



SOUTH COAST CONSERVATION PROGRAM

Protecting and Restoring at Risk Species and Ecological Communities on BC's South Coast

Diversity By Design Workshop #1 - Forest Communities

Tuesday March 8

Norman Caldicott

Forest and Stand Management Strategies and Actions for Species at Risk

Who am I?

I'm Norm Caldicott

- BSc, BSF, Adv Dipl Silviculture, RPF
- 5 years as Fisheries and Wildlife Technician
- 1 summer as Habitat Protection Biologist
- 21 years as a forester; government, private industry, independent consultant with First Nations, Municipalities, Industry and Gov't clients
- 16 years as a BCIT Instructor in their Natural Resource Management programs

Forest and Stand Management Strategies and Actions for Species at Risk

Whatever I say in the following is my opinion.

Expertise in this area?

- I am not an expert in attempting to restore habitat for species at risk.
- I am a recognized silvicultural expert in southwestern B.C. That's integrated vegetation management designed to produce stands of trees.
- I routinely assess, prescribe and implement forest management activities on a large variety of sites and for a large variety of values. The students and I practice our technology in large natural areas in urban, peri-urban and hinterland settings.
- Each activity, planned or carried out, undoubtedly directly or indirectly affects species at risk.
- I attempt to strictly adhere to the law and to abide by my personal ethics and those required by my profession.
- My actions and teaching influences students and other professionals.

Forest and Stand Management Strategies and Actions for Species at Risk

What do I espouse in terms of management goals and objectives for forested terrestrial sites?

- Low cost strategies
- Low maintenance stands
- Low risk stands
- Long-lived stands
- Provision for succession
- Provision for climate change
- High productivity stands
- Recognition, protection and delivery of social and environmental values including species at risk.

Forest and Stand Management Strategies and Actions for Species at Risk

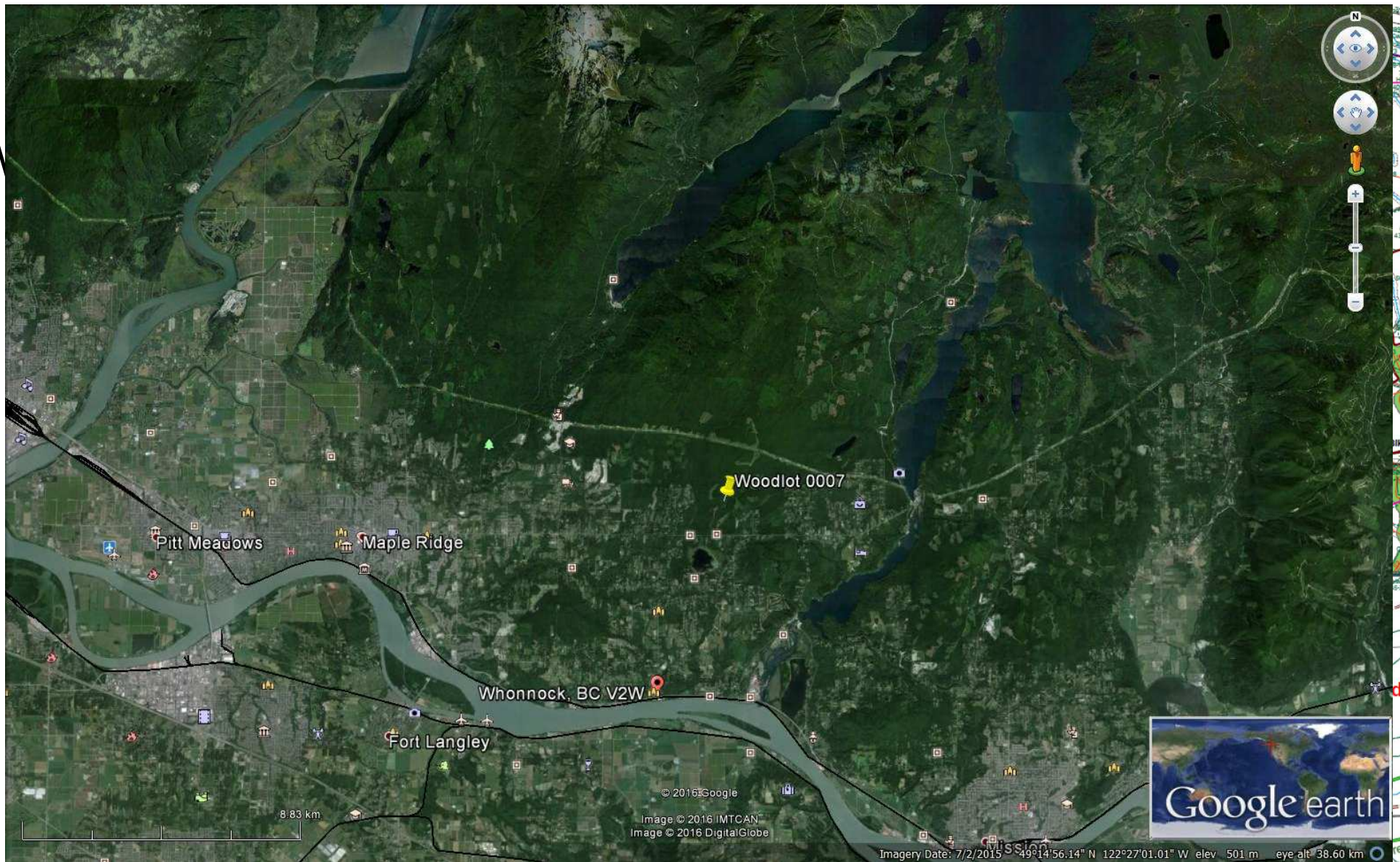
What must I do & consider regarding species and ecosystems at risk?

