Evolving Economies and Communities: adaptation, mitigation and local imperatives

Panel Moderator:
Don Morgan, MoE & BV Research Centre

Panel Members:
John Innes, UBC
Darwyn Coxson, UNBC
Louise De Montigny, FLNRO
Dirk Brinkman, Brinkman Forest Ltd
Garry Reece, Lax Kwa'alaams

lving Economies and Communities: Transformation

- Panel's FFESC projects:
  - John Innes – human & economic resilience
  - Darwyn Coxson – non timber forest products & community forests
  - Louise De Montigny – alternative forest products and adaptation
  - Dirk Brinkman & Gary Reece – building community adaptive capacity

Evolving Economies and Communities: Discussion

- Crisis response may be contrary to what is needed for adaptation.
- Challenge of shifting from what we have done to what we need to do.
- Expectation management.

Evolving Economies an Communities: Discussio

- BC's shifting economy – integrated management.
- Not just Forestry anymore, multi-value - carbon, water management, etc.
- Amalgamated ministry, shifting priorities.

Evolving Economies and Communities: Discussion

- Tension between local and central command and control – Leadership.
- Decline of the welfare state.
- Downloading of costs and responsibilities from province to private, local government and NGOs.
- Monitoring Trust model – BWMT.

Evolving Economies and Communities: Discussion

- Need to link climate change and day-to-day reality.
- Scientific understanding is not a barrier to adaptation, motivations is!
- Trans-disciplinary management to Integral management?

lving Economies and Communities: Desired Outcomes

- Economically diverse communities (timber prod. & value added, non-timber products, bio-energy, carbon sequestration, tourism, etc.)

- Been trying to do for a long time…
- How to promote innovation?
- What community assets enhance community resilience?
- Planned transformation from forestry to other endeavors.

lving Economies and Communities: Desired Outcomes

- Communities easily access & collaborate with knowledge providers and practitioners to assess vulnerabilities and develop adaptation strategies.

- Embedded scientists.
- Novel engagement – transdisciplinary teams.
- New institutional mechanisms – Trusts.

lving Economies and Communities: Desired Outcomes

- Infrastructure (e.g., bioenergy facilities, mills, trails, parks etc.) investment decisions are informed by climate change and community adaptation needs.

- Risk of status quo to possible future climate.
- What about the mid term?
- Transitioning with fall down.

lving Economies and Communities: Desired Outcomes

- Communities are empowered to make long term land use planning decisions for their areas that address challenges and opportunities posed by climate change, and support community adaptation strategies.

- Locus of control – regional/central/global.
- How to balance power for right level of regulation and community flexibility.

Evolving Economies and Communities: Desired Outcomes

- Community empowerment – provincial policy barriers (forest practices policy, timber harvesting requirements, costing of emissions/carbon)
  - Local decision making – flexibility to consider local conditions and opportunities.
  - Alternative use of forests - economic diversification, flexibility.
- Landscape level planning – currently lacking
  - Economic and community climate change adaptation strategies.
  - Non-timber economic development considerations.
  - Increasing landscape diversity – composition, pattern, structure.
  - Piecemeal harvesting foreclosing future adaptation and economic diversification options.

Climate change adaptation research for forest and rangeland ecosystems: resiliency implications at the landscape level

John Innes, UBC

Howie Harshaw, UBC

Climate change vulnerability of old-growth forests in BC's inland temperate rainforest

Darwyn Coxson, UNBC

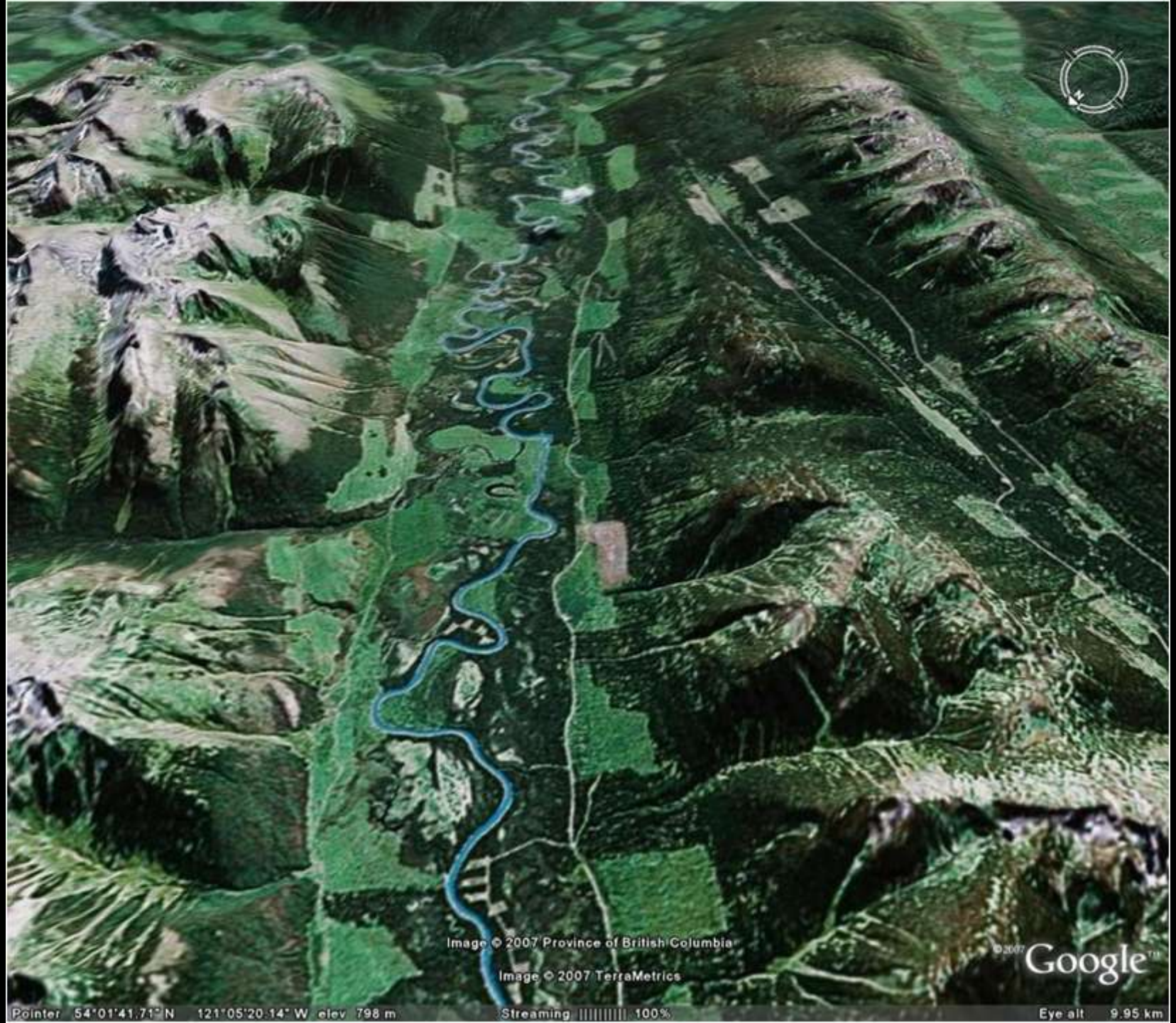
Image © 2007 Province of British Columbia
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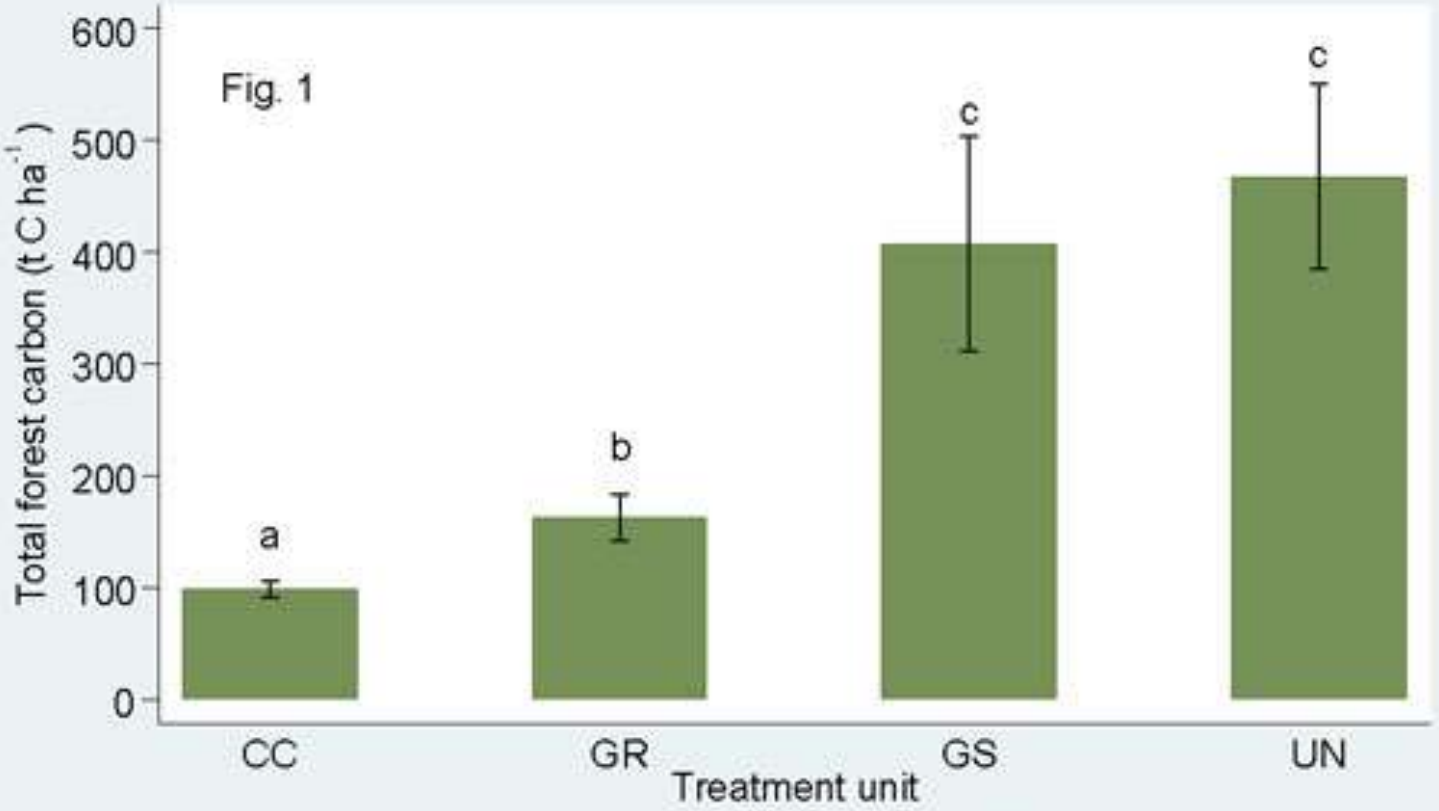
Pointer 54°01'41.71" N 121°05'20.14" W elev 798 m
Streaming 100%
Eye alt 9.95 km



