

## 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.*

<p>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></p>	<p><b>October,5 2021</b> 4:30 PM MST</p>
<p><b>Decision Notification</b></p>	<p>Mid to Late January 2022</p>

*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\_Oi/SandsResiduesinFishTissue\_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\_Oi/SandsResiduesinFishTissue\_SmithJoe

202223\_sup02\_Oi/SandsResiduesinFishTissue\_SmithJoe

202223\_supIO\_Oi/SandsResiduesinFishTissue\_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>	Pea vine, Hear t River Quality/Qua ntity study
<b>Lead Applica nt, Organization, or Community:</b>	Peavine Metis Se tt lement Association
<b>Work Pla n Id ent ifier Numb er:</b> <i>If this is on on-going project please fill the ide ntifier number for 20/21 fiscal by adjusting the lost four digits: <b>Example:</b> D-1-2020 would become D- 1-2022</i>	B-CM-20-2122
<b>Project Region(s):</b>	Peace
<b>Project Start Year:</b> <i>First year funding under the OSM program was received for this project /if applicable)</i>	April 1, 2022
<b>Project End Year:</b> <i>Lost year funding under the OSM program is requested <b>Example:</b> 2022</i>	Marc h 30, 2023
<b>Total 2022/23 Project Budget :</b> <i>For the 2022/23 fiscal year</i>	\$208,78 3.00
<b>Re ques ted OSM Program Funding:</b> <i>For the 2022/23 fiscal year</i>	\$208,783.00
<b>Project Type:</b>	Community Based M on it oring
<b>Project Theme:</b>	Surfa ce Wa te r
<b>Anticipa ted Tota l D uration of Projects ( Co re and Focused Study (3 years))</b>	Ye ar 5
<b>Current Year</b>	<b>Focused Study:</b> Ye ar 1 of 3
	<b>Core Monitoring:</b> Ye ar 1

CONTACT INFORMATION	
<b>Lead Applicant/ Principal Investigator:</b> <i>Every work plan application requires one leadapplicant. This lead is accountable for the entire work pion andalldeliverables.</i>	Lynn Smith
<b>Job Title:</b>	Regio n al Planning Coordin ator
<b>Organization:</b>	Peav ine Me tis Settlement - Con sult at ion Depa rtmen t
<b>Address:</b>	Bag 4, Hig h Prairie, Alb ert a TOG 1E0
<b>Phone:</b>	(780)523-6036
<b>Email:</b>	Lynn .smi th @p eavinemet is.c om

## PROJECT SUMMARY

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

*I acknowledge and understand*

*In the space below please provide a summary (300 words max) of the proposed project that includes a brief overview of the project drivers and objectives, the proposed approach/methodology, project deliverables, and how the project will deliver to the OSM Program objectives. The summary should be written in plain language.*

This project aims to understand the local state of environmental conditions and changes in the Heart River associated with the Oil sands, through a collaborative, knowledge sharing process involving Peavine members, and Alberta Environment and Parks (AEP) discipline-specific experts. Traditional knowledge and western science data will be shared, combined, and analyzed to understand changes to aquatic resources in the Heart River region.

## 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 Q uestions) .
- 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.

Click or tap here to enter text.

## 2.0 Objectives of the Work Plan

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

- 1) Determine if there are perceived changes in the Heart River, including quantity and quality of waters that have resulted in, or contributed to, changed patterns of community use.
- 2) How have the current measurements of water quantity and quality changed from the past descriptions of the river
- 3) Determine Aboriginal Base Flow and Aboriginal Extreme Flow for the Heart River and see how it relates to the same values shown to occur in the Athabasca River.
- 4) Identifying key monitoring locations and culturally important locations, and determine if access and quality have changed in the Heart River
- 5) Supporting co- production between indigenous knowledge and western science, of data that will inform Environmental Science and Community members of changes in surface-water quality, quantity
- 6) Build Capacity for CBM programs with the Peavine Melis Settlement
- 7) further define/ describe PMS IK perspectives on surface water quality/quantity
- 8) contribute to OSM aquatics monitoring objectives/data collection

### 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:

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Surface Water

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### 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 off Community Based Monitoring Projects are Focused Studies.