Honestly, I'm somewhat confused about that.

On Provincial Crown Land, I'm guided by the Forest and Range Practices Act and the Wildlife Act.

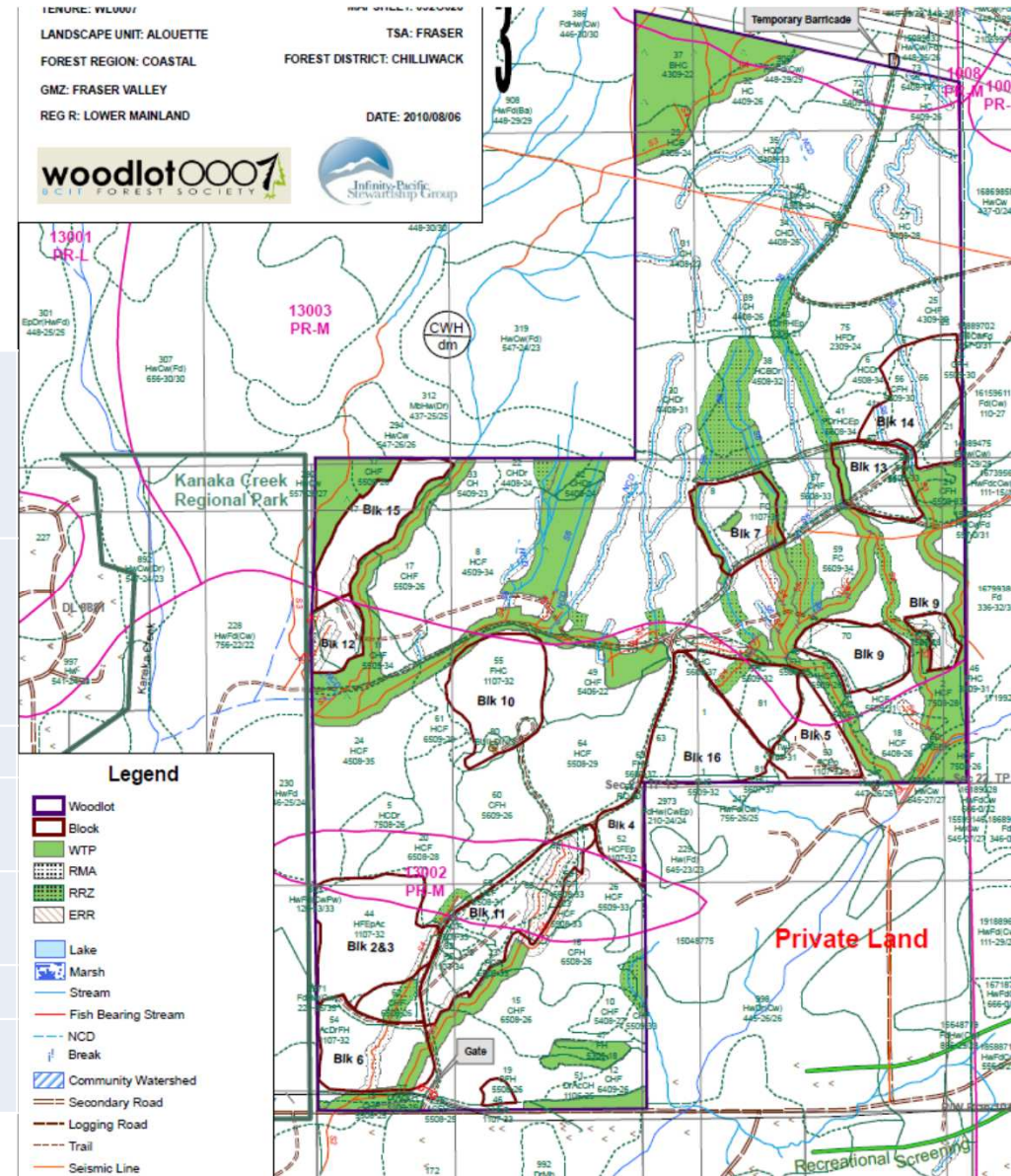
I'm going to use the BCIT Forest Society Woodlot 0007 as an example.