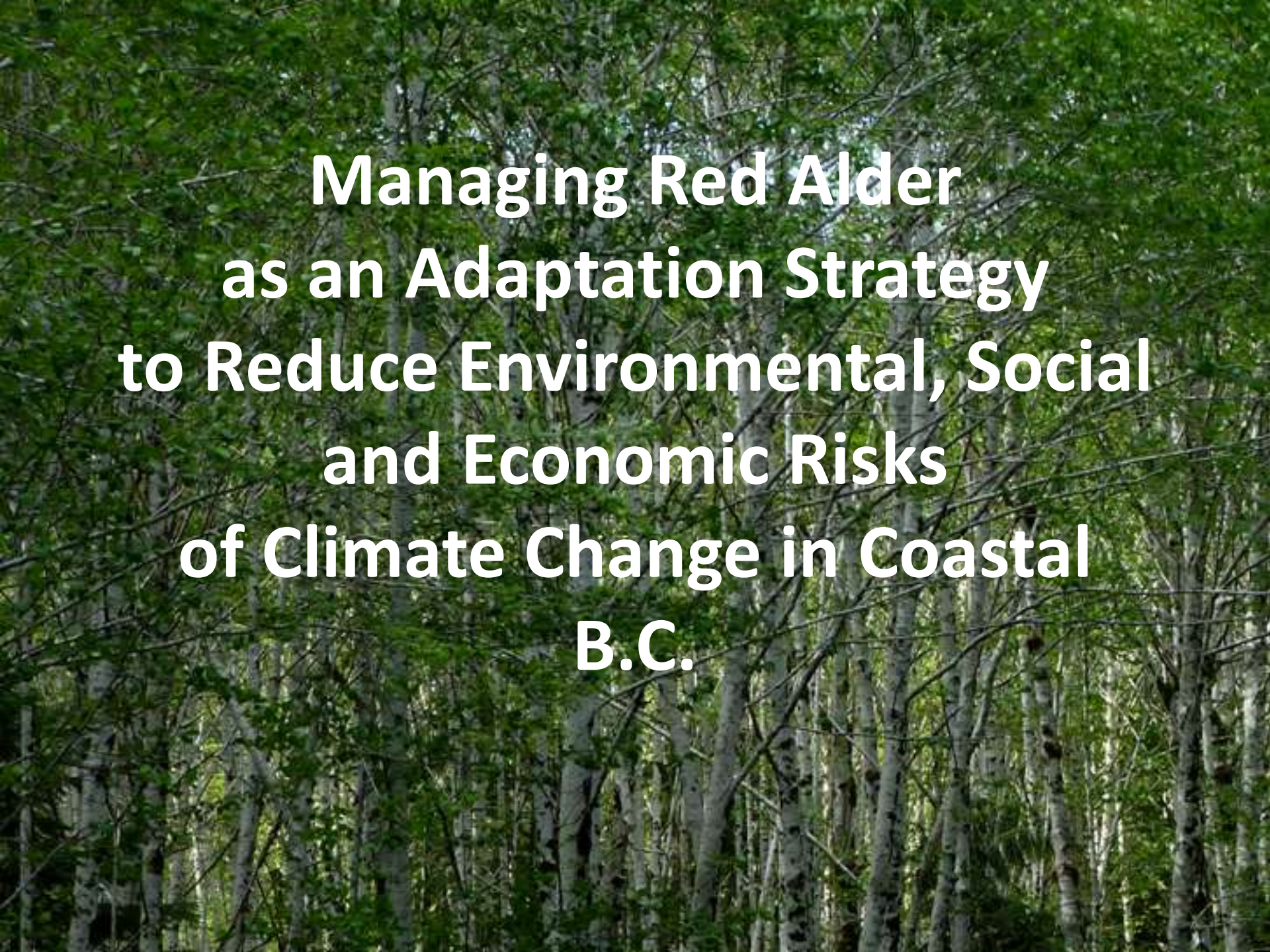
Error bars indicate standard error. Means sharing the same letter are not significantly different.

Note: to reflect the extent and characteristics of heart-rot in old-growth redcedar and hemlock stems, these estimates assume that 50% of the volume of this internal decay is actually hollow.

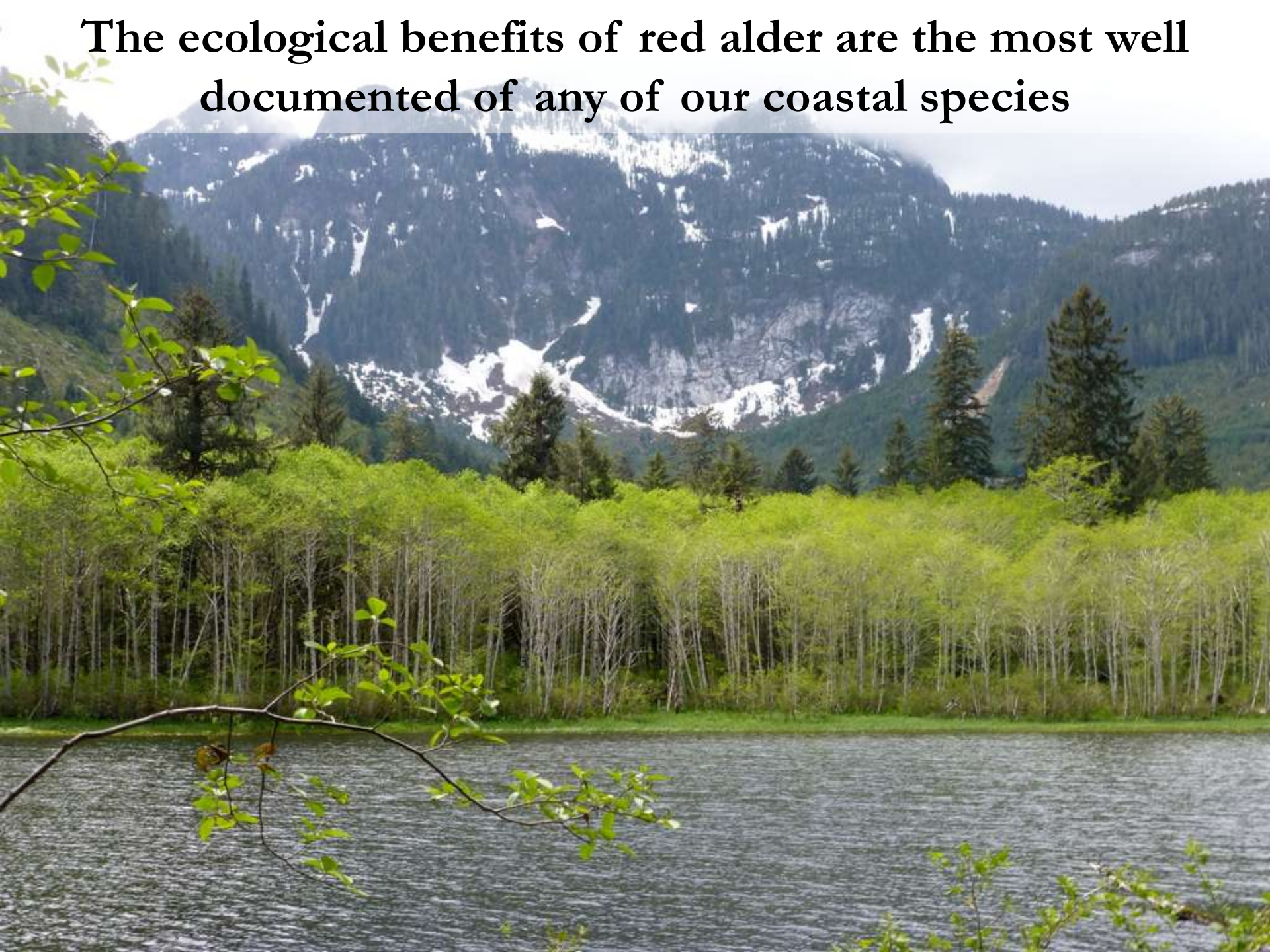
A climate change strategy for red alder in British Columbia

