DROUGHT RESILIENCE PLAN

WHAT WE HEARD REPORT

Drought Resilience Plan Framework

September 2022

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Executive summary

Over a series of four online workshops, a broad group of internal and external subject matter experts were invited to provide detailed input on the draft Drought Resilience Plan framework. This framework included the vision, principles, goals, and strategic actions for advancing drought resilience across Calgary and the watershed. The purpose was to ensure the framework reflected priority actions for advancing drought resilience from a diverse perspective of subject matter experts, to capture any gaps or issues within the framework, understand the level of priority and involvement from key groups for implementing our strategic actions, and identifying areas of aligned work.

It was clear from the workshops that key stakeholders, partners, subject matter experts and regional customers are enthusiastic about this work and are pleased The City is moving forward with the development of the Drought Resilience Plan. Despite a vast array of perspectives, all participants agreed on the necessity of this work. Participants see The City as a leader, having both the capacity to action it and being well positioned to advocate for watershed security.

One of the most prominent themes from this engagement included the desire to have a regional and collaborative approach for drought management further reflected and defined in the Plan's framework - acknowledging that drought is a widespread and watershed scale issue. In addition, there were many suggestions of complimentary and associated topics that participants believed should be included in the plan. This presents an opportunity for The City to further define boundaries of the Drought Resilience Plan with a clear scope and mandate.

With regards to prioritization of strategic actions, there were many comments about the inherent role and responsibility of The City. This sentiment applied to The City's commitment to customer service, its commitment to Truth and Reconciliation through United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) Calls to Action, and other regulatory considerations. For these reasons, some participants felt these areas should be prioritized highest, as The City is already committed to them.

Collaboration and alignment were strong themes throughout this portion of the engagement. Key stakeholders want a seat at the table to help move drought resilience forward. This includes collaborating to address policy and planning issues. Some participants voiced concerns about misalignment between business units and competing internal policy. Others referenced the need to align practice, policy, and regulation province wide as a precursor to achieving certain elements of the Plan.

Another clear theme and an area of the Plan that may require further consideration, is how certain terms and phrases are defined. Terms like 'water secure', 'ensure', and 'vibrant,' are open for interpretation. Similarly, another concept where participants would like more clarity is around 'equity'. As a commonly misunderstood concept, this term could be defined in the plan, as it relates to drought. The feedback received from equity deserving Calgarians and the public in the second stream of the engagement process is intended to provide insight into how the thread of equity can be laced throughout the components of the Drought Resilience Plan framework. The What We Heard Report from the public stream of engagement can be found at engage.calgary.ca/drought when published.

Drought backgrounder

History

Ensuring there is enough water to meet the needs of customers, the environment and a sustainable economy is essential to the future of Calgary and the region. History shows that our region is prone to prolonged, severe droughts while growth and climate change continue to place pressure on water resources in the Bow River watershed.

Recent dry conditions during the summers 2015-2017 prompted actions for drought response, which in turn, demonstrated various improvement opportunities in both short-term response actions and longer-term strategies. Calgary is now developing its first comprehensive Drought Resilience Plan to guide concrete action towards a drought resilient and water secure city for people, ecosystems, and businesses.

Drought risk

We are fortunate to have two mountain-fed rivers flowing into Calgary, but into the future our rivers and water supply are facing pressures from a growing population, limits on how much water we can draw from the river and the effects of a changing climate where droughts will be more common.

Calgary is a dry climate, and because of our proximity to the mountains, we can experience unpredictable swings in the weather from heavy rains leading to floods to many weeks of dry temperatures and little rain leading to droughts.

A multi-year drought impacting Calgary is one of our city's top climate risks. Impacts may also accumulate in severity when other compounding climate risks such as heatwaves, wildfires, and changes in seasonality overlap with drought occurrences.

In Calgary, all the water we drink and use in our everyday activities comes from the Bow and Elbow Rivers. Building resilience to drought today means Calgary will be better prepared for changes to our climate and help protect the rivers we all rely on.

Impact of drought in Calgary

- Lower river flows and less water available during times of the year when demand is at its highest
- Impacts to local agriculture
- Health of plants, wildlife, wetlands, trees, parks and open spaces, recreational opportunities, and private yards
- Drying out forests increases the risk of wildfires, affecting air and water quality

Planning for drought

The City's goal is to strengthen long-term drought resiliency as a core component of climate resilience and water security building efforts. The development of the draft Drought Resilience Plan has occurred over three phases, as described below.

Phase 1 identified Calgary's drought risk and vulnerabilities, and phase 2 focused on identifying drought adaptation and mitigation strategies. In phase 3, The City gathered information and feedback through research with citizens, Industrial, Commercial, Institutional business customers, and regional customers about the strategies being put forward for consideration in the Drought Resilience Plan.

To date, the project team has drafted a high-level Drought Resilience Plan framework for the purposes of fostering dialogue and discussion. They are open to shaping, adjusting, and integrating new ideas and knowledge sources to ensure the Plan reflects community needs and values, as well as strengthens our resilience pathway forward. This engagement project leverages previous work and uses the framework as a basis for engagement design and outcomes.

Draft drought framework overview

Planning and preparing for drought is an essential part of The City's Water Security Framework and integrated watershed management approach. It is also a foundation of a climate-resilient city as described in Calgary's Climate Strategy: Pathways to 2050.

Aligning to these guiding strategies and building on our comprehensive understanding of drought risks + vulnerabilities, community values and learning from other leading drought-prone municipalities, The City developed the draft drought resilience framework, shown in Table 1 below, which set forward a proposed pathway for drought resilience and response planning in Calgary. The draft framework includes a vision, principles, goals and strategic actions for a drought resilient Calgary:

- **Vision** is our desired future state. Our plan's vision supports and aligns to The City of Calgary's vision of 'making life better every day for Calgarians'.
- **Principles** shape and guide all of our strategic decision making and actions.
- **Goals** set direction and articulate desired results and conditions.
- **Strategic Actions** are the paths and approaches to achieve our goals, and ultimately our vision.

Aligning vision: ***Making life better every day for Calgarians.***			
Vision: A drought resilient city ensures a water secure and vibrant future for Calgarians.			
Principles **Climate resilience:** The City makes climate-risk informed drought preparedness decisions **Water stewardship:** The City and residents have a shared responsibility to shift our relationship with water **Equity and inclusion:** The City integrates equity and Truth & Reconciliation into drought resilience planning and action **Innovation:** The City demonstrates innovation in our drought decisions and approaches			
GOAL 1 **Use water wisely** *Further reduce our water use and demand*	**GOAL 2** **Protect our water supply** *Secure and diversify our water supply and ensure drought resilient City operations*	**GOAL 3** **Keep our rivers healthy** *Connecting land and water to ensure our landscape is built for drought*	**GOAL 4** **We're in this together** *Support drought resilient communities and watersheds*
Strategic Actions 1A- Implement summer water schedules 1B- Update the 2005 Water Efficiency Plan 1C- Understand the financial impact of drought on City operations and customers	**Strategic Actions** 2A- Strengthen water licenses to ensure river withdrawals during drought 2B- Ensure City operations are prepared for drought 2C- Evaluate and implement alternate water supply sources for drought resilience	**Strategic Actions** 3A Improve our modelling on environmental flows, and climate impacts to our water supply 3B- Ensure drought is considered across the planning continuum 3C- Preserve, restore and build drought-resilient landscapes	**Strategic Actions** 4A- Continue to collaborate with major water users, the region and the Government of Alberta to protect the Bow River Basin 4B- Build ongoing dialogue with and support First Nations during times of drought 4C- Reduce Calgarians' vulnerability to the impacts of drought

Table 1- Draft Drought Resilience Plan Framework

Project overview

Project decision

By June 2023, The City of Calgary will develop and approve a Drought Resilience Plan that will support a water secure future for Calgary and the region, ensuring there is enough safe water for human well-being, ecosystem resilience, and economic activities in times of drought.

Project goals

- Invite new forms of knowledge to strengthen and bolster the Plan
- Collaborate with key audiences to shape and strengthen aspects of the Plan
- Integrate equity considerations into the Plan
- Build off research findings and fill remaining knowledge gaps

Equity

The City of Calgary uses the definition of 'climate equity' that comes from the District of Saanich, BC:

> *Climate equity means working towards the just distribution of the benefits of climate actions (mitigation and adaptation) and alleviating unequal burdens created or worsened by climate change.*

The Urban Sustainability Directors Network (USDN) defines the four key aspects of equity, which applies to all equity, not just climate equity:

> **Procedural (Inclusion):** Inclusive, accessible, authentic engagement and representation in the process to develop or implement programs or policies.
>
> **Distributional (Access):** Programs and policies result in fair distributions of benefits and burdens across all segments of a community, prioritizing those with highest need.
>
> **Structural decision-makers:** Institutionalize accountability; decisions are made with a recognition of the historical, cultural, and institutional dynamics and structures that have routinely advantaged privileged groups in society and resulted in chronic, cumulative disadvantage for other groups.
>
> **Transgenerational:** Decisions consider generational impacts and do not result in unfair burdens on future generations.

Defining 'Equity-Deserving'

In this report, the term 'equity-deserving' will be used instead of 'equity-seeking'. A useful explanation of these terms is found on the Kwantlen Polytechnic University website and supports our use of the term equity-deserving in this work.

Anti-racism work is based on the fundamental belief that all humans deserve equitable treatment. That no matter who you are, you have a right to be treated fairly, without bias. And yet, when we talk about Black, Indigenous, and people of colour, why do we refer to them as "equity-seeking" rather than "equity-deserving"? Think about it. To seek something is to ask for something from someone else. And if equity is a right, which it is, no one should be put into the position of having to ask for it. The act of asking for something puts the asker in a vulnerable position. The asker assumes all the risk: the risk of appearing needy and the risk of having to give control over to someone else. And what of the person or group being

asked? The "askee" becomes the one with all the power – the power to give, the power to deny, and the power to look the other way.