B
W



BCIT Forest Society
Woodlot 0007

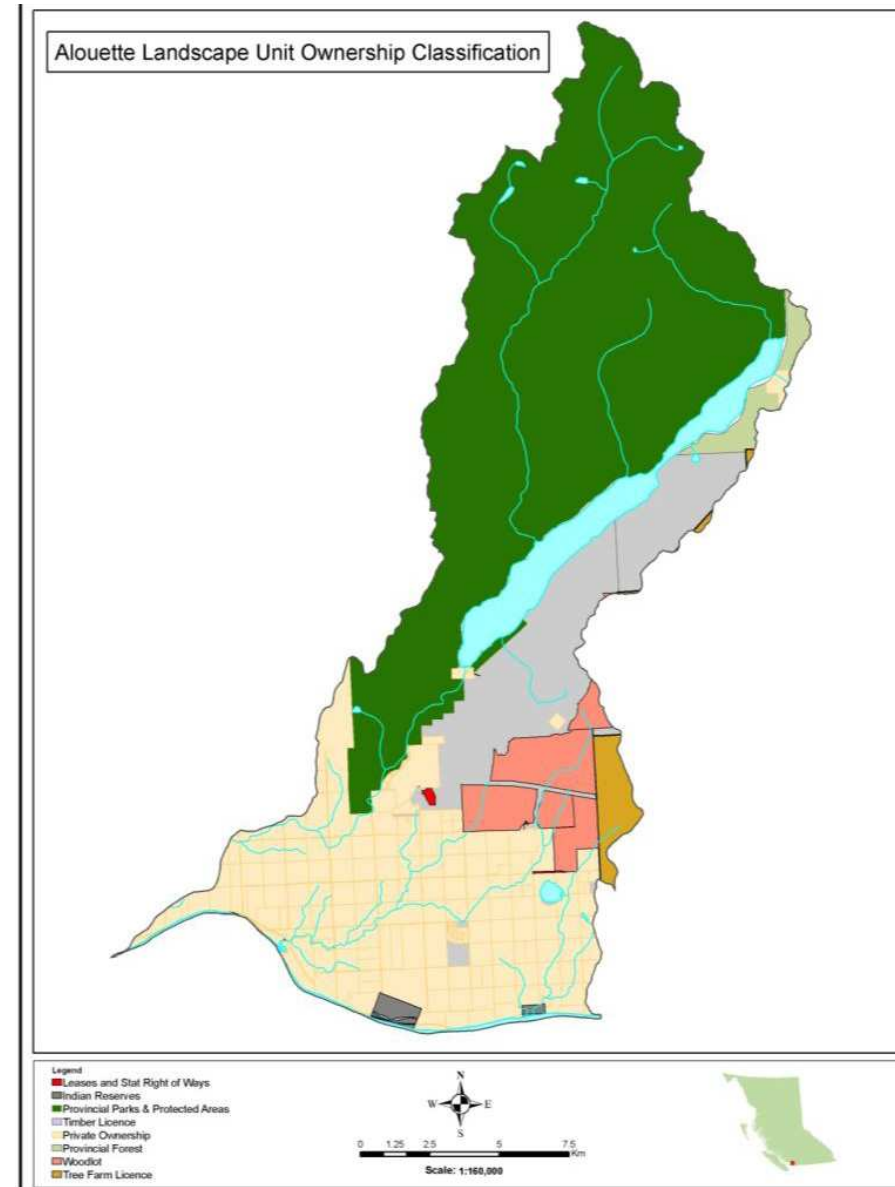
Forest	Contributing to AAC (ha)	Not Contributing to AAC (ha)	Total (ha)
Forest with Riparian Management Areas that partially contribute to timber supply (50% of Vol in Total Area)	9.4	0.0	9.4
Forest with no reserves	204.7	0.0	204.7
Forest with Rotational Wildlife Tree Patches	10.9	0.0	10.9
Forest with Wildlife Tree Patches and Riparian Reserves	0.0	43.3	43.3
Existing Roads and Buildings	0.0	8.5	8.5
Total	225.0	51.8	276.8



