

**Calgary Metropolitan Region Board  
Agenda - Land Use & Servicing Committee Meeting  
January 18, 2024, 9:00 AM, Go-To Meeting**

**\*MEETINGS ARE RECORDED & LIVE-STREAMED\***

*CMRB Admin will utilize the recording function on GoToMeeting as a backup recording in case internet connection is lost and CMRB's YouTube account is unable to record the meeting. When the recording function is enabled, you will hear an audio prompt notifying that the meeting is being recorded.*

***The purpose of this meeting is to convene, discuss and make decisions regarding recommendations to the Calgary Metropolitan Region Board.***

- |  |              |                        |           |
|--|--------------|------------------------|-----------|
| 1. Call to Order & Opening Remarks   |              | Clark                  |           |
| 2. Land Acknowledgment   |              | Carra                  |           |
| 3. Adoption of Agenda  |              | All                    |           |
| <b><i>For Decision: Motion to adopt and/or revise the agenda</i></b>   |              |                        |           |
| 4. Review and Approve Minutes  | (Attachment) | All                    | <b>3</b>  |
| <b><i>For Decision: Motion that the Committee review and approve the Minutes of the November 16, 2023 meeting</i></b>  |              |                        |           |
| 5. ESA Database  | (Attachment) | Tipman/<br>O2 Planning | <b>5</b>  |
| <b><i>For Decision: Motion that the Committee recommend to the Board for approval the Environmentally Sensitive Areas Database</i></b>   |              |                        |           |
| 6. Water Roadmap   | (Attachment) | Graves                 | <b>39</b> |
| <b><i>For Decision: Motion that the Committee recommend to the Board approval of the Water Road Map Update</i></b>   |              |                        |           |
| 7. CMRB Drought Response   | (Attachment) | Graves                 | <b>93</b> |
| <b><i>For Decision: Motion that the Committee recommend that the Board direct CMRB Administration to work together with member municipal administrations to coordinate region-wide drought preparation actions</i></b> |              |                        |           |
| 8. Board Strategic Initiatives Update  | (Attachment) | Graves                 | <b>98</b> |
| <b><i>For Information: Motion that the Committee receive for information an update on Board initiatives</i></b>  |              |                        |           |
| 9. Next Meeting: Thursday March 14, 2024 @ 9:00 AM   |              |                        |           |
| 10. Adjournment  |              | Clark                  |           |

Committee Members:

Deputy Mayor Tina Petrow (Airdrie) Vice Chair  
 Councillor Gian-Carlo Carra (Calgary)  
 City of Chestermere  
 Mayor Jeff Genung (Cochrane)  
 Deputy Reeve Don Waldorf (Foothills)  
 Councillor Suzanne Oel (Foothills)  
 Mayor Craig Snodgrass (High River)  
 Councillor Brent Robinson (Okotoks)  
 Reeve Crystal Kissel (Rocky View)

Upcoming Meetings:

Board Meeting	Friday February 9 @ 9:30 AM	City of Airdrie
Land Use & Servicing Committee	Thursday March 14 @ 9:00 AM	GoTo Meeting
Governance Committee	Friday March 8 @ 9:00 AM	GoTo Meeting

*The Calgary Metropolitan Region is honored to be in the traditional territory of the Siksika, Kainai, and Piikani Nations of the Blackfoot Confederacy; the Tsuut'ina Nation; the Bearspaw, Chiniki, and Goodstoney Nations of the Stoney Nakoda; and the home of Métis Nation of Alberta Region 3.*

*In the spirit of truth and reconciliation the CMRB is actively working to build meaningful and mutually beneficial long-term relationships with Indigenous Nations and communities in and around the Region.*

Minutes of the Meeting of the  
Land Use and Servicing Committee  
of the Calgary Metropolitan Region Board  
on Thursday November 16, 2023 by Go-To Meeting

**Delegates in Attendance:**

Mayor Peter Brown – City of Airdrie  
Councillor Gian-Carlo Carra – City of Calgary  
Mayor Jeff Colvin – City of Chestermere  
Councillor Mel Foat – City of Chestermere  
Mayor Jeff Genung – Town of Cochrane  
Deputy Reeve Don Waldorf – Foothills County  
Councillor Suzanne Oel – Foothills County  
Mayor Craig Snodgrass – Town of High River  
Councillor Jenny Jones – Town of High River  
Councillor Brent Robinson – Town of Okotoks  
Reeve Crystal Kissel – Rocky View County  
Deputy Reeve Don Kochan – Rocky View County

**CMRB Administration:**

Greg Clark, Chair  
Jordon Copping, Chief Officer  
Liisa Tipman, Director of Regional Planning  
Jaime Graves, Director of Regional Projects  
Shelley Armeneau, Office Manager

**1. Call to Order**

Chair Clark called the meeting to order at 9:00 AM and Mayor Snodgrass provided a land acknowledgement.

**2. Approval of Agenda**

**Moved by** Deputy Reeve Waldorf, **Seconded by** Deputy Reeve Kochan, accepted by Chair.

**Motion:** That the Committee approve the agenda.

**Motion carried unanimously.**

**3. Review Minutes**

**Moved by** Mayor Genung, **Seconded by** Deputy Reeve Kochan, accepted by Chair.

**Motion:** That the Committee approve the Minutes of the October 19, 2023 meeting.

**Motion carried unanimously.**

#### 4. Vice Chair Election

Following a change in CMRB representation at the Town of Okotoks organizational meeting in October, the position of Vice Chair became vacant. An email was circulated by CMRB Administration inviting eligible members to volunteer for the position or nominate another individual for the role. Deputy Mayor Petrow self-nominated for the position by email. Although she was not in attendance at the meeting, Councillor Carra formally nominated her for the role and Mayor Genung seconded.

**Moved by** Councillor Carra, **Seconded by** Mayor Genung, accepted by Chair.

**Motion:** That the Committee elect Deputy Mayor Tina Petrow as Vice Chair of the Land Use & Servicing Committee.

**Motion carried unanimously.**

#### 5. Board Strategic Initiatives Update

**Moved by** Mayor Snodgrass, **Seconded by** Mayor Brown, accepted by Chair.

**Motion:** That the Committee receive for information an update on Board Initiatives.

**Motion carried unanimously.**

**Moved into closed session @ 9:07 AM. Returned to public session @ 9:59 AM.**

#### 6. Infrastructure Canada Permanent Public Transit Fund

**Moved by** Councillor Carra, **Seconded by** Councillor Robinson, accepted by Chair.

**Motion:** That the Committee recommend that the Board approve the Canada Transit Fund TAG Terms of Reference at the December 15, 2023 meeting of the CMRB.

**Motion carried.**

7. **Next Meeting:** Thursday January 18, 2024 @ 9:00 AM.

8. **Adjourned @ 10:05 AM.**

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Chair Greg Clark

<b>Agenda Item</b>	<b>5</b>
<b>Submitted to</b>	<b>Land Use &amp; Servicing Committee</b>
<b>Purpose</b>	<b>For Decision</b>
<b>Subject</b>	<b>Environmentally Sensitive Areas Database</b>
<b>Meeting Date</b>	<b>January 18, 2024</b>
<i>Motion that the Committee recommend to the Board for approval the Environmentally Sensitive Areas Database</i>	
<p><b>Summary</b></p> <ul style="list-style-type: none"> <li>• The project charter for the Environmentally Sensitive Areas (ESA) Database was approved in July 2022. O2 was selected as the preferred proponent, beginning the project in Q4 2022. This project is a continuation of the work done on the 2019 ESA Background Report which recommended a definition of regional ESAs and some potential paths forward for considering ESAs in regional planning.</li> <li>• The project's overall goal is to create and maintain a regional ESA database that allows the CMRB and member municipalities to incorporate consideration for regional ESAs into studies and reports. It enables a common approach to identifying and mapping ESA systems and functional units in the CMR. Several municipalities have requested the ESA database for Municipal Development Plan and Joint Planning Area Context Study work.</li> <li>• The database establishes common regional definitions and values related to ESAs that can be used to support cross-boundary planning and inform large-scale planning processes. This is a high-level dataset that is not intended to replace site-level planning for ESAs.</li> <li>• O2 has presented the draft database to Land Use TAG and municipal experts for review and comment using an online viewer. The Land Use TAG was invited to provide comments and feedback in both September and December 2023. All feedback received was considered and incorporated as appropriate.</li> <li>• In June 2023, O2 provided the Land Use and Servicing Committee with an update on the project.</li> <li>• The project work has been completed ahead of schedule and on budget.</li> </ul>	
<p><b>Attachments</b></p> <ul style="list-style-type: none"> <li>• Environmentally Sensitive Areas Database Project, O2 Planning and Design</li> </ul>	

## 1. Project Background

As the Government of Alberta does not have a standard definition for Environmentally Sensitive Areas (ESAs), and the CMRB Regulation required policies for the identification of ESAs, a 2019 ESA Background Report was completed to identify a shared definition of regional ESAs and inform the development of Growth Plan policies. The 2019 ESA Background Report also recommended paths to incorporating ESAs into the future work of the Board, including a recommendation to create a regional ESA database.

This project builds on previously agreed-to concepts contained within the 2019 ESA Background Report. Its goal is to create and maintain a regional ESA database that allows the CMRB to effectively incorporate consideration for regional ESAs into CMRB studies and analyses. It also enables the regional-scale mapping and identification of larger ESA systems and functional units in the CMR.

Regional ESAs are defined using criteria related to water, species and habitat, biodiversity, and other ecosystem services. Information provided by member municipalities, the Government of Alberta, and many external partners, allows the database to combine spatial layers together in ways that identify larger spatial patterns of ESAs in the region. This database therefore enables more efficient mapping, information sharing, and cross-boundary collaborative stewardship of ESAs.

This database does not replace site specific ESA investigations, nor does it replace the municipal ESA planning and review process. This dataset is focused on the regional scale and illustrates trends and patterns in ESAs indicating where further investigation or additional policy considerations might be appropriate.

Several member municipalities have requested access to the ESA database information to support larger scale planning efforts, including Joint Context Studies and Municipal Development Plans.

## 2. Process

In late 2022, O2 met with the Land Use TAG to provide an overview of the project. O2 subsequently met with representatives from individual member municipalities to discuss data needs for the project and worked with numerous external organizations to acquire datasets related to the CMRB's approved ESA definition. A project update was provided to TAG in May 2023, and to LUSC in June 2023, at the end of Phase 1 of the project. O2 create a web mapping tool to facilitate review of the draft ESA data by Land Use TAG members and municipal environmental experts in September 2023, with updated data being provided for a second review in very early December 2023.

O2 has provided CMRB Administration with a summary of recommended ways to maintain the database and has created tools to simplify these updates for CMRB staff to promote ease of updating.

The project was expected to take 1.5 years to complete but is being delivered several months ahead of schedule. Scoping/tendering occurred in Q3 2022 with the project commencing in Q4 2022. The draft final project has been completed on budget, including costs for final project closure.

### **3. Recommendation**

That the Committee recommend to the Board for approval the Environmentally Sensitive Areas Database Project.





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# CMRB Environmentally Sensitive Areas Database

O2 Planning + Design

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Agenda Item 5i

**LAND USE AND SERVICING COMMITTEE**

**January 19, 2024**



# Agenda

Overview

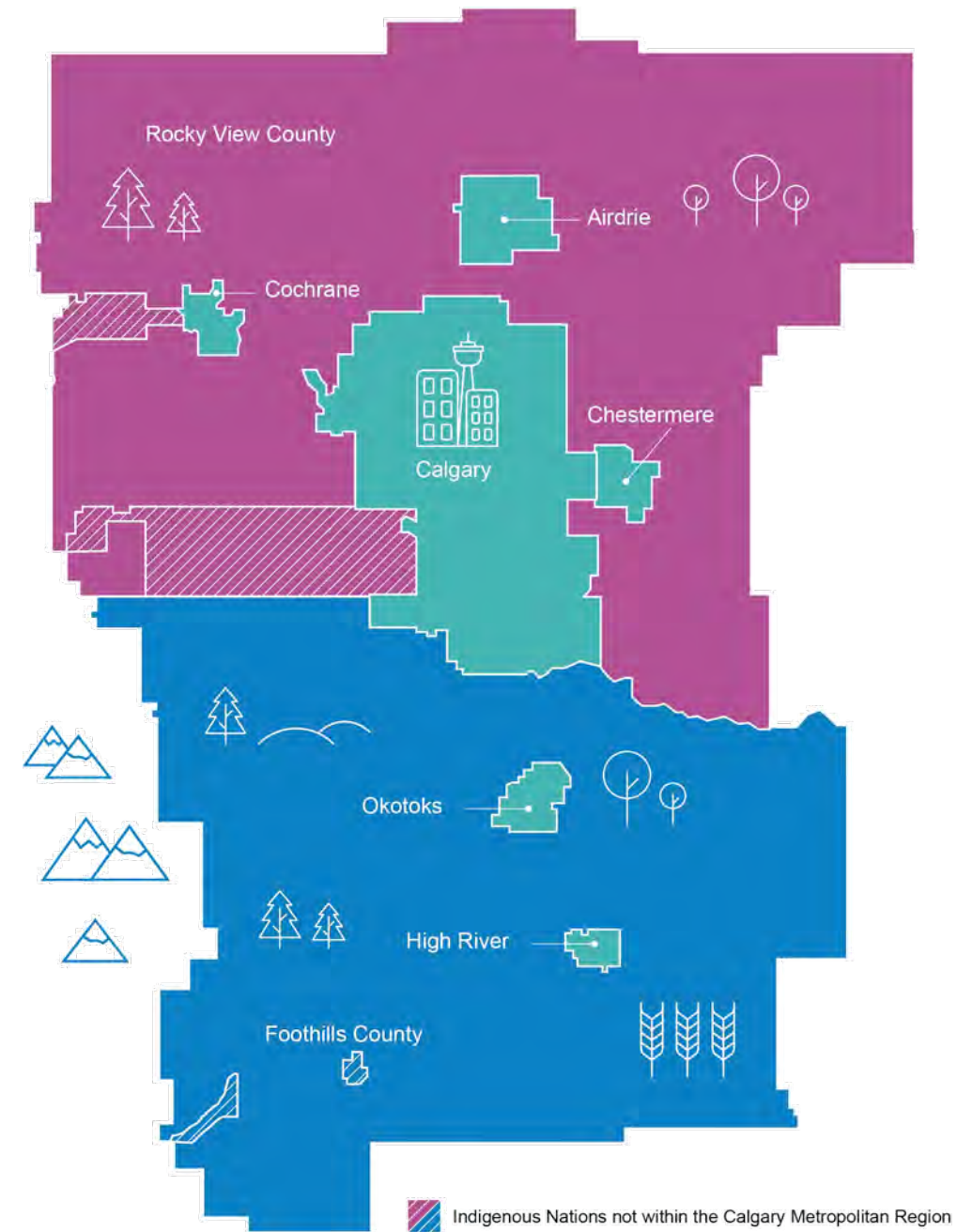
Project Finalization

Recommendations

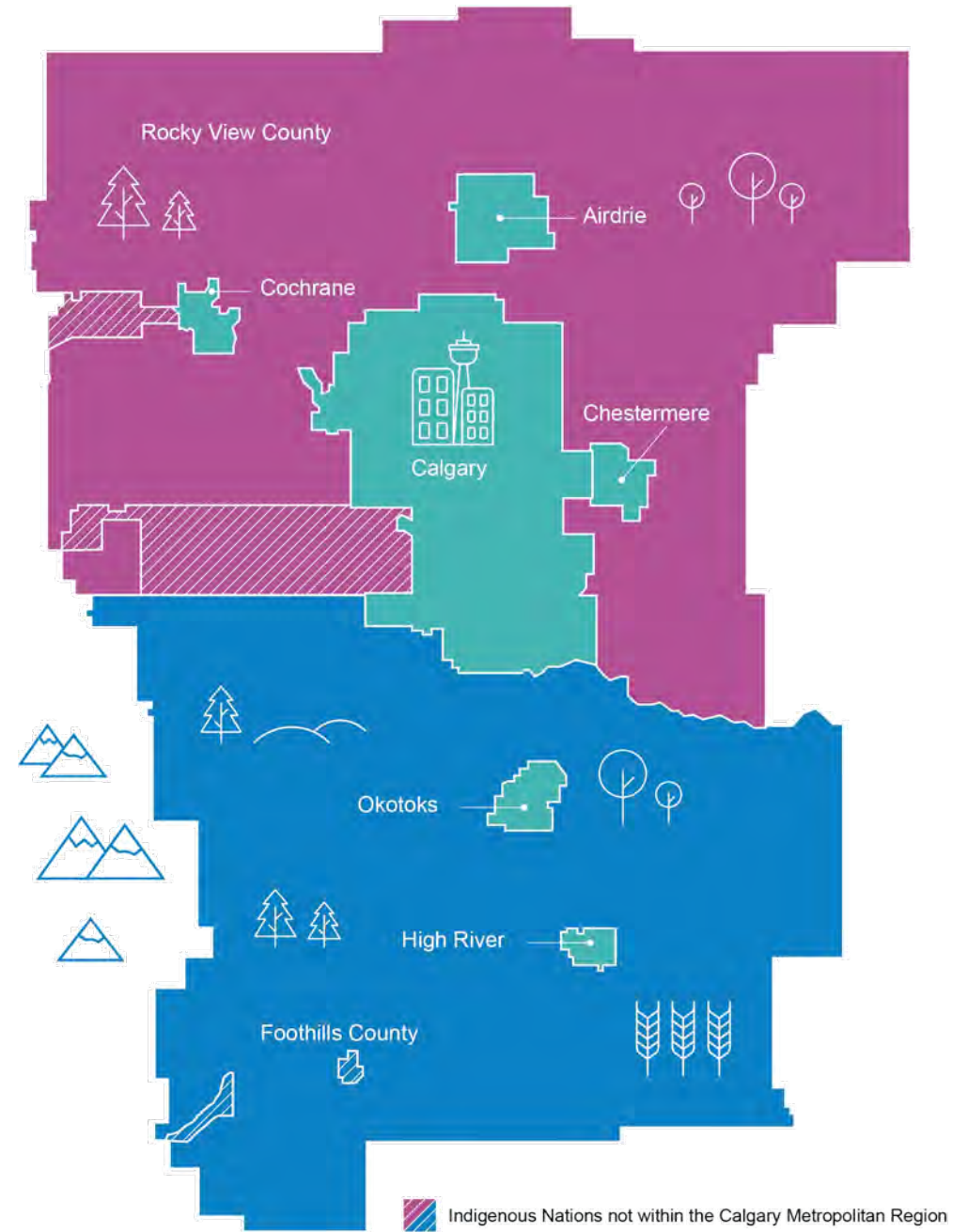
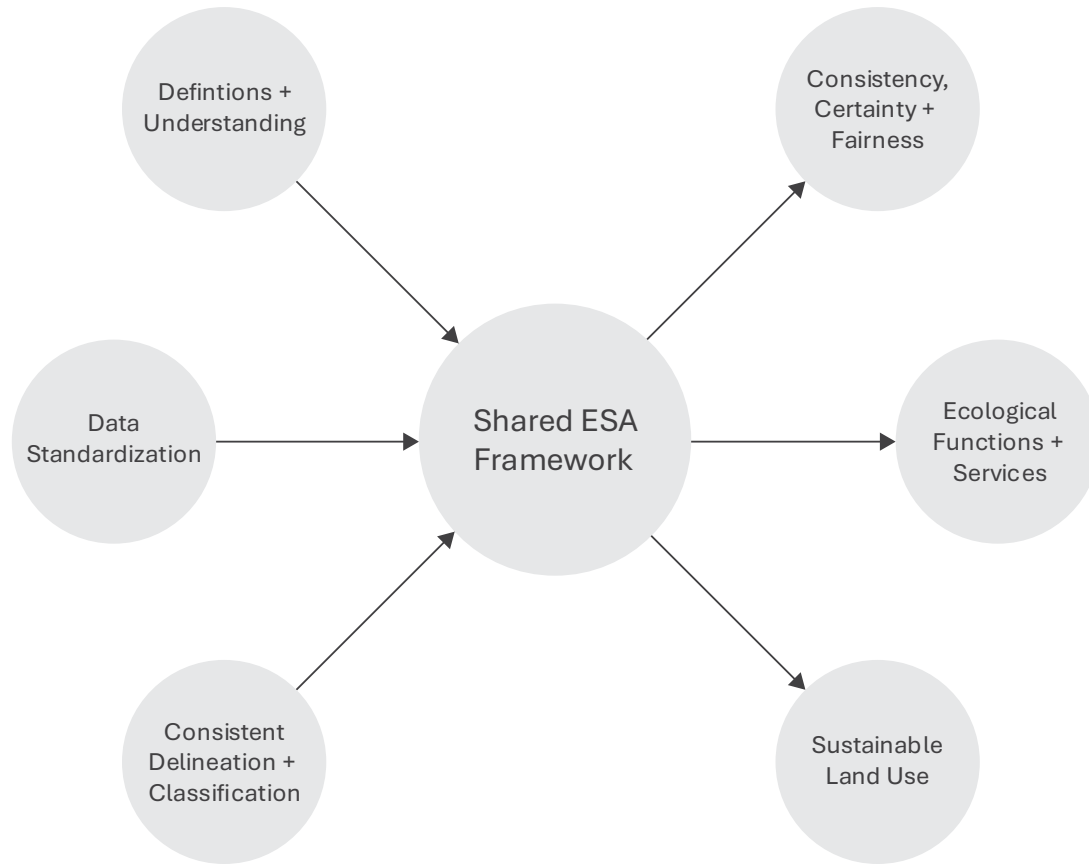
Next Steps

# CMRB Vision

*“Building on thousands of years of history, we welcome everyone to join us in living happy, healthy, and prosperous lives in a spectacular natural environment. We are a world leading region built on hard work, resilience, helping others, and a deep respect for nature. We use our land wisely, share our services, and care for our wildlife, air, and water. We grow together.”*



