

A wide-angle landscape photograph of a large body of water, likely Okanagan Lake, under a blue sky with scattered white clouds. A vibrant rainbow is visible on the left side of the image, arching over the water. In the background, there are forested mountains and hills. The foreground shows a shoreline with green trees on the left.

Working Toward Groundwater Sustainability in the Okanagan

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Who's minding the tap?



Need for GW legislation

- Surface and groundwater are interconnected
- Groundwater capture can interfere with:
 - instream flow needs
 - licensed surface use
- Geothermal well development is unmonitored



Baseflow – contributes to needed instream flows, temperatures

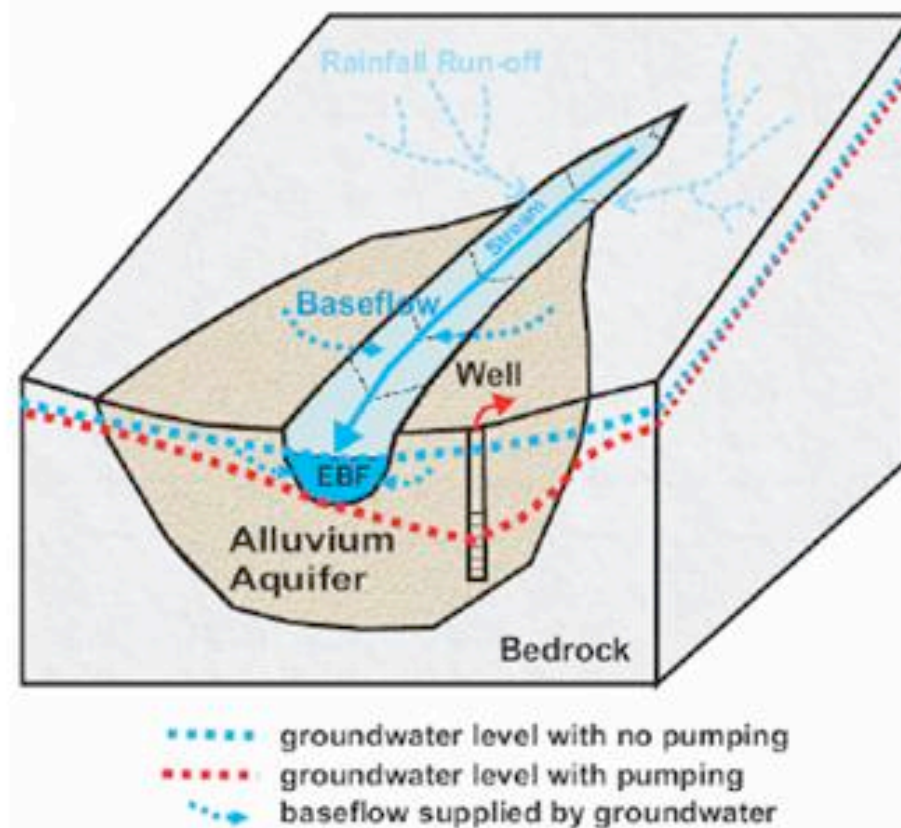
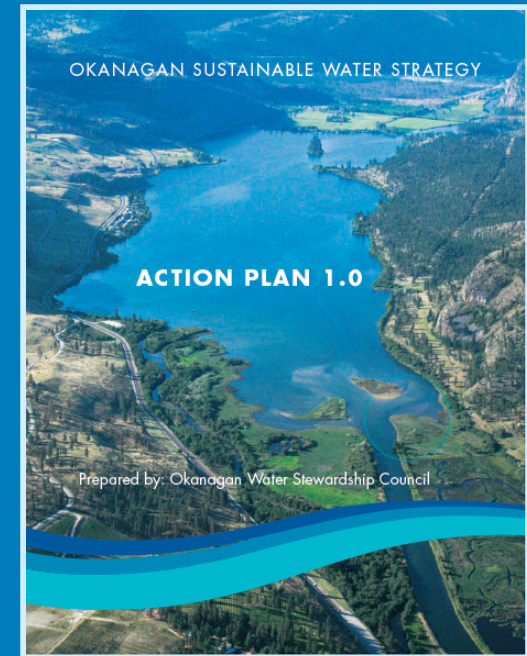


Figure 3-2 Diagram showing the potential effects of groundwater pumping on ecological baseflow.

