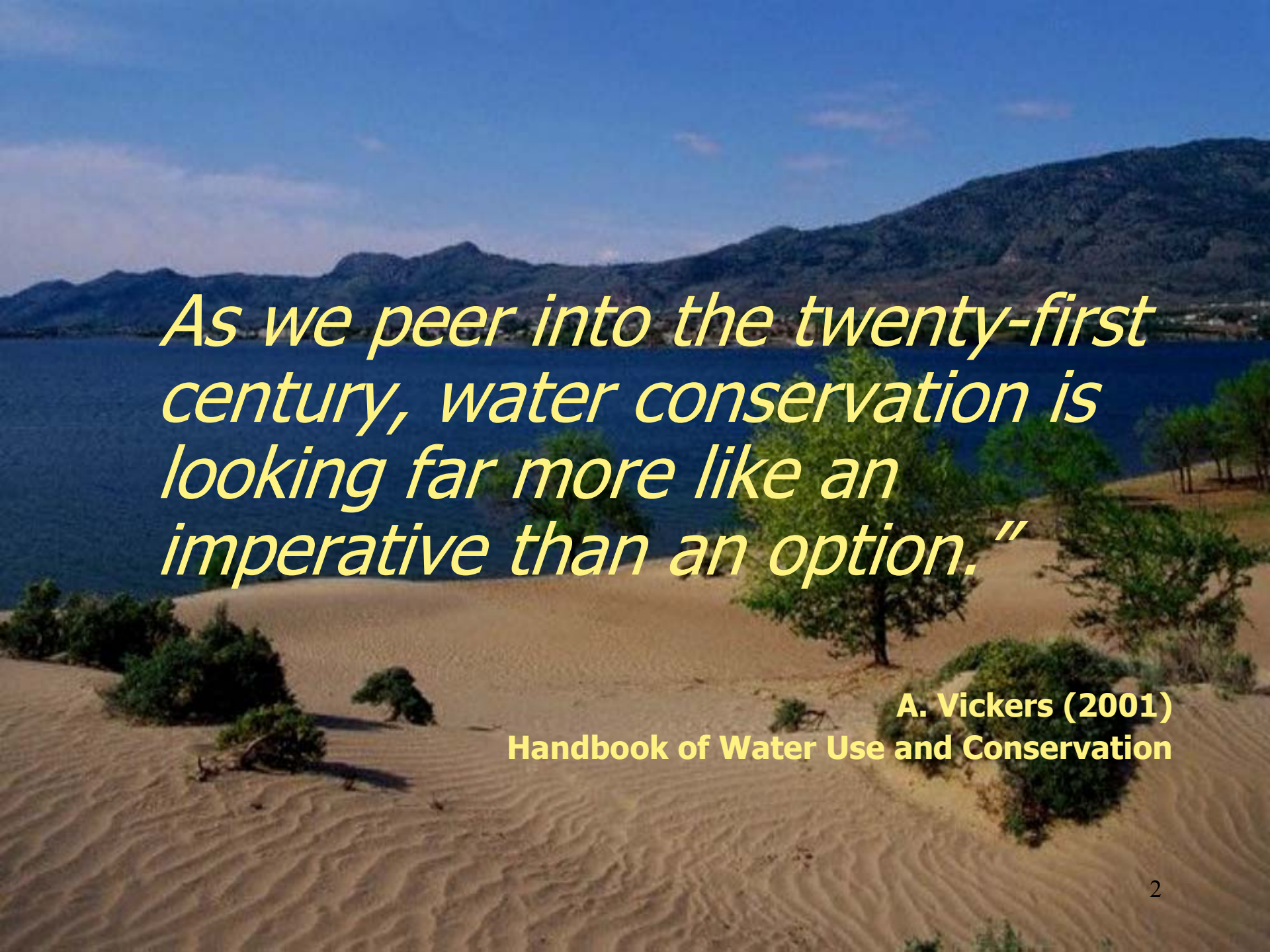




Changing Perspectives – Changing Paradigms

**Demand Management Strategies and
Innovative Solutions for a Sustainable
Okanagan Water Future**

Oliver Brandes & Lynn Kriwoken



As we peer into the twenty-first century, water conservation is looking far more like an imperative than an option."