WL0007 is a small part of a joint initiative between the Kwantlen FN, the Katzie FN and the BCIT Forest Society.

Forest tenure areas for which integrated management planning has just begun is approximated by areas in brown, pink and grey.

Image is from: Lower Fraser Sustainable Resource Management Plan. Chilliwack Forest District. 2013



Species at risk and regionally significant species that must be considered in this area

If there are Wildlife Habitat Areas declared in the area, our forest management must recognize them.

December 30, 2004

**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND
ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF
SPECIES AT RISK IN THE CHILLIWACK FOREST DISTRICT**

This Notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

NOTICE – WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE CHILLIWACK FOREST DISTRICT

Forest District	Date Notice Given	Date of Revised Notice	Species	Amount included in the current Notice		Exemption from objective (Complete, Partial)	Amount remaining following exemption		Supporting Info - Remaining amount intended to address		WHA Orders Providing Exemption
				Total Area (ha)	Mature THLB Impact (ha)		Total Area (ha)	Mature THLB Impact (ha)	Proposed WHAs	Future WHAs	
Chilliwack	Dec-04	3-Aug-07 18-Aug-09 4-Oct-10	Coastal Giant Salamander	850	550	Complete	0	0	0	0	Data Sensitive
			Grizzly Bear	total amount not specified	445	Complete	0	0	0	0	Order 1 (PDF 56KB) Order 2 (PDF 72KB) Order 3 (PDF 222KB) Order 4 (PDF 329KB)
			Pacific Water Shrew	50	25	Partial	5	18	0	0	Order 1 (PDF 102KB)
			Tall Bugbane	200	75	Complete	0	0	0	0	Order 1 (PDF 93KB)
			Spotted Owl	total amount not specified	total amount not specified	Complete	0	0	0		Order 1 (PDF 497KB)
			Coastal Tailed Frog	60	30		60	30	0	3-4	

Species at risk and regionally significant species that must be considered in this area

There are no Wildlife Habitat Areas designated in the area of interest.

Identified species of risk (Order – Categories of Species at Risk. July 11) observed or likely occurring are:

- northern red-legged frog
- Pacific tailed frog
- cutthroat trout
- Pacific water shrew

So how do we manage for those species and the other resource values?

