Hishuk-ish-tsawalk

(everything is one)

Towards
Sustainable Forest Management

Western Forest Products Inc.

West Island Timberlands

Sustainable Forest Management Plan

2006 - 2008

May 2006

Table of Contents

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 DFA can be locally described to include the: the portion of the Great Central Lake watershed on the west side of the E&N; the Gretchen Creek portion of the Ash watershed, the Henderson Lake watershed, and the east side of the Alberni Inlet including the area just south of China Creek down to Bamfield and the upper Walbran.

The primary community centers in the area are Port Alberni and Bamfield. The DFA encompasses 157,831 hectares of public land. (Figure 1)

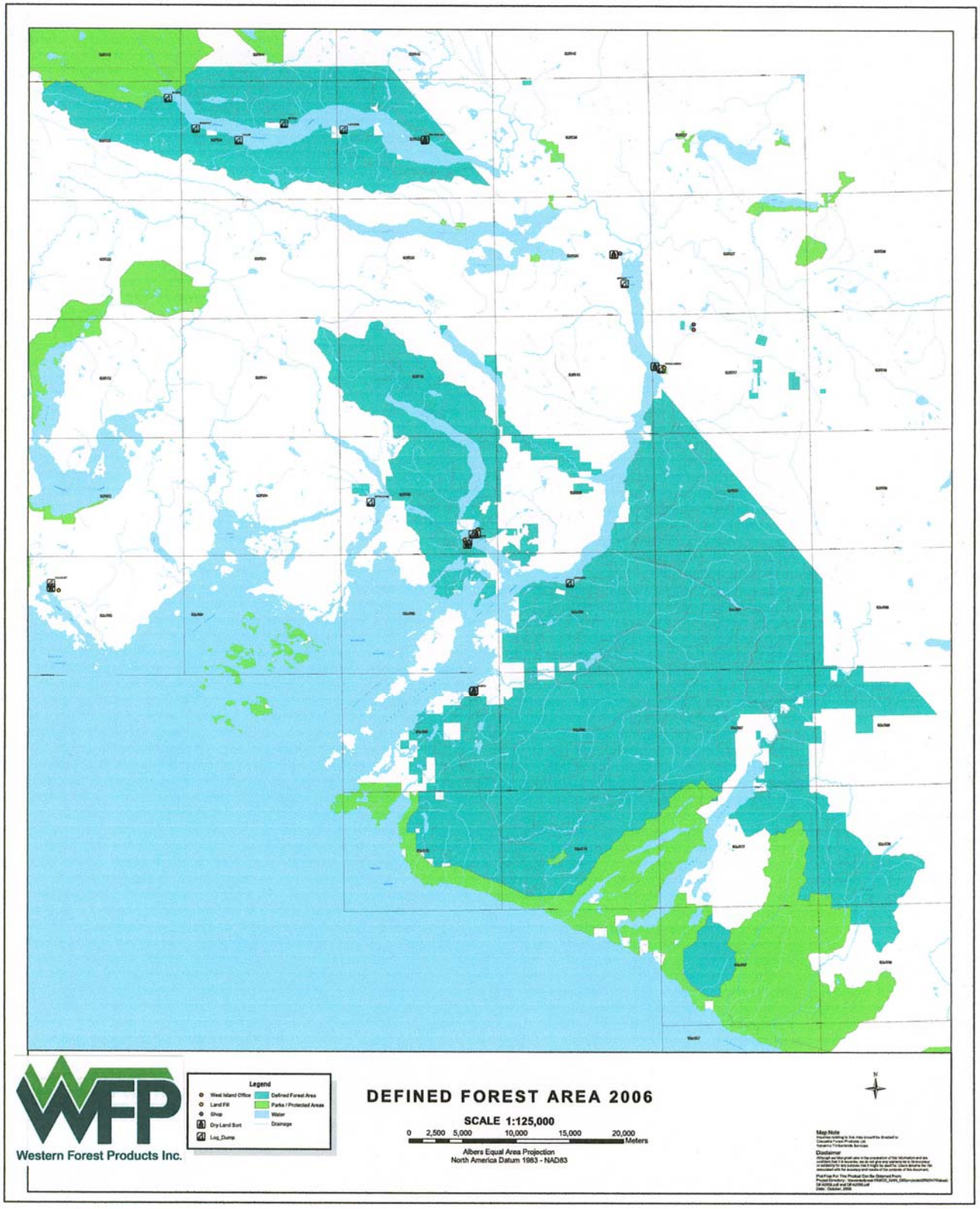

Figure 1: West Island Timberlands' Defined Forest Area

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 unit 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, objectives, indicators, targets, and management practices described in this document are currently understood and followed by West Island for working towards 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.

The SFM Plan includes this introductory overview and the following sections:

Section 1 West Island's SFM values, objectives, indicators, and targets 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-Z809-02 standard.

Section 2 West Island's SFM alternate strategies

Section 3 Glossary of terms and acronyms used in this plan.

The plan also includes four appendices:

Appendix 1 WIWAG Terms of Reference

Appendix 2 WIWAG Red Flag Items

Appendix 3 SFM Plan Data Set, including forecasts, data protocol, and historic trends for some of the indicators

Appendix 4 Values, Objectives, Indicators and Targets Table

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-Z809-02) 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.

Links to management plans and operational plans

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

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 4 (2003-2007). The SFM Plan reflects the objectives, management strategies, and reporting structure of management plans. The SFM Plan is influenced by other higher level plans, such as the Vancouver Island Land Use Plan, and by legislation including the FRPA.

Figure 2 shows the flow of input and direction to Forest Stewardship Plans and site plans. 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.

