

# **Hishuk-ish-tsawalk**

(everything is one)

## **Towards Sustainable Forest Management**



West Island Timberlands  
BC Coastal Group  
Weyerhaeuser Company

July 2002

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## Introduction

The West Island Timberlands Sustainable Forest Management (SFM) Plan is a road map to current and long-term SFM performance objectives and management strategies in the West Island operating area, referred to here as the Defined Forest Area or DFA.

The DFA is situated on west central Vancouver Island, British Columbia. The primary community centers in the area are Port Alberni and Bamfield. The DFA encompasses 316,150 hectares of public and private lands. It coincides roughly with the company's Tree Farm License 44 (TFL 44), excluding areas that are not expected to remain under long-term management by the company (figure 1).

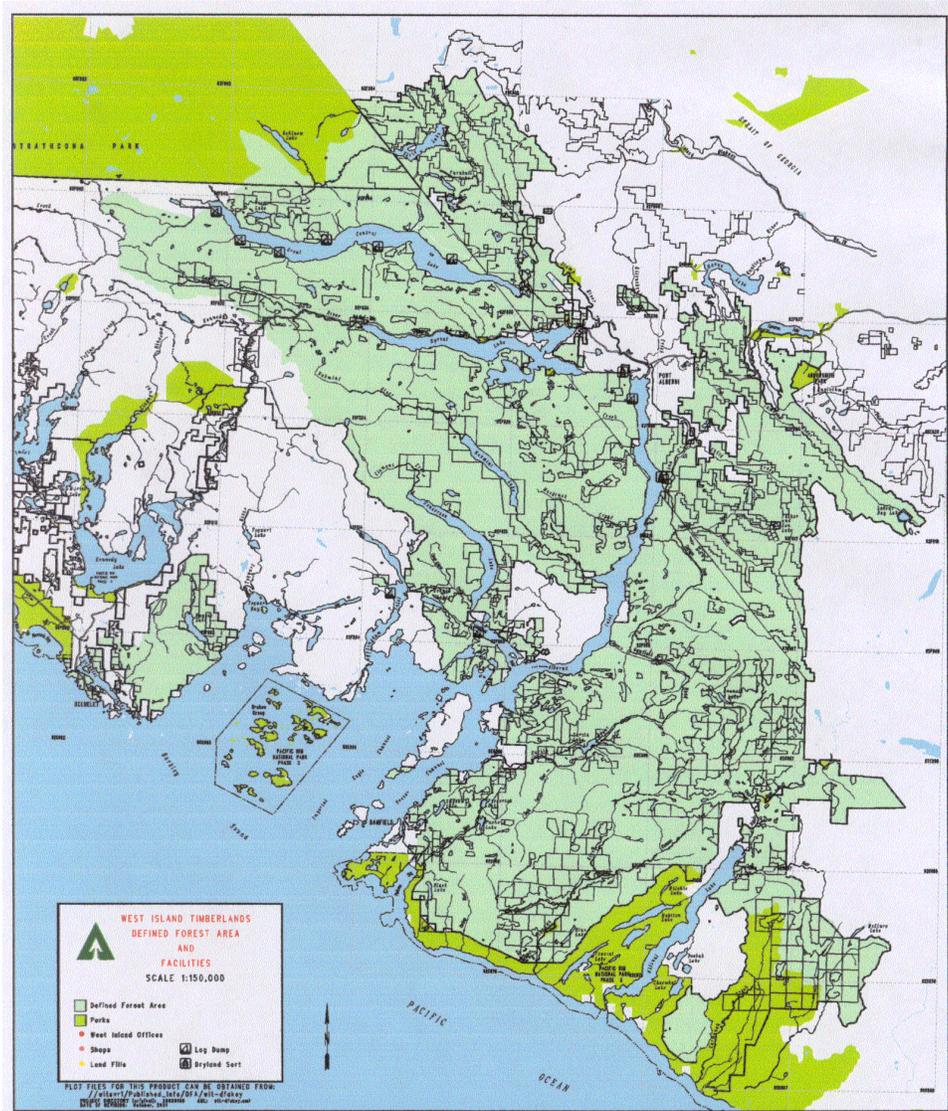


Figure 1: West Island Timberlands' Defined Forest Area

The SFM Plan is an adaptation of planning processes that have been in place since allocation of the original tree farm licenses for the DFA in 1955. These planning processes include strategic and operational plans, analyses, standards, and monitoring and public review. Management of forest land in the area has continued to evolve over time in response to changes in society's values. Revised Management Plans, submitted at approximately five-year intervals, include objectives, management strategies and analyses of management impacts. Standards and operating plans have been updated as changes occur. Monitoring has included divisional reporting as well as TFL 44 and corporate annual reports and compliance audits.

The results of the DFA related public participation processes in past years have contributed to the development of the goals, indicators, and objectives set forth in this plan. The West Island Woodlands Advisory Group (WIWAG) has helped to further develop the SFM performance framework for the DFA. A further description of WIWAG through their Terms of Reference may be found in Appendix 1. Ongoing review and input is provided by the advisory group, TFL management, and others through performance assessments, operational plan reviews, and processes related to specific land use issues such as landscape unit planning and community water supply.

The values, goals, indicators, objectives, and management practices described in this document are currently understood and followed by West Island for achieving sustainable forest management on the DFA. This is an evolving document that is reviewed and revised on an ongoing basis with the community advisory group to reflect changes in the forest and local community. In particular, this SFM Plan will evolve to incorporate the BC Coastal Group's Forest Project<sup>(1)</sup> strategy, which is directed at replacing clear cutting with Variable Retention silviculture systems and at achieving higher levels of old-growth conservation.

The SFM Plan includes this introductory overview and two additional sections:

- Section 1** West Island's SFM values, goals, indicators, and objectives with acceptable variances, forecasts and management strategies. These are organized according to the Canadian Council of Forest Ministers' (CCFM) Criteria and Critical Elements for Sustainable Forest Management as adapted for the CAN/CSA-Z809-96 standard.
- Section 2** A progress report for the BC Coastal Group's "Forest Project," a new (1998) forest management strategy with significant implications for evolving definitions of sustainable forest management in the DFA.
- Section 3** Glossary of terms and acronyms used in this plan.

The plan also includes two appendices:

**Appendix 1** WIWAG Terms of Reference

**Appendix 2** DFA Data Set, including forecasts, data protocol, and historic trends for some of the indicators

### **Process for developing the SFM criteria and indicators set**

The DFA's regulatory and management systems — and the values that they recognize — have been developed over several decades and are responsive to the Canadian Standards Association's Sustainable Forest Management standard (CAN/CSA-Z809-96) system criteria, including the requirements for public involvement and a continual improvement process.

This SFM Plan was originally developed in 1999-2000 as a collaborative effort involving WIWAG and West Island staff. The plan has evolved, and will continue to evolve, as the participants are able to better define community values and goals and to identify the most appropriate performance measurements.

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<sup>1</sup> The BC Coastal Group's "Forest Project" strategy is on schedule to meet its target of a five-year transition from clearcutting to variable retention silviculture systems by 2003. See Section 2.

## Links to management plans and operational plans

Figure 2 shows the links between operational planning and TFL Management Plans with the B.C. Forest Practices Code (FPC).

The SFM Plan is an umbrella plan that links higher level plans, such as the Management Plan, with operational plans. The performance commitments included in the SFM Plan equal or surpass commitments previously approved under TFL 44 Management Plan 3 (1998-2002). The SFM Plan reflects the objectives, management strategies, and reporting structure of management plans. It is influenced by other higher level plans, such as the Vancouver Island Land Use Plan, and by legislation including the FPC Act.

Figure 2 shows the flow of input and direction to operational plans, including Forest Development Plans and Silvicultural Prescriptions. It does not show the feedback loops of monitoring and adaptive management that occur from operations to the management plans and other higher level plans.

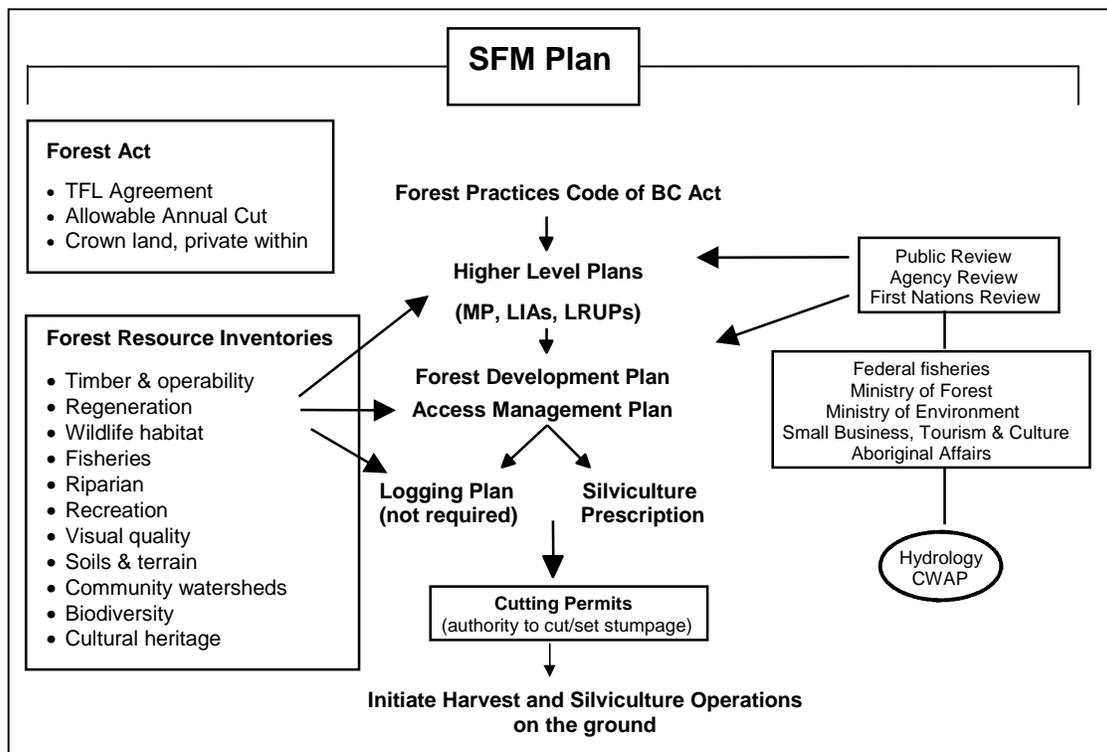


Figure 2: Links between Plans (TFL – with Forest Practices Code)

## SECTION 1 \_\_\_\_

### SFM Criteria and Indicators

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This section of the SFM Plan describes West Island's SFM Values, Goals, Indicators and Objectives for the year 2000. As appropriate, an Acceptable Variance is provided for the near term performance level of each Objective and a forecast future condition for each indicator. The section is organized according to the Criteria for Sustainable Forest Management, which was developed by the Canadian Council of Forest Ministers and adapted for the Canadian Standards Association's Sustainable Forest Management standard (CAN/CSA-Z809-96).

As further explanation of the organization of this section:

- The **Criteria** (e.g., below: 1.0 Conservation of Biological Diversity) and **Critical Elements** (e.g., 1.1 Ecosystem diversity) and their accompanying statements are derived from *Defining Sustainable Forest Management: A Canadian Approach to Criteria and Indicators* (Canadian Council of Forest Ministers, Ottawa, 1995).
- The subsidiary **Values** (e.g., 1.11 Variety and patterns of ecosystem types at the landscape level), **Goals, Indicators, Objectives, Acceptable Variances** and **Forecasts** were developed for this plan during discussions among WIWAG members, West Island Timberlands staff and other BC Coastal Group staff.

As used in this plan:

- **Goals** are the conditions that are desired to be sustained or attained in the long term.
- **Indicators** are the means by which performance relative to a Goal is measured. (A more detailed explanation of the Indicators in this section, as well as an explanation of the procedures for data collection, is in Appendix 2.)
- **Objectives** are the near term performance targets representing progress towards the Goals; they are frequently expressed as a level of an Indicator.
- **Acceptable Variances** specify the range of performance results (+ and/or – relative to the Objective) that is deemed to be an acceptable outcome. A result outside this range does not always indicate unacceptable performance. (For example, it could reflect: the impact of an uncontrollable event, such as a natural disaster; the fact that the Objective was based on poor quality or inadequate data; or the effects of a responsible choice between two competing Objectives.) A result outside the Acceptable Variance range does, however, require review, assessment and, possibly, a revision of either the objective or management practices.
- **Forecasts** are the predicted long term condition of an Indicator.

West Island's performance against this plan is subjected to on-going monitoring and to annual review and assessment by West Island management and WIWAG.

## **1.0 Conservation of Biological Diversity**

Biological diversity is conserved by maintaining the variability of living organisms and the complexes of which they are part.

### **1.1 Ecosystem diversity**

Ecosystem diversity is conserved if the variety and landscape-level patterns of communities and ecosystems that naturally occur on the Defined Forest Areas (DFA) are maintained through time.