**A. Vickers (2001)
Handbook of Water Use and Conservation**

Vision 2020

Basin residents celebrate 50% reduction in per capita water consumption

Stable fish populations support eco-tourism and angling

Province releases supply & demand study

Growers adapt to drought

Local govts unite behind new basin water plan

9 watersheds off the critical list

Fed-Prov reinvestment in hydrometric pays off

Aquifers protected

Watershed restoration investments coordinated

Australia adopts Okanagan approach

Province renews water allocation law

Agricultural water use improved

Water limits eased

Okanagan basin watershed management model recognized at world water forum

OUC turns out best and brightest in water

Developer boasts 97% infiltration

Performance targets met says basin water authority

Changing Perspectives – Changing Paradigms

- **Setting the Context**
- **Being Innovative**
- **Creating Change**

Setting the Context – Avoiding the Arid Future

- **Water in the Okanagan**
 - **A changing reality**
 - **The climate is changing**
 - **The population is growing**
 - **The agriculture economy is expanding**
 - **Water supply conditions are shifting**
- **Meeting water needs through DSM and the 'soft path'**
 - **The next best source of 'new' water**
 - **A long term and sustainable approach**

Setting the Context – A continuum of water management

Supply Side

- limitless resource
- reactive

- How can we meet the future projected needs for water given current trends in water use and population growth?

Demand Side

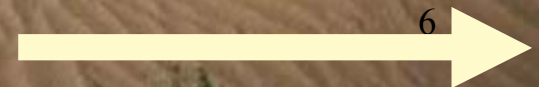
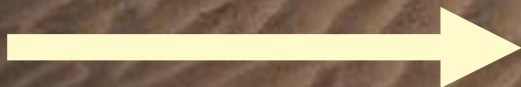
- finite resource
- short term, temporary

- How can we reduce current and future needs for water to conserve the resource, save money and reduce environmental impacts?

Soft Path

- finite resource w/ ecological considerations
- proactive

- How can we deliver the services currently provided by water in the most sustainable way?



Setting the Context – A 'soft path' for water in the Okanagan

- **Focus on the underlying services that water provides**
- **View water conservation as the best new source of supply**
- **Match water quality to end use**
- **Maintain ecosystem health**
- **'Backcast' from a desired future state**

Setting the Context – Demand Management Measures

- **Savings of 20-50% of water use**
- **Range of measures**
 - **Socio-political**
 - **Economic**
 - **Structural-operational**


Demand Management Measures

Socio-political strategies




Water Conservation Bylaw

- STAGE 1 in effect May 1st until Sept 30th
- EVEN ADDRESSES
Lawn watering allowed Wednesdays and Saturdays 4am-10am and 7pm-10pm
- ODD ADDRESSES
Lawn watering allowed Thursdays and Sundays 4am-10am and 7pm-10pm



Dealing with Drought

No Watering 10 a.m. to 4 p.m.



LOW FLOW

- the *only* way to go.




NEW 6 LITRE TOILET REGULATIONS START JANUARY 1, 2005



Report a Water Waster

[CLICK HERE](#)

Protect Our DRINKING WATER!



For information on how you can help protect our drinking water aquifer call: **City of Chilliwack 793-2907**