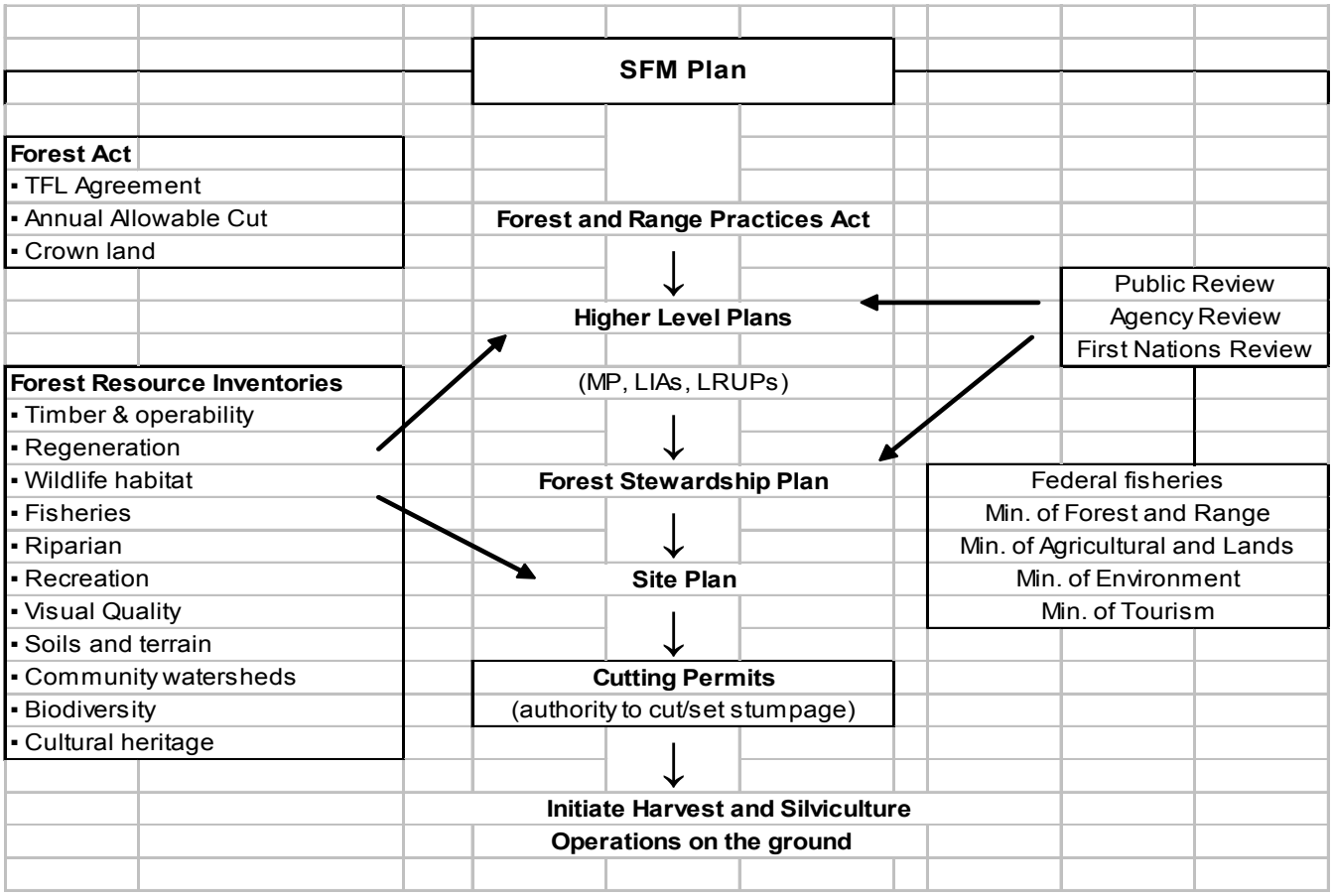

Figure 2: Links between Plans (TFL – with FRPA)

SECTION 1

SFM Criteria and Indicators

This section of the SFM Plan describes West Island's SFM Values, Objectives, Indicators and Targets for the years 2006 - 2008. As appropriate, an Acceptable Variance is provided for the near term performance level of each Target and a forecasted future condition is provided 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-Z809-02).

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**, **Objectives, Indicators, Targets**, **Acceptable Variances** and **Forecasts** were developed for this plan during discussions among WIWAG members, West Island Timberlands staff and other Western Forest staff.

As used in this plan:

- **Values** are DFA characteristics, components, or qualities considered by the advisory group to be important in relation to a CSA SFM element or other locally identified element.
- **Objectives** are broad statements describing a desired future state or condition of a value.
- **Indicators** are variables that measure or describe the state or condition of a value.
- **Targets** are specific statements describing a desired future state of condition of an indicator. Where possible, targets are clearly defined, time-limited and quanified.
- **Acceptable Variances** specify the range of performance results (+ and/or – relative to the Target) 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 Target 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, target or management practices.
- **Forecasts** are explicit statements of the expected future condition of an indicator.

All indicators in this plan are reported on an annual basis from January 1 – December 31. This monitoring report is assessed by West Island Management, and presented for review to WIWAG in April of each year. Western Forest Products maintains a matrix which assigns the responsibilities of each indicator to key staff, and also indicates which indicators are reported by Hayes, BC Timber Sales (BCTS) and the Ministry of Forests and Range (MoFR).

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.

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.

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.

Value: The representation of the old growth forest seral stage on the DFA

Objective: The representation of old growth forest seral stage on the DFA is not further compromised as per the "non-spatial old growth order" (year).

Indicator 1: The number of landscape units in the DFA with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the "non-spatial old growth order" (year)

Target: The percentage of landscape units in the DFA (affected by Western Forest Products harvesting) with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the "non-spatial old growth order" (year) is 100%.

A target of 100% is based on fully meeting the "non-spatial old growth order" which is a BC government regulation.

Variance: -8% (of the landscape units)

There are parts of 14 landscape units in the DFA. Therefore, a variance of 4% represents 1 unit.

This variance reflects the reality of harvesting in previous decades where old growth was targeted more heavily in accessible valley bottoms. More time is required to allow these landscape units to develop the diversity required to meet the target.