# Project Goals



# Benefits of a Regional ESA Database

**Consistent  
understanding of  
ESAs in the region**

**Preservation of key  
ecological  
functions + services**

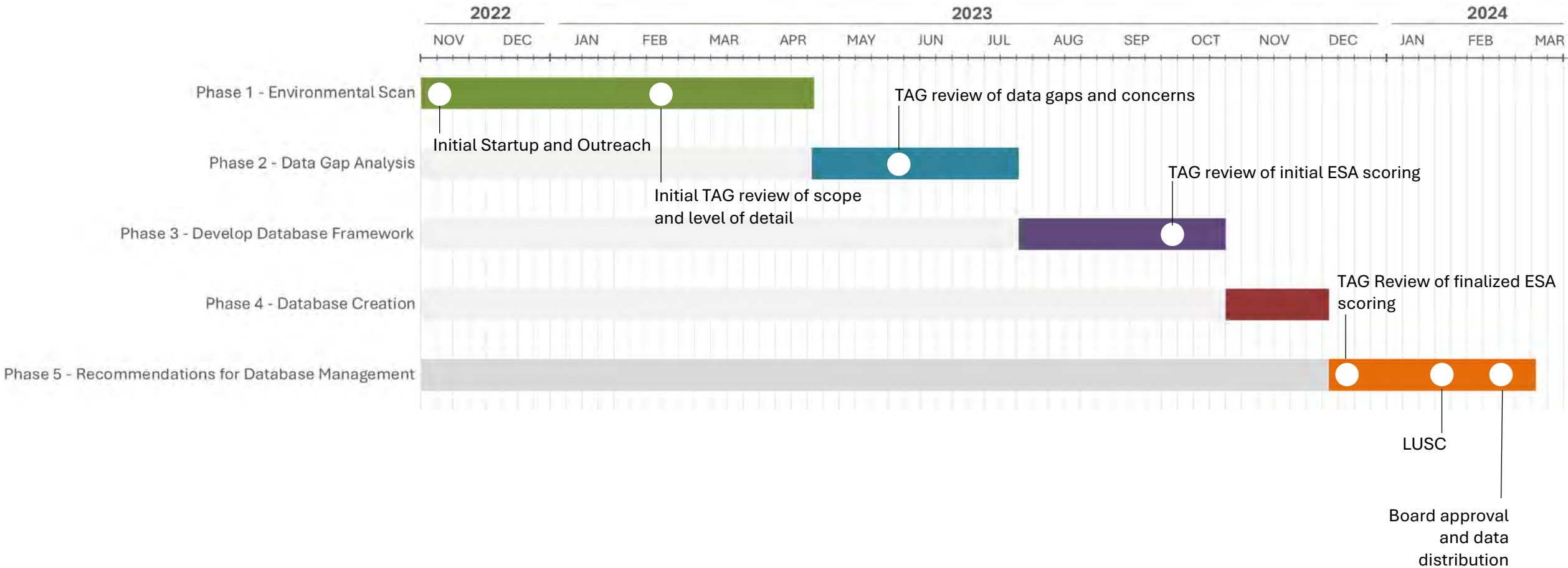
**Sustainable  
development**

**Informed decision  
making**

**Foster stewardship**



# Project Overview



# Regional ESA Criteria

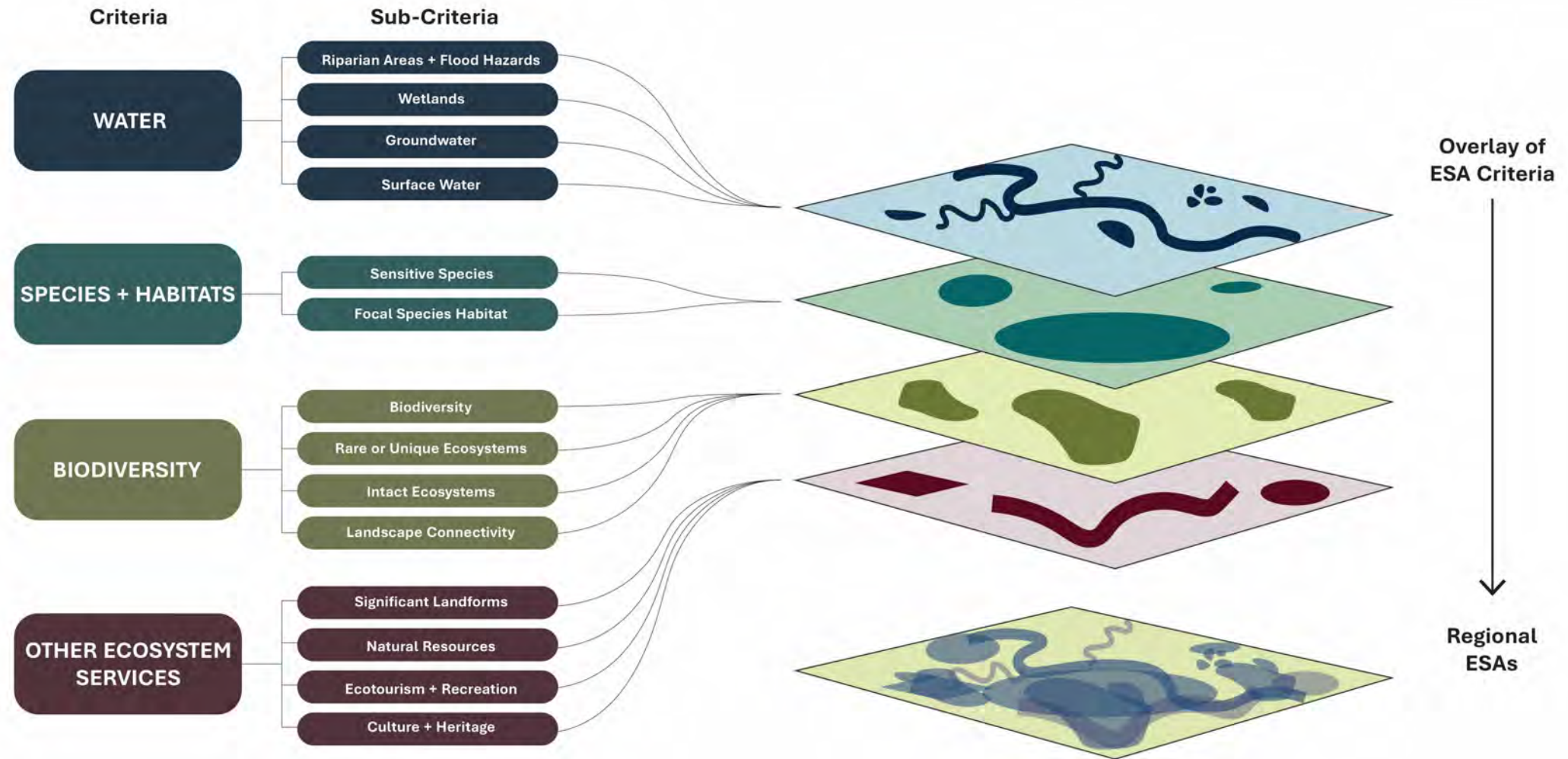
**WATER**

**SPECIES + HABITATS**

**BIODIVERSITY**

**OTHER ECOSYSTEM  
SERVICES**

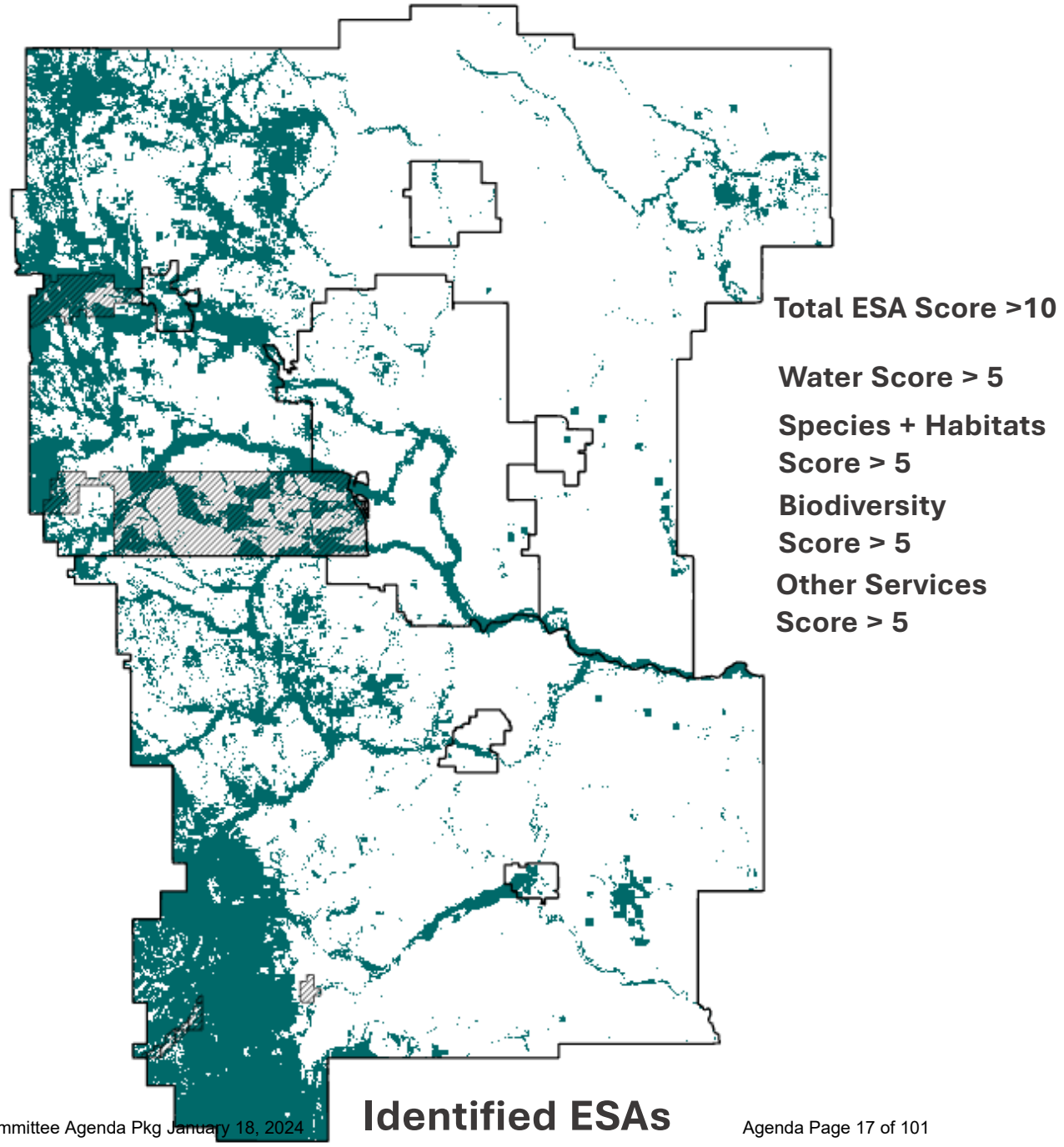
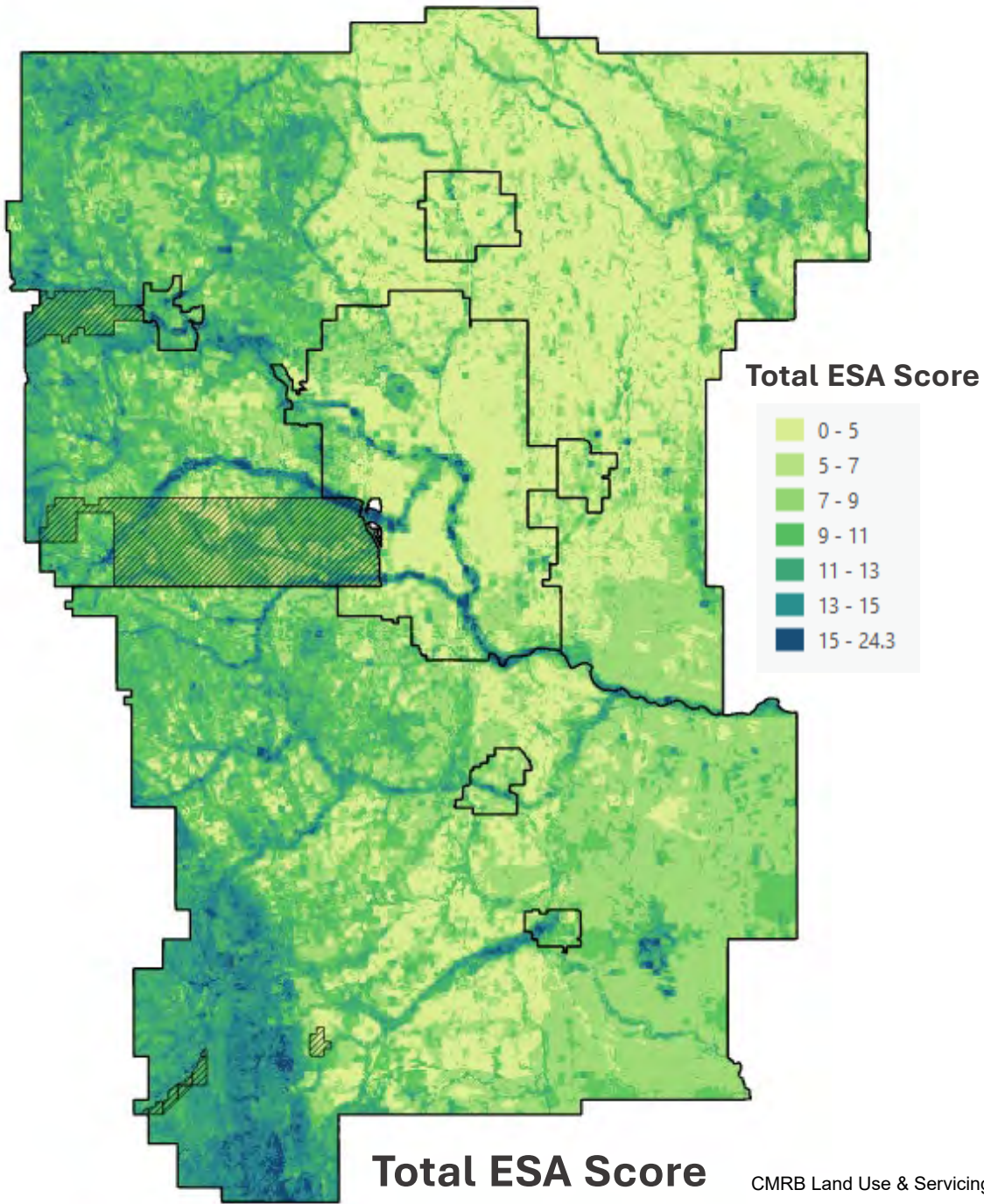
# Framework Overview





# Results





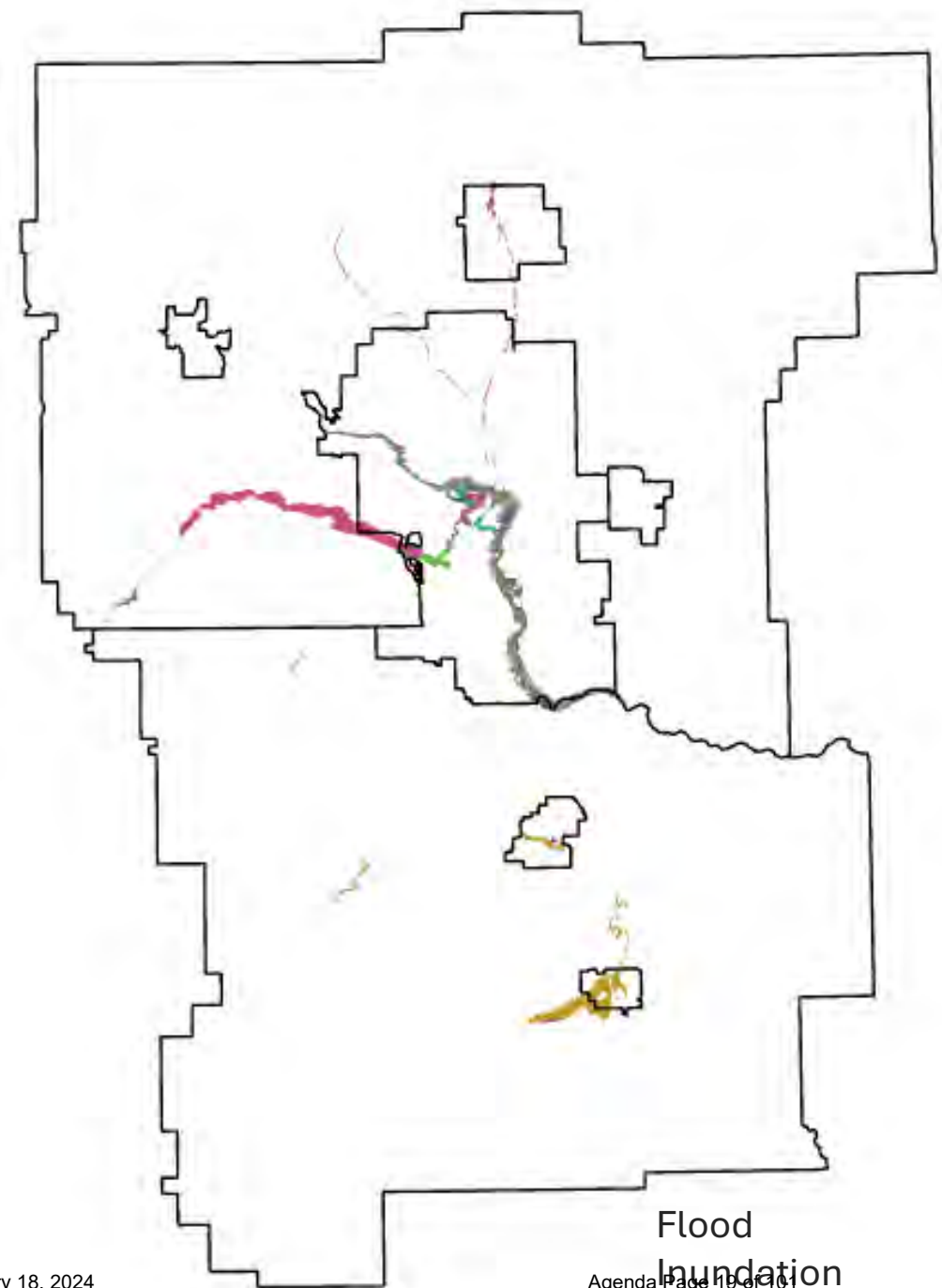


An aerial photograph of a mountainous region, likely in the Sierra Nevada mountains. The terrain is rugged with numerous ridges and valleys. A prominent river valley runs through the center of the image, with a winding river visible. The overall color palette is muted, with various shades of brown, tan, and grey, suggesting a semi-arid or high-altitude environment. The lighting creates strong shadows, emphasizing the topography.

# Project Finalization

# Final Data Updates

- Updated Parks (City comments)
- Updated Wetlands (Bow River Basin)
- **Updated Flood Inundation**
- Completed Landscape Connectivity
- Completed Trail Usage
- Completed Provincial Recreation Resources
- Completed Wetland Complexes
- Removed Aggregate Potential
- Removed Saline Wetlands
- Removed River Valley Landform

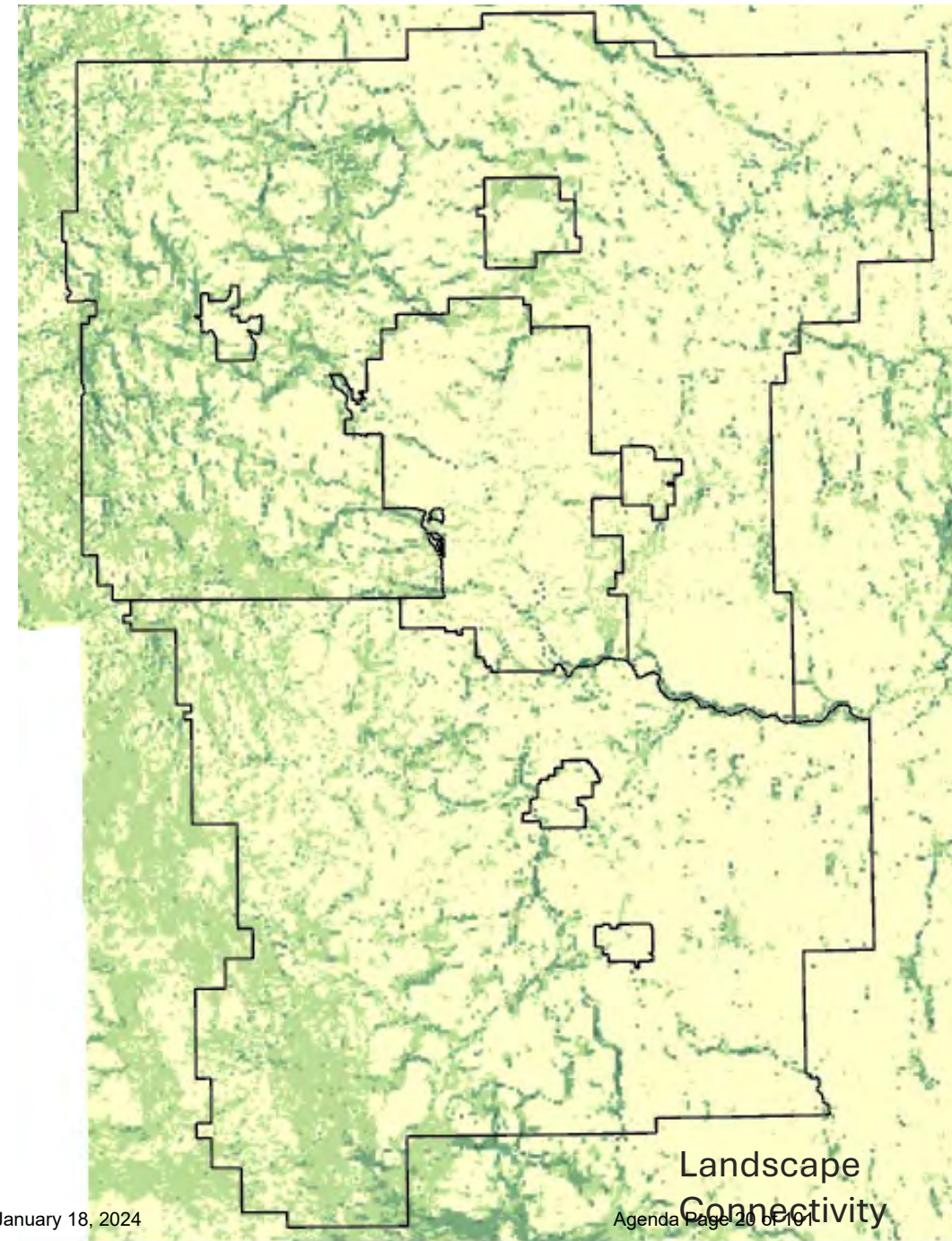


Flood  
Inundation



# Final Data Updates

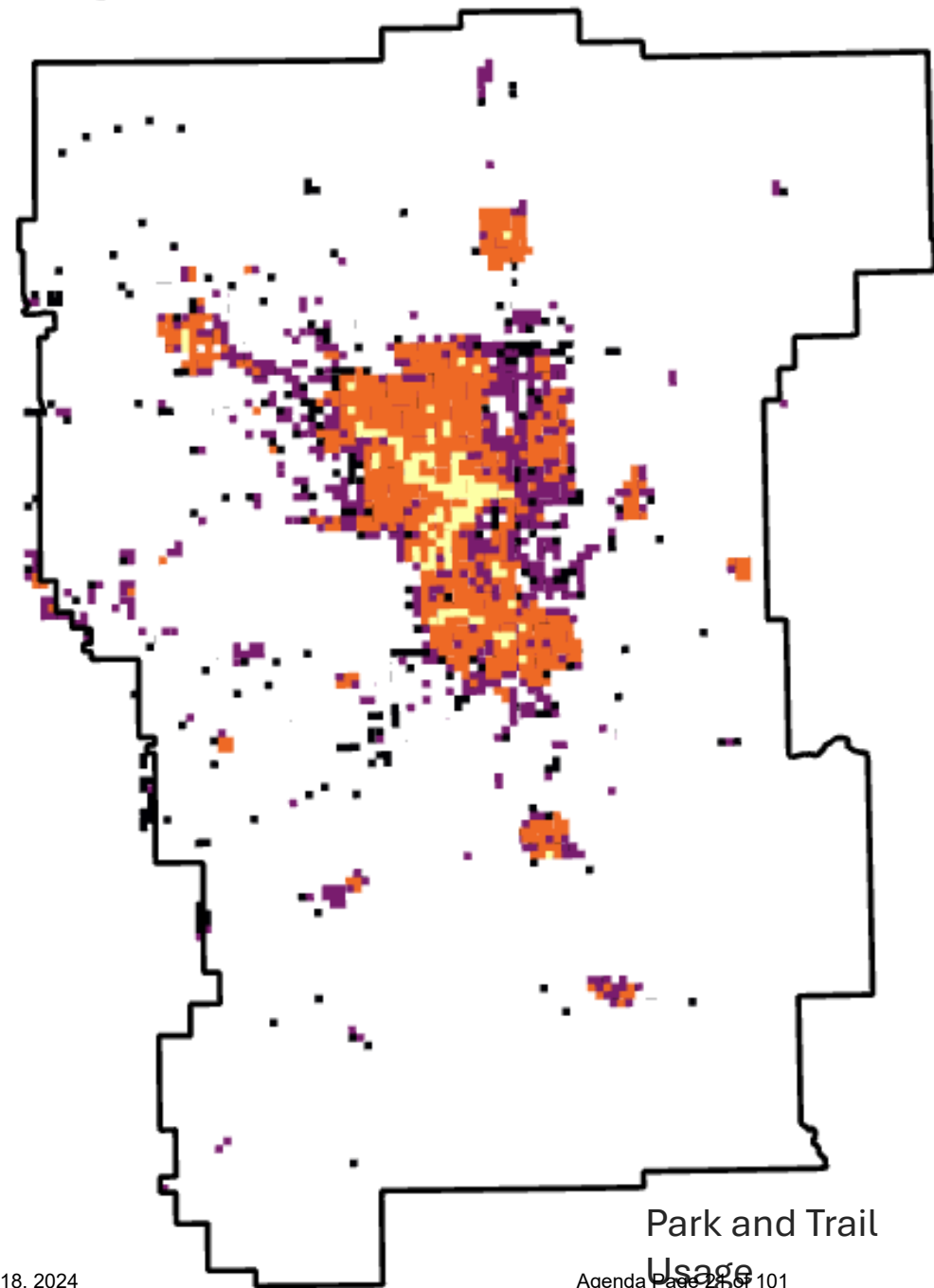
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# Final Data Updates

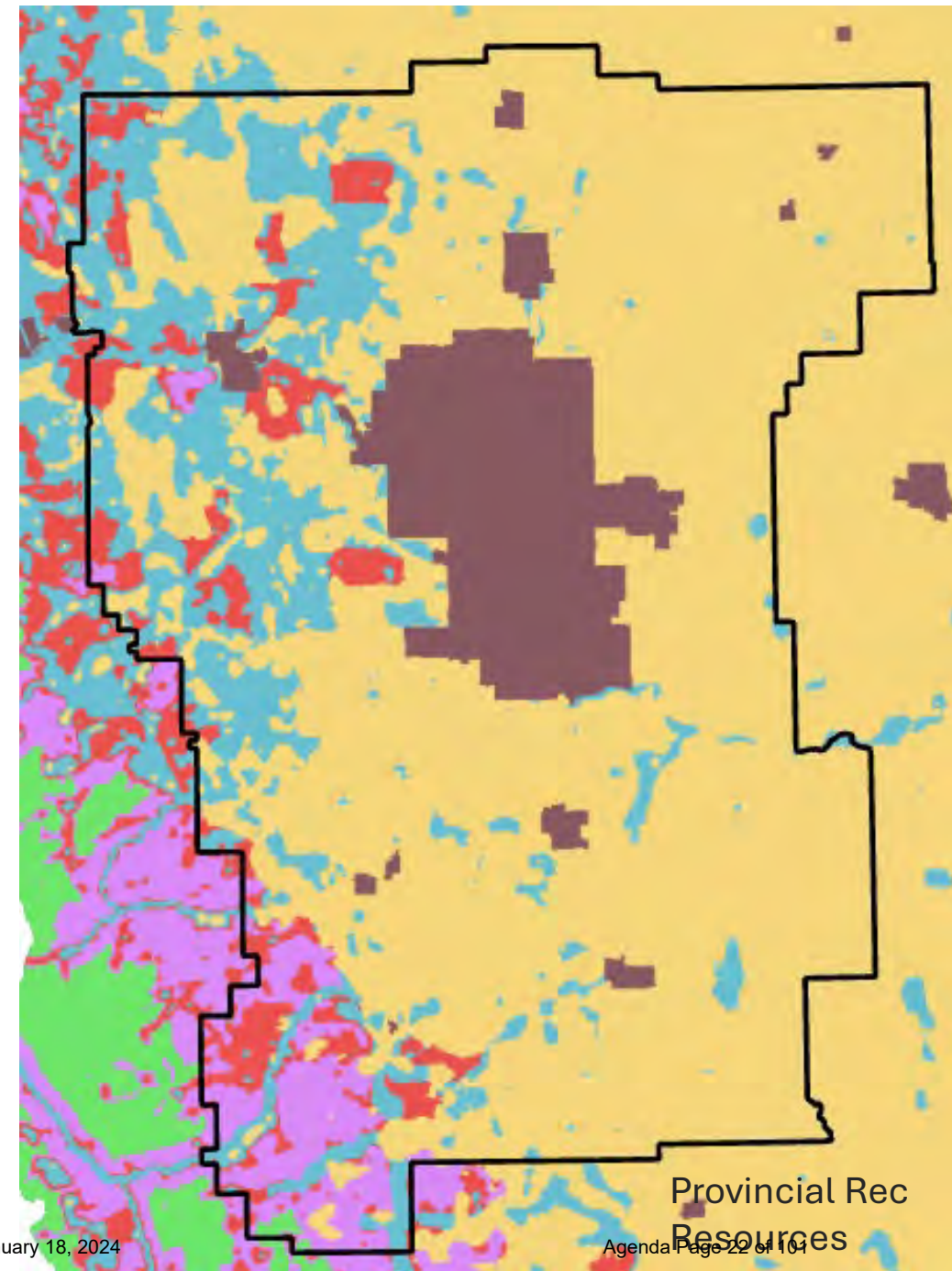
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Park and Trail Usage

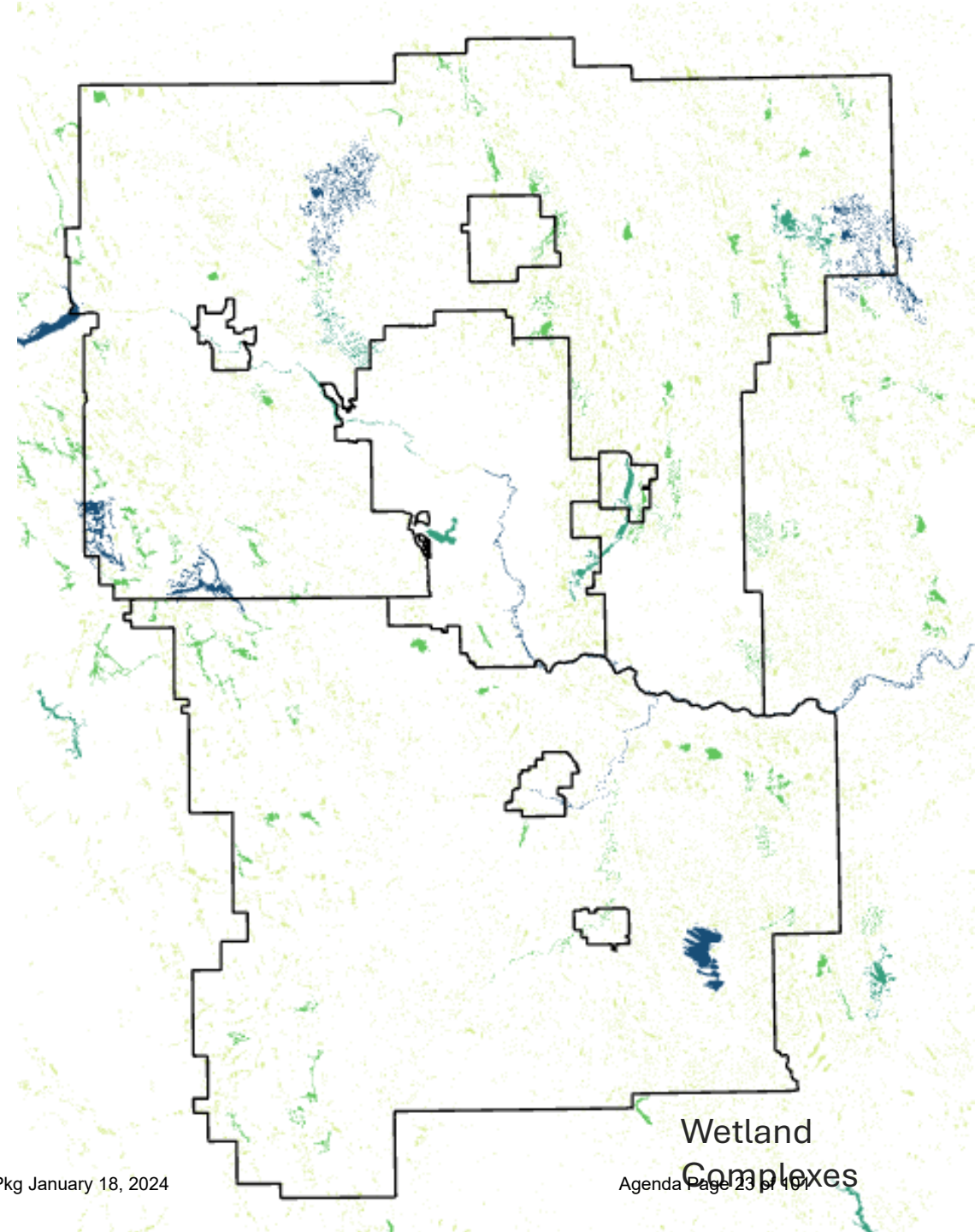
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# Final Data Updates – TAG Feedback

- Further fixes to parks
- Fixes to native vegetation patch size – disagreement with the more current regional land cover
- Review of landscape connectivity
- Improved description of resistance surface scoring

An aerial photograph of a mountainous region, likely in the Sierra Nevada mountains. The terrain is rugged with numerous ridges and valleys. A prominent river valley runs through the center of the image, with a winding road following its course. The overall color palette is muted, with various shades of brown, tan, and grey, suggesting a semi-arid or high-altitude environment. The lighting creates strong shadows, emphasizing the topography.