Louise deMontigny, FLNRO

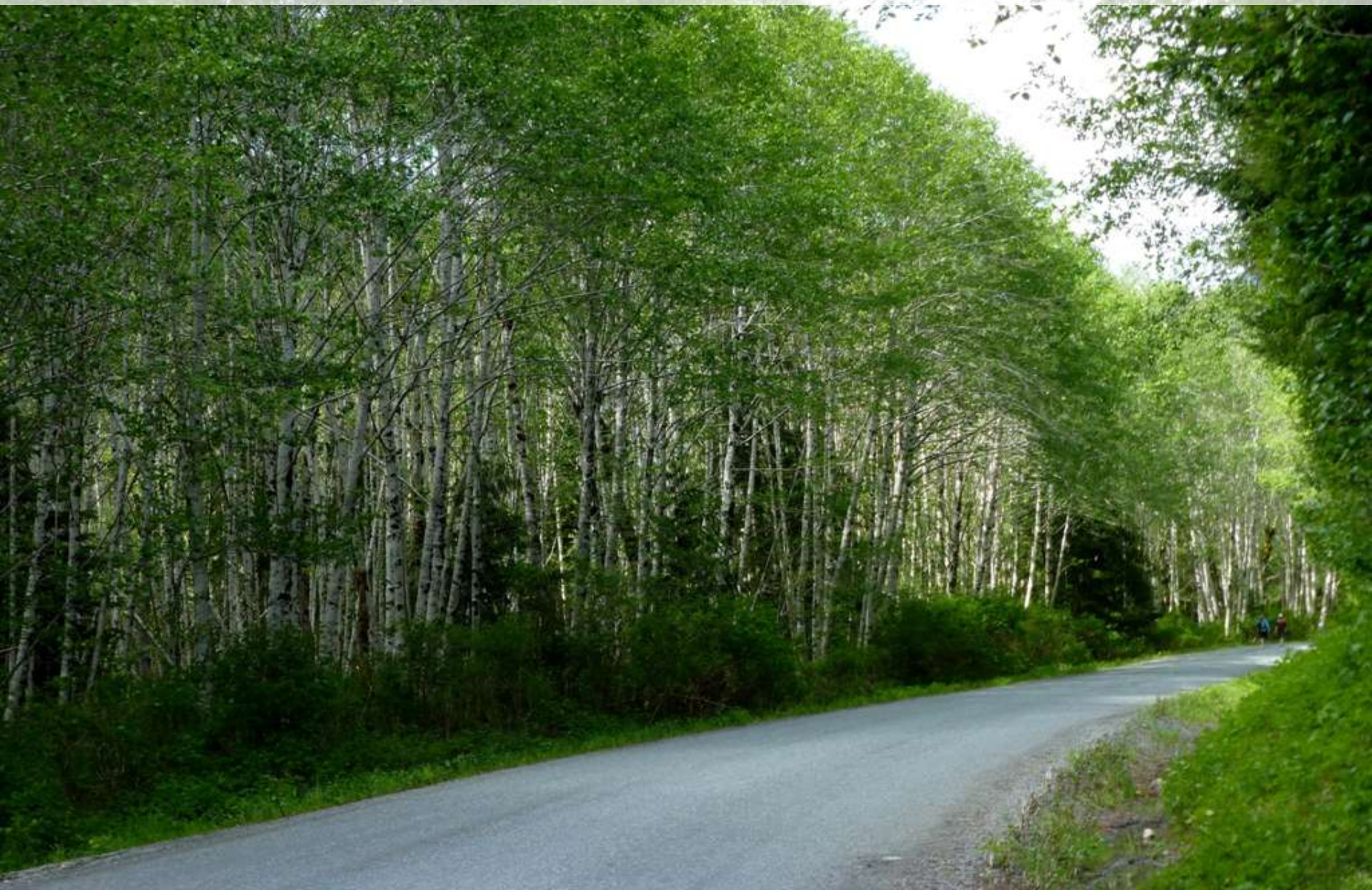
Craig Farnden, UBC


Managing Red Alder
as an Adaptation Strategy
to Reduce Environmental, Social
and Economic Risks
of Climate Change in Coastal
B.C.

The ecological benefits of red alder are the most well documented of any of our coastal species



Climate change is expected to increase red alder's frequency, distribution and growth rates



Red alder provides the opportunity to strengthen the forest based economy through market diversification

Our red alder resource could support a future hardwood manufacturing sector 10 times larger than currently

Recommended Actions

1. Conduct a reliable inventory and timber supply analysis
2. Set landscape level targets for alder management
3. Develop a red alder breeding program
4. Encourage an open and transparent hardwood log market
5. Educate and train forest practitioners about how the alder supply chain differs from that of conifers
6. Address key knowledge gaps with research

Project Team

- **Dr. Louise de Montigny, George Harper & Dr. Marty Kranabetter:** *BC Ministry of Forests, Lands and Natural Resource Operations.*
- **Dr. Craig Farnden, Dr. Bruce Larson, Dr. Tongli Wang, Dr. Robert Kozak, Dan Nadir & Dr. Ronald Trosper:** *University of British Columbia.*
- **Dr. Phil Comeau:** *University of Alberta.*
- **Dr. Francesco Cortini:** *FPInnovations*
- **Dr. Barbara Hawkins & Brendan Porter:** *University of Victoria.*
- **Dr. David Hibbs:** *Oregon State University.*

