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 ***October 5, 2021 at 4:30 PM Mountain Standard time.***	***October 5, 2021*** *4:30 PM MST*
Decision Notification	*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**.

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**.*

WORK PLAN APPLICATION

PROJECT INFORMATION	
Project Title:	OSM Data Services
Lead Applicant, Organization, or Community:	Service Alberta
Work Plan Identifier Number: *If this is an on-going project please fill the identifier number for 20/21 fiscal by adjusting the last four digits:* ***Example:*** *D-1-2020 would become D-1-****2022***	D-2-2223
Project Region(s):	Oil Sands Region
Project Start Year: *First year funding under the OSM program was received for this project (if applicable)*	2018-19
Project End Year: *Last year funding under the OSM program is requested* ***Example: 2022***	Funding request is for 2022/23. However, this is for ongoing (project and operational) data services for the duration of the OSM program – there will be annual requests.
Total 2022/23 Project Budget: *For the 2022/23 fiscal year*	Click or tap here to enter text.
Requested OSM Program Funding: *For the 2022/23 fiscal year*	Click or tap here to enter text.
Project Type:	Longterm Monitoring
Project Theme:	Data Mgmt, Analytics and Prediction
Anticipated Total Duration of Projects (Core and Focused Study (3 years))	Choose an item.
Current Year	**Focused Study:** Choose an item.
	Core Monitoring: Choose an item.

CONTACT INFORMATION	
Lead Applicant/ Principal Investigator: Every work plan application requires one lead applicant. This lead is accountable for the entire work plan and all deliverables.	Ray Keller (Kevin Kelly, ECCC)
Job Title:	Senior Data Advisor, Data and GIS Services
Organization:	Service Alberta, Client Management
Address:	8th Floor Oxbridge Place, 9820-106th Street, Edmonton, AB T5K2J6
Phone:	(780) 427-0533
Email:	Ray.Keller@gov.ab.ca

PROJECT SUMMARY

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

☒ *I acknowledge and understand*

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

The two pillars of the OSM Program are credible environmental science and assessment and access to the data supporting the science. The OSM Data Services workplan provides the foundation and support to enable access to scienfitically credible data collected by the OSM Program to all stakeholders. The primary objective of the workplan is to provide technical services and support to data-related projects to achieve this goal. The Data Services workplan requires implementing a data management framework, data governance, and technical systems in order to support integrated reporting and assessment of environmental conditions in the Oil Sands region. Data collection, data quality, data management, and data availability are critical components for achievement of the OSM Program's objectives.

The Data Services team is an integrated team (Federal and Provincial) and undertakes and coordinates with OSM partners on the following portfolio of activities:

- Data Projects (acquisition, standardization, quality, and availability of core monitoring data);
- Supporting Projects (governance, data catalogues, data portal, web presence, and other supporting projects; and
- Operations (ongoing data quality assurance and integration, data ingestion, automation, application maintenance, infrastructure, and administration).

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 OSM Data Services work plan driven by three components to support the Program's mandate and is foundational to support an adaptive monitoring framework. Availability and access to scientifically credible data is required to effectively address any of the three primary questions above as well as the Environmental Effects Management framework. Relevant and integrated data must be known and made available for analysis - this is the core function of the Data Services Team.

A key goal of the Oil Sands Monitoring (OSM) Program is to bring together the data collected in the Oil Sand region into a centralized location, to allow for comprehensive reporting and scientific assessment. The Data Services workplan takes a phased approach, working with OSM Program participants supporting all key program functions (monitoring, evaluation, reporting) to identify current and future data assets and coordinate centralized data availability.

The activities of the OSM Data Services team the past three years have resulted in substantial development of the foundation to support OSM Data and Data Management. The key components of the world class data system and work activities focused on three primary components: 1) standing up and operation of an OSM Data Management System used to centralize and standardize monitoring data from across the program and publish OSM data through a public facing data portal; 2) Provide data management services in standardizing, automating and managing requirements for surface water quantity and quality, groundwater quality and quantity and air quality, including data governance; and 3) Develop and implement an OSM Data Catalogue, that provides access to a comprehensive view of all OSM Data Assets. OSM Data Catalogue contains an inventory of data collected under the OSM Program through its partners and provides access through a common interface

