Water management in the Okanagan

Workshop: Adapting natural resource management to a changing climate
(Vernon, October 2015)

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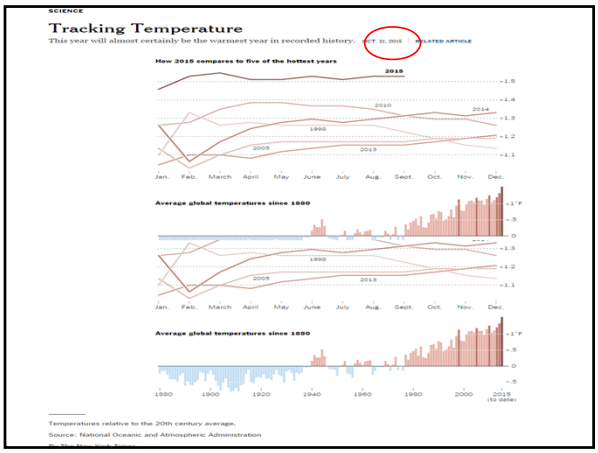
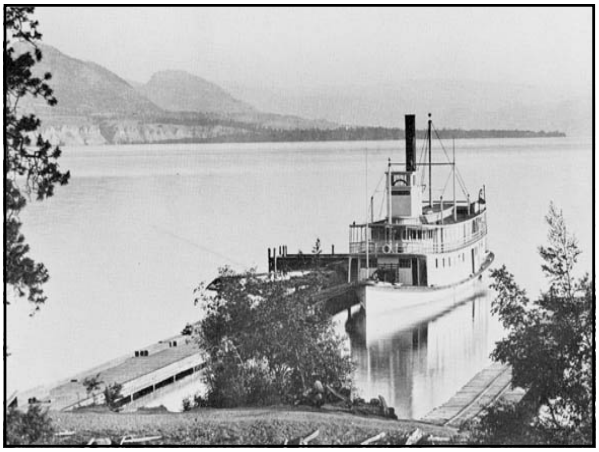
"When the well is dry, we learn the worth of water."
Benjamin Franklin

The purpose of the
Okanagan Basin Water Board
is to provide leadership to protect and
enhance quality of life in the Okanagan
Basin through sustainable water management.

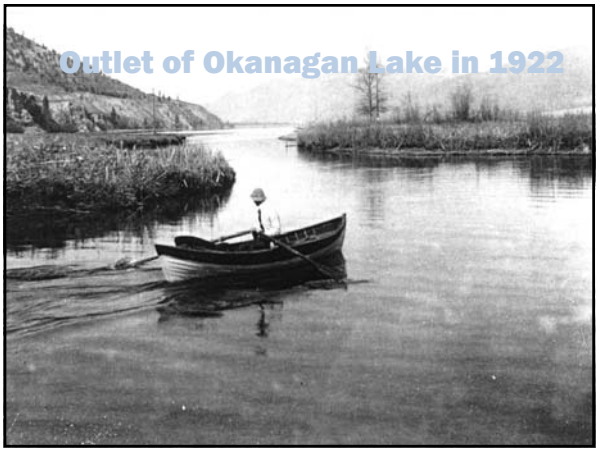
Guiding Principles

1. **Think regionally and think long-term.**
2. **Protect nature for the benefit of all.**
3. **Anticipate change – Plan accordingly.**
4. **Balance multiple priorities.**
5. **Clear communications.**


SCIENCE
Tracking Temperature
This year will almost certainly be the warmest year in recorded history.
How 2015 compares to five of the hottest years
2015
2010
2014
1998
2005
2013
Jan. Feb. March April May June July Aug. Sept. Oct. Nov. Dec.
Average global temperatures since 1880
1880 1900 1920 1940 1960 1980 2000 2015 (to date)
Temperatures relative to the 20th century average.
Source: National Oceanic and Atmospheric Administration



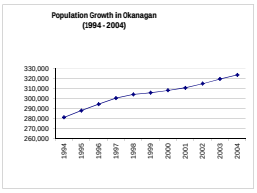
Hilda Creek High Trestle, — collapsed June, 1946


Outlet of Okanagan Lake in 1922

Outlet of Okanagan Lake Today

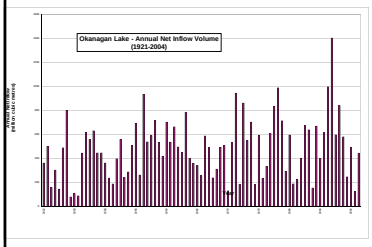
Challenges Facing Sustainable Water Management