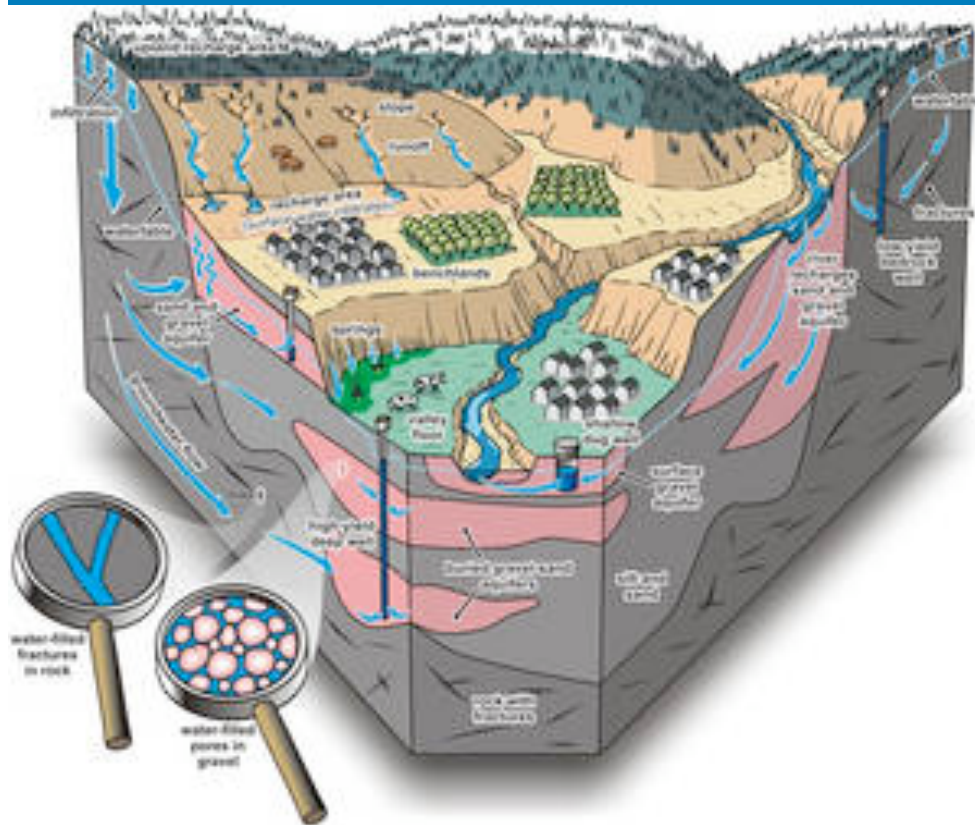
(Provided by Golder Associates, 2008)

Basic Strategies for Moving Forward

- Involve stakeholders and regulators
- Find links between groups & objectives
- Look for the most direct route
- Assume everyone shares the same basic values for protecting our environment



