NANAIMO RIVER STEWARDSHIP

Go with the flow!

Symposium 2011

PROCEEDINGS

September 24th and 25th
Vancouver Island University Campus
Nanaimo, BC

a partnership between

NALT
NANAIMO & AREA LAND TRUST

and

VANCOUVER ISLAND UNIVERSITY

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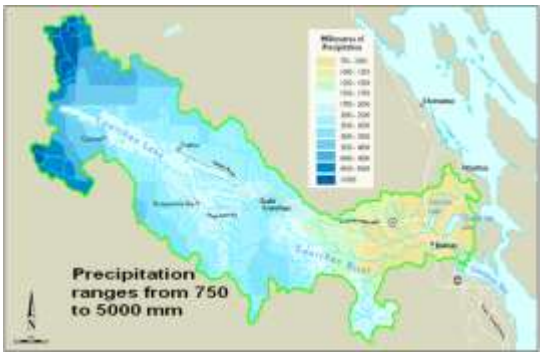
Saturday, September 24th

Keynote Speaker Group Presentations: the Cowichan River Watershed Model

Craig Wightman: Origin and Development of the Water Management Plan

The Cowichan River Watershed: Geography

- Area: 930 km^2 – Elevation: 1,520 m to sea level
- Cowichan Lake: 62 km^2 - Cowichan R.iver:47 km long
- Mean Annual Precipitation: 45.4cms; Range 4 – 300
- Heavy late fall/winter rainfall, followed by summer drought (rain-shadow effect)
- 'Quw'utsun' – Cowichan First Nation name for 'the warm lands'

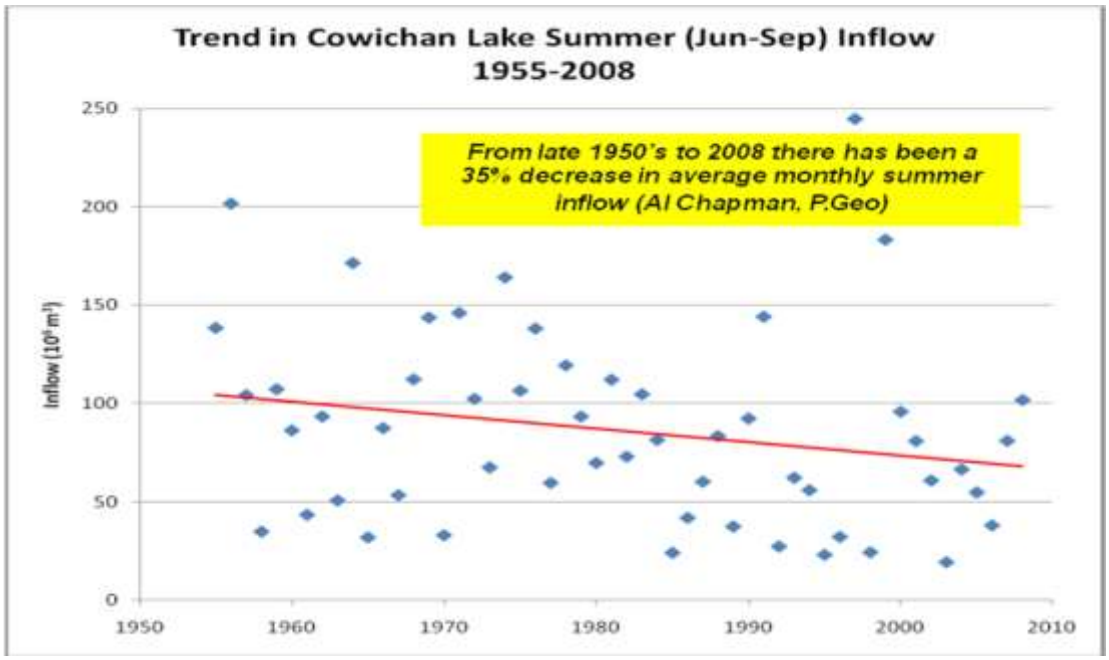


Why a Cowichan Basin Water Management Plan?

- A Canadian/BC Heritage River
- Combined fish resources estimated value of $5-6M annually (1997)
- Cowichan Tribes – historical food & cultural significance/BC Treaty process
- Municipal/industrial water supply & waste treatment; CVRD growth
- Catalyst Mill licenced for 1m of seasonal storage (May – October)
- Climate change forecasts for Pacific NW

Evidence that Climate Change is Already With Us!

More Evidence that Climate Change is Already With Us



Origin of the Cowichan Basin Watershed Management Plan

1986 - First Vancouver Island water allocation plan by MoELP in (B. Hollingshead)
1992/93 - DFO/MoELP proposal to raise Norske Canada Ltd. weir by 57cm
2000/01 - FsRBC proposal to raise weir by 60cm
Both were strongly opposed by private lakeshore property owners/lawyers;
no subsequent actions taken by weir licensee or government agencies.
2003 - summer/fall drought crisis on SE VI
Crofton pulp mill shut-down averted through "11th hour" negotiations and onset of fall rain
An ad-hoc water management committee struck to deal with in-season water supply issues. Committee members included Catalyst Paper, fish agencies, Cowichan Tribes and community stakeholders
Deliberations enhanced working relationships & understanding of weir operations/basin hydrology.

2004 - Cowichan Tribes initiated a Recovery Plan for watershed targeting salmon sustainability
Ad-hoc water mgmt. committee grew into CSRT with broad partner representation
late 2004 - concept of a CBWMP was developed by a core group of funding partners (i.e., CVRD, Catalyst, Cowichan Tribes, DFO, MOE). The plan followed SDM process and engaged key water interests throughout Basin ("Forum" decision-making body). The process emphasized holistic "Basin Thinking"
CVRD administered shared funds, contracts, public outreach (www.cvrd.bc.ca/water_cowichan/index.htm)
2005 - Cowichan Recovery Plan prioritized actions to remediate salmon/steelhead habitat limiting factors

Top three CRP priorities:

1. Ensure conservation flows from May-October
2. Develop a sediment management plan for river below lake (47km)
3. Improve off-channel spawning/rearing habitats

Over the last 7 years, "on-the-ground" success has promoted and strengthened the joint stewardship approach.

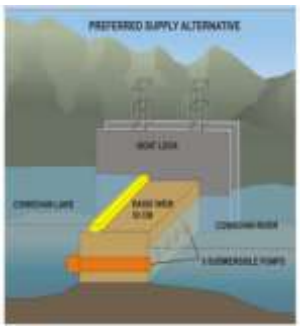
Highlights of the Cowichan Basin Water Management Plan

The plan took nearly 3 years and >$0.5M to complete
Produced 89 recommendations that addressed the supply & demand sides of Cowichan water management for 25 years by:

- Assuring year-round water supply
- Protecting heritage values & ecosystem function
- Reducing risk to local economy
- Protecting river water quality
- Maintaining recreational assets
- Increasing the public's voice in water management
- Improving understanding of water and its uses
- Emphasizing conservation and equitable water pricing (reduced waste)

To meet target river flow requirement (7cms) in 19 of 20 years to 2031, the Plan recommended:

- Developing 30cm of additional "top" storage on lake, and pumping 20cm of "bottom" storage (reduce seasonal lake shore flooding effects)
- Produces ~50M cubic meters of additional storage for release below weir
- Need to launch CBWA Council to embrace all Basin water interests (first step to local water governance)
- Need political & funding support for CBWAC to achieve full benefits over time
- Need to identify licensee (partnerships?) for new lake storage, and funding formula/schedule for implementation



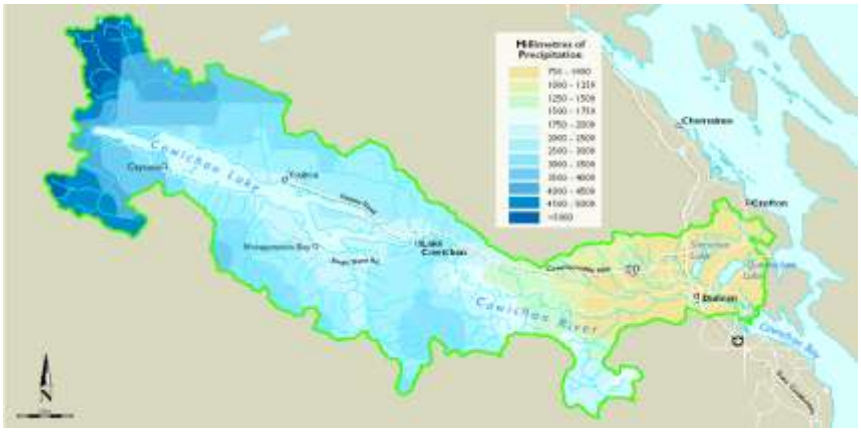
- The Plan's recommendations were unanimously endorsed by 4 of 5 funding partners – (Catalyst, Cowichan Tribes, DFO and MoE)
- The CVRD Board supported 87 of 89 recommendations, but not 2 dealing with water supply management (reflected opposition from some lake shore property owners to new storage development on Cowichan Lake.)

Lessons Learned From the CBWMP Experience

- Water Management Plans are complex & usually cross biophysical and socio-economic lines
- Need excellent facilitation & follow SDM (or MAE) to identify preferred alternatives and build concensus
- Costs can be significant as data gaps will inevitably require special studies
- At outset, formal endorsement from statutory decision-maker should be attained (WSD, MoE)
- Directly engage community opinion "leaders" whose influence can affect WMP success
- Water "folklore" can derail water facts if latter not effectively communicated at the "right level"
- Dispute resolution process needed "up front"
- CBWMP is excellent example of BC's new commitment to "Living WaterSmart"

Rodger Hunter: <u>Formation and Priorities of the Cowichan Watershed Board</u>

Cowichan Watershed Board



Today

Context Big Picture to Local
Form of Governance and Rationale
Strengths and Challenges

Context – Big Picture (elephants to consider)

Global Warming Climate Chaos
Peak Oil
Financial Instability
Ecological Footprint/SHCC
Peak Senior Government

Context – Local (The Water Management Plan)

Context – Local (The Water Management Plan)

The Water Management Plan

- Completed early 2007
- 6 Goals, 23 Objectives, 89 Actions
- For 3 yrs implementation scant due to governance/leadership issues
- Dedicated Partners kept things alive

Proposed Governance Model

- Legitimately represent all interests (accountability)?
- Integrated-whole watershed thinking?
- Provide/attract funding support?

Model Adopted

- Local leadership
- CVRD/Cowichan Tribes full partners
- Inclusive of federal & provincial governments
- Include opinion leaders
- Special advisors and strong technical advisory committee

Who? CWB Members

Cowichan Tribes
- Chief Lydia Hwitsum*
- Darin George

At Large
- Hon. David Anderson
- Mayor Ross Forrest
- Bruce Fraser
- Tim Kulchyski

B.C.
- Dr. Lorna Medd
- David Slade

CVRD
- Rob Hutchins*
- Lori Iannidinardo
- Klaus Kuhn

Canada
- Don Radford

Special Advisors
- Arvid Charlie
- Dr. Nicole Vaugeois
- Ted van der Gulik
- Dr. Rick Nordin

** Co-chairs*

Technical Advisory Committee

- Catalyst Paper
- Cowichan Ec. Dev. Commission
- Cowichan Lake & River Stewardship Committee
- Cowichan Tribes
- Cowichan Valley Naturalists'
- CVRD
- DFO
- BC Parks
- VIHA
- Living Rivers Trust
- Ministry of Agriculture
- MOE
- Ministry of Health
- Ministry of Trans. & Infra.
- Private Forest Landowners Association
- Quamichan Lake Stewardship Committee
- Somenos Marsh Wildlife Society

2010 Cowichan Watershed Board Established

To provide leadership/direction for managing the watershed - implement plan –engage community

CWB Approach

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

Initial CWB Focus

Common understanding of plan & watershed issues
Building relationships and trust
Establishing priorities & work plan
Engaging partners/technical advisors/special advisors.
Acquire funds!