- Rapid population growth
- Economic development



Challenges Facing Sustainable Water Management

- Variability and timing of water supply



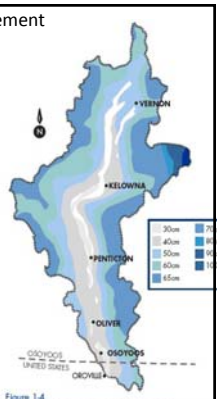


Figure 1-4
Okanagan Basin mean annual precipitation.
(Canada-British Columbia Consultative Board, 1974)

Challenges facing sustainable water management

- Climate change
- Mountain Pine Beetle
- Wildfires

www.cbc.ca/news/background/yearinreview2003/news08.html

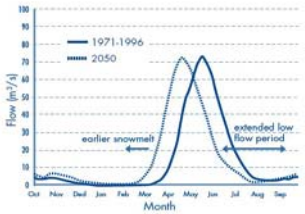
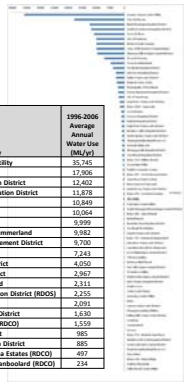


Figure 1-16
Past and projected water flows in Whiteman Creek, which enters Okanagan Lake near Vernon. (adapted from Cohen & Kulkarni, 2001)

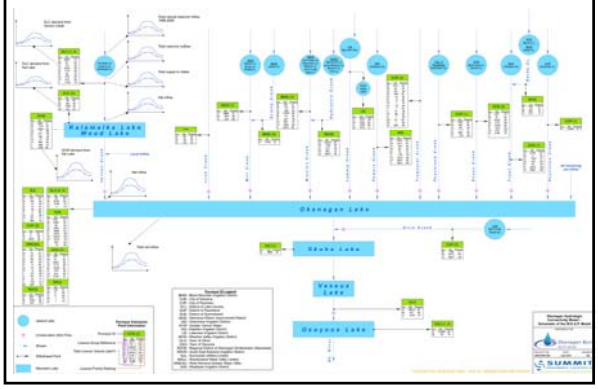
Okanagan water users

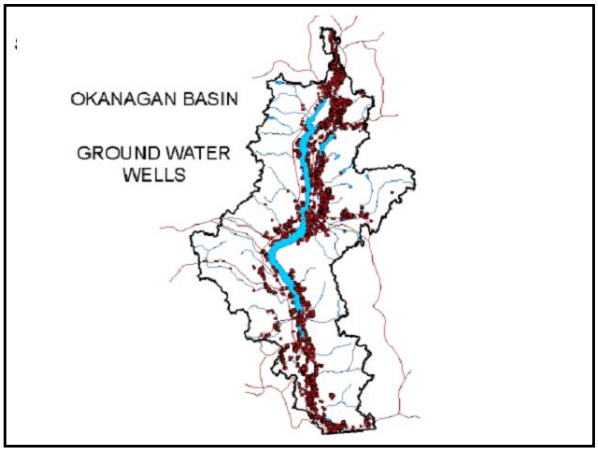
The largest 21 water suppliers according to estimated water use extract water from 12 tributaries plus the valley lakes & Okanagan River

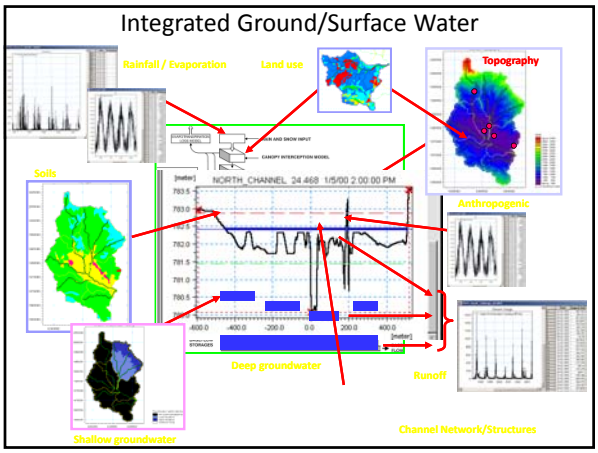


No.	Utility	1996-2006 Average Annual Water Use (ML/yr)
1	Greater Vernon Water Utility	35,745
2	City of Kelowna	17,906
3	Black Mountain Irrigation District	12,402
4	South East Kelowna Irrigation District	11,878
5	Town of Oliver	10,849
6	City of Penticton	10,064
7	District of Lake Country	9,999
8	Corp. of the District of Summerland	9,982
9	Glenmore Ellison Improvement District	9,700
10	Town of Osoyoos	7,243
11	Westbank Irrigation District	4,050
12	Lakeview Irrigation District	2,967
13	Municipality of Peachland	2,311
14	Former Naramata Irrigation District (RDOS)	2,255
15	City of Armstrong	2,091
16	Grandview Waterworks District	1,630
17	Bylaw 1083 - Sunnyside (RDCO)	1,559
18	Kaleden Irrigation District	985
19	Meadow Valley Irrigation District	885
20	Bylaw 597 - West Kelowna Estates (RDCO)	497
21	Bylaw 793 - Pritchard/Shanboolard (RDCO)	234