Key Step: Get the science



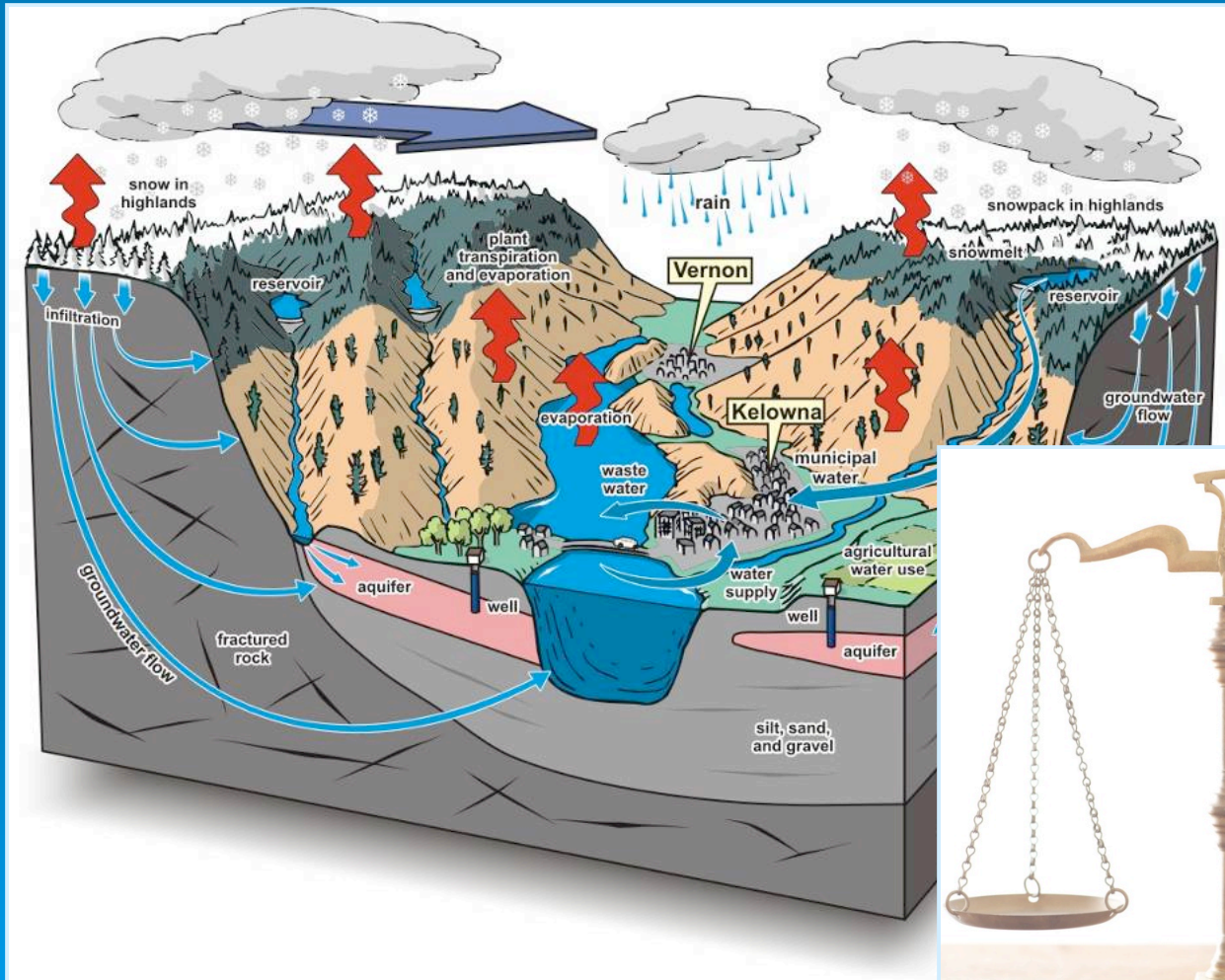
- Provides rationale for policy
- Crosses ideologies
 - “Wise-use, sound science”
- Deliver in useable form to decision-makers
 - “Give ‘em a sound-bite”

Okanagan Groundwater Projects

- Water Supply & Demand Project
 - Groundwater modeling
 - Instream Flow Needs
- Groundwater Assessment of the Okanagan Basin (GAOB)
- Streamlined Water Use Reporting
- Hydrometric Monitoring
- Groundwater Bylaws Toolkit