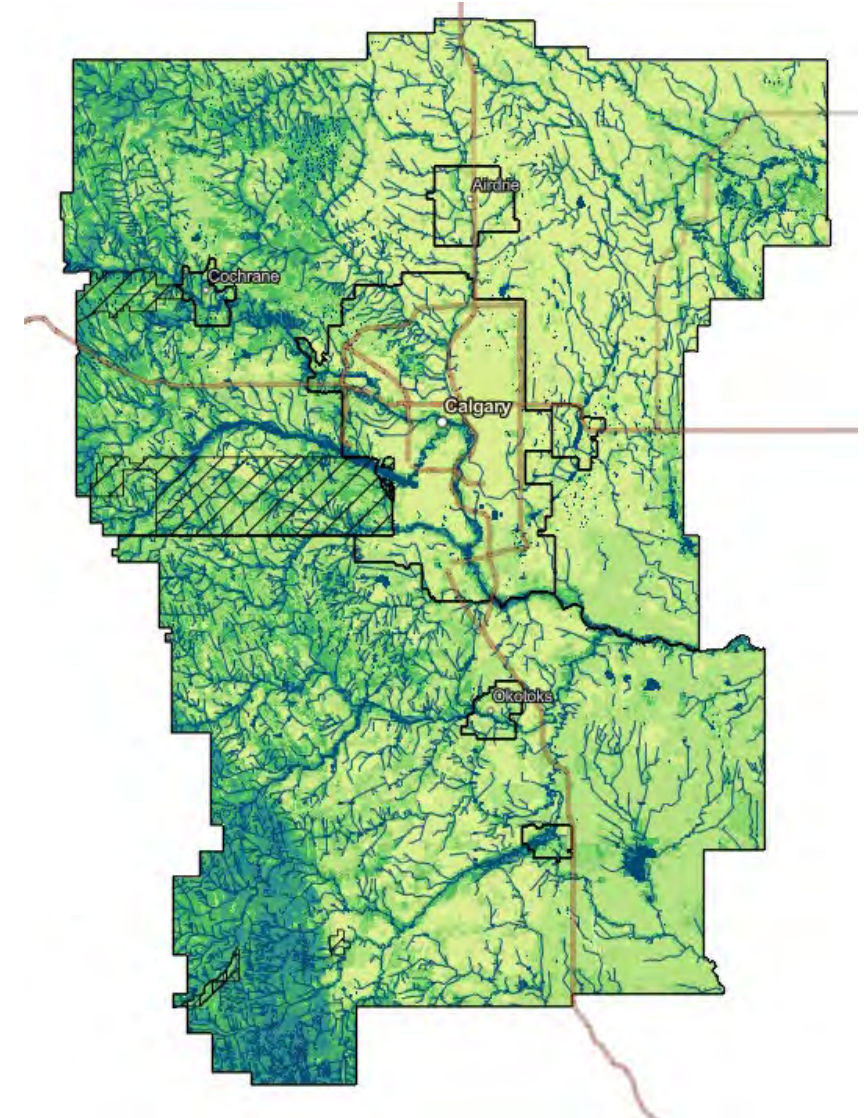
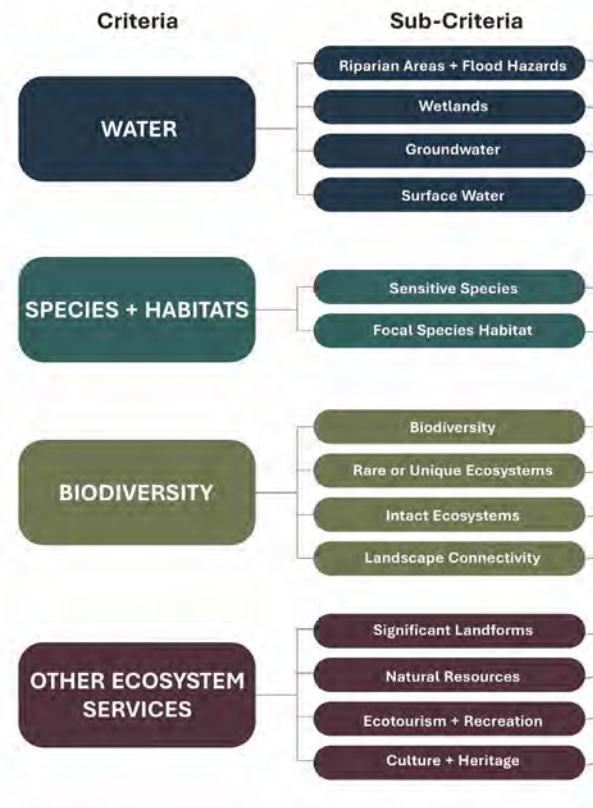
# Recommendations



# CMRB Led Database Maintenance

## Establish Ongoing Communications For Data Updates

- Municipalities
- Provincial Government
- NGO's





# CMRB Led Database Maintenance

## Our Tools Make Updates More Efficient

- Script tool allows for efficient updates



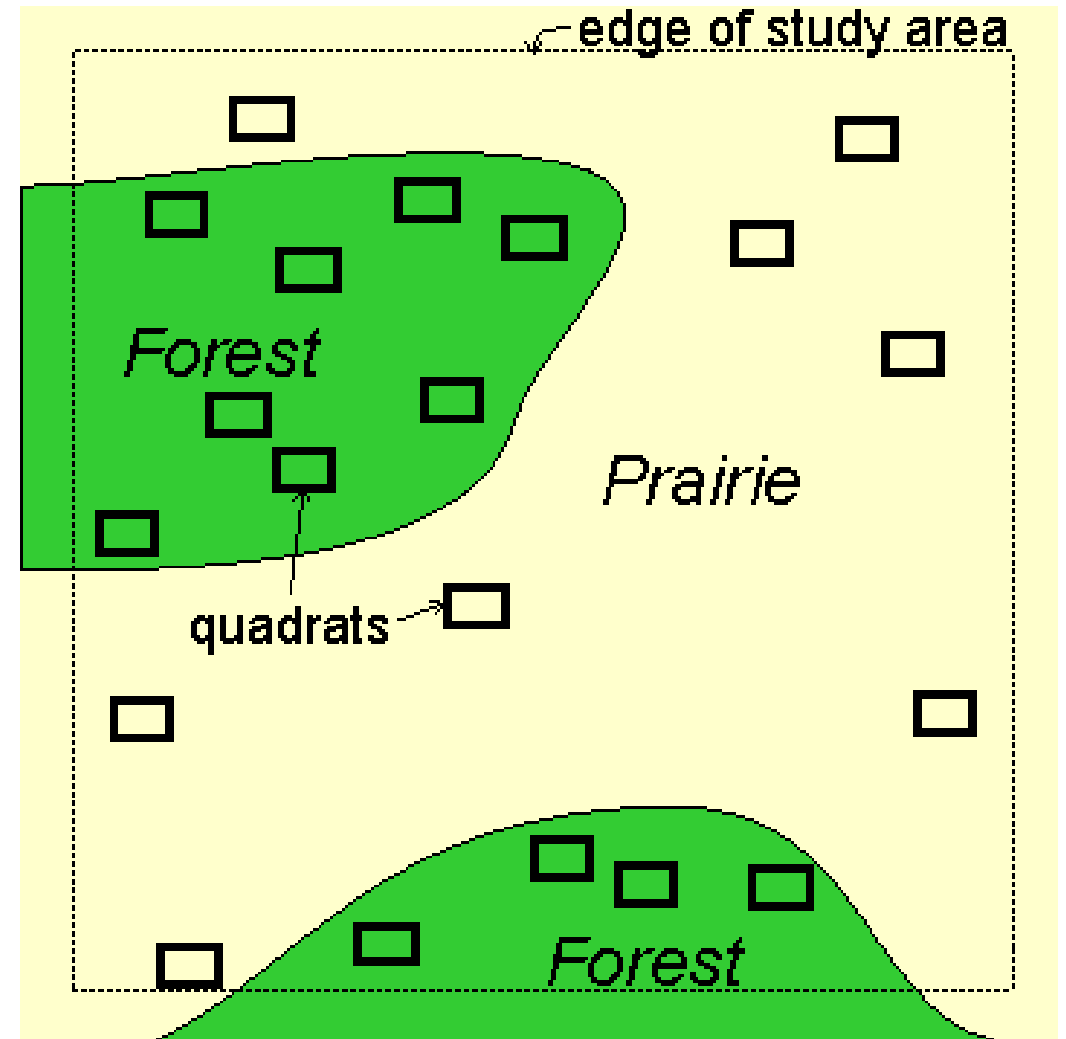
```
import arcpy
arcpy.env.overwriteOutput = True
arcpy.env.extent = "MAXOF"

### functions
def calculateStatsForGDB(gdbFullPath,gdbShortName,resolution):
    arcpy.AddMessage(gdbFullPath)
    arcpy.env.workspace = gdbFullPath
    datasets = arcpy.ListDatasets("","Feature")
    datasetSumRasterNames = []
    for dataset in datasets:
        arcpy.AddMessage(dataset)
        featureClasses = arcpy.ListFeatureClasses("","feature_type="All",feature_dataset=dataset)
        rasterNames = []
        for featureClass in featureClasses:
            arcpy.AddMessage("Creating raster for {}".format(featureClass))
            arcpy.conversion.PolygonToRaster(featureClass, "TotalScore", featureClass+"_raster",cellsize=resolution) # change to 5 for final run
            rasterNames.append(featureClass+"_raster")
        rasters = arcpy.ListRasters("x*_*")
        arcpy.AddMessage("GDB has the following rasters: {}".format(rasters))
        for rast in rasters:
            if rast[:4] == dataset[:4]:
                desc = arcpy.Describe(rast)
                arcpy.AddMessage("The resolution of this additional raster is {}".format(desc.meanCellHeight))
                if desc.meanCellHeight != resolution:
                    arcpy.AddMessage("The raster needs to resample to {}".format(resolution))
                    resampledRaster = rast+"_resampled"
                    arcpy.management.Resample(rast, resampledRaster, resolution)
                    rasterNames.append(resampledRaster)
                else:
                    arcpy.AddMessage("No need to resample")
                    rasterNames.append(rast)
            arcpy.AddMessage("Appending the raster {} to {}".format(rast,dataset))
        datasetCombinedScore = arcpy.sa.CellStatistics(rasterNames, "SUM", "DATA")
        arcpy.AddMessage("Dataset combined score includes the layers {}".format(rasterNames))
        datasetCombinedScore.save("Dataset_Total_Score_"+dataset)
        datasetSumRasterNames.append("Dataset_Total_Score_"+dataset)
        arcpy.management.Delete(dataset) # removing vectors so only raster features exist in output
    gdbCombinedScore = arcpy.sa.CellStatistics(datasetSumRasterNames, "SUM", "DATA")
    gdbCombinedScore.save("GDB_Total_Score_"+gdbShortName.replace(".gdb",""))
    return gdbFullPath+"\\\\"+"GDB_Total_Score_"+gdbShortName.replace(".gdb","")
### end functions
```

# Member Municipalities

## Data Collection Methods – Building a Common Dataset

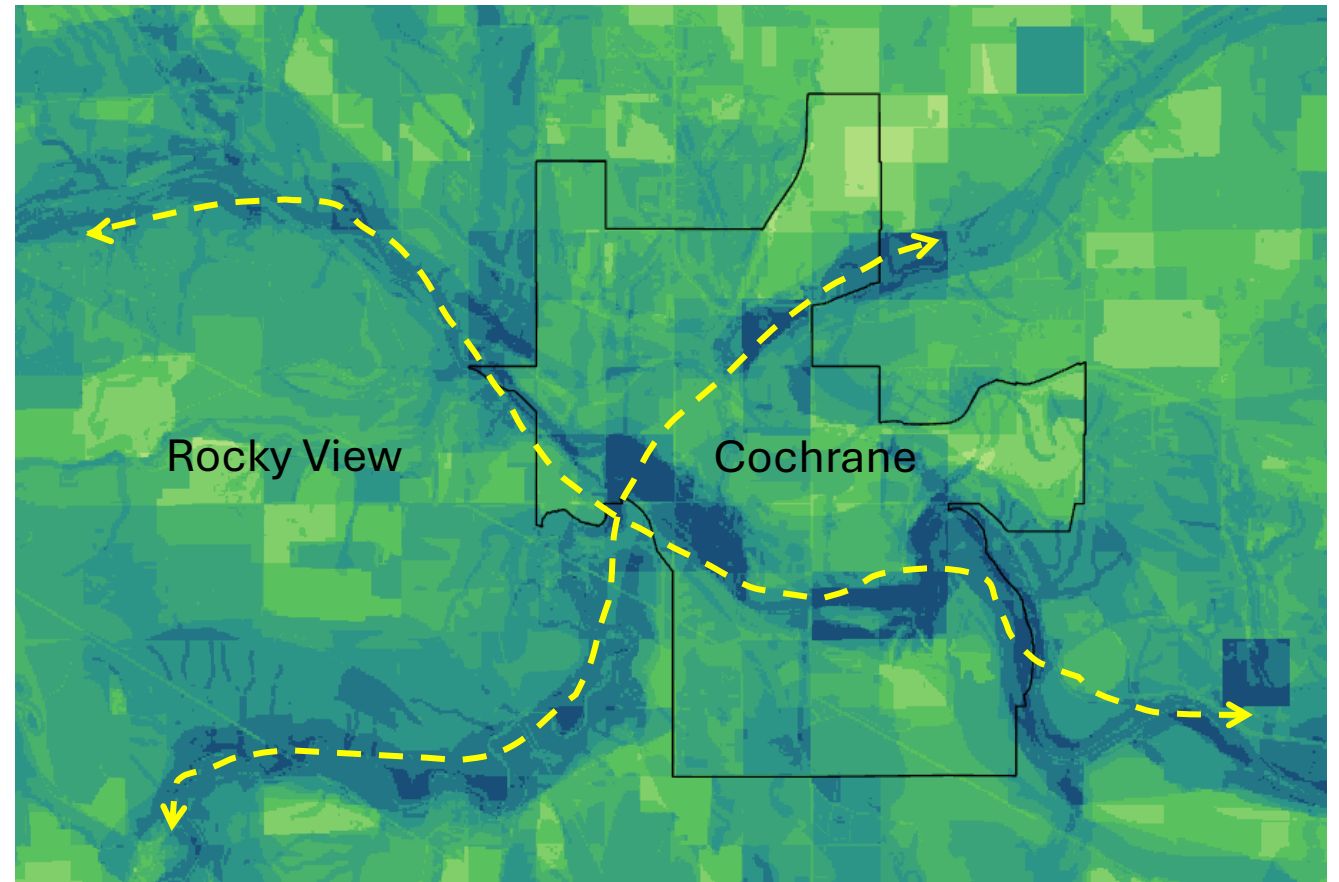
- Agreement on protocols
- Agreement on classification
- Data standards to make what each municipality collects more useful
- Inform growth planning by adding a shared environmental lens



# Member Municipalities

## Cross-jurisdictional Collaboration

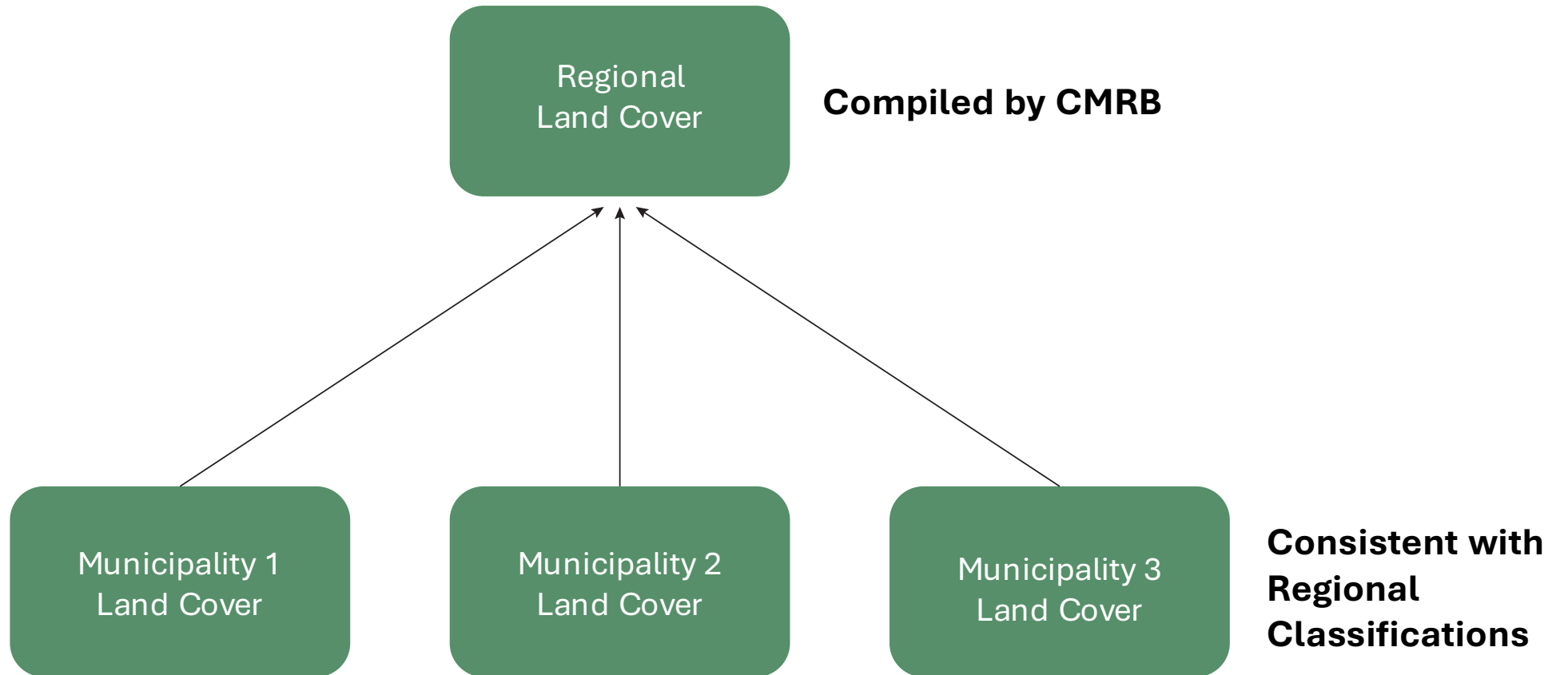
- Consistency
- Reducing data fragmentation
- Allowing people to understand how their properties contribute to the region





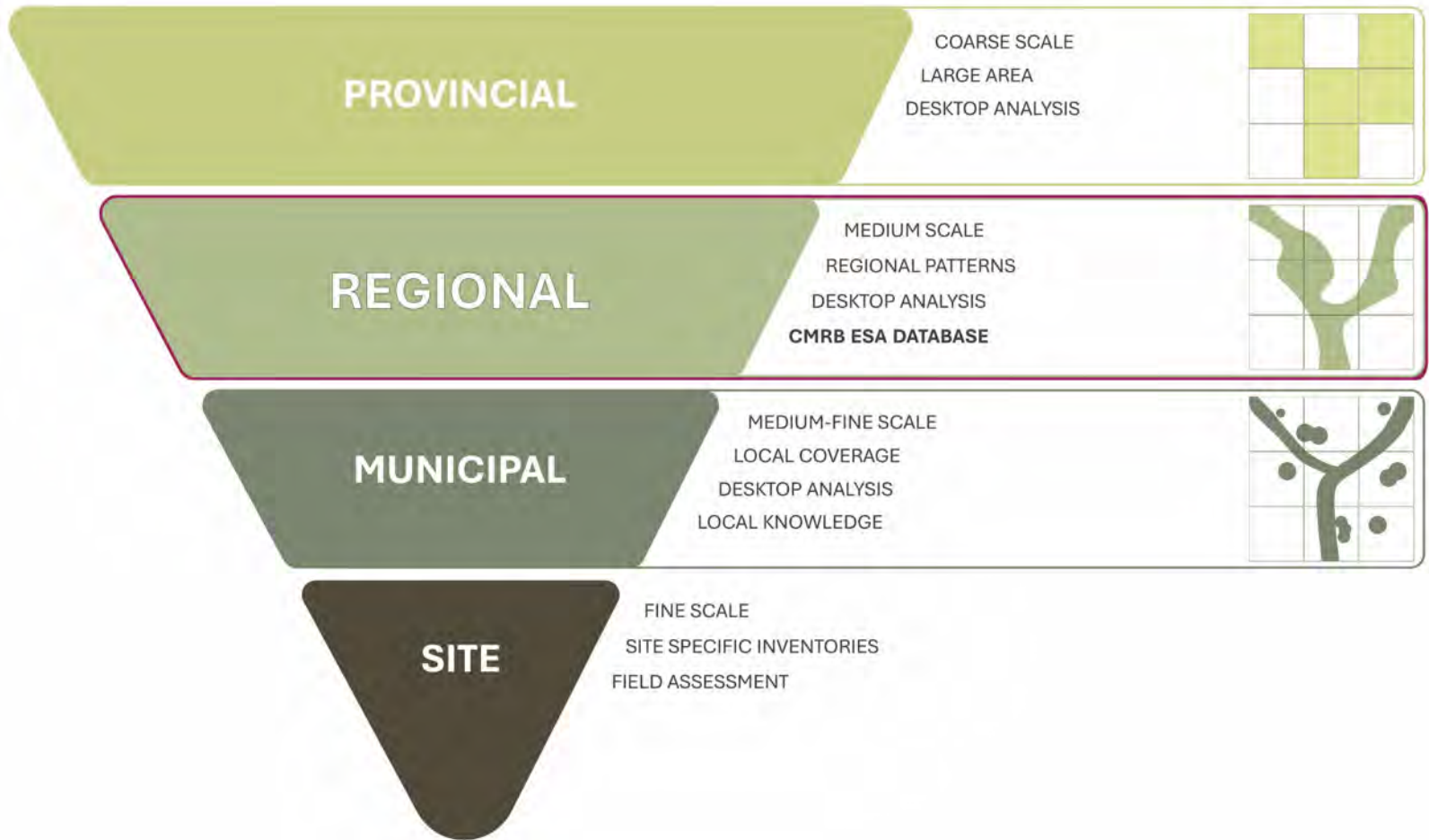
# Member Municipalities

## Benefits of Municipal Data Inventories



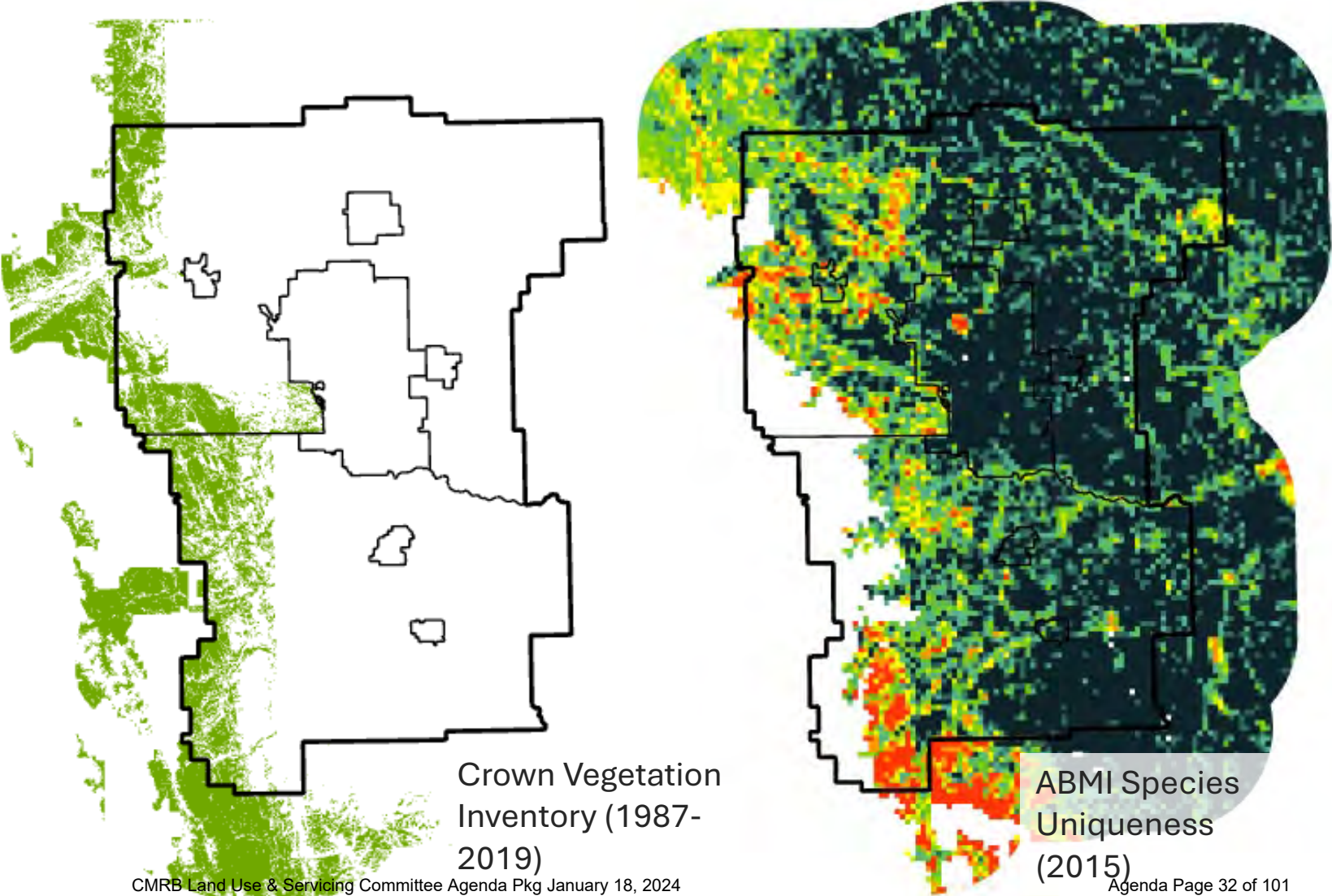
# Quality Control

## Scale



# Quality Control

## Completeness



Crown Vegetation  
Inventory (1987-  
2019)