We need to consolidate management, bring together strategies and locate them onto the same areas, to satisfy all resource management objectives as much as possible.

Individual species management will lead to chaos. It's cost and our ability to manage in this way will stop all development. That's not sustainable.

Our strategy at WL0007 and what we'll propose to our partners is:

1. reserve areas along all major watercourses – we presently retain 50% BA within riparian management zones plus all reserve zones as defined by the Forest Planning and Practices Regulation;

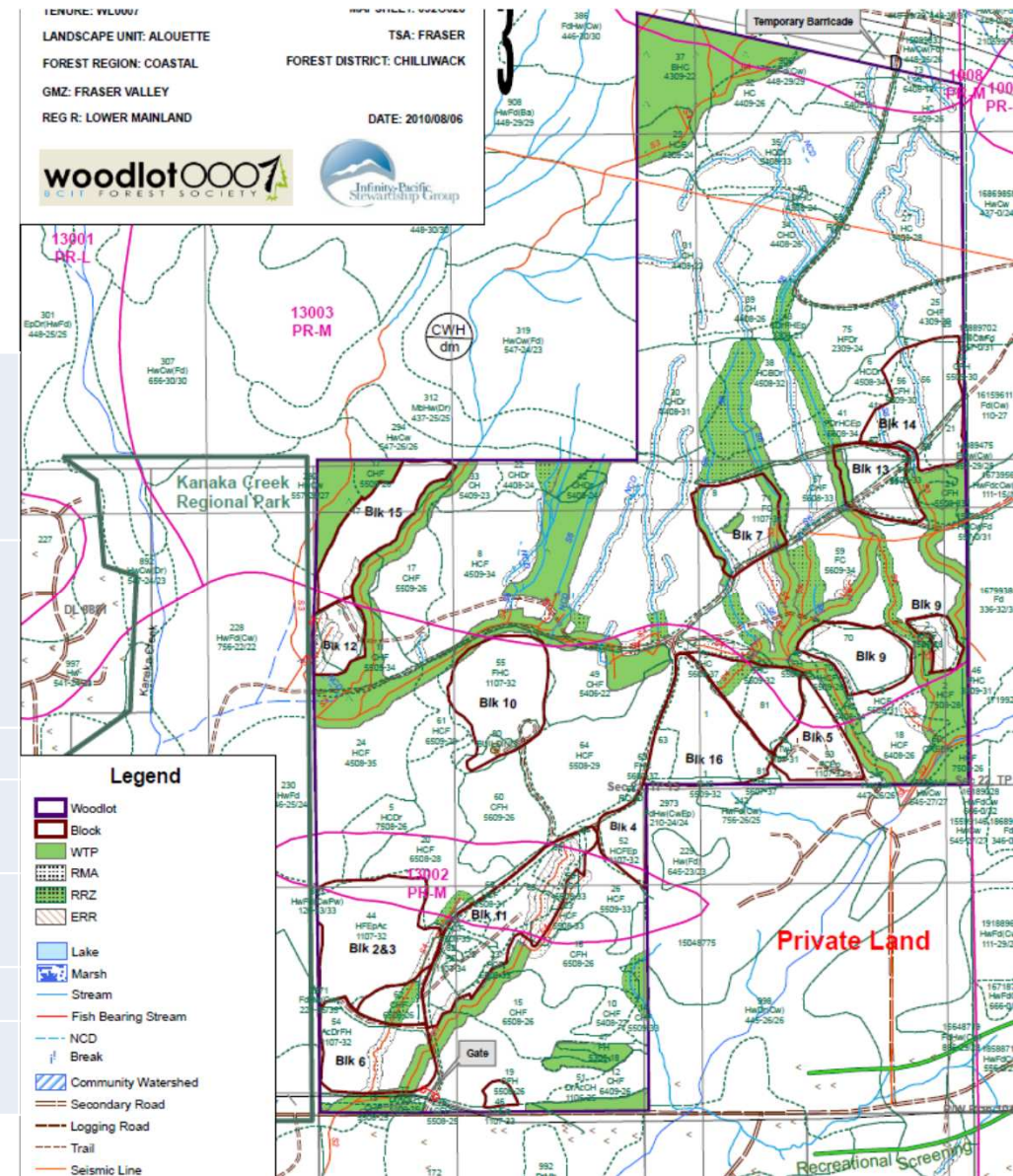
Riparian Class	Riparian Management Area (metres)	Riparian Reserve Zone (metres)	Riparian Management Zone (metres)
S1-A	100	0	100
S1-B	70	50	20
S2	50	30	20
S3	40	20	20
S4	30	0	30
S5	30	0	30
S6	20	0	20

