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Seasonal Outlook and Drought Response Activities

June 10, 2025

Sean Staplin
West Coast Region, WLRS

What We Will Cover Today

1. What is drought
2. What happened last year
3. Changes to Drought and Water Scarcity Response Plan
4. 2025 Early Season Outlook

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Drought and Water Scarcity

Drought is a naturally reoccurring climate phenomenon.

Water scarcity is a lack of water for ecological or human needs.

Water purveyor drought stages

(water storage and infrastructure limitations)

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Provincial drought levels

(lake levels, streamflows and groundwater available for humans and the environment)

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Federal drought ratings

(soil moisture and precipitation for agriculture)

Understanding Hydrological Drought

Hydrological Drought: Low water supply in streams and groundwater levels

Causes

- Insufficient snow accumulation
- Hot dry weather
- Delayed or insufficient precipitation

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Working Together

Threats at top of mind

- Community water supply
- Food security
- Business opportunities and livelihoods
- Power production
- Cascading impacts with wildfires
- Aquatic ecosystem health & fish survival

Shared responsibility

- Local, regional, Indigenous, provincial, federal governments.
- Water suppliers, water licensees.
- Public.
- Water conservation and risk assessment is the responsibility of all water users.

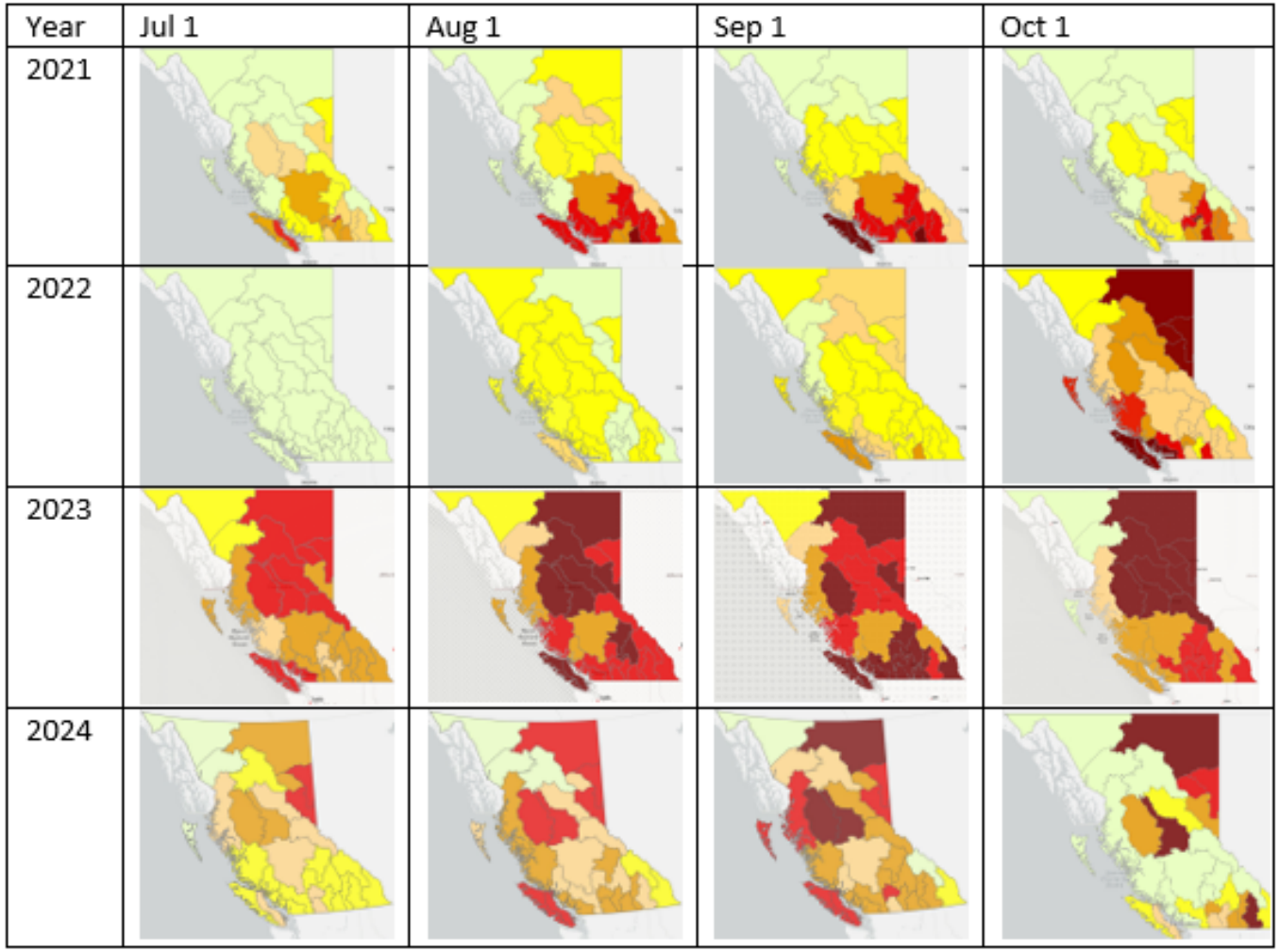
Provincial action

- Working with federal and First Nations partners to reduce risks to fish during drought.
- Early communications on actions water users can take to prepare for drought.
- Monitoring of conditions and impacts to inform risk.

Drought trends 2021-2024

- In recent years, drought conditions are occurring:
  - earlier and/or extending later
  - more frequently
  - and/or more severely

- Forecasting drought is challenging because it depends on the interaction of climate, weather and hydrology over multiple timescales.