ABMI Species  
Uniqueness  
(2015)



# Quality Control

## Evaluating Data Relevance

Areas maintaining the provision of **water** quality and quantity throughout the region and providing protection against drought and flooding events

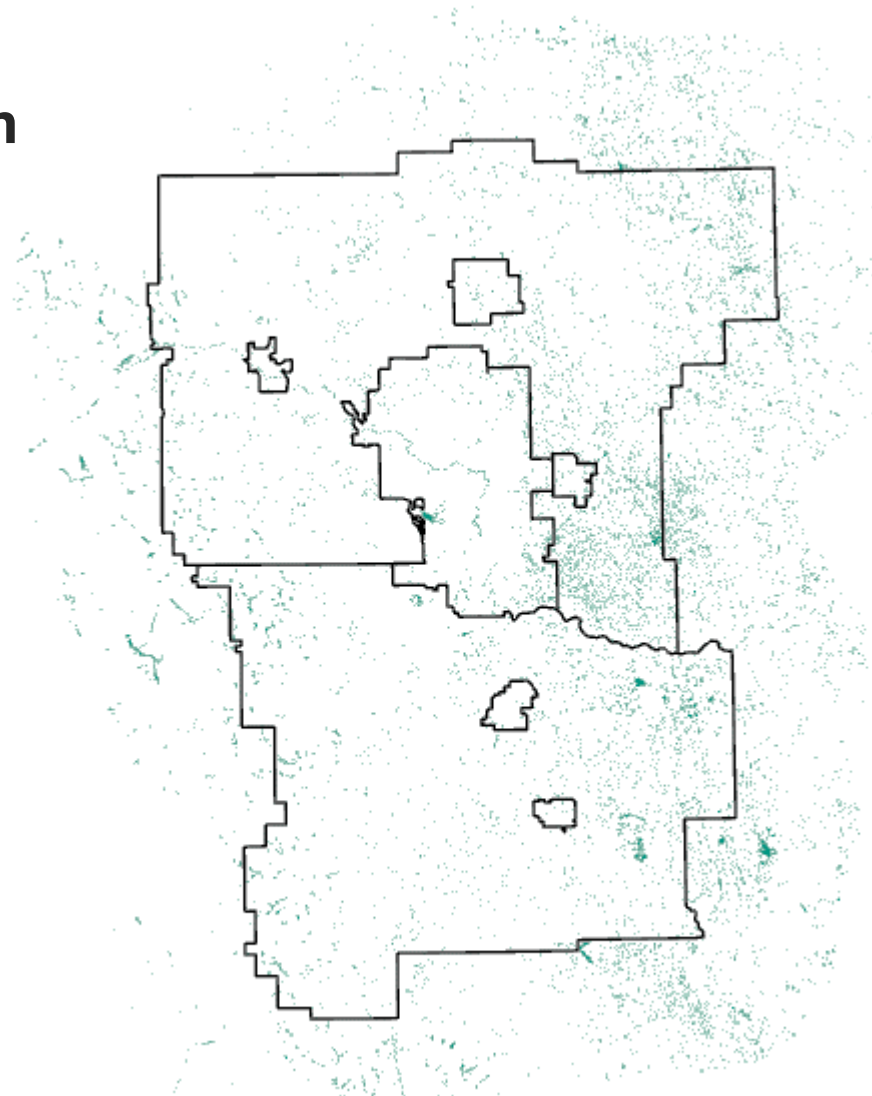
Areas providing **habitat** for identified local **species** of interest, designated species of conservation concern, or identified focal species

Areas providing rare, unique, or **biologically diverse** ecosystems or unique landforms

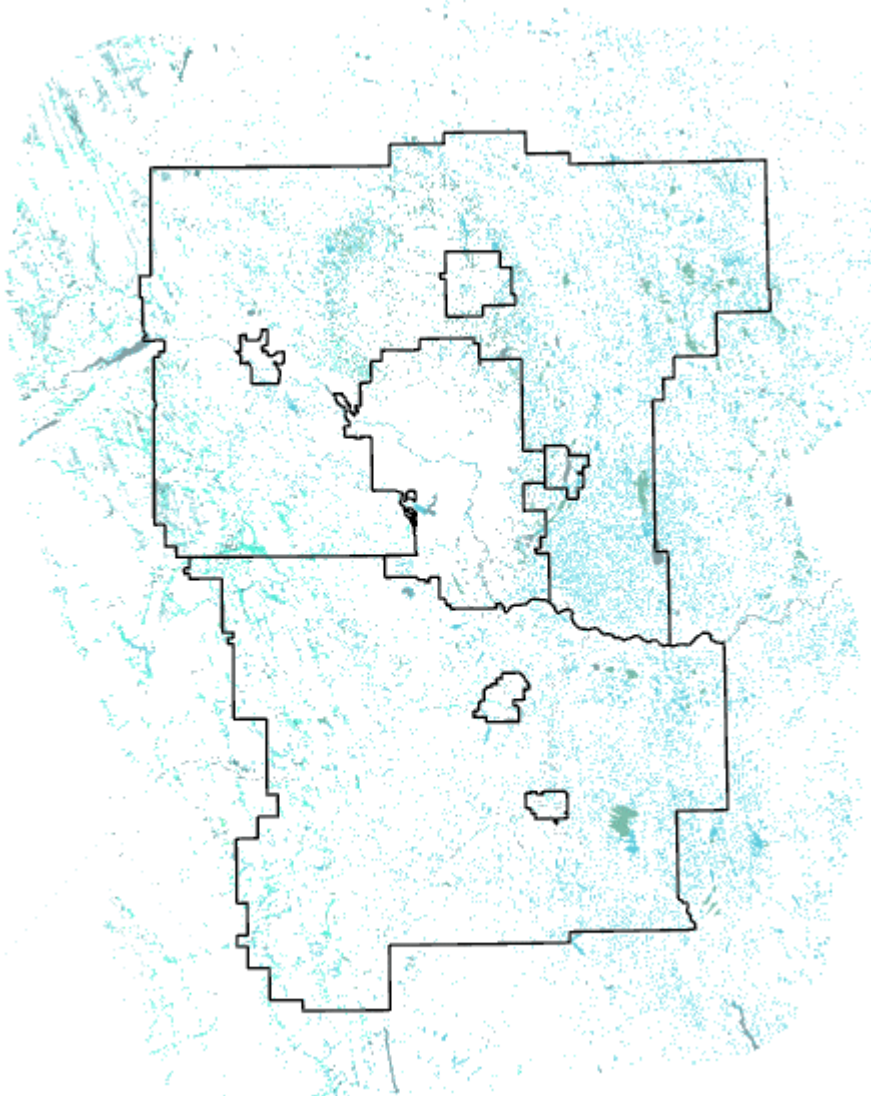
Areas contributing to **other** important **ecosystem** functions or **services** at regional or local scales

# Quality Control

## Avoiding Duplication



ABMI wetlands (2021)



BRB wetlands (2023)

# Quality Control

## Flagging Contradictions

- Agriculture
- Developed
- Exposed Land
- Grassland
- Manicured Grass
- Open Water
- Shrubland
- Treed/ Forest
- Vegetated - Disturbed
- Wetland





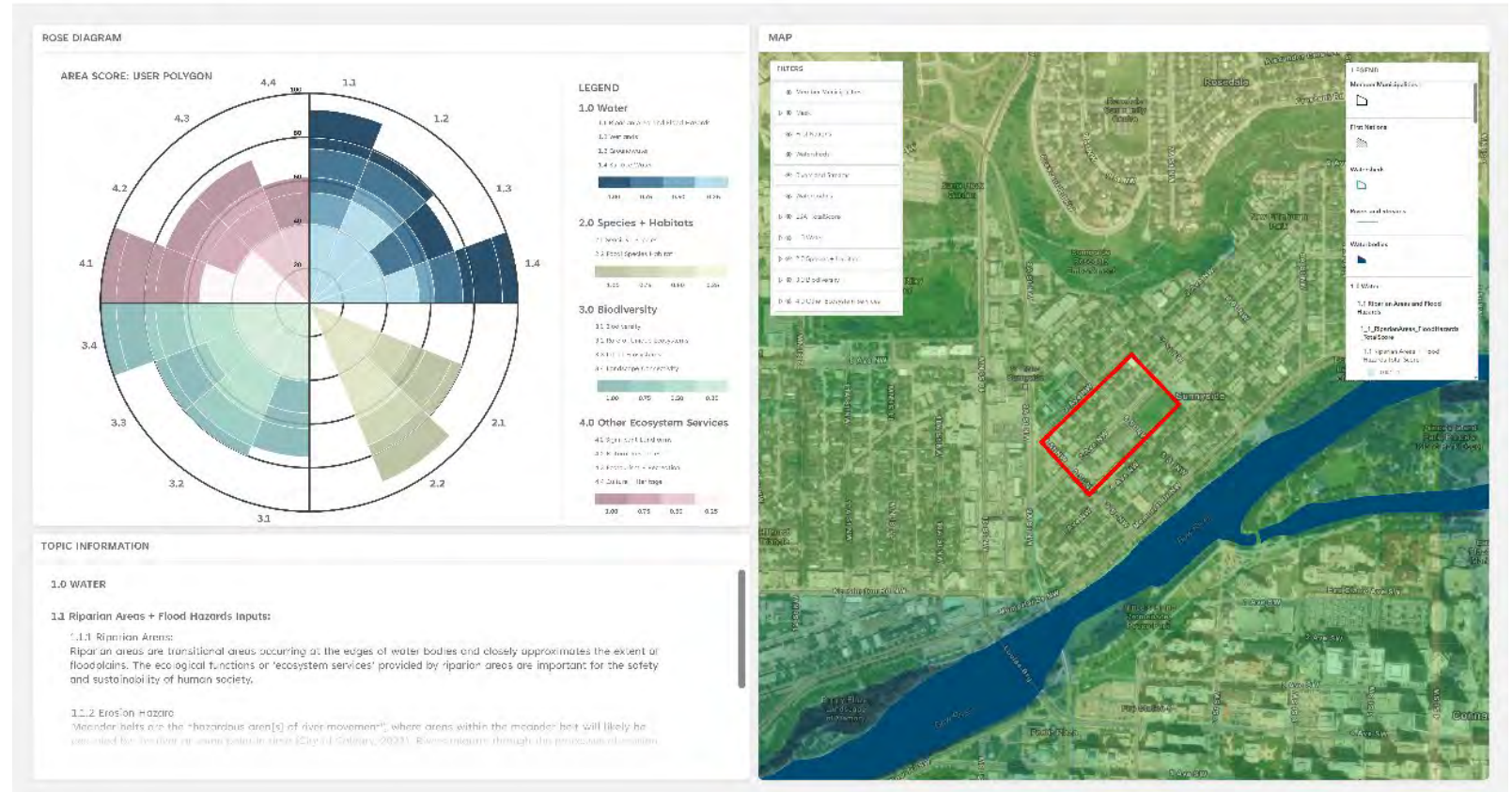
# Final Steps in the ESA Database Project

1. Project data and recommendations approved by the Board
2. Data is transferred to the CMRB with clear directions on update procedures and data agreements
3. Data is shared with member municipalities in alignment with data agreements
4. Member municipalities can incorporate data into broader-scale planning – Regional scale data does not replace site-specific considerations or municipal planning processes for ESA's

# Potential Future Extension of ESA Database Project – Public Dissemination

- Plain Language Summaries
- Web Mapping (Sharing Information)
- Story Map (Creating a Narrative)
- Dashboard Tool (Providing a useful summary of ESA data)

CMRB ESA DASHBOARD









<b>Agenda Item</b>	<b>6</b>
<b>Submitted To</b>	<b>Land Use &amp; Servicing Committee</b>
<b>Purpose</b>	<b>For Decision</b>
<b>Subject</b>	<b>Water Road Map Update</b>
<b>Meeting Date</b>	<b>January 18, 2024</b>
<i>Motion that the Committee recommend to the Board approval of the Water Road Map Update</i>	
<p><b>Summary</b></p> <ul style="list-style-type: none"> <li>• The 2019 Water Road Map was developed by CMRB Administration and the Water Technical Advisory Group (TAG) to establish a common understanding of various water-related topics in the Calgary Metropolitan Region (CMR) in preparation for onboarding the Growth and Servicing Plan consultant.</li> <li>• The Water TAG identified that several background reports were needed to provide information to the Growth Plan consultant about water servicing, existing water policy and the regulatory environment. In addition, the background reports were a level setting exercise for the Board and Committees. These approved studies are available on the CMRB website.</li> <li>• The resulting Growth Plan policies lay the groundwork for water stewardship in the CMR while the Servicing Plan identifies the need to update the Water Road Map to implement the direction provided by Chapter 3.4 Water Stewardship of the Growth Plan and the expressed goals of the Board.</li> <li>• The purpose of the 2023 Water Road Map Update is to review the many facets of water and water policy within the CMR in the context of the now approved Growth and Servicing Plans and to recommend approaches to addressing gaps and opportunities that are relevant for CMRB to fill given its remit, over time. The Water Road Map update provides an opportunity, with support from a subject matter expert, to elaborate on the goals and direction from the Board's vision, Growth Plan, and Servicing Plan, and to prepare for the Growth and Servicing Plan updates due in August 2027.</li> <li>• CMRB Administration initiated the procurement process in Q4 2022. CMRB Administration retained independent international consultancy Arup to support the Water Road Map update, based on their extensive experience in strengthening national, regional, and city (region) water resilience around the world.</li> </ul>	

- CMRB Administration and Arup presented a summary report on the recommended Water Road Map Update on September 21, 2023. Following a discussion, the Committee passed a motion directing CMRB Administration to strengthen the Water Road Map Update addressing areas that it deemed insufficient, including providing specific actions, clarity of direction, fulsome gap analysis, prioritization of outcomes and a stronger link to the Growth Plan, returning to the Land Use and Servicing Committee by January 2024.
- CMRB Administration strengthened the summary report by elaborating on the Arup recommendations in the requested areas as presented in Appendices 1-4 of this briefing document. The Committee should consider the Arup summary report and this briefing document in partnership as the complete Water Road Map Update.
- CMRB Administration worked with TAG on the briefing document. Water TAG discussed and provided feedback on the briefing document in November and December of 2023, as well as in January of 2024.
- The order of magnitude budgets for actioning the Water Road Map Update recommendations should be considered very high level at this time and are subject to future scoping steps. They are presented here to give a sense of resourcing and level of effort that may be required relative to each other.
- If the Water Road Map Update is recommended by the Committee for approval by the Board, the next steps include developing a charter for prioritized recommendations. CMRB Administration would work with Water TAG to confirm scope. The charters require approval by the Board before CMRB Admin are authorized to allocate resources and funds to the recommendations.

### **Attachments**

- Recommendations at a Glance – Excerpt from Arup summary report
- *Draft Calgary Metropolitan Region Board, Water Road Map Update: Recommended areas of focus* summary report, 11 January 2024, Arup (without appendices). The full Arup summary report with appendices can be found at the link [here](#).

## **1. Background**

As previously discussed at Committee and Board, many organizations and groups are working on water in the region at various scales. This road map identifies how the CMRB can engage in initiatives with others, and what initiatives CMRB is best positioned for and should undertake on its own. Given the complexity of water stewardship in the region, it is imperative that any further role the CMRB takes on is meaningful in the context of its remit and in those areas where the Board can be most effective and influence positive, tangible outcomes for the residents and businesses in the CMR.

CMRB Administration engaged Arup to update the Water Road Map and create a framework for how water issues can be addressed. After mapping out the water cycle in the region and interviewing a wide variety of stakeholders working in the water space,

they identified a framework for how the CMRB should approach its work on issues of importance to the CMRB. Water (or lack thereof) is a critical consideration, and the CMRB must focus its efforts in this area to their greatest effect. A more detailed overview of the project is provided in Appendix 1–Project Overview for the information of the Committee.

Arup’s recommendations include the development of six areas of focus that allow the CMRB to maximize its effectiveness in any one topic. See the diagram below (following Section 5: Recommendation) for a summary of these areas. As an example of how the road map can be utilized, as we face extreme drought, the water road map allows us to define our efforts and drought response within each of the six areas, as applicable, and begin actioning the CMRB’s budgets in alignment with the Board’s priorities. For example, focusing on building a response to drought in the areas of Advocacy, Convene, and Promote might be of top priority for the Board, for example.

## **2. September 21, 2023, LUSC Meeting Motion**

At the Land Use and Servicing Committee meeting on September 21, 2023, the Committee discussed the content of the Arup report and made the following motion:

*That the Land Use and Servicing Committee direct CMRB Administration to strengthen the Water Road Map Update to address areas that are insufficient, including providing specific actions, clarity of direction, fulsome gap analysis, prioritization of outcomes and a stronger link to the Growth Plan, returning to the Land Use and Servicing Committee by January 2024.*

This agenda item sets out to address the Committee’s direction to report back on the following areas.

1. Results of Gap Analysis – Appendix 2;
2. Prioritization of Outcomes – Appendix 3, and Section 4 below;
3. Proposed Specific Actions – Appendix 4; and
4. Links to the Growth Plan – Appendix 5

CMRB Administration has provided responses to each part of the motion in detail in the appendices of this briefing note. This information has been reviewed by Water TAG and changes have been made to accommodate input from the TAG.

A note on budgetary estimates: The order of magnitude budgets for actioning the recommendations should be considered very high level at this time and are subject to future scoping steps. They are presented here to give a sense of resourcing and level of effort that may be required relative to each other. However, actioning recommendations would be subject to CMRB’s project management processes and Board approvals at future steps.

**3. Changes to the Water Road Map Recommendations**

In response to TAG feedback, changes have been made to recommendation 5. Elevate, both in terms of CMRB Administrations response to the September 21 motion, but also to the draft Arup summary report.

The key TAG concern being addressed by this proposed version is that issues of source water protection, drought, flood, and risks from climate change were not expressly referred to in Elevate, and there was no proposed go-forward plan for dealing with these matters. The previous Elevate recommendation put emphasis on public water demand and water conservation, which TAG found to be too narrow. Also, there was insufficient differentiation between shorter-term emerging learnings or implementation that may be addressed for each of these issues in the nearer-term Growth Plan update (due in 2027), but also there was no longer term commitment to focusing on these key issues within the more complete Growth Plan update (due in 2032) either.

This concern has been addressed by expressly noting in the Road Map Update summary report and Appendix 3 and 4 of this briefing note that the CMRB is planning for two Growth Plan updates, a shorter-term one (due 2027) and a longer-term one (due 2032), and that each update will consider source water protection, drought, flood, and mitigating risks from climate change in a way that is commensurate with staff capacity, available knowledge and data, and appropriate scope. In addition to providing direction for CMRB Administration in the near term, this also sets clearer direction for the longer-term Growth Plan update. This enables CMRB Administration to plan for data development and other supporting information in preparation of a Growth Plan update that successfully considers water and the environment in alignment with Board values.

Further TAG feedback also recommended keeping an emphasis on promoting best practice approaches to water management in community planning practice within Preferred Growth Areas, such as in Joint Planning Area Context Studies and in future statutory plans. It was acknowledged that this work would have a more local (municipal) or subregional focus given the vast array of development around the region, but it is important to begin making strides in this area as well. The learnings from this work could be used to inform the longer-term Growth Plan update.

**4. Proposed Staging of Recommendations**

CMRB has identified a desire to be data driven, to focus on what is regional, and to be action-oriented in a way that benefits the residents and businesses in the CMR. Consequently, the recommendations for actioning the Water Road Map are based on the present challenges and issues, and the CMRB’s remit and reach, thereby inspiring pragmatism and progress.

CMRB Admin proposes to action the following recommendations in the following areas:

- 1. Advocate: Begin in Q1 2024 with drought management and source water supply/protection, other topic areas to begin as capacity becomes available.
- 2. Elevate: Begin in Q2 2024 by working together with TAG to create a common



understanding of the scope of the shorter-term Growth Plan update related to source water protection, drought, flood and mitigating risks from climate change. In addition, begin very early-stage planning for longer term update in terms of potential data and topics.

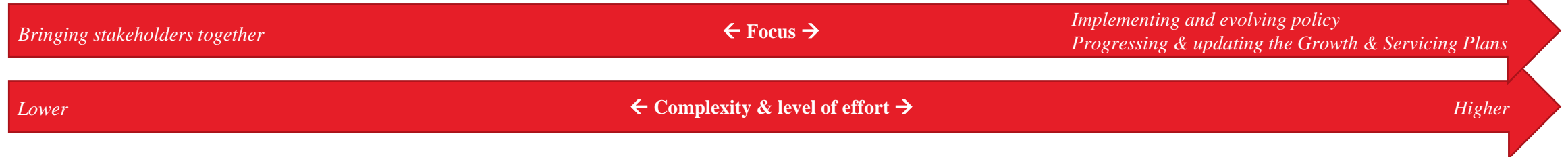
3. Convene: Begin in Q2 2024 by bringing identified parties together to consider drought and managing drought conditions (similar to a Speakers Series event).
4. Investigate: Q3 2024
5. Promote: Q4 2024
6. Enable: Q4 2024

Once approved by the Board, CMRB Administration can begin allocating staff and budget resources to the water road map recommendations noted above with a priority for discussion in areas of drought and source water supply/protection given the information provided to the Board by the Government of Alberta around the impending water scarcity in Southern Alberta in 2024.

## **5. Recommendation**

*Motion that the Committee recommend to the Board approval of the Water Road Map Update*

# Overview of recommendations

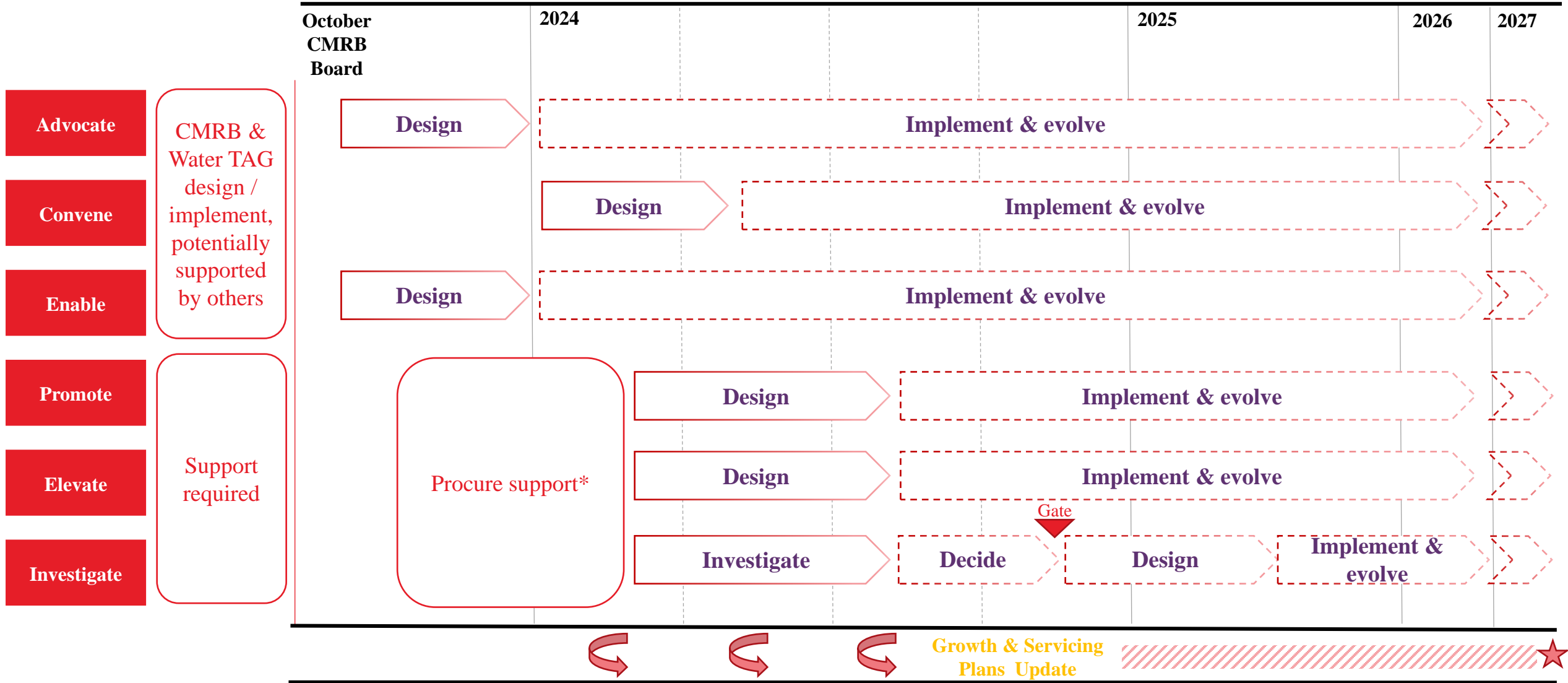


<b>Advocate</b>	<b>Convene</b>	<b>Enable</b>	<b>Promote</b>	<b>Elevate</b>	<b>Investigate</b>
Engage with the provincial government specifically on water-related issues through a structured process and formal CMRB representation	Regularly bring relevant stakeholders together in a water-focused forum, to raise awareness and facilitate interactions	Increase (formal) representation on and participation in relevant watershed groups to support and enable interactions	Play an active, public-facing role in promoting awareness on water-related issues and promoting water conservation and efficiency (focused on quantity & quality)	Elevate collaboration on regional policy for water stewardship through short- and long-term Growth Plan and Servicing Plan updates.	Investigate feasibility of implementing regional, long-term water resource planning framework and process for water security and resilience purposes

## Primary objectives from Growth Plan - Water Stewardship (GP 3.4)

“(c) Enhance regional collaboration of water stewardship.”	“(c) Enhance regional collaboration of water stewardship.”	“(a) Enhance protection of our watersheds and natural water systems.” <small>CMRB Land Use &amp; Servicing Committee Agenda Pkg January 18, 2024</small>	“(e) Improve the efficiency with which we use our limited water supply.”	“(c) Enhance regional collaboration of water stewardship.”	“(d) Enhance the Region’s resilience to changes to natural water systems, due to Climate Change and human development.” <small>Agenda Page 44 of 101</small>
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# Potential high-level roadmap



Roadmap is illustrative only

\* Multiple procurement options eg broken into individual packages or combined. Could be run as a programme (which could then also bring in project management of some/all of advocate, convene, enable – ie entire roadmap run as a programme).

## APPENDIX 1 - Overview of Project

The work completed for the Water Road Map Update included two main parts. This work plan was developed by Arup based on their experience leading these types of projects in water scarce regions around the world, including Cape Town, Johannesburg, Manchester, Rotterdam, Amman, Kigali, Miami, and Mexico City.

1. CMRB Administration and Arup engaged with water users in the region to test alignment with, and support of, CMRB's previous areas of focus in the Growth Plan and Servicing Plans. These water users included member municipality water experts (through the water technical advisory group), third party service providers (water co-ops), watershed stewardship groups, watershed planning and advisory councils, irrigators, industry and provincial policy staff. The purpose of meeting with these water users was to learn more about their ongoing initiatives, promote knowledge sharing about common challenges and opportunities, increase awareness regarding the Growth Plans and Servicing Plans, and build awareness of the CMRB mandate.

