



WATER SUPPLY ADVISORY COMMITTEE

**Monday, January 8, 2024
1975 Field Road, Sechelt, BC**

AGENDA

CALL TO ORDER 3:30 p.m.

AGENDA

1. Adoption of Agenda

PRESENTATIONS AND DELEGATIONS

BUSINESS ARISING FROM MINUTES AND UNFINISHED BUSINESS

MINUTES

2. Water Supply Advisory Committee Meeting Minutes of November 6, 2023 Annex A
Page 1-2

REPORTS

3. Water Efficiency Targets Annex B
Water Sustainability Coordinator, Strategic Initiatives Pages 3-16
4. Water Communications Verbal
Water Sustainability Coordinator, Strategic Initiatives

COMMUNICATIONS

NEW BUSINESS

NEXT MEETING March 4, 2024, in-person at 1975 Field Road

ADJOURNMENT

**SUNSHINE COAST REGIONAL DISTRICT
WATER SUPPLY ADVISORY COMMITTEE**

November 6, 2023

RECOMMENDATIONS FROM THE WATER SUPPLY ADVISORY COMMITTEE MEETING HELD IN THE CEDAR ROOM OF THE SUNSHINE COAST REGIONAL DISTRICT AT 1975 FIELD ROAD, SECHELT, BC.

PRESENT:	Chair	V. Macfarlane
	Vice-Chair	J. Bell
	Members	B. Fielding
		S. Fitchell
		K. Freemantle
		M. Hennessy
		B. Thicke

Regrets:	S. Leech
	G. Moore
	L. Chivers

ALSO PRESENT:

(Non-voting)	Manager, Strategic Initiatives	M. Edbrooke
	Water Sustainability Coordinator	G. Starsage
	Director, Area A	L. Lee
	Director, Area D	K. Backs
	Director, Area E	D. McMahon
	Alternate Director, District of Sechelt	J. Henderson
	Public	2

CALL TO ORDER 3:31 p.m.

AGENDA Agenda items three and four were changed in order, and the agenda was adopted as amended.

MINUTES

Recommendation No. 1 *Water Supply Advisory Committee Meeting Minutes of September 11, 2023.*

The Water Supply Advisory Committee recommended that the Water Supply Advisory Committee meeting minutes of September 11, 2023, be received.

REPORTS

Manager, Strategic Initiatives provided information regarding process for bringing forward Committee Recommendations.

Discussion included the following:

- Clarification was provided that for a WASAC recommendation to be received by the Board, a member of WASAC would need to bring forward a motion and be passed by WASAC. The recommendation would be recorded in the minutes.
- When the SCRD Board accepts WASAC minutes that contain a recommendation, the recommendation does not automatically become a Board resolution.
- The Board would need to bring forward a motion for recommendations from the WASAC minutes, and if passed, the recommendation would become a Board directive.

Water Rate Structure Study Committee of the Whole Staff Report, September 28, 2023

Discussion included the following:

- Board approached budget for the Water Rate Structure Study in 2022.
- An overview of general rate setting principles was reviewed.
- Clarification that the InterGroup report focused on ‘user fees’ which funds operations costs associated with collection, storage, treatment, and supply of water, and not parcel taxes which cover capital projects.
- Discussion about the ratio of the fixed cost to the volume-based factors presented for uniform billing, specifically the proposed 80/20 split.
- Concerns from WASAC members about lower potential demand reduction based on a ratio with a lower volume-based percentage. Members expressed support for a more immediate and stronger conservation rate structure. Staff discussed rationale for the proposed recommendations, as per the report.
- Clarification that volume-based billing is not a method of revenue increase, but instead would be set to cover the cost to deliver water and must result in cost recovery, which could include operating reserve targets.
- Discussion around increasing fairness, congruency, predictability, and simplicity in volume-based billing rather than the current rate structure.
- Feedback that more communication on how taxes worked and on how future volume-based bills would impact different types of water users would be beneficial.
- WASAC members supported the concept of mock billing as a communication campaign.
- Questions and concerns of the difference in rates between the three water service areas, request for clarification about why North and South Pender Harbour Water Services currently have higher costs. Staff shared information about upcoming Board reports that outline rate setting in each Water Service Area and information sessions scheduled for the end of November.

General Comments

Discussion included the following:

- Asks for non-potable sources for refilling rainwater cisterns.

NEXT MEETING January 8, 2024, 3:30 p.m. 1975 Field Rd / Online via zoom

ADJOURNMENT 5:35 p.m.