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Focused Study (includes Community-Based Monitoring)

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### 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:

Quality

#### 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?

Fluctuating levels and flow have been identified by community members and verbal information from member's who physically visit the river. These concerns include occurrences of algae growth, the water tastes different at times and access and use of the river is changing. This project is of vital importance to our settlement as it is unknown currently as to the contribution of the Oil Sands on the Heart River due to lack of monitoring. (more frequent), water is low more often so ability to use the river for travel is chanaina, water tastes different and the colour is often brown and sometimes muddy, cloudy looking.

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

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

Data collection methods will be developed in collaboration with OSM core monitoring and community based monitoring personnel. All western science data that is collected will be considered 'open' and provided to the program; Peavine Metis Settlement will determine which Indigenous Knowledge data results will be provided, if any.

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

Yes, methodologies will combine both Indigenous Indicators (Aboriginal Base Flow and Aboriginal Extreme Flow) and Surface Water Technical Advisory Committee methodologies (CABIN and inclusion in the LakeKeepers program tailored to OSM will include parameters consistent with core OSM surface water quality monitoring and other parameters of interest to communities).

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

This project will provide key information related to Indigenous Rights and Culture around access to important areas, use of water as a drinking source, the Heart River is our community's source of drinking/potable water and the settlement's relationship to the land, and intergenerational knowledge transfer. The information collected and shared by Peavine will support in the overall OSM Program objective to develop Indigenous limits of change for social and ecological baselines, for aquatic resources. This project is based on the use of traditional knowledge and western science to better understand

environmental conditions, impacts and cumulative environmental effects related to oil sands development in the Peace River region from the Peavine Metis settlement perspective.

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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 project will link to the key themes within the EEM Framework of surface water quality/quantity, this project will provide key information related to Indigenous Rights and Culture around access to important areas, use of the river as a drinking/potable water source, as link to Peavine settlement relationship to the land, and intergenerational knowledge transfer related to aquatic resources. The information collected and shared by the Peavine Metis Settlement will support the overall OSM Program objective to develop Indigenous limits of change for social and ecological baselines.

In addition, the project will be linked directly to the following areas of the OSM Program:

Surveillance - explore the relationship between ALMCA membership and water quality to document effects on health and wellbeing, and aquatic resources.

Limits of Change - explore Peavine Metis Settlement indicators for change related to water quality and quantity.

Information collected and shared will address the following key knowledge gaps within the existing OSM Program and EEM Framework (based on Oil Sands Monitoring Key). Peavine will use these key questions as the foundation for developing and verifying the use of Aboriginal Base Flow and Aboriginal Extreme Flow as Indigenous Indicators. Remaining data gaps will be a core component for the development of the surface water quality monitoring program.

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

Yes, we intend to enter into data sharing agreements so that everyone can be informed of the state of our river if interested. Successful training for creating and maintaining a database and report interpretation will be conducive to successful reporting thus enabling sharing with government, and proponents.



**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

<p><b>Evaluation of Mitigation Criteria (Information Box Only- No action required)</b></p> <p>Your workplan will be evaluated against the criteria below. A successful workplan would</p>
<p>potentially inform management, policy, and regulatory compliance by documenting existing surface water indicators using Indigenous knowledge and scientific methods. Approval conditions for development in the area is considered in environmental compliance yet water quality/quantity changes are documented, then it will inform policy makers that current legislation is not sufficient for the desired outcome.</p> <p>This project will also document information about the valued components of the water resource that the Peavine Metis settlement traditionally uses which will inform policy makers when assessing gaps in current regulatory processes.</p> <p>The information collected in this program will inform the Peavine Metis Settlement and surrounding Communities" decision-making on continued traditional use and access.</p>

Explain how your monitoring program informs management, policy and regulatory compliance. As relevant give consideration for the EEM framework and the approved Key Questions.

