

# Cowichan Watershed Board A Reason to Celebrate & Some Lessons Learned



**FFESC  
Conference**

**June 2012  
UBC**

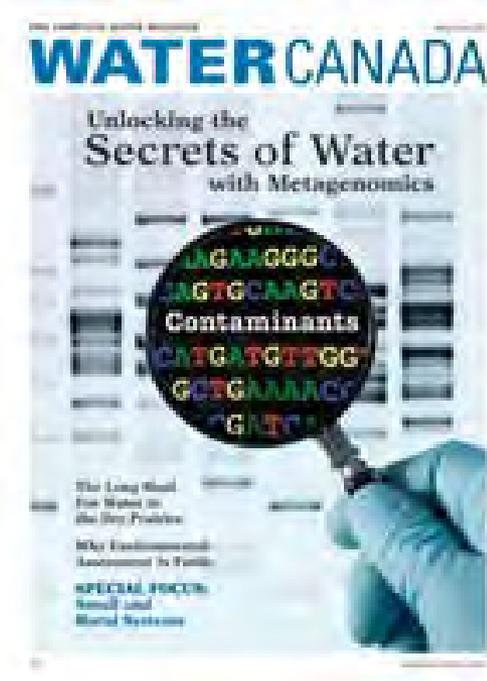
# The Cowichan Region



**Cowichan Watershed Board**

# This Evening

- **Background**
  - Big Picture Issues
  - Cowichan Watershed Plan
- **Our Response –  
The Cowichan Watershed Board**
- **Success Factors/Lessons Learned**
- **Challenges**



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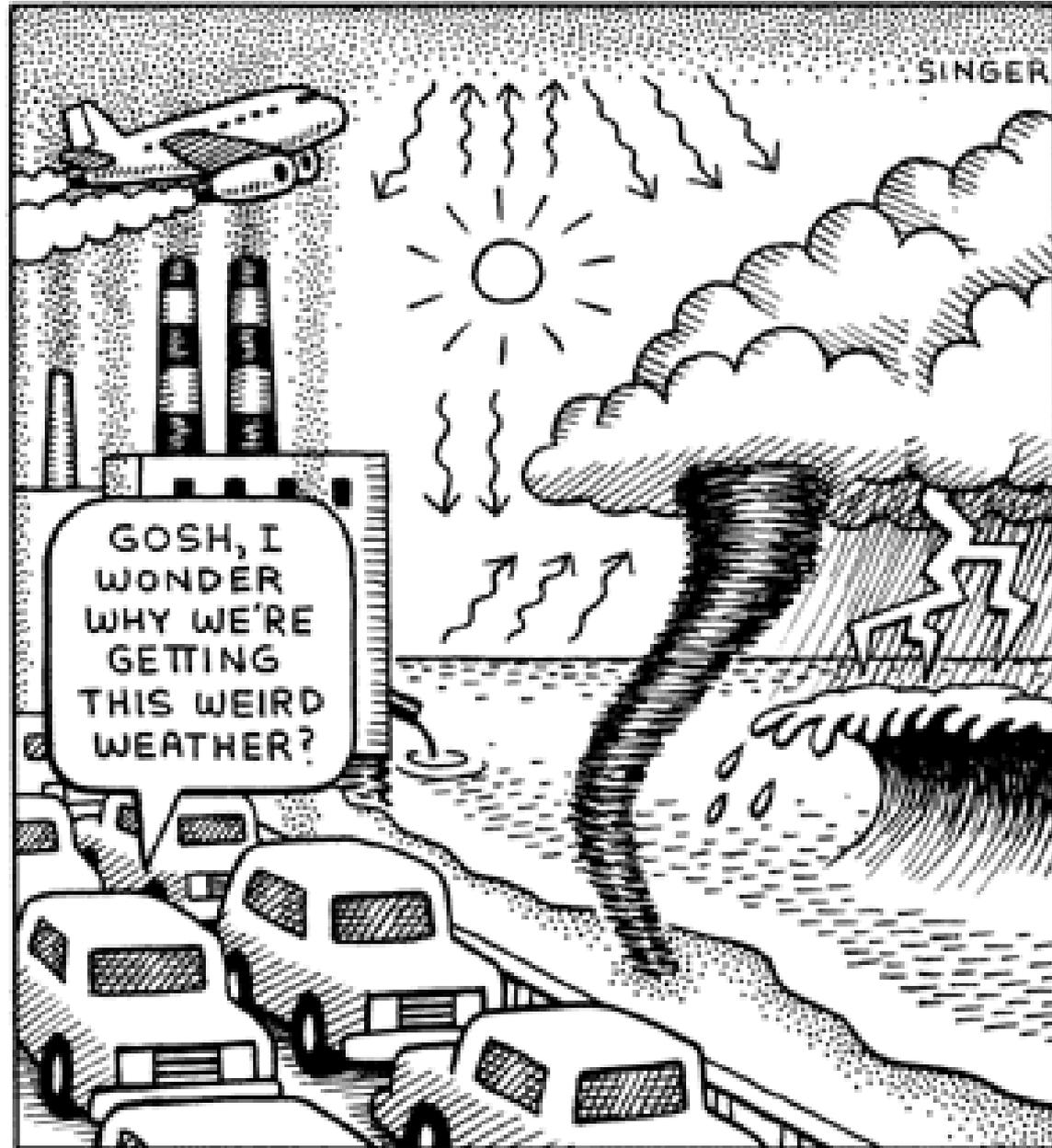
# Context – Big Picture (elephants in the room)