Engagement overview

At The City of Calgary, decisions are made daily that impact more than one million people. Input from Calgarians and others help The City better understand the perspectives, opinions, and concerns of people affected by City decisions. Public input is collected, where appropriate, and considered along with other factors (such as cost, environmental impact, technical limitations, and long-range plans/goals) before decisions are made.

Because of its open and accessible nature, engagement is virtually never positioned as the sole source of input into whether The City should do something, but rather helps to ensure City decision-makers have access to a range of ideas and feedback. This feedback is not statistically representative of all Calgarians, and therefore participants will be referred to as respondents and not Calgarians. All the input collected for this project will be considered with the lens of what will work best in the Calgary context.

"Engagement" at The City of Calgary is defined as: *Purposeful dialogue between The City and citizens and stakeholders to gather information to influence decision making.*

Engagement is:

- **Citizen-centric** focusing on hearing the needs and voices of both directly impacted and indirectly impacted citizens.
- **Accountable** upholding the commitments that The City makes to its citizens and stakeholders by demonstrating that the results and outcomes of the engagement processes are consistent with the approved plans for engagement.
- **Inclusive** making best efforts to reach, involve and hear from those who are impacted directly or indirectly.
- **Committed** allocating sufficient time and resources for effective engagement of citizens and stakeholders.
- **Responsive** acknowledging citizen and stakeholder concerns; and
- **Transparent** providing clear and complete information around decision processes, procedures, and constraints.

The City's commitment to transparent and inclusive engagement processes is outlined in the Engage Policy (CS009)

Objectives

- To engage key groups on the draft Drought Resilience Plan framework
- To gather feedback on strategies and big moves in the draft plan
- To understand opportunities and challenges for advancing key strategies and actions
- To explore and understand equity/inequity as they relate to drought and drought management

Strategy

In terms of planning for drought, each stakeholder group has specific interests and will be impacted by the Drought Resilience Plan to varying degrees and those most at a disadvantage will have unique insight. This engagement acknowledged those differences and created opportunities for impacted groups to provide feedback in ways that were sensitive, appropriate, and effective. Understanding the lived experience, values and sentiments of equity deserving individuals will help the project team better understand how to incorporate equity into the Drought Resilience Plan and the implementation of the strategies that are included within.

Timeline

2018- Drought a Top Risk

- Calgary's Climate Strategy identifies drought as a top climate risk for Calgary

2020- Council Direction

- Council approves One Calgary One Water, a framework for sustaining a reliable water supply along with priority actions, including drought management

2021- Research and Understanding

- Completion of a study to better understand Calgary's drought-related vulnerabilities and risks along with priority measures to increase resilience

- Citizen and customer opinion research on drought awareness and understanding

Spring 2022- Engagement

- Engagement with Key stakeholders, Calgarians, businesses, and Calgary's youth

Fall 2022- What We Heard

- What We Heard Report published

By June 2023- Council

- Drought Resilience Plan will be presented to Council to seek support for continued program development

2023+- Implementation

- Drought Resilience Plan implementation and further program development

Audience and tactic summary

Audience	Objective	Tactics	Participant numbers
City of Calgary staff This audience is defined as cross Corporation staff who are involved in planning and resource management.	Gather feedback on draft Drought Resilience Plan framework.	**Virtual workshop** • May 18, 2022	44
Key local and provincial water resource groups This audience includes regional partners, academia, regulators, special interest groups, and key industry and business groups.	Gather feedback on draft Drought Resilience Plan framework.	**Virtual workshops** • June 1, 2 and 6, 2022	43
Business, agencies and organizations This audience is defined as the business community who are participating in engagement to represent the interests of their business and industry.	Gather feedback on draft drought strategic actions.	**Online Engage portal** • May 24- June 14, 2022	23
General public This audience is defined as individual Calgarians who are participating in engagement to share their personal interests and ideas.	Gather feedback on draft drought strategic actions.	**Online Engage portal** • May 24-June 14, 2022	1065
	Information session to present drought background information, introduce draft drought strategies and answer citizens questions.	**MS Teams Live Q and A** • June 1, 6-7:30 p.m.	30
	Stand alone educational display and onsite engagement. Staffed during key busy times for onsite engagement.	**Calgary Central Library** display • May 24-June 14, 2022	363
	Onsite engagement at busy parks in each quadrant of the city. Action Dignity participation at Prairie Winds to provide language translation support.	**"Pop up" park events** North Glenmore Park • May 28, 2022 Prairie Winds • May 29, 2022 Bowness Park • June 4, 2022	30 65 30 80

		Sue Higgins Park • June 5, 2022	
Equity deserving Calgarians This audience is defined as Calgarians who might lack the means and capacity to increase personal resiliency to drought, those who may be unfairly impacted by any of the proposed drought strategies and experience increased barriers to participating in solutions. This includes but are not limited to racialized groups; English language learners; large occupancy households; people living with mental illness, physical or intellectual disabilities; seniors; youth; low-income individuals. **Urban Indigenous individuals** This group is defined as Indigenous peoples who have chosen to live in Calgary.	Gather feedback on draft drought strategic actions. Understand what equity deserving Calgarians need to be more resilient to drought.	Advisory panels • Immigrant advisory table • Older Adult advisory table • Accessibility advisory table • Advancing engagement group Action Dignity focus groups • May 30- June 30, 2022 Senior's Week pop-up • June 9, 2022 Paper questionnaire • Fair-Entry applicants • May 30-June 24, 2022	16 13 14 6 128 10 74
Youth Defined as Calgarians 18-24 years of age and under 18, who are participating in engagement to share their personal interests and ideas.	Gather feedback on how youth most value our water resources Gather feedback on what they think should be included in a drought plan	Online Engage portal • May 24-June 14, 2022 City Hall School at Central Library • St. Thomas Aquinas School • 2 x grade 5 classes • May 24 and June 3 Mayor's Expo at Central Library • May 31 and June 1 School presentation • Westgate Elementary • 4 x grade 2 classes • June 21, 2021	12 50 Unknown 100

Table 2- Audience and tactic summary

Rightsholders

Also of significance in this strategy is the input of Indigenous peoples into drought management. They are important to our local landscape and national and local identity, and they bring a level of context that is vital to building a Drought Resilience Plan that reflects our local history and valuable knowledge about resource management. We will continue to work with the Indigenous Relations Office (IRO) and our external consultant on appropriate timing for engaging with the Indigenous Elders and knowledge keepers to inform the Plan.

The Rightsholders in the Treaty 7 region in southern Alberta include:

- The Blackfoot Confederacy, made up of the Siksika, Piikani, and Kainai First Nations.
- The Stoney Nakoda First Nations, comprised of the Chiniki, Bearspaw, and Wesley First Nations; and,
- The Tsuut'ina First Nation.

The City of Calgary is also homeland to the historic Northwest Métis and to Métis Nation of Alberta, Region 3. Urban Indigenous Calgarians will be included in this engagement through all tactics available to the public.

What we asked

The questions asked in this engagement process were customized for each stakeholder group and guided by the specific objectives of engaging with that group. Questions and topics were explored in the various tactics described in Table 2 above.

The City used the draft Drought Resilience Framework (Table 1) as the basis for all engagement, which was divided into two engagement streams. First, a broad group of internal and external subject matter experts were invited to provide detailed input on this framework. The purpose was to ensure the framework reflected priority actions for advancing drought resilience from a diverse perspective of subject matter experts, to capture any gaps or issues within the framework, understand the level of priority and involvement from key groups for implementing our strategic actions, and identifying areas of aligned work.

This What We Heard Report summarizes the feedback gathered from this first stream of engagement with the first two audience groups outlined in Table 2: Internal City staff and key local and provincial water resource groups. The Summary of Input section of this report provides a synthesis of this engagement and opportunities for adjusting the Drought Resilience Plan Framework to ensure it reflects the needs of key stakeholder groups who are core to the success of this plan.

The second stream of engagement focused on the remaining audience groups in Table 2. These groups were asked questions about the proposed Strategic Actions of the framework most relevant to the public

and ones in which their feedback would help to shape. The What We Heard Report for this part of the engagement process can be found at engage.calgary.ca/drought or here.

Next steps

Perspectives received from all groups throughout the engagement process will be published in a What We Heard Report to engage.calgary.ca/drought in fall 2022. The project team will then assess all inputs and formalize the Drought Resilience Plan that will be presented to Council for approval by June 2023.

Summary of input

This portion of the What We Heard Report is written to support the project team in making decisions regarding the Drought Resilience Plan and understanding opportunities to better align the framework with the perspectives of other subject matter experts. It is therefore very thorough and provides extensive supporting information to help illustrate concepts and ideas.

Members of the public and others may be drawn to specific areas of interest within the report; however, it is not intended to be read in its entirety for all audiences.

Reporting methodology

Reporting for this section of the engagement follows the topics covered with each group in the online workshops. Each workshop had a wide spectrum of subject areas experts representing various perspectives. Therefore, some themes emerged more often for some workshop groups than in others. workshop groups have been identified using A, B, C and D, when a particular theme did not emerge from all workshops.

A drought resilient city ensures a water secure and vibrant future for Calgarians.

The engagement process included four in-depth workshops with key stakeholders and subject matter experts. The first section of each workshop focused on the vision of the Drought Resilience Plan framework. Participants were given an opportunity to share their thoughts on what they liked about it and what they thought could be changed. The first part of this section outlines what participants from all four workshops liked, followed by suggested changes. Distinction between workshop contributions is outline with A, B, C and D.

Question: What do you like about the vision?

A series of common themes emerged from the workshops when discussing what participants liked about the proposed vision, and a couple themes that were only mentioned exclusively by specific workshop groups. In the order of most mentioned to least mentioned, the themes were:

Themes shared across all workshops

Forward thinking

Respondents from all workshops shared their agreement with the statement and highlighted that it was broad, balanced and considers Calgary's future needs.