Current Status: This is a revised indicator for 2006. Most landscape units already have adequate old growth within constrained/non-contributing areas (e.g. DWR, WHA, FEN, and riparian reserves). As reported in previous data sets, there were 3 landscape units that had inadequate old growth for a BEC variant. 2 of these units fall within the new DFA (Ash, CWH xm2; and Somass, CWH xm 1). The Ash is short by 5.8% while the Somass is short by 2.8%. For 2005, there were no units with inadequate old growth (the Somass and Ash are not part of the new DFA).

Forecast: N/A. A forecast for this indicator is not appropriate since "non-spatial old growth orders" are only an interim measure and will not exist in the long-term. Landscape unit planning processes for watersheds within the DFA are ongoing, and expected to be complete within 2006. The "non-spatial old growth orders" will be replaced with Old Growth Management Areas, and this indicator will be revised at that time.

Implementation: A draft of the landscape unit plans for the DFA will likely be completed within 2006. Additional strategies related to this indicator can be found in section 1.5.6.

Value: The representation of the non-contributing landbase

Objective: The level of the non-contributing landbase is understood

Indicator 2: The # of LUs where non-contributing landbase unit is analyzed

Target: In 2006, once OGMA designations are complete, analyze the non-contributing landbase in 4 landscape units

The target of 4 landscape units corresponds with the number of units being addressed in the OGMA process for 2006.

Variance: -1 landscape unit (completion of 3 units)

This variance reflects several realities: emerging staffing priorities (Ministry or company) may reallocate capacity previously dedicated to this task; or data may not be available in time to complete all units.

Current Status: This is a new indicator for 2006. At the end of 2005, assessments of the non-contributing landbase had been completed for three landscape units (Caycuse, Nitinat and Walbran).

Forecast: All 4 units targeted will be assessed.

This forecast is based on a reasonable assessment of the time and capacity available that can be allocated to this task.

Implementation: After the OGMA process is completed, GIS will be used to analyze the timber supply data, less the newly established OGMAs.

Value: The representation of the 0-20 years forest seral stage on the DFA

Objective: The representation of the 0-20 years forest seral stage on the DFA does not dominate landscape units.

Indicator 3: The number of landscape units in the DFA with more than 30 % in the 0-20 years seral stage.

Target: The number of landscape units in the DFA with more than 30% in the 0-20 years seral stage is not increased.

This target is based on the desire of the Advisory Group to ensure that there is not an overrepresentation of the 0-20 seral stage, and based on the changing practices from continuous clearcuts to more dispersed cutting patterns.

Variance: Increase of 1 landscape unit

While there has been a trend for the number of landscape units to decrease, an increase of 1 unit has been set. This reflects old growth harvesting in the Klanawa which is the last watershed to be developed in the DFA. As a result of recent harvesting, and having the designation of being an enhanced forestry zone, the watershed may exceed the 30% level.

Current Status: In 2004 there were 3 landscape units out of 29 that had more than 30% in the 0-20 seral stage. The DFA size and number of landscape units has changed since 2004, and only 1 landscape unit that was above 30% is still within the new DFA (Walbran). The trend has been for the number of landscape units to decrease, not increase (4 units in 2001 and 2002).

Forecast: No change

This forecast is based on a review of past data and current harvest knowledge.

Implementation: During the preparation of the previous year's report, the annual plan for the upcoming year is reviewed.

Value: The representation of commercial tree species on the DFA

Objective: Species conversion on the DFA is limited.

Indicator 4: The movement in the representation of each commercial tree species in the inventory, using 2004 as the baseline levels.

Target: Re-establish a baseline based on the new DFA area.

Variance: N/A.

Setting a variance on establishing a baseline is not applicable. A variance will be set in following years to reflect an acceptable level of species conversion.

Current Status: Since the DFA has changed considerably in 2006, there is a need to baseline species representation for the new DFA. Prior to the DFA change, previous data collection showed a trend of increasing representation of fir, cypress and hemlock, and decreasing representation of pine, cedar, spruce and balsam.