## 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

<p>This program is run by Peavine Melis Settlement in collaboration with AEP/ECCC. This monitoring program is initiated by the community's concern for the continued use of the Heart River as a water source and inform questions posed by the community relating to surface water health. The data will be collected by the community relating to socio-cultural and western science indicators chosen or confirmed at community meetings. The indicators will answer questions relating to overall surface water quality health, and traditional knowledge.</p> <ul style="list-style-type: none"> <li>Investigate Indigenous communities key questions and concerns</li> <li>Includes culturally relevant receptor(s) and indicator(s)</li> <li>Include or be driven by Indigenous communities (participatory or collaborative)</li> </ul> <p><b>Develop capacity in Indigenous communities</b></p> <p>This project will build community capacity for future environmental monitoring. All research questions and indicators will be approved by Peavine Melis community members collaboratively during project development and any comments or concerns are addressed at a community meeting prior to each year of monitoring to ensure full consent is received. Monitoring activities will include elders, land users, and community monitors working together throughout all aspects of the program. All program activities are structured to facilitate the transfer of knowledge, skills, and values among community members and participants in the program.</p> <ul style="list-style-type: none"> <li>Include a Council Resolution or Letter of Support from one or more Indigenous communities</li> <li>Describe how ethics protocols and best practices regarding involvement of Indigenous peoples will be adhered to</li> <li>Provide information on how Indigenous Knowledge will be collected, interpreted, validated and used in a way that meets community Indigenous Knowledge protocols</li> </ul>
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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

Does this project include an Integrated Community Based Monitoring Component?

Yes

## 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.

This project will use analysis of historical data collected from the WSC NRT station 07AH003 (Heart River near Nampa), to determine hydrologic characteristics and trends. We will then use traditional knowledge to determine Aboriginal Base Flow and Aboriginal Extreme Flow measurements and other Indigenous Indicators to address community concerns



## 7.0 Accounting for Scale

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

Your work plan will be evaluated against the criteria below. A successful work plan would

potentially be: will use methods and materials aligned with core monitoring programs in the Aquatic Surface Water Technical Advisory Committees (TAC) which will allow the data to contribute to regional monitoring. Appropriate to the key questions and indicators of interest to the community will be used and will be relevant to sub-regional and regional questions relevant to the conditions observed by Elders 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.

## 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:

This workplan has deliverables to provide results to the Peavine Metis community, possibly other communities, and to the OSM program through various mediums including presentations, flyers/brochures, 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.

## 9.0 Efficiency

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

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

The proposed monitoring program aims to monitor the potential cumulative effects of oil sand activities and address the community concerns about the surface water quality of the Heart River which is the identified water use and justification for each staff member on the proposed work plan community identified and satisfied the resources (e.g., by community and approaches) are appropriately shared with other OSM projects where possible) western science which in turn leads to community's capacity building

- 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.

## **10.0 Work Plan Approach/Methods**

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

Phase 1 - Project Scoping and Work Planning

Task 1: Finalizing Updated Workplan and Budget

Peavine to prepare and submit workplan and budget (this proposal) for council review. Pending council approval, Peavine will receive an Authorization to Proceed to proceed with the project next steps.

Task 2: Connecting with OSM External Partners and Supports: Confirm connections with Paul Drevnick, Alberta Environment and Parks and Dr. Scott Ketcheson, Canada Research Chair in Hydrological Sustainability through a meeting to discuss capacity and supports available to the project.

Task 3: Dr. Ketcheson plot the level-flow graph to produce the rating curve (relationship between water level and flow) for Historical Data Heart River Near Nampa 1963-2022 to see if the community can use water level to show changes in the flow rate.

Phase 2 - Identification of Aboriginal Base Flow and Aboriginal Extreme Flow

Task 4: Workshop Development and Coordination: Consultant (TBD) to support Peavine in scheduling and developing a discussion to identify and determine Heart River ABF/ AEF. This discussion will allow Peavine to establish a baseline for surface water quantity/quality. The workshop will be open to the local public and participation will be advertised and encouraged.