Address Key Elements of Plan

Demand Management
Manage Water Supply to Meet Needs
Water Quality
Protect/Enhance Natural Habitat/Biodiversity
Flood Management

Expanding on the Plan

Additional Areas of Board Focus

Culture

Economic development

Public health

Moving Forward

CWB Strengths:

Trailblazer in community-led integrated watershed management

Leadership is at local level where results of decisions have greatest impacts.

Partnerships support consensus & address leadership/governance vacuums

Other communities can possibly use model

Cowichan Tribes is full & active partner

Commitment to science

Pursue targets link plan to benefits

Moving Forward

CWB Challenge:

Demonstrate a strong track record of success over the next 2-3 years.

Secure long term stable funding.

Forward and Up

Tom Rutherford: <u>Cowichan Watershed Targets of Environmental Health</u>

Watershed Targets

Overview – The Next 15 Minutes

Getting things done…
What are watershed targets?
Examples
The Bottom Line…

Moving Ahead

Cowichan Basin Water Management Plan
Cowichan Watershed board
The Challenge
The Approach – Watershed Targets

Targets – What they are

Support CBWMP Goals & Objectives

Science based
Integrate several environmental health factors
Measurable
Achievable
Affordable
Engage Cowichan Valley Residents
Relevant
Understandable
Embraceable

Targets – What they aren't

Ultimate ecosystem indicators
A finite or exclusive list
More or less important that other watershed issues
Mutually Exclusive

Water Quality Target

We want clean water in our watershed
TARGET: TSS levels (turbidity) in the Cowichan Watershed should meet accepted water quality guidelines
ACTIONS: Collect and correlate data to ID issues
Establishing source monitoring program
Install continuous metering system
Broadway run remediation

Estuary Health Target

We want to be able to eat shellfish from Cowichan Bay

TARGET- Shellfish from designated areas of Cowichan Bay will be harvested for human consumption by 2020

ACTIONS - Establish Technical Working Group

- Generate Map product
- Design a sampling program
- Conduct Initial Microbiological sampling
- Storm water monitoring program
- Liquid Waste Management Plan review

Water use Target

We need to use our water wisely

TARGET Specific targets for individual communities

ACTION PLAN

Create and implement metering and water use reduction plans by Community

Sub-committee of CWB to work with Catalyst on water conservation opportunities

Public Education actions to include

- Summer students for door to door survey
- Use survey report to develop conservation strategy
- Implement strategy in 2012

Water Use Target

Watershed IQ Target

You can't fully value what you don't understand

Target: Grade 4/5's know their watershed

Actions - Pilot 4/5 field trips 2011

- Expand field trips in 2012; all classes in valley 2013

Target: Residents increasingly know and value their watershed

Actions - Weekly articles, occasional radio spots

- Annual survey through VIU Geography department
- Ongoing briefings to local politicians and opinion leaders

Fish Target

We want healthy fish populations in the Watershed

TARGET- Steelhead fry abundance in the Cowichan should meet or exceed target densities

ACTIONS - Conduct ongoing sampling at indexed sites

- Report results incl. relationship with limit reference points
- Include results of annual trout snorkel surveys
- Develop intervention plan if monitoring indicates concerns


Water Supply Target

Summer water flows are critical and have been declining

TARGET: Cowichan River summer flows need to be 7CMS or higher

Action Plan - Maintain existing WSC stations

- Snow pillow at Heather Mt.
- Real time decisions at weir
- Expert Panel

  Instrumentation, review 7cms achievability, groundwater connectivity, review flow requirements downstream of intake

- Continue to evaluate options to ensure flows

  Rule band, assess benefits/impacts of increased storage, assessment of property impacts, (bathymetry, erosion, LIDAR, water budget model, climate change adaptation)


Riparian Target

We want to protect and enjoy Stream, River and Lake front habitats

Target - X% Increase riparian habitats protected by 2021

Target - Y% of riparian habitats restored by 2021

Actions - Secure properties

- Inventory and classify
- Acquisition feasibility & priority
- Partnership and fundraising
- Implementation

- Restoration
  - Inventory and classify
  - Priorities and options
  - Partnerships and fundraising
  - Implementation

The list is not complete

Chinook Salmon Target
Groundwater Target
Flood plain management
Etc….

Bottom Line

"Targets" not intended to "replace the plan"
Will be effective in raising awareness in community
Will challenge the Watershed board
Are about making the plan real - "Doing Something" – not talking about it
Have been approved in principle by the board

Thanks!

Panelist Presentations

Dave Clough
Fisheries - Values of the Nanaimo River

Dave gave a verbal presentation. The points that were addressed can be found in the chapter on Fisheries in the Draft Baseline Report. A copy of the Draft Baseline Report can be found on the Nanaimo and Area Land Trust website: www.nalt.bc.ca.

Matt Kellow
Recreation - Values of the Nanaimo River and Surrounding Watershed

Recreational Values of Nanaimo River and Surrounding Watershed
Matthew Kellow with Assistance from Othmane Raissouni Cherif d 'Ouazzane

Purpose of the Recreational Chapter

- Highlights and explores many of the recreational values of the Nanaimo River watershed.
- Discusses the importance of the Nanaimo River's recreational values from the perspective of those individuals who have knowledge about those values.
- Outlines the positive and negative impacts of recreation on the river and explores perceived threats to recreation through stakeholder questionnaire.
- Provides a snap shot into the unique opinions of recreational users by the way of field research.
- Utilizes field research to specifically target swimmers in an effort to better understand how these people view this popular recreational pursuit.

Part 1: Stakeholder Interviews

- The stakeholder interviews were an opportunity to gather information from individuals who represented a specific recreational value.
- The original list of stakeholders who were contacted for inclusion in the research was lengthy.
- The recreational values presented here are in no way complete and some recreational activities that take place within the Nanaimo River watershed are not represented in this document.

Recreational Stakeholders

- Commercial Campground
- Rock Climbing
- Recreational White Water Kayaking/Canoeing
- Formal Outdoor Education/Recreation
- Walking/ Nature Viewing/ Hiking
- Hunting and Fishing

Recreational Stakeholders Interview Results

- Stakeholder interviews included questions regarding recreational value overview, importance of each value and positive and negative impacts affecting the value.
- All the stakeholders interviewed identified access to the river as the single biggest threat to the specific recreational value.
- Five of the six interviewees identified private forestry companies within the watershed as a threat to recreational values by placing limitations on access and the selling off of their private forest lands for large scale residential development.

Part 2: Field Work

- The purpose of this portion of the field work was to locate and document actual river users to discover how many people were at the river at a given time on a given day, what recreational activities these individuals were participating in, and to better understand the recreational values of the Nanaimo River from the perspective of those at the river.
- The field work also provided researchers an opportunity to talk to recreational users who were primarily at the river for the purposes of swimming.

Field Work Survey Results

Figure 1 Recreational Activities Taking Place at the Nanaimo River (Q1)

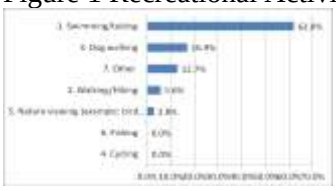


Figure 2 Recreational Use During the Summer (June to August) (Q2)

Figure 3 The Importance of Recreational Opportunities within the Nanaimo River Watershed (Q4)

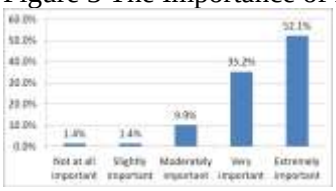


Figure 4 Concerns and Challenges to Recreation on the Nanaimo River (Q5)

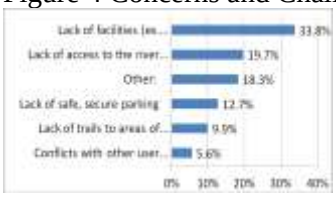
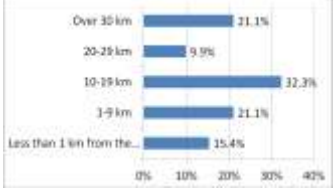


Figure 5 Distances from Recreational Users Homes to the Nanaimo River (Q8)

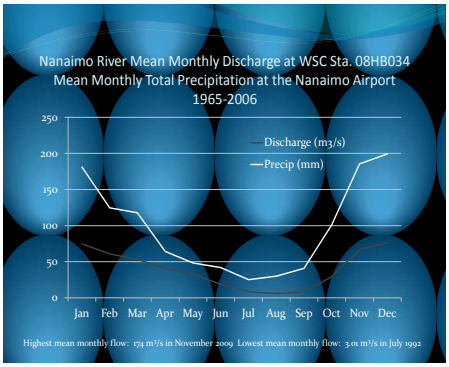


Final Thoughts on the Recreational Chapter

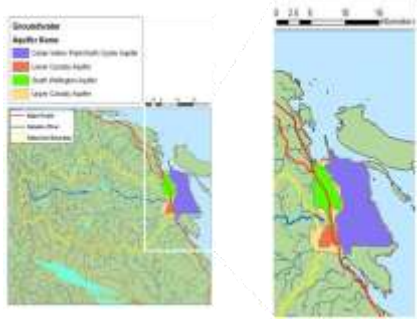
- I was surprised by the wide range of opinions on how to best sort out the issues of public access to the river and the lack of facilities while at the river.
- The issues surrounding recreational values within the entire watershed are diverse and complex due to the very nature of a given activity. Add to this the other values identified in the report and these issues become that more complex.
- People are passionate about the Nanaimo River and this emerged through the research process time and time again. Both locals and those from away were excited to share their opinions about the river and greater Nanaimo River watershed.

Bernadette Lyons
Water - The Nanaimo River Basin

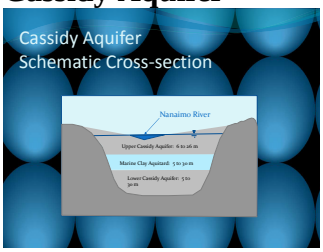
Nanaimo River Basin – Map



Groundwater – Aquifers



Cassidy Aquifer



Water Stakeholders

- Consumptive water users
- Non-consumptive water users
- Land users
- Regulatory bodies

Consumptive Water User

- Harmac, 2010 average withdrawal rate:

  Groundwater – 48,000 m3/day (0.56 m3/s)
- the City of Nanaimo, 2010 average withdrawal rate:
  43,000 m3/day (0.50 m3/s) serving roughly 86,000 people.
- Must remember that these large users provide storage

Groundwater – Well Locations

River Water Allocation

- The Nanaimo River is fully allocated from July to Sept.

- This moratorium does not extend to groundwater!
- Groundwater withdrawals are not currently regulated under the *Water Act* in BC.
- Groundwater withdrawals greater than 75 l/s or 0.075 m3/s trigger the *BC Environmental Assessment Act*.

My Aha! Moment

- Understanding the relationship between the River and the Cassidy Aquifer is paramount to proper management of the River
- The 1993 Nanaimo River Water Management Plan, states that the critical area for the management of the water resources in the Nanaimo River is the lower reaches, downstream of the highway, specifically during the dry period from July to Sept.
- This section of the River is likely in direct communication with the Cassidy Aquifer.

Water Value - Aha!

- Harmac and the City of Nanaimo are required to maintain a minimum flow of 1.4 m^3/s below the Harmac surface water intake, to meet in stream fisheries needs.
- This does not take into account withdrawals from Harmac's groundwater wells, which are located downstream of their surface water intake.
- Water balance calculations done as part of the MoE 1993 report show that most of the groundwater pumped from the Cassidy aquifer is coming form the River by induced infiltration.
- Average groundwater withdrawal rate in 2010 was 0.56 m^3/s or roughly 40% of the 1.4 m^3/s minimum required flow.

Water Value – Major Challenges

- Balance between domestic and industrial water supply needs and the in-stream fisheries, wildlife needs and estuary conservation.
- Increased development in water short areas inside the basin and in adjacent area that would like to secure a water supply from either the Nanaimo River or the Cassidy Aquifer
- Many of the challenges can be addresses through proper management of the Basin.

Water Value – Major Challenges

- Points for further discussion
    - Increased water conservation
    - Adding storage in the system
    - Changes to the Water Act to better protect surface water and include groundwater
    - Changes to bylaws to improve the protection of surface and groundwater quality
    - Collecting more data to better understand the system

Water Value - Central Point

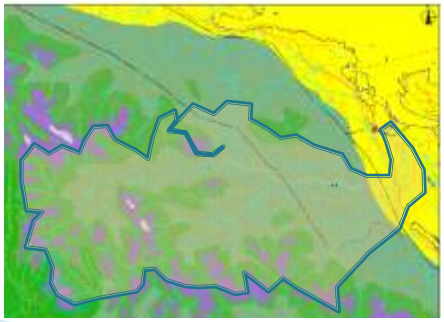
- Consider the water resources of the Nanaimo River at the basin scale
- The water in the Nanaimo River and Upper Cassidy aquifer should be considered as a single resource
- Advocate for changes to the Water Act, to include groundwater

Joe Materi

Ecosystems, Wildlife, & Species at Risk - Values of the Nanaimo River

Ecosystem Basics:

- watershed size >750 km^2 , length >50 km
- 4 Zones represented: CDF, CWH, MH,& AT
- CWH covers ~75% (xm >> mm), CDF <7%



Sensitive Ecosystems

- 8 types ID'd on SEI maps (1:20,000 scale). 6 wetland/riparian & 2 terrestrial
- except for estuary, most are small (1-10 ha) & widely scattered
- bogs & woodlands are exceedingly rare in this watershed

Sensitive Ecosystems

- swamp & riparian ecosystems are relatively abundant
- older forest restricted to a very few patches mid-valley
- seasonally-flooded fields fairly common @ lower elevations

Non-sensitive Ecosystems

- 7 other ecosystem types ID'd from Broad Terrestrial Ecosystem mapping (1: 250,000).
- 5 forested & 2 non-forested types.
- Hemlock-fir most common @ low-elevations; Amabilis fir-cedar most common @ mid-elevations.

Ecosystem Impacts & Risks – Western Watershed

- Historical logging patterns produced a landscape with small & fragmented old stands.
- Riparian stands were historically impacted by logging but harvest standards have improved in recent decades.
- Managed forest harvested at short rotations may prevent recruitment of old-growth.

Ecosystem Impacts & Risks – Eastern Watershed

- Based on SEI Disturbance Mapping in 2005.
- Logging/Land Clearing is main disturbance agent for sensitive ecosystems & those with above-average biodiversity values.
- Largest impact has been on 2nd growth forest patches, CDF representation continues to shrink in this watershed.
- Roads are a distant 2nd for SEI impacts, but involve older forest disproportionately.
- Agriculture affected mainly SEI wetlands.

Improving Ecosystem Stewardship

- Acquiring 2nd growth forest in lower valley should be a conservation priority, especially near existing protected areas.
- Control of invasives key to maintaining oak woodlands.
- Development around Pine-bogs needs to consider possible impacts to hydrology/soil chemistry.
- Promote wetland natural values to farm community & good farm practices around wetlands.

Wildlife Resources Overview – Mammals

- black-tailed deer no.'s rebounded from lows of 2000, but only half as abundant as in 1980.
- Roosevelt elk no.'s fairly stable around 300, mostly in upper valley.
- estimated NRW popn. black bear: 75-150 cougar: 10-30
- wolves: 5-15

Wildlife Resources Overview

- Key elk habitats: wetland/riparian areas, rock outcrops, meadows, av. tracks.
- Key bear habitats: swamps, riverside areas (salmon to 2nd Lake), clearings, & snags.

Wildlife Resources Overview

- Weasel family members documented in watershed include: mink, marten, & river otter (historically, wolverine).
- Rodents: V. I. marmot, beaver, muskrat, red squirrels, deer mouse, Townsend's vole.
- Other mammals: raccoon, shrews, & bats.
- Introduced mammals: Eastern cottontail, gray squirrel.

Wildlife Resources Overview – Birds

- raptors: bald eagle nesting in lower valley (8), goshawk in middle valley (1), & golden eagle in upper valley (2).
- Resident owls: great horned, barred, screech-owl, saw-whet owl, pygmy-owl, & barn owl.
- Short-eared and snowy owls seen in winter, mostly near estuary.
- Herons have nested in lower watershed but no current active nests known there.
- Numerous other species present (120+), many are neo-tropical migrants nesting in summer.
- Wildlife Resources – Herptiles

Wildlife Resources Overview – Herptiles

- All native amphibians found on V.I. have been recorded in the watershed (6 pond-breeders & 3 terrestrials).
- Introduced bullfrogs are abundant, green frogs are not.
- Native reptile assemblage includes 3 kinds of garter snake & N. alligator lizard.

Impact of Human Activities on Wildlife in the Watershed

Examples of "Losers"

Sooty Grouse (reduced winter habitat)
Black-tailed Deer (loss of winter range)
Marten & Goshawk (fragmentation)
Cavity-nesting birds (snag removal)
Pond-breeding amphibians (road-kill)

Examples of "Gainers"

Black Bear (increased forage)
Red-tailed Hawk (better hunting)
Townsend's Vole (increased herb cover)

Improving Wildlife/Habitat Stewardship

- Acquire land capable of providing interior forest conditions.
- Host biodiversity workshops for interested property owners.
- Use Conservation Covenant agreements to improve/rebuild important habitat linkages.
- Nest boxes for cavity-dependent birds where aggressive non-native birds are unlikely to occupy them.

Species At Risk - Overview

- The Nanaimo River Watershed covers a wide range of elevations, climates & soil types.
- This biogeoclimatic diversity supports a wealth of endangered/threatened organisms (28 plants & animals in total).

Species At Risk – 3 Mammals

- Vancouver Island Marmot
  Red Listed w/recovery plan
  subalpine meadow specialist
  about 100-150 in valley
- American Water Shrew
  Red Listed
  streamside habitat specialist
  thinly but widely distributed
- Roosevelt Elk
  Blue Listed & closely managed
  adapted for forest edges
  no.'s: 200 in main valley
  80 in South Fork area

Species At Risk – 12 Birds

Red Listed Birds

Q.C. Goshawk:
historic nest mid-valley; needs large post-fledging area to learn hunting.

Vesper Sparrow:
very low no.'s at present; uses airport & estuary areas.

Western Meadowlark:
seasonal use of estuary.

Horned Lark:
seasonal use of estuary & neighbouring areas.

Blue Listed Birds

Band-tailed Pigeon: mineral licks for nesting.
Barn Owl: may nest in made structures.
Barn Swallow: feeds over open areas.
Great Blue Heron: nests near feeding grounds.
Olive-sided Flycatcher: tall trees for feeding.
Purple Martin: nest boxes in estuary.
Short-eared Owl: uses estuary fall & winter.
White-tailed Ptarmigan: alpine/subalpine areas.

Species At Risk – 1 Amphibian

Northern Red-legged Frog (Blue Listed)
Distributed across NRW; low -middle elevations
Breeds in ponds with stable water levels & emergent vegetation.
forest used for most of its annual cycle.

Species At Risk – 6 Invertebrates

Most are associated with woodland & forest openings.

Red List:
Common Wood-nymph

Blue List:
Propertius Duskywing
Moss' Elfin
W. Branded Skipper
Bremner's Fritillary
Dun Skipper

Species At Risk – 6 Vascular Plants

Occur in habitats that are themselves uncommon (alpine, rock outcrop, open forest, & woodland).

Red List:
White-top Aster
Olympic Onion
Green-sheathed Sedge

Blue List:
Olympic Mtn. Aster
California Tea
Macoun's Groundsel

Impacts on Species At Risk

Impacts vary widely in severity

Forestry:	large impact on V.I. Marmot
	moderate impact on Goshawk
	minor on Water Shrew & Elk
	no impact on Ptarmigan & alpine plants
Rural Land:	moderate on rare butterflies
Conversion:	moderate on herons & other birds
	moderate on Red-legged Frog
Human Disturbance:	large impact on nesting herons

Improving Stewardship - Species At Risk

- Start planning regional landscape linkages for wide-ranging Species at Risk & other wildlife.
- Acquire/protect lands with high potential to support at-risk species.
- Promote importance of protecting wetlands & adjacent forest for at-risk amphibians.
- Control invasive species in areas where rare plants & butterflies occur.
- Ongoing field inventory to find species at risk.

Some Final Thoughts

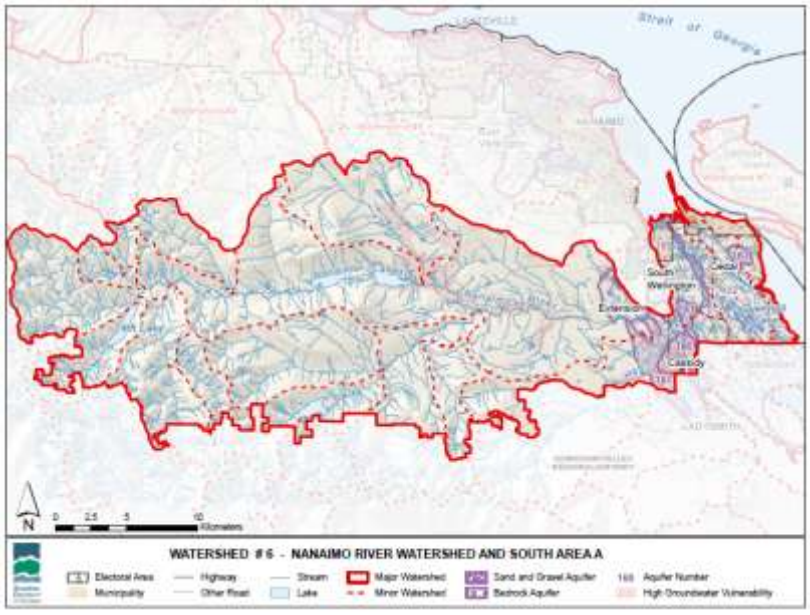
- study "surprises"
- challenges to moving forward
- take-away message

Questions? Thank-you!

Pam Shaw

Nanaimo River Estuary - Restoration and Balance

Restoration and Balance

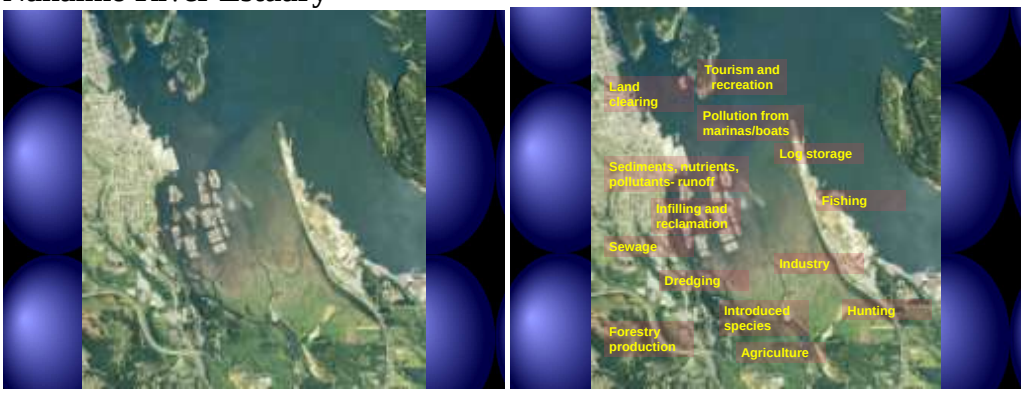


Snuneymuxw First Nation

http://www.snuneymuxwvoices.ca/english/map.asp - virtual museum project

Nanaimo Historic Photos

Nanaimo River Estuary



Nanaimo Estuary Management Committee (NEMC)

- Snuneymuxw First Nation
- Ministry of Environment
- Nanaimo Community Estuary Coalition
- Fisheries & Oceans Canada
- Environment Canada
- City of Nanaimo
- The Nature Trust of BC
- Nanaimo Port Authority
- Industry and Log Storage Association
- Regional District of Nanaimo

Nanaimo Estuary Management Plan

- Plan process started in 2002
- Participation from all members on the Committee – "This did not come easy"
- Completed in 2004
- Copies of Plan are available with each agency and on the web at NanaimoEstuary.ca

- *Overarching Goal…* Balance and Restoration

Highlights of Project

In 2006, conservation partners restored over 2.2 ha of tidal marsh by breaching the northern dike on the Hidden Creek Project, restoring traditional fish channels and upgrading the southern dike to protect a private farm. The project was funded by conservation partners, the Ministry of Transportation, BC Ferries and BC Transmission Corporation.

