

***GROUNDWATER MANAGEMENT
OPPORTUNITIES IN THE
OKANAGAN***

**Okanagan Water
Stewardship Council**

October 18, 2007

Presented by:

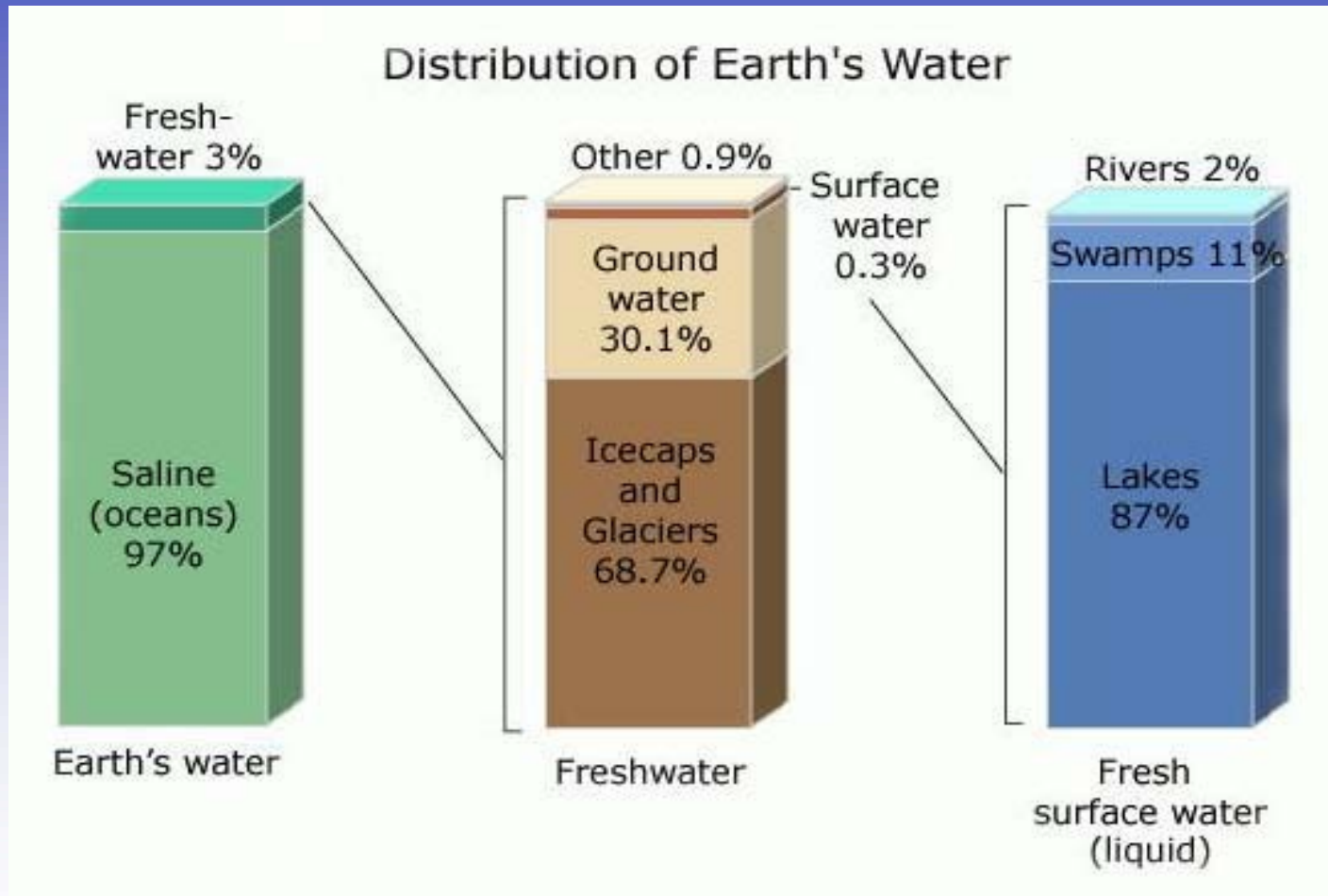
Doug Geller, P.Geo.