Climate change adaptation planning for Northwest Skeena communities

Dirk Brinkman

Garry Reece

NW Skeena Community Adaptation Conclusions

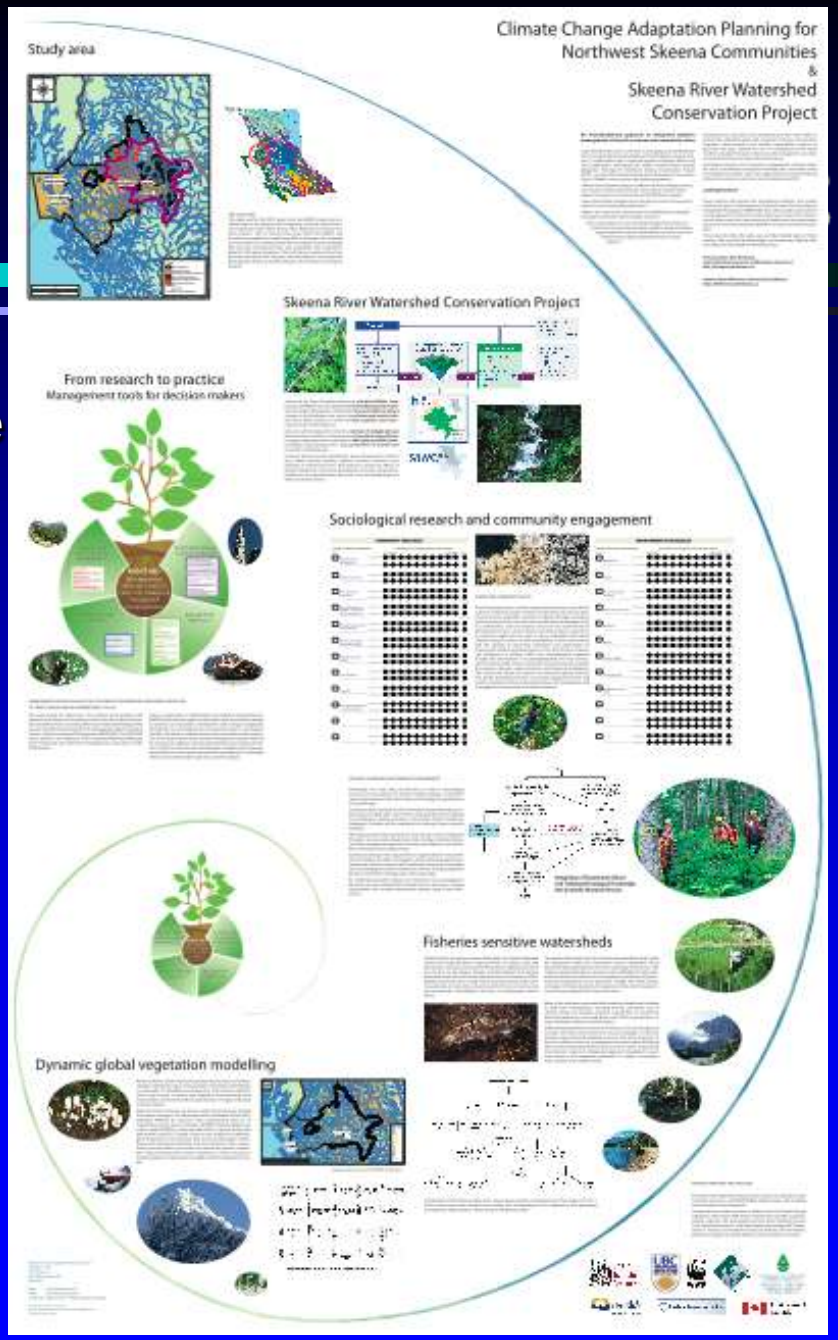
- *FFESC: Climate Change Adaptation Planning for NW Skeena Communities*
- *RAC: Skeena Watershed Conservation Project, WWF/CTR*
  - *Dirk Brinkman, Project Leader*
  - *Coast Tsimshian Resources*

FFESC Workshop, UBC June 14, 2012

Coast Tsimshian Resources LP

Study overview

- Dynamic Global Veg. Model,
  - ESSA Don Robinson & Jed Kaplan, Joe Melton U. Vic. & U. Lasange Switz.
- Sociological Research
  - UBC Ralph Mathews, Jordan Tesluk, Georgia Piggot, R. Sydney-Smith
- Skeena Watershed Conservation
  - WWF w Cortex, J. Casey D. Williams
- FSW Monitoring MOE/MFLNRO
  - ESSA Mark Porter, David Marmoral
- Integration
  - Katie McPherson & Dirk Brinkman
  - Steward Cohen



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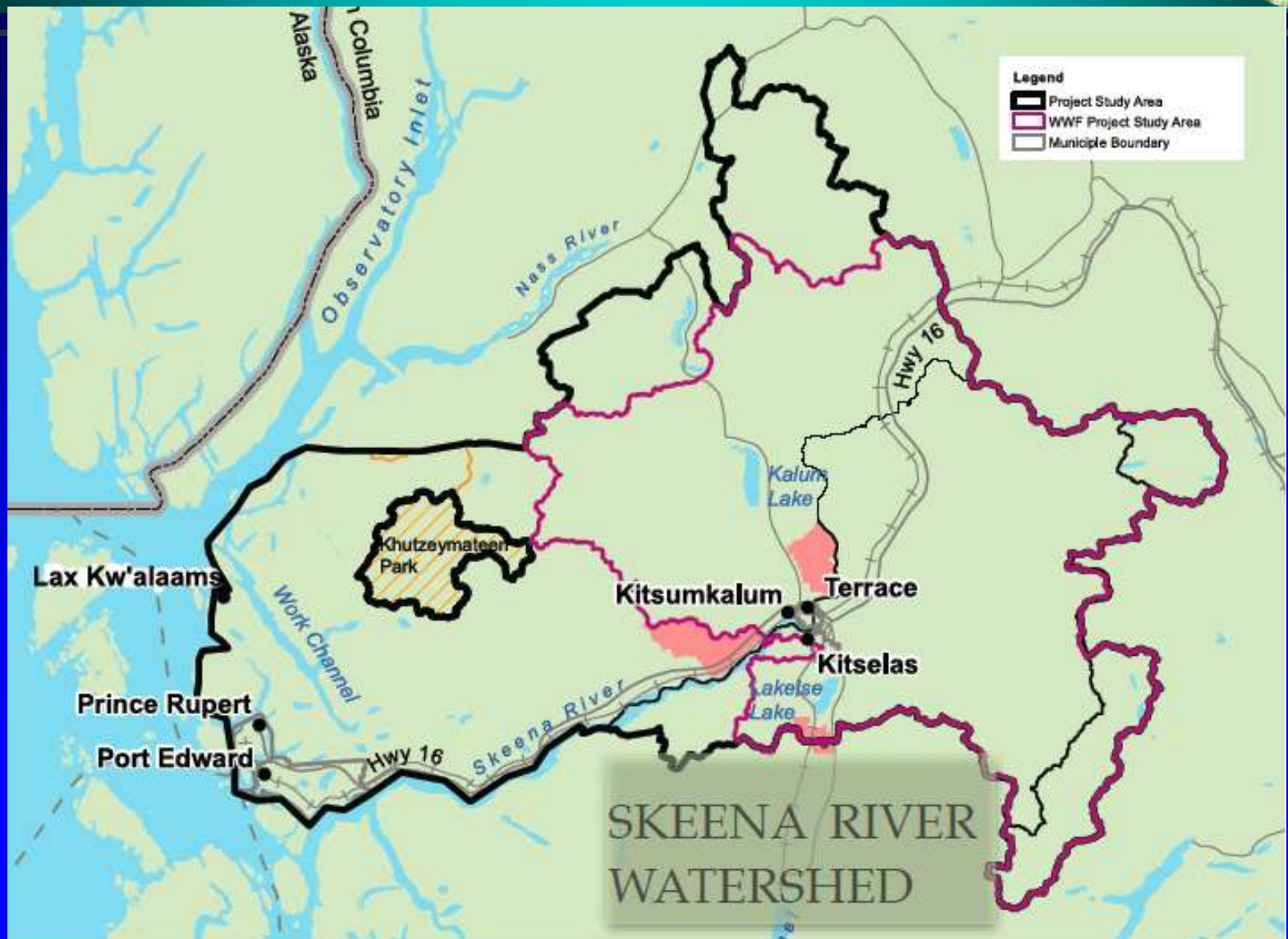
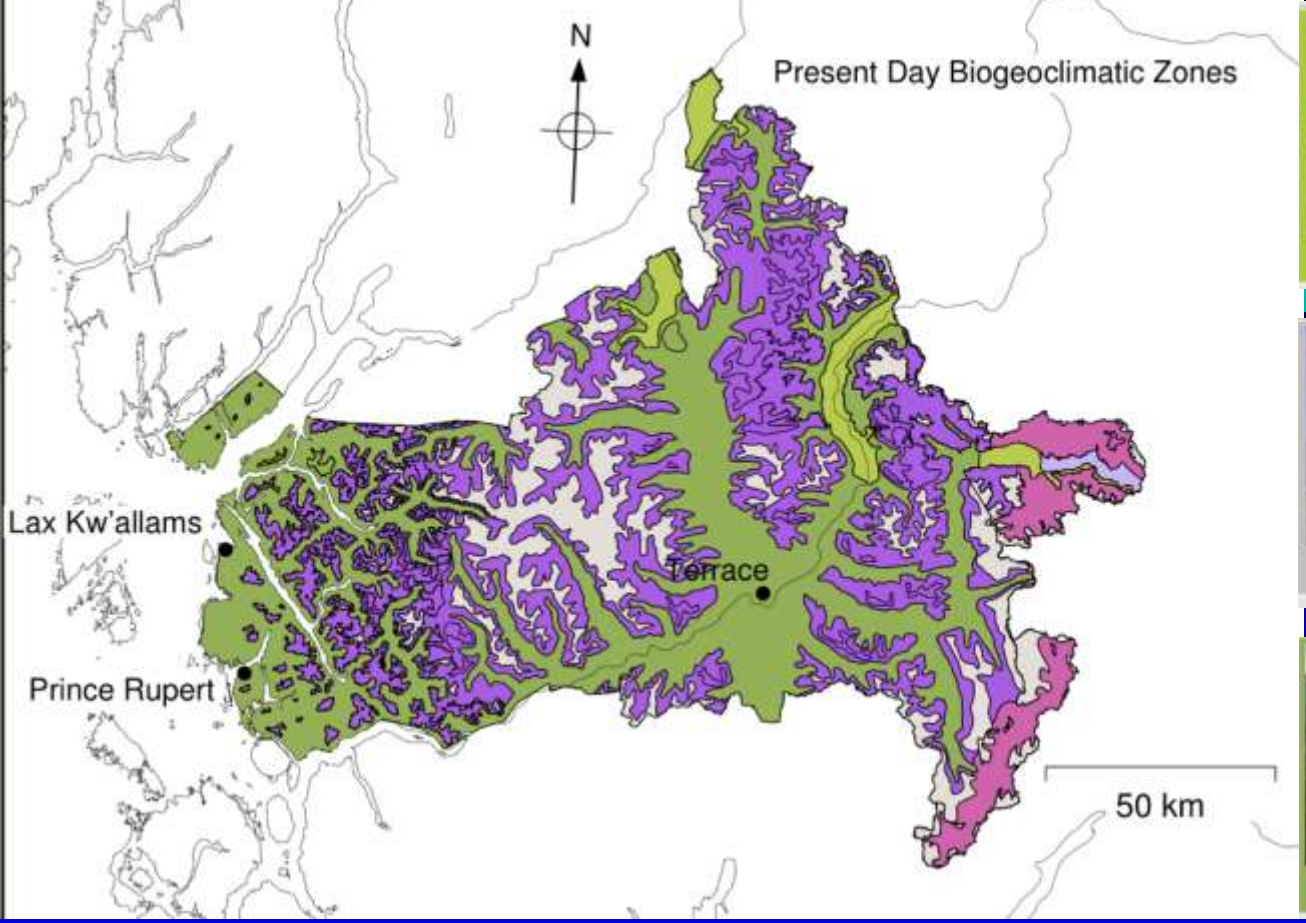
FFESC study area 2.2 m ha SRWCP study area
TFL #1Watershed