- *links to the need for a vibrant calgary into the future*
- *Its broad and long term (a true vision)*
- *the balance between current and future*
- *Considers growth pressures*

Clear and simple

Many participants from all workshops liked the vision statement because it was clear, simple and was an appropriately high-level statement. Other shared general comments of support.

- *Simple and Focused*
- *Short and sweet*
- *clear. plain language*
- *As a vision it's fine being high level. all good*
- *Thoroughness*

Vibrant

The word ‘vibrant’ really struck a chord with participants in Workshops A and C and many really appreciated its inclusion in the vision.

- *Great. Vibrant living within our state of being in a drought region.*
- *Positive outlook with "vibrant"*
- *vibrant is a great word*
- *Makes sense, I like Vibrant too*

Water security

The participants from A, C and D liked that water security was recognized as critical and is front and center in the vision statement.

- *The concept of water security is clear and upfront*
- *Water secure is nice and specific. like it*
- *water security.. lookimg to the future*

Alignment

Participants in Workshops A and C were able to make connections to other important policies, objectives, and plans.

- *Aligned to other strategic policy*
- *future thinking and aligning with council objectives*
- *seems to align with the water security plan*

Additional themes from workshops B, C and D

Inclusion

Workshop B participants shared that they saw the vision being broad enough in its audience and applicable to others.

- *Inclusivity*
- *Collaborating with other water users*
- *Applicable to commercial & residential*

City action

Others in C and D shared their appreciation for the work The City is doing to achieve drought resiliency.

- *Glad we're doing it*
- *It is commendable that the City is working towards this vision*

Question: What changes would you suggest?

Similar to what participants liked, themes were shared for the most part across all workshop participants with a few additional themes offered by both internal and external participants. Themes about what participants thought should be changed are listed from most mentioned to least mentioned.

Themes shared across all workshops

Vision limited in audience

This theme includes many sentiments that “Calgarians” is too limiting and that it excludes the regional risk of drought and the required regional collaboration which is highlighted as a goal in the Drought Resilience Plan framework.

- *“we’re in this together” with all others isn’t accounted for by saying in the vision it’s only for Calgarians*
- *watersheds exist beyond administrative boundaries. Need more awareness of this.*
- *Not just future Calgarians but other users in the watershed*
- *Naming Calgarians as audience seems limiting*
- *Calgarians doesn’t really speak to your equity objectives.*
- *it reads like its the responsibility of the City and the public. clarifying that it benefits businesses, agriculture etc too*
- *'Calgarians' is too limited...what about our non-human brethren?*

Ambiguous definitions

There were a few words that many participants in A, C and D stated they were unclear about, namely “vibrant” and “water secure”.

Vibrant

- *How is "vibrancy" defined?*
- *I'm not 100% sure what water vibrant means*
- *vibrant how?*
- *What is a vibrant future?*
- *term 'vibrant' is vague. Unclear what we are referring to*
- *Vibrant as quality of life?*

Water Secure

- *secure how? only drinking water?*
- *WHAT DOES WATER-SECURE MEAN?*
- *Perhaps the 'drought-resilient' and 'water secure' are redundant?*

Role of others is missing

Many participants in A, C and D felt the collaborative nature of drought management involves the region, as well as all levels of government.

- *Given drought is a regional risk, how does this vision incorporate our work with the broader region?*
- *What is the role for partners at the Fed, Prov & Regional levels to support the stratgey?*
- *Nothing about regional water management*
- *What is the role of Feds, Prov & Region to support*
- *Make sure the vision reflects collaborative nature and regional scale*
- *Your early presentations focused on the watershed as a unit broader than just the city itself. And as it takes a joint collaboration, would you consider adding a connotation of the watershed, especially seeing as you're the hub of a regional water distribution system?*

Environment and ecology

This theme includes sentiments from workshop A and D that the health of the environment and ecosystems should also be included in the vision.

- *No mention of sustaining ecological processes*
- *What about drought resilience for environmental health? Not just the human aspect?*
- *Would like to support the idea of supporting the river ecosystem as well*
- *include reference to biodiversity and ecological integrity*

Suggested re-writes

Ensure

- *how to ensure, can we ensure?*
- *'Ensure' may be beyond the City's ability - perhaps 'work towards'*
- *Drought resilience 'supports' water security rather than 'ensures'*
- *ensure..is a strong word- how about adapting ?*

Water Secure

- *When I read this, my brain doesn't link water and secure together so I always read it twice. Perhaps a hyphen?*
- *"water secure" should be "water-secure" (hyphenated)*
- *Do we need a second term? What about just a water secure future?*
- *Use word 'Sustainable" as it captures alot of things?*

Full Vision

- *A drought resilient city ensures a vibrant, water secure future for all Calgarians*
- *a drought-resilient and water-secure city ensures a vibrant future for Calgary*
- *A drought resilient city ensures future water security for all Calgarians*

Questions for reflection

Some participants in A and D posed questions and comments for the project team to consider when finalizing the vision for the Drought Resilience Plan framework.

- *Does this vision help Calgarians understand our shared resource today?*
- *how do you encourage citizen engagement and accountability in the language*
- *IS THERE A LIFE SAFETY COMPONENT?*
- *who is the vision for? internal only?*
- *Water is a human right*

Additional themes from workshop D

Make more connections

This theme included comments predominantly from Workshop D about other concepts that could also be connected to the vision, including adding a date.

- *It would be great to combine flood and drought resilience*
- *Connect source to tap.*
- *security is just one aspect*
- *Would be nice to see an element of 'celebration of H2O. Playfulness of the resource*
- *It might be helpful to include a date for plan ... like the climate plan (2050*

Vision and goal misalignment

A couple external participants from Workshop D shared that they thought the goals in the framework are not accurately reflected in the vision statement.

- *You don't have the four goals represented in the vision*
- *Building on the goals point, this mentions drought resilience, but the guiding principle is climate resilience*

Additional themes from workshop A

Appropriate language

Participants felt that the language in the vision could be further simplified.

- *NOT VERY PLAIN LANGUAGE*
- *too much MBA-speak here*
- *Agree with the comments of non-human aspects of our communities, as well as the comments on plain language*

Causal relationships

Participants highlighted how some of the relationships suggested in the vision are not exclusively true.

- *A water secure city does not ensure a vibrant future*
- *drought resilient does not eliminate all issues that may cause water insecurity*
- *drought resiliency does not necessarily cause water security (other drivers)*

Principles

Climate resilience: The City makes climate-risk informed drought preparedness decisions

Water stewardship: The City and residents have a shared responsibility to shift our relationship with water

Equity and inclusion: The City integrates equity and Truth & Reconciliation into drought resilience planning and action

Innovation: The City demonstrates innovation in our drought decisions and approaches

Question: What do you like about the principles?

The next section of each workshop focused on the principles of the Drought Resilience Plan framework. Participants were given an opportunity to share their thoughts on what they liked about them and what they thought might be missing. In addition, comments of general support are illustrated as there was a relatively high number received.

General support for principles

- *Helps guide planning to best practices in oother areas who have faced theses problems before*
- *Ability to adapt as environment changes*
- *Change is necessary in future planning*
- *they're good. broad enough to capture a wide variety of issues*
- *I think these cover off the important high-level considerations*
- *Clarity for City Operations is key*

- *clear*
- *Balanced*
- *Clear and concise*

1. Climate resilience

Like

- *They consider how drought work will relate to other climate risks. ie. taking into consideration if multiple climate impacts are taking place at the same time*
- *appreciate that climate is a principle*
- *Inclusion of climate-risk informed (and future-focused) as a stated principle. Too often the principles are short-sighted.*
- *appreciate climate has not been lumped in with "environment"*
- *Critical to have Climate Resilience*
- *Like the inclusion of climate resilience*
- *principle of climate resilience and watershed stewardship*

Suggestions and what's missing

Participants from Workshop A and C, and D shared some considerations to improve this principle including rewording, expanding preparedness to include mitigation, and comments illustrating they are unsure of how it is framed.

- *"climate-risk informed" is a bit awkward wording. could it be make drought preparedness decisions based on climate-risks*
- *Should Climate mitigation be included too (not just adaptation/prepardness)*
- *climate resilience is more then just being prepared*
- *HOW TO PREVENT CLIMATE CHANGE*
- *can this plan help reduce GHG's?*
- *reslience one makes less sense*
- *both innovation and resilience talk about decisions - seems redundant*
- *Ensuring that D.Res' policies are aligned with the climate strategy-D*

2. Water stewardship

This principle was given the most attention overall from all workshops, receiving the highest number of comments for both 'like' and 'missing.'

Like

- *Like the water stewardship and call for joint responsibility from both City and residents*

- *Shared responsibility is important (Water Stewardship)*
- *Water Stewardship is great...REGIONAL PLANNING is a must*
- *Everyone has a stake*
- *Like the heading water stewardship - shared responsibility to shift our relationship with water*
- *Makes it clear that residents also have a role to play*
- *the sense of responsibility is shared*

Suggestions and what's missing

- *Ability to define roles between civic, commercial, residential / personal*
- *Stewardship may want to consider external customers*
- *Water Stewardship: What about our business community? (only references CoC and residents)*
- *Watershed stewardship sounds too Calgary-centric as it is worded right now.*
- *Connection to Indigenous communities in stewardship is not stated*
- *Leadership is missing - shared stewardship should include businesses too? not just residents and the city*
- *Water Stewardship from industry as well (not just residents)*
- *Connecting the stewardship with citizen actions that can actually make a difference*
- *The role and responsibility of businesses*
- *don't forget about our responsibility to those downstream & those in the future*
- *Does land management / stewardship factor into this as well, or is it more goal-level? (vs. Water Stewardship)*

3. Equity and inclusion

Like

- *Equity being (not all uses are equal)*
- *No one left behind*
- *equity, inclusion, and T&R is great to include*
- *Equity and Inclusion - this feels right and innovative*
- *love that we are finally incorporating T&R in our planning*

Suggestions and what's missing

Participants from A and B shared sentiments of needing more clarity on equity, and truth and reconciliation and how it will relate to financial strategies.