Since 2019/20 direction from the OSM Program has been to ensure a unified approach and vision by AEP, Service Alberta, and ECCC. Significant effort has gone into developing standardized data pipelines for the OSM Data system consisting of surface water, air and groundwater data. Other major efforts have added significant historical monitoring data to the system. Challenges around the lack of standardization, varying data quality and metadata and a lack of knowledge of historical monitoring programs have been encountered. A public-facing OSM Data Catalogue was published in 2021, after two years of system design, software development, data asset organization, documentation and user acceptance testing. This is a significant accomplishment considering data were acquired by AEP staff and external partners including the federal government, industry, and other non-government organizations. These efforts also include support for current and ongoing data and Information Technology projects and operations within the program. The Data Services workplan is structured (unlike many other OSM Program work plans) to reflect the operational and support nature of this team within the Program and Data Management environments. OSM Data Services also provides support to the OSM Program Office (technical and project support) and supplies resources to assist the Geospatial component of OSM.

2.0 Objectives of the Work Plan

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

OSM Data Services relies on many aspects of the OSM Program to deliver on its goals. It requires linkage to the Quality Assurance and Science plans to ensure scientific credibility is maintained in the data,

linkages to the Geospatial workplan for data interoperability and to the OSM Program for priority setting and direction. The Data Services workplan sets out to ensure data collected under the OSM Program are scientifically credible, available, accessible and comparable.

To fulfill those goals, the workplan sets out the following objectives to achieve the goals for data:
1. To implement, sustain, and evolve an integrated data management environment, including standards, data governance, and data catalogue for the OSM Program.
2. To provide open, transparent, searchable, and publicly accessible Oil Sands Monitoring Program data.
3. To support core OSM Program work plans and monitoring activities in building out data frameworks and standards.
4. To integrate and align data services efforts between the Province and ECCC.
5. To support and maintain operational delivery tools for the OSM Program

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:

Cross Cutting

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:

Choose an item.

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?

Click or tap here to enter text.

2. Are changes in water quality and/or water quantity and/or biological health 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. 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?

Click or tap here to enter text.

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

Click or tap here to enter text.

3.3.2 Groundwater Theme

3.3.2.1 Sub Themes:

Choose an item.

3.3.2.2 Groundwater Key Questions

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

1.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. 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 are 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:

Data Management

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?

Yes. This work plan is for the Data Services Team who receive or direct data providers. We work with all monitoring and data themes to ensure data is being provisioned according to OSM Program requirements. Activities in this work plan are establishing data governance and foundations (inventory, metadata standards) required to expand the existing OSM data management system and overall data sharing environment.

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

Yes. The OSM Data Services team has developed standardized process and operating procedures for the OSM Data Management System and OSM Data Catalogue. The processes and procedures have been put in place to standardize using industry best practices. A review of standard operating processes and methods are continually monitored as part of ongoing operations and planning activities.

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

The Data Services team works continuously with all data-related projects and themes to establish standards required for integration and to respond to the Program's integration needs.

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?

The data collected must be scientifically credible and to be made available for the scientific assessment required to support the EEM framework. Access to historical data and analysis provides the key feedback mechanism to support changes to monitoring requirements.

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?

This work plan's activities are focused on ensuring data is available to advance understanding of all conceptual models.

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

Yes. the data is the foundation to scientific assessment. The entire State of Environment Reporting hinges on data that is scientifically credible and available.

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.

OSM Data Services are a core enabler for the program to inform management, policy, and compliance, based on data collection, integration, and availability. This Data Services work plan facilitates the data governance and systems required for use by the Program to address it's mandate. In regards to the EEM specifically, the data provides the foundation for the EEM Framework with access to the scientific credible data to allow sound analysis in the environment.

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

Indigenous Communities are involved through representation on SIKIC and the Data Integration TAC, providing direction to this project and its activities.

The foundational activities within this work plan are to provision and enable access to data. The support and interface with Community Based Monitoring will be established as required, and through discussion with all stakeholders involved. While this workplan does not directly have a Community Based Monitoring Component, discussions are underway to look at sharing and collaborative opportunities between the ICBMAC and OSM Data Services.

Does this project include an Integrated Community Based Monitoring Component?

Choose an item.

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 work plan forms the foundation (credible scientific data, data availability and robust toolsets) that enables the OSM Program to identify environmental changes and baselines, required to meet the Program's mandate. The requirement for baseline and trending assessments is having a long time series of data to base the scientific analysis on. Putting together a data series involves putting together data from previous monitoring programs, all of which have differing standards and data quality. Significant work is required by OSM data staff and scientists to put together a time series of data that is scientifically credible.

