



FRASER BASIN COUNCIL
Climate Change Workshop
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**Dealing with Uncertainty and
Managing Risk: How we can adapt
Water Management Systems**

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Water Sustainability Action Plan for British Columbia

Conundrum?

Why can I make long-term personal financial decisions, but can't make long-term policy decisions?

Everyone has a personal parallel

- Retirement savings or vacation?
- Plasma TV or RRSP?



Takeaway messages for today:

- **Teachable Moments**
- **Clear Thinking**
- **Water OUT = Water IN**

Starting in 2003, we have had one teachable moment after another, and in rapid succession !



- **Droughts**
- **Floods**
- **Forest Fires**
- **Wind Storms**
- **Pine Beetle**

Why clear thinking is needed now:

- Often we create layers of complexity around assumptions
 - Ask a different question,
Get a different answer
- There is a prevailing mindset that says there is only one right answer
- Computers are great, but are not a substitute for judgment

This deceptively simple equation embodies the basic principles and concepts for dealing with uncertainty and managing risk

Over time,
the safety factor has been shrinking:

The Water Balance

$$\text{OUT} = \text{IN}$$

$$\text{IN} = f(\text{hydrology, weather, time, infrastructure, ...})$$

$$\begin{aligned} \text{OUT} &= \text{Uses} + F_{\text{safety}} \\ &= (U_{\text{essential}} + U_{\text{excess}}) + F_{\text{safety}} \end{aligned}$$

where....

$$U_{\text{essential}} = f(\text{population, ecology, industry, time, ...})$$

$$U_{\text{excess}} = f(\text{wealth, society, technology...})$$

**In conclusion,
we can create our future
if we keep in mind that...**

To get to the big picture...
start with the smallest pieces

To deal with uncertainty
and manage risk....
build resiliency incrementally