#### **1.1.1 Variety and patterns of ecosystem types at the landscape level**

**GOAL 1:** Maintain representative ecosystems across the landscape

**Indicator 1:** Percent of timber species by Defined Forest Area (DFA) compared to historic baseline

**Objective:** Move toward historic baseline for all commercial tree species

**Acceptable Variance:**  $\pm 15\%$

**Forecast:**  $\pm 10\%$

**Indicator 2:** Percent of 0-20 year age class by landscape level

**Objective:** Less than 30% of any given landscape unit

**Acceptable Variance:**  $\pm 10\%$

**Forecast:**  $\pm 30\%$

**Indicator 3:** Percent area of old growth within landscape units and biogeoclimatic variants

**Objective:** Do not increase the number of units where inadequate old growth exists

**Acceptable Variance:** Two units increase

**Forecast:** Zero increase

**GOAL 2:** Maintain representative red- and blue listed plants and plant communities

**Indicator 4:** Percent of planners oriented

**Objective:** All planners complete red/blue listed species awareness and location orientation

**Acceptable Variance:** - 50%

**Forecast:** All planners oriented

**GOAL 3:** Harvest activities reflect natural landscape patterns

**Indicator 5:** Percent of area harvested using Variable Retention (VR)

**Objective:** Year 2002: 80% VR by area

**Acceptable Variance:** - 15%

**Forecast:** 90% in 2002

**Indicator 3:** Percent area of old growth within landscape units and biogeoclimatic variants

**Objective:** Do not increase the number of units where inadequate old growth exists  
**Acceptable Variance:** Two units increase  
**Forecast:** Zero increase

### 1.1.2 Connectivity and fragmentation

**GOAL 4:** Forest connectivity is maintained (in order to protect genetic and species migration and relationships throughout the landscape unit)

**Indicator 6:** Forest Ecosystem Network

**Objective:** Maintain the Forest Ecosystem Network

**Acceptable Variance:** Zero

**Forecast:** Connectivity is maintained through some form of scientifically defensible strategy.

### 1.1.3 Stand level diversity

**GOAL 5:** Structural diversity is maintained at the stand level

**Indicator 7:** Stand level retention in all cutblocks as percent of total cutblock area

**Objective:**  $\geq 15\%$  in 2002 (focusing on riparian areas, structure, windfirmness, distribution and key ecological values)

**Acceptable Variance:** 10% for a lower limit

**Forecast:** 30%

## 1.2 Species diversity

Species diversity is conserved if all native species found on the DFA prosper through time

### 1.2.1 At-risk vertebrate species

**GOAL 6:** At-risk species are identified and their habitat needs are maintained

**Indicator 8:** Species and programs mentioned in the Forest Development Plan

**Objective:** Increase the number of management programs by six when the FDPs are revised

**Acceptable Variance:** - 2

**Forecast:** N/A

**GOAL 7:** Populations of species are not put at risk as a result of forest management activities

**Indicator 9:** Number of identified species at-risk in the DFA

**Objective:** Zero increase in at-risk status attributable to management activities.

**Acceptable Variance:** Zero increase

**Forecast:** Zero increase

## 1.2.2 Identified species of special interest

**GOAL 8:** Identified species of special interest and localized populations are inventoried and strategies for their habitat needs are in effect

**Indicator 10:** Existence of a habitat management program for identified species of special interest (includes a list)

**Objective:** Support habitat programs in cooperation with regulatory agencies and others.

**Acceptable Variance:** Zero

**Forecast:** N/A

## 1.3 Genetic diversity

Genetic diversity is conserved if the variation of genes within the species is maintained.

This Element is managed through Values and Goals in Elements 1.1 and 1.2.

## 1.4 Management strategy

Biological diversity – defined as the variety of life and all the processes that support it – is affected both positively and negatively by forestry practices. The long-term significance of altering biodiversity in our forest ecosystems is unknown, but concerns include losses or reduced abundance of species and sustainability of ecosystem health and resource productivity.

Substantial areas, largely old growth, have been reserved throughout the DFA on inoperable or sensitive soil sites as riparian, wildlife or recreation reserves and, increasingly, as permanent Variable Retention reserves according to the guidelines set forth under the Forest Project. Biodiversity conservation guidelines are in place at the stand level. They are defined at the larger, landscape levels through provincially assigned Biodiversity Emphasis Options and through Forest Project zoning designations.

The strategy for biodiversity conservation is:

- Institute landscape-level ecological planning.
- Plan forest management activities based on Forest Project stewardship zones. (These zones will require an equal or greater level of biodiversity conservation for a given landscape unit than would the provincially-set requirement for low, medium or high biodiversity emphasis.)
- Work with Ministry of Sustainable Resource Management specialists to further develop objectives and strategies for landscape units.
- Implement ecologically based stand-level practices as required under the Forest Project strategy. (The strategy requires a Coastal Group phase-in of Variable Retention harvesting at the minimum rate of 20% per year beginning in 1999. West Island's target is 80% VR by area harvested in 2002.)
- Choose species mixtures for reforestation based on ecological site adaptation.
- Consistent with zoning and VR guidelines, retain leave tree reserves or wildlife tree patches to enhance structural diversity of harvested areas.
- Improve knowledge through inventory and research.
- As of June 2002, 80% of the 1:20,000 scale ecosystem (site series) mapping for use in landscape-level planning was completed. The remaining 20% (Alberni West) will be completed by December 31, 2002.
- Cooperate with other agencies in research and inventory projects on species of concern.
- Continue to develop and apply spatial habitat supply modeling to explore conservation strategies, beyond current harvest rules.

### 1.4.1 Wildlife

Wildlife issues are twofold in scope: (1) habitat protection for large mammals and threatened or endangered species; and (2) biodiversity concerns related to conservation of animals and plants and the maintenance of ecosystem processes. Current knowledge is often limited and limiting and new knowledge requires a process of adaptive management. The main current issues are:

- Identification and protection of specialized habitats for large mammals, primarily deer and elk.
- Identification and preservation of the best marbled murrelet nesting areas and release of previously protected areas that appear not to be used.
- Actions needed to maintain habitat for rare and endangered plants, animals, and ecosystem processes.

The wildlife protection strategy is to:

- Comply with the Forest Practices Code.
- Provide operations and agency personnel feedback on guidelines as part of an ongoing process of improving conservation.
- Liaise with MWLAP wildlife and habitat protection staff on FDP issues, especially to identify and protect critical habitat.
- Continue assessments of ranges, habitat diversity, wildlife trees, etc., and protect significant values.
- Continue surveys to identify and preserve key marbled murrelet nesting sites and obtain release of protected sites that are apparently of little or no value.
- Manage riparian zones in accordance with the FPC Act and Regulations and as directed by the Riparian Management Area Guidebook; as feasible, enhance protection on smaller streams particularly through the use of VR design.
- Support other monitoring and research activities to increase knowledge of habitat resource requirements and the impacts of management activities on those (*e.g.*, see *Section 3: Summary of BC Coastal Group Forest Management Strategy*).

### 1.4.2 Fish protection

The fishery resource value is generally high and protection of fish habitat and water quality ranks as a significant priority. Biological issues dominate in the sense of conserving fish stocks and habitat. At the same time, managers are also concerned with meeting the letter of the law. The issues are:

- To update classification of waters within the DFA. This includes:
  - Detailed site specific information for operational planning.
  - A broader, but accurate portrayal of the impacts of riparian management for strategic analysis.
- Application of the requirements of the FPC and concern for penalties around issues of interpretation.
- Mitigation, enhancement, and habitat restoration.
- Cooperation with First Nations and other stakeholder groups.
- To determine measures for protecting endangered populations.
- Management of riparian areas.

The strategy for responding to these issues is to:

- Continue to undertake detailed stream inventories for operational plans.

- Review (with government agency staff) and update stream and fisheries inventory information for strategic planning, including timber supply analyses by December 31, 2000. Examine opportunities for using the detailed information collected for FDPs.
- Continue to identify and implement enhancement, mitigation, and rehabilitation opportunities with FRBC funding.
- Encourage continuation of the Carnation Creek study and continue our supportive and active roles.
- Achieve full compliance in meeting the requirements of the FPC.
- Work with agencies to design and deliver training to woods workers.

Work with agency staff and other interested parties to suggest improvements and/or changes to guidelines or regulations that will either improve the overall objectives or make interpretation of the guidelines more user-friendly.

## **2.0 Forest Ecosystem Condition and Productivity**

Forest ecosystem condition and productivity is conserved if the health, vitality, and rates of biological production are maintained.

### **2.1 Incidence of disturbance and stress**

Forest health is conserved if biotic (including anthropogenic) and abiotic disturbances and stresses maintain both ecosystem processes and ecosystem conditions within a range of natural variability.

#### **2.1.1 Human induced disturbance and stress**

**GOAL 9:** Minimize loss of productivity due to human-induced disturbance and stress

**Indicator 11:** Annual percent of opening areas in permanent access structures

**Objective:**  $\leq 7\%$  of opening areas in permanent access structures

**Acceptable Variance:** + 1%

**Forecast:** 5%

**Indicator 12:** Operationally-caused fire damage by area

**Objective:** Zero Hectares

**Acceptable Variance:** + 10 Hectares

**Forecast:** 5 hectares

**Indicator 13:** Annual area harvested as percent of the total productive forest area

**Objective:**  $< 1\%$

**Acceptable Variance:**  $\pm 0.5\%$

**Forecast:** 1%

**Indicator 14:** Area of operationally-related windthrow

**Objective:**  $< 5\%$  harvest area

**Acceptable Variance:** + 5%

**Forecast:** 2%

**Indicator 15:** Area of slides originating in harvested areas or roads

**Objective:** Zero (post 1995 development)

**Acceptable Variance:** 5 hectares

**Forecast:** 2 hectares

**Objective:** Stabilize with grass seed and reforest >80% of slides characterized by non-consolidated (i.e. productive) material.

**GOAL 10:** Human induced disturbance and stress is rehabilitated promptly

**Indicator 16:** Area out of compliance with free-to-grow objectives

**Objective:** Identify and reduce the non-compliance area to below 150 hectares

**Acceptable Variance:** 150 hectares

**Forecast:** Zero

## 2.2 Ecosystem resilience

Ecosystem resilience is conserved if ecosystem processes and the range of ecosystem conditions allow ecosystems to persist, absorb change, and recover from disturbances.

### 2.2.1 Ecosystem recovery from disturbance and stress

**GOAL 11:** Forest management activities do not compromise the ability of the ecosystem to recover. (See also Goals 13 & 14.)

**Indicator 7:** Stand level retention in all cutblocks as percent of total cutblock area

**Objective:** Average  $\geq$  15% in-stand retention in 2002 (focusing on riparian areas, structure, windfirmness, distribution and key ecological values)

**Acceptable Variance:** 10% for a lower limit

**Forecast:** 30%

**Indicator 16:** Area out of compliance with free-to-grow objectives

**Objective:** Identify and reduce the non-compliance area to below 150 hectares

**Acceptable Variance:** 150 hectares

**Forecast:** Zero

**Indicator 17:** Area out of compliance with regeneration delay obligations

**Objective:** Zero

**Acceptable Variance:** Zero

**Forecast:** Zero

**Indicator 19:** Equivalent years of Not Sufficiently Reforested (NSR) as 5-year rolling average

**Objective:** Maintain NSR equivalency at <3 years harvest area

**Acceptable Variance:** Zero

**Forecast:** 1.5 years

## 2.4 Management strategy

Since 1955 when the DFA's original TFL licenses were awarded, neither fire nor forest health problems have been significant. The largest fire, the Tay fire in 1967, started from blasting on the highway when the industry was already shut down because of the fire hazard. The fire burned 2,625 ha (including mature and second-growth areas) and killed 1.5 million cubic meters of timber. A black headed budworm outbreak in 1970 was closely watched for two years before the population collapsed and preparation for control abandoned.

### 2.4.1 Fire control

West Island's primary objective is to prevent fires through good housekeeping, diligent equipment maintenance, and strict control of operations as fire danger rises. The goal is to contain all fires within 24 hours of detection. Fire prevention and control are governed by operating plans and procedures:

- Fuel management plans are prepared for MoF approval and components of the plan are built into the development plans;
- Pre-suppression plans are prepared and submitted annually to the Coast Fire Centre;
- DFA and regional plans exist for fires not controlled within 24 hours, and
- Ground and aerial patrols are made as required by regulation.

West Island maintains and uses its own fire suppression equipment. If needed, further equipment can be obtained from other operating units or the MoF.

West Island is connected to the MoF Fire Weather Information Network. West Island also employs strategically located fire weather stations to monitor weather in the various operating areas. Data from these stations are used to modify or cease operations according to hazard rating, risk and fire danger rating.

### 2.4.2 Forest insect control

- Forest Defoliators – The last significant insect epidemic was in 1945-6 when hemlock looper killed mature timber on a significant part of the Nitinat, Pachena, Sarita, and Klanawa River watersheds. A significant percentage of the dead timber was salvaged. The black headed budworm reached epidemic levels in 1972 but then collapsed.

Insect populations tend to build up over a number of years. The company's past experience has been that defoliation is normally reported by staff flying over the inaccessible old forest where such attacks normally start. Evidence of other problems, e.g., Rhizina and laminated root rots, have been identified and reported in the course of fieldwork. Follow up fieldwork has then determined the severity of the problem and decisions on any further action.

When defoliation is reported, it is inspected more carefully, boundaries roughly mapped and recorded in the annual report. If the attacked area increases and/or the extent of defoliation increases significantly, assistance is sought from MoF or Canadian Forest Service (CFS) specialists and plans made for salvage. If warranted, an aerial attack plan is prepared in conjunction with the pertinent federal and provincial agencies.