Water Supply & Demand Project





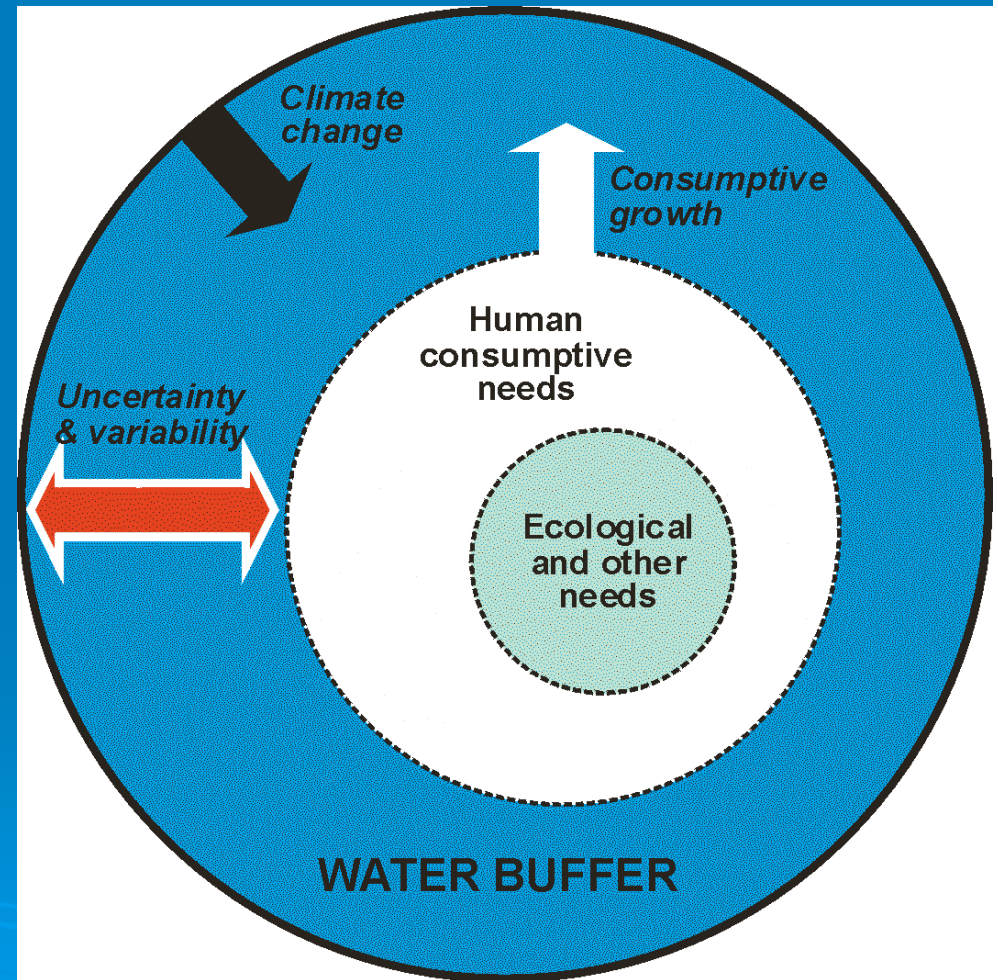
Overview

Purpose:

- sustainable water management
- land use planning
- water allocation
- evaluate demand alternatives

Component Studies:

- Actual water use
- Irrigation Demand
- Groundwater
- Surface water
- Climate change
- Instream flow needs