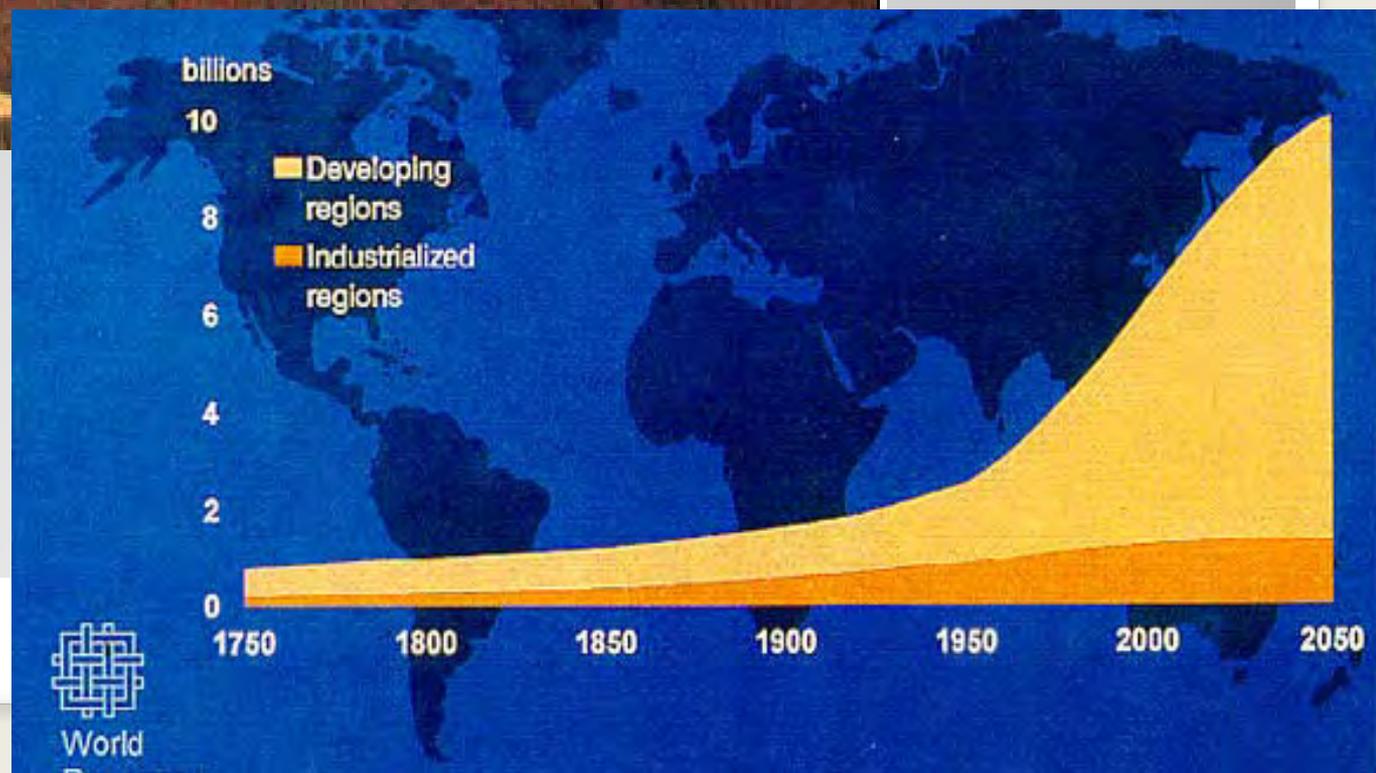
- Global Warming & Climate Chaos



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# THE GREENHOUSE EFFECT





ASSESSING THE IMPACT OF CLIMATE CHANGE ...



THE SCIENTISTS



THE POLITICIANS

MURKINCT

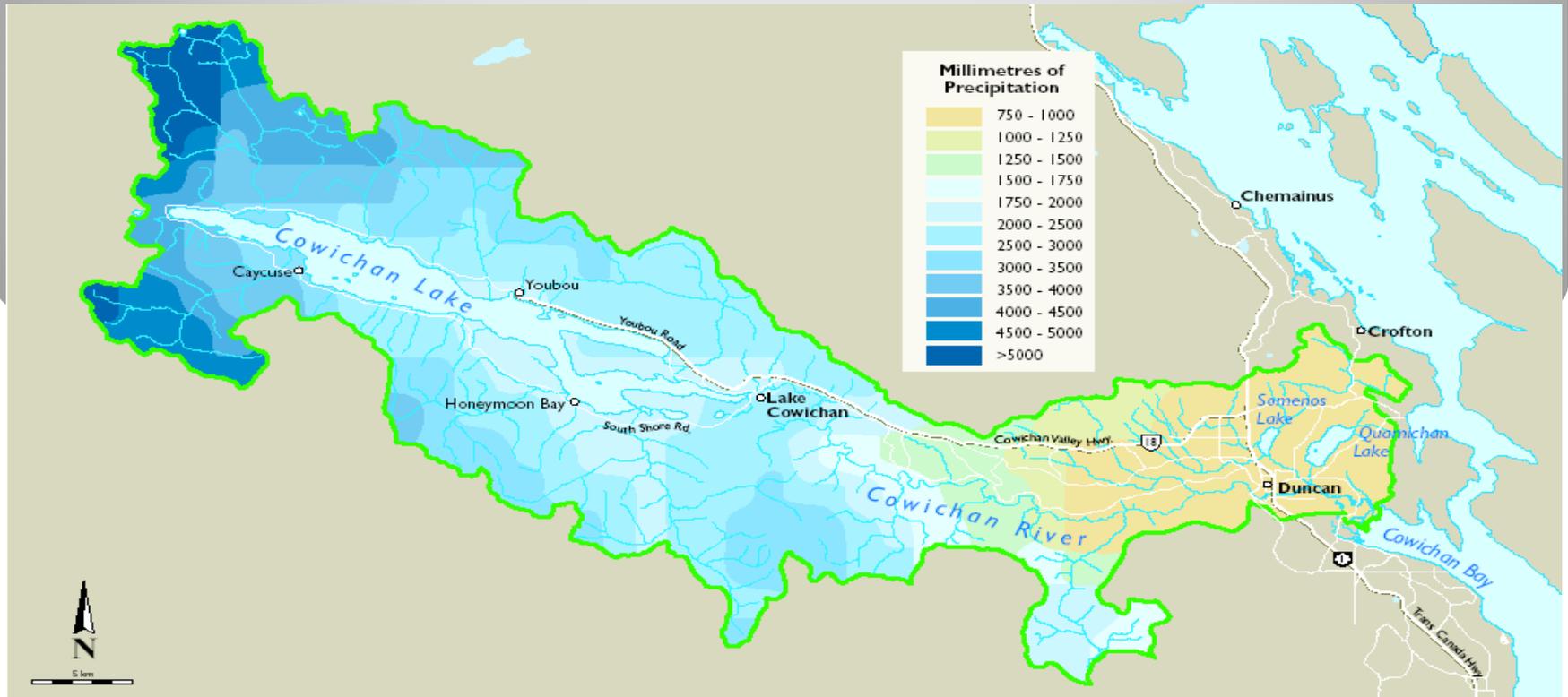
# Context – Big Picture (elephants to consider)

- Global Warming Climate Chaos
- Pop Growth/Eco-Footprint
- Peak Senior Gov' t
- Financial Crisis/  
Peak Debt
- Rights



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# Context – Local



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# For 1000s of years the watershed was home to...

- Forests of massive fir & cedar
- Lakes & streams rich with salmon
- Tidal flats abundant with shellfish



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# For 1000s of years the watershed was home to...

- An abundance of deer, elk, bear, plants
- Clean and plentiful water
- Great villages of the Cowichan people