- Balsam Woolly Adelgid – Recent observations have identified Balsam Woolly Adelgid (BWA) as more widespread than previously thought and the area infested is likely to continue to increase. Mortality is occurring in the eastern part of the DFA south and west of Mt.

Arrowsmith. Mortality is generally found on drier sites of advanced and old growth stands of amabilis fir and sub-alpine fir in the CWHmm2 and MHmm1 subzones.

Future yield losses will be minimized by:

- Further restricting planting of *Abies spp* (true firs);
  - Requiring at least 600 stems per hectare of alternate, acceptable species in natural and planted stands that are principally amabilis fir, within the infected area and adjacent to it;
  - Requiring fill planting of vulnerable stands previously classed as stocked with amabilis fir with alternate, acceptable species where this is feasible and realistic to meet at least minimum stocking, and
  - Favoring other acceptable species when spacing in the quarantine zone and a transition zone bordering the quarantine zone.
- ❑ Ambrosia Beetles – The DFA has had an active damage prevention program for over 30 years to minimize the significant financial loss these beetles can inflict. After early trials and operational spraying with a number of insecticides, damage is now controlled by careful management of inventories of susceptible logs and the use of pheromones and trap logs around log sort and storage areas.
- ❑ Other Insects – Rules for planting Sitka spruce are carefully adhered to so as to reduce damage by the Sitka spruce weevil. Active control measures were attempted in the past with marginal success. The company is involved in trials on other tenures with seedlings from weevil resistant provenance. No other insects, e.g., bark beetles or the plantation weevil, have reached epidemic levels.

### 2.4.3 Forest disease control

Wood volumes lost to disease in the old-growth forest have been estimated as highly significant by the CFS. However, measurements from Coastal Group permanent sample plots for nearly 30 years suggest that growth is balancing mortality.

In the new forests, a number of parasitic fungi can kill trees or degrade log quality and value. The most significant of these are hemlock mistletoe, laminated root rot, Annosus root rot, and Armillaria root disease. The design of new variable retention silvicultural approaches must take into account the widespread incidence of mistletoe in old-growth hemlock and in many of the 40 year plus second growth stands as this can pose a significant risk to the health of regenerating forest areas. Though Annosus is known to be widespread and though various measures were used when spacing or thinning in the 60s and 70s (high stumps and borax), no action is presently undertaken. Though Armillaria is endemic, assessments in Douglas-fir stands made by research staff in the 1950s found evidence of only scattered mortality, which appeared to decline or cease after canopy was formed. It was concluded this pathogen is not presently a cause for concern.

Active preventive measures are now limited to mistletoe and laminated root rot. Strategies are being implemented for addressing infections of *Phellinus weirii*.

### 2.4.4 Windthrow control

Today's small cutblock sizes and variable retention reserves within cutblocks expose more timber edge to potential damage from strong wind events. The strategy to minimize losses due to windthrow includes:

- ❑ Assessment of susceptibility to windthrow. This includes an overview evaluation of historic patterns in the watershed and is the basis for developing an appropriate windthrow management strategy.
- ❑ Cutblock design (e.g., cutblock size, location and orientation) at the FDP and SP stages based on knowledge of historic wind patterns and assessments. Windfirmness is also a key factor guiding selection of groups and individual trees for in-stand retention.
- ❑ Management practices including feathering of edges and pruning of trees is applied according to the assessed risk of windthrow.
- ❑ Monitoring of windthrow and recovery of windthrow where practical and ecologically appropriate.
- ❑ Developing wind hazard maps based on a GIS model of topography, site, and stand features.
- ❑ Training of field personnel to recognize the potential for windthrow.

### **3.0 Conservation of Soil and Water Resources**

Soil and water resources and physical environments are conserved if the quantity and quality of soil and water within forest ecosystems are maintained.

#### **3.1 Physical environments**

Physical environments are conserved if permanent loss of forest area to other uses or factors is minimized and rare physical environments are protected.

##### **3.1.1 Forested land**

**GOAL 12:** There is no significant conversion of forested land to other uses without due public process

**Indicator 18:** Total productive forest area in DFA

**Objective:** Limit conversion to non-forest use to < 0.001% per year

**Acceptable Variance:** < 0.0027% per year

**Forecast:** Stable

##### **3.1.2 Permanent access structures**

**GOAL 13:** Access structures are built and maintained for long term uses to support forest maintenance/silviculture, fire protection, and recreation, while also protecting the soil resource.

**Indicator 11:** Annual percent of opening areas in permanent access structures

**Objective:** ≤ 7% of opening areas in permanent access structures

**Acceptable Variance:** + 1%

**Forecast:** 5%

##### **3.1.3 Rare, endangered or under represented features**

**GOAL 22:** Rare, endangered or otherwise significant features are identified and their important qualities are protected

**Indicator 20:** Inventory of all known sites requiring preservation or protection within the DFA

**Objective:** Maintain inventory of sites that require preservation or protection (caves, karsts, etc.)

**Acceptable Variance:**Zero

**Forecast:** N/A

### 3.2 Soil resources

Soil resources are conserved if the ability of soils to sustain forest productivity is maintained within characteristic ranges of variation

#### 3.2.1 Soil quality

**GOAL 15:** Natural levels of soil productivity and stability are sustained

**Indicator 21:** Openings harvested in which soil disturbance exceeds level specified on Silviculture Prescription. *(Note: this indicator does not apply to private land outside of the DFA. See Appendix 3).*

**Objective:** Zero

**Acceptable Variance:**1 opening

**Forecast:** Zero

#### 3.2.2 Soil cover

**GOAL 16:** Erosion and loss of soil cover are minimized

**Indicator 11:** Annual percent of opening areas in permanent access structures

**Objective:** ≤ 7% of opening areas in permanent access structures

**Acceptable Variance:**+ 1%

**Forecast:** 5%

**Indicator 15:** Area of slides originating in harvested areas or roads

**Objective:** Zero slides originating in harvested areas or roads (post 1995 development)

**Acceptable Variance:**5 hectares

**Forecast:** 2 hectares

### 3.3 Water resources

Water resources are conserved if water quality and quantity is maintained.

#### 3.3.1 Stream water quality

**GOAL 17:** Natural historic levels of water quality are maintained. (Calcium chloride is concern.)

**Indicator 22:** Water quality measurements for selected streams in areas of concern before and after road work OR turbidity measures in stream system before and after harvest activity

**Objective:** Turbidity remains within natural levels. No chemical substance in the water.

**Acceptable Variance:**One system outside natural level

**Forecast:** Levels are natural

### 3.3.2 Riparian areas (fresh and marine)

**GOAL 26:** Riparian areas are managed to protect water quality, water flow, and the habitat needs of land and aquatic species

**Indicator 23:** Percent of stream length of S4, S5 streams buffered  $\geq 15$  meters in areas harvested annually

**Objective:** S4  $\geq 85\%$   
S5  $\geq 60\%$

**Acceptable Variance:-** 15%

**Forecast:** S4 85%  
S5 60%

**Indicator 24:** Percent of S6 streams with a >15 meter buffer in areas harvested annually

**Objective:** Determine the % of S6 streams with a >15 meter buffer in areas harvested annually

**Acceptable Variance:**N/A

**Forecast:** To be determined.

**Indicator 25:** Forest Practices Code reserve zones for wetlands, lakes and streams (*Note: this indicator currently does not apply to private land outside the TFL – see Appendix 3.*)

**Objective:** Full reserve zones as per FPC; zero non-compliance related to forest harvesting on TFL

**Acceptable Variance:**Zero

**Forecast:** Zero

### 3.3.3 Forest hydrologic regimes (including water quantity)

**GOAL 19:** Natural hydrological regimes are perpetuated and damaged watersheds (water quality or riparian values) are restored.

**Indicator 26:** Coastal Watershed Assessment Procedure (CWAP) programs completed for watersheds of identified concern and results are incorporated into the FDP (*Note: this indicator currently does not apply to private land outside the TFL. See Appendix 3.*)

**Objective:** Carry out CWAPs on watersheds not previously examined and where proposed development or past activities may constitute a risk to key values; incorporate results into FDP

**Acceptable Variance:**One late CWAP

**Forecast:** All watersheds assessed and results reflected in FDP

## **3.4 Management strategy**

### **3.4.1 Infrastructure and access development**

Locations of new log handling facilities, roads, bridges, and major culverts are shown in the operational plans at the appropriate planning stage for the detail required, i.e., the 20-Year Plan, Forest Development Plan, Silviculture Prescription, or annual Road Building Plan.

### **3.4.2 Road building and maintenance**

The Forest Development Plan documents plans for road construction and maintenance and for road deactivation. Silviculture Prescriptions describe permanent and temporary roads in individual cutblocks and plans for road rebuilding or deactivation.

The annual road building and maintenance plan is reviewed with the MoF District Manager as part of the Forest Development Plan process. All permitted roads and bridges will meet the requirements of the Forest Road Regulations. New bridges and major stream crossings are reviewed with and approved by fisheries officials as required by the District Manager.

Where existing non-permitted roads are required for harvesting they are permitted and brought up to standard. Non-permitted roads not required for harvesting are brought up to standard on a priority basis based on discussions with local MoF and MELP staff and according to the availability of Forest Investment Account (FIA) funding.

### **3.4.3 Site Restoration**

Roads and landings are maintained or deactivated according to the conditions of the Road Building Permit unless needed for other purposes. Deactivation plans are included with the Forest Development Plan or with the Silviculture Prescriptions. Backspar trails, abandoned roads and, as necessary and appropriate, exhausted or unused gravel pits, and log landings are restored by such techniques as ripping, return of spoil, spreading of debris, construction of anti-erosion barriers, and sowing of soil-improving or soil-holding species.

Non-permitted roads that predate the FPC are rated for urgency of restoration based on an evaluation of environmental risk and work is undertaken as FIA funding is granted.

Areas of landings used in longline, highlead, or helicopter yarding will not exceed the allowable limits for site degradation. Upon completion of logging, site restoration of landings will be completed in conformance with commitments or requirements contained in the SP or Road Plan.

### **3.4.4 Soil conservation**

The DFA experiences some of the highest rainfall events in North America. Where these high rainfall events occur on steep terrain, there is potential for landslides and surface soil erosion. Inventories of terrain stability have been completed for most of the DFA. Terrain stability mapping and evaluations of surface erosion potential have also been completed for most of the community watersheds in the DFA. The issues are:

- Potentially unstable terrain — Landslides are a natural and inevitable phenomenon that contributes to the evolution of the landscape. Although landslides occur in both logged and unlogged terrain, logging and road building can increase their frequency. Impacts of landslides include acceleration of sediment delivery to streams, possible damage to fish and invertebrate habitat and productivity, loss of productive forest site, unsightly scars, and damage to roads, culverts, and bridges.
- Surface soil erosion — Surface soil erosion is the wearing away of the earth's surface by water, wind, and gravity and includes rill and gully erosion. "Accelerated" erosion, in excess of "geologic" erosion, results from human activities. Accelerated erosion causes on-site impacts (soil loss, nutrient loss, lower productivity) and off-site impacts (water quality, sedimentation, habitat).

- Soil disturbance — Certain soil types are sensitive to disturbance from road building and yarding activities. If these sensitive sites are not identified in advance of forest development, then soil compaction, poor drainage, puddling, and soil displacement can result in loss of productive forest sites.

West Island's strategy for soil conservation is:

- Map areas where terrain mapping does not exist.
- Assess all Class IV and V (Es1 and Es 2) terrain prior to road construction or harvesting to evaluate terrain stability and provide recommendations on:
  - whether or not development should proceed,
  - best road and cutting boundary locations or changes to proposed layout or road alignment,
  - riparian management areas,
  - possible mitigative actions and criteria,
  - road construction or harvesting constraints, and
  - special road construction or harvesting techniques.
- Inspect drainage ditches and culverts regularly and take preventative measures to minimize the potential for debris flow initiation and soil erosion.
- Deactivate roads that are no longer needed for management access, forest protection, or other purposes.
- Identify potentially unstable (sensitive) sites.
- Where ground based harvesting is proposed, carry out site sensitivity assessments for soil compaction, soil displacement, surface soil erosion, and forest floor displacement.
- Where it is practical and economic, reduce the amount of permanent site degradation below 7% guideline.
- Rehabilitate cutblock areas that are not important for the road network and where the maximum allowable level of site degradation has been exceeded.
- Carry out internal and external audits to evaluate road building practices and stream management.

### 3.4.5 Water conservation

It is important to understand the type and extent of current, water-related problems in a watershed and to recognize the possible hydrologic impacts of proposed forestry-related development. Potential hydrologic impacts are of critical importance in community watersheds and in watersheds with high fisheries values. There are 14 community watersheds within the license boundary. The fishery resource value is generally high and protection of fish habitat and water quality ranks as a significant priority. Several watersheds have been assessed according to the Coastal Watershed Assessment Procedure (CWAP). The issues are:

- Quality — The quality of water is determined by drinking water standards in a community watershed and by aquatic standards in watersheds with high fisheries values. In both types of watersheds, sediment input and delivery and herbicide and fertilizer applications are the primary concerns.
- Quantity — The hydrologic impact on water quantity from forest development is primarily focused on the timing of flow and potential changes to peak flows.