Interior Cedar-Hemlock (ICH)

Alpine Tundra (AT)

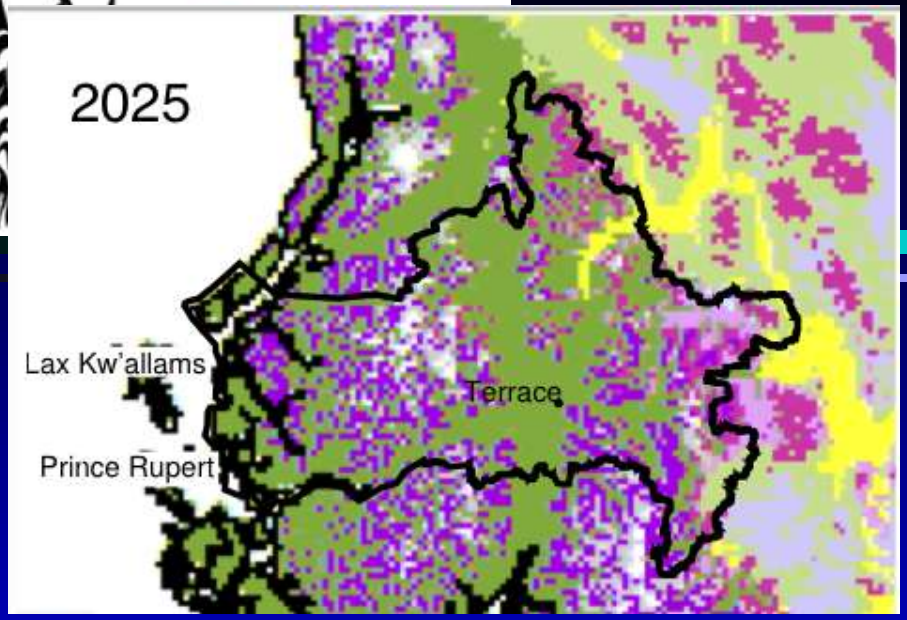
Coastal Western Hemlock (CWH)

Mountain Hemlock (MH)

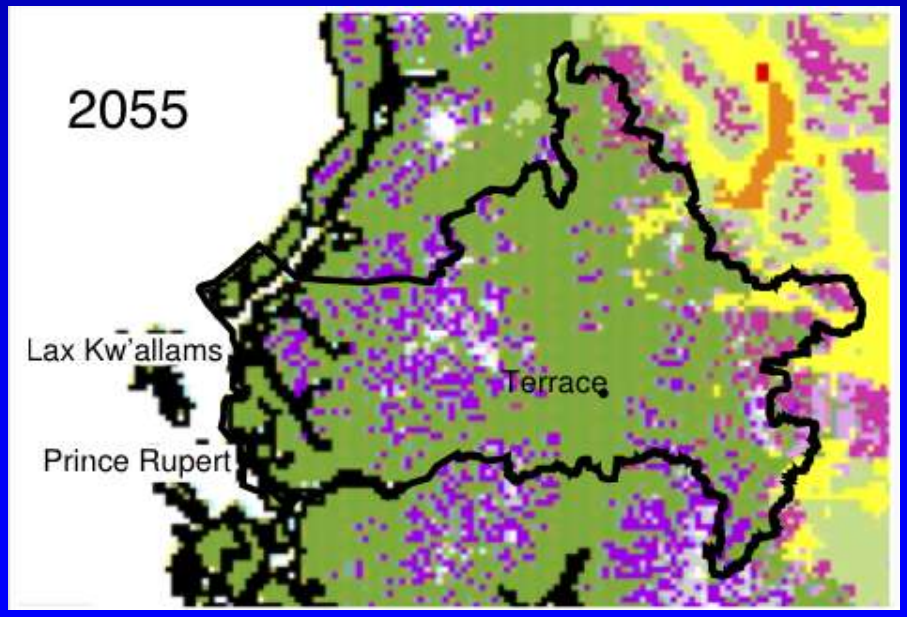
Interior Douglas Fir (IDF)

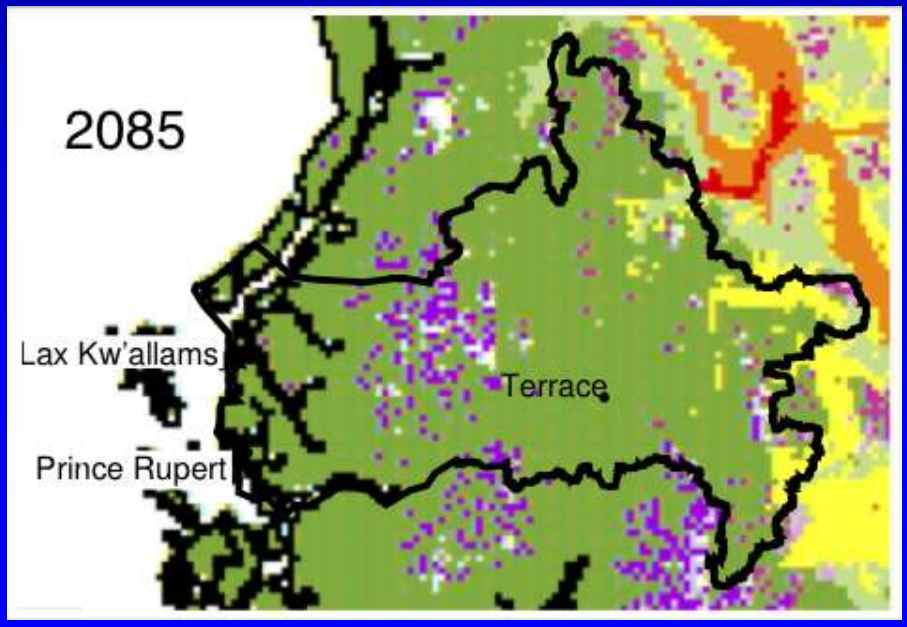
Engelmann Spruce-Subalpine Fir (ESSF)

We put Cautious Climate Ecosystem Drama In Brochures



Wetter winters
Earlier Springs
Warmer Drier Summers



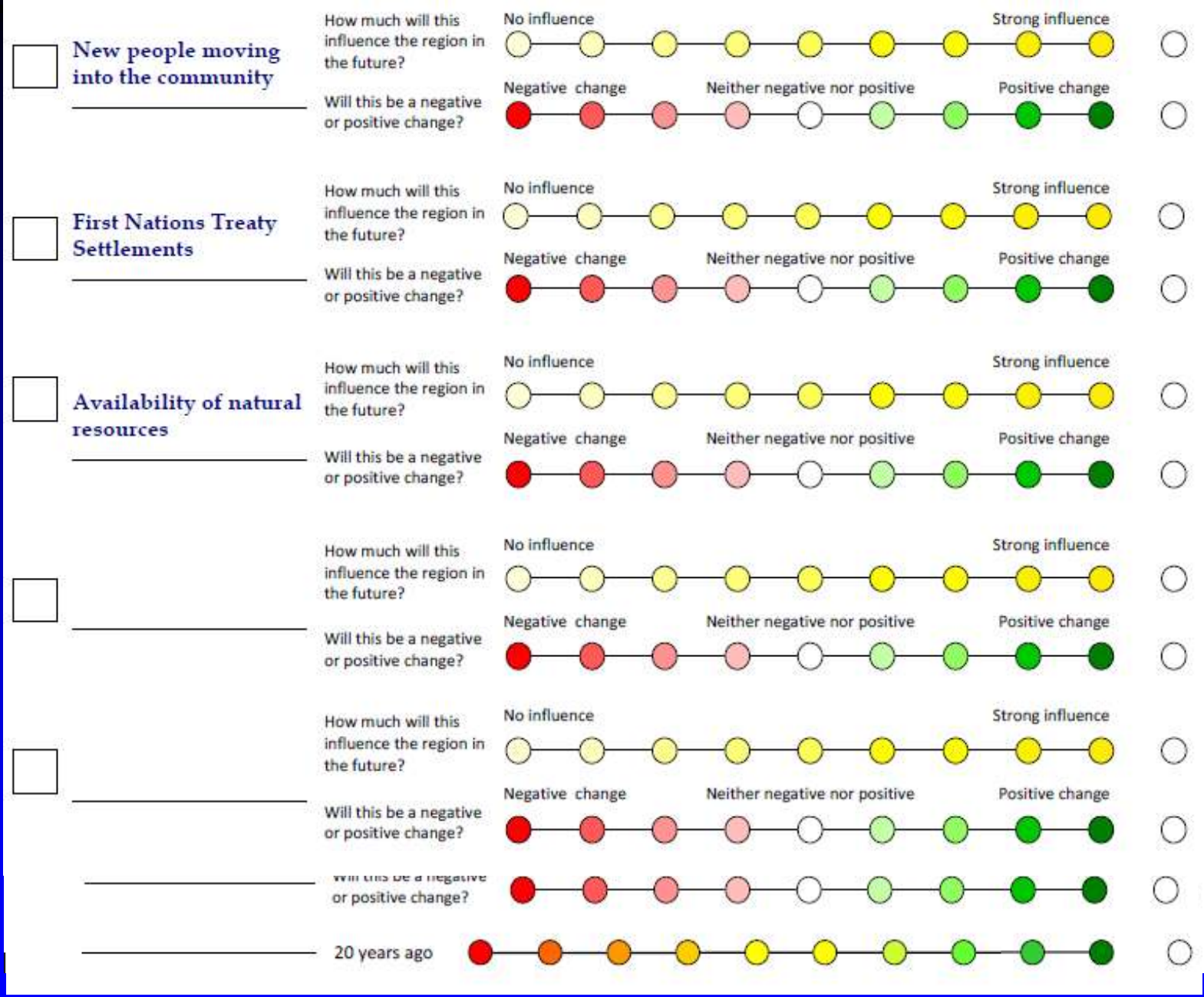


Coast Tsimshian Resources LP

Interviewed 50 Leaders in each of 3 Communities

- Lax Kw' alaams (Port Simpson)
  - 500 generations adaptation to change
  & 10 generations adaptation to settlers
  - 3200 members each own a LP Unit in Coast Tsimshian Resources LLP
- Terrace
  - CTR's TFL #1 & FL 16835 surrounds Terrace
- Prince Rupert
  - Many Lax members live in PR & Terrace

SUSTAINABILITY MATRIX



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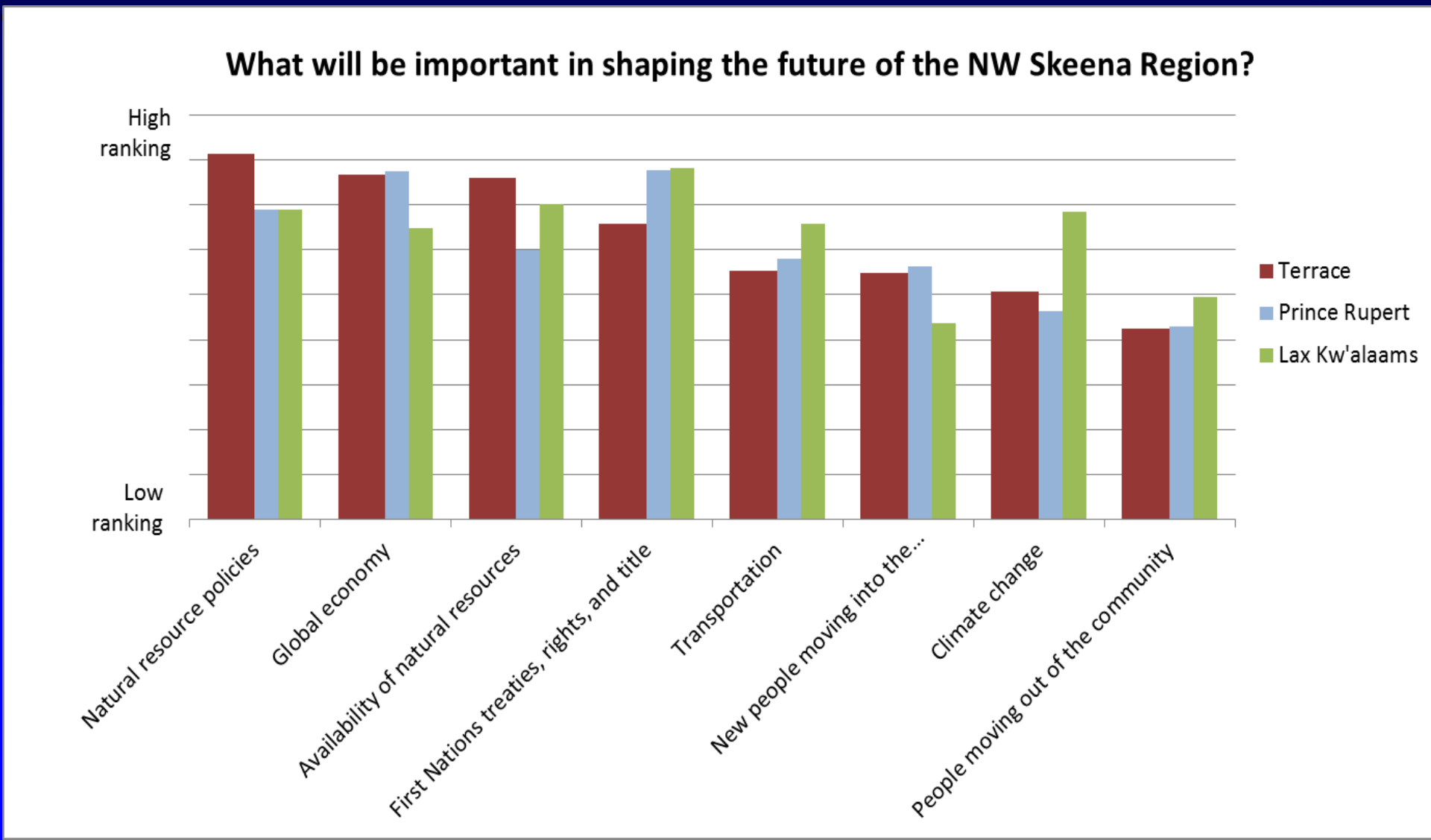
The 150 leaders ranked Other drivers of change higher than Climate