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.

This work plan forms the foundation (credible scientific data, data availability and robust data toolsets) that enables the OSM Program to track and analyze integrated data at different spatial and temportal scales, and the data is the foundation for all scenario modelling, including cumulative effects.

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.

The Data Services work plan is the mechanism for the OSM Program to make generated data accessible to all stakeholders. The vision is for centralized access to OSM funded data, in a manner that services the mandate of the Program. While significant progress has been made in centralizing core data under the Program, without the core governance, infrastructure, and systems in place, transparency will remain limited and key scientific objectives will be more difficult to achieve.

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.

The Data Services team works on an ongoing basis with other OSM projects and support groups to establish alignment of data efforts across the Program. Data Services is part of the integration TAC and is to represent data requirements holistically and to remain informed of data-related activities across core monitoring areas. The team now moves into a combination of operations and projects, which build off the data foundation built over the past few years. The next phase of work involves collaborating and integrating with other key initiatives, such as Environment Canada and Climate Change and with community-based projects to establish requirements and expand the data services roadmap.

The role of the resources within the Data Services team is shifting as a result of operationalizing the OSM Data Management Platform and recently completed OSM Data Catalogue. The past three years, the team focused on development of the key foundational components. The Data Services workplan is an on-going requirement, as new data is collected every year and is to be added to the system as well as the significant portion of historical data, that is varying in state of maturity. The team will need guidance into data prioritization and will be done along side operational requirements. It is anticipated that 40% of staff time will now be dedicated to operational type activities. That being said, now that they are in operation, work will move to the next phase, which will include adding additional data and data pipelines (both historical and new), expanding the scope of both platforms, improving functionality and exploring collaborative opportunites to leverage the Data Management Platform to stakeholders.

10.0 Work Plan Approach/Methods

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

There are four key areas that make up the 2022-23 OSM Data Services workplan. As key Phase 1 deliverables have been put into operation, the workplan now consists of three different, but related services: 1) on-going operations and improvements, 2) incremental, new and historical data additions, and 3) new projects or initiatives.

1. OSM Data Management Platform

The OSM Data Management Platform provides two major components in delivering the data management component for the OSM Program. The Data Management Platform collects, stores and provides access to OSM Monitoring Data as well as contains a world class built in toolset to allow users to ensure scientific credibility of the data is maintained. The Platform also contains a public facing Data Portal to allow users to interact with the data. Significant progress has been made since the system was procured in 2019, with the initial phase adding current surface water, air and groundwater data being built and automated within the system. There remains a considerable volume of data (both historical and new data) outside the system and not available to users. The next phase will shift to focus on new data themes, adding historical data to current themes and improving/expanding user experience and usage.

On-going Operations and Improvement – Tasks and Key Deliverables

- Continue to chair and lead weekly Data Governance meetings for the OSM Data Management Platform
- Refine and enhance communication protocols to allow for the sharing of data, regardless of source, on the central OSM Data Portal
- Gather new requirements for Data Portal Enhancements
- Maintain and develop data pipelines to automate data delivery from field collection to the data portal
    - Develop Operating Plan for OSM Data Management Platform
- Monitor, triage and manage operational disruptions to the data system, data pipeline or data updates
- Iteratively improve data models, data quality and data completeness
    - Develop QC Protocols for Sonde Data
    - Develop Data Audit Protocol
- Maintain and enhance Field Electronic Data Deliverable (EDD) standards for field staff and laboratories
    - Explore opportunities with ICBMAC to share standards
- Collaborate with scientists/partners to improve data quality, data presentation and data understanding
- Develop consistent processes and standards to ensure data integrity and quality
- Update, maintain and enhance an OSM Data Roadmap to support planning and data activities

Quarterly communication (or as required) – incremental data or new data updates

- Surface water quality: operate, ingest new/historical data
- Surface water quantity (level/ flow): operate, ingest new/historical data
- Groundwater quality: operate, ingest new/historical data
- Groundwater quantity: operate, ingest new/historical data
- Air: operate, ingest new/historical data

Incremental data updates are dependent on the field collection or frequency of collection. For example, quality components are determined by field season timing and associated laboratory processing times – therefore updates are often adhoc but are typically seasonal. Most quantity components are updated monthly.

