hydrologic data provides the fundamental basis for cumulative effects assessments in the region.

## 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 give consideration for the EEM framework and the approved Key Questions.

Hydrometric/sediment data is made available through ECCC, Water Survey of Canada's Water Office and can be downloaded in CSV format - <http://wateroffice.ec.gc.ca/>  
- Completed new or updated metadata &/or monitoring site records including station metadata can be found at: <https://www.ec.gc.ca/rhc-wsc/default.asp?lang=En&n=894E91BE-1>  
- Climate monitoring data is available through the RAMP website (historical data upto 31 March 2017) and through AEP WISKI (since 1 April 2017).  
- Work is underway with Service Alberta to develop climate and hydrology data tree where all the data will also be accessible via the OSM data portal/system.  
- An annual report will be prepared to document hydrologic conditions relative to baseline/historic reference conditions, and will be made available as an Oil Sands Monitoring Technical Document.

## 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 give consideration for the EEM framework and the approved Key Questions.

Hydrometric Operations operated by Water Survey of Canada in the Oil Sands region follow national standards and are part of the national database of hydrometric information in Canada. The design of the rationalized hydrometric network for the oil sands region takes into account the overall scientific needs of the Oil Sands Monitoring program, regulatory needs of industry and stakeholder interests in monitoring water balances within the Oil Sands Region. The design also takes into account the most cost-effective approach for meeting the multitude of user needs. Many of the hydrometric stations are optimized and co-located with other aquatic monitoring sites e.g., water quality, sediment quality, benthic invertebrates etc.

## 10.0 Work Plan Approach/Methods

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

**Phase 1: Station Management**

Task 1a: Life Cycle Management of hydrometric infrastructure & equipment (ongoing requirement for station management and maintaining data integrity)

Task 1b: Life Cycle Management of climate station infrastructure & equipment (on going requirement for station management and maintaining data integrity)

**Phase 2: Land disposition authorization under PLA**

Task 2a: Development and submission of land disposition applications for all the hydrometric stations under OSM program (on-going from previous years)

**Phase 3: Hydrometric Monitoring and Data Management**

Task 3a: Data collection (monitoring) including monthly manual measurements and maintenance/calibration of discharge rating curves.

Task 3b: Additional winter flow measurements (minimum 2) taken at hydrometric station: Athabasca River below Fort McMurray (07DA001) to facilitate the implementation of LAR Surface Water Quantity Management Framework.

Task 3c: Data management (annual requirement)

Task 3d: Preparation of monitoring metadata (annual requirement)

Task 3e: QA/QC of 2021-22 data and approvals

**Phase 4: Climate Monitoring and Data Management ?**

Task4a: Data Collection – 2 snow survey's completed in late winter (Jan – March).

Task 4b: Data management of climate data (annual requirement)

Task4c: Preparation of metadata associated with climate/snow monitoring network

Task4d: QA/QC of 2021-22 data and approvals

**Phase 5: Sediment Monitoring**

Task 5a: Data Collection on main-stem Athabasca River

Task 5b: Implementation of insitu-continuous sediment monitoring

Task 5c: Sediment Data management (annual requirement)

Task 5d: Preparation of sediment monitoring metadata (annual requirement)

Task 5e: Sediment data QA/QC and data approvals

**Phase 6: Data Evaluation and Reporting**

Task 6a: Evaluation/synthesis of annual data in context of historical data

**Phase 7: Dissemination of Knowledge**

Task 7a: Upload of approved hydrometric data to public site (i.e., Water Office)

Task 7b: Upload of approved sediment data to public site (i.e., Water Office)

Task 7c: Preparation of annual technical report summarizing current hydrologic year in context of historic baseline

### 10.2 Describe how changes in environmental Condition will be assessed \*

Changes in flows monitored by the hydrometric network can be evaluated against historical baseline for temporal variability. In addition the network will allow for assessments in longitudinal water balances. The established long-term hydro-climatic

data (river flows and water levels; lake levels and climate data including snow surveys) in Lower Athabasca River watershed can be used to characterize natural variability and to assess hydrological changes in the watershed including the status, trends and patterns of fresh water supplies in the region.