- Re-write: *Equity + Inclusion: The City advances equity and Truth and Reconciliation through drought management planning and action.*
- *innovation, equity + inclusion (core responsibilities)*

- *Financial Strategies should take I nto consideration ability to pay*
- *Don't understand how it relates to truth & reconciliation - seems a stretch*
- *Greater clarity on equity and T/R*

4. Innovation

This principle had the second most comments related to “what’s missing”**.**

Like

- *Continous improvemnt theme- (innovation + climate resilience)*
- *I like innovation since it opens the door for unique approaches or to FINALLY test things out...in contrast to always 'play safe'*
- *innovation is important - alternative approaches to secure water will become more important*
- *innovation is necessary - need to reuse water as we are able*
- *innovative approaches to drought management*
- *I like innovation being a principle*

Suggestions and what’s missing

Respondents from all workshops made connection between innovation and best practices, and sentiments abouts The City’s role moving forward considering its past track record of being risk adverse.

- *How is innovation balanced with best practice?*
- *Perhaps innovation and best practices?*
- *Does innovation mean learning from best practices or actually moving the needle on drought resilience?*
- *how is innovation defined?*
- *Innovation needs to be defined to increase buy in*
- *may incorrectly indicate that innovation is limited to the City??*
- *'Innovation' always shows up in principles but its how we work; it doesnt need its own principle - i would replace it with other more important principles*
- *Innovation is great, however the City is not always good at the 'risk' side that is required in order to be innovative. Risk of failure is part of innovating*

General what’s missing- Not associated with a principle

Shared themes

Questions for consideration

- *Do Water Stewardship & Equity/Inclusion then require a focus on advocacy for sourcewater protection and security? (i.e. being vocal opponents of coal mining upriver, etc.)-D*
- *can we include urban farming *(increasing over time)-C*

What is a principle?

B and D Participants

- *some of these are core responsibilities, and some of them are more aspirational*
- *do we really need principles? Or is vision + goals + actions enough. Are we over-complicating?*
- *Climate Resilience and Water Stewardship feel more concrete/operational while Equity and Inclusion and Innovation feel more nebulous. All are important, but are they in the right place?*
- *'We're in this together' in the goals feels more like a principle*
- *Isn't 'Fit for Purpose' a Principle? I can see it directly under 'Stewardship' as part of "Protect Water Supply' but 'Protect Water Supply' seems a bit narrow....as a name*
- *Collaborative approach should be a principle.*

Regional collaboration

A, C and D

- *Principle of regional watershed planning*
- *Missing the regional relationships drought impacts and how we plan with others in our watershed.*
- *I see regional relationships under the water steward and work together areas*
- *Working with other watershed stakeholder*

Aligning and updating policy, strategy and regulations

A, C and D

- *Ensuring that D.Res' policies are aligned with the climate strategy*
- *ensure that "climate risk"" is still the term we are using*
- *One way to address the regional comms gap could be to consider the language of 'One Water' from other strategy and extend that into the drought.*
- *Integrated-identify and leverage a systems based approach to build on existing programs & policies*
- *Strategy to have water reuse added to building code for new buildings*
- *Waterwise Strategies should be designed and mandated for all new construction*

- *What about maybe identifying legislation or regulation at the provincial or federal levels that are preventing better approaches? maybe that's innovation, POLICY innovation?*

Environment and ecology

A, C and D

- *very human centric - what about the environmental effects*
- *Ecological sustainability is missing*
- *Balancing water for humans and nature*
- *Environmentally sensitive, and ecosystem friendly*
- *ensure we consider biodiversity*
- *Could include touching on our relationship (partnership) with the natural environment. None of the principals specifically call out*
- *natural ecosystem protections*

Basis of decision making

Predominantly A, and C

- *Decisions and actions should be informed by economic and financial impacts - we run a municipal utility therefore need to ground this plan in that role*
- *TBL incorporation in DM TBL incorporation in DM*
- *Idea of 'science based decision making'*
- *evidence-based decision making*
- *Actions and decisions should be founded on well informed/vetted science and data*

Risk

Shared by A and C

- *did Risks inform the principles?*
- *Is City willing to also lead and take on the 'cost' of risk? Includes the City's legal department and other business unts*
- *risk framework or register- as they relate to principals- risk invokes action*

Intergenerational focus

Shared by A and C

- *What about a future-focus? - decisions that have an impact tomorrow vs today?*
- *Long term nature of planning and solutions, intergenerational solutions*

Themes from workshop A

Meeting life sustaining needs

- *not dying of dehydration*
- *Life Safety*
- *not dying of dehydration*
- *Drinking water?*

Economic security and impacts

- *Is there any focus on economic security of Calgary*

Transparency

- *some transparency*
- *Transparent*

Goals

GOAL 1	GOAL 2	GOAL 3	GOAL 4
Use water wisely *Further reduce our water use and demand*	**Protect our water supply** *Secure and diversify our water supply and ensure drought resilient City operations*	**Keep our rivers healthy** *Connecting land and water to ensure our landscape is built for drought*	**We're in this together** *Support drought resilient communities and watersheds*

GOAL 1- Use water wisely: Further reduce our water use and demand.

Feedback from all participants have been combined for each section of 'Like" and "Suggestions and What's Missing", with the identifying workshop included for reference.

Like

- *I like that you have reduce water use as one of the first goals- A*
- *Like Goal 1 and 4 as presented- D*
- *I support Goal 1, keep up the great work!- D*

Suggestions and what's missing

What is "wise"

- *"Wisely" might mean different things to different people- A*
- *Target of 350 litres/day - still seems like a lot- B*

What about water use context

- *goal 1 should acknowledge that water consumption/use is different for different users and that we should be reducing but it is context based- C*
- *Would love to see Goal 1 include a reuse component "reduce freshwater withdrawals and encourage water reuse" - it's not about use, it's about net use…-C*
- *elaborate on the use water wisely to note that includes indoor and outdoor- B*
- *Goal "use water wisely' seems about throttling down across the board and not making a distinction between sustaining lawns (not necessary) and sustaining trees - generational consequence if lost.- D*
- *Goal 1, could be strengthened to reflect reducing water use to match reduced availability- A*

What about "land"

- *Is the landscape part more appropiate under use water wisely?- A*
- *Goal 1 - "Use Water Wisely" There could be a distinct "Using Land Wisely" as well- D*
- *Goal 1 should include the construction of drought resistant/low water use landscapes (like goal 3)-A*

Re-write suggestions

- *Water Wisely vs Water Efficiently- A*
- *Why say "further reduce water use, rather than just reduce water use'- A*
- *just semantics but goal one could be use OUR water wisely to match the other 3 including "our" and "we" - C*

GOAL 2- Protect our water supply: Secure and diversify our water supply and ensure drought resilient City operations.

Like

- *Really like the 'Protect our Water Supply' applies to quantity & quality and regional impacts. -A*
- *operational goals, what can we measure?- A*
- *protecting our water supply is absolutely imperative, as we've seen from elsewhere around the world- C*

- *Really like the focus on diversifying water supply/sources - not everything should be using potable water!- C*
- *assume Goal 2 diversification includes using grey water? hope so- C*

Suggestions and what's missing

Too many concepts

- *Too many things in Goal 2. Secure, Diversify, and Operations are 3 big, different buckets*
- *Goal 2 feels like two distinct thoughts (secure & diversify vs. ensure City operations)-D*

Needs defining

- *Diversifying water supply might not be that clear to many people*

Call out reuse

- *Discuss ability to incorporate water capture at multiple levels- B*
- *ensure coordination with the Province re stormwater use & reuse-C*

Protect from the source

- *Goal 2 should include source water protection- D*

Re-write suggestion:

- *"secure our water supply" leaves room for link to future supply options like BRRO- A*

GOAL 3- Keep our rivers healthy: Connecting land and water to ensure our landscape is built for drought.

Like

- *the "connect land and water " language- A*
- *I like connecting land and water - makes the link between what we do on the land impact both water quality and quantity- A*
- *like Goal 3, connecting land & water- C*
- *Goal 3 suggests city planning to incorporate protecting our water supply / retaining wetlands where possible (hope so)- C*

Suggestions and what's missing

Why built?

- *Struggling with the word "built" as opposed to "protected" or "restored" - what was behind this choice?- A*
- *is our landscape built or perhaps we can let nature have a role as well (i.e. protection of natural landscapes)- D*

Include flood

- *Goal 3 should also include flood- D*
- *Goal 3 should include flooding as well as drought- D*

Land and water connection unclear

- *Connecting land and water management?- A*
- *the tie to land use might be missing- . maybe connecting land use and water- C*
- *Goal 3 - keep our rivers healthy - suggest renaming to 'keep our landscapes and rivers healthy' as it isn't strictly about the river but the landscape in and of itself as well*
- *The distinction between Goal 1 and Goal 3 isn't fully clear- A*

Impact of development

- *Need more connection between City policies & urban planning decision*
- *Should Goal 3 extend more explicitly into how development decisions impact water / water resources? (i.e. new suburban communities vs. infill/intensification)- D*

Wastewater

- *The role wastewater treatment has on keeping our rivers healthy- A*

Worldview alignment

- *The Indigenous worldview is that all things are interconnected - Goal 3 is a very Western view- A*

GOAL 4- We're in this together: Support drought resilient communities and watersheds

Like

- *Collaboration- A*
- *Colloborating with other stakeholders in the system- B*

- *All Goals seem pretty good, glad to see inclusion of #4, "We're in this together" because we are-C*
- *#4 is good as these issues extend beyond the boundaries of the City-C*