Task 5: Facilitation of Workshop: Consultant (TBD) to facilitate a community discussion that will help determine baselines ABF/ AEF of the Heart River, particularly focusing on values of important areas, access and relationship to the land. This information will help assess and use Indigenous indicators already developed to be validated and applied in another area. This information will also assist in baseline of surface water quality. The information gathered by Elders and community members will strengthen the development of the Peavine Surface Water Quality Monitoring Program to better understand outstanding data gaps and identify future monitoring programs.

Task 6: training on western science methodologies CABIN, ALMS LakeKeeper programs, identify sites for monitoring, field preparation

Phase 3 - Surface Water Quality Monitoring Program Development

Task 7: Surface Water Quality Monitoring Program sample collection

Task 8: Analysis of data and compilation of results for presentations and community assessment

Phase 4: Final Data analysis and Reporting

**102** Describe how changes in environmental Condition will be assessed\*

Changes to surface water quality will be assessed using the following indicators: water quality (both visual and scientific methods, access, and traditional use. Changes in environmental condition will be determined by comparing results to historical data (including Indigenous knowledge).

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

Community Elders have been describing changes in their surface water quality/quantity which may indicate many potential environmental triggers including changing watercolor, taste, and odor and access to traditional sites. Traditional knowledge will inform the benchmarks which will be identified and used in conjunction with the available western scientific data to communicate the environmental conditions.

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

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

Phase 1: plot the level-flow graph to produce the rating curve (relationship between water level and flow to see if you can use water level to show changes in the flow rate from historical data Heart River

Near Nampa 1963-2021

Phase 2 Traditional Knowledge Assessment Aboriginal Base Flow and Aboriginal Extreme Flow based on (Craig Candler, Rachel Olson, Steve DeRoy and the Firelight Group Research Cooperative, with the Mikisew Cree First Nation. 2010. As Long As The Rivers Flow : Athabasca River Use, Knowledge and Change MCFN Community Report).

Phase 3 : CABIN, Alberta Lakes Monitoring Society Surface Water Quality Lakekeepers Program, Indigenous Indicator determination and confirmation.

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

The key Parameters to be measured as a part of the proposed project would be as follows: Surface water quality: dissolved oxygen, electrical conductivity, pH, temperature, turbidity, microbiological parameters (CABIN), polycyclic aromatic hydrocarbons, total and dissolved metals including mercury. Water Quantity key parameters will include Aboriginal Base Flow, Aboriginal Extreme Flow and water depth. The analysis will be confirmed based on community concerns and other constraints such as the budgets and the number of sampling locations. Analysis will be conducted as part of the Alberta Lakes Monitoring Society Lakekeepers program

## **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 based monitoring Knowledge gained will be shared with members of the Peavine Metis Settlement. The methods, and results, will be included in a report completed after each year of monitoring. The end-users of the monitoring program will be the Peavine Metis Settlement community who have reports documenting their concerns relating to surface water. This report will add to their collection of data documenting change on their land. The results will also be discussed in the community where the community can provide feedback for future monitoring. This poster can also be presented at science regional gathering proposed by ICBMAC. Should there be opportunity to further partner on work Peavine would look at sharing indigenous indicators developed through the program.

## **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 associated work plan/ grant/ contract for these services. • state none if not required

(Community Elders Representative) and Peavine Metis Settlement Community members,  
 Dr. Paul Drevnick - Principal Investigator Surface Water Quality Scientist (AEP)  
 Dr. Scott Ketcheson, Canada Research Chair in Hydrological Sustainability Athabasca University  
 Alberta Lakes Monitoring Society LakeKeeper's Program

\*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 Metis 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

**131** Has there, or will there be, a Data Sharing Agreement established through this Project? •

YES

**132** Type of Quantitative Data Variables:

Both

**133** Frequency of Collection:

Real Time

**134** Estimated Data Collection Start Date:

2022-06-01

**135** Estimated Data Collection End Date:

2023-03-31

**136** Estimated Timeline For Upload Start Date:

2022-10-03

**137** Estimated Timeline For Upload End Date:

2023-03-31

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

YES

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

*Add a Data Source by clicking on the table and then clicking on the blue "+" symbol on the bottom right side of table*