Water Targets

Context and Scope

Presented by Strategic Initiatives
January 8, 2024 – WASAC Meeting

www.scrd.ca



2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
May 1 - Sept 9	May 1 - Aug 5	May 1 - Aug 6	May 1 - Jun 8	May 1 - Jul 24	May 1 - Jul 20	May 1 - Jul 4	May 1 - Jun 6	May 1 - Jul 9	May 1 - Jul 3	May 1 - Jul 27
			Jun 9 - Jul 10			Jun 7 - Jun 26				
	Jul 11 - Aug 12	Jul 5 - Aug 12	Jun 27 - Aug 26	Jul 10 - Aug 7	Jul 4 - Jul 22					
	Aug 13 - Sept 3	Aug 13 - Aug 30			Jul 23 - Aug 9					
Sept 10 - Sept 17	Aug 6 - Sept 24	Aug 7 - Sept 30	Sept 4 - Sept 6	Jul 25 - Aug 25	Jul 21 - Aug 31	Aug 13 - Sept 13	Aug 8 - Aug 23	Aug 10 - Sept 19	Jul 28 - Aug 22	
Sept 7 - Sept 20			Aug 26 - Sept 18	Sept 1 - Oct 2	Sept 17 - Sept 30	Sept 16 - Sept 30	Aug 24 - Sept 30		Aug 23 - Aug 30	
Sept 18 - Oct 3	Sept 25 - Sept 30		Sept 21 - Sept 30	Sept 19 - Oct 5		Sept 4 - Sept 16	Aug 27 - Sept 15		Sept 20 - Sept 30	Aug 31 - Dec 13
Oct 4 - Oct 15					Oct 3 - Oct 27					
					Oct 28 - Nov 9					



www.scrd.ca



Provincial Update: Climate Science

What is Drought?

Types of Drought:

1. Meteorological
2. Hydrological
3. Ecological
4. Socio-economic

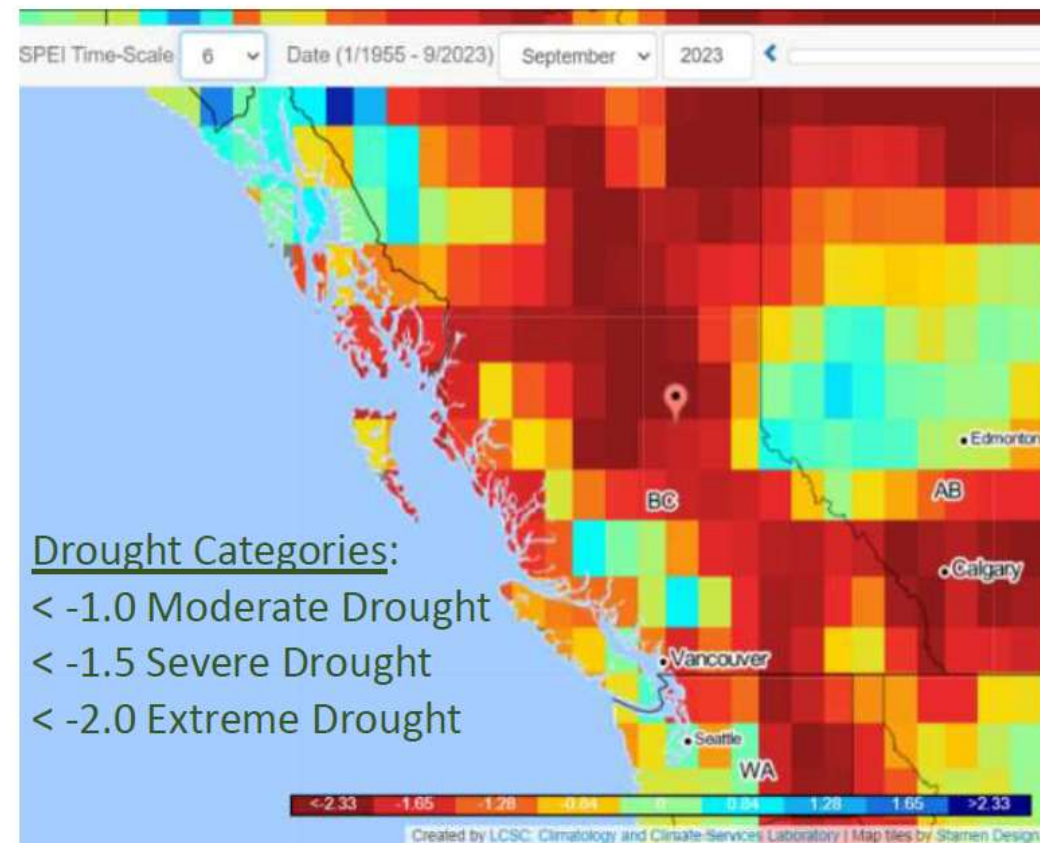


Quantifying Drought?

- hundreds of indices, methods
- relative in time and space
- e.g. Standardized Precipitation and Evapotranspiration Index (SPEI)

Vincente-Serrano et al. 2010, *J. of Climate*

SPEI Global Drought Monitor



E.g. 6-month SPEI ending Sep 2023 (average SPEI Apr-Sep)

<https://spei.csic.es/map/maps.html#months=2#month=8#year=2023>

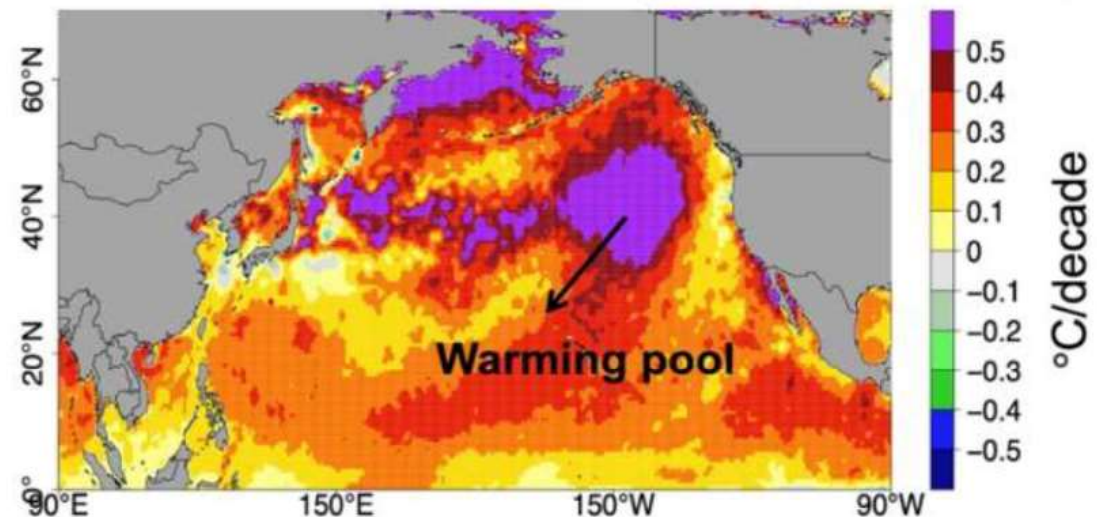
Climate Science continued...

Why drought in recent years?

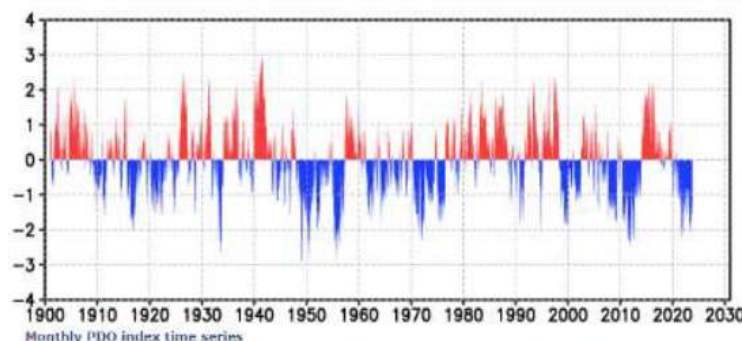
- Climate Change?
- Jet stream changes?
- Marine Heat Waves?
- Land-use change?
- Positive feedbacks from snow and ice melt?
- Climate variability?
 - E.g. El Nino, La Nina, Pacific Decadal Oscillation

Sea Surface Trends: Jun-Nov

Observed SST trends in JJASON (OISST; 1996-2021)



Monthly Pacific Decadal Oscillation (PDO) index



The red (blue) shading represents positive (negative) monthly PDO index values. The solid black line represents three month running mean values.