Data Themes – Tasks and Key Deliverables

New data themes focus for 2022/23:

- Meteorological/Climate
- Aquatic biota (tied to KiEco)

- Terrestrial/ biological: (tied to KiEco)
- Wetlands
- Community-based monitoring
- ECCC data (water, air)

New data themes will follow the data pipeline process steps, which include scoping, mapping data, configuring database and system, validation and verification and finally publication. Timing on project timelines and deliverables is determined by: quality of the data, state of documented metadata, scientific expertise availability and internal workload (influenced by operational activities). Each of the new themes will go through these steps and based on the state of maturity and availability of resources, the associated project plans will be put in place upon completion of the scoping phase.

OSM Data Management System – New modules, enhancements, improved performance and functionality

- KiEco module
- New Test Environment / Increased hosting capacity
- Data Portal enhancements and improvements
- OSM Data Management System/OSM Catalogue integration

Each of the new initiatives are significant, and some cases multi-year efforts, scoping of the work will be required to break work into phases and to determine effort through the design, develop and operate stages.

2. OSM Data Catalogue

The third major component of the OSM Data infrastructure is the OSM Data Catalogue. Work on the Catalogue continues to evolve into an integrated inventory and catalogue of OSM Monitoring Program data available to all stakeholders. The Data Catalogues' vision is to provide an overview of all OSM Data assets as well as provide the ability to download large volumes of data. Release of Phase 1 of the OSM Data Catalogue, in the Fall of 2021, provided public access to the initial phase of development - a viable proof of concept that catalogues (stores and links to) data and datasets collected under the OSM Program. The initial phase focused on data currently residing outside of the OSM Data Management Platform to expose as much data as possible. There remains a considerable volume of data (both historical and new data) to be catalogued and input into the catalogue, a lot of which is not currently available to users. Phase 2 will focus on adding historical data, tighter integration with ECCC and Indigenous and Community Based Monitoring, and improved user experience.

On-going Operations and Improvement – Tasks and Key Deliverables

- Update/maintain an OSM Data Asset Inventory
- Development of a Data Governance and Priority Plan for the OSM Data Catalogue
- Gather new requirements for Data Catalogue Enhancements
- Maintain and enhance metadata standards and data tree development
- Monitor, triage and manage operational disruptions to the data catalogue
- Iteratively improve user experience, data quality and data completeness
    - Add new functionality such as dataset ratings and frequency
- Collaborate with scientists/partners to improve data quality, data presentation and data understanding
- Quarterly communication (or as required) – incremental data or new data updates to Data Catalogue

Updates to data in the Catalogue will be determined by timelines of the data providers. The role of the Data Services team is to facilitate the inputting of the metadata and assist in publishing the datasets.

Improved integration

- ECCC integration
- Indigenous and Community Based Monitoring
- OSM Data Management System/OSM Data Catalogue integration
    - Develop process/improvements (on-going)
- OSM Data Catalogue/Geospatial Portal integration

Each of the new initiatives are significant, and some cases multi-year efforts, scoping of the work will be required to break work into phases and to determine effort through the design, develop, operate stages. In some cases, scoping work is already underway at the time of the workplan submission and a more detailed workplan will be available in the near future.

New data focus and new content

- Cataloguing and consolidating historical monitoring data (continuous)
- Additional/new data sets (continuous)
- Publications and technical reports published in Data Catalogue

Timing on project timelines and deliverables is determined by: quality of the data, state of documented metadata, scientific expertise availability and internal workload (influenced by operational activities). Each of the new themes will go through these steps and based on the state of maturity and availability of resources, the associated project plans will be put in place upon completion of the scoping phase.

3. OSM Program – Supporting Projects

OSM Data Services provides technical and data services to support and maintain OSM Program Office initiatives. Support to the Program Office includes new project work, on-going maintenance of technical environments (such as State of Environment Reporting), and consulting advice. This workplan contains new projects identified for the OSM Program Office, which would require support and resources from the OSM Data Services team.

On-going Operations and Improvement – Tasks and Key Deliverables

- Triage, develop and provide technical support to OSM Website and other web content
- Maintain technical environment supporting State of Environment Reporting
- Maintain and enhance OSM Workplan template
- Maintain , support and enhance OSM Workplan technical environments required for submission and OSM Program reporting

Most work is providing technical maintenance, support and guidance to the Program Office.