Our strategy at WL0007 and what we'll propose to our partners is:

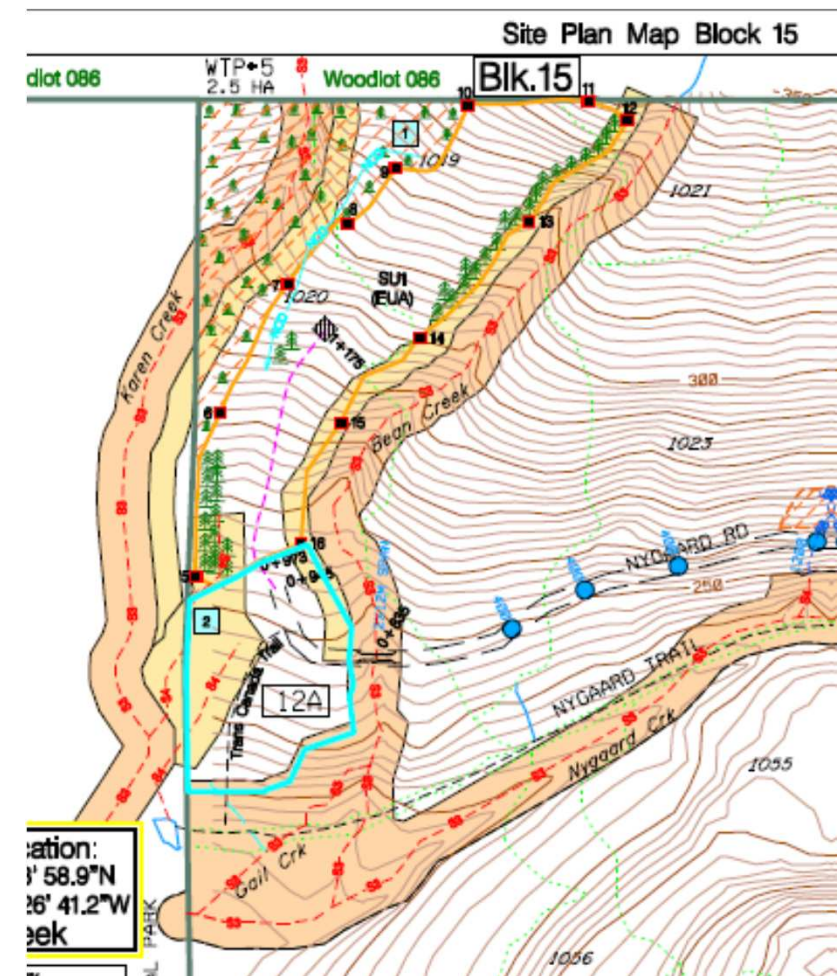
2. Where streams are close together, reserve the entire area between them;
3. Maintain stream-bank vegetation alongside all watercourses with machine free zones;
4. Limit stream crossings; cross only at designated sites; build appropriate temporary or permanent crossings;
5. Use silvicultural systems that maintain complex stand structure
6. Thin young stands adjacent streams to promote windfirmness

Here's what it looks like.
The green areas are the
reserves.

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Here's what it looks like at the stand level:



An integrated vegetation management (IVM) plan and treatment regime should be prepared before any treatments occur.

The IVM plan clearly presents:

- goals and objectives;
- site characteristics;
- ecosystem dynamics;
- the desired future combination of species;
- their distributional pattern;
- the sequence of treatments which will lead to their prompt establishment and continued development;
- the time at which activities are to occur;
- materials and supplies required;
- monitoring method and schedule; and
- an estimate of cost.