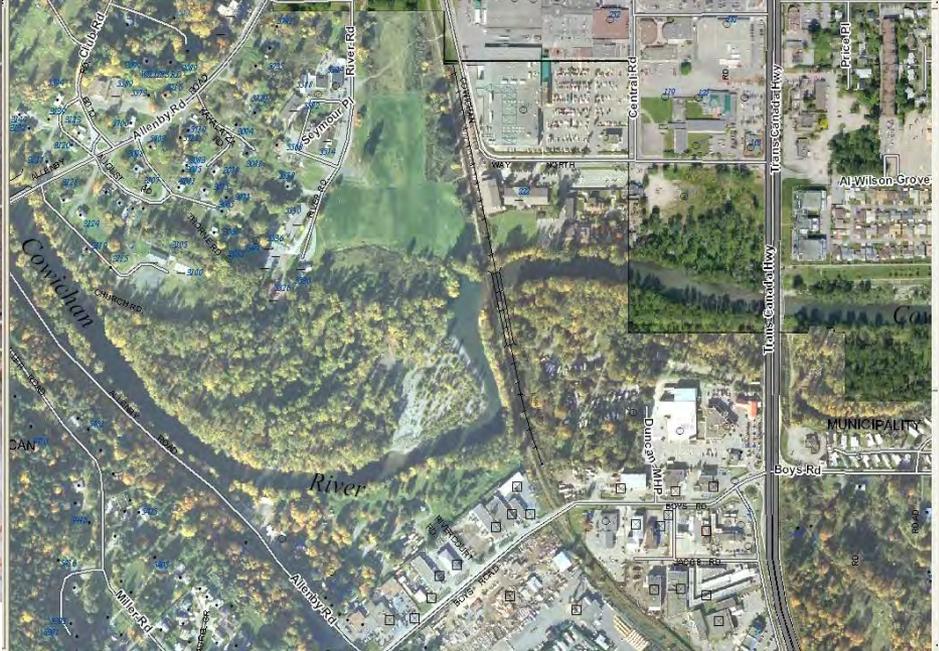


# Over past 150 years dramatic changes to the watershed.....

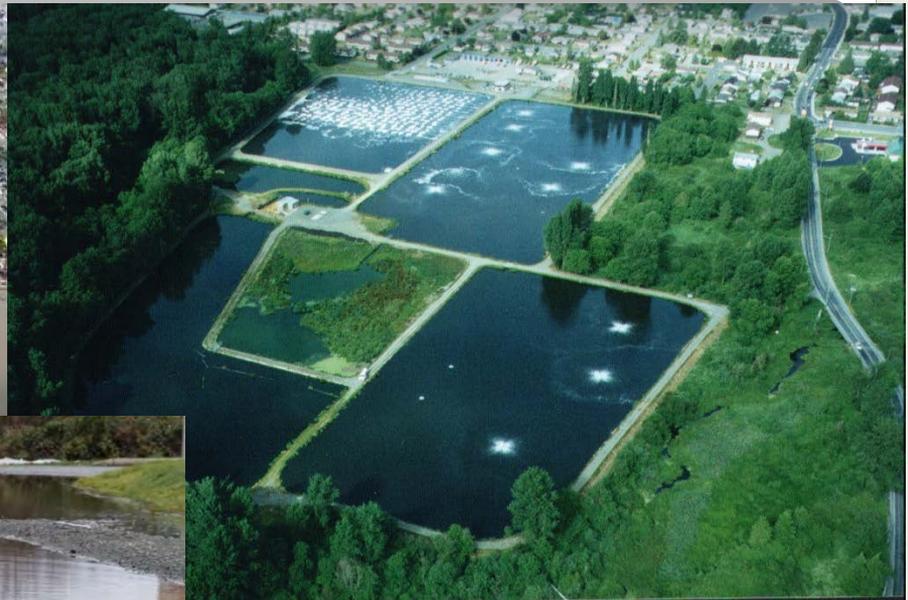
- Clear cuts and young forests now dominate
- Salmon runs have been devastated by land use & habitat degradation issues
- Shellfish beds are polluted



# Context - Local

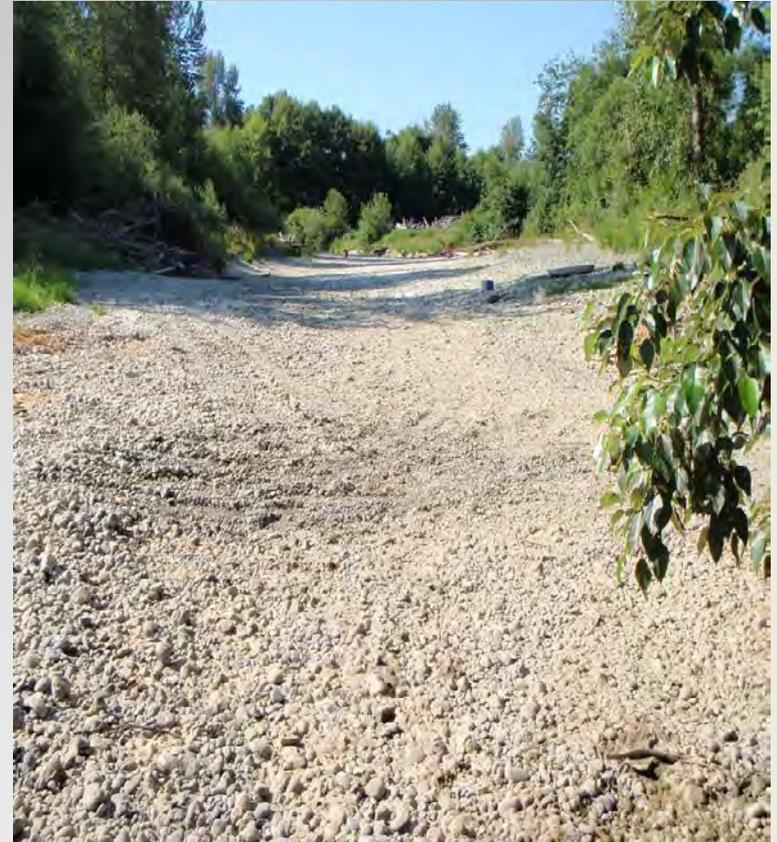


# Context -Local



# 2003 Drought – Wake-up Call

- River level critically low ...
- Crofton Pulp & Paper within days of being shutdown
- Pollution – insufficient water for sewage dilution
- Trucking of salmon to spawning grounds
- “Who do you call?” problem
- Integrated management plan essential