Suggestions and what's missing

Wider net

- *i think together should be more then communities and watersheds-A*
- *Goal 4 could be extended to speak directly to the City's business community / largest water users- D*
- *Incorporating residents is good, but focusing / identifying / working with biggest users will have the greatest impact- D*
- *Maybe add watershed to Goal 4 to get the regional perspective in there (upstream and downstream)-D*
- *Right Relations with Indigenous communities should be articulated from theGet-go- C*

Re-write suggestion

- *goal 4 says we will SUPPORT other communities, but that may imply monetary. then an action within it says "collaborate". To what extent are we actually supporting others?- C*
- *Would the City consider adding Goal 4 to Principles?- D*

General "like" feedback- Not connected to a goal

Clear with good alignment

- *Self explanatory, easy to understand the action- A*
- *Easily see the connection between each goal and the overall goal of drought resilience- A*
- *I really like the plain language- A*
- *Aligned to other strategic policies- A*
- *Comprehensive- A*
- *Nice alignment of Goals to over-arching principles- A*
- *Collective language around ownership of water as resource- B*
- *Comprehensive- B*
- *they're good-C*

General 'missing' feedback- Not connected to a goal

Fiscal responsibility

- *Seems like Financial Sustainability is a Goal in and of itself that isn't just about rate structure/ charges but also incorporating incentives and so on. Fear it may get buried if it isn't itemized-D*

- *financial/fiscal responsibility- A*
- *who pays for the implementation? There are always alternatives / opportunity costs re choices of what is done & not done- C*

Consider scale

- *Do we have a specific goal/definition for the kind/scale of drought we're targeting resilience for? (or intentionally leaving vague?)- A*
- *^is there relative importance or scale?- B*
- *is this plan more for emergency drought response or the slow creep?- A*
- *Jus wondering if this plan would extend to /consider the impact of drought related natural disasters like wildfire and the impact on source water quality and management?- C*

Consider alignment to operations

- *At first read, these do not speak directly to our utility operations or services - seems like a gap- A*
- *there's no link made here to water management infrastructure - seems to be a gap- A*
- *Align stormwater requirements across the City to be more consistent. Be willing to look at how to manage and install stormwater infrastructure in established communities. We have limited stormwater flows on commercial properties that are required to evaporate stormwater (watering the parking lot) and this can send the wrong message to general public- C*
- *please ensure these are connected to stormwater/wastewater reuse- A*

Environmental connection

- *Ecological protection. Downstream considerations.- A*
- *Increase our knowledge on impacts of drought on aquatic ecosystem- A*
- *I agree with the box over me - how does this plan use natural infrastructure to protect against drought-C*

Connect to flooding

- *should "build resilience to flooding" be a goal?- A*
- *Goal: Calgary's communities are resilient to flooding- A*

Consider others

- *Ensure a regional perspective as it applies to growth- D*
- *Consider downstream users- D*
- *multi generational view- A*
- *ensuring this is the responsibility of every resident- A*
- *Whole of society needed to conserve- A*

Education and awareness

- *Should 'educate' be an additional goal or be embedded into one of the goals? D*
- *If stormwater infrastructure is going to be increasingly managed on private property, then a very robust communication/awareness program is required to support that after the infrastructure is built (retention, swales, etc.)- C*
- *Awareness and connecting humans to their watersheds could be added to Goal 2, 3 and 4.*
- *Need to exemplify how average resident is going to be able to assist- B*
- *Further examples of how standard resident can participate- B*

Needs more detail and clarity

- *Good overview but further examples may be required-B*
- *Further examples of how standard resident can participate-B*
- *Overall the goals are not inclusive/evocative enough as they aggregate a lot of diverse aspects and perhaps that is working against clearly seeing the 'lineage/parentage' of various key threads that are equal levels as what have been identified but are lumped underneath. Lacks parity.- D*

Re-write suggestions:

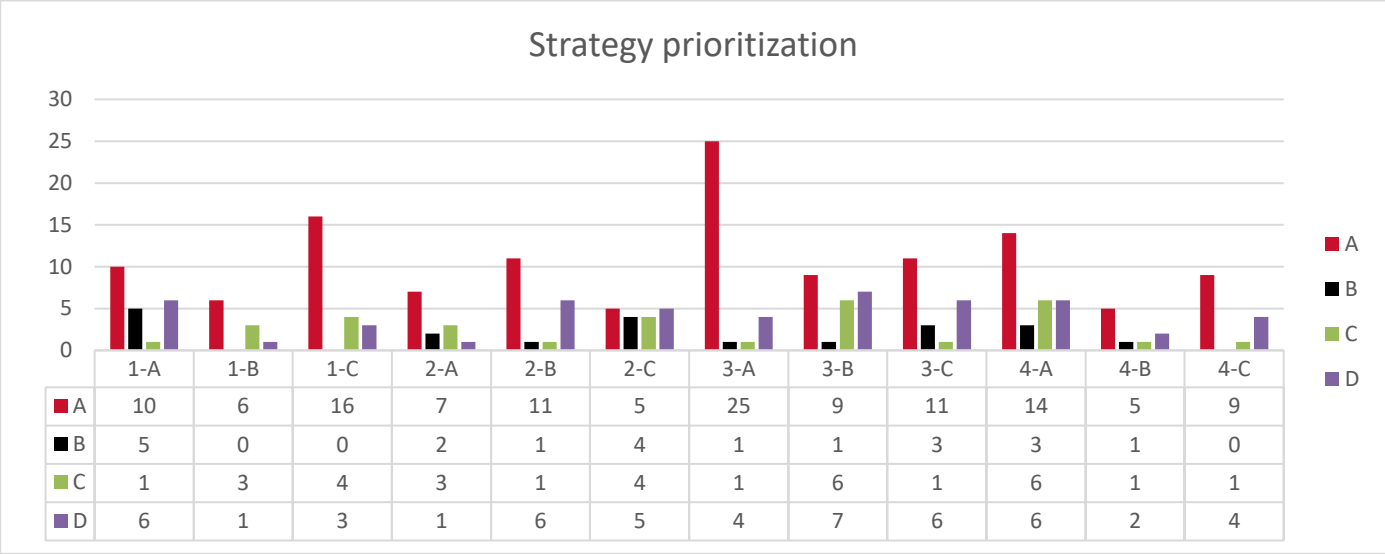
- *reorder goals - so its' not just about new restrictions on citizens. supply protection is first.- B*
- *order of these could be refined? (3,2,1,4)- B*
- *Objectives and Goals are usually articulated as:"TO..."Â The first 3 work, the final one could be reworded.- A*

Strategic actions

1A- Implement summer water schedules 1B- Update the 2005 Water Efficiency Plan 1C- Understand the financial impact of drought on city operations and customers	2A- Strengthen water licenses to ensure river withdrawals during drought 2B- Ensure City operations are prepared for drought 2C- Evaluate and implement alternate water supply sources for drought resilience	3A Improve our modelling on environmental flows, and climate impacts to our water supply 3B- Ensure drought is considered across the planning continuum 3C- Preserve, restore and build drought-resilient landscapes	4A- Continue to collaborate with major water users, the region and the Government of Alberta to protect the Bow River Basin 4B- Build ongoing dialogue with and support First Nations during times of drought 4C- Reduce Calgarians' vulnerability to the impacts of drought

Should the Drought Resilience Plan be approved by Council, a plan to move strategic actions forward will need to be developed. This will include prioritization of actions, acknowledging the available budget and capacity for implementation in each business and budget planning cycle at The City.

This part of the stakeholder workshops involved asking participants to select the strategic actions they felt should be prioritized by The City and to share their reasoning. Figures 1 and 2 outline how each strategic action was prioritized by each workshop group.



	1-A	1-B	1-C	2-A	2-B	2-C	3-A	3-B	3-C	4-A	4-B	4-C
A	10	6	16	7	11	5	25	9	11	14	5	9
B	5	0	0	2	1	4	1	1	3	3	1	0
C	1	3	4	3	1	4	1	6	1	6	1	1
D	6	1	3	1	6	5	4	7	6	6	2	4

Figure 1- Strategy action prioritization

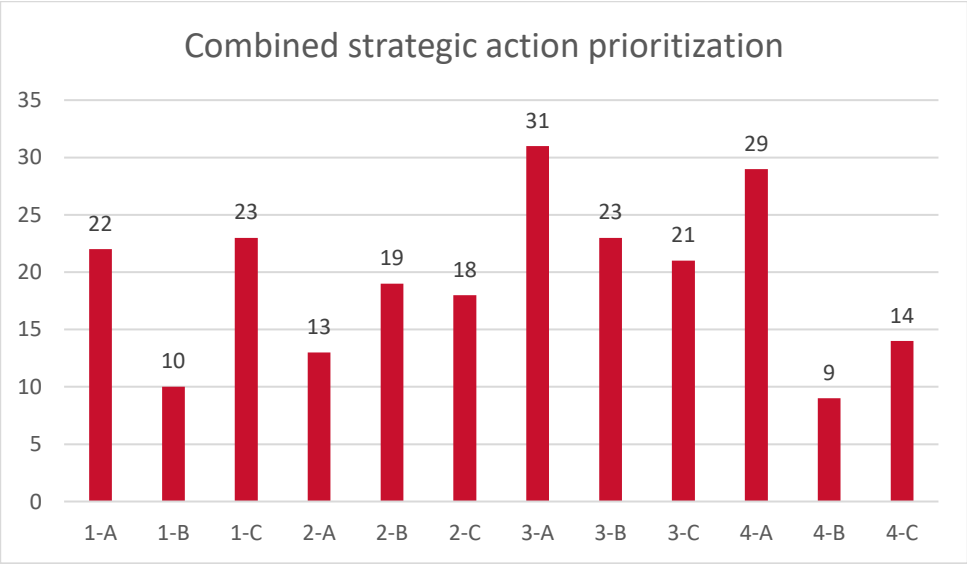


Figure 2- Combined strategic action prioritization

Volume of comments for each action

In addition to prioritizing actions, participants were also asked to share their reasoning. All actions received comments, although some more than others. This list is in order of most mentioned to least mentioned.