West Island's strategy for water conservation is:

- ❑ Develop operating guidelines in consultation with appropriate local, provincial or federal authorities, or follow the provisions of approved watershed development plans where a watershed supplies water for community use or where fish values are paramount.
- ❑ Carry out CWAPs on unexamined watersheds where development is proposed. Prioritize this work in consultation with government agencies.
- ❑ Locate, design, construct, and maintain roads, bridges, and culverts to preserve natural drainage patterns and to minimize impacts on water quality and quantity.
- ❑ Develop and implement road deactivation plans to minimize impacts on streams. Where necessary, dry seed, hydroseed, and/or plant to reduce erosion and sedimentation hazards.

## **4.0 Forest Contributions to Global Ecological Cycles**

Forest conditions and management activities contribute to the health of global ecological cycles.

### **4.1 Recycling processes**

Forest conditions and management activities contribute to the health of global ecological cycles if the processes that are responsible for recycling water, carbon, nitrogen, and other life-sustaining elements are maintained.

#### **4.1.1 Ecological cycles**

**GOAL 20:** Forest management activities are conducted in ways that maintain ecological cycles

**Indicator 3:** Percent area of old growth within landscape units and biogeoclimatic variants

**Objective:** Do not increase the number of units where inadequate old growth exists

**Acceptable Variance:** Two units increase

**Forecast:** Zero increase

**Indicator 27:** Change in area of water bodies

**Objective:** Maintain current area of water bodies

**Acceptable Variance:** Zero

**Forecast:** Stable

#### **4.1.2 Carbon budget**

**GOAL 21:** Enhance the long term uptake and storage of carbon

**Indicator 28:** *Indicator pending based on advisory group education and information gathering*

**Objective:** Increase the advisory group's understanding of carbon budget factors

**Acceptable Variance:** Completed in 2003

**Forecast:** N/A

### **4.2 Utilization and rejuvenation**

Utilization and rejuvenation are balanced and sustained. *(The Values and Goals related to this section are included in Element 5.1.)*

### 4.3 Deforestation and conversion

Forest lands are protected from sustained deforestation or conversion to other uses. (*The Values and Goals related to this section are included in Element 3.1.*)

### 4.4 Management strategy

West Island's economic objective is to realize the highest net value of timber from the forest on a sustainable basis, while meeting the requirements for protection and/or conservation of other forest-based resources.

Variations in site conditions and requirements for different forest resources within the company's three stewardship zones will ensure a diversity of stand conditions and hence a wide range of species, ages, and size of logs. Factors that contribute to this variability across the forest landscape include variations in site productivity and ecological type. They also include specific management requirements for different forest values.

#### 4.4.1 Forest growth and yield plan

Growth and Yield work continues, subject to Forest Investment Account FIA funding. Partially funded FIA studies include:

- The establishment of several large scale (100 ha) and small scale (<20ha) experiments examining the effects of different amounts and patterns of variable retention on growth of the next crop. In addition, planted transects established during 1999 to 2001 with various species will be measured and used to examine the impacts of edge effects on growth of the next crop.
- A small pilot project will be undertaken to monitor (through random samples) the effects of variable retention on growth.
- A core of treated and natural permanent sample plots will be measured on a 10-year cycle.
- Existing models (Y-XENO) will be supported in the near term with adjustments for the effects of variable retention. In the longer-term, alternative modeling endeavours will be undertaken.

#### 4.4.2 Reforestation

Consistent with the silvicultural management objectives, West Island will regenerate the forest at densities that ensure full site coverage and high yields of quality timber. West Island will bear the silviculture costs for basic silviculture in compliance with the Forest Act. Other treatments on crown land will be undertaken if FIA funding is available. The company expects to receive a share of the FIA fund proportionate to its contribution

- Species selection – West Island bases species selection first of all on the silvicultural characteristics of the individual species and their adaptability to the particular site, including forest health considerations. The second criterion for selection is species value ranking. This is based on the company view of the wood qualities and desirability at harvest. Currently, cypress and cedar rank highest. Species selection will be consistent with the Establishment to Free Growing Guidebook for the Vancouver Forest Region.
- Forest tree seed – West Island attempts to maintain a five-year supply of seed for the range of species and seed zones. The priority will be for seed from the orchards of Coastal Tree Improvement Cooperative members. Where seed orchard seed may be unavailable in sufficient quantity, wild seed will be collected under supervision to ensure best quality.

- ❑ Site Preparation – Anticipated site preparation necessary to renew the forest is prescribed in the Silviculture Prescription and confirmed in the post logging survey. Site preparation methods that may be prescribed include mechanical piling or dispersal of slash, broadcast or accumulation burns, stumping, and mechanical or chemical control of brush or unwanted seed trees. Each method is considered in terms of economics, environment, and government regulation before the optimal solution is prescribed. Brush control by non-herbicide methods is favored where results and costs are comparable.
- ❑ Regeneration methods – Particularly in the Timber Zone and even if natural regeneration is feasible over time, most sites are planted in order to attain early green-up, thereby freeing adjacent areas for harvest. Immediate planting is normally prescribed on highly productive sites because of the likelihood of weed invasion. Where it is anticipated that natural regeneration will not reach at least the minimal acceptable level two years before the end of the regeneration delay period, planting will be prescribed. To achieve the yield gains from higher stocking levels as specified in Coastal Group stocking targets, planting may also be prescribed for areas where natural regeneration has reached only the minimum acceptable level. Planting will also become increasingly prevalent in advanced growth amabilis stands within the balsam woolly adelgid infestation zone.
- ❑ Free-to-grow assessment – Before 1987, all stand establishment to the free-to-grow stage on crown lands was funded by the MoF. With a change to the Forest Act that year, stand establishment (basic silviculture) became the financial responsibility of the licensee. The normal assessment regime for each site prior to claiming free growing status is:
  1. A post-harvest survey confirms whether or not the treatments in the Silviculture Prescription (SP) regarding slash loading and disposal, site preparation, regeneration method, and timing still apply. If necessary, a SP amendment is made or further treatments scheduled.
  2. Where natural regeneration has been prescribed, a stocking survey is made at least two years prior to the end of the regeneration delay period. If it appears the target will not be met, alternate actions – which may include one or more of mechanical site preparation, weed control, or planting – will be undertaken. If necessary, a SP amendment is made.
  3. A survival survey generally occurs about one year after planting. If necessary, a fill plant or a replant is scheduled.
  4. At least one regeneration performance survey is made to confirm stocking status three years after planting or three years after declaring an area stocked naturally. If needed, fill planting or weed control is scheduled.
  5. A free growing assessment is made near the end of the early free growing period. Necessary weeding or spacing treatments are scheduled.
  6. A final free growing survey is carried out near the end of the late free growing period.

## **5.0 Multiple Benefits to Society**

Forests provide a sustained flow of benefits for current and future generations if multiple goods and services are provided over the long term.

### **5.1 Extraction rates**

Extraction rates are within the long-term productive capacity of the resource base.

#### **5.1.1 Non-timber forest products**

**GOAL 22:** Forest management practices continue to provide opportunities for NTFP harvesting

**Indicator 29:** Number of complaints annually

**Objective:** No complaints related to NTFP

**Acceptable Variance:** One complaint

**Forecast:** Zero

**GOAL 23:** Variety of habitats support sustainable production of NTFPs (e.g., mushrooms, berries, floral products, medicinal plants, etc.)

**Indicator 3:** Percent area of old growth within landscape units and biogeoclimatic variants

**Objective:** Do not increase the number of units where inadequate old growth exists

**Acceptable Variance:** Two units increase

**Forecast:** Zero increase

### 5.1.2 Timber

**GOAL 24:** Maintain harvest at the Long Run Sustained Yield (LRSY) as it applies to the harvestable land area

**Indicator 30:** Annual harvest (5 year average) as percent of LRSY

**Objective:** 2002:  $\pm 10\%$  of LRSY

**Acceptable Variance:**  $\pm 15\%$  of LRSY

**Forecast:** LRSY

## 5.2 Investment and operating climate

Resource businesses exist within a fair and competitive investment and operating climate. *(The Values and Goals related to this section are included in Element 6.1.)*

## 5.3 Goods and services

Forests provide a mix of market and non-market goods and services

### 5.3.1 Parks and Ecological Reserves

**GOAL 45:** Management planning considers the location and characteristics of protected areas with respect to connectivity, fragmentation, representative ecosystems, etc.

**Indicator 31:** Percent of protected area perimeter harvested within previous 5 years

**Objective:**  $< 5\%$

**Acceptable Variance:**  $< 9.5\%$

**Forecast:**  $< 5\%$

**Indicator 32:** Percent of harvesting adjacent to protected areas that is VR

**Objective:** 80% in 2002

**Acceptable Variance:** -10%

**Forecast:** 95% in 2002

### 5.3.2 Recreation and tourism

**GOAL 48:** Weyerhaeuser is respectful of the high value of tourism and recreation and other user activities within the DFA.

**Indicator 33:** Area of identified recreational areas within the DFA

**Objective:** Maintain inventory of recreational areas

**Acceptable Variance:** 95% of DFA inventoried

**Forecast:** 100% of DFA inventoried

**Indicator 34:** Percent of identified roads that have been maintained

**Objective:** Access to x% (percent to be confirmed) of identified major recreation areas (as per sector priority list) is maintained

**Acceptable Variance:** 50%

**Forecast:** 100%

**Indicator 35:** Number of recreation sites maintained

**Objective:** Maintain existing recreation sites and site access, in cooperation with Ministry of Forests

**Acceptable Variance:** Review with MoF and determine funding needs

**Forecast:** Develop one new site every 5 years

**Indicator 36:** Number of polygons in which visual condition fails to meet Visual Quality Objectives. (*Benchmark for 2002.*)

**Objective:** Reduce the number from previous reports

**Acceptable Variance:** +5%

**Forecast:** Zero

## 5.4 Management strategy

West Island will meet overall societal goals related to sustaining key social and ecological values, while harvesting the approved Annual Allowable Cut as required under the Forest Act.

West Island demonstrates its commitment to these goals through 20-year and 5-year plans and through the conduct of logging and other activities in accordance with approved plans and prescriptions. Through implementation of the Forest Project strategy the company is committed to performance results of a higher standard than those required by law. The Forest Project strategy includes, among other aspects, a transition to ecologically-based silviculture systems, increased old growth conservation, and expanded public consultation such as that conducted in writing this SFM Plan.

### 5.4.1 Forest recreation

The objective is to:

- Periodically revise recreational value ratings or conduct new inventories to incorporate changes in value perceptions or management guidelines.

Consistent with MoF Recreation Management Guidelines and Standards, the West Island strategy is to:

- Work with the MoF and local citizens to maintain existing sites, trails, and other recreational areas.
- Identify new, significant recreational attractions in the course of inventory or development work and protect them.

- In partnership with the MoF and local citizens, develop new recreational sites according to demand (shown by recreation analysis) and availability of funding through the MoF District recreation budget.
- Cooperate with the MoF and authorized caving organizations to protect cave entrances and underground cave features and assist in the management of public access.
- A recreation analysis was completed in July 2002. The Coastal Group has, in consultation with appropriate MoF staff in region and district offices, completed an update of all recreation resource inventories, including available information on cave/karst features to the end of 1996.
- Account for recreation in operational harvest plans and timber supply analyses.
- The recreation resource inventory was updated in 2001.
- The Recreation Sector (WIWAG) produced a "Recreation Access Inventory" in January 2002. The summary will be posted on the Advisory Group's website.

#### **5.4.2 Visual landscape management**

Major visual landscape management issues in the DFA are associated with public travel corridors, settlements, parks and recreation use areas, and with addressing anomalies in the existing visual landscape database.

Forest harvesting and other operations will be managed to achieve established visual objectives. West Island will work with MoF specialists to manage visual landscapes more efficiently – that is, to minimize impacts on timber supply while retaining visual values. This will include:

- Incorporating principles of landscape design in the planning process in areas of high visual sensitivity.
- Recognizing demand as well as supply when assessing appropriate standards for managing visual landscapes.
- Applying silvicultural strategies to reduce the time to achieve visually effective green-up.

## **6.0 Accepting Society's Responsibility for Sustainable Development**

Society's responsibility for sustainable forest management requires that fair, equitable, and effective forest management decisions are made.

### **6.1 Social values**

Forests are managed in ways that reflect social values and are responsive to changes in those values.