The plan is presented in sufficient detail that anyone can understand it and contribute to its implementation.

Individual treatment prescriptions are prepared to direct each activity within the context of the plan.

Block 15
was
logged
in 2009



planted spring 2010



Checked
2011 –
doing
well



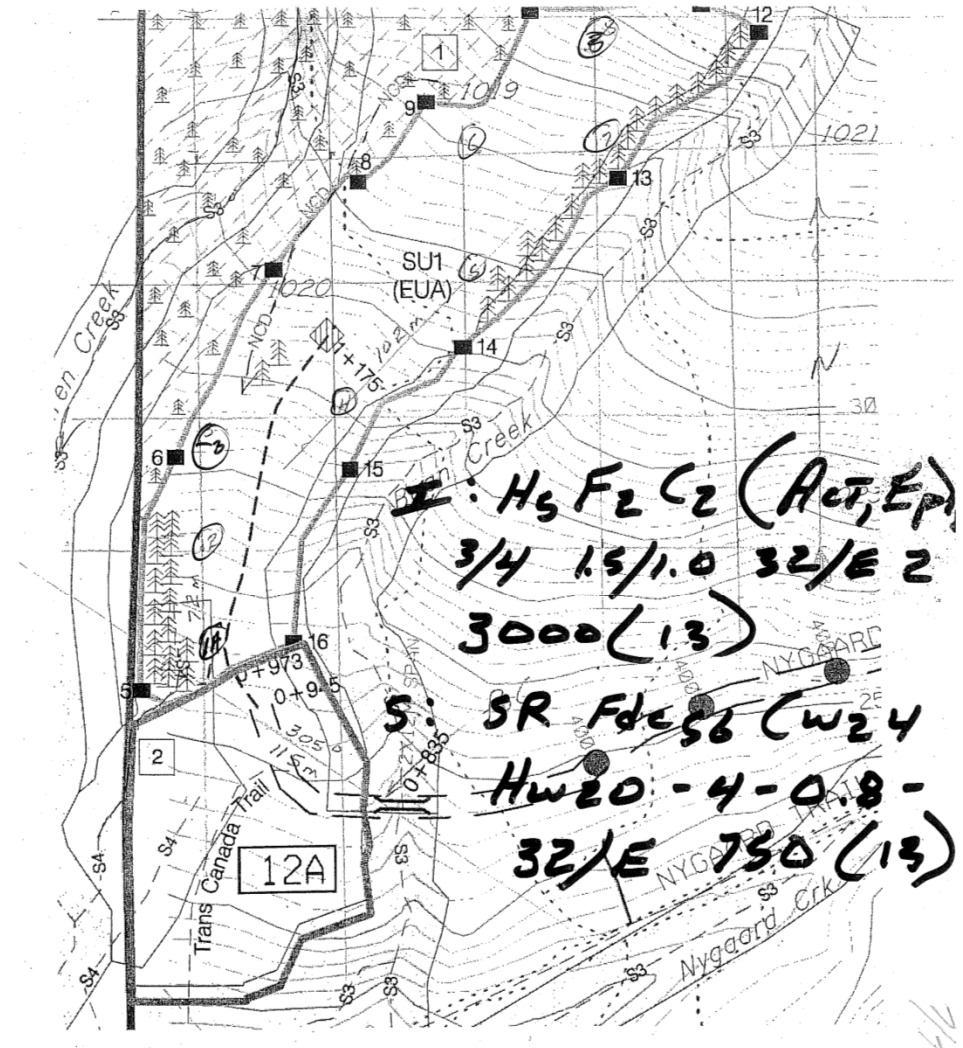
Road and
bridge
removed
and area
revegetated
2011 -13



Monitored 2011,12, 13

Scheduled for precommercial
thinning 2016

- windfirming western
hemlock thickets along
eastern stand boundary



Regen delay / plantability / pest survey

1 cm \approx 24 m

N. Caldicott WL0007 BIK 15 April 16, 2013
201: