

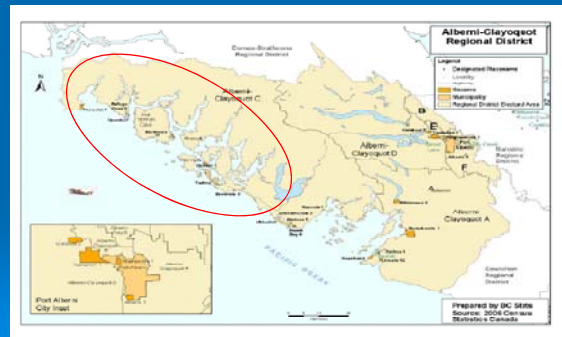
Reflections on Resilience and Integrated Marine Planning in Clayoquot Sound



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Clayoquot Sound

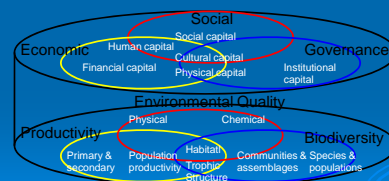


West Coast Aquatic *T'swalk Partnership* Integrated Management Approach

To create a holistic socio-ecological assessment framework for healthy ecosystems and healthy communities.

To respect the Nuuchah-nulth world view of Hishuk is ts'awalk "Everything is one"...the view that all things are related and connected. All things are sacred and must be respected.

The elements of a healthy socio-ecological system The integrated "Drum of Life"



Guiding Questions

1. What is our desired socio-ecological system?
2. What are the elements and drivers of the socio-ecological system?
3. How did we arrive at this current state and what trends characterize our pathways?
4. Where are we headed...what new patterns are emerging?
5. In which elements do we need to *invest*, to reach our desired system?

What is our desired system?

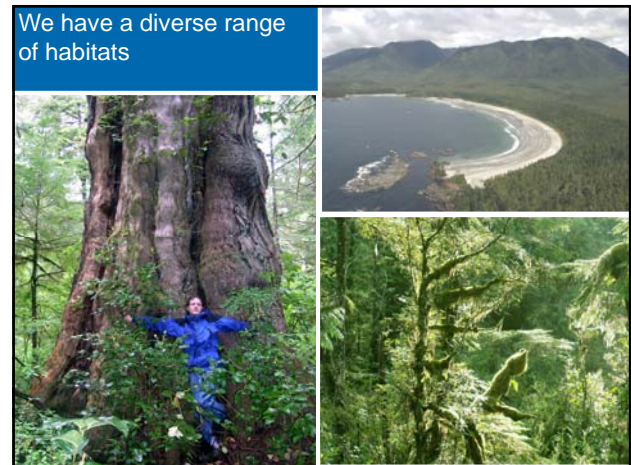
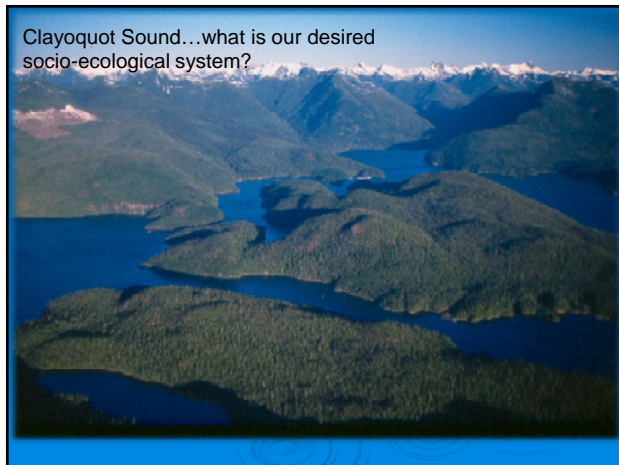
"I am here for my children so that they can enjoy the resources".

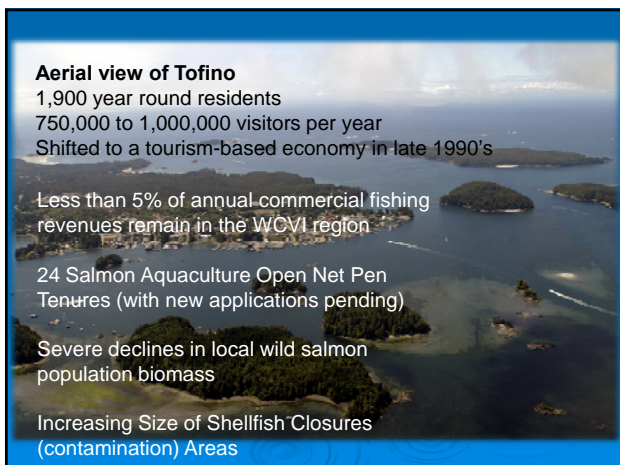
Carl Edgar, Ditidaht First Nation, WCVI AMB Fall Dialogue Sessions, 2008

Vision: Healthy Ecosystems, Healthy Communities and Economy, Good Governance

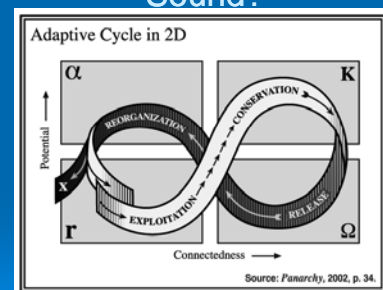
Goals:

- Healthy and diverse species and habitat
- Opportunities for economic development and diversification
- Advanced Knowledge, Awareness, Skills, and Technology
- Vibrant Communities, Recreation, and Culture
- Safe waterways and modern infrastructure
- Governments, communities and businesses working in partnership
- Good management, monitoring and enforcement.





What are the socio-ecological elements and drivers in Clayoquot Sound?

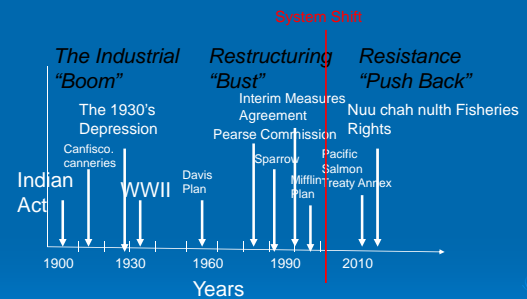


A Resilience View of Systems

A few thoughts on resilience thinking

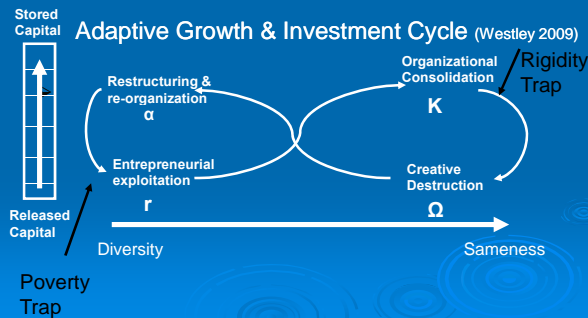
- ❖ Resilience is the capacity of a socio-ecological system to withstand a shock and rebound.
- ❖ System diversity is key for its resilience.
- ❖ 2 phases of growth in the forward loop & 2 phases of decline in the backloop.
- ❖ The seeds for growth for the new cycle are found in the old cycle, but not yet expressed.
- ❖ The system becomes more rigid and subsequently more vulnerable to disturbance as it generates more stored capital.
- ❖ Variables change at different time scales and spatial scales, creating a complex inter-connected system.

How did we arrive at this current state ?

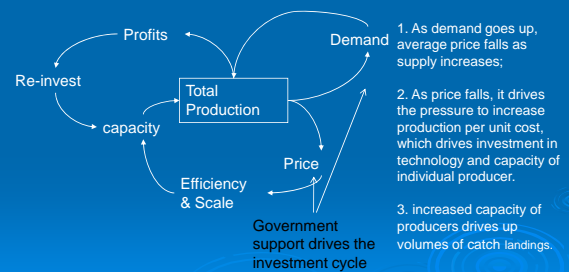


A sample of socio-ecological system disturbance events

What drivers and trends characterize our pathways?



WWII and the drivers of commodity production

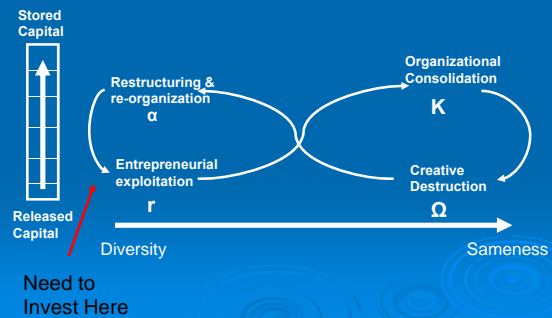


Where are we headed and what's emerging?

1. Financial capital in commercial fishing sector is locked-in with quota license value exceeding landed value (**Rigidity Trap**).
2. Human capital is locked-in as license holders face exit barriers and new generation faces entry barriers (**Rigidity Trap**).
3. Physical capital (sewage treatment infrastructure) is not being invested in due to low tax paying base compared to high numbers of users (**Poverty Trap**).
4. Aquaculture reached commodity production, driving salmon prices down and oscillating according to global economy (**Rigidity Trap**).
5. Food security issues are driving need for product differentiation (traceability) (Release Ω to reorganization α).
6. Value-added opportunities are emerging for local entrepreneurs. This Fish traceability. Reorganization.

7. Ecotourism sectors expanding and diversifying into new opportunities (re-organization r to conservation K).
8. Opportunity for entrepreneurs to shift into cultural or educational tourism (release Ω to re-organization α).
9. System shift *opportunity* with rebounding First Nations legal assertion of existing right, but constrained by *poverty trap*.
10. Re-emerging interest in education sector (human capital), linking Nuuchahnulth education/world views with ecosystem science world view (re-organization α to exploitation r).
11. Opportunity to experiment with new types of access rules that invest in community capital assets (access fees that pay for Tribal Parks monitoring, local education & research) (Re-organization α to exploitation r).

In which elements do we need to invest, to reach our desired system?



Reflections

- ❖ invest in capital assets and pathways to break free of *both* traps.
- ❖ use partnerships and collaborations to shift the *value code* supporting the commodity mode of production.
- ❖ build organizations and institutions at the community level that hold the new value code of *diversity*.
- ❖ scale – up organizations and institutions that remain *inclusive* of these values.

For further information on the West Coast Aquatic Marine Planning Socio-ecological Assessment see:

<http://www.westcoastaquatic.ca/sea/>

www.youtube.com/watch?v=HcaHk4q1ywk