Geospatial Program Support

- Increase the accessibility, management, and maintenance of geospatial data in the Oil Sands Region through a work-progress centralized OSM Program Geospatial Data Portal
- Enable internal and external users to visualize, summarize, and analyze geospatial data in the Oil Sands Region
- Enhance and maintain access to OSM Geospatial Data Portal through OSM Program Geospatial Data Catalogue's

Data Services provides resources to support individual TAC workplans to ensure geospatial data follows a consistent approach across the TAC's. Data will be stored within the Geospatial infrastructure and will be available to all users through the Geospatial Portal.

Indigenous and Community Based Monitoring

- Meetings with ICBMAC to scope and gather requirements (likely 2-4 for requirements, 2-4 for building and testing) for community based assessment to integrate community/indigenous data and monitoring data with OSM Data Management Platform/OSM Data Catalogue
- Determine a technical solution for a reporting dashboard
- Develop a dashboard prototype(s) for community based assessment – based on requirements

This project is in support of ICBMAC to develop a reporting dashboard to assist communities in understanding environmental context in their area. This project will integrate community and traditional ecological knowledge with monitoring data within the OSM Data Management Platform/Catalogue. Funding provides the technical

support/capacity and possible procurement of a tool to deliver a dashboard prototype.

New Program Office initiatives/projects
- Development and implementation of OSM Website
- OSM Workplan document and tool

This project is in support of Program Office develop a new OSM Website as well as overhauling the OSM Workplan Process. Funding supports maintenance and hosting for the OSM Website and possible technical support (in development at time of writing of the workplan). The funding for the Workplan Process and tool is for technical support/capacity and possibly procuring new technology/tool to deliver the project.

4. Technical Environment Improvements
OSM Data Services team provides technical support to data management activities in the OSM Program. This involves developing new technical environments, maintaining and ensuring technical environments are operational, available to stakeholders and ensuring technical services are not interrupted or discontinued. In addition to the list below, the team is responsible for the technical environment of the OSM Data Management System, identified above.

On-going Operations and Improvement – Tasks and Key Deliverables
- Ensuring OSM Data Management System, OSM Data Catalogue, Data Modelling servers, Application, Software and Field Equipment are working and are in a state of readiness
- Managing vendor and data support contracts are required to deliver OSM Data Management
- Ensuring software licenses and contracts are in place and updated to ensure no disruptions in service to stakeholders
- Develop technical standards to ensure data interoperability and transfer to and amongst stakeholders
- Develop, maintain and update technical data components to support data sharing and automation

New Projects
- Transfer of Cloud Services (Azure) to GOA Infrastructure

This project involves moving Amazon web services to GOA Amazon web services. This move will result in lower hosting costs going forward and allow further integration with other GOA/Program cloud offerings. The timing of the project will be determine by readiness of GOA IT.
- Kisters Architecture Review

Project to look for opportunities to streamline GOA Kisters Platforms to improve efficiency and interoperability. Potential savings to OSM through reduced license costing. Project details need to be scoped and a project plan determined.

5. Potential New Initiatives (NOT funded in 2022-23 Workplan)
- Data reporting
    - Preliminary scoping required
    - Provide a service to support building base data reporting tied to State of Environment Report

10.2 Describe how changes in environmental Condition will be assessed *

N/A for OSM Data Services, however this work plan enables these activites for the Program.

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

NONE

(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 *

N/A for OSM Data Services, however this work plan enables these activites for the Program.

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

N/A for OSM Data Services, however this work plan enables these activites for the 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.*

This work plan facilitates the transfer of knowledge amongst OSM Program stakeholders by providing for data sharing and availability of data, products, publications, online material, and other documentation and information.

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

This work plan relies on external parties to deliver data and technology services and systems, required for the evolution and maintenance of the OSM Program's data, technology, and information environments. These partners include:
- Service Alberta (FTE skills and support)
- CGI (FTE skills and support)
- Kisters (OSM Data Management system software, environment, and technical resources)
- Other technology vendors (document sharing environment, OSM website development, architectural review, hosting services, proposed project to facilitate work planning, approval, and funding process, etc.)

*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:

Other

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?