A positive finding was that these stakeholders feel that the Growth and Servicing Plans are on the right track and there is support for what CMRB is trying to achieve. All those interviewed believed that there is a role for the CMRB to play in the water management space that would be meaningful and useful. This included focusing on convening stakeholders, long term water security and addressing changing climate impacts, common challenges to innovation within the current regulatory environment, elevating the public's awareness, and underscoring the interconnectedness of water and communities, businesses, and the environment. These comments were incorporated into the project's final report.

2. The project used Arup's City Region Water Resilience Approach (CWRA) to map out the water cycle in terms of watersheds, stakeholder relationships, external regulatory and policy tools, governance and what areas of the water cycle they impact. The water cycle includes consideration for built water and wastewater infrastructure, natural and managed infrastructure, stakeholder linkages and regulatory influences. This tool was effective at summarizing the environmental scan of water matters for the Region.

The CWRA helps to surface prioritisation of the issues, helping to provide insight on the most effective sequencing and prioritization of water initiatives helping city regions to understand and engage with the complexity of the water system and prepare for change. When a system is as complex as the water system in the region, it is difficult to identify ways to be effective within the system. The purpose of the CWRA is to identify ways to create tangible outcomes and benefits. Those learnings were applied while developing the Water Road Map Update summary, attached here.



## APPENDIX 2: Results of the Gap Analysis

The results of the analyses completed by Arup confirmed the following gaps and offered the following observations on gaps and opportunities:

### **RESULT#1: Limited or uncertain water resource availability was identified by most interviewees as the greatest issue anticipated across water users and stakeholders. (Identified Gap)**

Most interviewees expressed that there are simply not enough water resources to support business-as-usual growth in the region. This is consistent with conclusions in [‘Natural and Managed Capacity of Regional Water Supply in the CMR’](#) completed by CMRB in 2019. There is no clear framework or process in place to address this across the region.

Projections from the research predict a future change in timing of precipitation and of increased variability in volume; in terms of timing, climate projections for future conditions (roughly 2040s) indicate a trend toward more precipitation during the winter and less precipitation during the summer. Additionally, earlier spring snowmelt is projected to correspond to warmer air temperatures. In terms of variability, greater variability is projected between months, with higher possibilities of extremely high or low flows in any given year. There is significant natural variability in the water supply systems of the CMR. When demand is modest relative to supply, the variability in supply has relatively limited consequences for communities. CMR is now at a point where demand is closer to average supply, and future growth will increase water demand. This means that the impacts of natural annual and seasonal variability will have greater water supply consequences. When layered with the potential climate change factors, we can anticipate conditions where the stringent FITFIR (First In Time, First In Right) regulatory environment is not able to adapt to new demand regime, also putting at risk environmental outcomes (ecological function).

The effects of the predicted changes in climate will negatively impact regional water resources due to our hydrology, reliance on snowpack and the demand profile of major water users (irrigators being the largest consumers). Many stakeholders also commented that this challenge will be exacerbated with climate change which is also confirmed by previous study ‘Natural and Managed Capacity of Regional Water Supply in the CMR’.

The Water Road Map Update explores options for CMRB to work with other water users and the province to begin setting actionable steps to promote water security in the region. An adaptive water policy framework is needed to respond to an uncertain future and with other major water users at the table.

### **RESULT #2: At present, there is no platform for CMRB members connect with Alberta Environment and Protected Areas (EPA) and influence change in water policy as it relates to improving water security and availability in the CMR. (Identified Gap)**

Presently an individual approach is taken where each municipality and organization must connect with EPA separately rather than acting and advocating in a regional

manner with a unified voice. Stormwater Use and Water Reuse is suggested as an initial focus area for this recommendation, where many member municipalities have frequently expressed concerns about the regulatory environment related to stormwater reuse.

The Water Road Map update recommends codifying the need for the CMRB to focus on water advocacy and establish a formal work plan around these efforts. This is especially timely given there is an opportunity to support a regional voice to EPA's response to the Premier's mandate letter for EPA to '*review Alberta's water management strategy to increase availability of water and licences to Alberta municipalities [and others]*'. In addition, the Province's Water for Life Strategy is due to be updated and with a formal focus on regional advocacy around water issues, member municipalities will have an opportunity to provide more effective input and feedback into this process. Given the experience of drought in Southern Alberta in 2023, and the projected continued El Niño conditions in 2024, a regional approach to engaging with the province on drought conditions may be required.

**RESULT#3: The public perception of the water situation in the CMR and public awareness of the public's imperative role in mitigating water shortage challenges is not consistent across the region. (Identified Gap)**

It was noted that the CMRB can play an important role in raising awareness of water related issues across sectors, including with the general public. Some member municipalities have strong awareness campaigns designed to change public behaviours to a more water-wise approach, while others do not. A consistent approach to water policy can create predictive public behaviours such that times of crisis (such as drought conditions measured in Southern Alberta in 2023) do not require massive adaptive changes in public behaviour. A public water campaign should place the public as one of many users in the basin – people living among a thriving environment, among businesses and jobs. This recommendation also aligns with the CMRB 2019 "[Water Use and Conservation in the Calgary Metropolitan Region Study](#)" which includes an opportunity identified as 'Implement Conservation and Efficiency Measures: Public Engagement'.

**RESULT #4 The Growth Plan, having statutory status in Alberta's planning hierarchy, should play a stronger role in effective water management. (Identified Opportunity)**

Given water security is a priority for the Board, the logical step would be to work towards evolving policies to support measurable actions toward water stewardship in the Region as more is learned about the water system. For example, the Growth Plan does not have specific and direct water policies for alignment of lower tier plans (MDPs, ASPs, and others) to measure against the regional evaluation framework (REF). Updating Growth Plan water policies will require a collaborative process and supporting expertise in regional water policy development. Future water studies and reports completed for the CMRB should all consider how to amend Growth Plan policies to implement their findings. The Water Road Map Update recommends investigating the feasibility and options for implementing regional, long-term water resource planning framework and process for water security and resilience purposes. This specific

opportunity recommends integrating those findings into future Growth Plan updates. Arup identified this as a key opportunity for the region as it links with the land use planning aspect of the Board's mandate and authority.

**RESULT #5 - Wider regional forums and initiatives can lack link-up or integration with the CMRB and/or member municipalities. (Identified Gap)**

It was noted that CMRB could leverage work already undertaken by watershed partnerships by bringing together existing work / information, collecting and shedding light on best practice. This would allow member municipalities (and others) to scale best practices to other parts of the region. Although the wider South Saskatchewan River Basin (SSRB) watershed and sub-watersheds are actively pursuing improved environmental outcomes in the watersheds, the watershed stewardship groups (WSGs) and watershed planning and advisory councils (WPACs) shared that not all member municipalities are active participants, or appear aware of, or able to act upon, ongoing studies, challenges and opportunities in their sub-watersheds. Some WSG/WPACs have ongoing detailed modelling projects which could support decision making at municipal and sub-watershed scales regarding water quality / water quantity by identifying constraints on developability of lands in the CMRB. The mandate of WPACs is defined by the province as: independent, non-profit organizations that report on watershed health, and facilitate collaborative planning, education, and stewardship. Member municipality participation, including at both staff and elected levels can activate WPAC recommendations to decision-makers for water and watershed policy improvements at the local scale and advocate for meaningful changes to the province.

**RESULT #6: The region is lacking a regional water forum. (Identified Gap)**

There is currently no targeted municipal regional water forum whereby the region's knowledge, successes, opportunities and challenges are shared. It would be possible to partner with organizations and potentially member municipality councils to share knowledge and maintain momentum and evergreen this important regional role of CMRB as a convening body.

**RESULT #7: There are opportunities for the CMRB to make its perspective heard more. (Identified Opportunity)**

The CMRB's vision acknowledges the importance of collaboration among member municipalities to harness the power of the collective voice. There are many perspectives on the topic of water, and the strength of the CMRB's collective voice can be influential among other perspectives. The full opportunity to attract the attention of the provincial government to make policy and infrastructure decisions in alignment with the needs of municipal water users in the long term may not be fully realized. If the Board is interested in raising its profile and perspective, actions to address this opportunity are needed. To begin addressing this opportunity, Recommendation 1: Advocate establishes a stronger relationship with the Province and Recommendation 6: Investigate will explore opportunities to either participate in, or partner with other organizations to lead long term water management strategies involving other water users leveraging the good work of existing partnerships and relationships.

**The CMRB should NOT play a significant role in the construction of hard infrastructure such as water treatment or conveyance.**

Through the gap analysis, it was noted that CMRB would not be a logical organization to determine water or wastewater infrastructure and conveyance solutions at this time. Member municipalities have the detailed knowledge, strategies, plans, processes and responsibilities of their water and wastewater systems. In addition, there would be no pragmatic or practical way to evaluate regional needs on a project-by-project basis. For this reason, in alignment with the Servicing Plan, sub-regional municipal collaborations with specific servicing areas, known land use requirements, and the ability to levy, are considered as appropriate organizations and scale to plan sub-regional servicing.

**5.1 Gap Analysis to Recommendations**

The following table, Table 1, links the results of the gap analysis above with the associated recommendation made by Arup in the summary report. Results are also broken down into categories of gaps and opportunities. Gaps being missing pieces of good water management and opportunities being areas where the region's mandate positions itself well to provide benefit. Specific actions on each recommendation are summarized below in Appendix 4.



**Table 1: Recommendations x Gap Analysis Matrix**

	Result 1	Result 2	Result 3	Result 4	Result 5	Result 6	Result 7
Gap Analysis Result	Limited water resources	Lack of platform to connect with EPA	Inconsistent public perception	Growth Plan should play stronger role in effective water management	CMRB should bring existing work & info together	Region lacks regional water forum	CMRB lacks opportunities to make perspective heard
1. Advocate							
2. Convene							
3. Enable							
4. Promote							
5. Elevate							
6. Investigate							
Gap or Opportunity	Gap	Gap	Gap	Opportunity	Gap	Gap	Opportunity

## APPENDIX 3 - Prioritization of Outcomes

The Arup report (page 17) identifies the Prioritization Framework which was used to develop the recommended areas of focus for the water road map. Further, the consultant summarized their recommendations and **prioritization of outcomes** (also noted in the Arup summary report as focus areas) below in bold.

### 1. Advocate:

- Specific areas for advocacy to be agreed upon and can evolve.
- Arup summary report states initial focus should be on **water recycling and stormwater re-use** – including in context of exploring appetite for proof-of-concept within the region.
- **However, following continued drought conditions in the region, CMRB should focus of advocacy actions as described in Appendix 4.**

### 2. Convene:

- This recommendation doesn't have a pre-defined policy area focus. It is very much focused on bringing stakeholders together and continued learning opportunities when there is need for shared learning.
- For any event, one or more specific policy areas could be focused on – potential areas are listed in Section 7.2.

### 3. Enable:

- To be agreed upon, and there does not have to be one area of focus (initially). with the first stage focusing on improving and reinvigorating engagement.
- A logical policy focus area should be **source water protection** given the key roles of watershed groups in this context (and on which existing approaches can be shared across members).

### 4. Promote:

- This is fully focused on **demand-side water management** (which plays into water security and long-term resilience including in the context of population growth and climate change)

### 5. Elevate:

- This is focused on implementing and evolving **regional integrated planning** and should directly inform the shorter-term and longer-term Growth Plan and Servicing Plan updates

6. Investigate:

- This is focused on **water security and long-term resilience** including in the context of population growth and climate change
- It speaks directly to consideration of **alternate or new water governance structures** per the Growth Plan (3.4.4)
- If taken forward, it should directly inform the growth plan and service plan updates once available (not necessarily by 2027)

## **APPENDIX 4 - Specific Actions**

The following identifies key steps to taken related to water starting in early as 2024, pending approval of the Water Roadmap Update by the Board and CMRB project administration processes. These actions are derived from pages 18-25 of the Arup summary report.

Each recommendation has a summary description meant to elaborate on the Arup report pages 19-24, an estimated order of magnitude budget and a proposed timeline (Arup report page 25). All elements are subject to budgetary and resourcing constraints which would be confirmed with the Board. With this in mind, a staged approach has been proposed per Section 4, above.

### **5.2 Actioning Recommendation 1. Advocate**

#### *5.2.1 Advocate Description*

CMRB Administration would create a working group of willing member municipalities, establish terms of reference, and confirm the initial focus. CMRB Administration are recommending a near term focus on working with the province on the draft 2024 Drought Emergency Plan.

The deliverable of this action is a summary report for a one-year term whereby the Working Group, reporting to the Board, collaborate on key advocacy messages and engage with the Government of Alberta in the following process opportunities:

1. Prepare for continued drought conditions into 2024 and potentially beyond;
2. Strategically engage with the province on Alberta's water management strategy review mandated by the Premier, where possible;
3. Improving practicality of stormwater use and water reuse in CMR;
4. Provincial initiatives such as update to Water for Life Strategy, and others; and
5. Other, as directed by the Board.

#### *5.2.2 Order of Magnitude Cost - Advocate*

The order of magnitude CMRB budget cost of this action area is estimated as Low, likely under \$50,000.

Order of Magnitude commitment of municipal staff time – 12 days effort per year, subject to approved Board scope.

#### *5.2.3 Approximate Timeline - Advocate*

The timeline for the advocate actions would be for the term of one year and evaluated for regional benefit and lessons learned.



## 5.3 Actioning Recommendation 2. Convene

### 5.3.1 *Description Convene*

The actions for this recommendation focus on connecting municipal staff, member municipality elected officials and project partners across the region with continuous learning opportunities on water management. CMRB Admin will organize a CMRB Water Forum for information in the region for elected officials, and municipal administrations to hear topical presentations on regional matters.

Relevant project partners may include:

- Other orders of government
- Regional organizations
- Academia
- Industry
- Non-governmental organizations such as WSGs or WPACs
- Other water managers in the sub-basin such as irrigators or power generators

Topics/themes may include:

- Drought Resilience
- Ongoing Board initiatives (such as ESA database)
- Innovations and best practice linking land use decisions with regional water management
- Low impact development strategies on an ASP scale – Alberta examples
- South Saskatchewan River Basin Adaptation Strategies – an update on southern Alberta water management initiatives (Alberta Innovates)
- Federal climate change initiatives affecting southern Alberta
- Alignment of municipal water management practices, terminology and communication

An example of a similar event convened by CMRB Administration is the Digital Twin Speaker Series held in November 2023. The planning of a CMRB Water Forum could be collaborative among TAG or a willing subgroup of TAG. This could begin as an annual forum, with option to reassess from time to time.

### 5.3.2 *Order of Magnitude Cost – Convene*

The order of magnitude CMRB budget cost of this action area is estimated as Low, likely under \$25,000

Order of Magnitude commitment of municipal staff time – 2 days effort per year to participate in the forum. Should municipal staff collaborate to organize, additional time would be required. \* Note elected official time has not been included in the estimate.

### 5.3.3 *Approximate Timeline – Convene*

Plan a one-day CMRB Water Forum event in second half of 2024. A feedback form / survey may be used to determine how the forum could be improved or if it should continue and at what frequency.

## 5.4 **Actioning Recommendation 3. Enable**

### 5.4.1 *Description Enable*

CMRB Admin will connect with TAG to discuss how member municipalities may begin to close the gap between the work of WSGs, WPACs and member municipalities, including cataloguing active organizations within their sub-basin and determining the feasibility of increasing participation by way of attendance at meetings, in-kind contributions such as board/ subcommittee positions, or others. In addition, member municipalities may wish to endorse a common set of 'regional key messages' communications with respect to participation on the WSGs and WPACs.

CMRB Admin can connect with WSGs and WPACs at the request of member municipalities and present on the Regional Growth Plan policy highlights such as water stewardship policy, environmentally sensitive areas, and flood prone areas as well as the Water Roadmap Update.

With active relationships developed through actioning this recommendation, the CMRB should engage with these groups effectively for future Growth Plan updates.

Actioning this recommendation is relatively low effort for CMRB Administration – the actions of this recommendation are for the member municipality to determine their action internally. It is a recommendation for member municipalities to internally determine the feasibility of increased participation in WPACs and WSGs in their local context. The findings of this action area can be shared with colleagues on Water TAG.

### 5.4.2 *Order of Magnitude Cost – Enable*

The order of magnitude CMRB budget cost of this action area is estimated as Low, likely under \$25,000.

Order of Magnitude commitment of municipal staff time is at member municipality's discretion.

### 5.4.3 *Approximate Timeline – Enable*

This initiative is seen as an opportunity for municipalities to enable the work of WSGs and WPACs on an ongoing basis.

## 5.5 Actioning Recommendation 4. Promote

### 5.5.1 *Description Promote*

CMRB Administration would require a qualified consultant team to design and conduct a public engagement effort. Key scope items for a qualified consultant team would include:

- Creating approved common messaging with a goal to achieve improved public water demand management (topics to consider could include discussion of long term water security and climate impacts, that municipalities provide the service but the Province has jurisdiction over water matters, the CMR is a big region that relies on relatively small rivers, the environmental benefits of water conservation, the choices made in your homes and communities makes a difference, planning for the next million people, changing behaviors now for drought resilience in the future, etc.)
- Develop key messages, tailored to regional scale considerations. Content to be informative, not alarmist.
- Utilize free or for-fee public messaging platforms to share approved key messages with public
- Utilize municipalities', WSGs, WPACs, other partners' platforms to amplify messaging
- The messaging should be regional. For example, not communicating outdoor watering schedules, or low flow toilet rebates.
- Utilize metrics to track performance from the campaign and determine campaign next steps
- Link this work with the Monitoring Framework with Growth Plan benefits

This recommendation has linkages to other recommendations. As the public becomes more aware of water challenges in the region, provincial and potentially federal government interventions may become more palatable. For example, as public awareness of water in the region increases, there may be support for policy change, investigating infrastructure solutions and other investments to help mitigate risk to public from water challenges including the impacts of flood, drought and other climate challenges.

### 5.5.2 *Order of Magnitude Cost - Promote*

The order of magnitude CMRB budget cost of this action area is highly variable from moderate to high. A public campaign of this sort may be on the order of \$200,000 to \$500,000, depending on scale.

### 5.5.3 *Approximate Timeline – Promote*

The approximate timeline of this project would include chartering and RFP development in 2024, and project completion in 2025/2026, subject to confirmation and resourcing

constraints. An evaluation of the impact and success of the campaign may inform its extension to out-years.

## 5.6 Actioning Recommendation 5. Elevate

### 5.6.1 Description Elevate

The Growth Plan and Servicing Plan are important tools for the CMRB to achieve collective action. Evolved water policies will be needed over time and should be included in future Growth Plan updates. Elevate recognizes the importance of these updates to furthering the work of the CMRB around water management.

A nearer-term Growth Plan update will be needed by 2027 according to the policies of the Growth Plan, and a longer-term, more comprehensive update will be needed by 2032 according to the requirements of the *CMRB Regulation*. The nearer-term update, to be completed by 2027, is acknowledged to be a limited update that focuses on addresses emerging, implementation, and housekeeping issues. It is important that the nearer-term update proceeds in a way that is commensurate with staff capacity, available knowledge and data, and appropriate scope for a minor update.

In terms of a water focus, the nearer-term update would focus on two areas of the Growth Plan.

- The nearer-term update would look at any improvements to Section 3.4: Water Stewardship where municipalities agree to more specific actions that can be taken around water management at the regional scale. This would have a more specific focus in the areas of drought, flood, source water protection and climate change. To support these discussions, the update process would start by forming common meanings and values around these terms - what do they mean from a regional/CMRB perspective and what is the most important consideration in each of these areas? This process would be intended to build trust and support collective action that can be expressed in Growth Plan policy updates.
- Second, there is an opportunity for the CMRB to support best practices in community planning by identifying ways member municipalities can elevate water policy within Preferred Growth Areas, including Joint Planning Area Context Studies and in individual statutory plans. This second action would be more municipal or subregional in focus given the vast array of types and scales of development around the region, driven by member municipalities, but shared as learnings for all members to benefit from. This work would promote best practices in planning and development around the region and generate data points for the longer-term update that would support an update of Growth Plan in the area of placetypes and related policies.

For a longer-term update, to be complete by 2032, CMRB Administration would plan how to best incorporate water management into a full and integrated Growth Plan update that also considers growth management, environmentally sensitive areas, transit and transportation, density and mixed-use development, economic development, and/or other considerations as required by the *CMRB Regulation* and the Board. These considerations would weave together into a full update of the Growth



Plan. To ensure water management is appropriately integrated in the longer-term update, CMRB Administration will need to identify any data gathering or supporting studies that must occur to inform this comprehensive update. This longer-term Growth Plan update would have strong linkages to Investigate, and the timing and relationship between these two areas should be considered in terms of how they support and inform each other.

#### *5.6.2 Order of Magnitude Cost – Elevate*

Nearer-term Update: The order of magnitude CMRB budget cost of this action area is estimated as Low given existing TAG relationships and working groups, with some potential for consultant support needed, around \$50,000.

Longer-term Update: The update of the Growth Plan would be completed by a Growth Plan consultant as part of a full Growth Plan update. Supporting studies needed to inform this are to be determined, but CMRB Administration estimates \$100,000 to \$200,000 to complete data development, supporting work, and to contribute budget to the larger Growth Plan update budget.

#### *5.6.3 Approximate Timeline - Elevate*

Nearer-term update: This project is estimated to begin immediately with discussions about drought and with developing a common understanding about the region around flood, drought, mitigating risks from climate change, and source water protection. The nearer-term Growth Plan Update will continue as discussions at TAG meetings.

Longer-term update: This project is estimated to begin with discussions around data development and supporting studies in approximately 2 years once current larger projects are completed and discussions around nearer-term updates are well underway. Discussions about longer-term updates would begin with developing a work plan in collaboration with TAG, with data development and studies to follow as needed. This work would coordinate with Investigate and would continue until the Growth Plan is updated.

### **5.7 Actioning Recommendation 6. Investigate**

#### *5.7.1 Description Investigate*

The South Saskatchewan River Basin, which is home to the CMR, is a resource under pressure from both growth and a changing climate. CMRB Administration will explore options to establish an adaptive water security framework to respond to an uncertain future with interested major water users at the table. Arup further underscores the importance of bringing more voices to the table, including Indigenous Nations as unique rights holders. Planning and feasibility tools to quantify benefits / drawbacks to water users are deployed by other water users in the South Saskatchewan River Basin to evaluate options. Member municipalities and CMRB would benefit from level setting on extra-regional initiatives that may be ongoing. The project goal would be to test whether the many initiatives among various water users on waterways that the CMR relies upon add up to meeting the long-term water resource needs of the region (for

example, water conservation measures, water sharing agreements, modified reservoir operations, potential new reservoirs). The framework should establish what proactive measures can be taken to allow flexibility required for the future climate shocks and stressors.

The project would require a consortium of organizations with a common goal to collaborate. In the early investigate stages, the actioning of this recommendation would include identifying and articulating the objectives, the remit and scope, the governance structure, the interactions with existing platforms and initiatives, and the data (access) requirements; as well as extensive engagement to understand and gain buy-in into the concept. Given the wide range of options for how this could be undertaken, there is also a high degree of variability in the scope and commensurate cost and timeline.

The outcomes of this framework should be incorporated to the longer-term Growth Plan and Servicing Plan updates.

#### *5.7.2 Order of Magnitude Cost – Investigate*

The order of magnitude CMRB budget cost of this Investigate action area is Moderate; while it would likely be High to implement. A project of this nature may take on the order of \$250,000 in consulting support to Investigate. Completing such an initiative may potentially cost on the order of \$1 million to 5 \$million to complete. CMRB Administration would seek partner organizations and/or explore grant opportunities to help defray this cost.

#### *5.7.3 Approximate Timeline - Investigate*

A project of this nature has significant scale variability in potential scope and cost. The initial phase of investigating may take one to two years to confirm and to align external partner organizations on the feasibility of the investigation for developing a framework. The actual study may reasonably take 2 years to complete, if not longer.

## APPENDIX 5: Links to Growth Plan and Servicing Plan

Linkages to the Growth and Servicing Plan are summarized in Table 2, elaborating on Arup report pages 26 and 27.

Table 2: Summary of Linkages to Growth and Servicing Plan

Area of Focus from Arup Report	Linkages to Growth Plan (GP) and Servicing Plan (SP)	Notes
<p>1. Advocate</p> <p>Engage with the provincial government specifically on water-related issues through a structured process and formal CMRB representation</p>	<p><b>GP 3.4.3.1</b> The CMRB shall work with the Province to advance initiatives that improve the Region’s ability to sustainably use and reuse water</p> <p><b>GP 3.4.1.1</b> The CMRB will continue to advocate for enhanced protection of the headwaters of rivers that the CMR relies on for drinking water and economic production that are located inside and outside the CMR.</p> <p><b>GP 3.4.1.2</b> The CMRB will support the continued assessment of upstream reservoirs on the Region’s rivers to provide water storage capacity and flood mitigation, where applicable.</p> <p><b>GP 3.4.2.1</b> The CMRB will provide regional leadership for the management of Stormwater for Regionally Significant Stormwater issues.</p> <p><b>SP 4.2.1.3 ADVOCACY</b> Identify common regional issues for advocacy with the Province.</p>	<p>Can be broadened to other focus areas. Start with drought Potential future focus area: Stormwater Use and Water Reuse</p>
<p>2. Convene</p> <p>Regularly bring relevant stakeholders together in a water-focused forum, to raise awareness and facilitate discussions</p>	<p>SP: <b>4.2.1.1 WATERSHED PLANNING</b> Determine how the CMRB can contribute to and integrate with regional watershed planning.</p>	

Area of Focus from Arup Report	Linkages to Growth Plan (GP) and Servicing Plan (SP)	Notes
<p>3. Enable</p> <p>Increase formal representation on and participation in relevant watershed groups to support and enable interactions</p>	<p><b>GP 3.4.1.1</b> The CMRB will continue to advocate for enhanced protection of the headwaters of rivers that the CMR relies on for drinking water and economic production that are located inside and outside the CMR</p> <p><b>GP 3.4.1.2</b> The CMRB will support the continued assessment of upstream reservoirs on the Region’s rivers to provide water storage capacity and flood mitigation, where applicable.</p> <p><b>GP 3.4.1.3</b> CMRB member municipalities shall coordinate to manage impacts to Source Water quality in Regionally Significant Source Watersheds.</p> <p><b>GP 3.4.2.2</b> The CMRB and member municipalities should identify locations where Stormwater management may impact Regional Infrastructure systems and develop appropriate policies to address areas of impact.</p> <p><b>SP: 4.2.1.1 WATERSHED PLANNING</b> Determine how the CMRB can contribute to and integrate with regional watershed planning.</p>	
<p>4. Promote</p> <p>Play an active, public-facing role in promoting awareness on water-related issues and promoting water conservation and efficiency (focused on quantity and quality)</p>	<p><b>GP 3.4.3.2</b> CMRB Members should collaborate to identify higher and consistent water efficiency</p> <p><b>SP 4.2.1.2 WATER USE AND EFFICIENCY</b> Identify opportunities to improve water efficiency through regional collaboration.</p>	



Area of Focus from Arup Report	Linkages to Growth Plan (GP) and Servicing Plan (SP)	Notes
<p>5. Elevate</p> <p>Elevate regional planning further by fully integrating land use and water management planning and practices in targeted areas</p>	<p><b>GP 3.4.1.1</b> The CMRB will continue to advocate for enhanced protection of the headwaters of rivers that the CMR relies on for drinking water and economic production that are located inside and outside the CMR.</p> <p><b>GP 3.4.1.2</b> The CMRB will support the continued assessment of upstream reservoirs on the Region’s rivers to provide water storage capacity and flood mitigation, where applicable.</p> <p><b>GP 3.4.2.1</b> The CMRB will provide regional leadership for the management of Stormwater for Regionally Significant Stormwater issues.</p> <p><b>GP 3.4.3.2</b> CMRB Members should collaborate to identify higher and consistent water efficiency standards across the Region.</p> <p><b>GP 3.4.4.1</b> CMRB Members should investigate approaches to water collaboration within the CMR at the regional and sub regional scales, as appropriate.</p> <p><b>SP: 4.2.1.1 WATERSHED PLANNING</b> Determine how the CMRB can contribute to and integrate with regional watershed planning.</p> <p><b>SP 4.2.2.1 OPPORTUNITY FOR LEARNING</b> Incorporate lessons learned through planning in the Joint Planning Areas into the Region’s long-term water strategy.</p>	

Area of Focus from Arup Report	Linkages to Growth Plan (GP) and Servicing Plan (SP)	Notes
<p>6. Investigate</p> <p>Investigate feasibility of implementing regional, long-term water resource planning framework and process for water security and resilience purposes</p>	<p><b>GP 3.4.1.1</b> The CMRB will continue to advocate for enhanced protection of the headwaters of rivers that the CMR relies on for drinking water and economic production that are located inside and outside the CMR.</p> <p><b>GP 3.4.1.2</b> The CMRB will support the continued assessment of upstream reservoirs on the Region’s rivers to provide water storage capacity and flood mitigation, where applicable.</p> <p><b>GP 3.4.2.1</b> The CMRB will provide regional leadership for the management of Stormwater for Regionally Significant Stormwater issues.</p> <p><b>GP 3.4.4.1</b> CMRB Members should investigate approaches to water collaboration within the CMR at the regional and sub regional scales, as appropriate</p> <p><b>SP 4.2.2.1 OPPORTUNITY FOR LEARNING</b> Incorporate lessons learned through planning in the Joint Planning Areas into the Region’s long-term water strategy.</p>	

## 6. Closure

LUSC made the following motion in its meeting on September 21, 2023:

**Motion:** That the Land Use and Servicing Committee direct CMRB Administration to strengthen the Water Roadmap Update to address areas that are insufficient, including providing specific actions, clarity of direction, fulsome gap analysis, prioritization of outcomes and a stronger link to the Growth Plan, returning to the Land Use and Servicing Committee by January 2024.

