

# North Island Sustainability Assessment First Approximation

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## Abridged Version for Presentation to Weyerhaeuser BC Coastal Advisory Groups

*By*

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# Background

## Interest in Assessing Sustainability in the North Island Area

Many forest companies in British Columbia are engaging in environmental certification as a means of independently assessing the sustainability of their management practices. The North Island Timberlands of Weyerhaeuser BC Coastal Group is certified by both the CSA and ISO 14001 certification schemes. The North Island community advisory team and Weyerhaeuser BC Coastal Group became interested in venturing beyond their certification assessments to explore how their management fits within the broader question of local sustainability.

The certification assessments were limited to Weyerhaeuser's North Island Timberlands and focused exclusively on forest management practices. Instead the desire was to use a more comprehensive sustainability assessment that would explore all aspects of ecosystem and human wellbeing, to the extent that available data allows. The North Island Sustainability Assessment (NISA) was to be applied to the area bounded roughly by the Vancouver Island communities of Sayward to the north, and Courtenay to the south, with the Vancouver Island shoreline as the eastern perimeter and the westernmost boundaries of TFL # 39 and MF 19 forming the western perimeter.

## Overview of the Wellbeing Assessment Approach

The wellbeing assessment approach (Prescott-Allen 2001), was chosen for this project. The wellbeing assessment method was developed and tested with the support of IUCN-The World Conservation Union and the International Development Research Centre (IDRC). It began as a synthesis of assessment approaches formulated by Alejandro Imbach, Diana Lee-Smith, and Tony Hodge, and Robert Prescott-Allen's Barometer of Sustainability method. These approaches were tested and improved by teams in Colombia, Zimbabwe, and India, and IUCN offices in Central America, Southern Africa, and Pakistan, during the first phase (1994-96) of a project on assessing progress toward sustainability, undertaken by IUCN with the support of IDRC. Prescott-Allen further developed the method for the second phase of the IUCN/IDRC project (1997-99) and for the report, *The Wellbeing of Nations*. Additional tests of the Barometer of Sustainability and the complete method have been conducted in Canada, India, Nicaragua, Zambia, and Zimbabwe. Currently the approach is being used to assess sustainability on the BC Coast under the Coast Information Team (CIT), on behalf of a collaborative group that includes the BC Ministry of Sustainable Resource Management, Forest Companies, Environmental groups, and First Nations.

The wellbeing assessment method is attractive because of its transparent systematic methodology, and the way in which it examines human and ecosystem

well-being together, rather than two mutually exclusive conditions. The wellbeing assessment provides a methodology for:

- Identifying the main features of human and ecosystem well-being.
- Avoiding measurement of the same feature more than once.
- Avoiding omitting an essential feature.
- Highlighting unavoidable gaps.
- Choosing high quality indicators of each feature.

*SEE: Well-being assessment backgrounder for more information on the wellbeing assessment*