Water Conservation FACTSHEET

BRITISH COLUMBIA
Ministry of Agriculture, Food and Fisheries

Order No. 100-110-1
Revised June 2004

IRRIGATION TIPS TO CONSERVE WATER ON THE FARM



lawn sprinkling regulations

for residents, businesses and institutions

effective June 1 to September 30



Demand Management Measures

Economic strategies

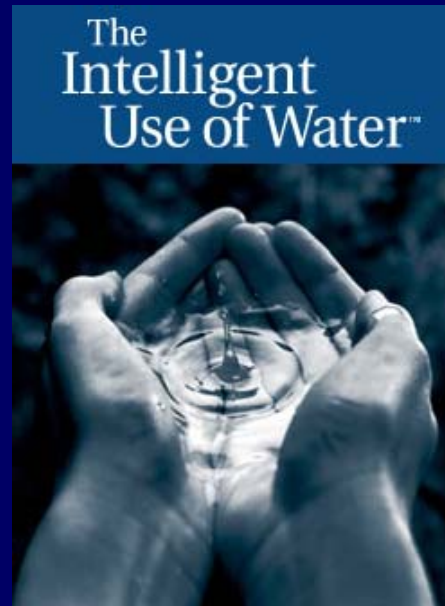
Rebates for more efficient technologies



Water@Wise
Fixture Replacement Program

You're eligible for a **\$75 Rebate** per bathroom

Tax credits for reduced use



The Intelligent Use of Water™



Pricing Structures

Sample Water Bill

Water Company Name Company Address		Customer Account Number 00000000000000	
Due Date Sept. 21, 2000	After Due Date \$10.67	Pay This Amount \$10.16	
Customer Account Information		Billing Summary	
Service to: 00000000000000	Customer Address	Prior Billing	16.27
Billing Period	Jan 27, 2000 to Aug. 31, 2000	Payments, Aug. 6, 2000, Thank You	16.27CR
Date Billed	09-06-2000	Balance Sep. 06, 2000	.00
Service for	35 Days	Current Charges	
Next Reading on/about	Oct. 31	Water Charge	10.16
Meter Reading Information		Amount Due	10.16
Meter no.	000000000	After 09-21-2000 Pay Gross	\$10.67
Meter size	5/8 inch		
Current-Actual	011000		
Prior Reading	010900		
Cubic Feet Usage	100		
Equivalent Gallons	750		

Daily peak hour rates

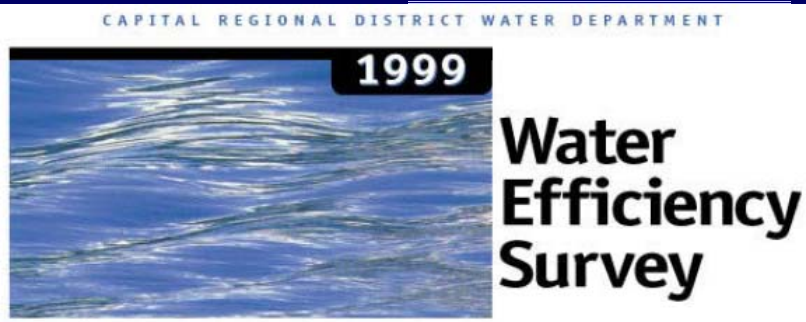
Increasing block rates

Seasonal rates

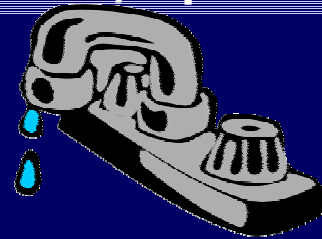
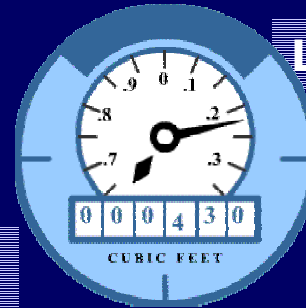
Demand Management Measures

Structural-operational strategies

Water audits



Leak detection/repair



Metering



Efficient irrigation systems



Landscape efficiency



Efficient Irrigation Rebate Program

Recycling & reuse



Wastewater reuse for Agriculture

Watering timers



Soil moisture sensors



Being Innovative – Promoting and learning from the early adopters

- **Learning from elsewhere**
 - **Australia, Spain, California, Nevada, South Africa, Israel**
- **Opportunities for 21st century**
 - **Re-use and recycling**
 - **Conservation-based pricing**