CMRB Administration, with support from Arup and Water TAG, have met the direction from the motion per the following:

Direction to address areas that are insufficient:	Section of this briefing note:
Specific actions	Appendix 4
Clarity of Direction	Section 4 and Appendix 3
Fulsome gap analysis	Appendix 2
Prioritization of outcomes	Appendix 3
Links to the Growth Plan	Appendix 5
Returning to LUSC by January 2024	Agenda item forming part of the LUSC meeting on January 18 <sup>th</sup> , 2024

# Calgary Metropolitan Region Board

## Water Roadmap update: Recommended areas of focus

**Final draft summary report**

11 January 2024

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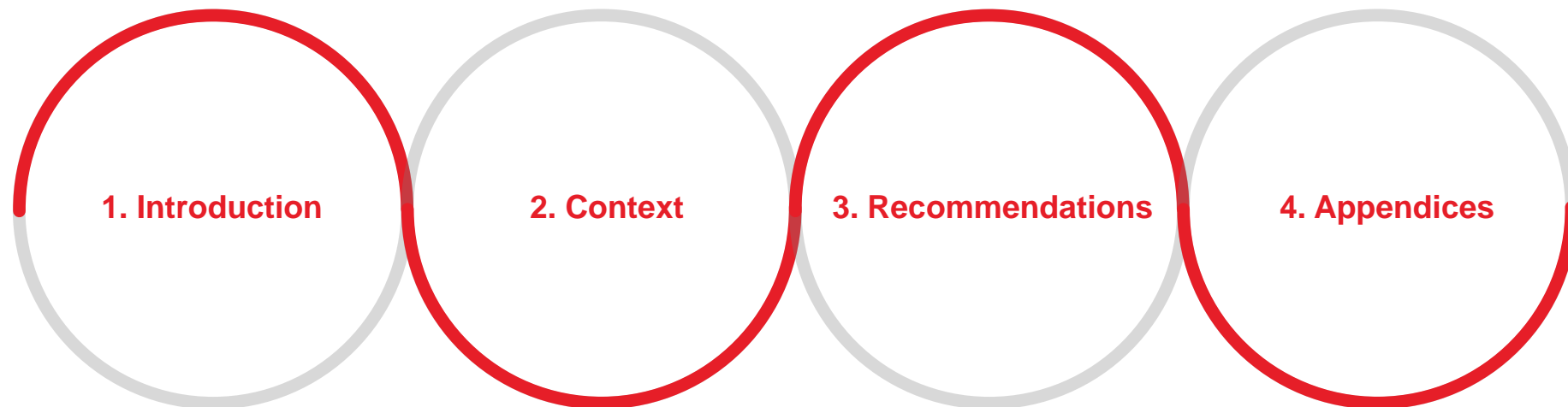
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# 1. Introduction

## Focus and structure of this document

This is the final report for the Calgary Metropolitan Region Board project to scope the update to the Water Roadmap and provide areas of focus for the long-term water strategy. This report contains 4 main sections, as outlined below.



### 1. Introduction

We provide the project purpose and objectives, and the approach and methodology. We detail the focus and structure of the document, as well as reflections and observations obtained during the desktop research, interviews and water Technical Advisory Groups (TAGs).

### 2. Context

We detail the relevant physical, institutional and policy context of the CMR, and background to the Board mandate. We point to the CMRB Growth Plan as key guidance for growth in the region, and the OurWater Tool and Policy Context as key outputs to understand the region and support recommendations.

### 3. Recommendations

We describe the prioritization framework used to make our recommendations and present our recommendations. We provide an overview, followed by a detailed slide describing each of them. We provide a conceptual timeline for implementation.

### 4. Appendices

We include additional detail in a technical appendix for interested readers. Sections include: the OurWater Tool, policy hierarchy summary, stakeholder engagement feedback, case studies to support recommendations, and a summary of water-related policy in the CMRB Growth and Servicing plans.

# 1. Introduction

## Project context and purpose

### Project context

The Calgary Metropolitan Regional Board (CMRB) is a not-for-profit, provincially mandated corporation established in 2018 in response to challenges related to rapid growth in the Calgary Metropolitan Region (CMR). Their focus is to support long-term sustainability in the region by 1) ensuring responsible land-use planning and growth management 2) developing policies regarding the coordination of regional infrastructure investment and service delivery, 3) promoting economic wellbeing and 4) developing policies outlining engagement with the public.

CMRB's Growth Plan and Servicing Plan, approved and filed by the Minister, respectively, provide policies and high-level guidance to municipalities and establish preferred growth areas. Both documents have a strong focus on water, addressing matters of water stewardship, flooding, stormwater management, water and wastewater servicing and long-term water planning.

The Water Table roadmap was a key document produced by CMRB in 2019 to support development of the Growth and Servicing plan. It identifies key areas of work for the water sector and a high-level program for their completion. The CMRB is currently in the process of updating this roadmap with the purpose of developing clear, vetted objectives for future long-term strategy for water security in the region, which align with the values of the Growth Plan and Servicing Plan.

### Project purpose

CMRB asked Arup to support the scoping of the updated Water Roadmap by recommending key areas of focus and prioritisation, identifying both quick wins and longer-term actions and highlighting where the CMRB should focus their effort in efficiently and effectively fulfilling its regional role. In support of this exercise Arup was asked to apply its City Water Resilience Approach (CWRA) approach, and specifically to leverage its OurWater tool.

### Specific project charter objectives

1. Provide an overview of previous work, direction from Growth and Servicing Plans, current understanding, other external initiatives to inform development of areas of focus discussions and gap analysis
2. Confirm areas of focus for water where the CMRB can create benefit to its members with its work through a collaborative process
3. Gap analysis
4. Identify ways that CMR can fulfil its regional role, and prioritize regional initiatives related to water management in CMR

# 1. Introduction

## Project methodology



First, we completed a desktop review of existing studies, projects and policies relevant to the region. We created a repository of documents that provides a comprehensive overview of the work to date.

This review fed into the development of two outputs;

- OurWater map
- Legislation/policy overview

For more detail of each of these outputs, please see *Appendices 1 and 2*.

We held semi structured interviews with 10 local stakeholders. Interviewees included members from the provincial government, Watershed Planning and Advisory Councils (WPAC), Watershed Stewardship Groups (WSG), water utilities, industry and an irrigation district.

Deeper understanding of local challenges, actions and opportunities was obtained through the interviews. This was used to refine outputs produced in the previous stage and inform our recommendations.

For a list of interviewees conducted and overarching findings see *Appendix 3*.

The Arup delivery team met regularly with the Water TAG to present progress and obtain feedback and municipal input when developing these recommendations.

The four Water TAG meetings included an introductory session, a workshop on the draft outputs of the desktop review (including of the OurWater tool and legislation/policy review), draft recommendations presentation, and a session to discuss Water TAG feedback.

Having reviewed all existing documentation, spoken to local stakeholders as well as municipal authorities, and consulted with internal and external expertise, we developed a set of 6 recommendations for the CMRB Water Table Roadmap Update.

The recommendations aim to address most pressing issues of the region, consider the Board remit and aim to leverage the foundations of existing, comprehensive work in the region.

# 1. Introduction

## Overarching Observations

- The **CMRB Growth Plan and Servicing Plan set strong precedence** in terms of collaboration and policy - including through its most fundamental element of identifying Preferred Growth Areas; and for example through the 1:200 flood protection measures for greenfield developments – which is a concrete policy initiative that leads the way in moving beyond provincial policy.
  - The CMRB Growth Plan and Servicing Plan have a very strong, positive and strategic focus on water, and **stakeholder engagement for this project validated that the plans reflect what stakeholders care about.**
  - The plans incorporate **or accommodate at a high-level the findings and recommendations** that emerged from the prior water-related complexity studies (which were designed to inform the Growth and Servicing Plans). In doing so, the GP and SP did not make any concrete recommendations for targeted focus and/or prioritisation.
  - The roadmap to-date has also focused on **identifying and understanding the issues and challenges of the region**, and commissioning the reports necessary to inform the CMRBs work. It has not set out any concrete guidelines for targeted prioritisation.
  - It is clear that the updated roadmap should focus CMRB’s work in on areas where it can most **efficiently, effectively and concretely support progress** towards regional water security and sustainability objectives. This is what the project charter mandated in the first place, but this sense of a need to move further from analysis to action-oriented implementation has been tangible from our interactions. Otherwise there is a risk of the CMRB getting stuck in analysis-paralysis. As such, any need for further study and investigation needs to be accompanied by a focus on concrete action.
  - There is deep **knowledge and expertise** within the CMRB executive and the CMRB member municipalities on water-related issues. Similarly there is a huge amount of knowledge, expertise and passion across the breadth of stakeholders in the region.
  - The CMRB is clearly **well-connected** across most of these stakeholders, and we felt a strong sense of positive recognition of and support for what the CMRB and is trying to achieve.
- All of this provides a very strong foundation for scoping out the next iteration of the water roadmap -- with a focus on concrete action.**

# 1. Introduction

## Strong water focus within the Growth Plan and Servicing Plan

Water is a central focus of the CMRB's Growth Plan and Servicing Plan, with the former recognising that *'water is essential to the success and quality of life in the Region'*. The plans articulate the approach to accommodate one million more people while enjoying and protecting the natural environment, and using precious water resources wisely.

- **The Growth Plan** refers to the water environment in two main areas: **Section 3.3 Protect and Enjoy the Environment** (policies around flood management, environmentally sensitive (aquatic) areas, and climate change), and **Section 3.4 Water Stewardship**, which focuses on watershed protection, stormwater management, water efficiency and collaboration and governance (for sub-regional water management and conservation).
- **The Servicing Plan** outlines the **Long-Term Water Strategy** as a key focus for the region, citing watershed planning (which includes watershed protection, water quality and water quantity), water-use efficiency, and advocacy (with the Province on water related matters) as the three top region-wide priorities. **Chapter 5 Water and Wastewater Servicing** and **Chapter 6 Stormwater Management** are also relevant here, specifically collaboration of servicing for the former and stormwater reuse for the latter.



## Growth Plan

EFFECTIVE AUGUST 15, 2022



## Servicing Plan



# A clear direction of travel

The water focus in the Growth Plan and Servicing Plan, and the findings from the stakeholder engagement, are mutually re-affirming and provide a clear direction of travel for the Water Roadmap. We set out a number of concrete, proactive and actionable recommendations both in terms of process and policy focus.

## 2. Context

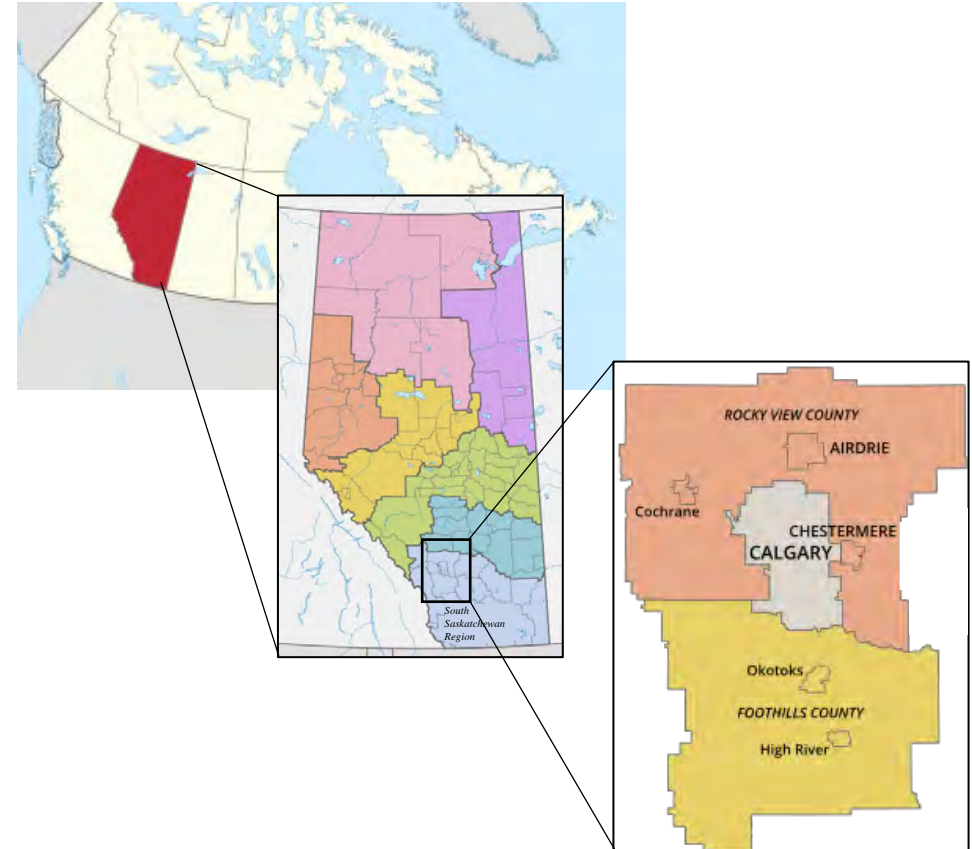
### The Calgary Metropolitan Region (CMR)

The Calgary Metropolitan Region (CMR) is located in the South Saskatchewan Region in Alberta, Canada. Around two million people live in the South Saskatchewan Region, with **1.6 million (80%) in the CMR**. Alberta is currently experiencing significant population growth, and the **CMR is expected to increase by 1 million people in the next 30 years**.

As well as population growth, the **CMR economy** has experienced significant expansion over the past decade, at times leading the nation in growth. This growth has been driven in large part by the energy sector, although swings in energy prices have also resulted in downturns. **Strides have been made in diversifying the regional economy**. Over the past 30 years, the finance, insurance and real estate and transportation and warehousing sectors have doubled their share of total activity, and manufacturing, construction and professional scientific and technical services sectors have also experienced significant growth.

Around 85% of the population of CMR live in **urban centres**, with most based in the City of Calgary. The remainder live in **rural, largely agricultural areas**. The CMR is located in the **traditional territory** of the Siksika, Kainai, and Piikani Nations of the Blackfoot Confederacy; the Tsuut'ina Nation; the Bearspaw, Chiniki, and Goodstoney Nations of the Stoney Nakoda; and the Métis Nation of Alberta Region 3.

The region is **being impacted by climate change**. The mean provincial temperature has increased by 1.4°C, largely since the 1970s. From 1 to 15 May 2023, heat records were broken in Alberta 158 times. Higher temperatures combined with less rainfall increase the frequency and intensity of forest fires, evidenced this year with Alberta's state of emergency between May and June.



*Location of the CMR within the South Saskatchewan Region, in Alberta, Canada*



## 2. Context

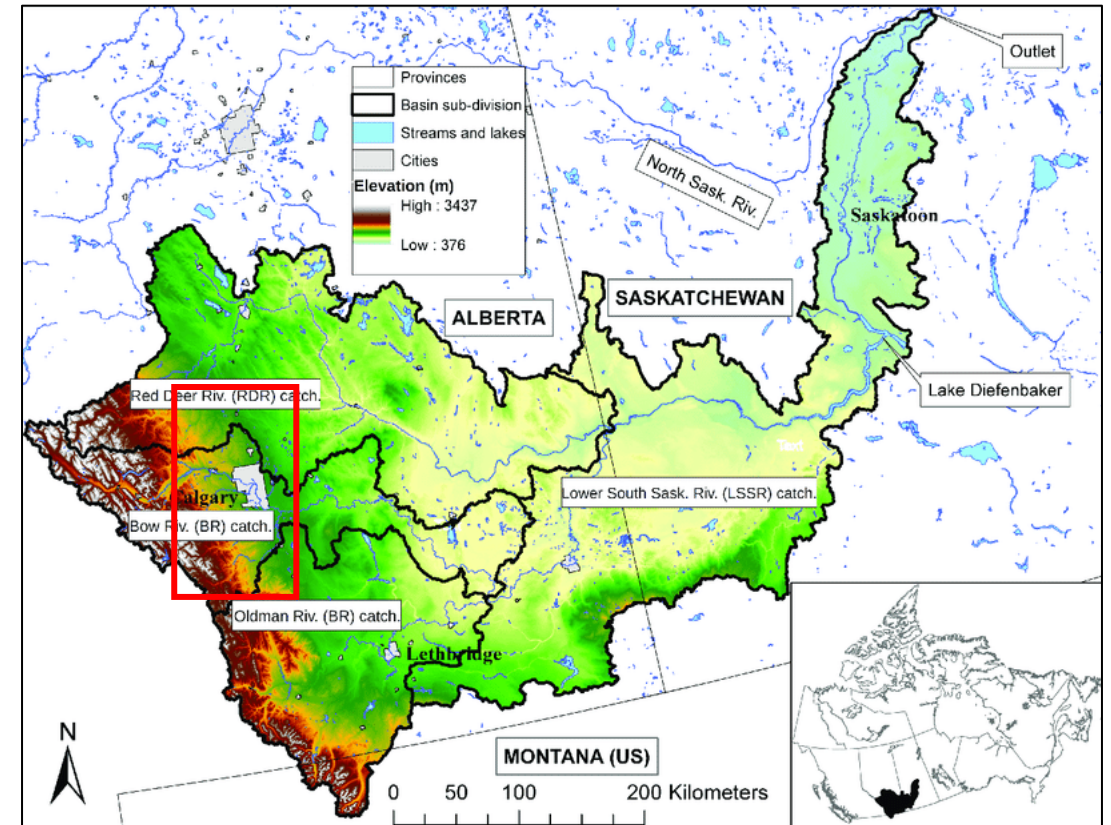
### Water in the CMR: underlying hydrology

The **South Saskatchewan River basin (SSRB)** is one of the largest river basins in Western Canada, and one of the most significant for the country, producing 80% of Canada's agricultural crops. There are three SSRB sub-basins located in the CMR: the Red Deer, Oldman and Bow river basins (see the red box on the map alongside). Basin headwaters are in the Rocky Mountains, and water flows north-east through Alberta and Saskatchewan before draining into Lake Winnipeg, Manitoba.

The SSRB area contains **three ecozones**: the Prairies, the Boreal Plains, and the Montane Cordillera. The majority ecozone in the CMR are Prairie areas, characterised by flat grassland, with a climate that ranges from semiarid to sub-humid. This means very cold winters, moderate summers, and low levels of precipitation.

One third of all precipitation in the basin falls as snow, with snow build up during fall and winter melting during spring and early summer (snowmelt) to provide the majority of river flow. Glacial meltwater is important in the late summer, while in winter, groundwater contributes 20% of the Bow River flow volume.

The Bow, Oldman and South Saskatchewan sub-basins have been **closed to new licenses since 2006** (see the South Saskatchewan River Basin Water Management Plan). Warmer air temperatures, changes in precipitation, retreating glaciers, and greater frequencies of extreme events will affect water quality and quantity in the CMR. Specifically, reductions in the snowpack and earlier onset of snowmelt is expected to **decrease overall river flows in an already constrained basin**.



The South Saskatchewan River Basin: *Red Deer River, Bow River, Oldman River, and Lower South Saskatchewan River sub-basins*. CMR highlighted in a red box. Source: Morales-Marin et al, 2018

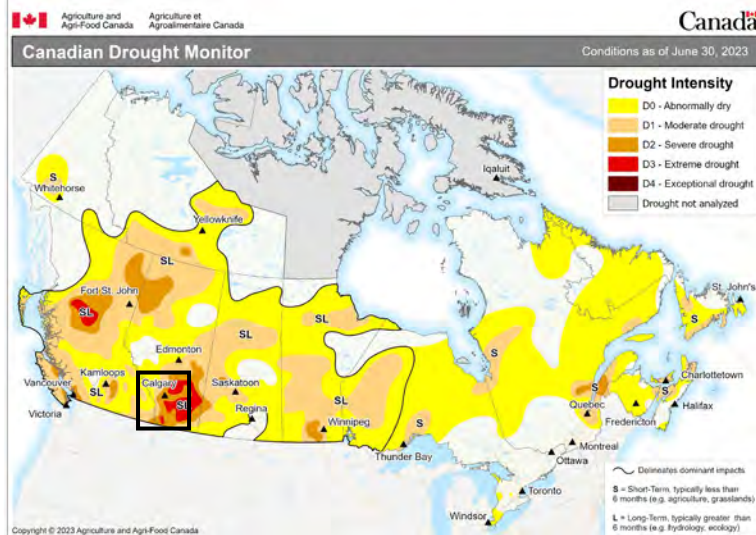
# 2. Context

## Water in the CMR

There are a number of water challenges in the CMR, including what are growing global challenges around ‘too much water’ and ‘too little water’.

### Too little water

**Water availability is a pressing issue as this work develops, as the region battles drought conditions.** In June 2023, 60% of the country was classified as Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3), **and 83% of the Prairie Region (including Alberta) was classified as Abnormally Dry (D0) or in Moderate to Extreme Drought (D1 to D3)**, including 90% of the region’s agricultural landscape. The south-eastern corner of the province had received less than 40 per cent of typical rainfall this season. As of July 2023, water shortage advisories have been issued for 28 water management areas in the province, in line with the Government’s staged drought response plan.



Canadian Drought Monitor showing severe to extreme drought in the area of the CMR

(June 2023) Use & Servicing Committee Agenda Pkg January 15, 2024

### Too much water

Significant floods in 1995, 2005, and 2013 **highlighted the diverse hydrological conditions experienced in the region**, and the need to be resilient and adaptable in responding to a wide range of future climate events and impacts. **In June 2013, over 200 millimetres of rain fell in just two days:** the Elbow River began flowing 12 to 15 times faster than usual, and the Bow River raged up to eight times its normal rate. Thirty-two communities in the region declared states of emergency, including the City of Calgary. Sadly, five people lost their lives, and southern Alberta experienced approximately \$6bn of financial losses and property damage.



Photo of Calgary City inundated during the 2013 floods

## 2. Context

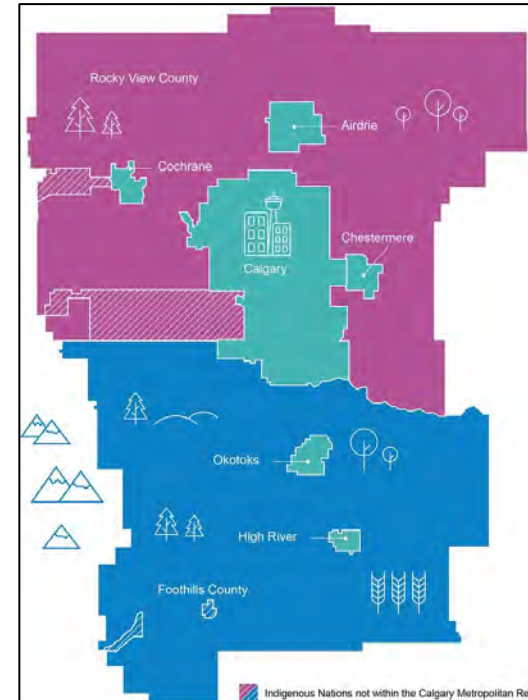
### The Calgary Metropolitan Region Board (CMRB)

Established in 2018, the CMRB is a not-for-profit government corporation made up of elected officials from the Calgary Metropolitan Region's 8 member municipalities: City of Airdrie, City of Calgary, City of Chestermere, Town of Cochrane, Foothills County, Town of High River, Town of Okotoks, and Rocky View County.

The CMRB is committed to supporting the long-term social, environmental and economic wellbeing of the Calgary Metropolitan Region by facilitating collaborative regional planning practices, optimizing shared services and land use, and fostering sustainable growth. The vision of the CMRB is included on the right. As required by the CMRB regulation, two key documents have been jointly produced by CMRB members to support this vision:

- the Growth Plan (2022), and
- the Servicing Plan (2022).

The draft Water Table Roadmap (2019) is the basis for this project and was an input into the 2022 Growth and Servicing Plans. The 2019 roadmap focuses on understanding and defining challenges, and providing recommendations on servicing approaches.



The Calgary Metropolitan Region Board municipalities: Rocky View County (purple), Foothills County (blue), Cities of Airdrie, Calgary, Chestermere and Towns of Cochrane, High River and Okotoks (teal). Alongside, the vision of the CMRB.