#### **6.1.1 Community stability**

**GOAL 27:** Contribute to and support local economic activity

**Indicator 37:** Total West Island Timberlands wages and salaries

**Objective:** Maintain or increase total WIT wages and salaries as compared to previous years

**Acceptable Variance:**-10 %

**Forecast:** 2% increase per year

**Indicator 38:** Total paid to contractors

**Objective:** Maintain or increase total paid as compared to previous years

**Acceptable Variance:**-10%

**Forecast:** 2% increase

**Indicator 39:** Contract total paid to FN bands

**Objective:** Maintain or increase contract total paid through WIT to FN bands

**Acceptable Variance:**-10 %

**Forecast:** 2% increase

**Indicator 40:** Total paid in property taxes by each WY division or operation in DFA area over last five years

**Objective:** Determine the extent of property taxes paid by WY operations

**Acceptable Variance:**N/A

**Forecast:** N/A

**GOAL 28:** Community stability is enhanced by a balanced annual extraction rate

**Indicator 41:** Annual harvest level compared to last 5 years

**Objective:** Annual cut is within 15% of previous 5 year average

**Acceptable Variance:**± 25%

**Forecast:** ± 5%

**GOAL 29:** Local (within the A-C Regional District), non-competing businesses are supported and encouraged

**Indicator 42:** Distribution of WY expenditures locally

**Objective:** Determine the extent and nature of local spending by the company. Benchmark in 2002.

**Acceptable Variance:**N/A

**Forecast:** To be determined

**Indicator 43:** Annual harvest compared to local log consumption that is provided by WY

**Objective:** Maintain or increase ratio of logs consumed locally by WY operations vs. WIT harvest.

**Acceptable Variance:**-2%

**Forecast:** Even flow

**Indicator 44:** A meeting of value-added stakeholders is held

**Objective:** To determine the local fiber needs of value-added manufacturers and cottage industries.

**Acceptable Variance:**By 2003

**Forecast:** N/A

### 6.1.2 Economic rent

**GOAL 30:** Maximize economic rent (stumpage and royalties) without impacting harvest levels or sustainability

**Indicator 45:** Stumpage paid

**Objective:** Increase stumpage revenues to the Crown.

**Acceptable Variance:**-5 %

**Forecast:** Even flow

**GOAL 31:** Provide opportunities for revenue sharing, joint ventures and/or First Nations access to harvesting or tenure opportunities

**Indicator 46:** Number of FN contracts signed

**Objective:** Identify the number of contracts (benchmark).

**Acceptable Variance:**N/A

**Forecast:** N/A

**Indicator 47:** Degree of satisfaction with contract development process (FN sector to gather the data)

**Objective:** To establish the benchmark for future satisfaction ratings (FN to complete).

**Acceptable Variance:**N/A

**Forecast:** N/A

### 6.1.3 Timber companies

**GOAL 32:** West Island Timberlands Unit will earn a profit

**Indicator 48:** Profit/loss statement

**Objective:** 10% improvement in profit from previous year.

**Acceptable Variance:**5 % improvement

**Forecast:** 19% RONA

## 6.2 Aboriginal and treaty rights

Duly established Aboriginal and treaty rights are respected.

### 6.2.1 Aboriginal rights

**GOAL 33:** Support First Nations' ability to fully exercise their aboriginal rights through the protection and provision of access to natural and cultural heritage resources. *(See also additional related values and goals below.)*

**Indicator 49:** Number of surveys conducted vs. number requested

**Objective:** Conduct Cultural Heritage Surveys as requested by FN

**Acceptable Variance:**-5%

**Forecast:** 100%

**Indicator 50:** Number of bands who have requested a Cultural Heritage Resource contract vs. the number who have one

**Objective:** 100% of bands that want one have a CHR contract with WY

**Acceptable Variance:**-20%

**Forecast:** 100%

**Indicator 51:** First Nations information sharing and referrals program

**Objective:** Respecting governmental obligations, develop and implement protocols for mutually acceptable information sharing and referrals programs with all First Nations having traditional territories within the DFA.

**Acceptable Variance:** 100% of bands are sent a proposed information sharing protocol and 75% of bands have a protocol in place by December 2002.

**Forecast:** 100%

**Indicator 52:** Archaeological and Culturally Modified Tree (CMT) sites inventory

**Objective:** Maintain up-to-date inventory of CMTs

**Acceptable Variance:**Annual update

**Forecast:** N/A

**Indicator 53:** Percent of blocks by band where agreement is reached around the management

**Objective:** Achieve FN consent on management and/or protection of identified CHR

**Acceptable Variance:** -20%

**Forecast:** 100%

### 6.3 Decision making process (See 6.4.1)

The decision making process is developed with input from directly affected, local, and interested parties.

### 6.4 Consultation

Decisions are made as a result of informed, inclusive and fair consultation with people who have an interest in forest management or are affected by forest management decisions.

#### 6.4.1 Decision making process

**GOAL 34:** The input of interested and affected parties is valued and every effort is made to accommodate reasonable requests.

**Indicator 54:** Number of public comments to WY and percent of those that result in changes to operational plans

**Objective:** The company demonstrates a commitment to incorporating reasonable concerns in its planning process (Benchmark in 2002.)

**Acceptable Variance:**N/A

**Forecast:** 100%

**GOAL 35:** Resolve land use conflicts.

**Indicator 54:** Incidence of non-compliance with treaty settlements and Interim Measures Agreements

**Objective:** Achieve 100% compliance

**Acceptable Variance:**90%

**Forecast:** 100%

## 6.5 Knowledge

Collective understanding of forest ecosystems, values, and management is increased and used in the decision making process.

### 6.5.1 Education

**GOAL 36:** Weyerhaeuser supports an educational/communications program that promotes and explains local forest management and processing activities.

**Indicator 56:** A joint public communications and public consultation plan

**Objective:** A communications plan is developed and implemented that identifies both WY and advisory group education/awareness activities. (See appendix.)

**Acceptable Variance:**2003

**Forecast:** N/A

**Indicator 57:** Education and training program

**Objective:** In conjunction with First Nations, design, implement, and monitor a training program to familiarize employees with cultural and other issues and company policies and obligations related to First Nations.

**Acceptable Variance:**2003

**Forecast:** All employees

## 6.6 Management strategies

### 6.6.1 First Nations

First Nations groups, living in communities adjacent to West Island operations or having traditional territories that overlap areas of West Island operations, are provided opportunities for forest management involvement and economic benefits through:

- Consultation in planning and in communication of forestry practices and planned activities.
- Employment opportunities in forest management activities subject to constraints of existing labour agreements.
- Involvement in Small Business Forest Enterprise Program proposals. West Island will assist with planning and training.

### 6.6.2 Public information and involvement

In keeping with the expressed interest of the public in all aspects of forest resource inventory, management, and use, West Island:

- ❑ Identifies and advises local and other involved public interest groups, local governments, First Nations, and interested individuals of opportunities for input to the various planning processes and solicits their feedback.
- ❑ Advertises and holds public information meetings to enable any member of the public to view and respond to Management Plan proposals and current performance.
- ❑ Financially supports and participates fully in activities of the West Island Woodlands Advisory Group. WIWAG is a facilitated, independent, broad-based community group formed with the express objectives of providing advice to West Island on appropriate goals for sustainable forest management and of assessing and commenting on West Island's performance with respect to those goals.

### 6.6.3 Forest research

The overall company objective in forest research is to obtain the knowledge to improve forest management and the conservation and protection of other forest resources and values. The strategy is to:

- ❑ Identify and recommend basic and applied research needs to the organizations that have the specific mandate to undertake the work.
- ❑ Prepare and submit research proposals for FRBC funding for projects of particular or strategic concern to the TFL 44 license area.
- ❑ Cooperate with these organizations in conducting basic and applied research.
- ❑ Test and develop practicable applications and uses of published basic research that are relevant to Weyerhaeuser management goals and responsibilities.

Significant areas of research include:

- ❑ Forest Ecology – The objectives of the forest ecology research program are to determine the effects of management activities on forest ecosystems, to improve our ability to predict ecosystem response, and to develop biologically sound silviculture prescriptions. The program includes these continuing studies:
  - Vegetation Dynamics of Montane Forests: This project is studying natural regeneration and vegetation succession under alternative silvicultural systems in montane forests at the cooperative Montane Alternative Silvicultural Systems (MASS) study area in the North Island Timberlands area.
  - Fire Effects: Studying the impacts of prescribed fire of different intensities on tree growth, vegetation succession, and soils. Study sites are located between Sproat and Nahmint Lakes. A 15-year post-fire measurement will occur in 2000.
  - Bird Diversity: Breeding birds were surveyed at the MASS site before and after harvesting under several silvicultural systems and compared to adjacent old growth populations. Winter resident birds were also assessed after harvesting. Results will help guide appropriate practices to maintain habitat for different species groups.
- ❑ Forest Renewal – The forest renewal research program focuses on providing seedling and planting solutions to the new silvicultural challenges our foresters face. The research program will continue to place priority on cost efficiency and forest renewal solutions that address high cost problems. Continuing studies include:
  - A cooperative project seeks to understand western hemlock and amabilis fir growth and development under four harvest systems – clearcutting, green tree retention, shelterwood, and patch cutting.

- Plantation performance of western red cedar and yellow cypress are being compared among a common set of seedlots over a range of sites from 50 m to 750 m elevation.
  - Seedlings and cuttings from similar source populations are being compared on high and low elevation planting sites.
- ❑ Forest Tree Nutrition – The aim of the nutrition research is to maintain or enhance the nutritional status of seedlings and trees to ensure optimum growth rates.

Other projects in which the Coastal Group is active include:

- ❑ The cooperative Salal-Cedar-Hemlock Integrated Research Program (SCHIRP). The objective of this multi-agency project is to determine the processes causing poorly performing plantations on salal-dominated cedar-hemlock sites and to develop silvicultural treatments. A study site was established near Ucluelet in 1996. Field tours, a synthesis report, and a field guide have communicated results to foresters from northern Vancouver Island sites.
- ❑ A study of organic matter decomposition and nitrogen mineralization under alternative silvicultural systems in montane forests.
- ❑ A study of soil nutrient leaching under alternative silvicultural systems in montane forests.
- ❑ A study of snow accumulation and melt rates over two seasons under different canopy retention levels. A predictive model is being used to determine potential impacts on hydrology from the use of partial cutting techniques.

*See also, Section 2: Summary of BC Coastal Group Forest Management Strategy.*

## SECTION 2 \_\_\_\_\_

### Summary of BC Coastal Group Forest Management Strategy (The Forest Project)

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#### Variable Retention Phase-In – Progress Report: 1999-2001

Weyerhaeuser, BC Coastal Group (BCCG), has adopted the Variable Retention (VR) approach to harvesting and silviculture for all BCCG public and private forest lands. VR leaves long-term tree retention in every harvested area, similar to what nature would do during a natural disturbance such as fire, wind or disease. Various levels of retention can be used with different types, amounts and patterns of leave-trees, depending upon the objectives. Retained live and dead trees provide important wildlife habitat distributed throughout harvested areas. In addition to VR, protected areas and landscape-level reserves on public land provide conservation of larger forest areas for wildlife habitat and biological diversity.

The Variable Retention forest management approach is intended to directly address the underlying public concerns as expressed in international agreements (often referred to as new values) by retaining future options, sustaining healthy ecosystems (productivity), maintaining economic opportunities, and sustaining biological diversity. Conserving more old growth and maintaining forest structural legacies important for habitat and ecological functioning of coastal forest ecosystems will enhance biodiversity and ecosystem values. Application of a range of Variable Retention silvicultural systems (depending on site characteristics and resource objectives) not only retains key biological legacies within harvested areas, but also provides flexibility for maintaining and dispersing forest structure across the landscape. These habitat elements include, for example, cavity sites, downed wood, shrubs, deciduous trees, and riparian and early and late seral stages.

In order to meet landscape objectives, BCCG is dividing forest lands into three distinct Stewardship Zones (old growth, habitat and timber), reflecting distinctly different management priorities. The requirements for each zone specify an appropriate level of minimum retention and a range of silvicultural systems from group selection to group retention. This strategy allows for a focused management approach that will deliver overall improved economic and environmental benefits.

Within harvest cutblocks (sometimes referred to as “openings”), the minimum retention levels are: 20% in the old growth zone; 15% in the habitat zone; 10% in timber zone using group retention, and 5% in timber zone using dispersed retention. At the landscape level, averaged across all zones, the overall retention within the productive forest area will be an estimated 36%.

A working group of specialists from BCCG and government ministries has been formed to deal with the many issues that the strategy raises and to ensure that the strategy is consistent with the Crown's objectives. Weyerhaeuser is also working with agencies in assigning and implementing an adaptive management and monitoring program to ensure that Variable Retention objectives are met and that the retained forest structures are effective in achieving desired outcomes. In addition, an expert panel of independent scientists is convened annually to review and comment on environmental aspects of the strategy implementation. A summary of the panel's comments is published and publicly available on request.

BCCG's goal is to phase-in Variable Retention over 5 years, increasing the amount by 20% per year (i.e., 100% VR in 2003). VR is being used for harvesting in both second growth and old growth forests. In 1999, BCCG applied VR for more than 35% of its harvest area – the strategy's first full year of implementation. In 2000 and 2001, phase-in was completed ahead of schedule by all operating areas, with 62% and 77% VR, respectively. Most importantly, BCCG Timberlands continue to lead the industry in coastal BC forest operations in safety performance.

Most of the VR cutblocks use the retention silvicultural system, leaving trees in groups (over 0.25 ha in size), or as dispersed individual trees or small groups of a few trees. Most VR harvesting in 2001 was done as group retention (71%) or as a combination of groups with some dispersed trees (26%). Few cutblocks were exclusively dispersed retention (2%). Operations used shelterwood and selection systems with reserves for a minor portion of the harvest. Variable retention is being implemented in both second-growth and old-growth forests.

Multi-pass harvesting was used on 23% of the cutblocks completed in 2001. The most common use of two or more harvest entries is where a cutblock has adjacency restrictions under the Forest Practices Code that require retention of at least 40% of the basal area of the stand – a rule designed to prevent progressive clearcutting. An initial harvest is possible in these circumstances, with a second entry after “green-up” height targets are reached on the harvested portion. In other cases, windthrow or visual concerns were the rationale for a two-pass approach. BCCG continued to develop an experimental harvesting technique for single stems, whereby a helicopter removes a cut and limbed tree without the tree’s falling to the ground. This technique has applications on very sensitive terrain, or as a first pass removal of high value stems prior to conventional yarding.