# The Wellbeing of the NISA Region

## The Wellbeing index

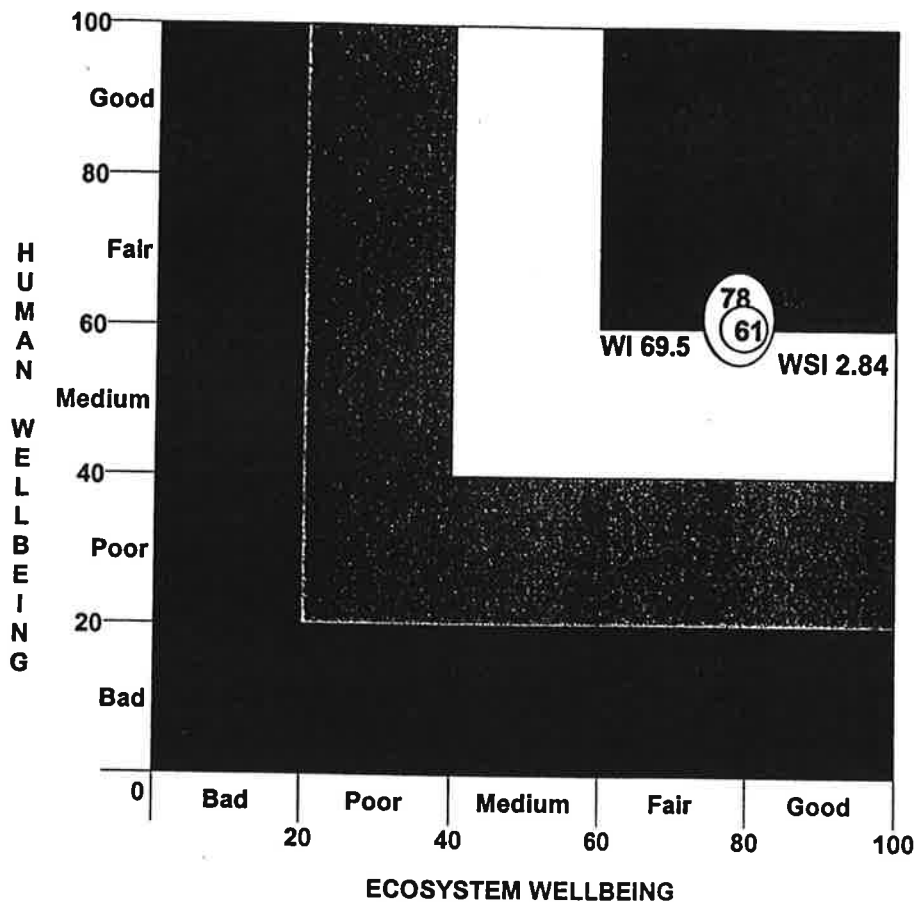


Fig 4. The Barometer of Sustainability for the NISA first approximation.

The wellbeing index for the NISA region is shown on the Barometer of Sustainability (Fig 4). The wellbeing index is the average of the human well being index and the ecosystem well being index. As an average, this doesn't tell us much about the two conditions and the difference between them. Therefore it is more useful to observe the position of the wellbeing index on the Barometer of Sustainability with both ecosystem and human wellbeing displayed in the metaphorical egg. The "objective" for wellbeing on the Barometer is to get as

close to the upper green box as possible and the placement of wellbeing for the NISA region indicates that it is relatively close to that position.