Fish Sampling / Broom Removal

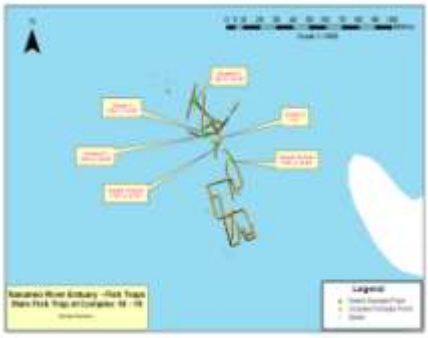
Interpretive signage around estuary – City of Nanaimo / SFN

Studies on Log Storage

Archeological Surveys Snuneymuxw First Nation

Coastal fish trap survey

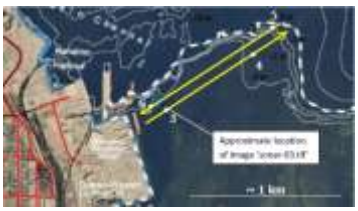
Dee Cullon and Heather Pratt- lead researchers



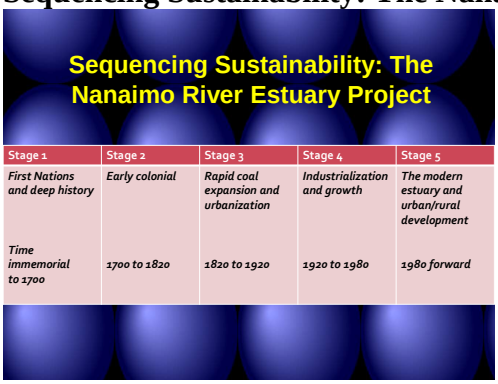
Eel Grass Survey / Restoration – Sea Change Society and SFN

Dr. Steve Earle Sediment study

Labs completed with students



Sequencing Sustainability: The Nanaimo River Estuary Project



Sequent Occupancy

- The succeeding stages of human habitation over time on one site
- Each stage established by the previous stage
- Sequences can be disrupted by other forces, interruptions, and transformations
- No ideal sequence as in succession- is what it is
- Derwent Wittlesey

Social-ecological systems research

- Understand human and biological interactions and relationships over time
- Bi-directional approach: changes in the biological nature of a place can cause social change, and change in social systems can induce biophysical changes

What's Next…

- Research / Project Partnerships currently being explored by Vancouver Island University and Prof[a]. Maria Inês Paes Ferreira of IF Fluminense - Campus Macaé
- Application for a Partnership Grant with federal government

Break-out room sessions

Break-out Group Notes – Fisheries

Facilitator:
~Lauren Fegan

Resource persons:
~Dave Clough – Fisheries Resource Consultation
~Craig Wightman- Keynote speaker from BC Conservation Foundation

- Going over the ten steps to achieve quality conversation
Open the table for discussion

- we need to recognize that we need more fish, better habitat, more awareness and education, can we pull our act together, someone mentioned to him whether there are less numbers in the stream,
Healthy aquatic habitat needed - to see a healthy habitat...must manage our species better...economically, culturally, politically...
– Specifics on sockeye...are there information on river runs? Do they require lakes? Is there a substantial run?
- Unsure
- People are looking at quantifying these details. Going over examples... Differentiate between trout…
Are there physical barriers?
Going over Kokanee stocks...Yes there are, giving examples – migrations etc., process of reintroduce for adults, large First Nation support on mainland but unsure of the local dynamic, dealing with local territory and habitat environment. Small salmon not known for overcoming large physical barriers
- Genetically different from sockeye?
– Yes, giving examples... discussing local examples - 30-40, Englishman River
    - Chinooks?
    - Chinooks not spawning above the canyon...not good at getting through and habitat isn't within the canyon
    - Foot bridge contains Chinooks

- discussing Haslam Creek branch looking at the channel...side branch full of fish but not the other part.

- are other species that can give another opportunity? To bring in another species is not a good idea... i.e., no sockeye as they are foreign to the habitat

- focus on steelhead, sounds like they are in trouble?
    - there does seem to be improvements due to El Nino and other weather occurrences...monitoring by the ministry is not enough and declining...some stocks improving however...if cooler oceans continue, steelhead may ride in # but only anglers are watching the steelhead
-vast majority of steelhead December-April... Ministry staff being used to count but lacking a whole picture...
Cowichan lots of adults and therefore lots of fry...
- On the Cowichan same methods are being used - ...murky water affects the counts of steelhead

- Nanaimo is no-mans land...not a lot of resources for Nanaimo, good to ramp that up
- How do we go about ramping up the money devoted?
- ...Englishman River has a long history; however, Nanaimo has no history receiving funding and getting a new study that has no previous funding difficult...cycle of funds and no funds...conservation crisis will bring in money but usually then it goes away again...

- Steve Baillie mentioned as a specialist for DFO... needs for staffing and equipments costly keeping such things funded and safe an issue

If anglers not reporting back on info...
- We need data in order to start understanding... if would be a question of designing this...
- Electro-fishing example... as a form of data collection.

- Contact with the fishers?
- It's not fished very much at all in the Nanaimo River...poaching is common but not discussed
- We need more data...
- We have seasonal data but the obligation is on the angler to get numbers
- Georgia Straight Alliance example of info collection
- But there needs to be certification and safety measures in place so that's the hard part...
- Volunteers are using small techniques...
– highlights the importance of volunteers that are collecting-small counting fence, smolt traps that collect in the river and then fish can be counted and released right away. Secure site. Not enough government people, more workers and volunteers are needed
MOE does steelhead and coho's... example...
- It seems that Nanaimo is at a loss in terms of having data...data is available but limited
- Cooperation needed in terms of conducting counts...students, volunteers, fishers, government, scientists
- One thing interested in is the purchase or question of habitat protection - asking whether there are fish/areas that might be more significant in terms of protection. Can't change the past but for the future...
- Block 602 side channel example on that could be used in Nanaimo...
- We need to be able to prioritize certain areas...there have to be a few key spots
- fix old ones...concerns of catalyst ownership
- Minister of fish at the time and block of $ went into the acquisition of the Nanaimo Haslam... discussing the help of Nanaimo Fish and Game Club and other groups...

- Culturally modified tree discussion...where the Nanaimo River and the Haslam meet

- discussing the logging of the hatchery land...
- 3 walks...and came across various taped off areas, concerned as it's part of the flood plain and bringing in heavy machinery
- flagged for protection and Nanaimo Airport was given permission to top a number of trees and they are still watching the area...
- Haslam Creek is a different sort and was given a higher limit through application process....
- Highlights the Thatcher Report as doable to a small trap in the creek. It's low risk and doable. Most applicable for the community groups and others involved....

- discussing the fry salvage work
- there is something for everyone to do...all levels of public, commercial, farmers...must be inclusive but need to find the work list...
- highlight the need for the counting fence...
- Mentioning the need for contacting the community for those living near the Thatcher area and to take ownership of the creek - they have been involved in the past...i.e., the Thatcher family…

– this should be the final blueprint or generic example of what's out there but there needs to be broader representation i.e., government, local, fisheries, etc. which will give a better opportunity to apply for funds...that has been what has helped in the past (having everyone involved)

- Who are the players/stakeholders in this watershed?

- question about the concerns around the nurture of the Nanaimo Fish Hatchery and support for the workers and the work they have been doing...discussion of workers not having risen in income in 20 years...
- Discussion about various programs offered at the hatchery and how it brings in public and educational involvement...still dealing with a 20 year old budget. Good relationship with Harmac...but largely dependant on the success of Harmac and if Harmac were to have not been successful there would be serious questions regarding the continuation of the Hatchery...

- Discussion of whether to continue talk or break and discussion of the November working group session.

- Who should be involved: Stakeholder list: Hatchery Management, Nanaimo River Stewardship Society (Ted Wayne, Bernie, Wayne), DFO (community advisor Barrie Cordocedo, Stock Assessment Steve Ballie and Margaret Wright, Fisheries Management), MOE (?) Forestry Companies (TimberWest, Dave Lindsay) NFP, Nanaimo Airport Authority (Mike Hooper), Island Timberlands (Ken Epps) …

Specific Actions
- Better Habitat
- Awareness/Education (community and schools)
#1 -Monitoring/Stock Assessment (i.e., Thatcher Creek)
– Cost effective, stable, consistent date (i.e., smolt trap). Funding for swim surveys (Swift Water Safety course
- Enhancement of fish values - riparian, fish habitat, nutrients added, temp modification from 4th lake, adding gravel
- Support for Hatchery (financial, tenure, etc.)
-Water Licence issues for fish ways

- Forestry can work cooperatively with protection. i.e., verbal agreements with TimberWest

Ideas for more protection?
- Discussions with timber companies to agree not to log riparian setbacks.
- Relationship building... international company ownership...
- Working level agreements must be in place, will likely get first refusal, acquisition and covenants, better price, etc.
- Must ask for permission to do assessments, maintaining a cautious and friendly relationship. More information through survey.

- Some cases of being able to get federal funds for acquisitions...
In looking at the planning process, funding must be a constant process. But isn't necessarily the most important.

- There is a definite need for more data collection on the Nanaimo River as it isn't comparable, i.e., to Englishman River

- What is the potential for returning stocks (in the estuary)?
    - ocean survival must be considered such as hurricane patters effects, other effects present though dykes, controlled breaches, etc... However in more of a long-run sense.

- What do you think about the targeting of the watershed portion of the drinking water for improvement? The water quality is quite good and the fish will not be going past the 1st barrier.

Third Dam harming nutrients?
– Yeah there could be but....not significant

- would need another party involved in looking at mineral depletion....

- looking at commercial fishery dynamics...
- Involve the Commercial Management at the Hatchery (Gerry Kelly)?

- The costs of area analysis for habitats as a good way to reach "low hanging fruit" funding. Inquiries about the costs of such reports.

Water license issues will need to be investigated more.

Break-out Room Notes – Recreation

Facilitator:
~Marjorie Stewart

Resource Persons:
~Matt Kellow, VIU Outdoor Recreation Department Technician
~Don Cohen, VIU Sport, Health & Physical Education Professor

Discussion

- Bigger issue to concerned issues of wilderness
- This problem is on the table
- 103 road side allowances, no public access to the river, or limited access everyone congregates
- The more accesses the less people in home owners back yard

– People react positively, while utilizing positive signage, negative users
– "help us protect' approach vs. "do not, do not" approach

Possible negative impacts of activity – too many people using
- Feels bad for landowners, it use to be unknown private land, people don't understand how fragile the ecosystem is
- Problem with education, use it without trashing it

– create a sense of culture through education; understand how sensitive the ecosystem is
- Informative session – young children

– People are worried about it becoming a national park, they are worried about it becoming structured i.e., no drinking, no dogs
- Lack of facilities i.e., no garbage bins, washrooms CONFLICTION

– RDN signage "Keep off Malaspina Galleries" it's a laugh, people are jumping off the cliffs
  - no rail system → cost

– Recreations are very independent
- get to the kids, it's a movement that works

Long way to go to get people to follow

– Installation standards, who is in charge? Who pays?
Landowners – increased risk to ecosystems, plants, insects, animals, moving property without permission and that is our concern

– getting to know who owns the river, who uses the river, subdivisions developing, OCP plan for the river time of transition, opportunity to be timely, use our resources, where are people going, where would you encourage conservation plan purchase?

– Already owned by landowners who do not develop them and do not protect or take care of the land
- leave the land the way they are if the owners are not willing to do anything

- It's a mix

– There's a big push to get landowners involved to do something with their land

– Distinction between Cowichan Lake and Nanaimo River, watershed is part of the lake
- Streamkeepers approach to the river
- "good idea to not put shrubs near the edge as it harms the river edge"

– Short term strategy

– Timberland west maps

– Subdivision development on Nanaimo River
- Water access and roads are owned by the crown and managed by city
- Electoral Area C does not protect, the only one that doesn't
- The public has a role to play – look at subdivision plans

– Islands trust programs that protect the land forever and you get a break on taxes forever for conservation

- It works if you're talking to people who don't have children

– Land is sold and willed to children the same way
-look at private land and think about your families needs

-Electoral Area C has no parks and conservation

– Electoral Area A has a very active committee
- These committees are very important for helping these areas develop parks, facilities, garbage pick up
- Bridge over Nanaimo River joining Trans-Canada Trail, i.e., large suspension bridge – within 10 years; this will change the nature of the river, more Regional and Provincial

– think about environmental design
    - How it might happen?

– What is the plan for bringing more recreation to the river, bringing children?
- Local programs, activities for everyday recreation users vs. tourists

– Techniques?
Ways to protect?
i.e., Duncan River placed suspension bridge, no one suggested possible pathways therefore lilies on the other side of bridge disappeared

– Education, knowledge, teaches what is valuable about the river, elevate stress of river to students

– What works for us? What makes us decide to educate ourselves?

– being there at the physical river

– grade 4/5 fieldtrips and books as a program

– Hard to add to curriculum, but when it adds the school system gets involved

– Professional autonomy of teachers to teach it

– Teachers are flexible, implementing a program may not be the way, most teachers would be okay with participating in addition to

– Teachers are under stress, opt in choice will not happen
How to get a district behind this program

– Nanaimo River Hatchery to get involved, grassroots education, adult education

– Where are kids going right now at the river?
They are going to the one tiny RDN Park
- No say to the division of what the boundaries mean
- No overarching vision for protection

– No divisional plan
- Look at Area A – transportation plan
- Blueway Plan – 1st Blueway Plan
- people want access to the river, right now not a lot of access but its coming
- Conversion of resource land

– Private land or crown land to use for recreational
OCP as a negotiation approach to get recreational use on the river?

– don't see a problem with public access?
– Well the river is huge and there aren't a lot of access points
- Landowners are concerned with public coming onto their land b/c they get lost, need a washroom, etc.

- RD requires that every 400m there needs to be an access

– Public engagement, everyone to feel their need to engage
Fieldtrip approach

– Slowly engage people through the process, more and more involved

– Sense of urgency?

– jump ahead 8 years there's a lot more risk, more recreational uses gone
- No mechanism to counteract

– Large forestry company protecting the land?

– OCP is a way to get involved – get your vision experienced
Forestry → division develop – it's not something that should be happening
- Private landowners are not interested in getting involved in forestry programs

- Release of land for residential area will it include recreational use?

– Yes it should

– Where should that river be in 30 years?

– can't start low because if it fails you'll fall lower, start high
- each bank of the river there is continuous access – trail

– Recreation and habitat protection
- People on bikes hitting deer it conflicts
- What's #1?

#2 – not a lot of use

– talk about our dreams not fears

– environmentally the Blueway Plan is not good, repairing setbacks, the river and trail to be entirely recreational is a lovely idea but its not ideal, CAUTION

– OCP, community vision documented, very small % of people that spoke to the Blueway Plan

– What is a Blueway Plan?

– Idea of active marine corridor, doesn't personally support it, river has many environments, it's not all the same, caution

– long term, drinking water, water levels sustainable, landowners, plan for pollution – what do we do if oil gets into the river – things that haven't been looked at SUSTAINABILITY OF THE RIVER

– What's the vision?

– support trail network, second growth Douglas Fir, campsite development, facilities, bike trails, wild spaces within 45 km of river

– The concept of balance?

– Motorized sports – this can be a problem

– horse back riding, there are some campsites by the watershed, Timber West has more considerations
Watershed – 90,000 people with plans to increase
Watershed conflict with drinking water

– "in stream needs" plan for what the river needs to survive; fish, wildlife

– Access points, wildlife - what's not clear? The idea of the Blueway – corridor that parallels the river, its not incompatible to think of having a drainage from one end to the other, protect the interest of the working people in the area, and the people who live in the area – hold dear these interests

– Balance – developing a plan so that the health of the river remains the primary concern

Consensus – HEALTHY RIVER
- Group called Share Our Forests
    - conflicting interests

– Broad stroke visions, giving the continuity to keep the balance while providing recreation

– Research is a big part, we need numbers, enroll the tourism department of VIU to help with research

– continuing partnership

– being able to around your region for recreational purposes, how do we get access to the region, we need to get to know our river corridor and know where it goes
- Data creation, how to make decisions without data

– How do we feel about the work in progress to get these decisions?
NALT's decision to get involved?

Call for a partnership approach?

Class rooms, programs, faculty, individuals

- How is the forestry industries relationship with the public?

- Best relationship is with the city
Watershed – who can access, expectations
Working with RDN – how to manage trails

General consensus – Nanaimo First Nations partnership is required to make this conservation work

Break-out Room Notes - Water: Quantity and Quality

Facilitator:
~Fraser Wilson

Resource Persons:
~Bernadette Lyons
~Christine Methereall

Bernadette speaks a little about her background and various roles in the community in geo-technology and water service applications.

Christine with the RDN speaks a little about her background and various roles in the community in geo-technology and water service applications.

How do you see the Nanaimo River in 2031?
Questions, ideas and concerns:

- Will have an all encompassing program of water catchment
- Upgrade existing building to have water capture
- Use rainwater, ... more water in the winter than in the summer
- Wells going dry sooner
- If everyone did this, the draw downs on the river and aquifers would have less impact.

Mandated rainwater collection program along the Nanaimo river properties – Yellowpoint – looking for 18,000 litres collected per property. Applies to any new house.
No guidebook yet but working on that project.
"Living water Smart" – released by the Federal Government – talks about purple pipes, to be used solely for water collection in new construction in BC, ... supposed to be up and running by 2010

Bill 27 – allowed to specify certain things on the outside of the house for catchment of rainwater, pipes, tanks etc.

Many people and businesses are looking to use rainwater.
Many wells are tested on a regular basis.
VIHA has set up so that you must test.
Toilet rebate programs.
Harder to store water in colder climates.
A hard push because the bureaucracy and the national building code.

Talks about the reuse of all water, such as the water that comes from our washing machines, showers etc.
We are incredible wasters of water, wasting it at every opportunity by washing our driveways etc.

Well construction contributes to e-coli poisoning seeping through the well walls.
People driven by the question on health and safety concerns.

Talks about the upcoming conferences. Ladysmith motion to see the crown lands owned by the people who are using and depending upon those systems.
General description of biosphere reserves.

Expressed frustration with the powers that be that not much is being done and that many requests and ideas fall on deaf ears.

Forest industries
Regional and federal agencies
CVRD and RDN need to work together
Ladysmith looking at the Cassidy aquifer to help supply their needs

Cowichan River organization involving First Nations is encouraging.
Looking to bring all the players together to talk to each other about their needs before the crisis comes along

Impossible to bring all the groups together
Everyone has their own agendas and very much protect their agendas
Must start small and work out

Cowichan River management and estuary group have come together
-initiated by the native community

Need something to help people focus the attention.
Most meetings you see the same people with the same concerns over and over
Hard to access the government itself.

Nanaimo First Nations needs the help of outside groups?
RDN cannot make decisions when the land does not fall under their jurisdiction.
We have chosen this broken system and allowed it to continue.
If there is an actual dispute it can be tied up in the courts with more red tape, etc.

We need to have advisory committees and work on it ourselves. Happy to see young people in the system.
People frustrated that the process is so slow and useless.

We need to have ownership of our lands and watersheds.
Map the water resources.
Record quantity over time.
What will water support, and the environment takes priority.
People losing water in wells, and now 10,000 new residents out of the Cassidy aquifer.
We need to have an idea of how many people the water will support
Citizens to own the watershed.

Ownership of land.
Forrest companies need to be involved
Subdivision on Nanaimo River, part of it to be designated as a park.

Douglas Treaty implication needs to be sorted out.
First Nations need to be more involved
Lacking in capacity... more members need to be involved.
All mapping needs to be done yesterday.
People running dry in Cedar and Gabriola... a clear indication about the supply
Agreement on extreme wastefulness.
This all needs to be done ASAP.
Essential to preserve the ecosystem in order for it to provide its resources.

No sense of urgency

Perspective: Water first, development second.

- Find the water first, and then develop the land.
- People build their house then have to go above and beyond to find the water to run it when they should be doing it the other way around.
- The aquifers need time to recharge because it still feeds the vegetation etc.
- Unregulated water being pumped out – nobody knows how much water is going out.
- Even government does not know about all the wells
- Some wells registered and some wells not registered.

Observation wells on site and also hydrological studies done before you start pumping water from your wells so that you have an idea of how much water is going out.

Provincial Government revising the *Water Act*.
In Washington State it is illegal to collect rainwater without a permit.

Rural properties are better at water conservation than city properties.

With all the factors including business and industry – 500 litres per resident in Nanaimo per day. Still lover than BC average and significantly lower than the national average.

Development moratorium?
RDN says it is an extreme decision to make. Would not address.

Development water source... how much water do you need to run your operation?

The need to have more young people involved.

People worried about management plans because we already know what to do and staying away from process, sitting around and talking about it is not as productive as it sounds.
Excited about people in group willing to act.

Information on contamination of wells for local residences and schools in Cassidy aquifer.
Hard to communicate with the RDN and BC Government.
RND can't spend money in the CVRD.

Short term action:
- Looking for ways to guard against contamination
- Getting development permits
- Have to have community water system before development
- Permits must be specific to well location
- Would like to see subdivisions with density bonuses so that more people could be serviced at the same location.

Agricultural lands should have riparian areas along the river.

Concerns about runoffs and fertilizers
Many properties have no riparian areas at all
Regulations are in place to ensure for private properties
Commercial lands are exempt to these regulations

Water treatment plant is questionable.
Why should taxpayers pay for poor forestry practices with soil runoff and contamination?
Marine environment under turbidity attack
New regulations needed to safeguard against soil erosion

Turbidity arises from heavy rain and snow

Discussion about who is more to blame, forestry companies or natural erosion occurrences.

Water quality is fine, but more water quality tests needed and the need to order more licences from VIHA.

Confrontations arise as a tirade on the forest companies is launched.
Need reassurances that the forest practices have changed over the years.

3-4 times the annual precipitation in the upper reaches of the watershed.

Turbidity seems to be improving in the watershed since the 1980's

Much of the turbidity shows up during the heavy rains and snow.
Because of the dynamic of the canyon and flow through the upper dam system while spilling over the dam

Break-out Group Notes - Environmental Values: Wildlife, Habitat and Species-At-Risk

Facilitator:
~Paul Chapman

Resources Person:
~Joe Materi
~Domenico Iannidinardo (manager of environment resource operation)

Discussion
- Campaign for the Vancouver Island Marmot

- Early days of the process, create a legitimate conversation about how we can work together

What is the vision for the Nanaimo river watershed?
How would we like to see the watershed in 2030?
Sense of how we picture, the ways and uses going forward?

- Suggestion: bring human health into the discussion
- Biodiversity should be represented at the table
- Bring in all key stakeholders
- Human health and wellbeing are interconnected with the watershed
- Don't see the impact on humans as the environment is deteriorating

We are one species in the ecosystem; we are a part of a living earth
Movements in states where they have a lot of people into conservation, spiritual values…

Vision statement for the Nanaimo River
- Will be working on…
- Nanaimo River watershed is a special and sacred place

There are a lot of various stakeholders
- Resource management end
- Producing wood for building houses, paper products and pulp production at Harmac, recreation, local fisheries, term sustainable, the management plan to have a commitment and regulations to allow all users…the sustainability of all values, the long term.
- Forestry only cutting in certain areas, water quality, Harmac the amount of water, land developers, 30 m retention set back
- All things that associate the health of the river

Define how to get to that vision

Climate change, Vancouver Island will not be supporting coniferous trees as much as deciduous trees.

Affect on tree species, something that the island has gone through cycles of heating and cooling. Lucky on the island, tree species does affect wildlife, building a capacity to adapt

Fred Bunnell, UBC, impact estuaries, not a pretty picture in regards to climate change, sea level rising, estuary shrinking, higher precipitation rates, cause estuary to move up stream, climate change will have a big impact, have to be taken into consideration

How climate change will affect the management

Global scale versus regional scale

Perhaps there are solutions to move water around.

It is important that the environment be understood. We must bring education to the larger community and methods to get the knowledge out to children and adults.

A clear vision statement will help bring about the future desired state.

A well informed public on the values and processes of natural resources is important.

Must have the community on board and willing to work on these issues

People do not like to have things dumped on them, have the community participate in feel-good programs so that it doesn't seem so much like work.
Both an involved and informed community will help the river prosper.

Mitigating and adapting to our changing climate is an important task.

- Perception is reality, i.e., logging… If education occurred, impressions would be different as people would be able to perceive through a factual lens.

To keep ongoing: educating and informing the general public, involving and participating at least once a year.

Various groups: developers, forestry companies, operate within the mandates of the government (Government approvals, etc.)
- Government looks at the broader scope
- Getting the resource users to buy in to additional practices aside from the government mandates
- Zeroed down on a water management scheme, drilling down further, regional district

Nanaimo watershed authority should further push the resource users to have additional practices and commitments besides government mandates

River bases of Brazil, water law has been successful, information alone is not enough, have to empower people and support with funds.
Committee equals people. Way to guarantee all the values.
Conflicts in new, "traditional values" versus "modern values"
Need to put everyone together, to get better solution knowledge. Giving power to the community
Mandatory all enterprises have to be decided by the community, government gave the power to the people.
Government is there to mediate. Not sure if possible in Canada…land, territory…Huge conflicts, how do we get support? Users have to pay for a fund, only committee can spend the money. Work of implementing what the committee decides. Suggestions, estuary is not territory. Perhaps a first step for different values is to have a different distribution of power.

Empowered, inclusive watershed committee that works with the government

- Wildlife, there is disjunction between the levels of government and reaching a target in the field
- Important to coordinate between watersheds and wildlife
- A useful vision would be all levels of government and committees for watersheds are beyond for continuous monitoring

Surveys have not been done in a number of years, need updated information.

- Separated on the board: (bold print copied from board)

Vision:

* **That an informed and involved community see themselves as shareholders in watershed stewardship**
*** Human health tied to environmental health.**
*** Management - sustainability of all values**
- mitigating and adapting for climate change
- empowered, inclusive and funded watershed management committee

When we talk about management, we need to have a sense of humility
Management of ourselves, perhaps stewardship instead of management

Authority instead.
Board – needs round table and trust (legal implications)

If you were envisioning what it would be like… a healthy vibrant Nanaimo River watershed teaming with life...
- Somewhere in there, there has to be a healthy community and involvement
- Maintaining maximum biodiversity
- Have seen vision statements go both ways…the task is to marry these sorts of visions. There are some more concrete as well as the overall health.
- Do we want to say indigenous life? Perhaps tied in there "battle the invasive species"

- *A recognition that this healthy ecosystem is what sustains everything, the environment is not a side thing, it is everything.*
- Long-term sustainability.
- We have it backwards, the economy comes first, everything is from the environment, the earth gives us life.

Funding: lack of!
- Vision would include a stewardship that could also do the math required so that the stake holders can understand their role… not rely on external funding.
- Raise funding through taxes, economic level, shareholders control, want to recoup investment…
- We all should be considered shareholders. Put money aside and not wait for Provincial grants
- All the users have to become shareholders to have long term sustainability.
- You can have a board but without $, we cannot make anything happen. Harmac, land developers…

Shareholder, agree with the term. When you set up a board, you are able to set up partnerships, volunteers.

Writing a paper "myth of the non-consumptive user"
All the non-consumer users are using the environment and should contribute…
Shareholder does not mean Harmac, creating new language of the community members. Share does not have to be limited to funding. This is *not* what we are referring to.

People hate taxes, but if there was a small tax per household, people may go for that if it is towards a shareholder committee.

They are not the same words in Portugal, we do not have the translation, funding is done through the actions. Two words that represent management: *control* and *stewardship*.

"An informed and involved stewardship", around the idea of shareholders…

Goals
*** Continuous monitoring of S.A.R.**
*** Up-to-date information**
- What does this information represent?
- Where do we start the baseline? i.e., for the Vancouver Island ringlet marmot - there is not a single one left in Nanaimo.

We don't have baseline, we need a baseline ecological survey.
Adequate monitoring
*** Stakeholder/ user funded**

Target
*** Create a baseline report**
*** Continuous monitoring**

Part of the problem is the separation.

Ownership, we expect that with taxes we are getting clear, clean water. We expect to get this all the time. All of us to some degree go hunting or swimming in the river, go down to the estuary, etc…
- The broader picture.
- Sense of ownership.
- Cost to the benefit.

Beneficially funded. Bringing volunteers of money, funded.
- Cooperative, you have shares…

We all have ownership, there will be a benefit.
Capturing the values that we speak to, we value everyone taking responsibility, stewardship… we are really speaking to people working together and taking responsibility.

If we combine responsibility with benefit…

We are all part of a community of life.
All values, what does this include? Put environmental instead of all… list some?
- Values: environmental, residential, etc. -> ways to have all of those values in a sustainable life?
- Conflicting values: if we sustain all values, we are not sustaining life.

In this process we will be working with people that you would not otherwise be working with. How can these values sustain in these circumstances?

Intent and target about meeting human needs, an overarching vision is not captured.
- Currently, there is not sustainability and consideration of all values, i.e., quads riding down the river and tributaries; do we want to sustain this value?
- How do people feel about the quads? Regulate?
- Would this sustain the recreational value and the natural value?

- "Natural versus Social" as categories of sustainability?

Sustaining human needs over the overall vibrant community of the watershed.
What we think should be valued first in the human planet, what sustains our planet first?

"The sustainability of the watershed", means...?
Sustainability as an ecological based word.
Relates to the Nanaimo River…
- Humans are involved in the watershed.
- If we did nothing, all natural values would right themselves and do what they do.
- The balance of nature and human values. Can we balance? We are one piece of the puzzle that makes a watershed.
- We have dominated for hundreds of years… leading to crisis point.
We are creating a vision statement to move forward a healthy watershed, community first.

Trying to craft a mission statement…
Change first sentence, "teaming with life and diversity"
Environmentally responsible and respectful
This is the outcome.
"We want to have a healthy watershed….but we want to do it in a way that it will be environmentally respectful and responsible"

Overview notes:

Values:

- responsibility (all stakeholders)
- inclusivity
- biodiversity
- health and wellbeing
- we are all part of a community of life
- respect
- actions grounded in the consciousness

Goals:

1. Sustainability funding:
   - All stakeholders become "shareholders"
2. Education & Information
   - Informed and engaged community

A network of protected wildlife corridors:

- All the riparian areas are protected, along the riverbanks
- The principles of creating linkages and connectivity -> protect.
- If you are an animal, you do not only stay in the park, you need to move where there is food in all seasons -> the better to survive the winter. We often create parks in isolated "pockets".

Vision:

- a healthy vibrant watershed teaming with life
- an informed and engaged community active in stewardship in watershed
- health and wellbeing of humans and their communities is dependent on the health of the environment
- a healthy watershed is the foundation of all life, clean water, our economy, our food, …

Break-out Group Notes - Estuary

Facilitator:
~Dale Lovick

Resource persons:
~Pam Shaw
~Rob Littlejohn

Discussion

What is the end state, point where use can all agree reasonably? How to make sense of data?
- Threats, Possible solutions
- Good to know where other research is taking place
- Challenge: getting the word out there, need for models of hopeful inspiring examples
- More research needed, wildlife, fish stocks, log booming has a big impact on the estuary
- Lead shot is banned is good, hunting impacts

Bill Yoachim's talk was impacting

Shellfish… bread basket, 1939 fecal coliform ban on shellfish. After so many years of contamination they stopped testing and then just kept the dam. Maybe what causes the problem has been solved. Could be a strong education?

Invasive species is also a good indicator

Why a cruise ship terminal in estuary now? Why not in the industrial zone or downtown?
- Turning areas is outside the estuary. Very gradual then quickly drops off. Cruise ship is beyond the estuary. No dredging like previously proposed.
- Swimming skating, boating, fishing since a kid.

Once an airport was proposed on the estuary.

Who looks after the estuary: management jurisdiction?

Concerned about log booms!
- More bundles now rather than single level booms.
- 1939 first log storage,
- 1-2 deep log booms.
- Used to extend across estuary.
- 20 year leases.
- Lots of money spent in 1980"s on studies, log storage was reduced to West side. Now fewer logs on the bottom due to log storage techniques…
- Log storage decreasing over time.
- 6 week capacity in log storage on estuary for labour disputes, snow melts, mill capacity.
- 75% logs have to be used locally? Is this true? Coastland, pulp mill, WFP…
- Mills not running at full capacity. Now about 50-70% capacity.
- Courier system upgraded to decrease log storage capacity.

- Letter of agreement - 2001 First Nations and government authority. Logs stored in Estuary: most economical, reduced damage to logs in fresh water therefore estuary is better because fresher water.

Start estuary committee. Meet quarterly, at SFN. Chris Good - Fisheries and Lands. Chief to be apart of meetings.

Eel grass Restoration; frustration around funding shortage for this
- Dry land Sort??
- Many times it has been reviewed. Too expensive and environmentally not a good option
- Most damage done by logs
- Gravel Bar
- 2000 SFN outlined what land they require for shellfish harvesting

Damage has been and continues to be done. River has a lot of flushing out of woody debris.
Flat raft more woody debris... No log sorting in estuary = reduced impact. Bundles = less woody debris.
Compression of bottom from log bundles rising up and down with tides is a concern.

Silt impacts from dam or forestry?
There is no one cause of any of the issues
Most of the River flow on the East side.
Gravel extraction and storm flow then flow switched mostly to West side

2004 Estuary Management Plan
… Went from 1) Log storage → larger estuary plan. Did a gap analysis
- Ecosystem evaluation, qualifying how much wealth an ecosystem provides.
- Cost comparison.
- Brazil has an efficient method

Do whatever you can do to reduce impact on estuary

Urbanization storm contamination, cross contamination
- There is a sewage line along estuary. Runs along Haliburton Road, follows SFN, Waterfront downtown…
A deactivated sewage pipe crosses the estuary.
- Land development proposed around Landfill -> 2500 people in 20-25 years.

Issue if runoff and flooding
- In Parksville-Qualicum, workshop to build ponds to reduce pace of runoff
- Rainwater gardens to allow water infiltration generally off impermeable surfaces.
- Build more swales and berms
- Building materials being developed for permeable pavement
- Living Forest - avoid concrete and asphalt for cost saving and environment

What properties along estuary could be impacted?
- Non-point contamination biggest problem
- Best management practices along estuary

Who is on septic?
- Most properties in City are on Sewer, there are others on septic.

Dog training, model airplane club, hunting activities on estuary.

Douglas Treaty: never have been on the Agenda.
- Specific Claim
- Recompense for all the land been stolen
- Before Confederation. Old Treaty -> Terrible Rip off.

A must to attend the Douglas Treaty Symposium.