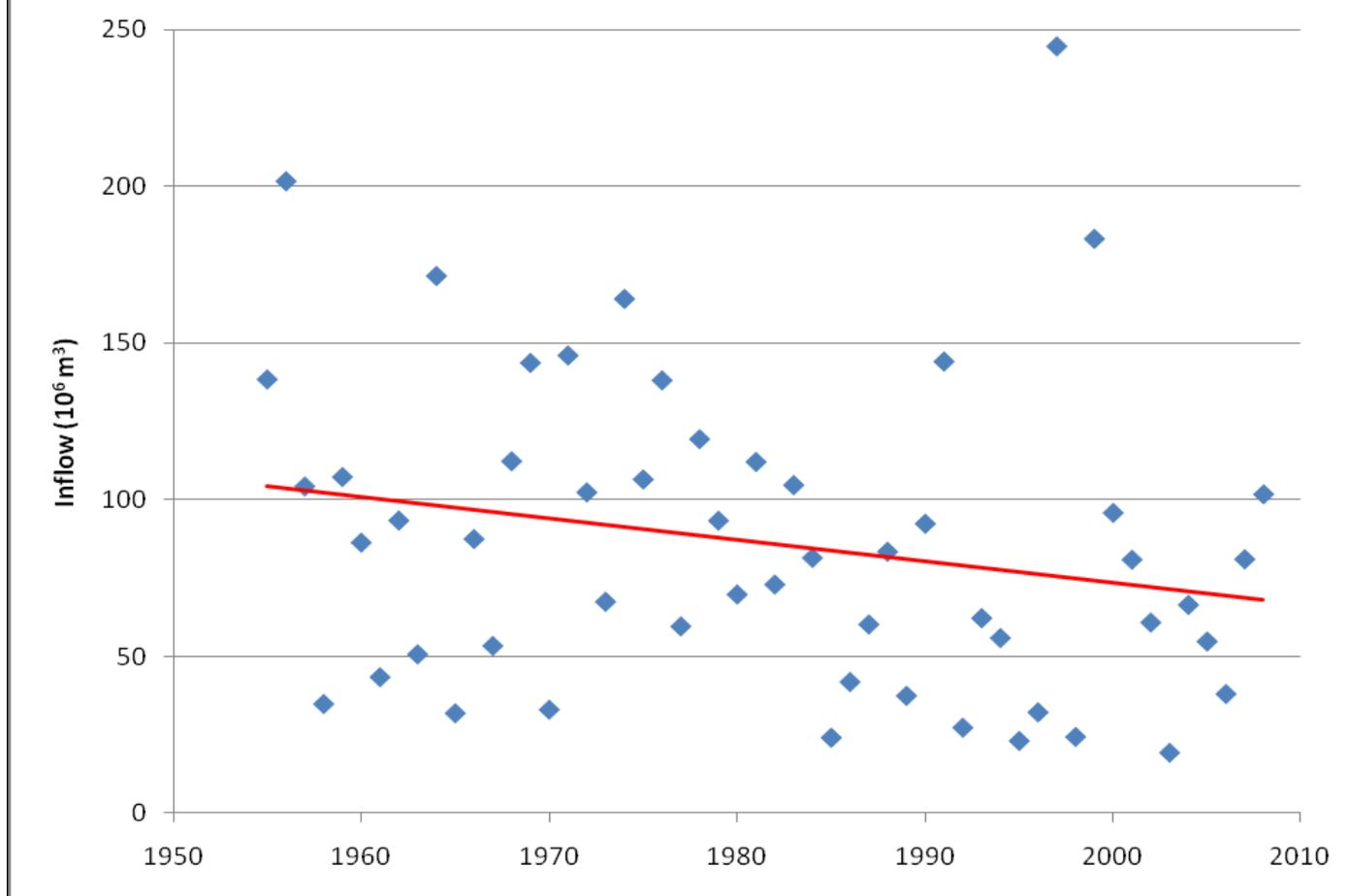
# Context – Local



Sept. 25, 2007  
Weir on Cowichan Lake

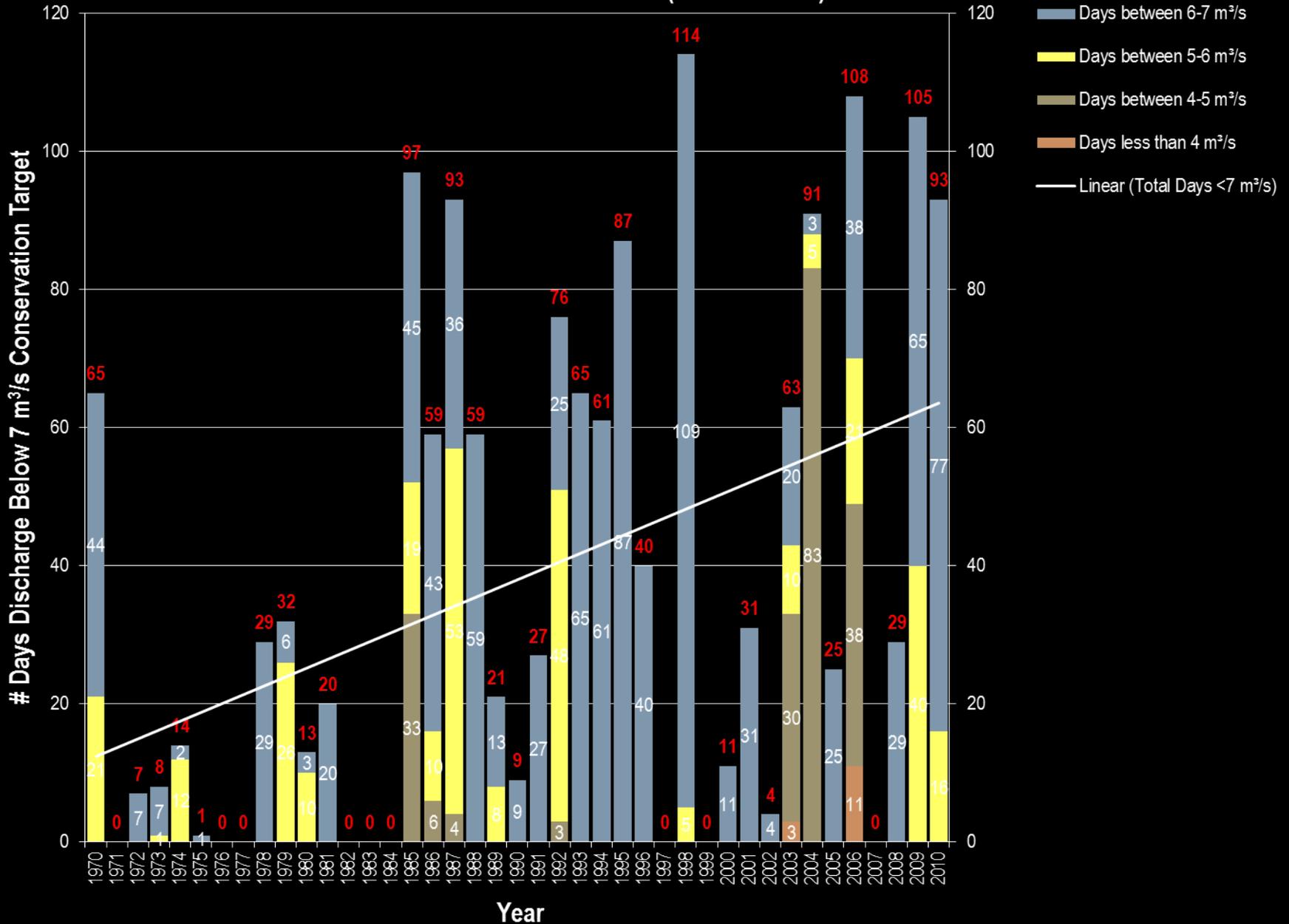
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## Trend in Cowichan Lake Summer (Jun-Sep) Inflow 1955-2008



During the late 1950's, summer inflow averaged about 104 million cubic meters. By 2008, it had dropped to an average of 68 million cubic meters, an annual reduction of 35 percent.

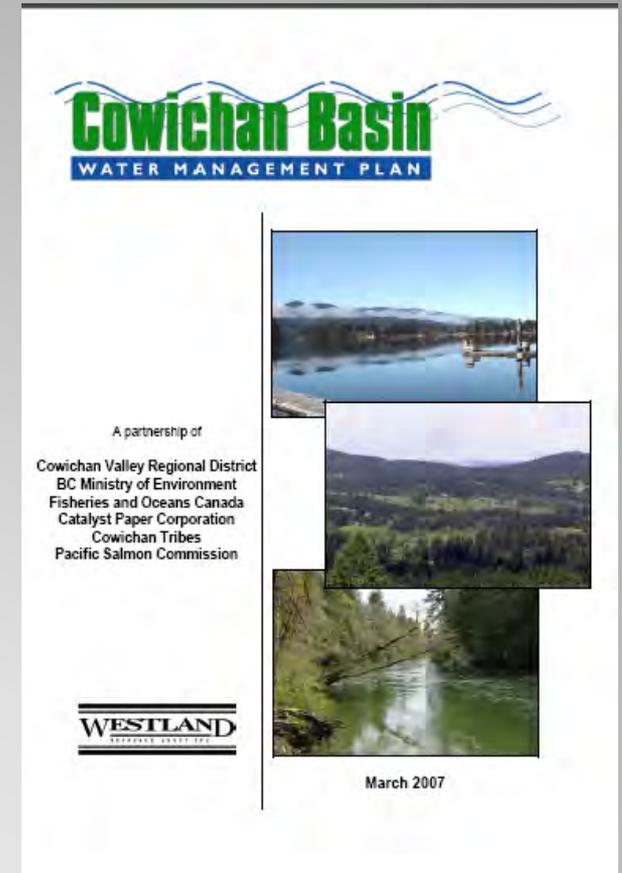
# Cowichan River Historical Low Flows at WSC Station 08HA002 Greendale Trestle - Below Lake Cowichan (1970 – 2010)