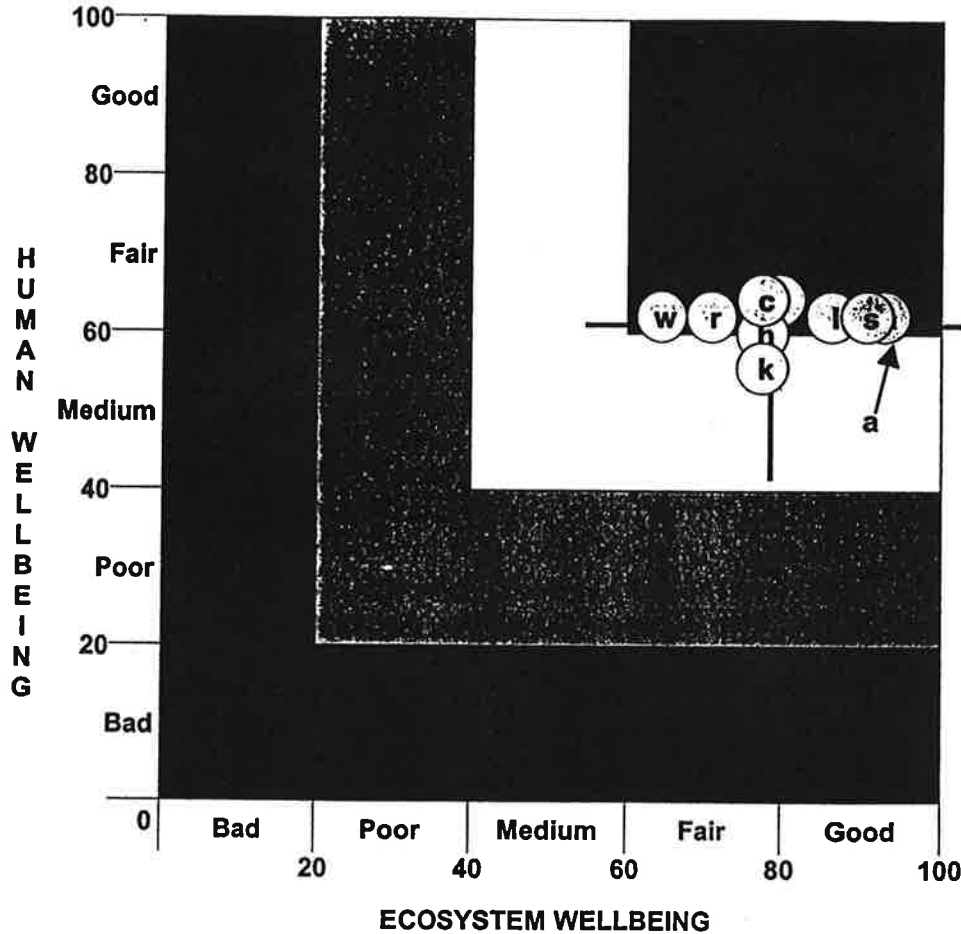


Fig 5. Distribution of elements around the WI (not shown but at the centre of the crosshairs).

According to the *Wellbeing of Nations* no country on earth (for which there is adequate data) ranks as high as the NISA region (both HWI and the EWI as *fair*). According to this first approximation we have no wellbeing deficit, and both human and ecosystem wellbeing are acceptable. The NISA wellbeing score is significantly influenced by the ecosystem wellbeing index, which as previously discussed, has numerous gaps in data and questions around the comprehensiveness of the indicators. In this first approximation, the NISA ecosystem wellbeing is considerably higher than that found for any country in the *Wellbeing of Nations*. The only country that was close was Botswana at 68. The human wellbeing of the NISA region is significantly lower than Canada as a whole and appears on par with Uruguay, Lithuania, and Slovakia.

A closer examination of the elements of the human and ecosystem subsystems illustrate the distribution of the elements around the general wellbeing index (Fig 5). It becomes clear at a glance that *knowledge and culture* (k) and *health and population* (h) are the elements of most concern, just below fair into the medium band.

## **Human Wellbeing and Ecosystem Stress**

The *Wellbeing of Nations* revealed that often countries with higher human than ecosystem wellbeing generally have a higher WI than those where the human conditions are worse than the state of the environment. This does not seem to be the case for the NISA assessment, as the WI was higher than for any country studied in the Wellbeing of Nations, while ecosystem conditions appeared better than the human wellbeing.

The NISA region shows however that while human wellbeing may have a few concerns, it is still acceptable (in a relative sense) and it does not seem to put excessive stress on the ecosystem to achieve it. The wellbeing / stress ratio is 2.84 meaning that the human condition here is 2.84 times the amount of stress it places on the ecosystem. This is very good compared to any country on the planet. There are likely several reasons for this. We have a very small population in the NISA region relative to the size of the area. This population relies on goods and services from elsewhere to sustain it, putting less pressure for those goods and services on its own environment. In other words, the local NISA human population is likely diverting ecosystem stress to areas outside the NISA region, thus contributing to a high wellbeing / stress ratio in the NISA region.

Over the past century considerable stress was exerted on the ecosystem through forestry activities in the NISA region, relative to the size of population here, reflecting the basis for the local economy and regional exports. However, as forestry tends to modify, rather than convert ecosystems, the impact has been much more benign than in regions dependant on agriculture or manufacturing.



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## Recommendations

This project was initiated as a pilot several years ago to determine if the wellbeing assessment could be used in smaller regions to assist planners. Since the inception of this project, the CIT have been working on a similar assessment using the same methodology for the BC Coast. While we were able to utilize the human data compilation completed by the CIT, it is unfortunate that the results of the CIT ecosystem data compilation are yet not available. As well, the CIT indicators are in the process of being revised and are promising to be much more comprehensive than the NISA indicator set.

We therefore suggest that a second approximation of wellbeing in the NISA region may be useful at some point in the future, using the full complement of CIT data. Also, results from other CIT subunits may be helpful as comparison units, rather than using entire countries from the *Wellbeing of Nations*.

As we have a considerable degree of discomfort with the lack of ecosystem data used in this assessment, we also suggest a review of ecosystem indicators using the final CIT set of ecosystem indicators and input from Weyerhaeuser specialists. As well, we suggest taking advantage of recent data compiled to address ecological indicators developed for the Weyerhaeuser Forest Project. This emerging data appears to be comprehensive for the North Islands Timberlands area.