Barkhordarian et al. 2022.
<https://www.nature.com/articles/s43247-022-00461-2>

https://ds.data.jma.go.jp/tcc/tcc/products/el_nino/decadal/pdo_month.html

SCRD Water History (brief)

Date	Event
1966	SCRD formed to manage water supply and distribution
1995	Tetrahedron Park created, Bylaw 422 adopted
2001	Demand management, aka, water conservation programs start – e.g. toilet rebate program
2003	Drought response (management) plan adopted
2006	SCRD assumed ownership NPH Water System
2008	Province asks for 33% reduction in water use
2008	SCRD assumed ownership SPH Water System to increase water quality
2010	First time Stage 2 called
2011	SCRD adopts conservation targets in We Envision Plan
2013	Comprehensive Regional Water Plan completed
2014	Water meter installs start in North/South Pender
2016	Water Sustainability Act – changed EFN requirements
2022	State of Local emergency for drought – first in Canada, not the last...

Meters change everything...

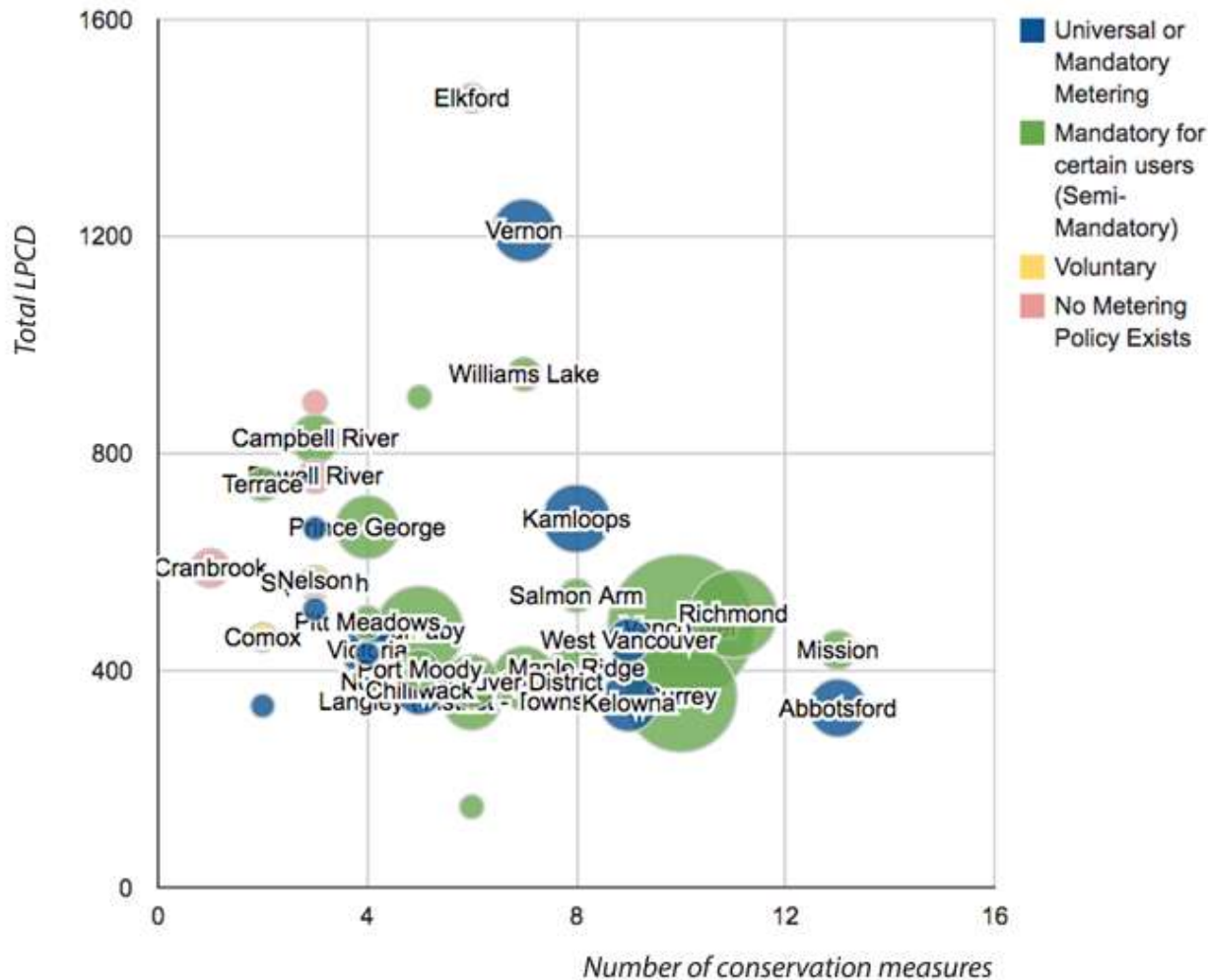


Figure 17. The relationship between total water use and the number of water conservation measures. The size of the points represents the total water use and the colour represent the metering policy.