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
Data sets are as produced and submitted by Program data-producing work plans. Planned data sets to be made available include all core monitoring data, with a priority on "Current" – 2017 and later.	Cloud environment consisting of data catalogue, data warehouse environment and Portal (of which Kisters systems are a component). There are three main delivery components to access the data: OSM Data Portal, OSM Geospatial Portal and OSM Data Catalogue	Data is available in numerous formats through the OSM Data Portal, OSM Geospatial Portal and the OSM Data Catalogue	Open 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
Other (Describe in Description Section)	Choose an item.	As stated in Section 10, the OSM Data Services workplan consists of on-going operations and improvement as well as new project initiatives. Due to the nature of the operational aspects, deliverables and key milestones are stated in Section 10 and often are a result of operational impacts. The new projects will be included below, as they have a definitive project timeline. Also, the workplan contains support for other key initiatives, such as the Geospatial work. This support is dependent on numerous TAC's workplans and details around deliverables are stated in the individual TAC workplans. Therefore timing and level of support is dependent on the TAC workplans.
Other (Describe in Description Section)	Q1	Quarterly updates on new data themes/data sets added to the OSM Data Portal and OSM Catalogue.
Other (Describe in Description Section)	Q2	Quarterly updates on new data themes/data sets added to the OSM Data Portal and OSM Catalogue.
Other (Describe in Description Section)	Q3	Quarterly updates on new data themes/data sets added to the OSM Data Portal and OSM Catalogue.
Other (Describe in Description Section)	Q4	Quarterly updates on new data themes/data sets added to the OSM Data Portal and OSM Catalogue.
Other (Describe in Description Section)	Q1	Implementation of new OSM Website

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.*

The core project team for Data Services reports to Service Alberta (four positions are in transition to Service Alberta) and/or Service Alberta contracts – with the exception of ECCC staff.

Service Alberta has a total of seven full time (not all permanent) staff supporting the workplan. Additional technical support is contracted within Service Alberta or to Service Alberta contracts.

Unlike most workplans, this workplan is about providing a service to support data management activities, and while small projects are part of the workplan (operational, new, historical, improvement), the operational aspects of the service are they key deliverable – data available through a variety of mediums to access and discover OSM Data Assets.

Another important aspect of this workplan, it that by being service orientated, the workplan delivers services across many aspects of the OSM Program, TAC and stakeholders. Any changes in the workplan are often collaborative with the stakeholders, to either rimprove services, modify services or add new initiatives to improve on overall OSM Goals and Objectives. The workplan has addressed as many known factors in its development and has the ability to adjust within a given Program year. Of note, reductions to the resources in the workplan have direct impacts to workplans in other areas of the Program, such as the Program Office, stakeholders, partners and TAC's.

The structure and nature of the team is shown in the supplement provided. The intent is to provide an expert, knowledgable team of supporting skills, allowing for greater integration with Service Alberta and ECCC technical areas, and to facilitate greater alignment of data-related activities to enhance OSM Program monitoring work plan activities.

The Data Services Team works very closely with the Scientists and partners in regards to the data collection, data validation, data verification, data registration and data ingestion to ensure scientific credibility of the data is maintained and documented.

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
It is expected that all human resources for the Data Services team will be Service Alberta, ECCC, or contract resources (through Service Alberta). No AEP Staff members are expected in 2021/22.	Seven (six data/technical experts, one manager) plus contract resources to deliver OSM Data Services workplan (see additional resources under contracts)	0%

Table 16.1.2 ECCC

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

Name (Last, First)	Role	% Time Allocated to Project
Kevin Kelly	ECCC Data Management Services	10%
Victor Sandoval	ECCC Data Management	25%
Elena Ahuanlla	ECCC Data Management	25%

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

Section 16.2 Financing

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

PROJECT FINANCE BREAKDOWN TEMPLATE (CTRL+CLICK HERE)

Table 16.2.1 Funding Requested BY ALBERTA ENVIRONMENT & PARKS

Organization – Alberta Environment & Parks ONLY	Total % time allocated to project for AEP staff	Total Funding Requested from OSM
Salaries and Benefits *(Calculated from Table 16.1.1 above)*	**0.00%**	**$0.00**
Operations and Maintenance		
Consumable materials and supplies		$0.00
Conferences and meetings travel		$0.00
Project-related travel		$0.00
Engagement		$0.00
Reporting		$0.00
Overhead		$0.00
Total All Grants *(Calculated from Table 16.4 below)*		**$0.00**
Total All Contracts *(Calculated from Table 16.5 below)*		**$2,237,000.00**
Sub- TOTAL *(Calculated)*		**$2,237,000.00**
Capital*		$0.00
AEP TOTAL *(Calculated)*		**$2,237,000.00**

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

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

Table 16.2.2 Funding Requested BY ENVIRONMENT & CLIMATE CHANGE CANADA

Organization – Environment & Climate Change Canada ONLY	Total % time allocated to project for ECCC staff	Total Funding Requested from OSM
Salaries and Benefits FTE *(Please manually provide the number in the space below)*		
Salaries and Benefits		$80,000.00
Operations and Maintenance		
Consumable materials and supplies		$0.00
Conferences and meetings travel		$0.00
Project-related travel		$0.00
Engagement		$0.00
Reporting		$0.00
Overhead		$50,000.00
ECCC TOTAL *(Calculated)*		**$130,000.00**

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

Table 16.3

Complete ONE table per Grant recipient.