# Context - Local

## The Water Management Plan

- Completed early 2007
- 6 Goals, 23 Objectives, 89 Actions



# Elements of Plan

- **Water Conservation**
- **Manage Water Supply to Meet Needs**
- **Water Quality**
- **Protect/Enhance Habitats/Biodiversity**
- **Flood Management**
- **Governance**
- **Communications**

# 3 Years Later Implementation Scant – A Leadership vacuum

- Due to diffuse and diverse accountabilities for the watershed
- No one body to drive implementation



# **Cowichan Watershed Board Model Adopted**

## **Key Characteristics:**

- **Local leadership**
- **CVRD/Cowichan Tribes full partners**
- **Inclusive of fed & prov govts**
- **Inclusive of regional opinion leaders**
- **Special advisors and strong Technical Advisory Committee**

# Governance Body

- Legitimately represent all interests (accountability)
- Integrated-whole watershed thinking
- Consensus approach
- Attract partners & funding



# CWB Members

## Cowichan Tribes

- Chief Harvey Alphonse\*
- Darin George

## At Large

- Hon. David Anderson
- Mayor Ross Forrest
- Mayor Jon Lefebure
- Tim Kulchyski

## B.C.

- Dr. Lorna Medd
- David Slade

\* Co-chairs

## CVRD

- Rob Hutchins\*
- Lori Iannidinardo
- Ian Morrison

## Canada

- Andrew Thomson (DFO)

## Special Advisors

- Arvid Charlie
- Dr. Bruce Fraser
- Dr. Nicole Vaugeois
- Ted van der Gulik
- Dr. Rick Nordin
- Oliver Brandes

## Tech. Advisory Comm.

# Purpose

- **Implement Watershed Plan**
- **Provide Leadership/Direction for Managing the Watershed**
- **Engage Communities**

# **CWB Approach**

- **No regulatory authority - consensus, cooperation & partnership based**
- **Facilitate community education, advocate for best practices, plan and make decisions/recommendations to others, coordinator of activities**
- **Commitment to science and best available information**

# Expanding on the Plan

## Additional Areas of Board Focus:

- Culture
- Economic Development
- Public health



# Achievements @ 2 years

- Building and Nurturing Relationships & Partnerships
- Building knowledge & understanding
- Completing projects to fill information gaps and address policy issues.
- Setting Targets for the Watershed.

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# Achievements

## Targets:

- Water Quality
- Estuarine Health
- Fish Sustainability
- Water Efficiency
- Watershed IQ
- Summer Flow
- Protect Riparian Areas



# Targets

## 1. Water Quality

### Issues

- Negative impact of pollution on watershed resources and public health

### Approach

- Identify pollution sources
- Work with polluters to address problems
- Bylaws, policies that support water quality

### Targets:

- Total suspended solids do not exceed guidelines
- Safe to eat shellfish from Cowichan Bay by 2020



# Target

## 4. Water Conservation

### Issue

- Better water use supports water supply in the river.

### Approaches

- Determine current use and barriers to conservation
- Water Awareness Education

### Targets:

- Work with communities and industry to set best practices and conservation targets.

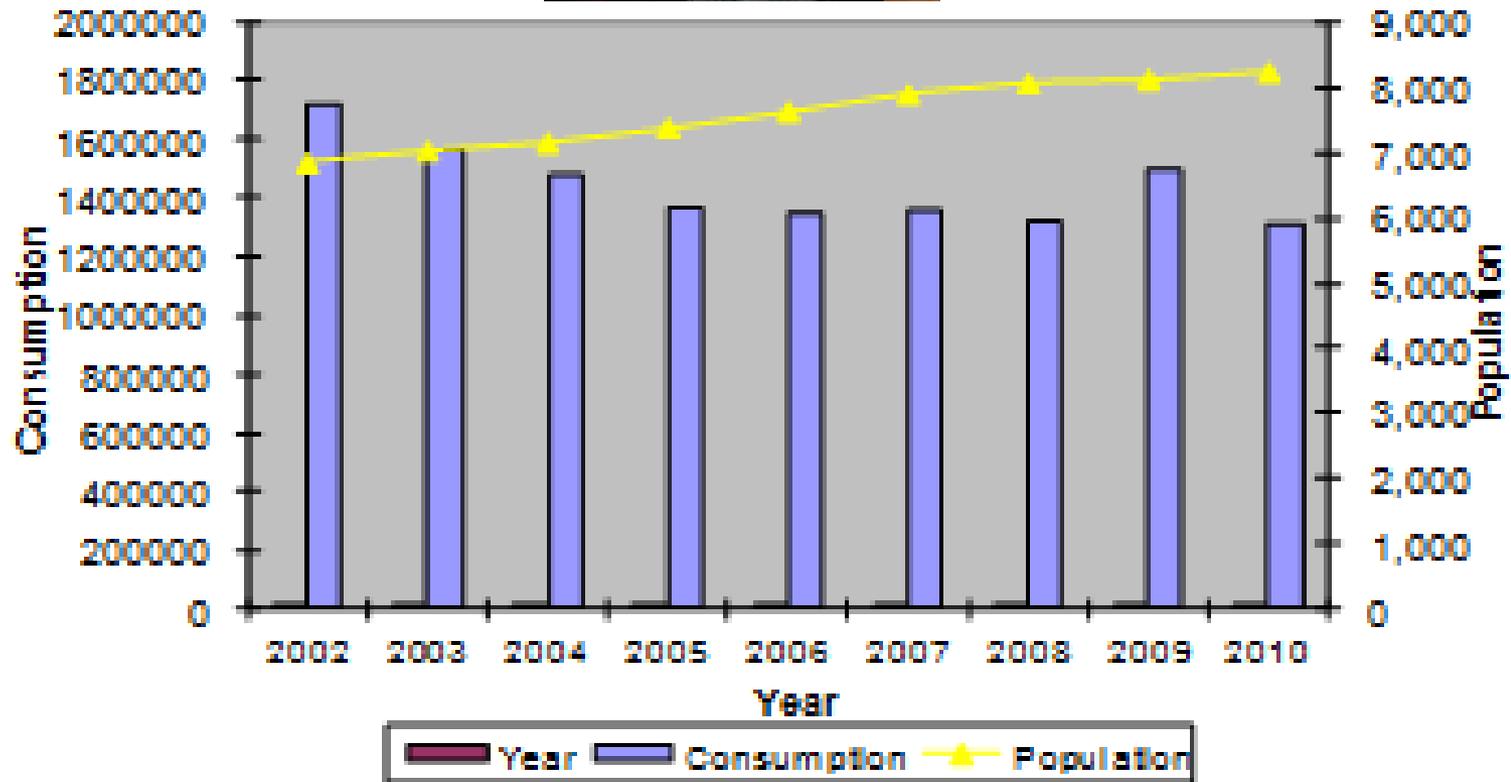
Universal water metering, increasing block rate structure