What happened last year

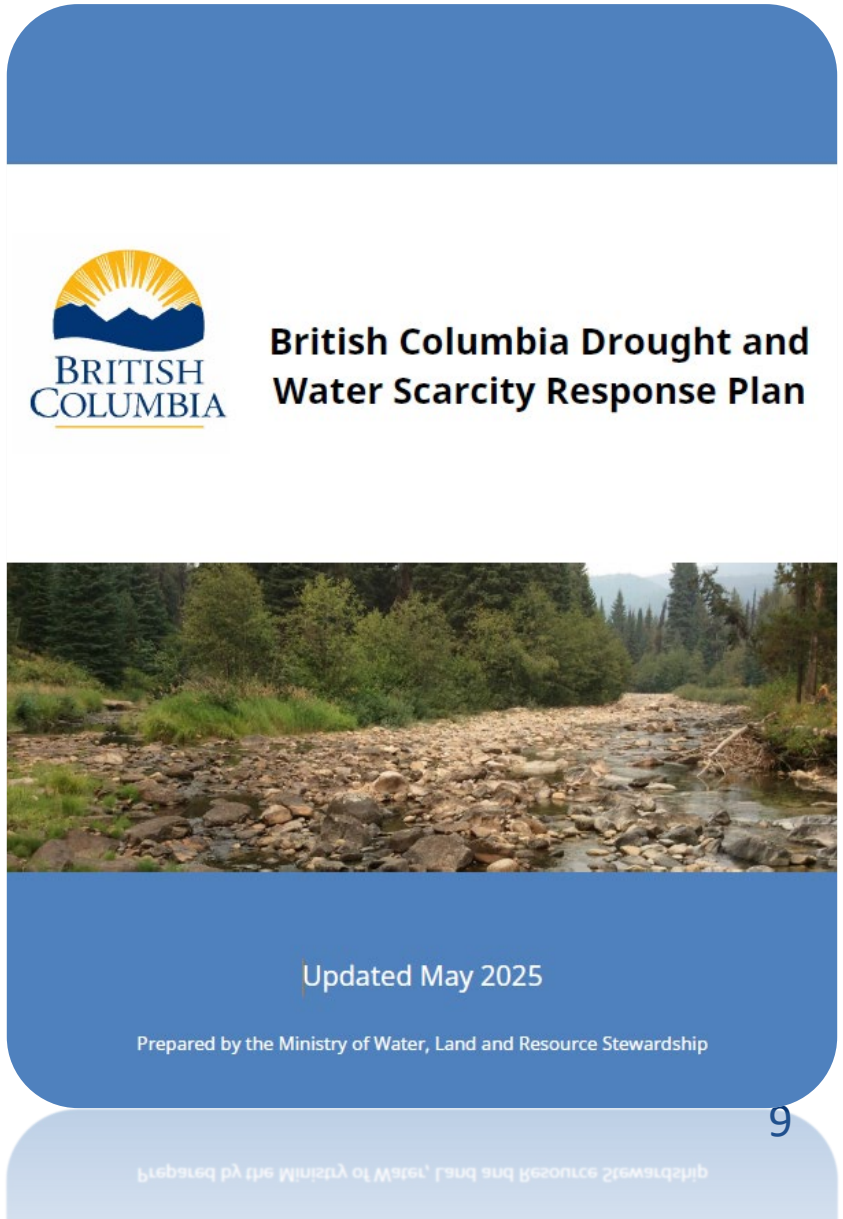
- Record low snowpack across the Province early season was signaling the potential for significant drought
- Cooler temperatures and precipitation in the late spring and early summer which moderated some of that drought risk
- 2024 Actions:
  - outreach and awareness
  - ongoing communication
  - Monitoring
  - worked with licensees for flow releases where storage available
  - Voluntary irrigation scheduling
  - No regulatory action

2025 Drought and Water Scarcity Response Plan

Outlines Roles and Responsibilities (Provincial/Local) – PTDWG/RTDWG

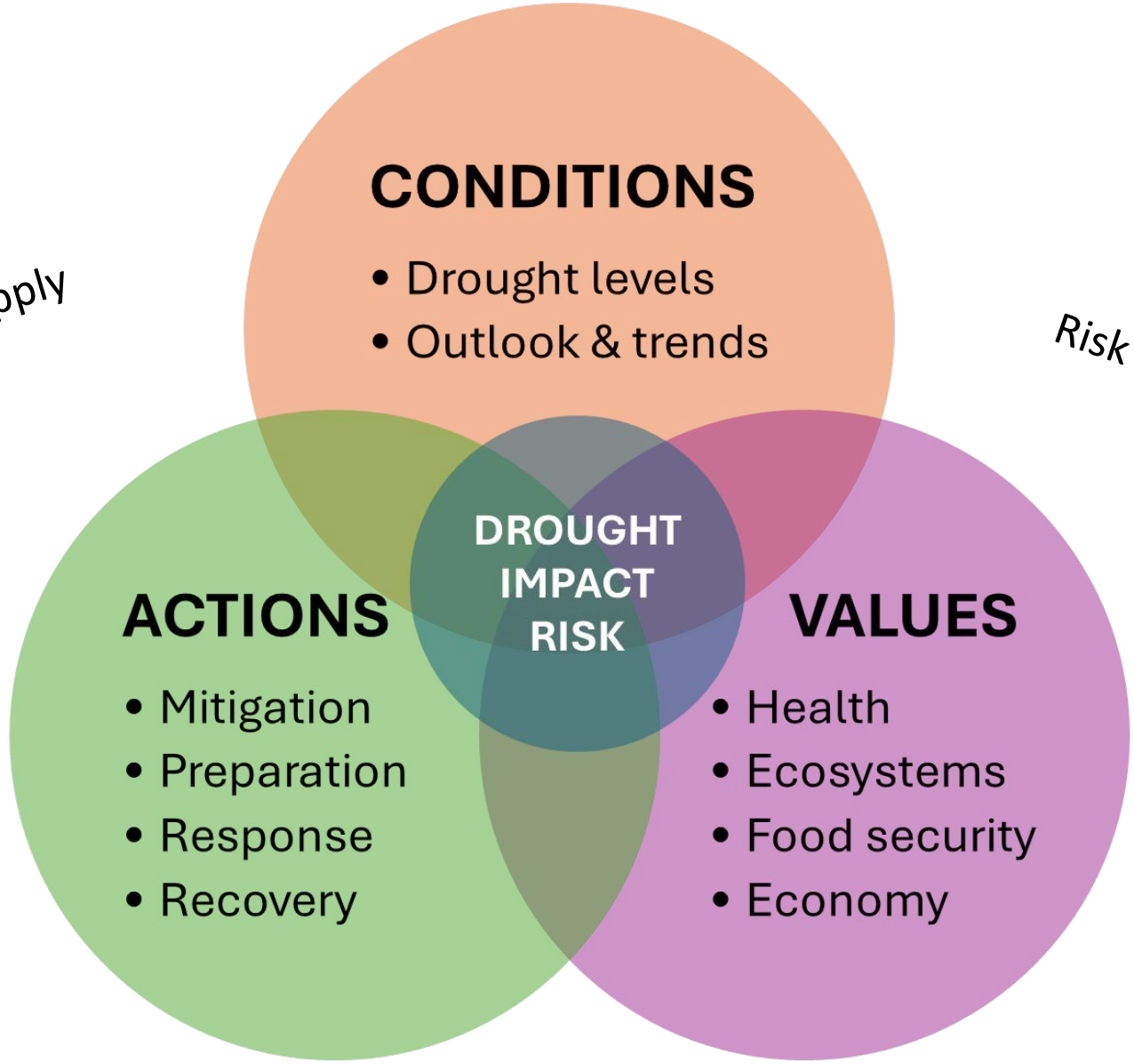
Key Update: Reframes relationships between drought conditions, impacts and management actions.