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

GRANT RECIPIENT - ONLY: Name	Click or tap here to enter text.
GRANT RECIPIENT - ONLY: Organization	Click or tap here to enter text.
Category	**Total Funding Requested from OSM**
Salaries and Benefits	$0.00
Operations and Maintenance	
Consumable materials and supplies	$0.00
Conferences and meetings travel	$0.00
Project-related travel	$0.00
Engagement	$0.00
Reporting	$0.00
Overhead	$0.00
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	Service Alberta Data Services
CONTRACT RECIPIENT - ONLY: Organization	Service Alberta
Category	**Total Funding Requested from OSM**
Salaries and Benefits	$852,000.00
Operations and Maintenance	
Consumable materials and supplies	$5,000.00
Conferences and meetings travel	$0.00
Project-related travel	$5,000.00
Engagement	$0.00
Reporting	$0.00
Overhead	$20,000.00
CONTRACT TOTAL *(Calculated)*	**$882,000.00**
CONTRACT RECIPIENT - ONLY: Name	Service Alberta – Geospatial Support
CONTRACT RECIPIENT - ONLY: Organization	Service Alberta
Category	**Total Funding Requested from OSM**
Salaries and Benefits	$120,000.00
Operations and Maintenance	
Consumable materials and supplies	$0.00
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	0
CONTRACT TOTAL *(Calculated)*	**$120,000.00**
CONTRACT RECIPIENT - ONLY: Name	BOX
CONTRACT RECIPIENT - ONLY: Organization	Licensing costs
Category	**Total Funding Requested from OSM**
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	0
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	$0.00

Overhead	$30,000.00
CONTRACT TOTAL *(Calculated)*	**$30,000.00**
CONTRACT RECIPIENT - ONLY: Name	Azure Web Services
CONTRACT RECIPIENT - ONLY: Organization	Application Hosting
Category	**Total Funding Requested from OSM**
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	0
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	$95,000.00
CONTRACT TOTAL *(Calculated)*	**$95,000.00**
CONTRACT RECIPIENT - ONLY: Name	OSM Data Management Platform/Portal
CONTRACT RECIPIENT - ONLY: Organization	Kisters North America
Category	**Total Funding Requested from OSM**
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	0
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	$250,000.00
CONTRACT TOTAL *(Calculated)*	**$250,000.00**
CONTRACT RECIPIENT - ONLY: Name	Data Services Technical Support
CONTRACT RECIPIENT - ONLY: Organization	CGI
Category	**Total Funding Requested from OSM**
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	0
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	$250,000.00
CONTRACT TOTAL *(Calculated)*	**$250,000.00**
CONTRACT RECIPIENT - ONLY: Name	Data Services Technical – Geospatial
CONTRACT RECIPIENT - ONLY: Organization	CGI

Category	Total Funding Requested from OSM
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	0
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	$200,000.00
CONTRACT TOTAL *(Calculated)*	**$200,000.00**
CONTRACT RECIPIENT - ONLY: Name	Supporting Projects
CONTRACT RECIPIENT - ONLY: Organization	ICBMAC Dashboard Project, Website design/implement, new work plan system, data catalogue tool, publications, architectural review
Category	**Total Funding Requested from OSM**
Salaries and Benefits	0
Operations and Maintenance	
Consumable materials and supplies	0
Conferences and meetings travel	0
Project-related travel	0
Engagement	0
Reporting	0
Overhead	$410,000.00
CONTRACT TOTAL *(Calculated)*	**$410,000.00**