LADYSMITH

# Water Consumption Comparison

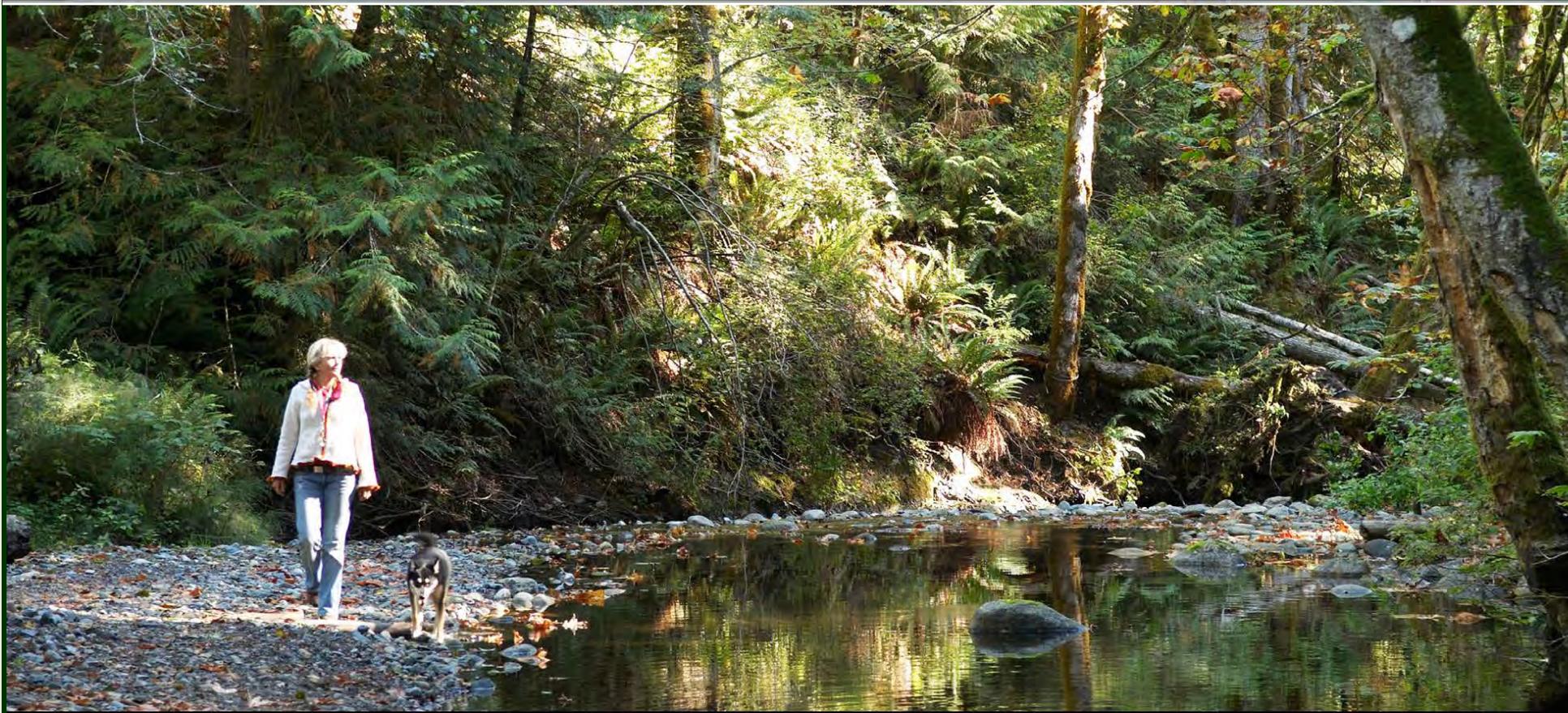




# LADYSMITH

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HERITAGE BY THE SEA





# Targets

## 6. Summer Flows – Manage Water Supply



### Issue:

- Average spring/summer inflows have declined by 36% since mid 80's) – low summer river flows an increasing problem.

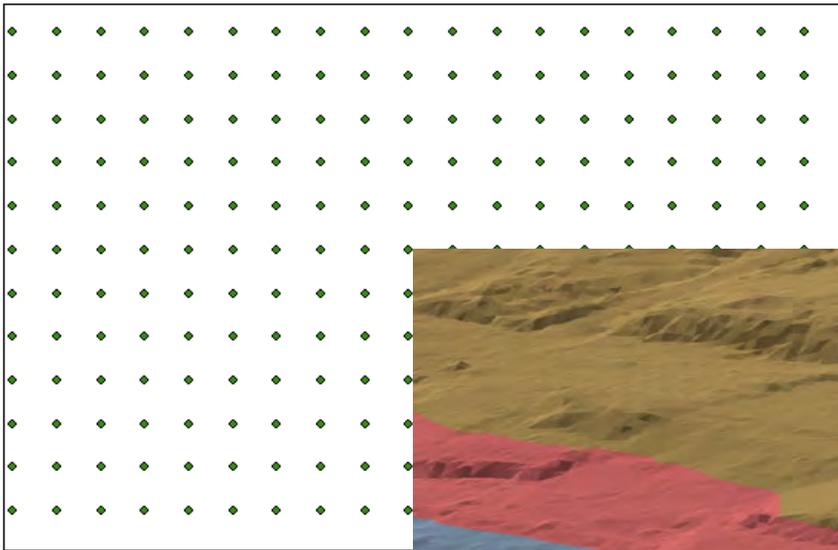
### Approaches:

- Short-term – We need to use existing weir better.
- Longer term – Raise the weir to ensure water supply that will address drought (impact studies underway)