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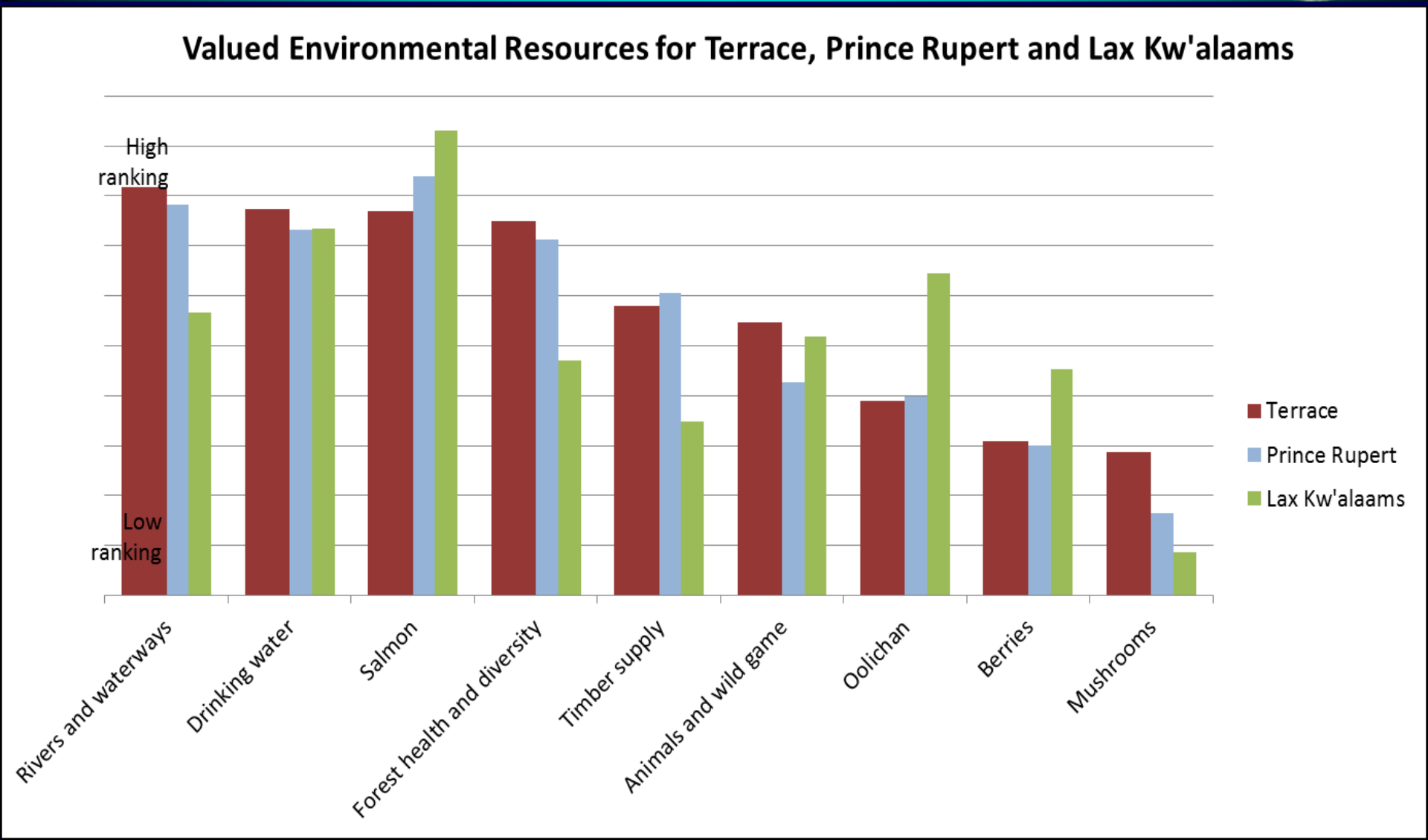
FFESC study region values are fish-centric



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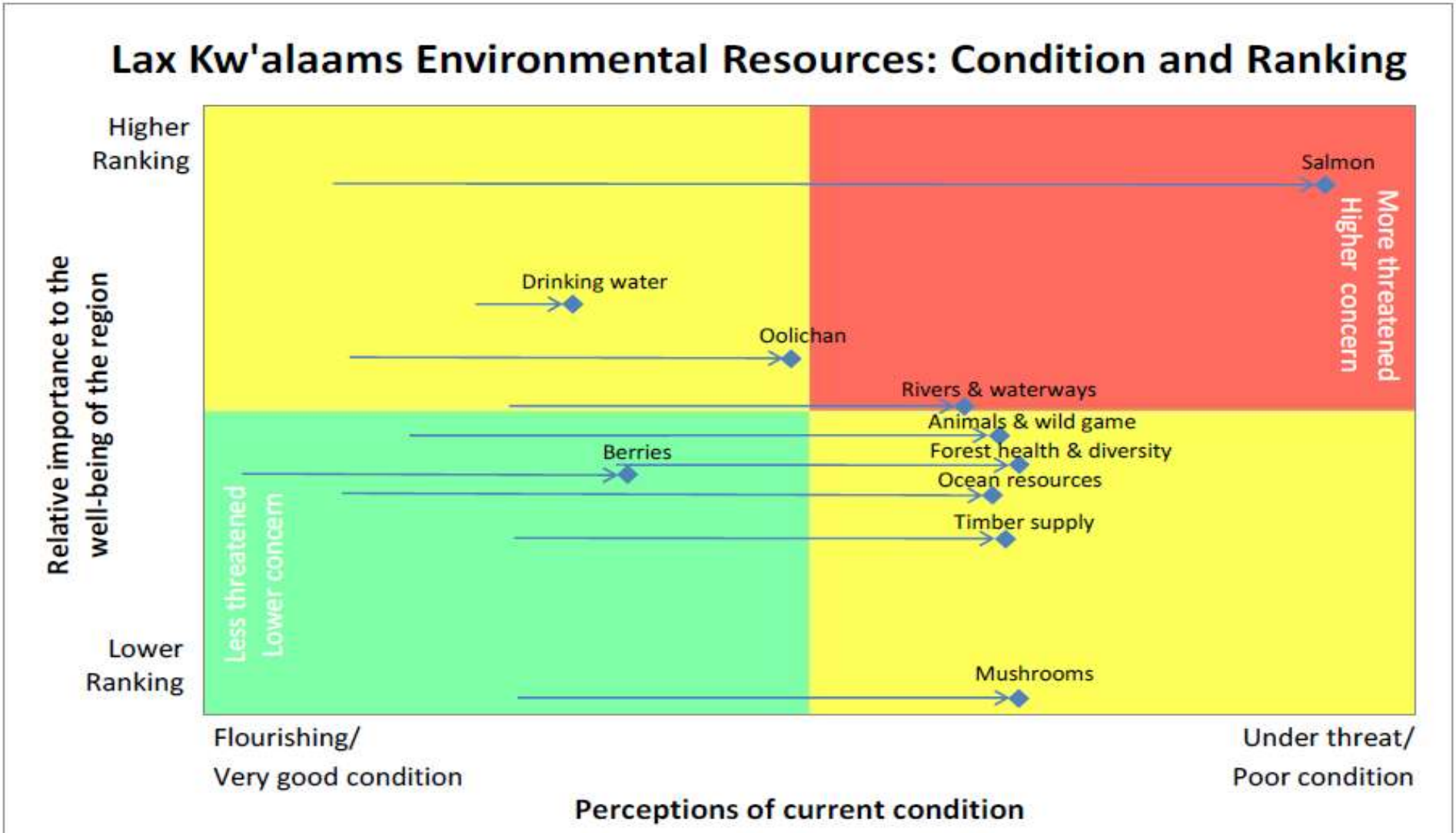
Trends: Cond. 20 yrs ago verses condition today



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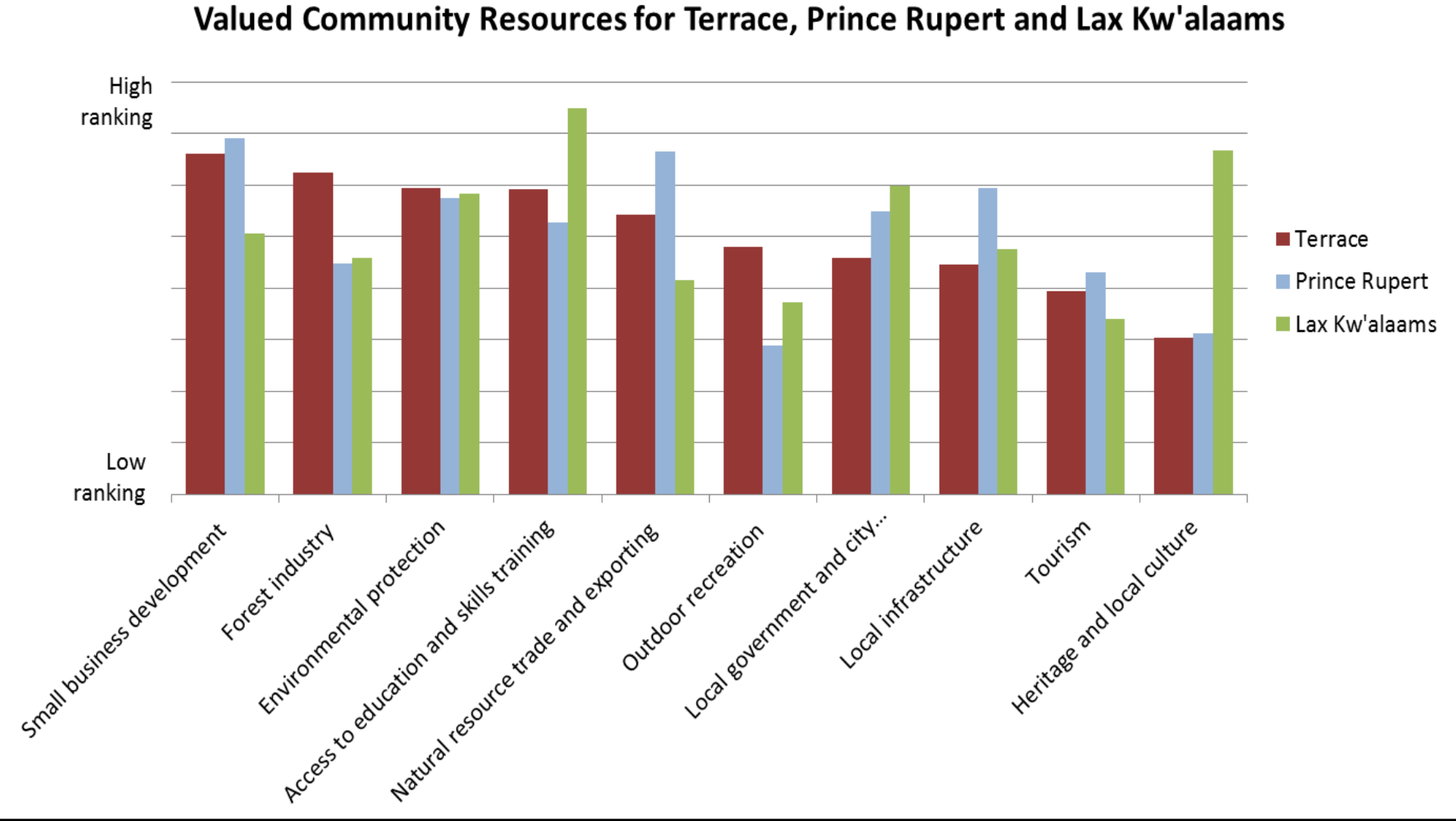
FN & Civic community values differ