Being Innovative – Promoting and learning from the early adopters



Greater Vernon Water



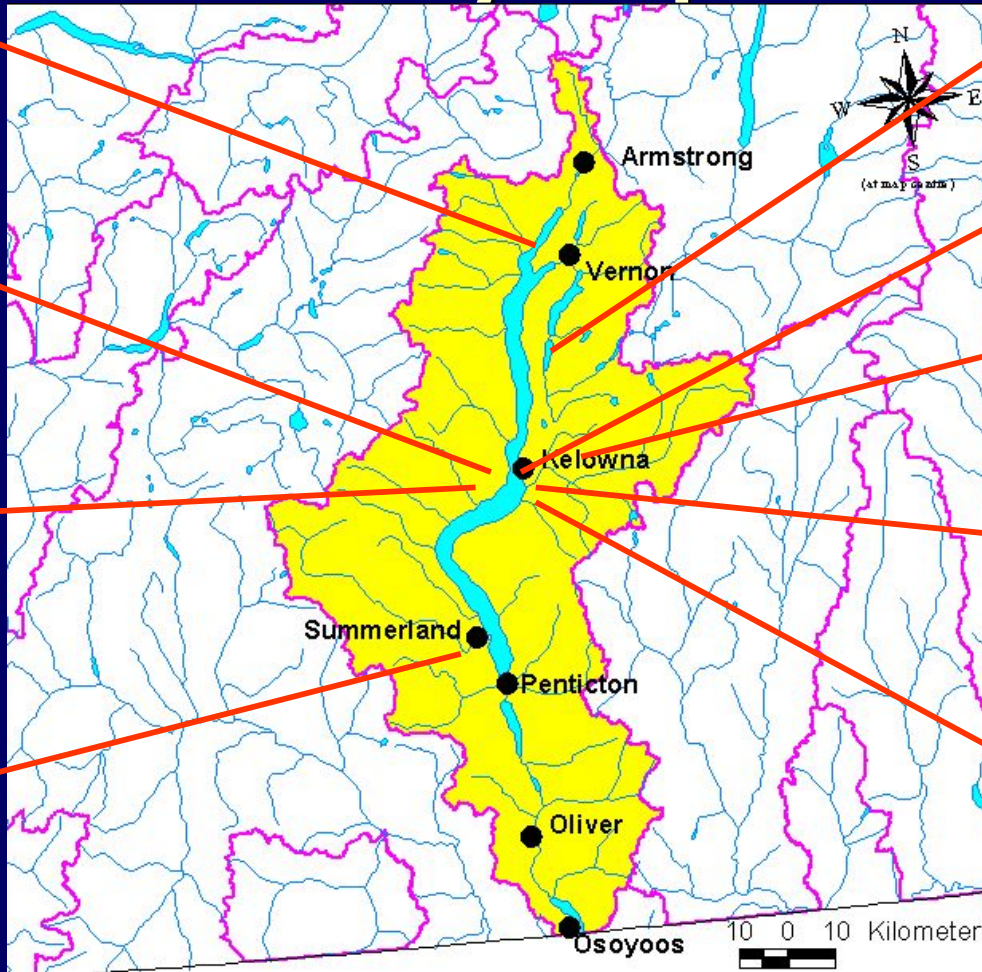
Lakeview
Irrigation District



Westbank
Irrigation District



District of
Summerland



District of Lake Country



City of Kelowna



Black Mountain
Irrigation District



Rutland Waterworks
District



Southeast Kelowna
Irrigation District

Waterbucket.ca



Address  <http://www.stewardshipcanada.ca/communities/waterbucket/home/wbcIndexSP.asp>   [Links](#)

[Partners](#) | [Contact Us](#) | [About This Site](#)

waterbucket

facilitating sustainable approaches to water resources

enter

Are you interested in?

- [Finding out more about the BCWWA Water Sustainability Committee \(WSC\)](#)
- [Using the **Water Balance Model for British Columbia**](#)
- [Learning More About **Water Use and Conservation**](#)

Our Vision

The vision of WaterBucket.ca is to provide a resource-rich, highly interactive "destination location" website for information and communication related to water sustainability in the Province of B.C.

Being Innovative – Promoting and learning from the early adopters

- **Barriers and challenges**
 - **Broad implementation of DSM in Okanagan Basin is limited**
 - **To promote wider adoption, a variety of barriers and challenges must first be overcome**

Challenges and barriers to comprehensive demand management in the Okanagan Basin

ROOT CAUSES

Myth of Abundance

Human built infrastructures separate from the environment

Entrenching Factors

- Concern DSM savings are unreliable and/or insubstantial
- Preference for high visibility projects
- Subsidized infrastructure without enforced DSM conditions
- Lack of funding for DSM

Primary Barriers

- **Resistance to changes in water pricing**
- **Belief that reducing water use compromises standards of living**
- **Fragmentation – water responsibilities cross all jurisdictions – who should bear the cost of water efficiency?**
- **Public perceptions and political agendas**

Entrenching Factors

- Insufficient data
- Limited ability to modify water rights
- Disconnect between land use and water management
- Perception that efficiency will facilitate further development