1. Updated definition for drought levels (i.e. hazard severity).
2. More emphasis on monitoring impacts to understand risk and inform actions.
3. Potential actions no longer organized by drought level (i.e. it depends).



Drought Monitoring

Risk to drinking water supply



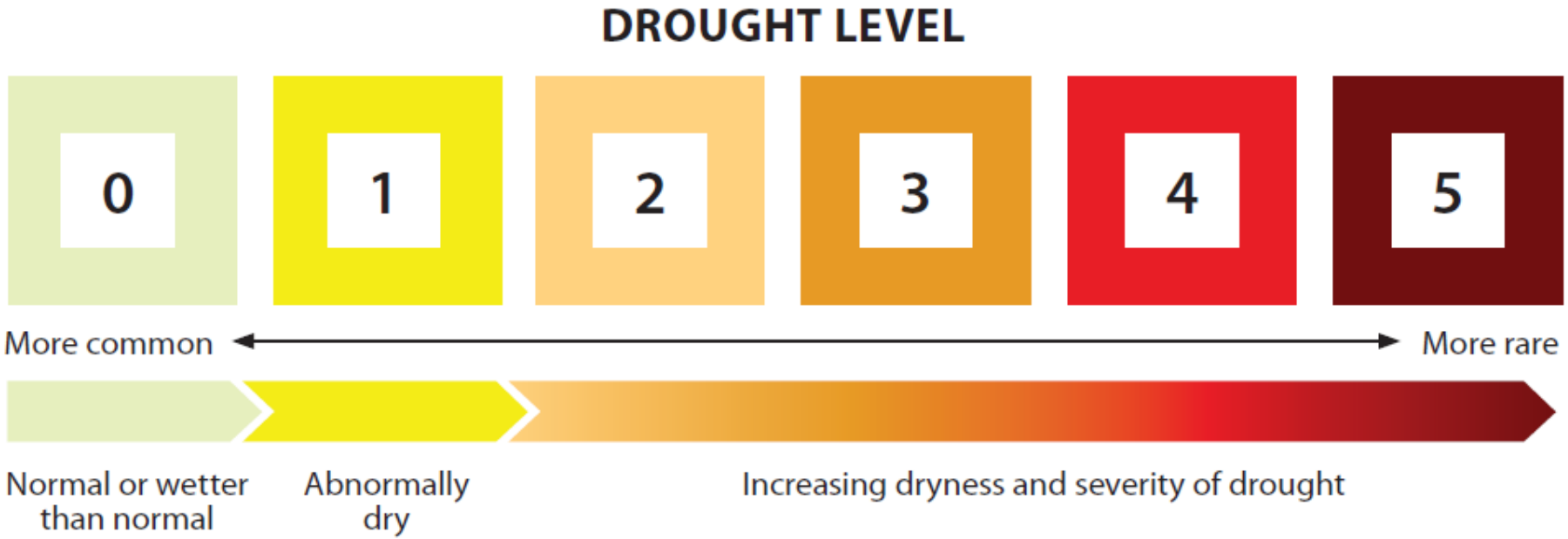
Risk to fish population survival

Previous State of Drought Levels

- A single measure oversimplifies.
  - Relationship between conditions, impacts and actions is complex, not 1:1.
- A single measure can introduce more bias.
  - Setting levels to reflect impacts on one value.
  - Adjusting levels to influence action.

Level	Impacts	General Response Actions
0	There is sufficient water to meet socio-economic and ecosystem needs	Preparedness actions
1	Adverse impacts to socio-economic or ecosystem values are **rare**	Conservation actions
2	Adverse impacts to socio-economic or ecosystem values are **unlikely**	Conservation actions including local water restrictions where appropriate
3	Adverse impacts to socio-economic or ecosystem values are **possible**	Conservation actions including local water restrictions where appropriate
4	Adverse impacts to socio-economic or ecosystem values are **likely**	Conservation actions including local water restrictions and regulatory action where appropriate
5	Adverse impacts to socio-economic or ecosystem values are **almost certain**	Conservation actions including local water restrictions, regulatory action and emergency response measures where appropriate

Drought Levels Reframed for 2025



- Tells us **how dry** it is, relative to the historical record.
- Tells us **how likely** we are to see these conditions.
  - E.g. Drought Level 5 has a greater than 50-year return period.
- Measures conditions at a **point in time**.
- Helps us understand the **natural pattern** of drought conditions.