Presentation Topics

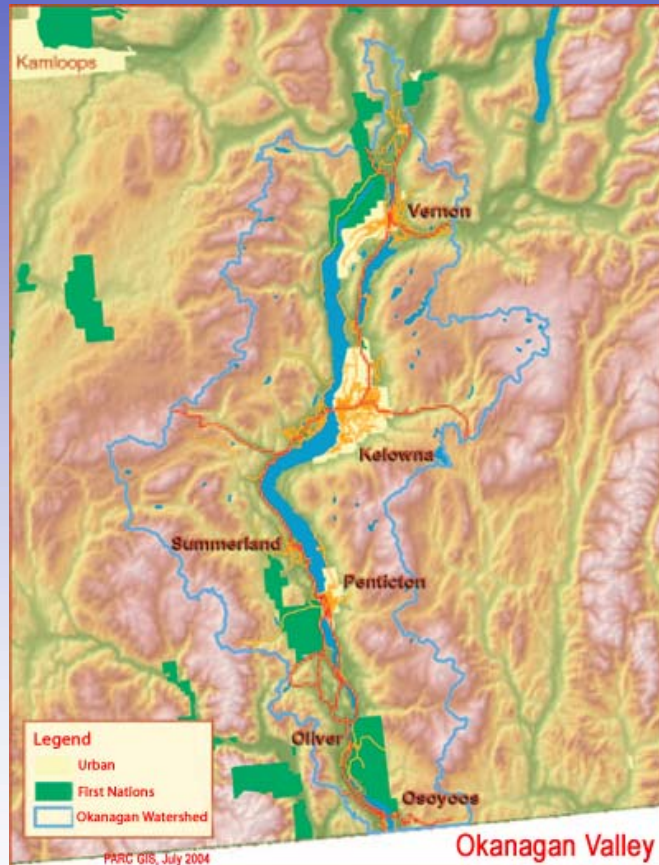
- ◆ Importance of Groundwater to the Okanagan
- ◆ Regional harmonization of RD rural subdivision 'proof of water' bylaws
- ◆ Mapping of groundwater 'problem' areas
- ◆ Groundwater licensing
- ◆ Proposal for WSC resolutions



Water in Perspective



Importance of Groundwater to the Okanagan



- Stream baseflow from groundwater provides fish habitat and other ecological values
- Many but not all water purveyors rely on groundwater at least part of the year
- Groundwater an important source of irrigation supply for agriculture
- Widespread use for residential domestic water supply (private wells)
- Industrial use including geotexchange



Okanagan Basin Groundwater Development - Drivers



- Urban & suburban growth and expansion
- Agricultural expansion (esp. grapes)
- Most surface water is fully allocated
- *Drinking Water Protection Act*



Why Groundwater is developed



- In some locations no surface water is available
- Costs less to develop and treat than surface water
- Perception that GW is a form of ‘drought insurance’
- No licensing required, even when well is in a fully allocated watershed