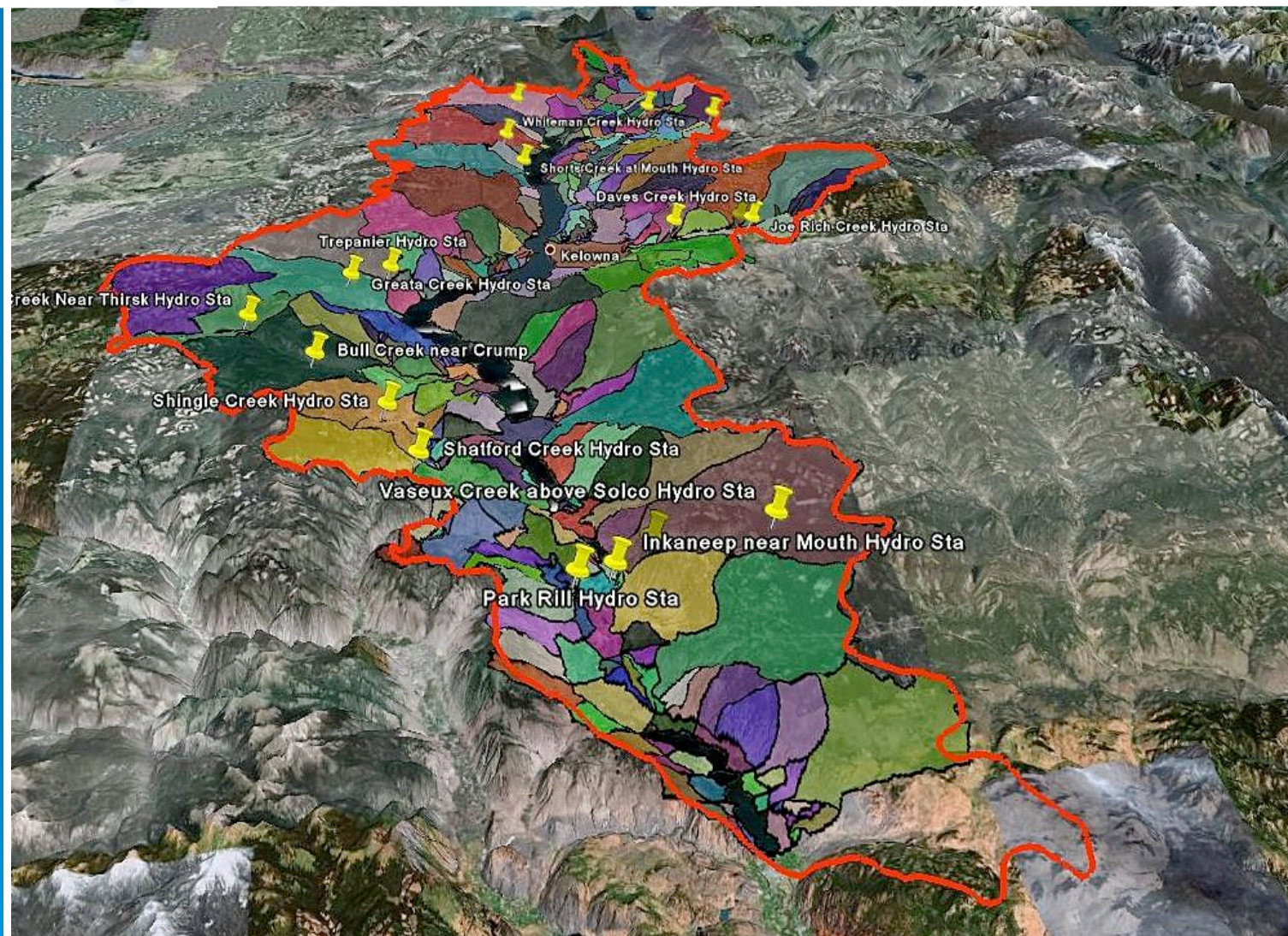




Groundwater Modeling

Water balance for 320 alluvial and bedrock aquifers incorporates:

- Base flow separation
- AET / PET as a function of precipitation and elevation
- Aquifer recharge, flow and storage as a function of geology