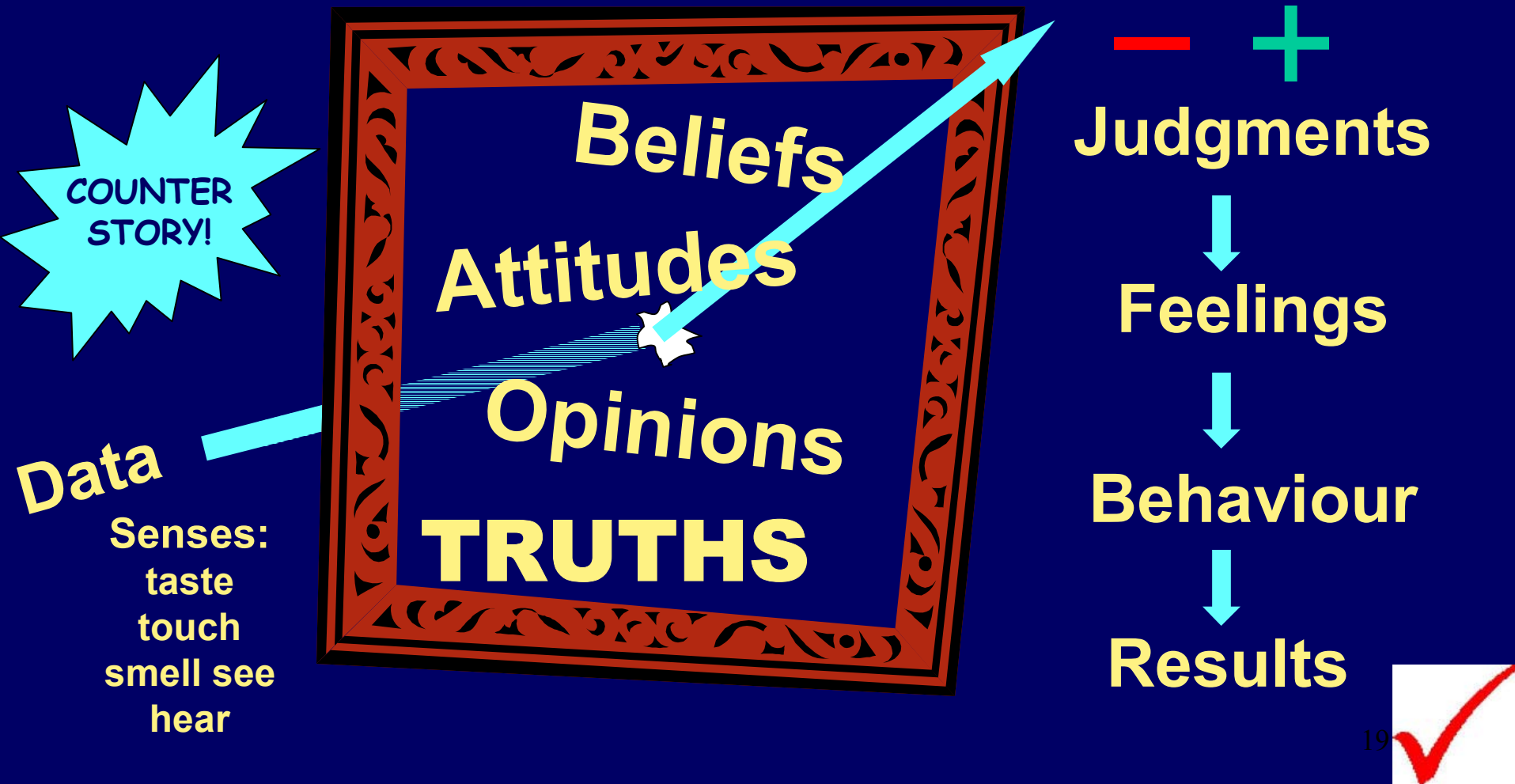
Being Innovative – Promoting and learning from the early adopters

- **Barriers and challenges**
 - **Need to tackle root causes and entrenching factors**
- **Requires moving beyond isolated strategies and taking comprehensive, basin-wide approach**

Creating Change – A 'counter' story for water sustainability

- **What's needed?**
 - A sense of urgency
 - A change in perspective
 - A 'counter' story to replace the myth of abundance
 - Yeah, but...
- **Changing minds to lead change**

The Context Window



Creating Change – A 'counter' story for water sustainability

- **Who's involved?**
 - **Governance is:**
 - **more than just government**
 - **a range of players - all orders of government, private sector, NGOs, individuals**
 - **locally championed**
 - **basin-wide**

"The water crisis is essentially a crisis of governance"

UNDP World Water Report 2003

Creating Change – A 'counter' story for water sustainability

- **Getting there – a 'made-in-the-Okanagan' approach**
 - **Solutions exist**
 - **We know what to do**
 - **The challenge is making them happen**