- 4A- Continue to collaborate with major water users, the region and Province to protect the Bow River Basin
- 1A- Implement summer water schedules
- 3B- Ensure drought is considered across the planning continuum
- 2C- Evaluate and implement alternate water supply sources for drought resilience
- 1C- Understand the financial impact of drought on city operations and customers
- 3A- Improve our modelling on environmental flows, and climate impacts to our water supply
- 3C- Preserve, restore and build drought-resilient landscapes
- 2B- Ensure City operations are prepared for drought
- 1B- Update the 2005 Water Efficiency Plan
- 4B- Build ongoing dialogue with and support First Nations during times of drought
- 2A- Strengthen water licenses to ensure river withdrawals during drought
- 4C- Reduce Calgarians' vulnerability to the impacts of drought

1A- Implement summer water schedules

Comments in this theme came from participants in all workshops, with the following themes emerging as their reasoning.

Easy and quick action from all

- *We need to take action today and it's an easy way to make that change*
- *Easily implemented in short timeline*
- *easy buy-in for customers to build awareness, no brainer*
- *Quick to implement and empowers citizens to be part of the solution*
- *This is a way to really start to share responsibilities with residents*
- *this will also need to include city ops*

Behaviour change is slow/ need momentum

- *Easy to do, tangible, increases awareness, creates initial momentum*
- *This seems like a really straightforward way to make positive progress. I'm a bit surprised this hasn't been put in place prior to now.*
- *It will take time to change habits of citizens*
- *Sooner this begins sooner it becomes a behaviour of Calgarians*

- *Creates public awareness*

Need to reduce water demand

- *Heat waves are already causing high demand and push infrastructure to capacity*
- *This all seems futile if we dont reduce our use*
- *Reduction is very important*

Creates value of water

- *Good to invite the everyday life of citizens into the ebb and flow of the seasons... increases connection to place in addition to drought benefits*
- *Shows that the water is not limitless*

Education is required

- *Education as to why this is needed will be imperative*
- *How can we incentivize people to use less water?*
- *provide educational support and incentives for innovation/efficiencies*

Time to catch up

- *Presently, the City is an outlier when contrasted with actions other communities are taking. Most communities do this already.*

Considerations for Action 1A

- *how does the water meter policy underpin these strategies to help measure success?*
- *Time of use?*
- *it would be good to see the financial stability / incentives for turf replacement/ reduced demand calculations as a priority action*

1B- Update the 2005 Water Efficiency Plan

Participants from workshops A and C chose this action as one they think should be a priority and shared the following themes as their reasoning.

New actions are needed

- *if the targets are being met already then we need new ones, and to consider new and innovative practices that other cities are using for WEP programming. Integral for drought mitigation- C*
- *We have done a great job in almost meeting 2030 target, further reductions will take new actions- A*
- *nearly 20 years old. alot has changed since them- A*

Provides direction and resources

- *This update is likely a critical item to move forward to give direction- A*
- *Resources to implement water efficiency goals are essential- A*

Supports conservation narrative

- *These plans set long term objectives and goals that are pragmatic and result in real improvements. They cut across political lines and the average citizen understands that this is common sense, too a point- C*
- *Ensure and continue to have the focus and support on water efficiency within the city- A*

Suggestions for edits

Participants in workshop A also added suggestions that climate change should be factored into a Water Efficiency Plan update, and another from C shared an aligned project that could help to support this work.

- *include Climate change in the update*
- *connect to the GHG reduction*
- *Stay tuned for the AWC's next project that seeks an update on CEP in general. Should be in 2023 :)*

1C- Understand the financial impact of drought on city operations and customers

Workshop participants from A, C and D chose this strategy to prioritize, and shared the following themes for their reasoning.

Money talks

- *Future cost implications could be your greatest ally at a broad scale. For those who don't understand water conservation, they will understand cost implications - D*
- *Financial impact will resonate with Council and residents- C*
- *Important to know what expectations for drought specific actions whe/if they need to be made -D*

Building understanding

- *important to build understanding in the community- C*

Collaboration

- *Financial is not just from the City's perspective - find ways to leverage the capital investments from private and business groups towards this effort. This can be commonly missed by the City - with focus more on new build rather than building operators and asset managers/owners to recommend budgets and capital improvements/programs-C*

Themes from workshop A

Increase how we value water

- *Helping citizens understand the true costs of water use*
- *people are really worried about money right now, this will help them understand the importance of this work*

Money top of mind

- Budget and taxes are top of mind for many citizens
- *at the end of the day the city and its residents require financial support to continue to thrive*
- *people dont really tend to care about something until it impacts them directly - eg financial impacts. Making users pay for use will directly impact the users and force them to be more aware of their use - rather than just watering whenever they feel like it. Will encourage thought around personal actions*

Cost of no action

- *Long term perspective and comprehensive analysis needed to understand real financial impacts of not managing water resources*
- *Ensure Public understands impacts to esthetics at City operated facilities and parks*

Role and priority of The City

- *We sell water, and we also encourage responsible water use. Are these practices at odds? What IS our Priority?*
- *seems like this action is a critical responsibility for us as a municipal development authority and service provider*
- *being able to demonstrate that sometimes it costs more to do the right thing i.e., storm water reuse*

Rate structures

- *Rate structures that reflect high use can also help to influence change*
- *Those with the financial means to pay regardless of cost may not comply*
- *Ensure that future rate structures incorporate the ability to pay to ensure that low-income Calgarians are not disproportionately impacted by drought*

2A- Strengthen water licenses to ensure river withdrawals during drought

Participants from all workshops chose this strategic action as one that should be a priority and shared the following themes as their reasoning.

Level of impact

- *Biggest impacts- B*

Supply and demand considerations

- *peak day demand is expected by 2036...we need to consider how our supply is not sufficient even if we increase demand management quickly- C*
- *The bow river basin is already oversubscribed. we need to reduce our draw on teh basin- A*
- *Withdrawals supporting human health needs to be a priority- A*
- *This one is super important as this is a regulatory tool to achieve the vision! (daily w/d) Great job!- D*

It is proactive

- *Need to be proactive to avoid conflicts resulting from FITFIR- C*
- *Need to prioritize water licensing in the short term in addition to developing strategies- A*

Suggestion for edits

- *This sounds very City centric again. Make sure that the wording considers regional needs within the watershed.-D*

Define "strengthen"

- *Does Strengthen Water licences mean - enforce, monitor and restrict?- A*
- *I struggle with the wording of strengthen water licences. I don't know what strengthen a water licence means.-C*
- *yes to above comment! (I struggle with the wording of strengthen water licences. I don't know what strengthen a water licence means.)-C*
- *Agree with comment re "strengthen water licence" (needs clarification)-C*

2B- Ensure City operations are prepared for drought

Participants from A, C and D think this action should be a priority and shared the following themes as their reasoning.

City must lead by example

- *The City is a large water user in the City - their decisions and changes in behaviour will have substantial impact on overall water consumption- D*
- *Our operations should lead by drought resilient example- A*
- *City needs to lead by example- A*
- *May need some tools to be able to do this properly. A*
- *drought prep is climate prep- A*

City responsibility

- *Operations' success is a key connection to our customers -A*
- *this action is critical so we can continue to fulfill our municipal responsibilities for Calgarians- A*
- *What portion of water use is actually City. Seems so very minimal compared to overall use- A*

Critical first step

- *Evaluate and implement is a close second. I chose this as preparedness should strategically come first before seeking alternate water sources. With that said, they are concurrent goals and of equal importance.*
- *having an action plan is integral*
- *Managing city operations is highest priority for FO- A*

Preparedness for all

- *we need to ensure not just City Ops but also the city population are prepared for drought (education)- C*
- *won't lead to much savings, but perhaps the public perception piece is worth it- A*
- *operations and employees- A*

2C- Evaluate and implement alternate water supply sources for drought resilience

Participants from all workshops were able to justify this action the most amongst all actions. The following illustrates the participant's reasoning.

Fit for purpose is critical for resiliency

- *fit-for-purpose use is critical to advancing- D*
- *Important to understand what strategies best utilize the resource without further stressing a drought experiencing river system- D*
- *Water Reuse is a critical measure to preserve natural water supply- C*
- *Need to ensure all water is used/reused-C*
- *Water reuse and making best use of limited water resources is critical-C*
- *dependency on seasonal water flow issues in our rivers impact drought resilience; groundwater is more long-term-C*
- *Diverse sources of water supply will ensure increased resilience. -A*
- *Alternate water source and fit for purpose water are key to drought resilience at a citizen level- A*

Connection to stormwater and wastewater

- *Stormwater Use and Water reuse- D*

- *this will connect to stormwater and wastewater reuse- A*
- *In a drought situation, the amount of alternative water supply sources is also likely to be highly constrained, and may be of poor(er) quality than even normal stormwater- A*

Education/conservation narrative

- *Water storage / reuse education important- B*
- *This will be an important part of the story for the public- B*
- *evaluate AND encourage alternate water use- A*

License, regulation, and best practice

- *City may be able to get additional traction on regulatory water re-use strategies- B*
- *This could include agreements with senior license holders in times of drought- A*
- *sustainability and very common in areas with low water resources- B*

Infrastructure capacity and needs

- *This should be implemented regardless of drought condition. Reduce pressure on treatment plants is critical-A*
- *As our water flows change, flow rates, seasonal changes in, we will have to store- A*

Financial benefit

- *Also helps customers mitigate rate increases- A*

3A- Improve our modelling on environmental flows, and climate impacts to our water supply

Support planning and decision making

This was the largest theme that emerged from this strategic action. This action was also prioritized by all workshop participants.