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Drought Impacts

Industry

- Loss of water for hydropower, oil and gas production, and wastewater treatment.
- Impacts on tourism, including for recreational activities.
- Impacts vegetation growth and timber supply.

Agriculture

- Loss of water for milking/livestock watering.
- Loss of water for forage irrigation.
- Loss of water for crop/food production.

Community

- Loss of water for drinking and sanitation.
- Increased concentration of contaminants.
- Loss of water supply for essential services (fire suppression, water supply system function, etc.).

Environmental

- Loss of stream flows to support fish populations.
- Loss of water to support healthy ecosystem function.
- Loss of water supply to meet First Nations cultural needs.

2025 Drought Outlook

- **We cannot accurately predict if drought will occur this summer; much depends on precipitation through spring and summer**

- **Early indicators suggest drought conditions may persist into 2025:**
  - Snowpack
  - Regional stream conditions
  - Aquifer levels

- **We are preparing for an elevated risk of drought again in 2025.**

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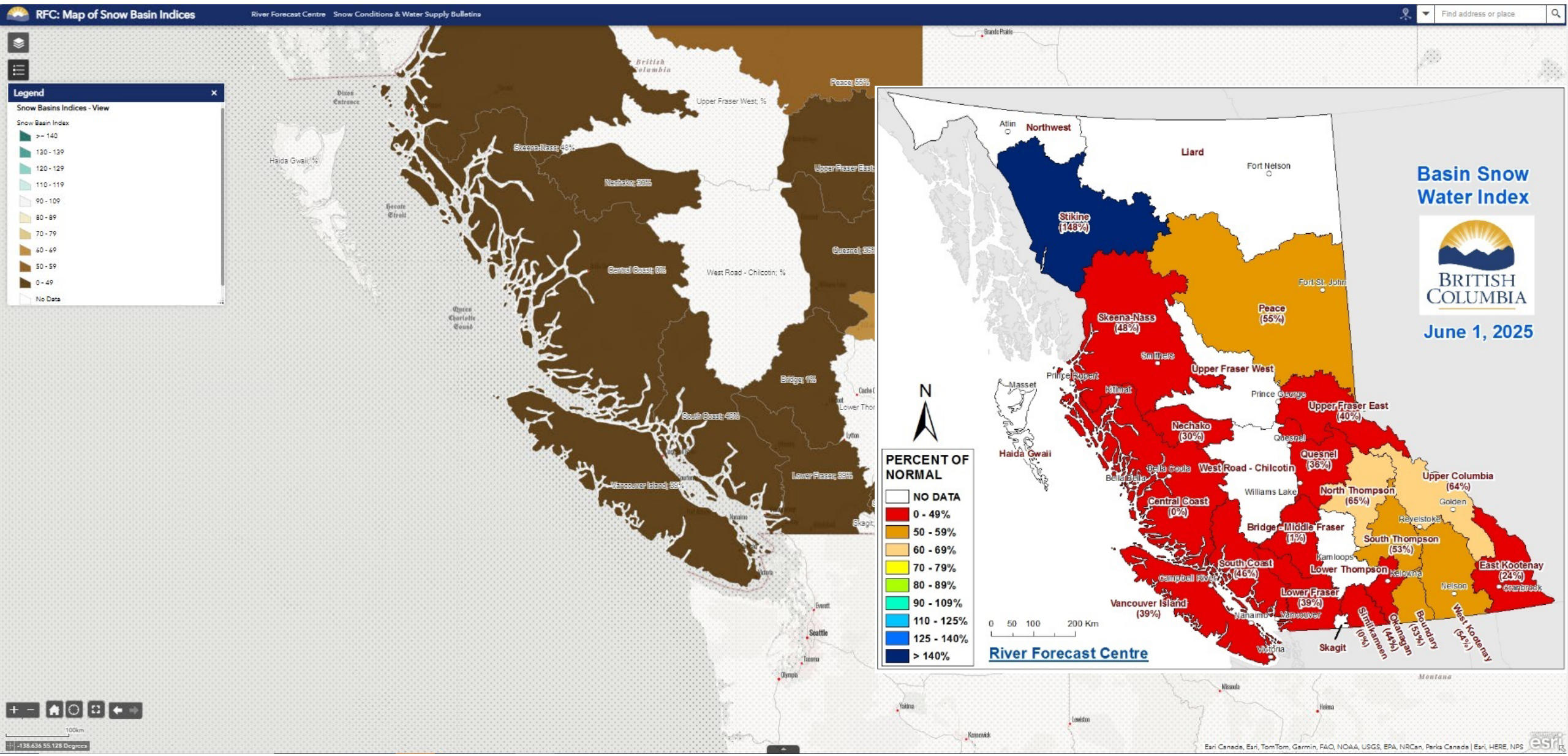
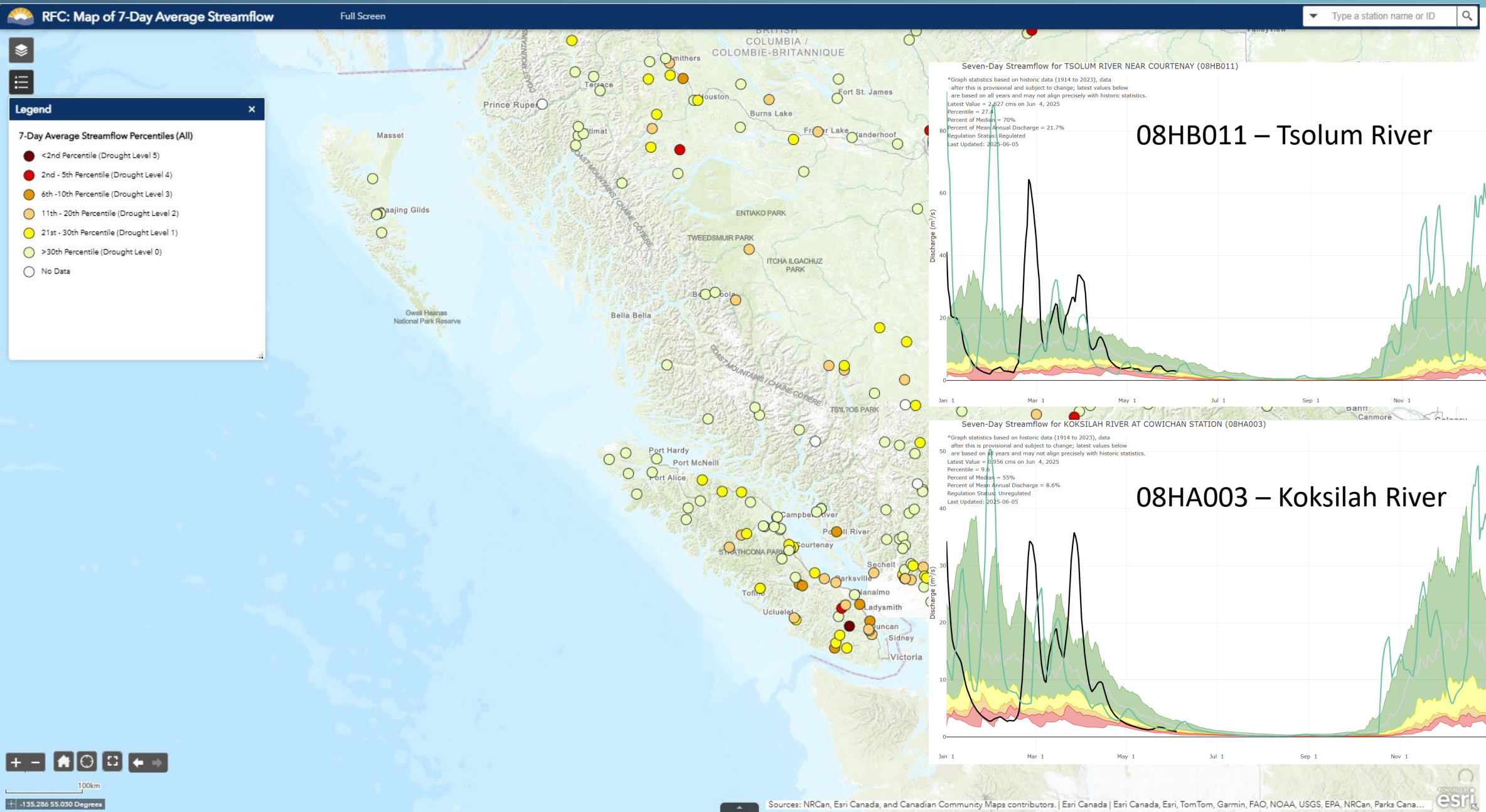
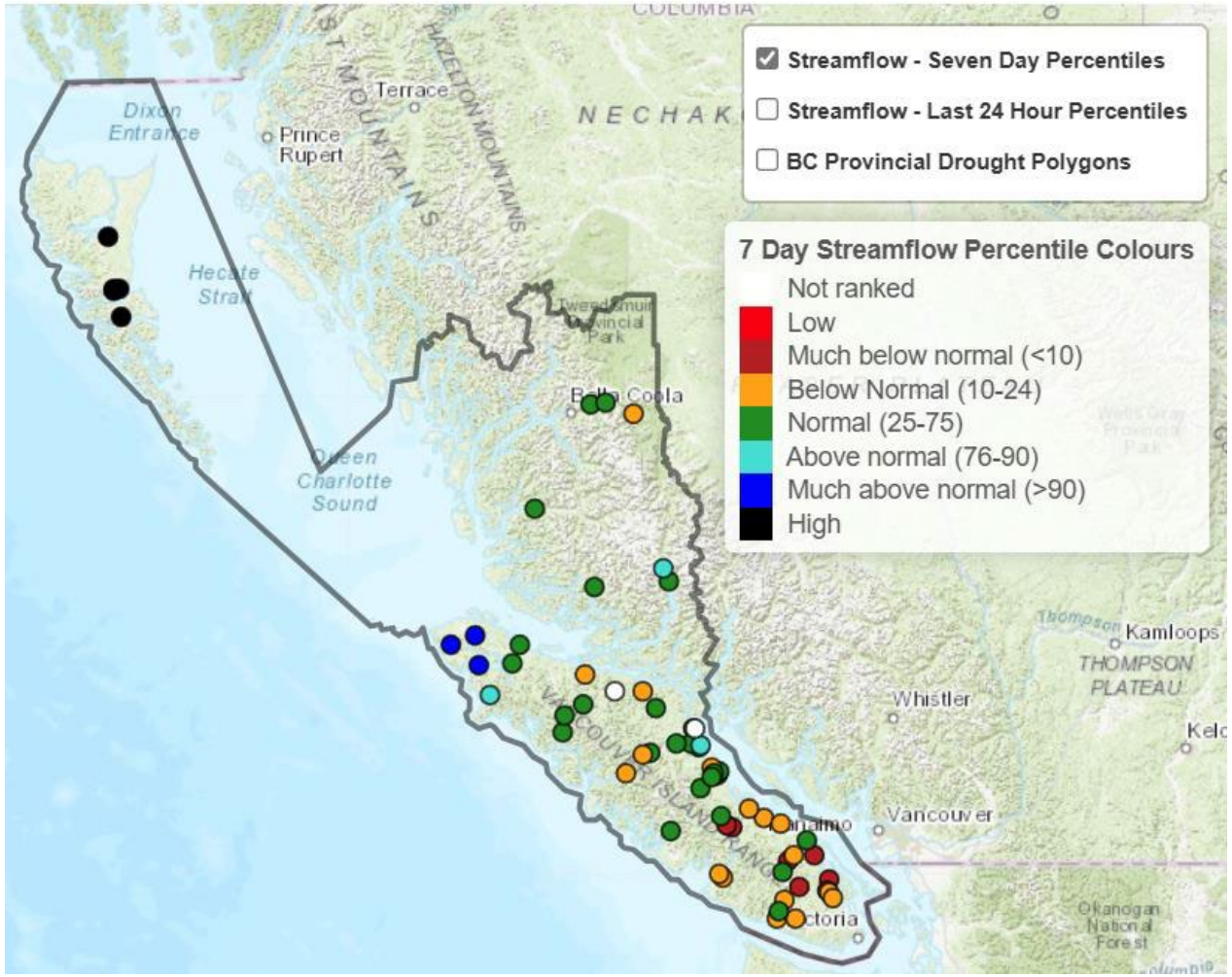
Basin Snow Water Index – May 15, 2025