Creating Change – A 'counter' story for water sustainability

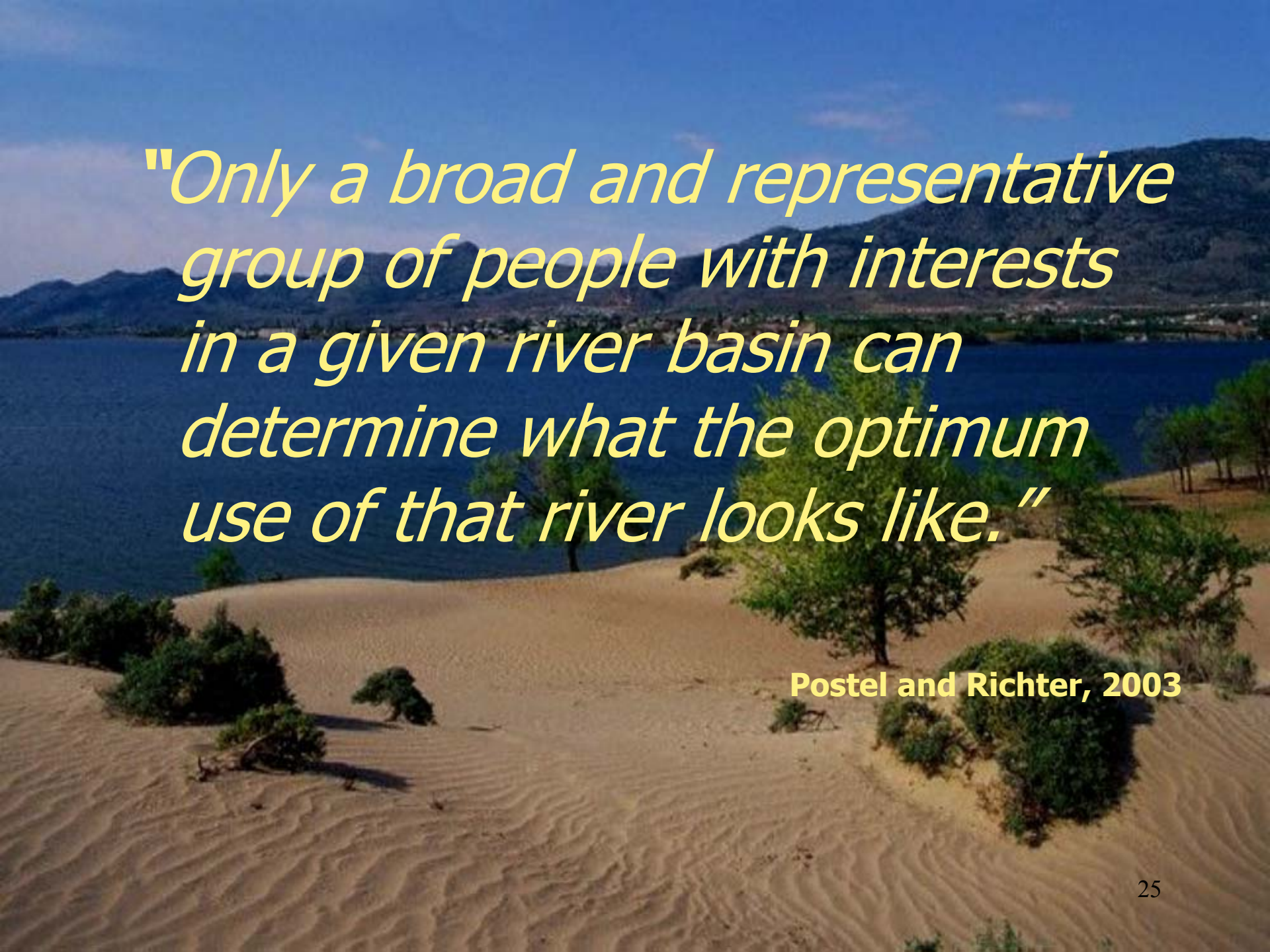
- **Getting there – factors for success**
 - **Achieve a shared vision**
 - **Endorse basin-wide thinking**
 - **Create knowledge**
 - **Choose appropriate options**
 - **Commit to standards and targets**

Creating Change – A 'counter' story for water sustainability

- **Getting there – factors for success**
 - **Ensure technical and financial support**
 - **Promote early adopters**
 - **Provide incentives**
 - **Embed performance planning & adaptive management**
 - **Educate, educate, educate**

A Sustainable Okanagan Water Future

- **The science is clear**
- **Solutions exist**
- **We know what to do**
- **It is a social dilemma**
- **Change minds to lead change**



"Only a broad and representative group of people with interests in a given river basin can determine what the optimum use of that river looks like."

Postel and Richter, 2003



Thank- you!