Table 16.5 GRAND TOTAL Project Funding Requested from OSM Program

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

Category	Total Funding Requested from OSM
Salaries and Benefits ***Sums totals for salaries and benefits from AEP and ECCC ONLY***	$80,000.00
Operations and Maintenance	
Consumable materials and supplies *Sums totals for AEP and ECCC ONLY*	$0.00
Conferences and meetings travel *Sums totals for AEP and ECCC ONLY*	$0.00
Project-related travel *Sums totals for AEP and ECCC ONLY*	$0.00
Engagement *Sums totals for AEP and ECCC ONLY*	$0.00
Reporting *Sums totals for AEP and ECCC ONLY*	$0.00
Overhead *Sums totals for AEP and ECCC ONLY*	$50,000.00
Total All Grants (from table 16.2.1 above) *Sums totals for AEP Tables ONLY*	$0.00
Total All Contracts (from table 16.2.1 above) *Sums totals for AEP Tables ONLY*	$2,237,000.00
Sub- TOTAL	$2,367,000.00
Capital* *Sums total for AEP*	$0.00
GRAND PROJECT TOTAL	$2,367,000.00

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.*

As stated earlier, the OSM Data Services budget has been broken down into three service elements: OSM Data Management, Geospatial Services and ECCC.
1.Service Alberta – this budget pertains to the OSM Data Management Platform/Portal, OSM Data Catalogue, OSM Program Projects and support, ICBMAC support and technical services.
Total - $1,767,000
2. Geospatial Support – this budget pertains to support to the Geospatial elements contained within individual TAC workplans and the Geospatial Portal. NOTE: This was in a separate workplan in 2021/22
Total - $320,000
3. ECCC – this budget pertains to ECCC Data Management services.
Total - $130,000

Total Budget - $2,217,000

Throughout 2022/23, the Data Services workplan will manage cost over/underruns on an ongoing monthly and quarterly basis through consolidated reporting from all participants. As this workplan contains a set of services to deliver on the workplan, there is two aspects to the funding – one operational costs of maintaining the services and two, additional project work which requires additional capacity or new skill sets. The Data Services workplan has underspent on the project work over the past year due to contractual and procurement delays for the OSM Data Management Platform as well as the Program Office not initiating key projects, such as the Workplan Project. Other key initiatives, such as the OSM Website, began later in the fiscal year due to approval delays and has taken a different direction as a result, which will also reduce the budget required. While these delays are outside of the control of the OSM Data Services team, they create implications to the overall spend of the workplan – one of the challenges of having a "service" orientated workplan.

Any reductions to the 2022/23 budget will require re-scoping of projects, services, improvements and enhancements and potentially implicating public-facing web and data portals/systems. This workplan puts together a collective services approach to deliver on all components of the workplan – operational deliverables, improvements and enhancements, new, historical and incremenetal data additions, and project based work. As stated earlier, the services identified in the workplan span across the OSM Program. As data is acquired through numerous TAC's and partners and the Data Services workplan addresses all of those dependencies (including geospatial services). Also, other initiatives support the Program Office, ICBMAC and other key governance bodies.

Governance has been an area that could greatly assist the OSM Data Services team. Further clarity and input is required to help guide the OSM Data Management Platform and OSM Data Catalogue work to improve on the foundation in place. The OSM Data Management Platform has weekly roundtable sessions between the Data Services team and Principle Investigators, where priorities and scope items are discussed and addressed. A similar body for the OSM Data Catalogue is in development. In lieu of full governance being established, the work plan will endeavor to respond to any changing Program priorities or activity requirements from other work plan streams, and will adjust as necessary with direction from SIKIC, TACs, and other OSM governance bodies.

Risks and barriers that exist to delivery in 2022/23 include:
- Resource capacity and ability to procure required resources.

- Delays in contracting processes required to deliver. - Any additional transition for the team or technical environment. - Lack of directional input to assist with improvements and priorities for data theme addition, OSM Data Management Platform/Portal and Data Catalogue - Strong dependencies on other Program areas and work plans to fulfill their requirements to provide data and dedicated resources to their data-related activities.

18.0 Alternate Sources of Project Financing – In-Kind Contributions

Table 18.1 In-kind Contributions

Add an In Kind Contribution by clicking on the table and then clicking on the blue "+" symbol on the bottom right side of table.

DESCRIPTION	SOURCE	EQUIVALENT AMOUNT ($CAD)
Click or tap here to enter text.	Click or tap here to enter text.	$0.00
	TOTAL	**$0.00**

19.0 Consent & Declaration of Completion

Lead Applicant Name

Ray Keller

Title/Organization

OSM Data Services Lead/Senior Data Advisor, Service Alberta

Signature

Click or tap here to enter text.

Date

Click or tap to enter a date.

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.