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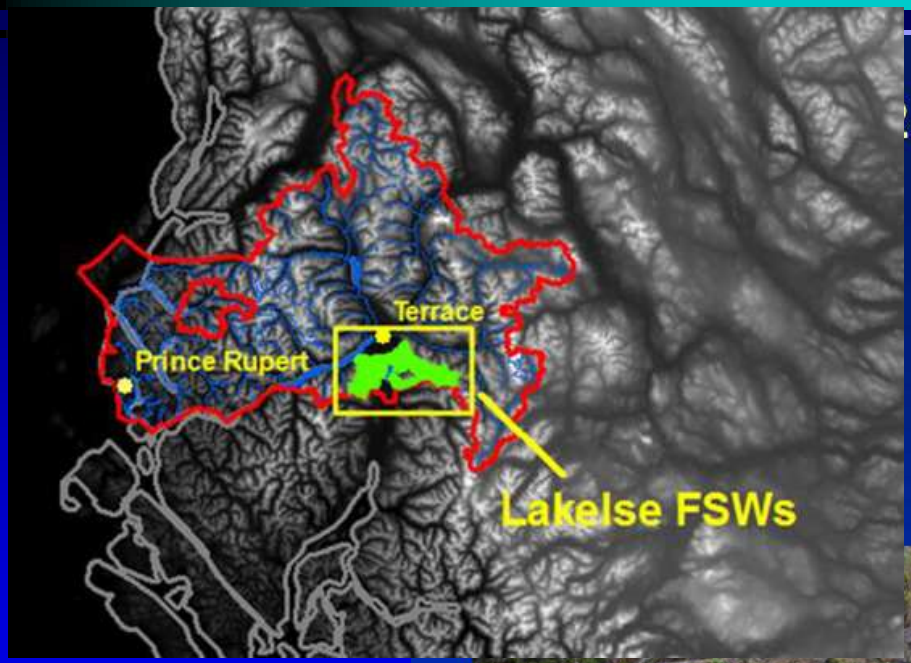
Fisheries Sensitive Watershed Monitoring



. Monitoring -- Tier II

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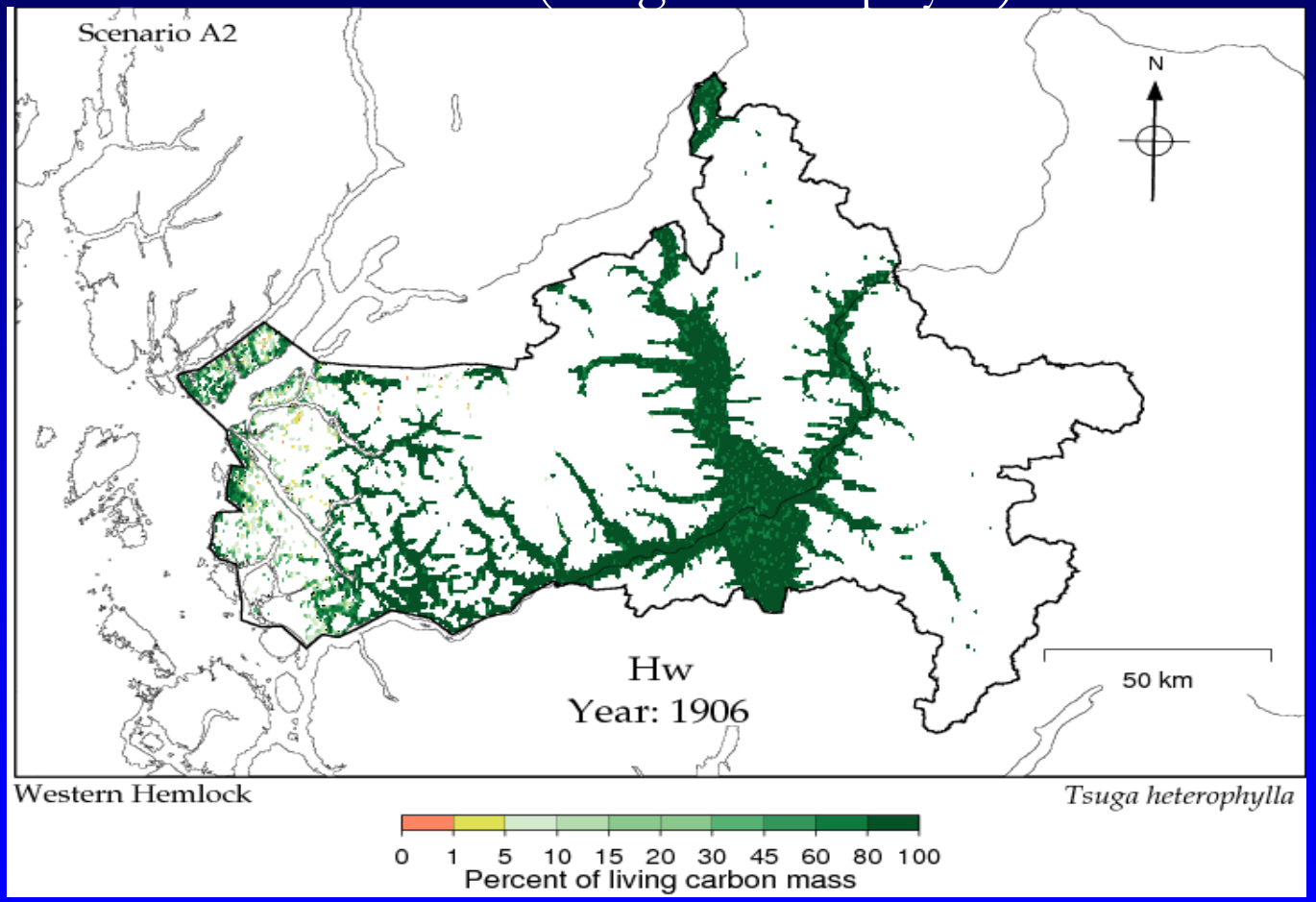
FSW Monitoring → CTR & MOT

3 workshops for interviewed community leaders w/ biometric, sociological and monitoring data

Western Hemlock (Tsuga heterophylla)



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Regional workshop recommendations

- All: Research & restore salmon, oolican & river health
- Lax Kw’ alaams: FFESC NM Skeena Project becomes a certified regional high school program
- Prince Rupert: Regional Skeena Watershed Authority made up of First Nation and Civic communities
- Terrace: Launched a Regional Community Climate Change Adaptation Planning process invited other comm.

WWF/CTR Recommendations

- Public engagement
  - Lower Skeena Adaptation Toolkit
    - 40 min tutorial now on-line www.brinkmanforest.comffesc
- Build integrated resource management planning tool
  - Cortex: cumulative impact fish-forest value integration option analysis tool
    - RemSoft growth and yield forest estate model data drawn from TIPSY & CTR data
    - SELES (Spatially Explicit Landscape Event Simulator)

CTR's Recommendations

- Support public access to NW Skeena Community Adaptation research results
- Secure government support for increasing fish & riparian health:
  - direct, collaborative or integrated resource tenure
- Use WWF/Cortex option analysis tool to develop integrated management options in next Long term forest management plan

FFESC & WWF/CTR Team Members

http://brinkmanforest.com/ffesc/

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