The average long-term retention level in 2000 and 2001 was over 22%, which includes group and dispersed retention and other reserves (e.g., riparian, wildlife tree patches) within the cutblock boundaries. This is slightly up from the 19% reported in 1999, and well above the 10% minimum required for the Timber Zone. A range of retention levels, including both short- and long-term retention, was used in the 2000 cutblocks. About 73% of the cutblocks left retention in the 11 to 30% range, with roughly 10% of blocks at 10% or less retention, and 15% in the 31 to 50% range. Only 2% of blocks were over 50% retention. The practices show an intentional concentration of retention at the lower end of the range, which is designed to maintain structural attributes while attempting to minimize a predicted reduction in growth and yield. BCCG has a sufficient number of cutblocks throughout the 5% to 50% range to assess impacts in the monitoring program.

### **Implementation Monitoring**

Symmetree Consulting Group completed an evaluation of 154 (4,449 ha) VR cutblocks from 1999 to 2001 to monitor performance and identify areas for improvement (Bancroft and Zielke 2002). This represented a random sample of over 25% of all VR harvesting. Over 70% of the blocks were rated as good to excellent examples of VR in relation to company guidelines. Each year, assessments have shown improvement in both prescriptions and implementation over the previous evaluation. Key areas for improvement included visual design, marking of potential danger trees and avoiding leave-tree damage.

Symmetree assessed the type of attributes retained in 1,113 groups. A range of group sizes was used with an average of about 1 ha. Snags occurred in 70% of the groups in 2001. When present, groups were “anchored” on special features such as bear dens, nest trees, culturally modified trees and large veteran trees. Riparian features (35%), rock outcrops (16%) and deciduous trees (11%) were also used frequently as anchors for retention patches. Retention along small streams that do not require treed buffers under BC regulations was assessed along 56 km of stream length within VR cutblocks. Some retention occurred along 52% of these streams. Overall choice of retention was judged subjectively by the inclusion of such features as snags, woody debris, riparian areas and diverse canopy structure within retention patches. Most of the retention was judged to be of good to optimal choice to provide a range of wildlife habitat (75% in 1999, 85% in 2000, 95% in 2001), showing improvement each year. BCCG will continue to monitor performance in order to improve through greater experience and knowledge.

### **Table 1. Progress on implementation of variable retention**

	<b>1999</b>		<b>2000</b>		<b>2001</b>	
	<b>Hectares</b>	<b>%</b>	<b>Hectares</b>	<b>%</b>	<b>Hectares</b>	<b>%</b>
<b>Variable Retention</b>						
Group Retention	2,080	26	4,933	59	5,502	73
Dispersed Retention	627	8	207	2	181	2
Shelterwood, Selection, Other	293	4	88	2	119	2
<b>Subtotal</b>	<b>2,999</b>	<b>38</b>	<b>5,228</b>	<b>62</b>	<b>5,802</b>	<b>77</b>
<b>Conventional</b>						
Clearcut	3,410	43	1,584	19	671	9
Clearcut with reserves	1,540	19	1,534	18	988	13
Seed tree, patch cut	17	<1	20	<1	113	1
<b>Subtotal</b>	<b>4,967</b>	<b>62</b>	<b>3,138</b>	<b>38</b>	<b>1,771</b>	<b>23</b>
<b>TOTAL</b>	<b>7,966</b>	<b>100</b>	<b>8,366</b>	<b>100</b>	<b>7,573</b>	<b>100</b>

## SECTION 3

### Glossary

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#### Acronyms used in this document

AAC	Allowable Annual Cut
BEC	Biogeoclimatic Ecosystem Classification
BEO	Biodiversity Emphasis Option
CHR	Cultural Heritage Resources
CMT	Culturally Modified Tree
CSA	Canadian Standards Association
CWAP	Coastal Watershed Assessment Procedure
EMS	Environmental Management System
ESA	Environmentally Sensitive Areas
DFA	Defined Forest Area
FIA	Forest Investment Account
FDP	Forest Development Plan
FPC	Forest Practices Code
FRBC	Forest Renewal British Columbia
HCV	High Conservation Value
ISO	International Organization for Standardization
LSRY	Long Run Sustained Yield
MELP	BC Ministry of Environment, Lands and Parks
MoF	BC Ministry of Forests
MP	Management Plan
NSR	Not Satisfactorily Restocked
NTFP	Non-Timber Forest Product
RIR	Recordable Incident Rate
SFM	Sustainable Forest Management
SP	Silviculture Prescription
TEK	Traditional Ecological Knowledge
TFL	Tree Farm License
VQO	Visual Quality Objective
VR	Variable Retention
WIWAG	West Island Woodlands Advisory Group

**Allowable Annual Cut (AAC):** The allowable rate of timber harvest from a specified area of land. The Chief Forester of British Columbia sets AACs for timber supply areas (TSAs) and tree farm licenses (TFLs) in accordance with Section 8 of the Forest Act.

**At-risk species:** See Species at-risk

**Biodiversity Emphasis Option (BEO):** The provincial government assigns low, intermediate, or high BEOs to Landscape Units depending on a range of management priorities (i.e. timber production, wildlife habitat and biodiversity conservation). The main result is a designation of the area of old growth forest that should be maintained in the Landscape Unit.

**Biogeoclimatic Ecosystem Classification (BEC):** Developed in BC in 1965, the BEC System classifies areas of similar regional climate, expected climax plant communities and site factors such as soil moisture and soil nutrients. The subzone is the basic unit of this classification system. Within subzones, variants further identify more local climatic factors.

**Biogeoclimatic zone:** a geographic area having similar patterns of energy flow, vegetation and soils as a result of a broadly homogenous macroclimate.

**Biogeoclimatic variant:** A unit of ecosystem classification reflecting differences in regional climate resulting in differences in vegetation, soil and ecosystem productivity. (See Biogeoclimatic Ecosystem Classification.)

**Biological diversity:** The diversity of plants, animals, and other living organisms in all their forms and levels of organization, including genes, species, ecosystems, and the evolutionary and functional processes that link them.

**Blue-listed:** Refers to plants, animals, and plant communities assessed by the BC Conservation Data Centre to be vulnerable.

**Carbon budget:** Account of carbon concentrations in cycles and sinks.

**Coastal Watershed Assessment Procedure (CWAP):** Assesses the impacts of forest practices on the hydrologic regime of a watershed. In particular, the potential for changes to peak stream flows, accelerated landslide activity, accelerated surface erosion, channel bank erosion and changes to channel morphology as a result of logging the riparian vegetation, and changes to the stream channel interaction from all these processes are assessed.

**Connectivity:** A qualitative term describing the degree to which late successional ecosystems are linked to one another to form an interconnected network.

**Criterion:** Under the CSA standard for sustainable forest management, one of six distinguishable SFM characteristics (as defined by the Canadian Council of Forest Ministers: *Defining Sustainable Forest Management: A Canadian Approach to Criteria and Indicators*, Ottawa, 1995); also, a value that must be considered in setting objectives and in assessing performance.

**Critical Element:** Under the CSA standard for sustainable forest management, a subsidiary component of a criterion. (See criterion.)

**Cultural heritage resource (CHR):** An object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to the province, a community or an aboriginal people. Cultural heritage resources include archaeological sites, structural features, heritage landscape features and traditional use sites.

**Culturally Modified Tree (CMT):** Tree that has been altered by native people as part of their traditional use of the forest.

**Cutblock:** Defined in the Forest Practices Code of British Columbia Act as a specific area of land identified on a forest development plan, or in a license to cut, road permit, or Christmas tree permit, within which timber is to be or has been harvested. (Also see opening.)

**Defined Forest Area (DFA):** A specific area of forest, land, and water delineated for the purposes of registration of a Sustainable Forest Management system.

**Ecosystem:** A functional unit consisting of all the living organisms (plants, animals and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. An ecosystem can be of any size – a log, pond, field, forest, or the earth's biosphere – but it always functions as a whole unit.

**Environmentally Sensitive Area (ESA):** Area requiring special management attention to protect important scenic values, fish and wildlife resources, historical and cultural values, or other natural systems or processes. ESAs include unstable soils that may deteriorate unacceptably after harvesting, and areas of high value to non-timber resources such as fisheries, wildlife, water and recreation.

**Environmental Management System (EMS):** A structured system for identifying and ranking the environmental risk associated with management activities; creating and implementing control methods to manage that risk; monitoring and assessing performance; and taking corrective action to address deficiencies under a continual improvement program.

**Forest Development Plan (FDP):** These plans explain resource values present in a specified area, how the values will be protected or maintained, where roads will be built and what areas are proposed for harvest. They are revised annually, advertised and presented for public review and comment before presentation to the Ministry of Forests for approval.

**Forest influence area:** The area within an opening that is within one tree height of a timber edge.

**Forest Investment Account (FIA):** Successor program to Forest Renewal BC

**Forest Practices Code (FPC):** The Forest Practices Code of British Columbia Act, the regulations made by Cabinet under the act, and the standards established by the BC Chief Forester. The term is sometimes used to include guidebooks associated with the Code.

**Fragmentation:** The process of transforming large continuous forest patches into one or more smaller patches surrounded by disturbed areas. This occurs naturally through such agents as fire, landslides, windthrow and insect attack. In managed forests timber harvesting and related activities have contributed to fragmentation. (Also see Connectivity.)

**Free to grow:** A stand of healthy trees of commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees. Silviculture regulations further define the exact parameters that a stand of trees must meet (such as species, density and size) to be considered free growing.

**Goal:** A broad, general statement that describes a desired state or condition related to one or more forest values.

**Green-up:** A reforested cutblock with a stand of trees that has attained the height specified in a higher level plan for the area or that, in the absence of a higher level plan, has attained a height of at least 3 meters is said to have achieved green-up.

**Guidebook:** Guidebooks consist of guidelines and recommendations on how to best achieve the requirements of the Forest Practices Code. They are not legally enforceable. However, specifications and procedures recommended by the guidebooks may be incorporated into plans, prescriptions and contracts in which case those specifications and procedures may become legally enforceable.

**High Conservation Value (HCV) area:** An area in which the conservation of any of numerous social or ecological values is deemed to have an especially high priority. Harvesting in HCV areas is typically very restricted and depending on the nature of the identified value(s) may be precluded entirely. Identification of HCV areas may result from information supplied by First Nations, government agencies, company personnel or other stakeholders. (See Environmentally Sensitive Area.)

**Indicator:** A measurable variable used to report progress toward the achievement of a goal.

**Inoperable lands:** Lands that are unsuited for timber production by virtue of their: elevation; topography; inaccessible location; low value of timber; small size of timber stands; steep or unstable soils that cannot be harvested without serious and irreversible damage to soil or water resources; or designation as parks, wilderness areas, or other uses incompatible with timber production.

**ISO standard:** Refers to ISO 14001, a generic international standard approved by the International Organization for Standardization to provide any organization with the elements of an effective Environmental Management System to support environmental protection and prevention of pollution.

**Landing:** An area modified as a place to accumulate logs before they are transported.

**Landscape level:** A watershed, or series of interacting watersheds or other natural ecological units. This term is used for conservation planning and is not associated with visual landscape management.

**Landscape unit:** For the purpose of the forest practices code, landscape units are planning areas delineated on the basis of topographic or geographic features. Typically they cover a watershed or series of watersheds, and range in size from 5000 to 100 000 ha.

**Localized populations:** Typically exhibit a gene pool that is distinct from less isolated populations.

**Long Run Sustained Yield (LRSY):** Maximum harvest level that can be sustained in perpetuity, based on harvesting at the age of culmination of mean annual increment and considering management assumptions.

**Mature forest:** Stands of timber where the age of the leading species is greater than the specified cutting age. Cutting ages are established to meet forest management objectives.

**Non-timber forest products (NTFPs):** All forest products except timber, including other materials obtained from trees such as resins and leaves, as well as any other plant and animal products.

**Not Satisfactorily Restocked (NSR):** Productive forest land that has been denuded and has failed, partially or completely to regenerate either naturally or by planting or seeding to the specified or desired free growing standards for the site.

**Objective:** A clear, specific statement of expected quantifiable results to be achieved within a defined period of time related to one or more goal. An objective is commonly stated as a desired level of an indicator.

**Opening:** Usually used synonymously with cutblock (see above) to include all of an area that has been harvested or is designated for harvesting, including the trees retained singly or in groups within the area. Less often, used to describe the actual cleared area(s) within a cutblock.

**Permanent access structure:** A structure, including a road, bridge, landing, gravel pit or other similar structure, that provides access for timber harvesting. It is shown expressly or by necessary implication on a forest development plan, access management plan, logging plan, road permit or silviculture prescription as remaining operational after timber harvesting activities on the area are complete.

**Productive forest:** Forest land that is capable of producing a merchantable stand of timber within a defined period of time.

**Provenance:** The geographical area and environment to which the parent trees and other vegetation are native, and within which their genetic constitution has been developed through natural selection.

**Recordable Incident Rate (RIR):** Number of incidents per 100 workers that require a doctor's medical attention or result in lost work time.

**Reforestation:** Establishment of a new stand of trees after harvesting or natural disturbance by either planting or natural regeneration. Before receiving approval to harvest on crown lands, a forester must submit a Silviculture Prescription describing, among other things, the manner and time frame within which reforestation will be conducted.

**Red-listed:** Refers to plants, animals and plant communities assessed by the BC Conservation Data Centre to be extirpated, endangered or threatened.

**Reserve zones:** Zones where harvesting is not permitted.

**Riparian:** An area of land adjacent to a stream, river, lake or wetland that contains vegetation that, due to the presence of water, is distinctly different from the vegetation of adjacent upland areas.