#### CMRB vision:

*“Building on thousands of years of history, we welcome everyone to join us in living happy, healthy and prosperous lives in a spectacular natural environment.*

*We are a world leading region built on hard work, resilience, helping others and a deep respect for nature.*

*We use our land wisely, share our services and care for our wildlife, air and water.*

*We grow together.”*



## 2. Context

### The CMRB Growth and Servicing Plans

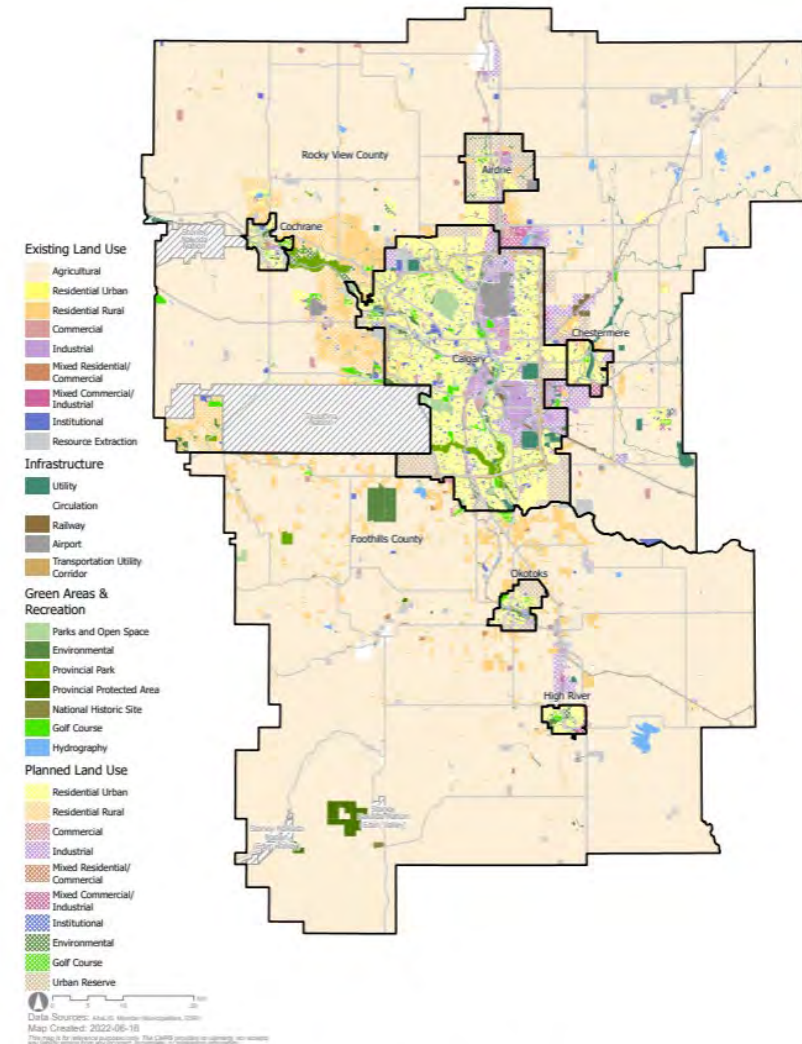
The Growth Plan and Servicing Plan for the Calgary Metropolitan Region were approved and filed by the Minister, respectively, and came into effect in 2022. The plans set policy to support long-term prosperity in the Calgary Metropolitan Region, providing policies and high-level guidance to municipalities on regionally significant topics including:

- Residential, commercial and industrial land use
- Corridors for transportation, recreation, energy transmission, utilities and transit
- Infrastructure planning and development
- Water quality, water use and management (including flood mitigation)
- Environmental sustainability and the conservation of agricultural lands

The Growth Plan provides a blueprint for growth by naming Preferred Placetypes, which include: infill and redevelopment, masterplan communities, and mixed-use/ transit-oriented development. The principles of the Growth Plan are to:

- Promote the integration and efficient use of Regional Infrastructure;
- Protect water quality and promote water conservation; and
- Encourage efficient growth and strong and sustainable communities.

For more information, see *Appendix 5 - detail of growth and servicing plans*



**Figure 5: Approved and Planned Land (as of January 1, 2018)**

Digitized Existing and Approved Land Use data prepared by ISL Engineering and Land Services in 2020 on behalf of the CMRB using 2018 parcel data provided by AltaLIS and the City of Calgary and 2018 land use data provided by CMRB member municipalities.

# 2. Context

## Water cycle and stakeholders

OurWater is an online tool that aims to improve water governance through coordination and knowledge sharing. This is achieved by depicting water flow, assignment of stakeholders and collection of existing documents. It is a comprehensive and accessible place for visualization of the water cycle.

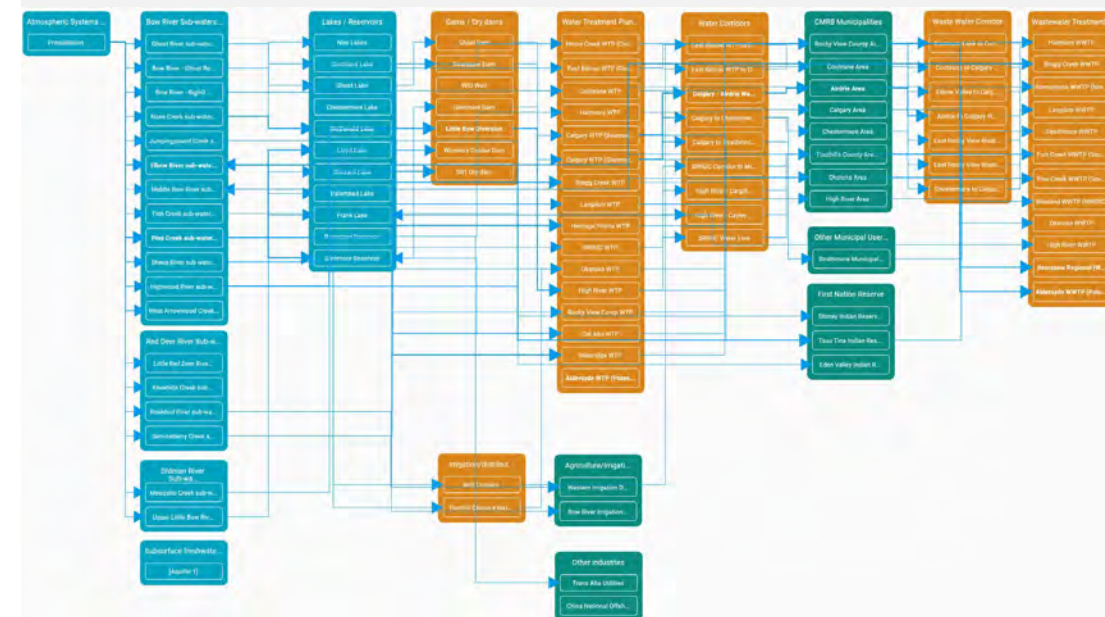
The CMR OurWater is constructed using extensive documentation obtained in the desk research, including geographical and infrastructural maps, servicing agreements and capacity studies. Key components of the CMR water cycle include

- **Natural assets:** consist of sub watersheds as set by the Hydrologic Unit Code 8 as well as lakes and reservoirs
- **Physical assets:** consist of dams, water treatment plants, water corridors, wastewater corridors and wastewater treatment plants. These were obtained predominantly from the 2019 CMR Existing Water & Wastewater Servicing & Regional Potential Study
- **Users:** consist of the CMRB Municipalities, First Nations, agriculture and irrigation and other industries. This was agreed with the CMRB administration to reflect the granularity and lens this work is addressing

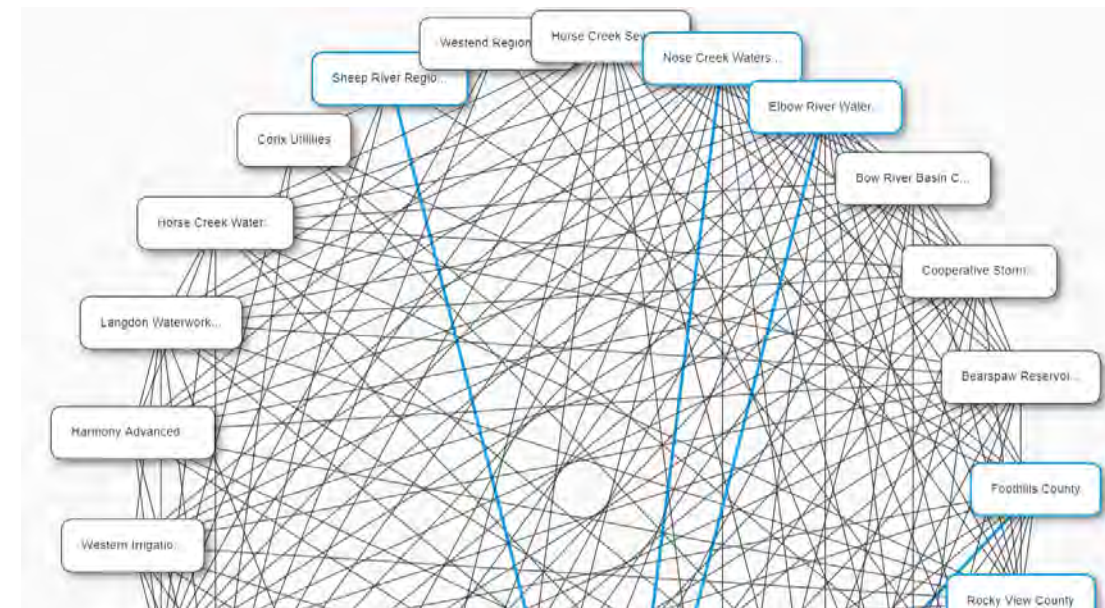
**Stakeholders** relevant to each asset in roles such ownership, management or regulation are assigned. A view of key **shocks and stressors** for the region is provided, namely pressures of water availability, declining water quality, surface water flooding and storm water management.

A comprehensive list of existing studies, plans, policies and programs is included and acts as a live repository.

*Please see Appendix 1 for a detail description of CMR OurWater and the evidence base used to construct it.*



Overview of CMR OurWater (Water cycle). Blue boxes represent natural assets, orange physical assets and green users.



Overview of CMR OurWater (Stakeholders)

## 2. Context

### Policy context

As well as the physical assets, stakeholders, and shocks and stressors examined in OurWater, we have mapped the CMR's legislative and policy context. The resulting diagram is aligned to the policies and plans held in Our Water and compliments the tool by adding granularity to stakeholder relationships. We have considered four levels of policy and planning:

#### Federal

Water governance in the CMR aligns with Canadian federal law. This includes **federal and international agreements** on water use, with other entities such as the **United States** (Boundary Waters Treaty, 1909), **neighbouring provinces** (Master Agreement on Apportionment, 1969), and **Indigenous First Nations** in the area (Treaty 7 and First Nations principles).

#### Provincial

The Alberta **Water Act** is the primary legislation that guides water management decisions in the region. Policy-making and regulation is led by the province through the **Ministry of the Environment and Protected Areas (EPA)**, and guided by **Water for Life**, a strategy document that set out the Province's goals and key directions. This work is supported by the advisory group the **Alberta Water Council**.

#### Regional

The **CMRB** has a mandate to support sustainable growth in the region, largely through environmentally responsible land-use planning, coordination and

implementing the Growth Plan and Servicing Plan. At the watershed level, **Watershed Planning and Advisory Councils (WPACs)** and **Watershed Stewardship Groups (WSGs)** report on watershed health and facilitate collaborative planning, education and stewardship. WPACs are designated by the province to engage representatives of key stakeholder groups, including municipalities, and seek consensus on land and water management strategies. WSGs are community-based partnerships, supported by WPACs and municipalities, and typically convene to respond to specific, localised challenges.

#### Municipal and local

**Municipalities** produce management and design policies (incl source water protection, stormwater use), and development plans in line with the Water Act, using evidence and inputs from WPAC reporting. **Developers** produce master drainage and local area plans for municipal approval. We have not examined the municipal and local level in detail in the policy context, as the Roadmap Update is focused on provincial and regional policy and the role of the CMRB.

We recognise stakeholder interactions are complex and can be depicted in a variety of ways; the following page presents one view and aims to give a sense of the key policy context.

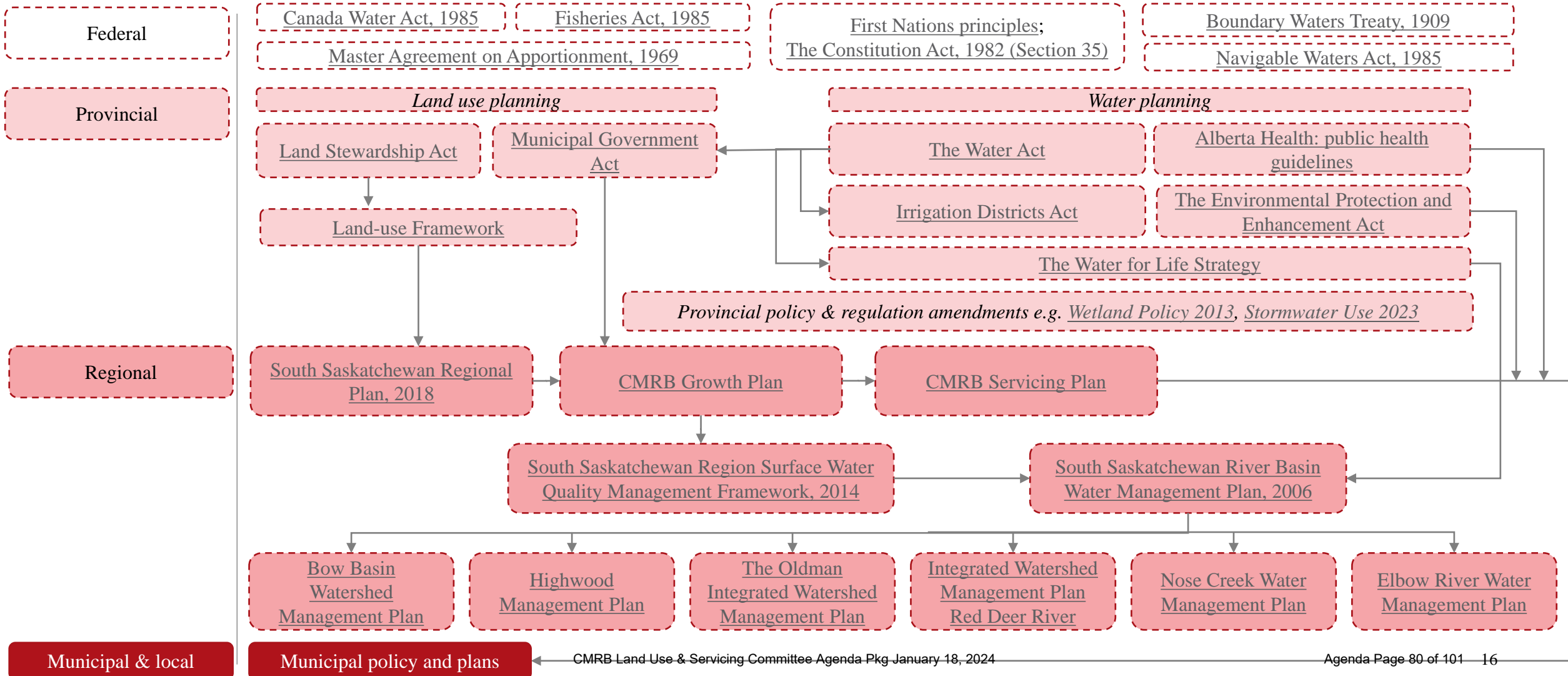
*Please see Appendix 1 for more details on the OurWater Tool, where a list of the relevant policies and plans are compiled. OurWater also contains specific programmes and studies not included here.*



# 2. Context

Relevant policies and plans can be found in OurWater tool or at hyperlinks in the text below.

## Policy context



# 3. Recommendations

## Prioritization Framework

Our recommendations for the CMRB Water Roadmap update are based on:

- Review of existing documentation including prior complexity studies reports
- Suggestions and insights from stakeholder engagement conducted specifically for this project, including regular engagement with the Water TAG.
- Arup's wider experience working with different clients globally around strategic water management

There are several water-related challenges in the region, all interlinked to some extent. The CMRB work on all the water-related matters that affect the region and its members. In order to help identify areas for focus and prioritisation, we applied a prioritization framework based on 3 criteria:

- **Challenges and issues:** The focus of CMRBs roadmap and work should respond to the main water-related challenges and issues facing the region.
- **Remit and reach:** CMRB's work must align with the organization's remit, as defined by its Mandate, and support and enable the Growth Plan and Servicing Plan. The focus should reflect common priorities among members and therefore the region as a whole.
- **Pragmatism and progress:** CMRB's work should build on existing foundations, leveraging existing platforms and not unduly duplicating efforts. The recommendations should be action-oriented, and progress should be demonstrable including through lower effort 'quick wins'. The capacity of both the CMRB executive and member municipalities needs to be considered.

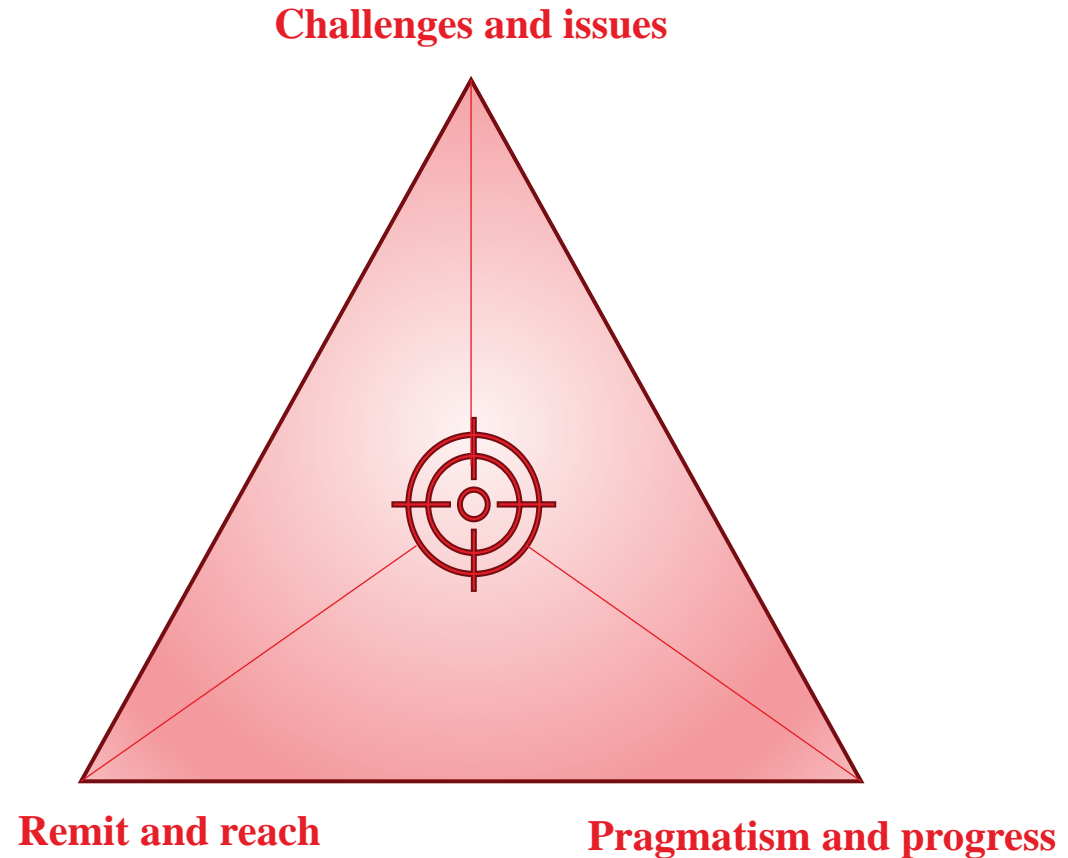


Figure 1: Prioritization framework used to provide recommendations



# Overview of recommendations

Bringing stakeholders together

← Focus →

Implementing and evolving policy  
Progressing & updating the Growth & Servicing Plans

Lower

← Complexity & level of effort →

Higher

<p><b>Advocate</b></p>	<p><b>Convene</b></p>	<p><b>Enable</b></p>	<p><b>Promote</b></p>	<p><b>Elevate</b></p>	<p><b>Investigate</b></p>
<p>Engage with the provincial government specifically on water-related issues through a structured process and formal CMRB representation</p>	<p>Regularly bring relevant stakeholders together in a water-focused forum, to raise awareness and facilitate interactions</p>	<p>Increase (formal) representation on and participation in relevant watershed groups to support and enable interactions</p>	<p>Play an active, public-facing role in promoting awareness on water-related issues and promoting water conservation and efficiency (focused on quantity &amp; quality)</p>	<p>Elevate collaboration on regional policy for water stewardship through short- and long-term Growth Plan and Servicing Plan updates.</p>	<p>Investigate feasibility of implementing regional, long-term water resource planning framework and process for water security and resilience purposes</p>
<p>Primary objectives from Growth Plan - Water Stewardship (GP 3.4)</p>					
<p>“(c) Enhance regional collaboration of water stewardship.”</p>	<p>“(c) Enhance regional collaboration of water stewardship.”</p>	<p>“(a) Enhance protection of our watersheds and natural water systems.”</p> <p>CMRB Land Use &amp; Servicing Committee Agenda Pkg January 18, 2024</p>	<p>“(e) Improve the efficiency with which we use our limited water supply.”</p>	<p>“(c) Enhance regional collaboration of water stewardship.”</p>	<p>“(d) Enhance the Region’s resilience to changes to natural water systems, due to Climate Change and human development.”</p>

# 1. Advocate

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## Advocate

Engage with the provincial government specifically on water-related issues through a structured process and formal CMRB representation

Primary objectives from Growth Plan - Water Stewardship (GP 3.4):

“(c) Enhance regional collaboration of water stewardship.”

What?	Why?
<p>Set up a process to engage with the province in a structured, regular way at senior level to represent the region on water-related matters; to influence provincial priorities and advocate for necessary change or evolution in provincial legislation, regulation and policy; and to provide strong visibility of the leadership the region is taking on water management.</p> <p>Recommended to do this now or as soon as possible, with an eye on the 2024 update to the provincial government’s Water for Life strategy.</p>	<ul style="list-style-type: none"> <li>• Good relationships exist, but <b>there is no structured process</b> for regular dialogue with the Alberta EPA that represents the region as a whole on key water related issues. ‘The benefit of strong government relationships cannot be underestimated’ (from interview).</li> <li>• There are <b>barriers within the existing policy framework</b> that were surfaced repeatedly in our engagement – <b>such as on water recycling and stormwater re-use</b>. This needs provincial-level engagement to continue to push for evolving the relevant policies.</li> <li>• This can help make the case for CMR wide carve-outs for policy or for it to be <b>a proof-of-concept as a region</b> if/when there is an appetite for that.</li> <li>• <b>The province is open to the CMR/CMRB taking a leading role</b> in tackling water-related issues. This would form part of that direction of travel.</li> <li>• This can make it easier for the EPA itself in terms of CMR/CMRB interactions and can help it advocate for change internally.</li> </ul>

Policy focus	Level of effort						
<ul style="list-style-type: none"> <li>• To be agreed and can evolve</li> <li>• Initial focus could be on <b>water recycling and stormwater re-use</b> – including in context of exploring appetite for proof-of-concept within the region</li> </ul>	<table border="1"> <tr> <td>L</td> <td>Relatively low level of effort.</td> </tr> <tr> <td>M</td> <td>The representative group would need to be identified and the process will take up some resources to run, but from a governance perspective this can be anchored into the existing TAG/Committee/Board process and cycles.</td> </tr> <tr> <td>H</td> <td></td> </tr> </table> <p><b>First step to take</b></p> <p>Agree with province to put this in place (or to trial it)</p>	L	Relatively low level of effort.	M	The representative group would need to be identified and the process will take up some resources to run, but from a governance perspective this can be anchored into the existing TAG/Committee/Board process and cycles.	H	
L	Relatively low level of effort.						
M	The representative group would need to be identified and the process will take up some resources to run, but from a governance perspective this can be anchored into the existing TAG/Committee/Board process and cycles.						
H							

**Challenges and issues**

The CMRB representative group would focus in on the major issues that face the region and that require provincial administration engagement.

**Remit & reach**

In representing the region towards the province, this is a very logical role for the CMRB to take on.

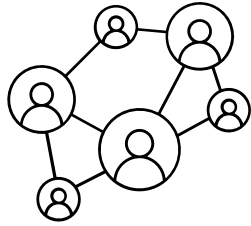
**Pragmatism & progress**

This is relatively straightforward. It can be a quick win to set up, and should bear fruit over time. Immediate impact could be on the 2024 Water for Life strategy update. There is precedence of the CMR leading ahead of the province in terms of the 1:100/1:200 flood resilience policy.

# 2. Convene

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## Convene

Regularly bring relevant stakeholders together in a water-focused forum, to raise awareness and facilitate interactions

Primary objectives from Growth Plan - Water Stewardship (GP 3.4):

“(c) Enhance regional collaboration of water stewardship.”

What?	Why?
<p>Provide a platform for regularly bringing together the regional stakeholders who are engaged or interested in water-related issues, or directly impacting the water situation (e.g. industry); to raise awareness, strengthen interactions and relationships, and build momentum around the focus on water.</p> <p>This could take on different formats – a plausible format would be an annual or semi-annual CMRB-organised conference focused on the sustainable management of water in the region.</p> <p>This would not be a public-facing activity, although the forum could evolve over time.</p>	<ul style="list-style-type: none"> <li>Regional or sub-regional organisations and forums do exist (such as WPACs and WSGs), and there are individuals who are central to regional water management across institutions, but <b>there currently isn't an open forum</b> that facilitates all interested and relevant parties coming together.</li> <li>In our stakeholder engagement it was repeatedly suggested that there could be <b>a role for the CMRB in convening stakeholders</b> and communicating on the issues and challenges as well as the ongoing initiatives.</li> <li>It allows for the <b>CMRB to communicate its messages more widely</b> – the benefit of which was evident also from our stakeholder engagement.</li> <li>It allows the <b>CMRB to push the conversation</b> around specific themes, such as the interaction between land use and water impact</li> <li>This can <b>strengthen the network</b> around and focus on water and add to the momentum of growing awareness of the challenges facing the water system.</li> <li>It would <b>put the CMRB more visibly central</b> to regional water conversations.</li> </ul>
Policy focus	Level of effort
<ul style="list-style-type: none"> <li>This recommendation doesn't have a pre-defined policy area as focus. It is very much focused on bringing stakeholders together.</li> <li>For any event one or more specific policy areas could be focused on</li> </ul>	<p>L</p> <p>Relatively low level of effort. Assuming this takes the format of an annual conference, this would require mainly organisational resourcing and would come at some cost (depending on the funding of the conference – eg ticketing, sponsorship, etc.)</p>
	<p>M</p>
	<p>H</p>
<h3>First step to take</h3>	
<p>Pick a date and venue for a first conference in 2024</p>	

**Challenges and issues**

The conference can cover any of the main challenges and issues, and the CMRB can identify themes for the conference or sections within it.

**Remit & reach**

The CMRB is a logical convening body for region-wide stakeholders engaged in water-related issues.

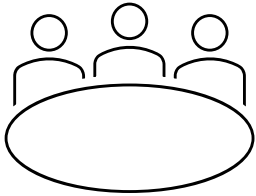
**Pragmatism & progress**

This is straightforward to do. It can be a quick win in terms of organising a first convening event – after which the benefit/impact can be evaluated as to whether it was of benefit and whether to continue and/or to evolve the format.

# 3. Enable

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## Enable

Increase (formal) representation on and participation in relevant watershed groups to support and enable interactions

Primary objectives from Growth Plan - Water Stewardship (GP 3.4):

“(a) Enhance protection of our watersheds and natural water systems.”