### References:

- Prescott-Allen, R. 2001. *Wellbeing of Nations*. Island Press in cooperation with the International Development Research Centre, IUCN- The World Conservation Union, International Institute for Environment and Development, Food and Agriculture Organization of the United Nations, Map Maker Ltd., UNEP World Conservation Monitoring Centre.
- Prescott-Allen, R. 2002. *Assessing the wellbeing of the Central Coast, North Coast and Haida Gwaii / QCI*. An unpublished presentation.

## APPENDIX 1:

# The Framework for the North Island Sustainability Assessment

<b>ECOSYSTEM SUBSYSTEM</b>		
Subsystem	Element	Objectives
Land	Land ecosystem diversity	Conversion of native forests to a nonforest or plantation forest* state is minimized, and large units of each forest ecosystem type are maintained in an old growth state or restored to that state. Any modification of other forest areas maintains the full range of ecosystem types in a condition and pattern that will promote the persistence of the ecosystems with minimal loss of the communities within them. At-risk ecosystems and large areas of each ecosystem type are protected (inside or outside the forest area concerned).
	Soils/land quality	Soil degradation on modified or cultivated land (forests used for timber production, livestock production, or other uses that alter the forest) is close to degradation rates on natural land (old growth forest).
	Forest quality	Logged forests fully regenerate, productivity is maintained, chemical and nonchemical interventions in resource production are specific and have a negligible effect on nontarget organisms, and disturbances and stresses (other than logging) are within the background range of variation.
WATER	Aquatic ecosystem diversity	Large units of each aquatic ecosystem type are maintained in a natural state or restored to that state. Any modification of other water bodies maintains the full range of ecosystem types in a condition and pattern that will promote the persistence of the ecosystems, habitats, and communities within them.
	Water quality	Water pollutants (e.g., heat, suspended solids, chemicals) are below levels that affect people or the ecosystem.
	Water quantity	The annual flow of water and seasonal and other periodic fluctuations in flow are close to background rates.
Species and genes	Species diversity	All native wild species are maintained. Introduction to the wild of nonnative species is prevented, and the spread of already introduced species is controlled.

Subsystem	Element	Objectives
	Genetic diversity	Major genetic variants of wild and domesticated species are maintained, focussing on tree species, indicator species, and at-risk species.
Air	Local air quality	Air pollutants are below levels that affect people or the ecosystem.
	Global atmosphere	Net carbon storage by forests and forest operations is maintained or increased.
Resource use	Timber use	Rates of timber extraction are within the rates of renewal of the resource and are compatible with the other ecosystem objectives.
	Nontimber use	Rates of nontimber resource use (consumptive and nonconsumptive) are within the rates of renewal of the resource and are compatible with the other ecosystem objectives.
	Energy and materials use	Energy and materials are used efficiently and without waste. Energy sources are the most compatible with the other ecosystem objectives.
<b>HUMAN SUBSYSTEM</b>		
Wealth (monetary benefits)	Value and diversity	Forest users obtain maximum value from a wide diversity of forest products.
	Individual income and employment	Forest-related sectors provide a high and stable level of employment income.
	Corporate income	Forest businesses are profitable and competitive.
	Community income	Forest-related sectors contribute to the prosperity and stability of forest-dependent communities**.
Health and population	Health and safety	People enjoy long lives in good health, and workers in forest businesses have safe working conditions.
	Population	The populations of forest-dependent communities are stable, with a balance of age groups.
Knowledge and culture	Knowledge	The scientific and traditional knowledge required to achieve all elements of sustainable forest management is developed and transmitted to forest workers, forest-dependent communities, and society at large.

Subsystem	Element	Objectives
	Spirit and culture (includes recreation)	Spiritual and other cultural bonds with the forest are strengthened and maintained, and opportunities are provided to experience personal and communal connections with the forest.
Community	Rights	The rights of First Nations and all members of society are fully respected.
	Law	Laws and regulations promote sustainable forest management, including achievement of these objectives, and are obeyed.
	Decision making	Decisions are made as a result of informed, inclusive, and fair consultation with people who have a right or interest in forest management or are affected by forest management decisions.
	Community harmony	Forest-dependent communities provide a helping hand to those who need it and protect people from violence and crime. Disputes within and between communities and between a forest operation and a community are resolved with mutual respect.
Equity	Equity	The benefits and burdens of sustainable forest management are shared equitably among and within forest-dependent communities, forest businesses, and society at large.