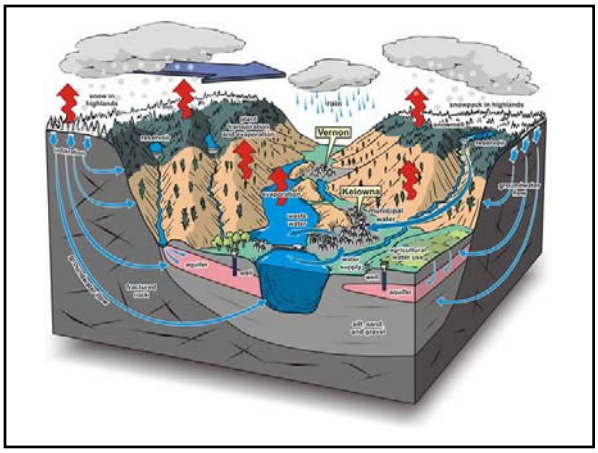
Okanagan hydrologic connectivity model

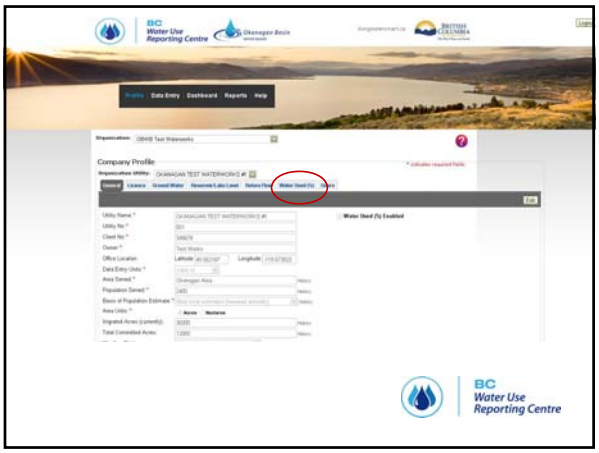



OKANAGAN BASIN
GROUND WATER
WELLS


Integrated Ground/Surface Water
Rainfall / Evaporation
Land use
Topography
Soils
Anthropogenic
Deep groundwater
Runoff
Shallow groundwater
Channel Network/Structures

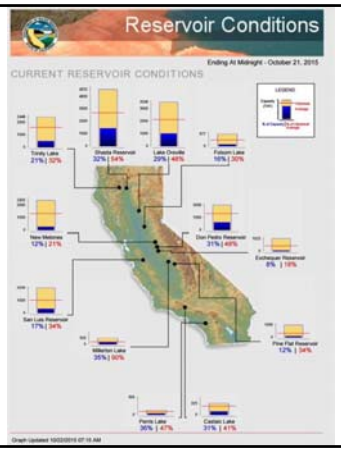
I'm sure glad the hole isn't in our end...


Vernon
Kelowna


BC Water Use Reporting Centre
Okanagan Basin
Profile
Data Entry
Dashboard
Reports
Help
Company Profile
BC Water Use Reporting Centre

A simple, free, secure water-use tracking and reporting solution.
BC Water Use Reporting Centre

The CLIMATE CONTRARIAN Guide to
MANAGING RISK
by John Cook
sks.to/risk
Climate impacts range from moderate to catastrophic.
I can't say myself that [doing nothing] isn't the best solution.*
*Actual comment from Judith Curry
How might this approach work in other areas?...
There's a small chance my house will burn down.
I can't say buying insurance is worth it.
Doc says smoking increases risk of cancer
I can't say smoking is not a good idea.
It's unlikely I'll be in an accident.
I can't say there's any need to wear seatbelts.



Good governance

- Flexible
- Equitable
- Efficient
- Enforceable

Summary: Focus on action

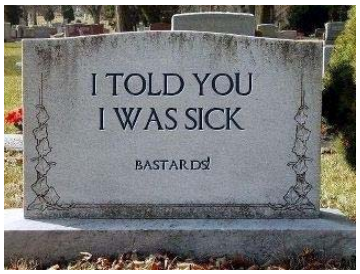
1. Adding hydrometric stations on strategic Okanagan waters and improving real time water date collection (groundwater, demand, etc.) is a priority.

knowing what we don't know

2. A conservative approach to granting new Okanagan water licenses will reduce future conflict (do not rely on FITFIR).

Managing for our grandchildren

Hind sight is 20 / 20.



If government doesn't negotiate (support a process of reaching agreement) on behalf of:

- the environment
- future generations

Who does?

Thank you
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