What?	Why?
<p>In the first instance this could be a renewed focus by individual municipalities on participating as intended. Then this could be for e.g. the Water TAG to consider the most effective and efficient way of participating, i.e. to understand what is the optimal ‘matrix’ of municipality representation on the different groups; and to consider if having a CMRB representative would be more efficient or effective.</p>	<ul style="list-style-type: none"> <li>• There is participation by municipalities already, although interviews suggested this can differ between municipalities, likely due to capacity.</li> <li>• <b>Aligns with prior recommendation</b> in stormwater background report: “Watershed planning in Alberta brings together diverse stakeholders to establish watershed-specific targets for water quality and quantity. The CMRB may wish to encourage its member municipalities to actively participate in these initiatives and ensure that appropriate watershed targets are adopted in each intermunicipal subwatershed and recognized in statutory land use plans, where appropriate.”</li> <li>• In interviews it was surfaced that <b>greater CMR municipality participation in watershed planning groups would be welcomed and beneficial</b>. It was also mentioned that this could help ‘reinvigorate’ these groups.</li> <li>• It is an <b>efficient and effective way of facilitating interaction</b> between the watershed planning groups and the CMRB and/or its member municipalities, and integration between watershed management plans and (implementation of) the Growth and Servicing Plans.</li> <li>• It can help <b>build capacity and knowledge within the municipalities</b> to support that link with CMRB and local plans</li> <li>• Will be recognised by watershed planning groups as <b>clear, immediate and concrete action</b> on the back of engagement on water roadmap update.</li> </ul>

Policy focus	Level of effort								
<ul style="list-style-type: none"> <li>• To be agreed, and there does not have to be one (initially) with the first stage focusing on improving and reinvigorating the engagement</li> <li>• A logical policy focus area could be <b>sourcewater protection</b> given the key roles of watershed groups in this context (and on which existing approaches can be shared across members)</li> </ul>	<table border="1"> <tr> <td>L</td> <td rowspan="3">                     Relatively low level of effort. Although recognising that for smaller CMR member municipalities the capacity to support (multiple) watershed groups can be limited. Consideration could be given to combining representation across municipalities.                 </td> </tr> <tr> <td>M</td> </tr> <tr> <td>H</td> </tr> <tr> <td colspan="2"> <h3>First step to take</h3> </td> </tr> <tr> <td colspan="2"> <p>Draw up matrix of current CMRB member engagement with watershed groups</p> </td> </tr> </table>	L	Relatively low level of effort. Although recognising that for smaller CMR member municipalities the capacity to support (multiple) watershed groups can be limited. Consideration could be given to combining representation across municipalities.	M	H	<h3>First step to take</h3>		<p>Draw up matrix of current CMRB member engagement with watershed groups</p>	
L	Relatively low level of effort. Although recognising that for smaller CMR member municipalities the capacity to support (multiple) watershed groups can be limited. Consideration could be given to combining representation across municipalities.								
M									
H									
<h3>First step to take</h3>									
<p>Draw up matrix of current CMRB member engagement with watershed groups</p>									



**Challenges and issues**

Would support focus on key issues under consideration by the watershed planning groups

**Remit & reach**

Promotes integration between CMR member municipalities and other regional stakeholders.

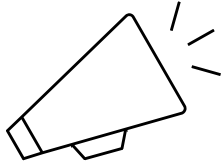
**Pragmatism & progress**

Straightforward recommendation to implement

# 4. Promote

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## Promote

Play an active, public-facing role in generating awareness on water-related issues and promoting water conservation and efficiency (focused on quantity & quality)

Primary objectives from Growth Plan - Water Stewardship (GP 3.4):

“(e) Improve the efficiency with which we use our limited water supply.”

What?	Why?
<p>Co-ordinate a sustained, regional public campaign around the water-related challenges and issues facing the region, promoting awareness of the role all have to play in addressing these. This would build on and complement the strong foundation of individual municipality water conservation and efficiency initiatives.</p> <p>In terms of implementation this could adopt an approach similar to the Growth Plan communication campaign.</p>	<ul style="list-style-type: none"> <li>• <b>Public, citizen and customer behaviour change will (continue to) play a critical role</b> in addressing the short-, medium- and long-term water resource availability pressures also in the context of climate change impacts. A focus on public water conservation and efficiency efforts is a no regrets activity.</li> <li>• <b>Aligns with the AE 2019 “Water Use and Conservation in the Calgary Metropolitan Region Study”</b> which includes an opportunity identified as ‘Implement Conservation and Efficiency Measures: Public Engagement’.</li> <li>• Per capita consumption in the region has improved – yet remains high compared to some other parts of the world, where the ambitions are being pushed even further. Noting that <b>this should focus on the impacts of behaviours on both water quantity and water quality</b>.</li> <li>• <b>Allows the CMRB to take a leading role</b> in moving public engagement activities beyond individual municipalities; and allows the CMR to be potentially world-leading in its public engagement and education activity.</li> <li>• <b>Could raise the profile of the CMRB</b> as an organisation (if desirable).</li> <li>• Focus on engagement and education keeps this away from directing targets or rates for the region – <b>impactful but of reduced complexity</b></li> <li>• Pooling resources across members can allow for more efficient and effective spend</li> <li>• Lessons can be learned across CMR municipalities, other cities and regions nationally as well as internationally.</li> </ul>

Policy focus	Level of effort
<ul style="list-style-type: none"> <li>• This is fully focused on <b>water efficiency and demand-side management</b> (which plays into water security and long-term resilience including in the context of population growth and climate change)</li> </ul>	L
	M
	H
<p><b>First step to take</b></p>	

**Challenges and issues**

Water conservation and efficiency speaks directly to the #1 issue identified by all stakeholders: short-, medium- and long-term water resource availability challenges.

**Remit & reach**

Region-wide campaign logically co-ordinated by the CMRB. CMRB backing will add legitimacy to the messaging.

**Pragmatism & progress**

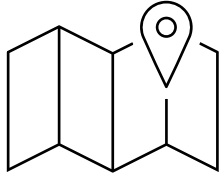
Builds on strong foundation of existing activity within municipalities, and good practice can be imported from elsewhere nationally and internationally. Avoids governance complexity that would come with directing rates or conservation targets.



# 5. Elevate

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## Elevate

Elevate collaboration on regional policy for water stewardship through short- and long-term Growth Plan and Servicing Plan updates.

Primary objectives from Growth Plan - Water Stewardship (GP 3.4):

“(c) Enhance regional collaboration of water stewardship.”

What?	Why?
<p>Building on the emerging collaboration around water servicing for preferred growth areas, elevate and broaden this out to assist in achieving other water-related growth plan objectives and servicing priorities. It would look to promote and adopt leading practices in terms of water conservation and efficiency, source water protection, mitigating risks to municipalities from climate change, and flood and drought management.</p>	<ul style="list-style-type: none"> <li>Water Stewardship is central to the <b>Growth Plan and Servicing Plan</b> (Section 4.3). This recommendation strengthens a commitment to updating this section in <b>shorter- and longer-term</b> Growth Plan updates, with particular focus on source water protection, drought, flood, and risks from climate change.</li> <li>The <b>preferred placetypes and preferred growth areas are central to the Growth Plan and Servicing Plan</b>, and this also strengthens that focus, especially in the context of the long-term Growth Plan update.</li> <li>It <b>builds on the emerging collaboration</b> around water servicing for preferred growth areas, and supports member municipalities to <b>jointly grow insight</b> into key challenges and potential policy solutions, <b>aligning terminology</b> and <b>developing a shared understanding</b>.</li> <li>It looks to <b>deliver on multiple other water-related Growth Plan objectives and Servicing Plan priorities</b>.</li> <li>It can help <b>make the case towards the province for any policy proof-of-concepts</b> or regulatory carve-outs that may be necessary.</li> <li>It would look to <b>promote leading practices</b> around water conservation and efficiency, source water protection, mitigating risks to municipalities from climate change, and flood and drought management.</li> </ul>

Policy focus	Level of effort
<ul style="list-style-type: none"> <li>This is focused on implementing and evolving <b>regional integrated planning</b> and should directly inform the Growth Plan and Service Plan shorter- and longer-term updates.</li> </ul>	L
	M
	H
<p><b>First step to take</b></p> <p>Explore and document best practices and effective policy tools for member municipalities to consider.</p>	

**Challenges and issues**

Integrated planning will address multiple of the regional water challenges and issues.

**Remit & reach**

Focus on promoting best practice and evolving water policy in the CMRB. Role of CMRB vs. municipalities to be identified.

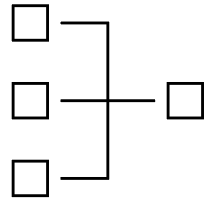
**Pragmatism & progress**

It supports targeted achievement of multiple GP & SP objectives and priorities. Balances short-term updates with longer-term policy development.

# 6. Investigate

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## Investigate

Investigate feasibility of implementing regional, long-term water resource planning framework and process for water security and resilience purposes

Primary objectives from Growth Plan - Water Stewardship (GP 3.4):

“(d) Enhance the Region’s resilience to changes to natural water systems, due to Climate Change and human development.”

What?	Why?
Investigate feasibility and desirability of setting up a regional water resource planning framework and process that looks into long-term availability and needs and builds a comprehensive picture of supply-side and demand-side solutions to be implemented over time.	<ul style="list-style-type: none"> <li>It <b>takes a regional approach to the #1 issue</b> affecting all areas within it – the availability and sustainability of water resources to support social, environmental and economic well-being of the region over the long-term.</li> <li><b>The impacts of climate change</b> make for far greater uncertainty and variability, further necessitating the need for more integrated long-term water resource management</li> <li><b>There is no integrated view and plan</b>, despite the recognition of the challenges and issues and the extensive efforts and initiatives to address those (on a more fragmented basis). Due to this fragmentation, the extent to which ongoing and planned initiatives add up to meet long-term resource needs is unclear.</li> <li>It <b>brings together the multiple solutions that stakeholders are advocating for</b> – such as more effective water trading, increased water conservation and efficiency, greater water reuse and stormwater management.</li> <li>It can <b>build on the existing work and institutions/organisations</b> such as through the BRBC. It can <b>bring more voices to the table</b>, such as <b>Indigenous Nations</b>, encouraging integration in regional planning.</li> <li>There is <b>precedence to learn from international examples</b>, such as the recently established National Framework and Regional Planning processes in England &amp; Wales. → In recognition of the complexity and effort associated with designing and implementing such an approach, this is included as a recommendation to investigate in the first place as part of the roadmap update.</li> </ul>

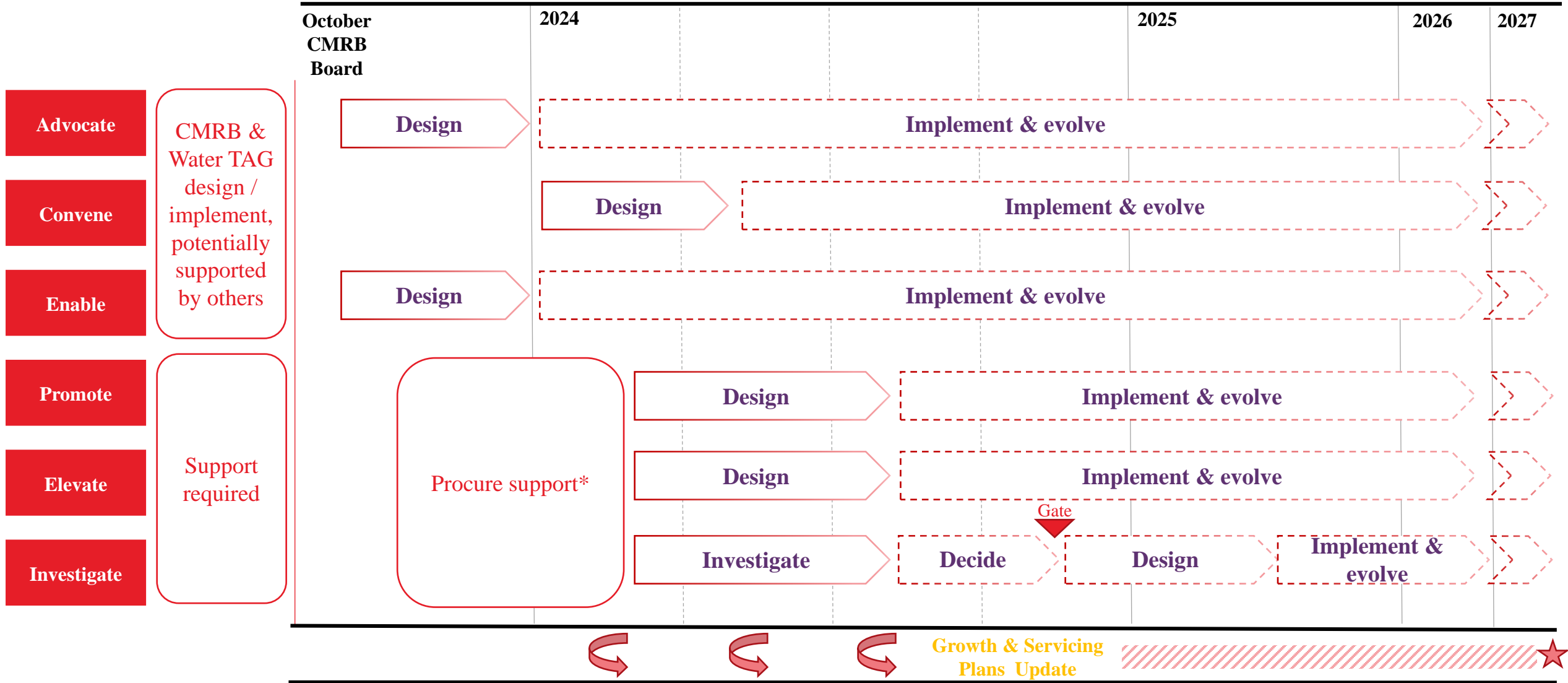
Policy focus	Level of effort
<ul style="list-style-type: none"> <li>This is focused on <b>water security and long-term resilience</b> including in the context of population growth and climate change</li> <li>It speaks directly to consideration of <b>alternate or new water governance structures</b> per the Growth Plan (3.4.4)</li> <li>The outcomes would directly inform the growth plan and servicing plan shorter- and longer-term updates</li> </ul>	L
	M
	H
	First step to take
	Identify existing models that could be used as (partial) blueprint

**Challenges and issues**  
Major focus on the #1 issue: long-term water resource availability & sustainability

**Remit & reach**  
While enabling multiple GP and SP objectives and priorities, could be beyond the remit of the CMRB. Investigation stage needs to consider roles including for province.

**Pragmatism & progress**  
Deliberately recommended as an investigation only at this stage and for the purposes of the roadmap. This is complex to take forward, and respective roles of CMRB, province, WPACs and others would need to be considered. Remit aside, would be beyond the capacity and capability of the CMRB as currently set up.

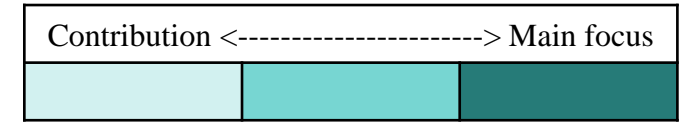
# Potential high-level roadmap



Roadmap is illustrative only

\* Multiple procurement options eg broken into individual packages or combined. Could be run as a programme (which could then also bring in project management of some/all of advocate, convene, enable – ie entire roadmap run as a programme).

# Focus & prioritisation against GP



		Advocate	Convene	Promote	Enable	Elevate	Investigate
3.2 Economic wellbeing	3.2.3 Agricultural economy						
3.3 Protect and enjoy the environment	3.3.1 Flood prone areas						
	3.3.2 Environmentally sensitive areas						
	3.3.3 Climate change						
3.4 Water stewardship	3.4.1 Watershed protection						
	3.4.2 Stormwater management						
	3.4.3 Water efficiency						
	3.4.4 Collaboration of governance						
3.5 Shared services optimisation	3.5.2 Energy & utilities corridors						
	3.5.3 Planning and protection for regional corridors						
	3.5.4 Recreation						

# Focus & prioritisation against SP



		Advocate	Convene	Promote	Enable	Elevate	Investigate
Transport and transit	3.2.1.3 Transportation and utility corridors†						
	3.2.2.1 Joint planning area context studies*						
Long term water strategy	4.2.1.1 Watershed planning†						
	4.2.1.2 Water use and efficiency†						
	4.2.1.3 Advocacy†						
	4.2.2.1 Opportunity for learning*						
Water and wastewater servicing	5.2.1.1 Regional utility system†						
	5.2.2.1 Sub-regional servicing *						
Stormwater management	6.2.1.1 Stormwater use and water reuse†						
	6.2.1.2 Regional initiatives†						
	6.2.2.1 Context studies for joint planning areas *						
Recreation	7.2.1.1 Regional collaboration†						



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<b>Agenda Item</b>	<b>7</b>
<b>Submitted to</b>	<b>Land Use &amp; Servicing Committee</b>
<b>Purpose</b>	<b>For Decision</b>
<b>Subject</b>	<b>CMRB Drought Response</b>
<b>Meeting Date</b>	<b>January 18, 2024</b>

*That the Committee recommend that the Board direct CMRB Administration to work together with member municipal administrations to coordinate region-wide drought preparation actions*

### Summary

- Alberta is experiencing drought in many parts of the province due to a below average snowpack in winter 2022-23, which meant less runoff filling rivers, lakes and reservoirs, and below average precipitation in most areas during the spring and summer. This is contributing to water shortage in some parts of the province, especially in southern Alberta.
- Alberta is currently in water shortage management stage 4 (out of 5), where multiple water management areas are impacted by water shortage. The province updates Albertans with information on its website at [Drought | Alberta.ca](https://www.alberta.ca/drought)
- The Minister of Environment and Protected Areas (EPA) has recently written a [letter](#) to elected municipal leaders requesting municipalities:
  - a. Initiate efforts to monitor water supply infrastructure proactively, paying particular attention to water intake relative to water levels.
  - b. Begin a review of the terms of your municipality's water licence so you are aware of any conditions that may limit your ability to withdraw water during a drought.
  - c. Alert municipal water managers to prepare to be engaged with officials from the Drought Command Team, should conditions within your municipal water licence need to be triggered.
  - d. Develop a water shortage plan so your municipality is prepared to respond if water availability decreases.
- Although not yet approved, the opportunity for the Board to act as a convener for member municipalities and the province to advance water stewardship by way of drought response would be activating the 'advocate' and 'convene' recommendation of the Updated Water Road Map. In addition, depending on the desire for collaborative work, there is the potential for activating the 'Elevate' and 'Promote' recommendations.
- The purpose of this agenda item is to get input from elected officials on whether member municipalities want to work together on drought response. Once more is known from EPA on refinements to the draft 2024 Drought

- Emergency Plan, CMRB Administration can coordinate with EPA to provide updates to the Committee and Board.

#### **Attachments**

- Minister Schulz letter to municipal leaders regarding drought conditions in Alberta

## **1. Background**

In November 2023 staff from Alberta Environment and Protected Areas presented to members of the Land Use and Servicing Committee and municipal administrations regarding the current and predicted drought conditions facing southern Alberta in 2024. In January 2024, Rebecca Schulz, Minister of Alberta Environment and Protected Areas sent a letter to all municipal elected officials regarding the drought situation.

Water is a critical resource for all Albertans and does not follow political borders. Working together, members of the CMRB have the opportunity to plan for better drought response and education than working alone.

## **2. Recommendation**

*That the Committee recommend that the Board direct CMRB Administration to work together with member municipal administrations to coordinate region-wide drought preparation actions.*



ALBERTA  
ENVIRONMENT AND PROTECTED AREAS

*Office of the Minister*

Dear Elected Municipal Leaders,

Alberta is currently in a significant drought. During summer 2023, several water basins reached critical drought conditions due to low rainfall and high temperatures. The world is also experiencing El Niño, a global phenomenon occurring for the first time in seven years. It's causing less snow and rain, along with higher temperatures, heightening the potential for significant drought into spring and summer 2024, particularly in southern Alberta.

Alberta has five stages in its water management plan. Ranging from Stage 1, which is a minor drought, to Stage 5, which is a province-wide emergency. We are currently in Stage 4. The Government of Alberta is closely monitoring the situation and working to be prepared in case the province faces a similar – or worse – drought next year. Staff from Environment and Protected Areas, along with Agriculture and Irrigation, are working with water licence holders, major water users, and other partners to develop water conservation plans and water-sharing agreements.

Alberta has stood up a Drought Command Team in the event of an emergency and an early first draft of a 2024 Drought Emergency Plan has been completed and is now being refined. We have also initiated drought modelling work that will allow the province to determine how to maximize the province's water supply. Alberta is considering a wide range of tools and approaches to respond to an emergency situation, including both regulatory and non-regulatory tools.

The province will also be striking an advisory panel of leaders to help provide advice in the months ahead. And we are preparing for the future, looking at what long-term infrastructure is needed to help manage water supplies for future generations.

However, municipal action is also needed. In order to be fully prepared for a severe drought, municipal leaders throughout Alberta will need to take action. From my time as the Minister of Municipal Affairs, I have had the pleasure of meeting and working with many of you, and I am confident that Albertans will find their municipal leaders are ready and willing to deal with this challenge head-on.

That's why I am writing to all municipalities to ask that the following be undertaken in the coming months:

- 1.) Initiate efforts to monitor water supply infrastructure proactively, paying particular attention to water intake relative to water levels.
- 2.) Begin a review of the terms of your municipality's water licence so you are aware of any conditions that may limit your ability to withdraw water during a drought.
- 3.) Alert municipal water managers to prepare to be engaged with officials from the Drought Command Team, should conditions within your municipal water licence need to be triggered.
- 4.) Develop a water shortage plan so your municipality is prepared to respond if water availability decreases.

We are asking all water users to start planning now to use less water in 2024. We are committed to providing information and supporting any additional conservation efforts that your municipality may adopt in the future.

Stay up-to-date on precipitation and water levels through the Alberta Rivers app or the Alberta Rivers Basins web page at [rivers.alberta.ca](http://rivers.alberta.ca). To learn more about the impacts of drought on communities and the principles for sound water management, please visit [alberta.ca/drought](http://alberta.ca/drought).

Environment and Protected Area would like to hear from your water management staff on perceived risks of drought in 2024, what impacts it could have on your operations, and how your municipality plans to mitigate risks. To connect with our team, please email [epa.drought@gov.ab.ca](mailto:epa.drought@gov.ab.ca).

Alberta has navigated many droughts before and has a long, proud history of coming together during tough times. I know we can count on our municipal partners to work together in the face of adversity.

Sincerely,



Rebecca Schulz  
Minister of Environment and Protected Areas



cc: Honourable Ric McIver  
Minister of Municipal Affairs

Honourable RJ Sigurdson  
Minister of Agriculture and Irrigation

Stacey Smythe  
Assistant Deputy Minister, Regulatory Assurance  
Environment and Protected Areas

<b>Agenda Item</b>	<b>8</b>
<b>Submitted to</b>	<b>Land Use and Servicing Committee</b>
<b>Purpose</b>	<b>For Information</b>
<b>Subject</b>	<b>Board Initiatives Progress Update</b>
<b>Meeting Date</b>	<b>January 18, 2024</b>
<i>That the LUSC receive for information a progress update on Board initiatives</i>	
<p><b>Summary</b></p> <ul style="list-style-type: none"> <li>• In early 2022 CMRB Administration developed a draft 5-year planning timeline to visualize the recommendation to focus on implementing the Growth and Servicing Plans in the near term.</li> <li>• Following the Minister’s approval of the Growth Plan and Regional Evaluation Framework (REF) and the filing of the Servicing Plan by the Minister, CMRB began implementation of REF and the Growth and Servicing Plans.</li> <li>• In 2023, the CMRB confirmed five strategic initiatives. They are: <ul style="list-style-type: none"> <li>○ Phase 2 of Indigenous Relations</li> <li>○ Regional Economic Development</li> <li>○ Environmentally Sensitive Areas Database</li> <li>○ Scoping the Regional Transportation and Transit Master Plan; and</li> <li>○ Scoping the Water Roadmap Update</li> <li>○ Stories of the Land Pilot Project</li> </ul> </li> <li>• The purpose of this agenda item is to update the Board on the progress on these five initiatives and other pertinent projects.</li> </ul>	
<p><b>Attachments</b></p> <ul style="list-style-type: none"> <li>• Table 1: 2022/23 Board Initiative Update</li> </ul>	

Table 1: 2022/2023 Board Initiatives Update

CMRB Initiative	Phase(s)	Status
1. Indigenous Relations	Dialogue	Renewed interest from Siksika Nation leadership to have a stronger relationship with CMRB, potentially through MOU or other mutually beneficial activities. Pursuing meeting for Jan/Feb 2024.
	Learning	Next opportunity for learning will be a Board workshop entitled 'Exploring Economic Reconciliation' to be held on December 15, 2023.
	Co-create	Additions to Reserve (ATR) Framework. Approved by the Board November 24, 2023.  Project Complete.
	Celebrate	Project charter for Stories of the Land pilot project approved by the Board in June 2023. See Initiative 1 a) below.
	Summary Report Overall project status	Not Applicable
1 a) Stories of the Land pilot project	Stage 1	Outreach to cultural groups ongoing. Confirmation of Working Group complete.
	Stage 2	Not Applicable
2. Regional Economic Development	Procurement	MNP LLP is consultant team.
	Environmental Scan	Interviews with municipal and external stakeholders are complete. Summary document circulated.
	Gap Analysis Vision & Framework	Summary document circulated. Workshops with Board and summary report complete. Board approved Purpose Statement and Objectives on June 23, 2023.
	Communications	Communications with interested and affected parties complete.
	Overall project status	Project Complete.  Implementation of first objective to begin in 2024. <i>Objective 1</i> <i>Define, Focus on, and Pursue Regionally Significant Opportunities</i> Meetings with municipalities ongoing.

Table 1: 2022/2023 Board Initiatives Update

CMRB Initiative	Phase(s)	Status
3. Scoping Regional Transportation and Transit Master Plan	Procure SMEs	Aziz Merali and David Cooper retained as subject matter experts (SMEs).
	Environmental Scan	Presentation of jurisdictional scan presented to LUSC March 9, 2023. First engagement with municipalities complete. Meetings with Working Group complete.
	Objectives and Scoping	Workshop completed May 11, 2023. TAG met and provided feedback on draft objectives. LUSC recommended draft objectives for approval June 2023.  June 23, 2023, Board approved objectives.
	Finalize Scope, Sched and approx. budget	TAG meetings continue. Scoping project ongoing. CMRB Admin working on completing project charter for RTTMP with support from Transportation and Transit TAG, due to Committee in Q1 2024.
	Overall project status	Project delayed.
4. Scoping Water Roadmap Update	Procure SME	Arup retained for the project
	Environmental Scan and Governance Mapping	Ongoing with support from Water TAG.
	Confirm Areas of Focus	Arup draft findings discussion with TAG in July.
	Gap Analysis - Role	Arup draft findings discussion with TAG in July and August. Reporting Complete.
	Finalize Roadmap Update	At September 21 LUSC meeting, Committee requested additional information to strengthen Water Roadmap. CMRB Admin preparing report to address request, discussions with Water TAG are ongoing. CMRB Admin will report back to LUSC by January 2024.
Overall project status	Project delayed.	

Table 1: 2022/2023 Board Initiatives Update

CMRB Initiative	Phase(s)	Status
5. Environmentally Sensitive Areas Database	Procurement	Complete. O2 Planning and Design were the successful proponent.
	Available Datasets	Municipal Administrations and external organizations have provided data to the consultant.  Phase I project summary delivered at June 8 2023 LUSC meeting.
	Data Gap Analysis	Complete.
	Database Framework	Ongoing. TAG provided feedback to O2 regarding valuable framework content.
	Database	Second iteration of database circulated to member municipalities for review and comment.
	Reporting	Ongoing.
	Overall project status	
6. DEAL v2 dataset	GIS update (internal to CMRB)	Complete.
	Municipal Feedback	Feedback received. Updates Complete.
	Level 2 Data (approved, planned land use)	Feedback received. Updates Complete.
	Finalization	Complete. Board approved Dealv2 at July 21, 2023 Board meeting. Dealv2 was posted to CMRB Open Data Portal.
	Overall project status	Project Complete.