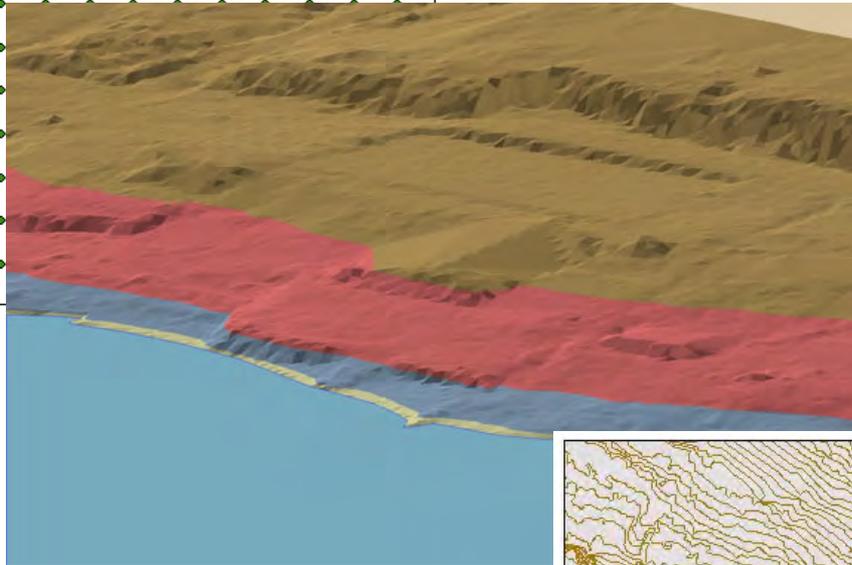
### Target

- Summer river flow always  $\geq 7$  cms

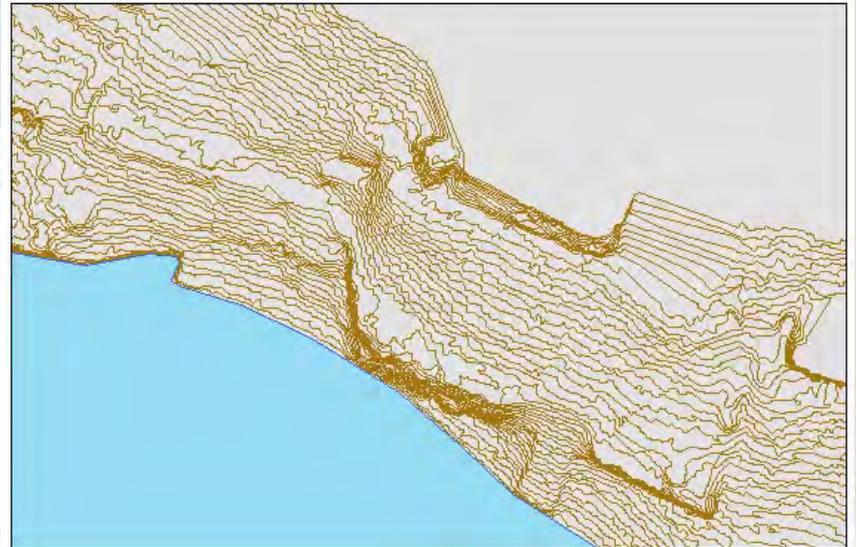
# LiDAR Data



Points with ground elevation values

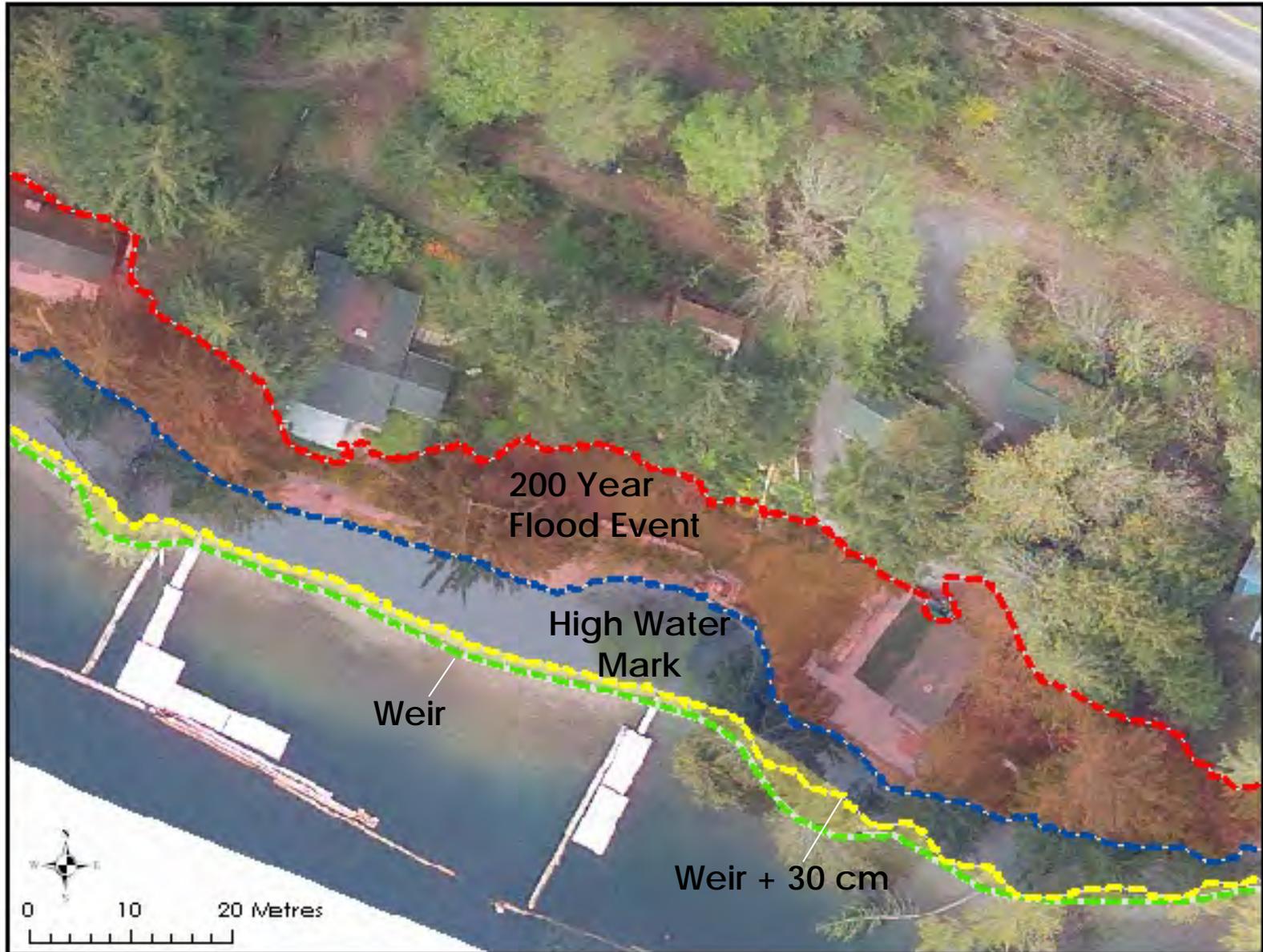


3-D surface model

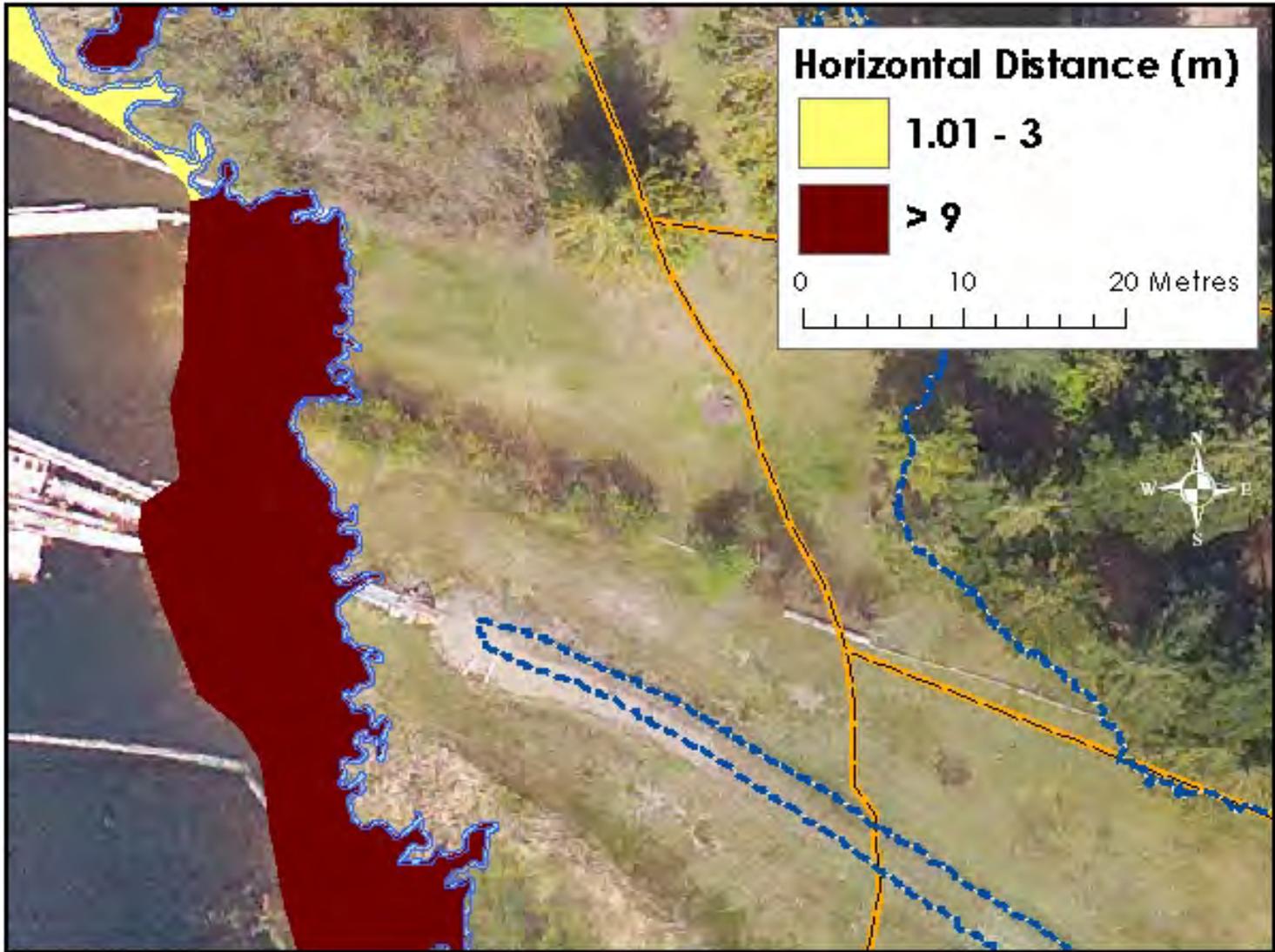


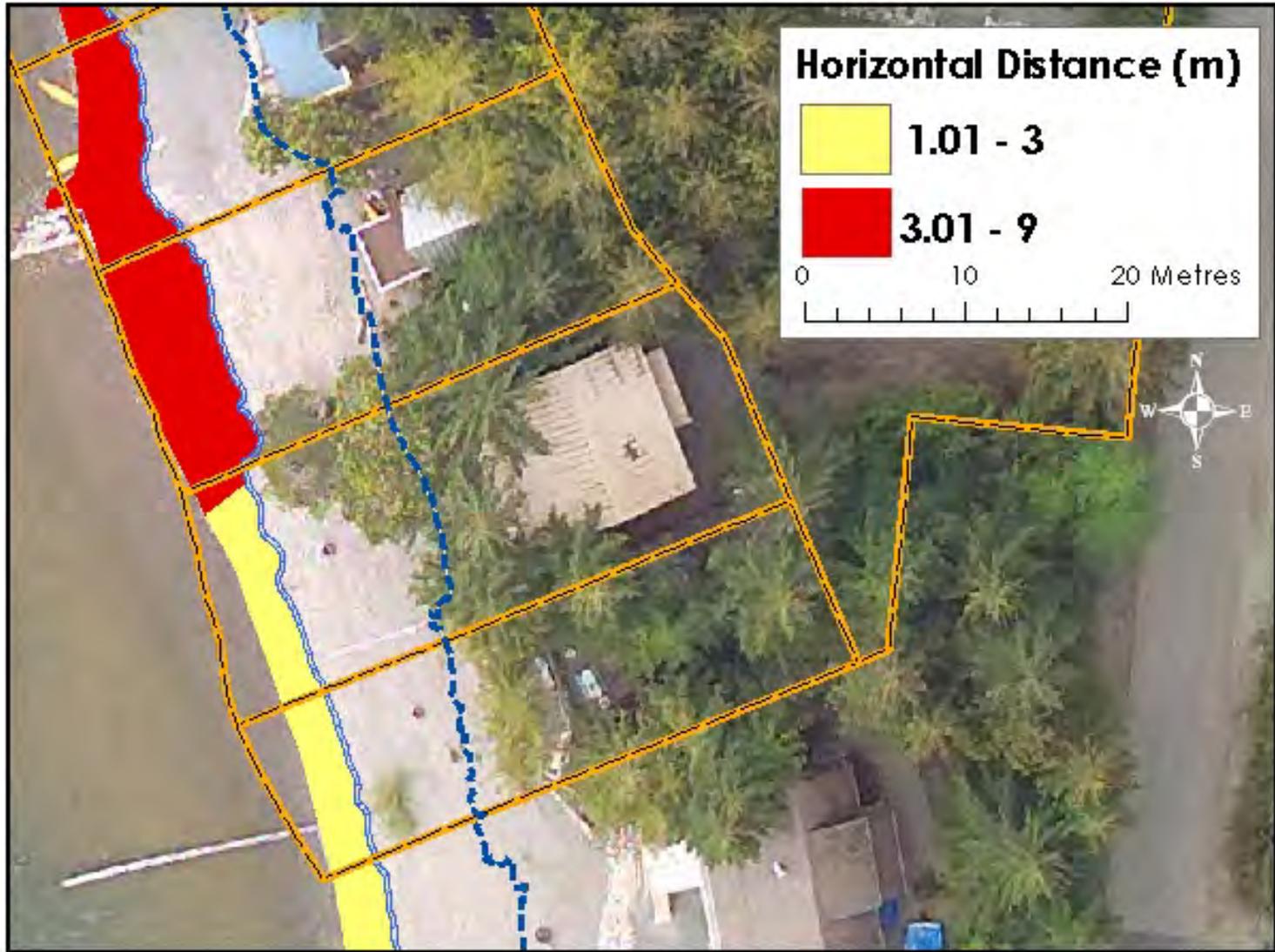
10 cm contours

# Significant Water Levels









# Success Factors/Lessons Learned

- 1. Acknowledged Crisis or Golden Opportunity**
  - ✓ *Unites*
  - ✓ *Motivates*
  - ✓ *Legitimizes*
  - ✓ *Reinforces Commitment*
  - Motivator large enough to overcome procrastination



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# Success Factors/Lessons Learned

## 2. Champions

- around crisis (pre Plan)
- for implementation

- ✓ *Unite*
- ✓ *Motivate*
- ✓ *Legitimize*
- ✓ *Reinforce Commitment*



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# Success Factors/Lessons Learned

## 3. Comprehensive Watershed Plan

- Inclusive process
- Whole watershed
- Well documented

- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces Commitment*

# Success Factors/Lessons Learned

## 4. Multi-level Leadership

- ongoing
- collaborative

- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces  
Commitment*



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# Success Factors/Lessons Learned

## 5. Governance Model

- locally led
- legitimate
- accountable
- inclusive of Sr. Govt' s
- respected/respectful
- inclusive & accessible

- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces  
Commitment*

# Success Factors/Lessons Learned

## 6. Partnerships & Relationships

- Cowichan Tribes full partner
- Nurture relationships with broad set of partners & stakeholders

- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces Commitment*



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# Success Factors/Lessons Learned

## 7. Caring & Sharing

- “No one cares how much you know until they know how much you care”
- Cooperation not competition (be an enabler not a threat)

- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces Commitment*

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# Success Factors/Lessons Learned

## 9. Wily Veterans and Youth

- know and care
- focused but open minded
- passion/infectiousness

- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces  
Commitment*



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# Success Factors/Lessons Learned

## 10. Finances/Funding

- Right amount at right time

- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces  
Commitment*

# Success Factors/Lessons Learned

## 11. Science-based Informed Approach



- ✓ *Unites*
- ✓ *Motivates*
- ✓ *Legitimizes*
- ✓ *Reinforces Commitment*

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# Moving Forward

## Challenges:

- Dancing with elephants
- Local power
- Secure long term stable funding
- Monitoring and research





Thank you

Huy ch qa

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