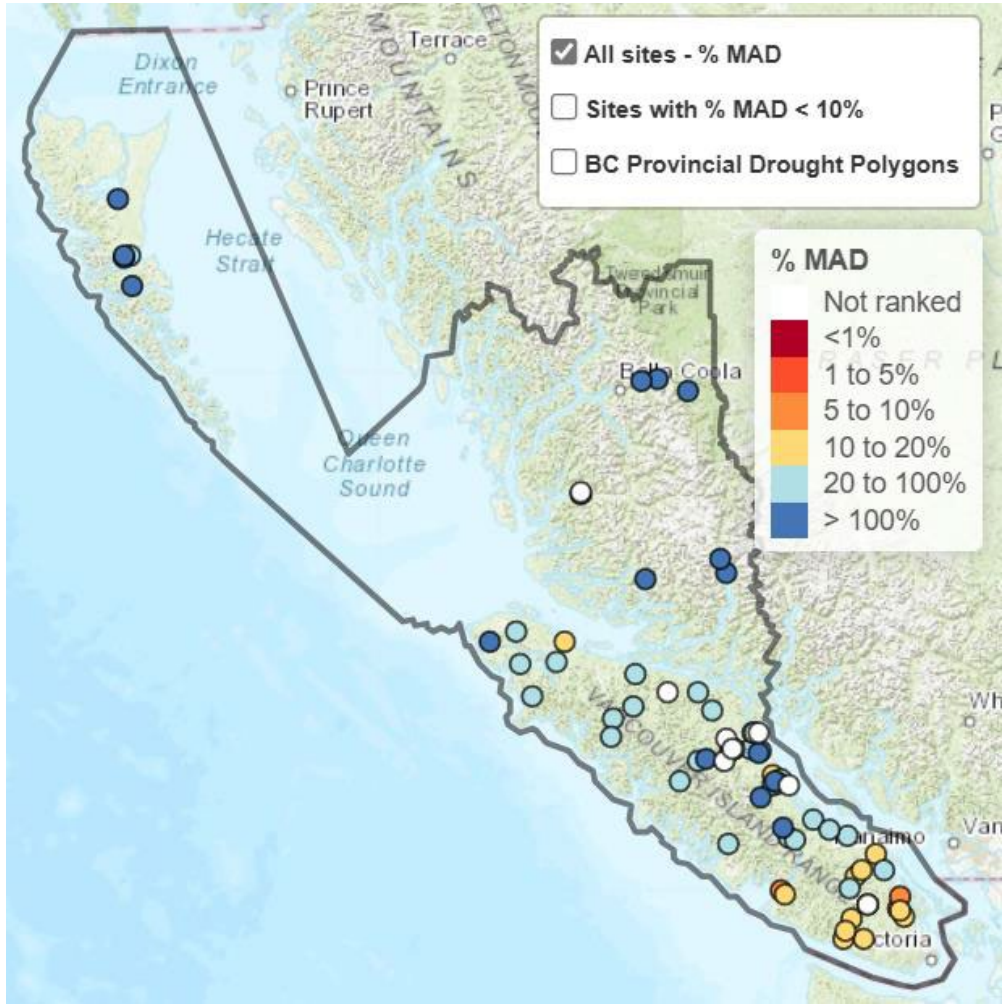


7-day Average Streamflow

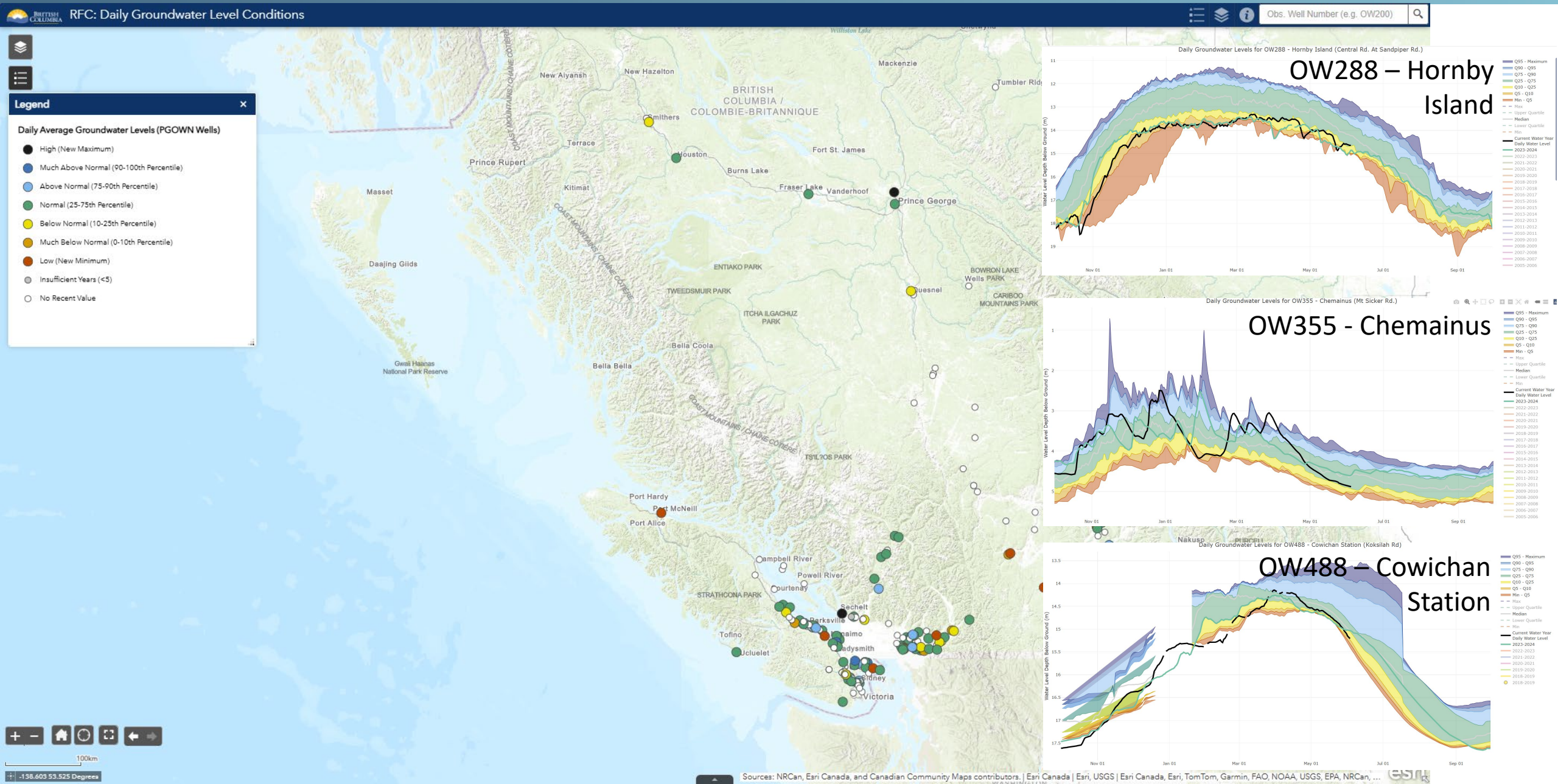


Current Conditions - Streamflow





Provincial Observation Wells



Plan overview - Response actions

Communication & Coordination

- Early preparedness outreach with water licence holders.
- Public information campaign.
- Requests for water conservation.