- *To better understand and plan we need to have proper scientific models- A*
- *until we know what to expect it is hard to plan for it- A*
- *Science based dm. it will allow us to scale risk and test mitigation strategies- A*
- *A tool but a good approach and data can help make good decisions- A*
- *you can artificially create worst case scenarios...future climate... to test how prepared are you. what mitigations will work- A*
- *GM and Bearspaw reservoir modeling to assess vulnerabilities- A*
- *Using the best possible data to drive decisions- A*

- *If we don't have good base data, we are just planning for 'a general future dryness...' good data can help add (or reduce, if necessary) the urgency of the issue.-B*
- *Improved technology may assist in better understanding the big picrure.-C*
- *Should also incorporate better understanding City's impacts to the river in low-flow conditions (not just supply).-A*

Business unit and industry alignment

- *this work would help support a number of other BU's- A*
- *this work will inform other ongoing work- A*
- *Conection to the work: climate team,planning water treatment, parks, recreation, cema- A*
- *Ensure to collaborate with Water DEmand Modelling work already underway- A*
- *Would be great to add ecohydraulics modelling-D*

Education/conservation narrative

- *This helps tell the story to citizens- A*
- *I did not vote for this. Regardless of improved modelling, I think we need t adjust water overuse / misuse behaviour- A*

3B- Ensure drought is considered across the planning continuum

This action was prioritized by all workshop participants, although very few from B. Themes for reasoning are as follows.

Business unit and industry alignment

- *Directly aligned with other climate risk work within the Planning Continuum - and truly one of the "wicked problems" to solve*
- *At every stage in the planning continuum supports widespread integration of drought resilience in operations and process- D*
- *Water management needs the "makers, breakers, and implementers" to buy in, and water management cuts across many business units and ultimately affect everyone one way or the other.-C*
- *urgent need to stop locking in non-drought resilient developments and landscapes- A*
- *we need to include developers to make sure future communities are drought resilient*
- *we need to ensure new developments and standards are aligned ie turf spcs, irrigation specs, landscap spec- A*

Misaligned and competing priorities

- *Current bylaws and approvals are often at cross purposes to drought resiliency*
- *Resilient planning strategies are conisdered and implemented when practical-B*
- *Planning struggles with competing policies. Make sure that there is an alignment of policies- D*
- *Planning decisions are subject to many needs and requirements - drought will easily get lost in the priority list-C*

Support planning and decision making

- *This ensures that we plan holistically considering the big picture and all the factors- A*
- *Ensuring we have the policies in place to regulate land use and support appropriate uses of land that minimize water consumption and ecological disruption is critical to ensure future development decisions support rather than harm water security. -D*
- *How planning decisions are made must incorporate water resources re both flood & drought mitigation- C*
- *Important to making smart decisions now for future.- C*

Participation

- *Entrenching in planning process will allow both public and private participation- C*

Suggestion for edits

- *Apologies - but i am not sure what this means - I think its important but can be read many ways - would need some clarity to help the reader understand it- A*

3C- Preserve, restore and build drought-resilient landscapes

This action was prioritized by all workshop participants, who shared the following themes as their reasoning.

Improved and aligned landscaping choices

- *Current City landscaping is not aligned with objectives of this plan- what are the plans that outline current City landscaping so we can identify conflicts?- A*
- *Plant more trees, build better green spaces now, established green spaces are most drought resilient. -B*
- *We're a continental steppe - let's bring back the native prairie- D*
- *Xeriscaping and new strategies important for new builds- D*

Education/conservation narrative

- *What are the incentives for citizens to do this? When they turn on the tap, it just comes on. -A*

- *ALIDP has 5 demonstration sites in Calgary and hopefully we can integrate these into City educational efforts as we evolve attitudes- D*
- *education on amendment to the City's drought tolerant list required- B*

Business and industry unit alignment (2 comments)

- *This can translate to may other areas of work in the city. Our natural assets are shared - not just specific to one BU. We all benefit from habitat restoration or flood risk mitigation etc. This has to be a corporation wide goal- A*
- *This is directly aligned with recent focus on valuation and restoration of natural assets - assets which to date have been ignored or undervalued, especially when damaged or removed-A*

Include protection of wetlands and riparian (2 comments)

- *Broaden to include protect and restore riparian areas, wetlands and aquatic habitats for all services they provide-properly valuing environmental assets- A*
- *Majority of wetlands have been removed from the landscape- B*

Developed land

- *we have to be ready to retrofit the 100 years of developed lands- A*
- *a lot of our environment is already built. finding ways to improve what we have and harness or capture water would be effective and allow more people to be part of the effort. Keeps it from being a 'their problem' approach- C*

Support planning and decision making

- *The more drought resilient we can make our city physically, the "less" hard decisions we are required to make about other things. Let our natural environment work in our favour.*
- *Landscapes will be a very visible indicator of the city's changing moisture regime. Yellow leaves, infestations of pests, etc. will have significant impact.*

Suggestions for inclusion

- *need to add flood resilience here. It goes hand in hand- D*

4A- Continue to collaborate with major water users, the region and the Government of Alberta to protect the Bow River Basin

This action was prioritized by all workshop participants, who shared the following themes as their reasoning.

A seat at the table

- *I would suggest municipalities, stakeholders and watershed stewards in the region- D*
- *Engaging Agriculture, our largest user, will allow for wholesome discussion- C*
- *This strategic action includes 1st Nations also, must have collaboration with others in the watershed- C*
- *Is intent to engage with bilateral partners ie. other towns and counties in the region- B*
- *Important to include business, property owners (esp. commercial) - who deploy capital every year and can help in managing and creating something to help in urban environments. They also manage water use in their buildings- C*

Impact and leadership of The City

- *presumably this is a given and will happen regardless-D*
- *It's very valuable to have a large water user like the City of Calgary onboard, consistent, and even demonstrating leadership- D*
- *Same, the largest users have the biggest impacts. Think Ducks Unlimited in temrs of preservation*
- *ultimately many drought impacts will not hit Calgarians nearly as hard as our downstream users (oh well if we can't have green grass!) We need to act collectively as a watershed. This is obviously hard because how much does Calgary need to invest to protect others downstream...-C*
- *Influenced by upstream activities- B*

Drought impact is bigger than Calgary

- *Reducing drought impacts is key from a watershed level, not only City planning and impacts.- A*
- *This is most key. collective and coordinated planning and resonse it critical for any positive impacts- A*
- *We will need the region and all orders of governments' cooperation to protect the basin effectively- A*
- *Education and outreach messaging can be imposed through various river/watershed groups*

Basin level work creates better outcomes

- *Drought presents an interlocking series of problems that need a basin wide approach-C*
- *Water sharing agreements are important-B*
- *Better understanding the basin as a system of input and outputs and develop strategies where partners reduce competition and achieve the most benefit as a whole*
- *Increased regional collaboration to achieve better outcomes*
- *Collaboration is key in the region*
- *Building relationships and working together takes time - we need to do this to make signifigant change and have a unified goal- A*
- *Need to have everyone on the same page and have province allow for flexibility*
- *We will need the region and all orders of governments' cooperation to protect the basin effectively*

Improves management of severe drought

- *In a severe drought conflicts between watershed uses will play a significant role- A*
- *Southern Alberta has a history of working together through derought; we should honour and build on that- A*
- *This collaboration will be necessary to strengthen licencing- A*
- *Education and outreach messaging can be imposed through various river/watershed groups- A*

Suggested edits

- *I wonder if this action is about protecting the Bow River Basin (which is very broad) or more about balancing drought resilient intersts in the Bow Basin? Tie it more to the drought resilience; not general protection maybe? A*

4B- Build ongoing dialogue with and support First Nations during times of drought

This action was prioritized by all workshop participants, who shared the following themes as their reasoning.

Ways of knowing will inform the Plan

- *this is perhaps one of hte most important conversations we should have and learn from-A*
- *Indigenous communities' relationship and knowledge of this land can inform this work (as can be said of newcomer communities expertise in responding to drought - really happy to see Action Dignity involved in the engagement plan!)-A*
- *can we include a FN view of drought and drought resilience- A*

Commitment to Truth and Reconciliation

- *Calls to Action-D*
- *We have a responsibility to First Nations and Metis communities and people to include them in all aspects of water management. It's not a business input to them, it's spiritual. We owe it to them. TRC matters-C*
- *"Build ongoing dialogue and support with First Nations during times of drought" - why just FN? should this go beyond to Indigenous*

Meaningful Dialogue is required

- *It is important to ensure everyone is involved and informed as the water sources are not just ours to use and control-A*
- *Ongoing dialogue, but really relationship-building so that the dialogue is ethical and there is a response to advice that is given (as opposed to collecting info or checking the consultation "box")*
- *Collaboration important especially with TsuuTina nation adjacent-B*
- *This is important at all times, not just during times of drought-D*

- *Buiding Dialogue with First Nations BEFORE not just during drought- A*

4C- Reduce Calgarians' vulnerability to the impacts of drought

This action was prioritized by participants in workshops A, C and D, with the following themes as reasoning.