Once longterm baseline conditions have been established they will be used to understand the impacts of anthropogenic activities (e.g. land use/land cover changes and climate changes) on the hydrology of region.

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

Given the spatial and temporal variability of hydrological conditions in the region, specific benchmarks are typically not applicable. Currently there are no specific benchmarks, but the following can be used as guidance in addressing key questions such as; What is the historical, current and projected-future spatial and temporal variability of water flow and sediment transport into and through the Lower Athabasca River and from tributaries?

However, for water resources management purposes there are often 'triggers' and 'limits' established to support management decisions. With long-term hydrological data sets, evaluations can be undertaken to assess trends in hydrological conditions, which can provide insights that assist in separating natural variability from aspects of anthropogenic activities (e.g. consumptive water use and land disturbances within a watershed) and other pressures like climate change.

Considerations for evaluation could include:

- Surface Water Quantity Management Framework under the Lower Athabasca Regional Plan
- Alberta Surface Water Allocation Directive.

(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 \*

Phase 1: Station Management

- Annual inspections of equipment and site to ensure sustainable operations and site safety.

Phase 2: Land disposition authorization under PLA - Preparation and submission of land disposition applications for all the hydrometric stations under OSM program as per Public Lands Act requirement.

Phase 3, 4 & 5: Hydrometric, Climate and Sediment Monitoring and Data Management

- Ensuring all OH&S training are up to date for all the monitoring/field staff, including new SOPs for mitigating risks for COVID-19.
- Collection of climate, hydrometric and sediment data as per applicable SOPs.
- Hydrometric and sediment data will be finalized as per WSC QA/QC standards and procedures.
- Climate and Snow Survey data will follow protocols in place by AEP
- Hydrometric and sediment data will be managed in WSC's data management system.
- Climate and Snow survey data will be managed by AEP
- Final data will be available through WSC/AEP.

- Summarize results of non-contact hydrometric monitoring in context of traditional contact monitoring approaches for hydrometric monitoring.

Phase 6: Dissemination of Knowledge

- all approved data for hydrometric and sediment will be uploaded and made publically available via ECCC's Water Office as per national protocols for Water Survey of Canada.
- a technical paper will be prepared on the annual data collected and put in context of historic data.

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

Water levels, river flows and sediment fluxes in Athabasca River and its tributaries  
Temperature, Precipitation, Relative Humidity, Windspeed & Direction, Solar Radiation and Snow  
Depth for Climate Stations

## 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.*

Evaluation/synthesis of annual data in context of available historical data including:  
- Plain language annual summary of hydrological conditions based on Hydrometric data.

## 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

Click or tap here to enter text.

\*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? \*

NO

13.2 Type of Quantitative Data Variables:

Both

13.3 Frequency of Collection:

Real Time

13.4 Estimated Data Collection Start Date:

2022-04-01

13.5 Estimated Data Collection End Date:

2023-03-31

13.6 Estimated Timeline For Upload Start Date:

2022-04-01

13.7 Estimated Timeline For Upload End Date:

2023-03-31

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

NO

**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
Hydrometric and Sediment date	http://wateroffice.ec.gc.ca	csv format	Open by Default
Climate	AEP Wiski	csv format	Protected by Default

## 14.0 2022/23 Deliverables

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

Type of Deliverable	Delivery Date	Description
OSM Program Annual Progress Report (required)	Q2	Annual Plain language of previous year's Hydrological Conditions for the Lower Athabasca River
Other (Describe in Description Section)	Choose an item.	Publically available approved hydrometric data that are consistent with National Standards

## 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.

Malcolm Conly,  
Regional Chief, North & West, National Hydrological Services – Water Survey of Canada  
Principal Investigator/Project Owner