**S1-6 stream:** Stream classification system for riparian management. S1 to S4 streams are fish streams or streams in a community watershed. S5 and S6 streams are not fish streams and are not in a community watershed. Each class also denotes a range of stream width: S1 is >20m, S2 is >5-20m, S3 is = 1.5-5m, and S4 is <1.5m; for streams that are non-fish bearing or not within a community watershed, S5 is >3m and S6 is <3m.

**Second growth:** Typically younger (i.e., less than 120 years on the BC Coast) forests that have been established by planting and/or natural regeneration after removal of a previous stand by fire, harvesting, insect attack or other cause. (See mature and old growth.)

**Sensitive soils:** Forest land areas that have a moderate to very high hazard for soil compaction, erosion, displacement, landslides or forest floor displacement.

**Silvics:** Study of the life history and general characteristics of forest trees and stands with particular reference to site factors and population genetics. It is also the study of how trees establish, grow and behave in relation to sites, each other and other organisms.

**Silviculture:** The art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society on a sustainable basis.

**Silviculture Plan (SP):** A site-specific integrated operational plan to carry out one or a series of silviculture treatments.

**Silvicultural system:** A planned program of treatments throughout the life of the stand to achieve defined objectives. A silvicultural system includes harvesting, regeneration and stand-tending. It covers all activities for the entire length of a rotation or cutting cycle. In BC this includes seven major categories: clearcut, patch-cut, coppice, seed tree, shelterwood, retention and selection.

**Site series:** A unit of ecosystem site classification that represents climatically uniform groups of ecosystems regardless of the actual vegetation residing.

**Snag:** A large standing dead tree.

**Species at-risk:** Plant and animal species identified by the BC Conservation Data Centre as red- or blue-listed.

**Soil cover:** Layer(s) of organic matter under various degrees of decomposition, which covers the mineral soil.

**Species of special interest:** Species deemed not at-risk whose habitat needs nevertheless require particular attention. Identification of these species is normally facilitated by regulatory agencies in consultation with stakeholders.

**Stand level:** Level of forest management at which a relatively homogenous land unit can be managed under a single prescription, or a set of treatments, to meet well-defined objectives.

**Stewardship Zones:** Under the BC Coastal Group's Forest Project, all public and private forest lands have been (or will be) designated as a Timber, Habitat or Old Growth zone. Each zone has a distinct set of management priorities, targets for forest retention and allowable silvicultural systems. Management practices in each zone meet or exceed legal requirements.

**Structural diversity:** Variety of canopy layers (vertical structure) and spatial patchiness (horizontal structure).

**Sustainable Forest Management (SFM):** Management to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social, and cultural opportunities for the benefit of present and future generations.

**Timber Supply Analysis:** An assessment of future timber supplies over long planning horizons (more than 200 years) by using timber supply models for different scenarios identified in the planning process.

**Traditional ecological knowledge (TEK):** Knowledge that aboriginal people have accumulated over countless generations of intimate contact with all aspects of local ecosystems, including plants, animals and other natural phenomena.

**Value:** A principle, standard, or quality considered worthwhile, desirable or otherwise important for consideration in management planning.

**Variable Retention (VR):** A relatively new approach to harvesting and silvicultural systems that follows nature's model by always retaining part of the forest after harvesting. Standing trees are left in dispersed and/or grouped patterns to meet objectives such as retaining old growth structure, habitat protection and visual quality. Variable retention retains structural features (snags, large woody debris, live trees of varying sizes and canopy levels) as habitat for a host of forest organisms and maintains forest and residual tree influences. There are two main types of variable retention: dispersed retention, which retains individual trees scattered throughout a cutblock, and aggregate (or group) retention, which retains trees in patches of intact forest.

**Visual Quality Objective (VQO):** An approved resource management objective that reflects a desired level of visual quality based on the physical and sociological characteristics of the area; refers to the degree of acceptable human alteration to the characteristic landscape.

**Wildlife tree:** A standing live or dead tree with special characteristics that provide valuable habitat for the conservation or enhancement of wildlife.

**Windthrow:** Trees uprooted as a result of wind events.

**Yarding:** In logging, the hauling of felled timber to the landing or temporary storage site from where trucks (usually) transport it to the mill site. Yarding methods include cable yarding, ground skidding, and aerial methods such as helicopter yarding.

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# **West Island Woodlands Advisory Group**

## **West Island Timberlands**

SFM Plan

### **Appendix 1**

#### **2002 Criteria & Indicators Matrix**

**West Island Woodlands Advisory Group  
West Island Timberlands  
2002 Criteria & Indicators Matrix**

Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<b>1. Conservation of biological diversity</b>						
<b>1.1 Ecosystem Diversity</b> Ecosystem diversity is conserved if the variety and landscape-level patterns of communities and ecosystems that naturally occur on the DFA are maintained through time.	<b>V 1.</b> Variety & patterns of ecosystem types at landscape level	<b>G 1.</b> Maintain representative ecosystems across the landscape	<b>I 1:</b> Percent of timber species by Defined Forest Area (DFA) compared to historic baseline	Move toward historic baseline for all commercial tree species	±15%	± 10%
			<b>I 2:</b> Percent of 0-20 year age class by landscape level	Less than 30% of any given landscape unit	± 10%	± 30%
			<b>I 3:</b> Percent area of old growth within landscape units and biogeoclimatic variants	Do not increase the number of units where inadequate old growth exists	Two units increase	Zero increase
		<b>G 2.</b> Maintain representative red- and blue-listed plants and plant communities	<b>I 4:</b> Percent of planners oriented	All planners complete red/blue list species awareness and location orientation.	- 50%	All planners oriented
		<b>G 3.</b> Harvest activities reflect natural landscape patterns	<b>I 5:</b> Percent of area harvested using Variable Retention (VR)	Year 2002: 80% VR by area	- 15%	90% in 2002
	<b>I 3:</b> Percent area of old growth within landscape units and biogeoclimatic variants		Do not increase the number of units where inadequate old growth exists	Two units increase	Zero increase	
	<b>V 2.</b> Connectivity & fragmentation	<b>G 4.</b> Forest connectivity is maintained (in order to protect genetic & species migration & relationships throughout the landscape unit)	<b>I 6:</b> Forest Ecosystem Network (FEN)	Maintain the FEN network	Zero	Connectivity is maintained through some form of scientifically defensible strategy

**West Island Woodlands Advisory Group  
West Island Timberlands  
2002 Criteria & Indicators Matrix**

Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
	<b>V3.</b> Stand level diversity	<b>G 5.</b> Structural diversity is maintained at the stand level	<b>I 7:</b> Stand level retention in all cutblocks as percent of total cutblock area	Average $\geq$ 15% in-stand retention in 2002 (focusing on riparian areas, structure, windfirmness, distribution and key ecological attributes)	10% lower limit	30%
<b>1.2 Species Diversity</b>  Species diversity is conserved if all native species found on the DFA prosper through time.	<b>V 4.</b> At-risk vertebrate species	<b>G 6.</b> At-risk species are identified and their habitat needs are maintained	<b>I 8:</b> Species and programs mentioned in the Forest Development Plan (FDP)	Increase the number of management programs by six when the FDPs are revised	-Two	N/A
		<b>G 7.</b> Populations of species are not put at risk as a result of forest management activities	<b>I 9:</b> Number of identified species at-risk in the DFA	Zero increase in at-risk status attributable to management activities.	Zero	Zero
	<b>V 5.</b> Identified species of special interest	<b>G 8.</b> Identified species of special interest & localized populations are inventoried and strategies for their habitat needs are in effect	<b>I 10:</b> Existence of a habitat management program for identified species of special interest (includes a list)	Support habitat programs in cooperation with regulatory agencies and others.	Zero	N/A

**West Island Woodlands Advisory Group  
West Island Timberlands  
2002 Criteria & Indicators Matrix**

Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<b>1.3 Genetic Diversity</b>  Genetic diversity is conserved if the variation of genes within species is maintained.	The Values & Goals related to this section are included in Elements 1.1 and 1.2					
<b>2. Maintenance &amp; enhancement of forest ecosystem condition &amp; productivity</b>						
<b>2.1 Incidence of Disturbance and Stress (Biotic and Abiotic)</b>  Forest health is conserved if biotic (including anthropogenic) and abiotic disturbances and stresses maintain both ecosystem processes and ecosystem conditions within a range of natural variability.	<b>V 6.</b> Human-induced disturbance & stress	<b>G 9.</b> Minimize loss of productivity due to human-induced disturbance & stress	<b>I 11:</b> Annual percent of opening areas in permanent access structures	≤ 7% of opening areas in permanent access structures	+1%	5%
			<b>I 12:</b> Operationally-caused fire damage by area	Zero	+10 hectares	5 hectares
			<b>I 13:</b> Annual area harvested as percent of the total productive forest area	< 1%	± 0.5%	1%
			<b>I 14:</b> Area of operationally-induced windthrow	< 5% harvest area	+5%	2%
			<b>I 15:</b> Area of slides originating in harvested areas or roads	Zero (post 1995 development)  Stabilize with grass seed and reforest >80% of slides characterized by non-consolidated (i.e. productive) material.	5 hectares	2 hectares
		<b>G 10</b> Human-induced disturbance & stress is rehabilitated promptly	<b>I 16:</b> Area out of compliance with free-to-grow objectives	Identify and reduce the non compliance area to below 150 hectares	150 hectares	Zero

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<p><b>2.2 Ecosystem Resilience</b></p> <p>Ecosystem resilience is conserved if ecosystem processes and the range of ecosystem conditions allow ecosystems to persist, absorb change, and recover from disturbances</p>	<p><b>V 7.</b> Ecosystem recovery from disturbance &amp; stress</p>	<p><b>G 11.</b> Forest management activities do not compromise the ability of the ecosystem to recover</p> <p><i>See also goals 13 &amp; 14</i></p>	<p><b>I 17:</b> Stand level retention in all cutblocks as percent of total cutblock area</p>	<p>Average ≥ 15% in-stand retention in 2002 (focusing on riparian areas, structure, windfirmness, distribution and key ecological attributes)</p>	<p>10% lower limit</p>	<p>30%</p>
			<p><b>I 16:</b> Area out of compliance with free-to-grow objectives</p>	<p>Identify and reduce the non-compliance area to below 150 hectares</p>	<p>150 hectares</p>	<p>Zero</p>
			<p><b>I 17:</b> Area out of compliance with regeneration delay obligations</p>	<p>Zero</p>	<p>Zero</p>	<p>Zero</p>
			<p><b>I 19:</b> Equivalent years of Not Sufficiently Reforested (NSR) as 5-year rolling average</p>	<p>Maintain NSR equivalency at &lt; 3 years harvest area</p>	<p>Zero</p>	<p>1.5 years</p>

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<b>3. Conservation of soil &amp; water resources</b>						
<b>3.1 Physical Environments</b>  Physical environments are conserved if permanent loss of forest area to other uses or factors is minimized & rare physical environments are protected	<b>V 8.</b> Forested Land	<b>G 12.</b> There is no significant conversion of forested land to other uses without due public process.	<b>I 18:</b> Total productive forest area in DFA	Limit conversion to non-forest use to < 0.001% per year	< 0.0027% per year	Stable
	<b>V 9.</b> Permanent access structures	<b>G 13.</b> Access structures are built and maintained for long term uses to support forest maintenance/ silviculture, fire protection and recreation, while also protecting the soil resource.	<b>I 11:</b> Annual percent of opening areas in permanent access structures	≤ 7% of opening areas in permanent access structures	+1%	5%
	<b>V 10.</b> Rare, endangered or under represented features	<b>G 14.</b> Rare, endangered or otherwise significant features are identified and their important qualities are protected.	<b>I 20:</b> Inventory of all known sites requiring preservation or protection within the DFA	Maintain Inventory of sites that require preservation or protection (caves, karsts, etc)	Zero	N/A

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<b>3.2 Soil Resources</b> Soil resources are conserved if the ability of soils to sustain forest productivity is maintained within characteristic ranges of variation	V 11. Soil quality	G 15. Natural levels of soil productivity and stability are sustained	I 21: Openings harvested in which soil disturbance exceeds level specified on Silviculture Prescription <i>(Note: this indicator does not apply to Private Land outside of the DFA. See Appendix 3.)</i>	Zero	1 opening	Zero
	V 12. Soil cover	G 16. Erosion & loss of soil cover are minimized	I 11: Annual % of opening areas in permanent access structures	≤ 7% of opening areas in permanent access structures	+1%	5%
I 15: Area of slides originating in harvested areas or roads			Zero slides originating in harvested areas or roads (post 1995 development)	5 hectares	2 hectares	
<b>3.3 Water Resources</b> Water resources are conserved if water quality and quantity is maintained	V 13. Stream water quality	G 17. Natural historic levels of water quality are maintained (Calcium chloride is concern)	I 22: Water quality measurements for selected streams in areas of concern before and after road work OR turbidity measures in stream system before and after harvest activity	Turbidity remains within natural levels. No chemical substance in the water	One system outside natural level	Levels are natural
	V 14. Riparian areas (fresh and marine)	G 18. Riparian areas are managed to protect water quality, water flow & the habitat needs of land & aquatic species	I 23: Percent of stream length of S4, S5 streams buffered ≥ 15 meters in areas harvested annually	S4 ≥ 85% S5 ≥ 60%	-15%	S4 85% S5 60%
			I 24: Percent of S6 streams with a >15m buffer in areas harvested annually	Determine the percent of S6 streams with a >15m in areas harvested	N/A	To be determined