Need to understand impacts first

- *Drought will disproportionately affect marginalized Calgarians - especially those in high-density social housing, as well as those accessing shelters who have less access to cool spaces- A*
- *important idea with escalating costs. would be interested to know how widespread impact is.- C*
- *understand varied vulnerabilities to drough- A*
- *Impacts could cause danger to citizens in the short term- A*
- *Financial impacts of rising food costs and food insecurity - some Calgarians offset food costs through community/gardening.-A*

Drought and climate connection

- *drought vulnerability is climate vulnerability- A*

Education required

- *This is an educational effort- D*

General concerns and gaps in draft Drought Resilience Plan framework

Water Efficiency Plan

- *There is likely a lot of overlap between water efficiency plan and drought resilience plan. How do we make these more distinct...or do we just combine them? Is the WEP just part of drought resilience as a whole?- C*

<u>Needs updating</u>

- Does the 2005 plan need a full re-write. It's been almost 20 yrs.- A
- *Can implementation be supported with an updated efficiency plan, more easily than if it isn't updated- A*
- *wep targets need to be reviewed by all possible related City departments, so that they are balanced with other important goals - wastewater etc.-A*

Doesn’t need updating

- *Re-opening 2005 WEP potentially diverting resources away from implementing of past recommendations- A*
- *Agree targets of the WEP need updating, but the implementation plan has been updated several times.- A*

River and land connection

- *The connection between Landscape and river health isn't clear. Likewise the connection between modelling and the "land to water connection" isn't clear. -A*
- *Please connect the dots to resilient landscapes and improved water quality for drinking water source water protection- D*
- *you need to prioritize tree watering in operational plans, this is not articulated at the level you have provided but it is THE key landscape watering priority- D*

Equity

- *The principle of equity is not fully reflected in the strategic actions. As vulnerability of marginalised people to drought will be impacted by all of the other decisions made by less marginalized people upstream (figuratively and literally). For example in planning decisions, annexation decisions, water cost incentives.- A*
- *Equity issues extend to how folks use or access water areas in the City - not just potable water use. We forget that education is needed.-A*
- *Be more explicit on how equity is being advanced in each of the goal areas.-A*
- *How will equity implemented -A*

Value of water/ river

- *Putting a value on water. It's been cheap for so long it would be great for people to value it, before we get to severe restrictions or price increases.- B*
- *"Climate impacts to water supply" seems too focused on role of river as supply- A*

Financial impacts of drought

- *Back to the financial impact if we don't water i.e., $200K per hectare for replacing turf etc- A*
- *Need to be aware of funding implications of all actions; balanced approaches- A*
- *Very important that the economic impacts are considered in all actions-D*
- *strategies for communicating long term benefits to not only citizens but also the long term economic benefits as well as environmental ones- D*
- *Should drought be considered in future COSS work?Â Â (Maybe it is already?)-A*

Financial impact to customers

- *What might this mean to customer rates? Should this plan have a more explicit commitment to keep that customer financial impact at the forefront?-A*
- *Is there a connection to be made to the User Fee Policy Review and the proposed ability to pay principle (in regards to future rate structures)?-A*

Education, values and conservation ethic

- *Is there any values work embedded in these actions? Calgarians need to value the resource before they are willing to act to protect/conserve, etc- A*
- *We need to remind Calgarians that we have a responsibility to downstream water users.- D*
- *drought will impact Calgarians but not as obviously as perhaps for our farmers or certain industries. We need to really package the 'so what' in easy to consume ways for the average citizen so they are not resistant to restrictions- C*
- *Comms strategy idea: "save water, drink your scotch neat"- C*
- *how do we get residents & landowners to accept the realities of our climate future?*
- *need to ensure we have sufficient buy-in from Calgarians for the actions that will be needed for drought resilience*
- *This not just being a war on lawns. (perception vs reality)*
- *How do we get Calgarians to care about these actions?-A*
- *educate for behaviour change. change required to maintain stable water supply, not just drought driven-A*

Response versus proactive planning

- *How realistic is a severe drought induced water shortage for Calgarians? Can this be framed? It is a growing concern for sure but can it be framed/scaled somehow given our hydrology, regulatory regime and history? -A*
- *The plan seems to blend long term water conservation/efficiency goals and emergency drought management response - both are critical and both are needed however the blend of the two feels murky- A*
- *ID what actions what are more reactive and more proactive/ resiliency based- A*
- *Several of the goals require additional study.Although I like the long term nature of some goals, quick wins are also important- C*
- *Please set out a sequence of how moving to outdoor watering schedules is an interim measure or subset of future activities that will include moving to landscapes that don't require or minimize the need for water inputs, keeping in mind the use of stormwater for watering landscapes as a BMP.-D*
- *Climate modelling was mentioned in the first part of this session - just wondering if Clagary has modeled for flow regimes when the glaciers are gone/flow severely reduced?- C*
- *Prioritization of water use in times of drought- A*

- *any plans to increase raw water availability?- A*

River loading and water quality

- *Where is the action that focuses on managing City Inputs (i.e. WWTP Effluent, stormwater) impacts to river during low water condition?- A*
- *connecting both non point source and point source loads...ecological impact...total loading management plan- A*
- *Wastewater treatment role in river health is missing- A*
- *What impact does drought have on our effluent return and commitments downstream?- A*
- *Drought year = Increased upstream fire risk = impacts on water quality.- A*
- *Is there a link to be made to The City's Drinking Water Safety Plan?- A*

Taking action and incentives

- *Demonstrate how retail spaces can change to comply-B*
- *important to highlight/quantify current uses to justify the need for action- B*
- *often people don't do anything until there's a calamity (massive flood / horrendous drought)- C*
- *Funding/incentives for xeriscaping- B*
- *incentives for weather based and soil moisture based controllers- B*
- *how do we encourage/attach financial incentives to drought actions? people may not change behavior (some of these actions) unless money is involved-C*

Decision making

- *science based and site specific decision making- A*
- *Shouldn't the drought plan establish triggers and warnings and various actions associated with each trigger?*
- *Plan is silent on duration of drought, Sense of urgency could be coupled with timing.- C*
- *Easy to focus on 'more policy', or 'let's put in more rules,' etc. - but think through how those actions can result in positive and intended outcomes-C*
- *Can these tie directly to the 'threats'?- B*
- *Internal Alignment on decision making and direction-A*

Infrastructure

- *any idea how wastewater / water infrastructures will be affected? -A*
- *Approaches to working with partners around green infrastructure both above, inside and below Calgary at least as watershed stakeholder (one of many)- D*
- *Long term water management infrastructure planning seems to be missing (reservoirs, intakes, plants, effluent return)-A*

- *The action list should include the city's advocacy for provincial investment in upstream reservoir for flood and drought management - it will be concerning if there is no mention of it in our drought plan- A*

Collaboration

- *Opportunity for international collaboration through the Sponge City movement?- A*
- *Something about working with the CMRB- A*
- *joint working sessions with appropriate stakeholders who can make a difference in moving this plan/actions forward- C*

Business and industry

- *Is there a component of this that addresses industrial use of water?- B*
- *Retrofits, existing users, commercial users need to be more meaningfully engaged - you will find partners and potentially financial support to help achieve some of these goals. Lots of focus on 'new build, new projects' but less on those already built, or the less sexy 'operational' components, but lots of opportunity there.- C*

Development

- *Need to have commercial development involvement / part of conversation- B*
- *Protection of alluvial aquifers and flood plains from development. Consider creating more green space in flood plains once buildings are taken out of service.- D*
- *How new developments will be managed to ensure these water goals are met for future land use.- A*

Addressing growth

- *How do the 4 goals relate to growth? I assume we wouldn't use drought as a reason to slow growth of the city, in the current context?- B*
- *it will be helpful to frame this as a benefit then we don't want water to limit our growth (residential & economy, etc)- B*

Define “region”

- *does the region also include regional municipalities? please clarify- B*
- *Regional alignment and support may be critical for success of plan and acceptance across all water and land users-D*

Environmental connection

- *Rivers healthy: not considered by addressed- A*
- *Reduce 'Calgarians' vulnerability leaves out our plant and animal brethren- A*

- *Is there a connection to be made to the User Fee Policy Review and the proposed ability to pay principle (in regards to future rate structures)? -A*
- *Connecting the dots between recovery of native fish to watershed integrity and drought resilience. -D*

Citizen vulnerability

- *Goal 1:An action focused on developing recommendations or ways to mitigate impacts on communities who have historically been left behind or excluded. - A*
- *Together: Reduce Calgarian's vulnerability, that is not rally our responsibility, Calgarians need to change practices to reduce their own vulnerability. We can help to educate but we can't ensure reduction of indiv. Vulnerability- A*

City reputation

- *What are the impacts of enforcement on the City's reputation with Citizens and Businesses?- A*

Additional ideas for the Drought Resilience Plan and framework

Water reuse

Participants in workshops B and D would like to see water reuse and updated building codes as a key part of the drought plan.

- *Supplement with water capture / reuse options- B*
- *Change building code in Calgary to have every new home have a cistern under the garage floor to gather grey water for landscape use. -B*
- *new houses with rain barrels, grey water reuse? -B*
- *Allow for greywater use in residential situations (ABC may be an issue?)- D*
- *Protect water supply, exploring alternate water supply for for operations, business and residential use- A*

City leadership and alignment

Participants predominantly from workshop D would like to see The City taking a leadership role and advocating for water.

- *good to know the progress that is being made on this issue- C*
- *Don't be afraid to tell people the problem, it isn't all sunshine and rainbows- D*
- *Being a voice for water. Commenting on poor advertising for example. There was an ad once that suggested drinking tap water is the same as drinking the water used for flushing the toilet!-D*
- *Make sure to walk the talk!- D*

- *What other teams or business units are you collaborating with in Admin? I'm always concerned about competing policies and how developers navigate -D*
- *Resources for implementation of goals will need to be secured- A*

Education and demonstration

- *Xeriscaping demonstrations public can see- B*
- *Drought simulation exercise- B*
- *Educate and awareness at all levels and stakeholders.- D*
- *Increased effort on outreach and education on drought and source water protection.-D*
- *I feel like a rendering of downtown with a dry Bow River would really hit home for me. How much do we value the water in our city?- B*

Increase knowledge

- *New plant research, look at drought resilience- B*
- *Undertake watershed resilience study in light of existing and emerging land uses in collaboration with partners- B*
- *Might be included somewhere but what about technology and innovation?- A*
- *Missing from actions are "Increase knowledge" via research/partnerships. Not just modelling improvements.- A*

Incentives

- *Tax credits for landscape renovation- B*
- *Are there penalties / disincentives for breaking the rules on water use & contamination? Need these to be more widely known & enforced- C*

Master Service Agreements

- *I note that we're silent on another lever - increasing the cost of water (more expensive tiers) which is not attractive right now but may be a future consideration?- C*
- *How does this work with ongoing water supply contracts with large users?- A*
- *Implementation will need to consider impacts to external jurisdictions that Calgary has a contractual relationships with i.e. financial implications.- C*