Water Survey of Canada – Alberta District

- Program operations is integrated with the broader hydrometric operations for Alberta
- Specific investment from Oil Sands ensures a staff of four Hydrometric Technologists are available to operate, manage and compute data from the Oil Sands Hydrometric Network. Each Technologist is responsible for a specific set of stations to operate and maintain
- A Hydrometric Supervisor responsible for managing the overall network operation in the oil sands region, establishing priority for station operation, life cycle management and undertakes approvals of and QA/QC for all station operations with the support of their team of technologist.
- Further supported (30%) by WSC Head for Alberta Northern Hydrometric Operations, who ensures provincial and national consistency of operation of the hydrometric network. They provide oversight on all safety aspects of program delivery within the oil sands as well as within the overall operations in Northern Alberta.
- Data Technologist (50%) provides support for upload and dissemination of hydrometric data while also providing a point of contact for users as a client interface for data inquiries. Also directly supports requirements for managing radio telemetry licencing and management of station metadata and data uploads onto national archive. Also supports the requirements and applications of land dispositions under the Provincial Lands Act (PLA)
- Water Resources Engineer (100%) provides engineering oversight towards engineered infrastructure installed and used as part of operation, directly supports the analysis and interpretation of annual hydrological conditions reporting, and leads on efforts for sediment monitoring including the implementation of continuous monitoring using hydroacoustic technology.
- Hydrological Modeler (30%) – provides support to using hydrological data for modelling efforts and current conditions reporting and contributes the overall predictive modeling efforts supporting oil sands initiatives.

Alberta Environment and Parks:

1. Climate Field Technologist – provides technical support for program and responsible for field operations supporting Climate Network and Snow Surveys

## 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
Climate Technologist	Provide support for operation of AEP Climate network and Snow Survey sites	30%

#### 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
Water Resources Engineer	Provides engineering oversight towards engineered infrastructure installed and used as part of operation, directly supports the analysis and interpretation of annual hydrological conditions reporting, leads on efforts on sediment monitoring including the assessment of continuous monitoring using hydroacoustic technology.	100%
Hydrometric Technologist	Provides support to Engineering for the planning, analysis, field work, and documentation associated with implementation of the sediment monitoring program.	30%
Hydrological Engineer	Provides support to modelling efforts that contribute to the	20%



	overall annual hydrological reporting as well as support to predictive modeling efforts that utilize hydrometric data for oil sands initiatives	
<i>Data Technologist</i>	Provide data quality assurance and control oversight. Support applications for Land Dispositions and management of metadata. Also provides direct support to clients on data inquires	50%
<i>Head of Operations - North</i>	Ensures provincial and national consistency of operation of the hydrometric network. They provide oversight on all safety aspects of program delivery within the oil sands as well as within the overall operations within Northern Alberta.	30%
<i>Hydrometric Supervisor</i>	responsible for managing the overall network operation I the oil sands region, establishing priority for station operation, life cycle management and undertakes approvals of and QA/QC for all station operations with the support of their team of technologist.	100%
<i>Hydrometric Technologist</i>	Operate, manage and compute data from a sub set of the Oil Sands Hydrometric Network	100%
<i>Hydrometric Technologist</i>	Operate, manage and compute data from a sub set of the Oil Sands Hydrometric Network	100%



<i>Hydrometric Technologist</i>	Operate, manage and compute data from a sub set of the Oil Sands Hydrometric Network	100%
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<i>Hydrometric Technologist</i>	Operate, manage and compute data from a sub set of the Oil Sands Hydrometric Network	100%
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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
<b>Salaries and Benefits</b> <i>(Calculated from Table 16.1.1 above)</i>	<b>30.00%</b>	<b>\$36,000.00</b>
<b>Operations and Maintenance</b>		
Consumable materials and supplies		\$1,000.00
Conferences and meetings travel		\$0.00
Project-related travel		\$42,000.00
Engagement		\$0.00
Reporting		\$0.00
Overhead		\$0.00
<b>Total All Grants</b> <i>(Calculated from Table 16.4 below)</i>		<b>\$0.00</b>
<b>Total All Contracts</b> <i>(Calculated from Table 16.5 below)</i>		<b>\$0.00</b>
<b>Sub- TOTAL</b> <i>(Calculated)</i>		<b>\$79,000.00</b>
Capital*		\$0.00
<b>AEP TOTAL</b> <i>(Calculated)</i>		<b>\$79,000.00</b>