Source: BC Municipal Water Survey 2016



Benefits of Targets



Guide benefit/cost decision-making



Guide policy (water conservation reg, water rate structures, water sourcing)



Inform forecasting (demand analysis, water modelling, capital project sizing/planning)



Benchmark for accountability/progress



Strengthen grant applications and provincial requests



Direct development and analysis of conservation programs



Support conservation and behavioural campaigns



Benefits of Targets (Conservation)



Stream flows support ecosystem health, functions, and resilience (generally through provincial Environmental Flow Needs)

Reduce costs of water supply development, treatment, energy savings

Reduce cumulative long-term impacts to watershed recharge and recovery

Better safe than sorry, use less while we wait to understand climate change impacts

Increase water literacy, respect and gratitude for the water we have

Key Terms

Average daily
demand

Commercial

Conservation

Consumption

Demand

Domestic

Efficiency

Litres/capita/day
= L/c/d

Cubic meter

Non-revenue
water (NRW)

Water System

Water Service
Area



Different Ways to Develop Water Targets...

Demand v. Consumption (Water produced vs water used by residents)

Total accounts v. residential / commercial / industrial

Total cost (all user in all service areas) v. individual service areas v. individual water systems

The various combinations of all the above

Decide on the period to achieve baseline average, 1 year – or averaged over several recent years

Decide if want seasonal periods within a year

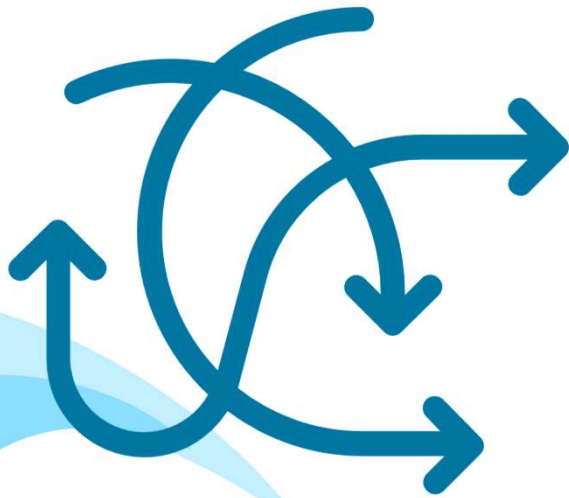
Decide methodology based on data available

Create procedure and timeline

Determine public reporting format and language



Limits



About 50% of Chapman Water System is still unmetered, therefore consumption-based targets only relevant to half of all customers

Without universal metering, relationship between demand and consumption is estimated

Many accounts are mixed use, limiting accuracy of difference between commercial / agricultural / domestic use

SCRD Existing



SCRD sets a target for Chapman Water System to reduce 2010 demand by 33% in 2020 (2011 We Envision Plan)



Comprehensive Regional Water Plan assumes 600 L/c/d in 2011, sets a 20% reduction target by 2036 of 480 L/c/d



SCRD Water Demand Analysis (2018) assumes 'Stage 2 Levels' at 890 L/c/d for July and August as peak production



Master Municipal Construction Documents (MMCD) for metered systems – 300 L/c/d ADD & 600 L/c/d MDD

Other Jurisdictions

Regional District of Nanaimo

- 9 service areas (3,000+ connections), a residential consumption target of 275 L/c/d by 2030 (benchmarked against 323 L/c/d in 2018/2019)

Town of Gibsons

- 2016 Water Conservation and Use Policy targets a net consumption of 207 L/c/d for metered residential customers
- 207 L/c/d residential consumption target approx. 240-310 L/c/d demand target, depending on NRW and ICI

France

- President Macron (March 2023) declares the current consumption of 150 L/c/d unsustainable!!

Metro Vancouver

- 2011 Drinking Water Management Plan – new one in process for 2025 – no targets provided, however 2022 residential average daily demand was 400 L/c/d



Asks, next steps



**Discussion with
WASAC
(community
representatives)**



Review SCRD's
historical approach



Jurisdictional outreach to
other BC regions known
for sustainable water
management



Internal Infrastructure
division meetings