Name of Dataset	Location of Dataset (E.g.: Path, Website, Database, etc.)	Data File Formats (E.g.: csv, txt, API, accdb, xlsx, etc.)	Security Classification
<i>Western Science Data</i>	Laptop	Xlsx,cvs,text	Open by Default

<i>Traditional Knowledge, Indigenous Indicators</i>	Laptop	Cvs,xlsx,text,video, audio, maps	Protected by Default
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## 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
Choose an item.	Choose an item.	Click or tap here to enter text.

## 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.

Lynn Smith, Regional Planning Coordinator and Project Co-Lead  
Shay la Gauchier, Data Analyst and Project Co-Lead  
Dayna Cunningham, Financial Officer  
(Community Elders Representative) and Peavine Metis Settlement Community members,  
Dr. Paul Drevnick - Principal Investigator Surface Water Quality Scientist (AEP)(TBD)  
Dr. Scott Ketcheson, Canada Research Chair in Hydrological Sustainability Athabasca University(TBD)  
Alberta Lakes Monitoring Society Lake Keepers Program

## 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
Paul Drevnick	Principal Investigator Surface Water Quality Scientist	TBD

#### Table 16.1.2 ECCC

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

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

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**

<b>Organization – Alberta Environment &amp; Parks ONLY</b>	<b>Total% time allocated to project for AEP. staff</b>	<b>Total Funding Requested from OSM</b>
<b>Salaries and Benefits</b> <i>(Calculated from Table 16.1 .1 above)</i>	<b>0.00%</b>	
<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
<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>\$0.00</b>
Capital*		\$0.00
<b>AEPTOTAL</b> <i>(Calculated)</i>		<b>\$0.00</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# A/00, 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		\$
<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
<b>ECCC TOTAL</b>		<b>\$0.00</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	Peavine, Heart River Quality/Quality Study
GRANT RECIPIENT - ONLY: Organization	Peavine Metis Settlement
<b>Category</b>	<b>Total Funding Requested from OSM</b>
Salaries and Benefits	\$101,560.00
<b>Operations and Maintenance</b>	
Consumable materials and supplies	\$47,445.00
Conferences and meetings travel	\$8,340.00
Project-related travel	\$24,000.00
Engagement	\$18,438.00
Reporting	\$3,000.00
Overhead	\$6,000.00
GRANT TOTAL (Calculated)	\$0.00

**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: Orga nization	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 ma terials and supplies	\$0.00
Conferences and meetings travel	\$0.00
Pro jec t-rela ted 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>	\$0.00
<b>Operations and Maintenance</b>	
<b>Consumable materials and supplies</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
<b>Conferences and meetings travel</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
<b>Project-related travel</b> <i>Sums totals for AEP and ECCC ONLY</i>	\$0.00
<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>	\$0.00
<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>	\$0.00
<b>Capital*</b> <i>Sums total for AEP</i>	\$0.00
<b>GRAND PROJECT TOTAL</b>	\$0.00

Some examples of capital asset equipment include: laboratory equipment, appliances, boats, motors, field equipment, ATV's/snowmobiles, stationary equipment (pie r/ sig n/w ea ther), fire/safety equip ment, 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.

If there is cost overruns, Other funds will come from the Peavine Melis Settlement Consultation Department. Underspend funds would be returned to the OSM.

## 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)
Catering		1,200.00
Public Meeting space	Peavine Melis Settlement	\$1,200.00
<u>Zoo m M e e t i n g s</u>		TBD
<b>TOTAL</b>		<b>\$0.00</b>



### 19.0 Consent & Declaration of Completion

**Lead Applicant Name**

Lynn Smith

**Title / Organization**

Regional Planning Coordinator, Peavine Metis Settlement

**Signature**

Click or tap here to enter text.

**Date**

2021-10-25

**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**

2021- 10-25



## 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.