\* 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
<b>Salaries and Benefits FTE</b>		
<i>(Please manually provide the number in the space below)</i>		
Salaries and Benefits		\$954,009.00
<b>Operations and Maintenance</b>		
Consumable materials and supplies		\$521,260.00
Conferences and meetings travel		\$2,500.00
Project-related travel		\$113,794.00
Engagement		\$0.00
Reporting		\$0.00
Overhead		\$133,648.00
<b>ECCC TOTAL</b>		<b>\$1,725,211.00</b>
<i>(Calculated)</i>		

\* 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.
<b>Category</b>	<b>Total Funding Requested from OSM</b>
Salaries and Benefits	\$0.00
<b>Operations and Maintenance</b>	
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
GRANT TOTAL <i>(Calculated)</i>	<b>\$0.00</b>

**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.
<b>Category</b>	<b>Total Funding Requested from OSM</b>
Salaries and Benefits	\$0.00
<b>Operations and Maintenance</b>	
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>	<b>\$0.00</b>

**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
<b>Salaries and Benefits</b> <i>Sums totals for salaries and benefits from AEP and ECCC ONLY</i>	\$990,009.00
<b>Operations and Maintenance</b>	
<b>Consumable materials and supplies</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$522,260.00
<b>Conferences and meetings travel</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$2,500.00
<b>Project-related travel</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$155,794.00
<b>Engagement</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
<b>Reporting</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
<b>Overhead</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$133,648.00
<b>Total All Grants (from table 16.2.1 above)</b> <i>Sums totals for AEP Tables ONLY</i>	\$0.00
<b>Total All Contracts (from table 16.2.1 above)</b> <i>Sums totals for AEP Tables ONLY</i>	\$0.00
<b>Sub- TOTAL</b>	\$1,804,211.00
<b>Capital*</b> <i>Sums total for AEP</i>	\$0.00
<b>GRAND PROJECT TOTAL</b>	\$1,804,211.00

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.

Funds from 2020-21 were slightly underspend largely due to the the issues of anaging with COVID-19. We are currently mid-year for 2021-22 but the the expenditures appear to be on target for this year.

## 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)
Quality Management Systems and Audit for NATIONAL Hydrometric Program	National Hydrological Services	\$47,000.00
Oil Sands Project Management for Hydrometric Operations	Senior Managers for NHS	\$26,000.00
Ammortized Capital Equipment for Hydrometric Operations (e.g., Trucks, jet boat, hydro acoustics, etc)	Standard capital assets used for program operations. Most capital assets for Oil Sands Monitoring are funded by ECCC and amortized over the life of the asset.	\$12,000.00
<b>TOTAL</b>		<b>\$85,000.00</b>



## 19.0 Consent & Declaration of Completion

**Lead Applicant Name**

Malcolm Conly

**Title/Organization**

Environment and Climate Change Canada

**Signature**

Click or tap here to enter text.

**Date**

2021-10-05

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

Click or tap here to enter text.

**Title/Organization**

Click or tap here to enter text.

**Signature**

Click or tap here to enter text.

**Date**

Click or tap to enter a date.



## PROGRAM OFFICE USE ONLY

### **Governance Review & Decision Process**

*this phase follows submission and triggers the Governance Review*

**TAC Review (Date):**

Click or tap to enter a date.

**ICBMAC Review (Date):**

Click or tap to enter a date.

**SIKIC Review (Date):**

Click or tap to enter a date.

**OC Review (Date):**

Click or tap to enter a date.

**Final Recommendations:**

**Decision Pool:**

Choose an item.

**Notes:**

Click or tap here to enter text.

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

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

**ICBMAC Review (Date):**

Click or tap to enter a date.

**SIKIC Review (Date):**

Click or tap to enter a date.

**OC Review (Date):**

Click or tap to enter a date.

**Comments:**

**Decision Pool:**

Choose an item.

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

Click or tap here to enter text.