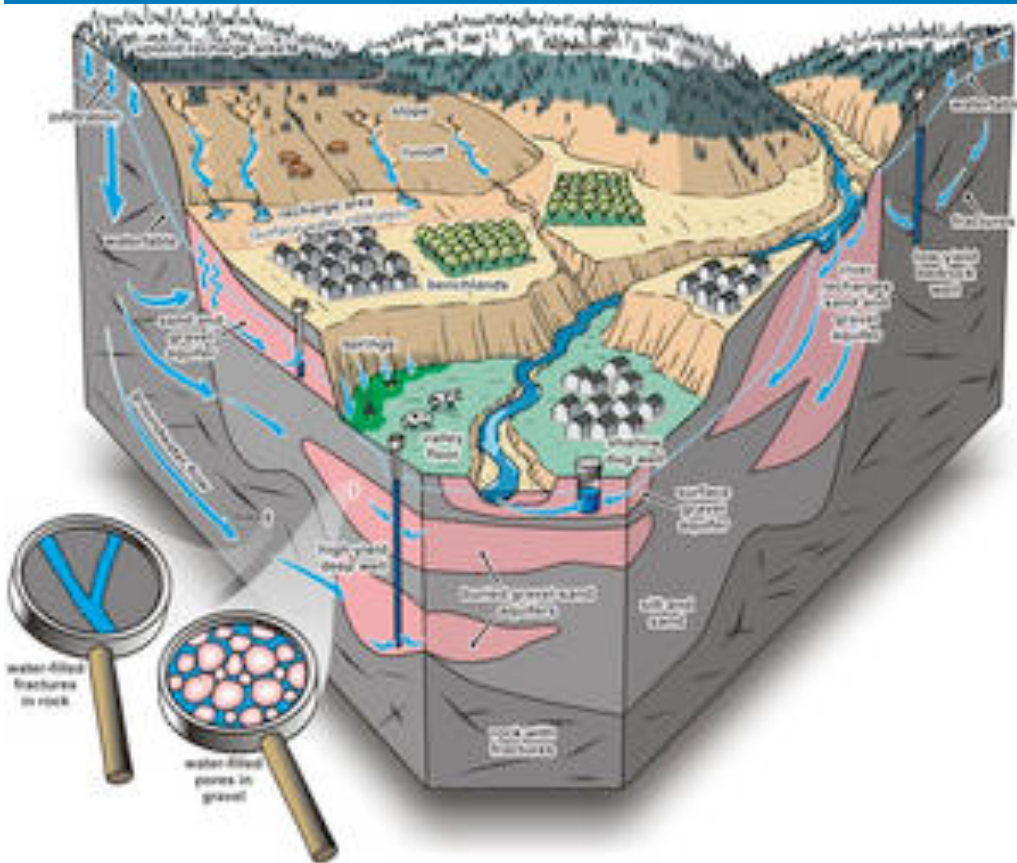


Instream Flow Needs

- Basin set of modeled minimum instream flows
- Can couple with groundwater analyses
- Will indicate areas most at risk, and need for site-specific studies

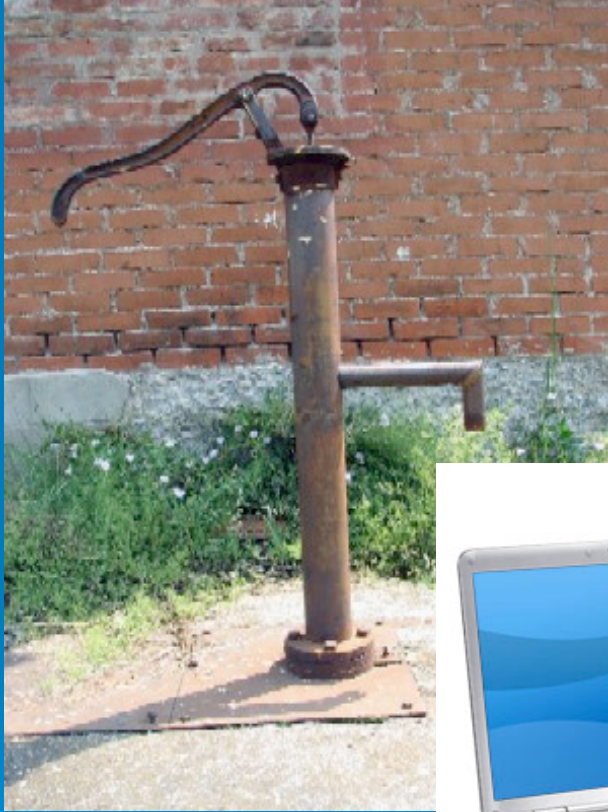


GAOB – many studies, one umbrella



- Lead is MoE
- OBWB is local sponsor
- Many agencies, universities
- Coordinates projects & studies
- Communication bridge

Streamlined Water Use Reporting



- All utilities and large water extractions
- Surface and Groundwater
- Web-based interface
- Replace current system

Groundwater Bylaws Toolkit: What Local Government Can Do Right Now



- Tool for planners
- Primer on Jurisdiction
- Groundwater science handbook
- Model bylaws: *e.g.*,
 - OCP policies
 - Geothermal
 - Pumping rates
 - Groundwater Quality protection

Okanagan Groundwater Pilot?

- *“By 2012, government will regulate groundwater use in priority areas and large groundwater withdrawals.”*
- The Okanagan should be a priority area – especially for large withdrawals
- Plan is to use science and increased awareness to get support for pilot regulations



Questions?

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