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
			<b>I 25:</b> Forest Practices Code (FPC) reserve zones for wetlands, lakes and streams <i>(Note: this indicator currently does not apply to Private Land outside the TFL. See Appendix 3.)</i>	Full reserve zones as per FPC; zero non-compliance related to forest harvesting on TFL 44	Zero	Zero
	<b>V 15.</b> Forest hydrologic regimes (including water quantity)	<b>G 19.</b> Natural hydrological regimes are perpetuated, & damaged watersheds (water quality or riparian values) are restored	<b>I 26:</b> CWAP programs completed for watersheds of identified concern and results incorporated into the FDP <i>(Note: this indicator currently does not apply to Private Land outside the TFL. See Appendix 3.)</i>	Carry out CWAPs on watersheds not previously examined and where proposed development or past activities may constitute a risk to key values; incorporate results into FDP	One late CWAP	All watersheds assessed and results reflected in FDP
<b>4. Forest ecosystem contributions to global ecological cycles</b>						
<b>4.1 Recycling Processes</b> The processes that are responsible for recycling water, carbon, nitrogen, and other life-sustaining elements are maintained.	<b>V 16.</b> Ecological cycles	<b>G 20.</b> Forest management activities are conducted in ways that maintain ecological cycles	<b>I 3:</b> Percent area of old growth within landscape units and biogeoclimatic variants	Do not increase the number of units where inadequate old growth exists	2 units increase	Zero increase
			<b>I 27:</b> Change in area of water bodies	Maintain current area of water bodies	Zero change	Stable
	<b>V 17.</b> Carbon budget	<b>G 21.</b> Enhance the long term uptake & storage of carbon	<b>I 28:</b> <i>Indicator pending based on Advisory Group education/information gathering</i>	Increase the Advisory Group understanding of carbon budget factors	Completed in 2003	N/A

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<b>4.2 Utilization and Rejuvenation</b> Utilization and rejuvenation are balanced and sustained	The Values & Goals related to this section are included in Element 5.1					
<b>4.3 Deforestation and Conversion</b> Forest lands are protected from sustained deforestation or conversion to other uses	The Values & Goals related to this section are included in Element 3.1					
<b>5. Multiple benefits to society</b>						
<b>5.1 Extraction Rates</b> Extraction rates are within the long term productive capacity of the resource base	<b>V 18.</b> Non-timber forest products (NTFP)	<b>G 22.</b> Forest management practices continue to provide opportunities for NTFP harvesting	<b>I 29:</b> Number of complaints annually	No complaints related to NTFP	One complaint	Zero
		<b>G 23.</b> Variety of habitats support sustainable production of NTFPs (e.g., mushrooms, berries, floral products, medicinal plants, etc)	<b>I 3:</b> Percent area of old growth within landscape units and biogeoclimatic variants	Do not increase the number of units where inadequate old growth exists.	2 units increase	Zero increase

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
	<b>V 19.</b> Timber	<b>G 24</b> Maintain timber harvest at LRSY as it applies to the harvestable land area	<b>I 30:</b> Annual harvest (5 year average) as percent of LRSY	2002: ± 10% of LRSY	± 15% of LRSY	LRSY
<b>Investment and Operating Climate</b> Resource businesses exist within a fair & competitive investment & operating climate	The Values & Goals related to this section are included in Element 6.1					
<b>5.3 Goods and Services</b> Forests provide a mix of market & non-market goods & services	<b>V 20.</b> Parks & Ecological Reserves	<b>G 25.</b> Management planning considers the location and characteristics of protected areas with respect to connectivity, fragmentation, representative ecosystems, etc	<b>I 31:</b> Percent of protected area perimeter harvested within previous 5 years	< 5%	< 9.5%	<5%
			<b>I 32:</b> Percent of harvesting adjacent to protected areas that is VR	80% in 2002	-10%	95% in 2002
	<b>V 21.</b> Recreation & tourism	<b>G 26.</b> Weyerhaeuser is respectful of the high value of tourism and recreation and other user activities within the DFA	<b>I 33:</b> Area of identified recreational areas within the DFA	Maintain inventory of recreational areas	95% of DFA inventoried	100%
			<b>I 34:</b> The percent of identified roads that have been maintained	Access to X% ( percent to be confirmed ) of identified major recreation areas (as per sector priority list) is maintained	50%	100%

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
			<b>I 35:</b> Number of recreation sites maintained	Maintain existing recreation sites and site access, in cooperation with Ministry of Forests	Review with MOF and determine funding needs	Develop one new site every 5 years
			<b>I 36:</b> Number of polygons in which visual condition fails to meet Visual Quality Objectives ( <i>Benchmark for 2002</i> )	Reduce the number from previous reports	+5%	Zero
<b>6. Accepting society's responsibility for sustainable development</b>						
<b>6.1 Social Values</b> Forests are managed in ways that reflect social values & are responsive to changes in those values	<b>V 22.</b> Community Stability	<b>G 27.</b> Contribute to and support local economic activity	<b>I 37:</b> Total WIT wages and salaries	Maintain or increase total WIT wages & salaries as compared to previous years	-10%	2% increase per year
			<b>I 38:</b> Total paid to contractors	Maintain or increase total paid as compared to previous years.	-10%	2% increase
			<b>I 39:</b> Contract total paid to FN Bands	Maintain or increase contract total paid through WIT to FN Bands as compared to previous years	-10%	2% increase
			<b>I 40:</b> Total paid in property taxes by each WY division or operation in DFA area over last 5 years	Determine the extent of property taxes paid by WY operations	N/A	N/A
		<b>G 28.</b> Community stability is enhanced by a balanced annual extraction rate	<b>I 41:</b> Annual harvest level compared to last 5 years	Annual cut is within 15% of previous 5 year average	± 25%	± 5%

**West Island Woodlands Advisory Group  
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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
		<b>G 29.</b> Local (within the A-C Regional District), non-competing businesses are supported & encouraged	<b>I 42:</b> Distribution of WY expenditures locally	Determine the extent and nature of local spending by the company. Benchmark in 2002.	N/A	To be determined
			<b>I 43:</b> Annual harvest compared to local log consumption that is provided by WY	Maintain or increase ratio of logs consumed locally by WY operations vs. WIT harvest	-2%	Even flow
			<b>I 44:</b> A meeting of value-added stakeholders is held	Determine the local fibre needs of value-added manufacturers and cottage industries	By 2003	N/A
	<b>V 23.</b> Economic rent	<b>G 30.</b> Maximize economic rent (stumpage & royalties) without impacting harvest levels or sustainability	<b>I 45:</b> Stumpage paid	Increase stumpage revenues to the Crown	-5%	Even flow
			<b>G 31.</b> Provide opportunities for revenue sharing, joint ventures and/or First Nations access to harvest or tenure opportunities	<b>I 46:</b> Number of FN contracts signed	Identify the number of contracts (benchmark)	N/A
				<b>I 47:</b> Degree of satisfaction with contract development process (FN sector to gather the data)	Establish the benchmark for future satisfaction ratings (FN to complete)	N/A
	<b>V 24.</b> Timber companies	<b>G 32.</b> West Island Timberlands Unit will earn a profit	<b>I 48:</b> Profit/loss statement	10% improvement in profit from previous year	5% improvement	19% RONA

**West Island Woodlands Advisory Group  
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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<p><b>6.2 Aboriginal and Treaty Rights</b></p> <p>Duly established Aboriginal &amp; treaty rights are respected</p>	<p><b>V 25.</b> Aboriginal Rights</p> <p><i>See also other related goals and values below</i></p>	<p><b>G 33.</b> Support FN ability to fully exercise their aboriginal rights through the protection and provision of access to natural and cultural heritage resources</p>	<p><b>I 49:</b> Number of surveys conducted versus # requested</p>	Conduct Cultural Heritage Surveys as requested by FN	-5%	100%
			<p><b>I 50:</b> Number of bands that have requested a CHR contract versus the number who have one</p>	100% of bands that want one have a Cultural Heritage Resource contract with WY	-20%	100%
			<p><b>I 51:</b> First Nations information sharing and referrals program</p>	Respecting governmental obligations, develop and implement protocols for mutually acceptable information sharing and referrals programs with all First Nations having traditional territories within the DFA.	100% of bands are sent a proposed info sharing protocol and 75% of bands have a protocol in place by Dec. 2002	100%
			<p><b>I 52:</b> Archaeological and CMT sites inventory</p>	Maintain up-to-date inventory of CMTs	Annual Update	N/A
			<p><b>I 53:</b> Percent of blocks by band where agreement is reached around the management</p>	Achieve FN consent on management and/or protection of identified CHR	-20%	100%
<p><b>6.3 Decision making process</b></p> <p>The decision making process is developed with input from directly affected, local , interested parties.</p>	<p>The Values &amp; Goals related to this section are included in Element 6.4</p>					

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Critical Elements	Values	Goals	Indicators	Objectives	Variances	Forecast
<b>6.4 Consultation</b> Decisions are made as a result of informed, inclusive & fair consultation with people who have an interest in forest management or are affected by forest management decisions	V 26. Decision-making process	<b>G 34.</b> The input of interested and affected parties is valued and every effort is made to accommodate reasonable requests	<b>I 54:</b> Number of public comments to WY and percent of those that result in changes to operational plans	The company demonstrates a commitment to incorporating reasonable concerns in its planning process ( <i>Benchmark in 2002</i> )	N/A	100%
		<b>G 35.</b> Resolve land use conflicts	<b>I 55:</b> Incidence of non-compliance with treaty settlements and Interim Measures Agreements	Achieve 100% compliance	90%	100%
<b>6.5 Knowledge</b> Collective understanding of forest ecosystems, values & management is increased & used in the decision-making process.	V 27. Education	<b>G 36.</b> Weyerhaeuser supports an educational & communications program that promotes and explains local forest management & processing activities	<b>I 56:</b> A joint public communications and public consultation plan	A communications plan is developed and implemented that identifies both WY and Advisory Group education/awareness activities. (See appendix 3.)	2003	N/A
			<b>I 57:</b> Education & training program	In conjunction with First Nations, design, implement and monitor a training program to familiarize employees with cultural and other issues, and company policies and obligations related to First Nations	2003	All employees

## Appendix 2

### Parking Lot Items - to the 2002 WIT SFM Plan

1. Carbon budget is not specifically addressed in the plan due to a lack of understanding about its impacts on age classes, growth rates, blowdowns, fuel consumption and other factors. To what extent should we be contributing to global cycles? The Advisory will arrange a learning session as a way of preparing to address this in the next plan revision. (E4.1)
2. Likewise for the issue of genetic diversity and genetically modified organisms – we need to better understand these factors and their link to sustainable forest management. We know from previous data that corporate practice is for 100% of all seed to be certified or registered, so this factor has been removed as a goal this year. (E1.3)
3. While we have not included anything about managing for insect and disease attacks in the plan there is a recognition that this is important and that the company will continue its current management practices in this area.
4. Local re-investment of a portion of Return on Net Assets (RONA) is a desired goal however in the current fiscal situation (no net profits) this is not a realistic goal for 2002 and it has been “benched” for reconsideration next year. There is also an understanding that profits will never be at past levels and that we need to be realistic about these kinds of goals. (E6.1)
5. We have elected to focus on old growth age classes as measures of goal #1 – maintaining a representative ecosystem across the landscape – however we have an interest in looking at all age classes within landscape units and biogeoclimatic sub zones in the future. (E1.1)
6. Corporate support for the Marmot Recovery Program has been removed as a goal due to fairly solid and ongoing corporate commitment behind this program. The Advisory continues to think this support is important however. (E1.2)
7. There is some concern about the need to do more to stimulate NTFP diversification, however the Advisory needs more information about what is currently being done in this field before determining what (if anything) they should focus on in this area. (E5.1)
8. The group acknowledges a need to address conflict resolution mechanisms in future plans. There is some lack of clarity with changing regulations & responsibilities for communication and conflict management. The group also struggles with the subjective aspects of measuring this activity in a meaningful way.

## Appendix 2

### Parking Lot Items - to the 2002 WIT SFM Plan (cont'd)

9. Discussions about sustainable harvest levels are ongoing. There is a general dissatisfaction with that portion of the plan that deals with harvest levels. This is partially linked to our examination of zoning this year, and to the need for more information about species and age classes that currently make up the DFA – by landscape unit and biogeoclimatic variant.
  
10. The WIWAG has agreed that they want the full force of the SFM Plan to be applied equally on all land within the DFA (private and crown) however we have asked that the company provide us with a report on the environmental impacts and regulatory differences between crown and private outside of the TFL and the costs to them in applying the indicators identified. A decision will be made for 2003.
  
11. Some of the economic indicators that measure local economic activity (goal 27) include both salaried and contract wages that go outside of the Regional District, and are therefore not reliable measures of local activity. In other places the WIWAG has defined “local” as within the AC Region. We have asked that the company look at how they can break out the local vs. non-local information on these indicators for 2003.
  
12. Indicator 54 identifies a communications plan. This is an attempt to address the substantial gap that was created by the closure of the Alberni Forestry Visitor Information Centre due to WY budget cuts in 2002. The 2001 SFM Plan included a goal to maintain the Centre. Members of the WIWAG, and other groups and citizens, have expressed their concern about the negative impacts of this relatively minor and shortsighted cost saving to the company.