SFN is addressing Douglas Treaty
- Are we skipping steps in River/estuary work when we do not have all the necessary voices present, or that we have not acknowledged original agreements?
- How do we make best use of our time?
- Elephant in the room was spoken to when Bill Yoachim spoke -> said FN are not stakeholders, "we have an original sacred contract with the land and the river"

Cowichan model is a good one to work from. Keep all tracks running even while FN's are not 'on board'
- FN's Douglas Treaty holds a lot of importance and significance
- Need positive working relations with SFN
- Rough times in the past
- FN's not going to be green space
- FN have been economically deprived of development
- We should be learning FN protocol
- Aboriginal Days good forum for education
- Primacy of First Nations of Water decisions
- How can we build relationships with FN's communities?
- There are many big issues, if we cannot tackle the number one, then tackle another
- "Whiteman's disease -> impatience"

Sunday, September 25th

Plenary Gathering to Outline Morning

Dale Lovick, NALT Board Member

Break-out Room Notes Session 2 - Fisheries

Their was no recorder for the Fisheries group as the group used this time period to review the notes from Saturdays break-out group session and create the summary presentation to the plenary.

Break-out Room Notes Session 2 – Recreation

– The outcome comes to a planning committee in which NALT will buy land around the Nanaimo River, where are the access points that are significant
- Practical to buy/identify property

– Greater inventory, general public notice – research areas into access point and other valuable points in order to make the ranking

Looking at access points…
– identify 4 or 5 places that are critical to recreation thru historical uses

– Tentatively pick spots for further research

– don't necessarily need to buy the land we already have access
- What is the nature of people's recreation in these areas?

– identify one or two critical areas that people are willing to sell

– find the best sites

– No way to get a road in there, people will be carry rafts miles to get to the river

– Public engagement issue

– making use of all the tools made available, there wasn't enough weight of the whole therefore these little groups are ideal to research access

- should have 2 or 3 main access points to get boats on and off the river with children and family

- …the day those children actually turn off their electronic devices

#2 – OCP push

– Regional level, the region pays into it and it serves the locals, the OCP created by the residents by others participate
Usually 6-8 years for process
OCP education is needed

Long-term vision – healthy river
Short-term vision – OCP

– Shared use, uniquely positioned to have an impact trail

Recreational corridor along the river part of vision?
– looking too far ahead before the data

– That is already the RDN plan, build on it

– Concern about the idea getting side tracked, first you protect but then through process the idea gets sideway
- concern for residential owners

– Industrial as well

#2 – accessible for people to use it – increase stewardship gets children out there

– Conservationists vs. public access

– Concept of corridor is impacting, but the process will subject the way it goes, acknowledgement must be given

– Private residential vs. corporate residential owner
- inviting people on to the land, moving trails, challenging to conduct the property as they see fit and provide recreation, and environmental responsibility
- fires, dumping, liability of the people coming on to the property

– If a person on a trail wonders off and comes on to your property and hurts themselves as a landowner you are responsible
- private property stolen from landowners

– All water is not public, owning the bottom of a lake

– motorized or horse back riding

– Stronger if we work together
- Alberta Snowmobiling Association is a strong organization, Alberta trail net got talking when we stop blaming each other and start work together
- They tend to not conflict but can work together

– They are outlawed, not allowed within RDN limits
- Snowmobiling is not a large component in Nanaimo
- finding access is a huge issue, people do not want to share trails with motorized vehicles

– Island Timberlands -> there is no snowmobiling group

– can we have areas that are okay for either or?

– To not identify them is worse then ignoring them

– If we discriminate where do we draw the line?

– encapsulate diverse needs to protect the environment and the rights of other users

- Once the door is open, it's hard to close it on motorized vehicles

– Fine tuning?

Protecting old growth?

– Mute point to protect old growth when there's nothing left

– Make decisions based on accurate date – science rather than folklore

Continuing the research?

– surprising how far people travel to use for recreational

– It's close to the highway

– Recreational interests don't trump any other interests

– needs to start with guiding principles

– Fisheries need to be involved in case we pick an ideal access point which is actually a prime spawning spot

– What people like - its private property that's undeveloped
  - the relationship is very important
  - real estate

– Inventory of the needs of everyone involved

– Opportunity to do things differently
  - open to go about this in way we (public) have never seen
  - we can keep it open to being drinking water and keep it wild

– We don't have enough water to worry about it flooding residential properties

– The wilderness that is valued in the area

– Island Timberlands made any statements about treaties?

– Its private lands

– Business side of tourism

– Horn Lake partnership with private company that look to taking care to keep it tourism

– No access to white water rapids, and not enough water in the summer

GUIDING PRINCIPLES
ECONOMICS
FIRST NATIONS
RECREATION
FISHERIES
WILDLIFE
PRIVATE PROPERTY

Break-out Room Notes Session 2 - Water: Quantity and Quality

Concerns about increasing water storage capacity
Lakes have already been increased for volume through manmade efforts
Concerns about the fish populations due to flows
New shorelines are virtually useless to fish... not natural
Not a good fish habitat
Must focus on all the environment... i.e., animals cannot come down to drink properly
Sustaining the ecosystem will ensure the use into the future

Ignoring of water values to the ecosystem, only focusing on drink water issues
Must connect the uses of the water to fully understand it.

Taking the pressure off the aquifers with water catchment can help solve the problem.
To protect water quality in the ecosystem we must protect the riparian area land strips adjacent to the river. By protecting these areas, you can help control the turbidity etc.

Water quality is an indicator of the watershed.

Groundwater protection is the foundation of conservation and protection models.

Strategies:
- Use of more water catchment
- Make submission to change the water act concerning ground water
- Draw a group of people together involved in the watershed
- Mapping of water resources and quantity involving the Cassidy water aquifer and surrounding areas
- Regional growth strategy meetings
- Sorting out the obligations of the Douglas Treaty
- Protection from contaminants from river front properties
- Area should be part of formal biosphere reserve
- Assessment of water before development
- Cautionary incremental development

Hard and complicated to give out all permits to developers

With water restrictions, development becomes the priority
Water needs to be found and assessed so that building and development can be planned sustainably.

Production drives consumption. We need to change this.
Consumption and availability needs to dictate production.

Need to set goals and start the action rather than form another committee, do another study...

Simplification of targets.

MISSI has developed a rural checklist which helps go through the targets and goals towards sustainability

National marine conservation areas
Moving forward with ideas involves coming up with the money and a plan on how to effectively spend it.
Not having a plan like this could slow down and cripple development.

Provincial government takes our tax money which disappears into the coffers never to be seen again, 7+ million and about 750k comes back to the communities?
A real disconnect.

Many times proposals and ideas are brought to the table but never come to fruition because of bad budget management.

How do we facilitate a broader base connection with the river when so few people are expressing interest in the subject?
- Need human resources to get the word out.
- Many people are intimidated and frustrated with the enormity of the project.
- Reluctance to start
- Meetings are a great first step

Need a comprehensive inventory of our water resources (mapping)
Linking the Cassidy aquifer with the Nanaimo River
Connections between ground water and surface water need to be understood
Need to collect more data (precipitation stations, etc.)
How to fill in the gaps in the model
Again, challenges arise due to lack of funds

VIU STUDENS IN ENVIRONMENTAL SCIENCES STARTED THE MAPPING PROCESS BUT CAME TO AN END BECAUSE OF FINANCIAL REASONS
How can we get help to finish this important project?
A way to help draw younger people in
Vancouver Island Water Watch has talked about paying for the students' tuition in return for help in various water related project initiatives.
Mapping of the aquifers and sources

Flyers in local papers and initiate surveys to find out how people are using their water
These self made surveys and initiatives have morphed into presentations to the people who could make a difference

Discussion of a joint website or program where people from all different organizations and communities could gather their data for reference.
Neutral party only interested in data gathering and information
Data useful to projects and outcomes

Incentive for young people to actually be working on something
Ferret out the students involved in water management issues and let them know that there is work available.
This not only gets the students involved but provides valuable free work experience.
Small projects like the quantitative flow of the river could be easily done with the help of students.

Water treatment plant could help filter the pharmaceuticals out of our water system.

Private land owner stewardship is important as well.
Property owners can make a great impact of the runoff

Group would like to come up with a list of points and ideas to facilitate the prioritization of future actions.
This will help to visualize the proposals and give people the opportunity to vote on the importance of the issues.

Break-out Room Notes Session 2 - Environmental: Wildlife, Habitat and Species-At-Risk

Discussing board:

That as an informed and involved community, we recognize we all share responsibility ensuring for sustainable stewardship of a healthy watershed and indigenous life.

How to add in vision statement?

A healthy watershed, teaming with a diversity of endemic life.

Add to goals:
- meaning behind up to date information… a lot of information is 20 years old, target would be coming up with the baseline report. Fieldwork rather than literature review.

Important to add this to goals: **Current (up to date) field information (data) about S.A.R.** (species at risk)
- Goal is to update current information.
- To do a literature review of what information is available to determine what species are at risk, look at gap, analyze, what information is missing? Field check on populations based on this review.
- General monitoring…it has to be a practical goal.
- It is practical to get out and complete the necessary field work
- Current field data about… habitat, landscape level
- Having a database of sites that could have potential for acquisition.

Identify high priority parcels for acquisition.
- Ecosystem protection.
- High priority and S.A.R are tied, if you do not have your baseline data.

Targets: baseline

Baseline study is not just about S.A.R., the S.A.R. comes from the baseline study. Longitudinal studies required.

Work with resource users to identify long term management plans (5/10 yrs)
i.e., TimberWest
- Where are they planning on spending their resources?
- Where do the users plan to spend their resources to be able to offset with the wildlife?
Within the watershed, farmers, regional district (new developments), local government, proposed treaty lands.
We have a lot of listening to do as far as treaty lands but in long term sense.

Both adults and children informed and involved
- Educational outreach.

- Increase awareness.
In the community at large, target to use the media and schools. Is this target or actions, and are they different?

Targets: baseline - S.A.R., ecosystems at risk, continuous monitoring
Community gathering
Developing curricula
Investigate models, explain to gain support
Investigate options for acquisition (i.e., habitat banks)
Contact MISSI

Adjusting legislative structures.
Would involve some "gory" political work, lobby for enabling for legislative structure. Three or four levels of government. Coordinating, all lining up.

The Ministry of Natural Resources is the governing body.
It is so broad that they cannot cover everything.
i.e., issue of flooding, somebody had to zero in on regional specific regions.
Organizations have a say in how conservation measures are done, development regulations, do not deal with water quality, all of their actions are protecting or influencing the watersheds, i.e., removing a tree
Present this idea to all areas and hope they will listen and act

Investigate Cuba and other models as Cuba, recognized by WWF having the most protective land

Draft policy of mitigation… want to start to put dollar values to the environmental value, the bankers can begin putting numbers -> Offsetting.

- To complete some of these goals is to gather more data, raising money to allow these field studies to be completed.
- Getting them to understand they have a stake in the long term operations and the health of the watershed.
- Getting them to fund some of these studies… community partners… including residents… leave open ended to allow any support and funding.

- MISSI -> talking about larger area than watershed.
- Work with other local groups who are working on similar things.

Build partnerships i.e., Snuneymuxw First Nation… build partnerships as a statement without excluding.

Increase community awareness
- Memorandum of understanding.
- Build partnerships.
- Here is what has been missed, here is an opportunity to hear about it.

Action items
- Community gathering information sessions
- Bringing the stakeholders to the table
- Stakeholders' thoughts of watershed management issues
- Gathering and sharing of issues
- Community education, series of community gatherings

Target items
All of the targets seem reasonable and doable and things that can be worked on in the future

Targets of having an annual report card
Progress report
How are we doing?

Having early conversations, really listening to what's said, if this might be one of our targets? To have an early conversation?
Making connections with all of the First Nations in Nanaimo…
- Bridge that needs to be built

Awareness and education: increased community awareness to gain support
- Support for the vision of the watershed, specifically, target all of the population.
- Support starts with the community.
- People able to put money into the cause, the provincial politicians, more than actual dollars.
Gain support in all of these areas.

Community support for the Nanaimo River Vision…
- Repeat informed and involved community to support the vision, to get there we could put gain support for the vision. Leaving out connecting words…
- We do not want to exclude to only S.A.R.… rather look at all species within the ecosystem.

Ecosystem is not included in the *Wildlife Act*.
- *S.A.R.A.* (*Species at Risk Act*) in Canada applies only to federal lands.
- There is still the recognition that there are species and ecosystems at risk, there are no legislative authority but they are present.
- *S.A.R.A.* is weak, but at least we have it.

Current field and information about ecosystems
- Look at S.A.R.?
- Should it be somewhere in the goals? It is very hard to deal with those because they are such fragmented ecosystems.
- Target the entire ecosystem.

Break-out Room Notes Session 2 – Estuary

Visioning:

What would the ideal vision be for the Nanaimo River?
- Be able to eat shellfish out of the Nanaimo River Estuary
- Balance with SFN
- Clean Water coming into the Estuary
- Healthy vegetation, bird life, etc.
- Balance and restoration
- Social-Economic-Environmental
- Clean water!
- Everyone understands and conveys connections -> water filters down to shellfish and Salmon
- Can eat shellfish
- More diversity and habitat, for birds on the flyway
- Establish effective relations with SFN and stakeholders
- Consensus on Targets and priorities
- "**Who is looking after this place?**"
- Who to address if I have a concern about the estuary?

- Effective oversight needed
- Education of the values of the estuary
- Appreciation of values of Estuary
- Bring in students
- Parts of River to encourage recreation? Other areas to discourage where ecosystem is fragile?
- Shaming campaign?

Life would flourish in the estuary.
Relationships would flourish in the estuary.
Meeting of cultures in the estuary.

Vision Statement:
We envision Nanaimo River Estuary a sacred place that belongs to the community.
Decisions for the future of the Estuary affect the wellbeing of the community and will be made by the community.
Estuary will be managed by the community to ensure clean water, fish, aquatic and migratory birds.
Estuary will become known in the community as a precious and delicate place that needs attention.
Estuary centrality and function in Aboriginal culture.
Estuary to be managed in cooperation with SFN, SFN must have weighted vote, embrace their protocol, and make that our statement.
There is a commercial reality
A place of Commerce
Community policing
Better Education

Centre of Estuary Research being established by VIU…
Protection in perpetuity and privilege
Student involvement in Studies
FLOURISH, THRIVE, REVIVE, PROTECTION, Perpetuity.

Jack Point is offering different perspective to citizens of the Estuary/our City.

Concerned about how many people on Estuary
- Elevated Walkway to education centre?…
- Kayaking to Oak Island Sacred Sites

Protection for Sacred Sites

Increasing fish populations.
- Large woody debris for smolts.
- Reintroduce Large Woody Debris Habitats.

Final Plenary Session

Break-out Group Summary - Fisheries

Over-arching Goal – *Work to return fish populations to historic levels – plentiful fish stocks*
Goals & Actions:
Gather Data – Gap analysis

- Blackman Report 1981
- Baseline Report - includes data from NRH – mostly below highway bridge
- Water quality data
- Biological and habitat assessment
- Escapement and fry/smelt counts – expand fisheries section of baseline report
- Support habitat enhancement, nutrient enrichment activities, riparian setbacks
- Thatcher Report, Haslam Report as models
- Investigate relationship with VIU Fish/Aqua

Funding for Hatchery

- Nanaimo River Stewardship Society (NRSS)
    - Potential acquisitions and covenants – working level agreements, investigate water licensing (side channel habitat, water storage), riparian areas
    - Build relationships with timber companies
    - Investigate Provincial Policies regarding Steelhead enhancement or alternatives
- Education and Awareness
    - Hatchery programs – expand?
- Invasive species awareness
- Species at Risk protection

Build and Sustain Relationships

- Gather Stakeholders and User Groups
- November Working Group Session
- Investigate cold water releases from Fourth Lake

Formation of Volunteer Stewardship group

- Contacting local homeowners and community members
- *Streamkeepers* courses, other opportunities

Synthesis:
Plan, Partnership, Fundraising
Identify and Prioritize Achievable Goals

Who should be involved: Stakeholder list: Nanaimo River Fish Hatchery, NRSS (Ted, Wayne, Bernie, Wayne), DFO (community advisor: Barrie Cordocedo; stock assessment: Steve Ballie; fisheries management: Margret Wright), MOE (?), Forestry Companies (TimberWest: Dave Lindsay; Island Timberlands) NFP, Nanaimo Airport Authority (Mike Hooper), Island Timberlands (Ken Epps), DFO – Fisheries Management – Gerry Kelly

Break-out Group Summary - Recreation

Nanaimo River Mission Statement:

Promote and protect the cultural and natural values of the Nanaimo River.

Draft Vision:

A place for diverse, responsible recreational pursuits in balance with the river's health—while ensuring involvement of stakeholders.

Guiding Principles and Basic Assumptions:

- Recreation values do not trump other river values
- Open and active involvement with First Nations about rights, culture and heritage at the River
- Sustainability of overall River health (water quality, flow, fisheries, sensitive ecosystems)
- Partnership approach and collaboration based on respectful dialogue among stakeholders is paramount
- Recreation is not suitable to all areas of the River (South Fork/Jump Creek, first nations cultural heritage sites, sensitive wildlife areas)
- Respect for Private Property (residential ownerships and resource industries)
- Utilize a science based approach to establish the baseline information for goal implementation

Goals:

- Identify key/priority recreation resources and accesses through expansion of the baseline inventory and research on recreation uses
- Explore options for site specific recreational development that maintains the natural characteristic of the river as best as possible
- Recreation uses to be flexible within other seasonal and cultural values (spawning runs, overwintering, migration corridors, marmot habitat)
- Influencing the RDN recreation plans for the river corridor (Area A OCP outlining Blueway plan for the Nanaimo River, Active Transportation Plan)
- Balanced representation of diverse recreational user groups to promote responsible use
- Develop key partnerships for collaborative educational programs from children to adults through in field experience in the watershed
- Exploring opportunities for new partnerships that lead to mutual benefits (e.g., Private/Municipal/hunting access to watershed)
- Flexibility to adapt to unique opportunities and challenges as they arise

Break-out Group Summary - Water

IMMEDIATE ACTIONS TO ACCHIEVE THE 2030 VISION:

- Submit to the province changes to the Water Act to protect ground water
- Submit this symposium's conclusions to RDN hearings in October on regional growth strategy with copies to other elected local authorities and First Nations
- Increase use of rainwater catchment, so less draws on the Nanaimo river
- Establish relationships among all involved authorities, citizens groups, first nations
- Map quantity of water sources in Nanaimo river watershed, including Cassidy and its relationship to the Nanaimo river as a priority
- Assess effects of development on ecosystem, including quality and quantity of water before development allowed, based on entire watershed despite geopolitical divisions
- Determine **Douglas Treaty** and other treaty implications for the Nanaimo river watershed
- Submit to federal government request to change northern border of national marine conservation area to extend to Nanaimo river estuary
- Require new developments to connect to community water supply and waste treatment systems
- Educate the public about the quality and quantity of water in the Nanaimo river watershed and related ecological, social and economic issues
- Consider seismic upgrading of existing water related infrastructure

2030 VISION:

Mid-island UNESCO model of biosphere

- Nanaimo river watershed is in mid-island UNESCO - model biosphere reserve and Community owns the watershed
- An educated public is involved and fully engaged in watershed management
- Development is governed by sustainability of entire ecosystem with protection of nature, wildlife species like salmon get top priority for water
- Obligations under the **Douglas Treaty** and other treaty processes are met

Break-out Group Summary - Environmental Values: Wildlife, Habitat and S-A-R

We Envision:

- *A healthy watershed, teeming with a diversity of endemic life*
- *That community health is understood to be directly linked to a healthy environment*
- *That as an informed and involved community we recognize that we all share responsibility for ensuring sustainable stewardship of a healthy watershed*
- *That an empowered, inclusive and funded Watershed Stewardship Board be given legislative authority for conservation planning in the watershed*

Goals:

- Obtain current field data about ecosystems
    - Actions
        - Produce a baseline report including, but not limited to, species and ecosystems at risk
        - Continuous monitoring

- Lobby for enabling legislation
    - Actions
        - Investigate models from other jurisdictions (e.g. Ontario, Cuba, Brazil, etc…)

- Build partnerships
    - Actions
        - Contact Snuneymuxw First Nations and other groups (e.g. VIHA, MISSI, etc…)

- Identify high priority ecological sites for acquisition
    - Actions
        - Investigate options for funding acquisitions
        - Habitat banks, mitigation, offsets, etc..

- Acquire sustainable funding
    - Actions
        - Source funding with community partners (e.g. residents, business, institutions, governments, etc…)

- Work with Snuneymuxw, local government, and resource users to gain understanding of their long term management plans
    - Actions
        - Management plans align with vision

- To increase community awareness to gain support for the vision
    - Actions
        - Community gatherings
        - Share information
        - Develop & provide content for school curricula
        - Regular reporting to gauge progress

Break-out Group Summary - Estuary

- The NRE is an extensive, unique and vital ecological area *in our city* that supports a wide diversity of life *(Not well recognized as such by the general community)*
- It is the economic and spiritual "heart" of the SFN
- It has historically been an important economic driver for the community

Overarching Goal: Balance and Restoration

Develop a land ethic, a land protocol, how to be on the land and in unique environments like the estuary,
LT Develop goals for 2030:

- To further development with SNF and other local community partners a representative body to provide effective leadership, oversight and management of the estuary in a long term, sustainable manner.
- To establish an on-going model educational program to ensure that the natural values of the estuary are widely recognized and respected in the wider community.
    - Every grade 6-7 get educated about the estuary
    - Artists Response Society. Eco Education through Music "Voices of Nature"
    - Publicity campaign for adults in newspapers, media, events, etc.
- Project Watershed for Estuary in Art Auction fundraiser
- 2030 we'll have the first the annual Shellfish Extravaganza.
- What are the habitat enhancement opportunities? Low hanging fruit volunteer participation
- Celebration with our brothers and sisters in SFN (Aboriginal Day) as a way to bring together and educate around Estuary.
- Renaming the estuary?
- Cultural ecotourism around the estuary
- Viewing the estuary as you would view any other natural area
- A viewing platform as a project- add walkways (cause people to stick to the elevated walkway system) to ensure protection of the fragile environment
    - Educate people on tributaries that also empty into the estuary: the Wexford, Richardson, & Chase River creeks that run through urban areas as a way of outreach
- To establish best management policies and practices for: -recreational, fisheries, forestry, agricultural and other sustainable economic uses of the estuary, as well as for emergency-preparedness
- To have a close working relationship with VIU and "The Centre for Estuary Research" for on-going monitoring, research and education related to the estuary
    - Re-establish eel grass beds, shellfish, and other species
    - Engage wider community, volunteers, FN, etc.

Immediate To Do List:

- Identify and protect sacred places (work with SFN to protect these sites)
- Develop and implement an education program (over the next four months)
- Affirm an effective mechanism and partnership with SFN on working to protect and improve the estuary
- Foster better relationships with SFN for all the community
- Work closely with the ***Centre for Estuary Research*** and **VIU** to implement a comprehensive research program

Concerns-- What will 2030 look like for the estuary if:

- Sea level rise
- Climate change
- Earthquake
- Preparedness – have a plan in place to protect the estuary

What's Next?

- **Research / Project Partnerships currently being explored by Vancouver Island University and Profª. Maria Inês Paes Ferreira of IF Fluminense - *Campus* Macaé**
- **Application for a Partnership Grant with federal government**

Where Do We Go From Here?

List of Over-arching Themes:

- **Create a comprehensive database** (Baseline Report) that includes and deals with, but not limited to, all species, ecosystems, and natural resources at risk

- **Public education**, involvement programs, and workshops designed to heighten public awareness and education. Community gatherings, shared information, develop and provide content for school curricula, regular reporting to gauge progress

- **Building significant working relationships** with the Snuneymuxw First Nation and other groups such as RDN, DFO, MOE, VIHA, MISSI, SWACA, etc…

- Identify high priority **ecological sites for acquisition** and stewardship

- Investigate options for **sustainable funding** and source funding with community partners (i.e., residents, businesses, institutions, governments, etc…)

- Determine **Douglas Treaty** and other treaty implications for the Nanaimo river watershed and commit to working within these guidelines