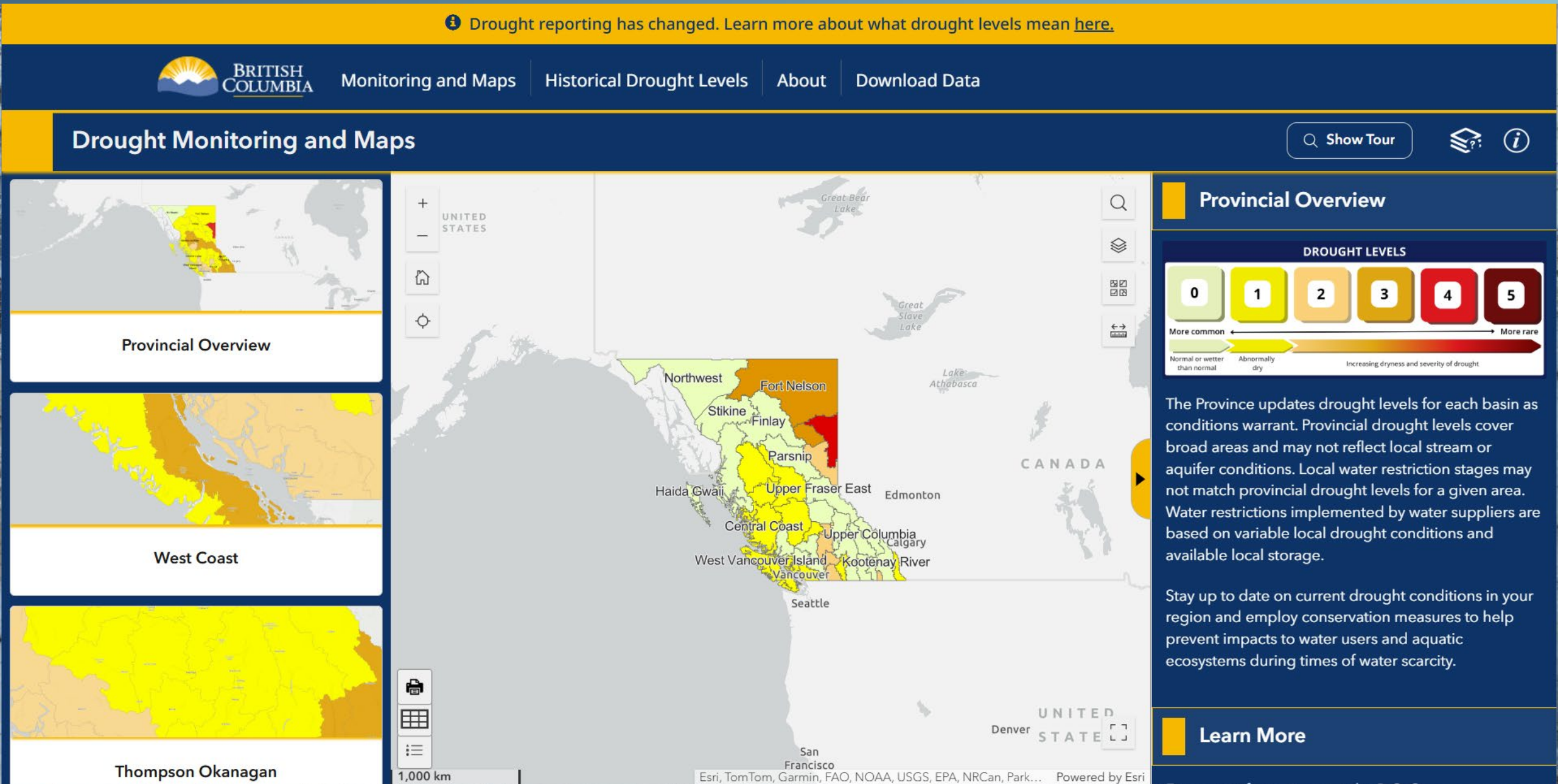
Data & Monitoring

- Collaborative field monitoring of local impacts.
- Support public situational awareness.
- Assess risk to different watershed values.

Regulatory Measures

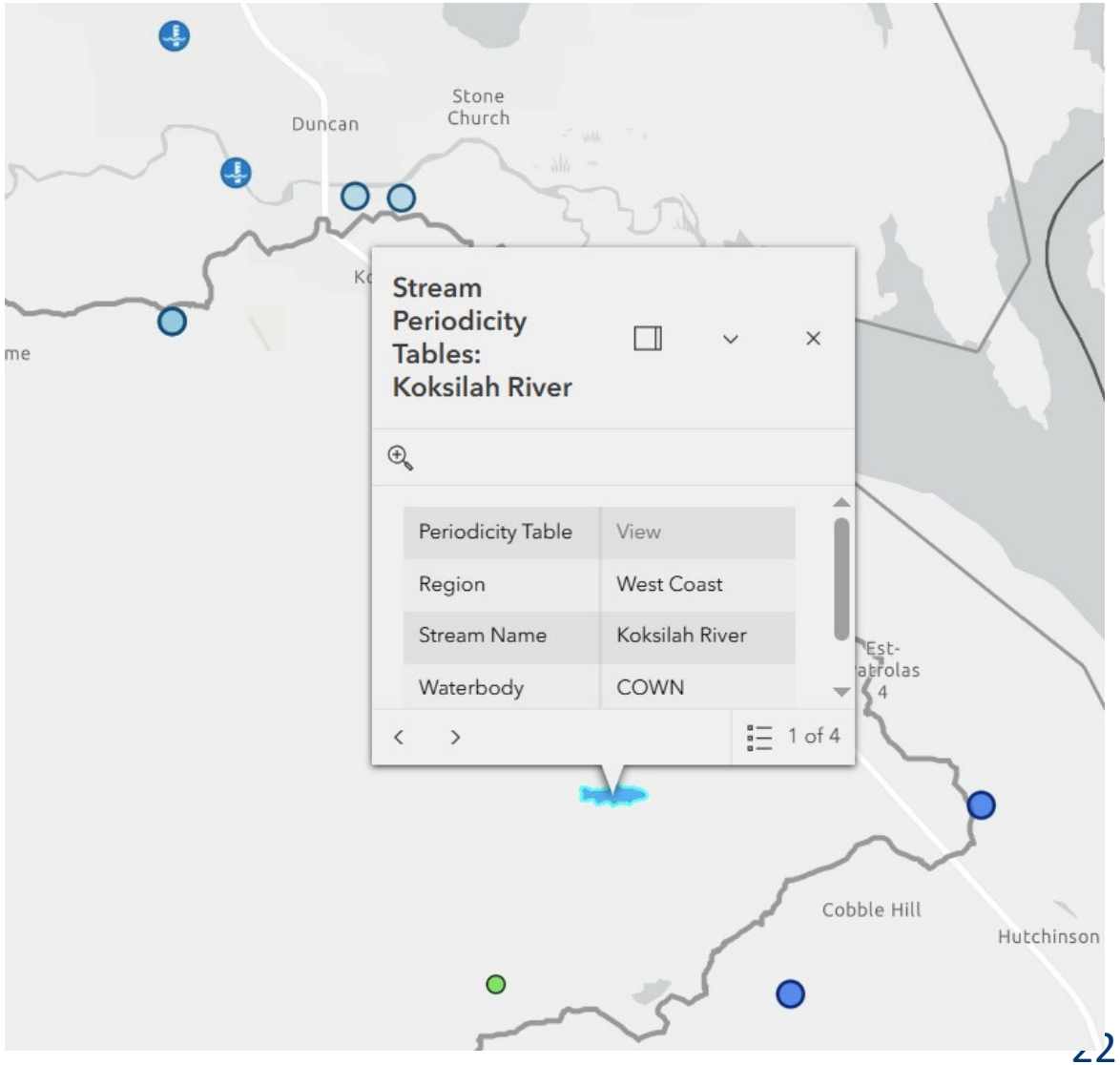
- Exercise tools under Water Sustainability Act.
- Temporary protection orders as a last resort.

Stay informed - https://droughtportal.gov.bc.ca/



Information Sharing on Impacts

- Mapping impacts to:
  - Fish and aquatic ecosystems.
  - Drinking water supply.
  - Crops and food production.
  - Other values.
- Enhanced reporting
  - More context on conditions, trends, outlook, impacts, risk.



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Thank You!

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droughtops@gov.bc.ca