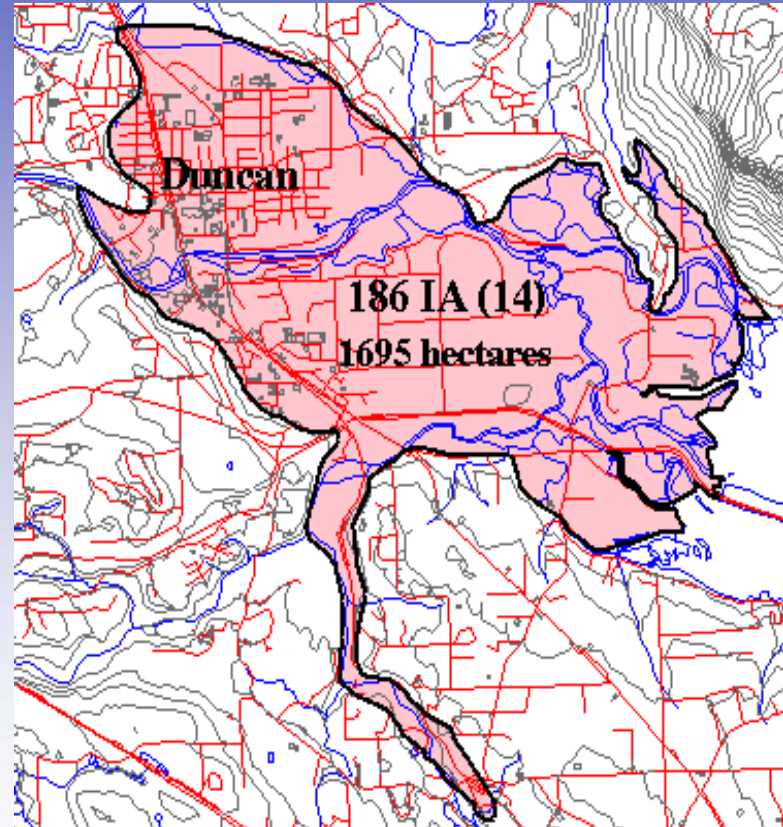
Rural Subdivision Bylaws for private water sources (wells)

Regional District	Well Quantity Requirement	Water Quality Requirement	Hydrogeologic Report Required?
NORD	Varies, usually 6,500 L/day (1.0 l gpm)	“potable”	Sometimes, depends on Electoral area
CORD	2,300 L/day 20 L/min for 1 hr	Specific list “Schedule A”	Yes expires after 12 months
RDOS	2,300 L/day 20 L/min for 1 hr	“potable”	Not specified, but usually required



MoE Aquifer Classification and Mapping

- ◆ One intended use is to link with land use planning
- ◆ ‘Non-aquifers’ (i.e. problem areas) are not classified/mapped
- ◆ Focus of use for planning is on protecting vulnerable aquifers
- ◆ Planners also need ‘groundwater limited’ areas identified



Local Problems with Local Solutions

- ◆ **Inconsistent private water source bylaw requirements within and between regional districts**
- ◆ **No mechanism to capture ‘proof of water’ reports submitted to regional districts**
- ◆ **Groundwater problem areas are not mapped, so planners cannot accurately identify areas where development relying on GW should be avoided**



The Solutions

- ◆ Standardize water supply bylaw requirements within and between regional districts; implement consistent and stringent standards for well quantity testing and reporting (see R. Allard article)
- ◆ The three Okanagan regional districts should do this and then it can be extended to the rest of B.C. via efforts with the UBCM
- ◆ Allocate funding from senior and local government to classify and map groundwater-limited areas for use in local land use planning



Groundwater – What are the issues with no licensing?

- ◆ Makes coordinated water management difficult
- ◆ Allows unregulated capture of licensed surface water, which negates ‘first in time first in right’ doctrine
- ◆ More and more demands being placed on GW
- ◆ The potential for user conflicts is increasing
- ◆ No regulatory driver to increase knowledge
- ◆ Except for large projects (>75 L/sec) no environmental assessment required



B.C. Groundwater Association's position paper

- ◆ **Priority #1: Regulate groundwater extraction and use.**
- ◆ **Institute more robust data collection, monitoring and management activities.**
- ◆ **Complete comprehensive watershed-scale basin plans that provide integrated understanding of surface water – groundwater systems.**



Possible Models to Regulate Groundwater Extraction



- “Top down”: Provincial legislation
- “Bottom up”: Locally-based water plans (e.g. Langley)
- “Integrated”: Combination of legislation and local water management planning
- **Bottom line: without licensing and mandatory reporting and permits, integrated management will be very difficult to achieve**



Proposal

The Okanagan Water Stewardship Council should prepare resolutions for OBWB approval calling for:

Regional Districts: Harmonize RDOS, RDCO and RDNO bylaws governing development and ‘proof’ of adequate groundwater supplies for rural subdivisions.

Province: Institute groundwater licensing, if necessary by implementing a phased pilot program within the Okanagan Basin.

All: Direct resources at identifying, classifying and mapping groundwater – limited areas for use in regional and local land use planning.