Forecast: More heat tolerant species

The heat tolerant species include Douglas Fir and Cedar, but not Hemlock, Balsam or Spruce.

Implementation: Peter Kofoed will utilize GIS to assess the forest cover in the DFA.

Value:	The riparian ecosystems
Objective:	The riparian ecosystems are protected to a high degree.
Indicator 5:	The percent of cutblocks harvested where reserve zones (as per table attached) are not maintained (stream crossings are excluded).
Target:	100% of cutblocks harvested have their reserve zones (as per the attached table) maintained. (Note: see additional indicators re: buffers on S4, S5, S6 streams) This target is based on meeting legislative guidelines originally set out in the Forest Practices Code and then imported into FRPA
Variance:	-5% This variance reflects moving reserve zones as necessary to ensure that an appropriate level of protection can be provided where required – e.g. less in rocky canyon, more in areas where bank can erode. The 5% variance would reflect blocks where this approach of moving reserve zones may be used.
Current Status:	Data collection between 1999 and 2004 shows that only 1 cutblock during that time had reserve zones that were not maintained (as per the table). This cutblock was in Alberni West. The Alberni East operation which is more reflective of the new DFA had 100% maintenance of reserve zones, and this was maintained for 2005.
Forecast:	100% This forecast is based on previous data collection which where 100% has been achieved in 5 of 6 years. This forecast is also based on meeting the law of the time (FPC). However, this forecast or indicator may need to changed in the future to reflect the “results based” nature of FRPA where the blanket reserve zones described in the table may not always be appropriate.
Implementation:	Riparian reserves are controlled through Western Forest Product’s EMS.

Value:	The variety of structure at the stand level
Objective:	A portion of existing stands structure is retained on all cutblocks
Indicator 6:	The % of the total area harvested annually that is done under a variable retention system.
Target:	The % of the total area harvested annually that is done under a variable retention system is 80% by the end of 2006.
Variance:	-5% This variance accounts for the potential of catastrophic events (e.g. wind where whole blocks of blow down are salvaged).
Current Status:	Since data collection started in 1999, the % of harvesting annually done under a variable retention system has steadily increased. In 1999, only 30% of harvesting was done with VR, but by 2005 94.3% of harvesting was done with VR.
Forecast:	95% This forecast is based on the increasing trend of using VR.
Implementation:	The Western Forest Products 2001-2005 Forest Development Plan (section 5.1.2) commits to the use of variable retention and describes how retention will be planned in all blocks. The rate of retention will vary depending on what stewardship zone the block is in, and on ground conditions. Retention will be incorporated into block design by the engineers, and then put into site plans.

1.2 Species diversity

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

Value:	The existence of "at-risk" species and their habitat needs on the DFA. (Note: species includes both plants & animals here.)
Objective:	All at-risk species existing on the DFA have their habitat needs maintained.
Indicator 7:	The % of at-risk species existing on the DFA for which a management program is implemented.
Target:	The % of at-risk species existing on the DFA for which a management program is implemented is at 100%. (Note: "At-risk species existing on the DFA" is defined according to the "Decision Creating Objective" passed by MOE (WLAP). For the South Island Forest District, this objective includes the Marbled Murrelet, Queen Charlotte Goshawk and Scourler's Corydalis. This target reflects a group decision to maintain all programs.
Variance:	1 program
Current Status:	For the past 5 years, six programs have been in place and maintained. For 2006 programs will be in place for the following species: Red-legged frog, Great Blue heron, Northern goshawk, Marbled Murrelet, Vancouver Island marmot and Scouler's Corydalis.
Forecast:	100%. This forecast is based on previous history of maintaining all programs.
Implementation:	The Western Forest Products' FDP sets out strategies for addressing identified species at risk. This indicator will be re-written to reflect FRPA when the FSP is approved.

Value:	The existence of identified species of special interest and their habitat needs on the DFA.
Objective:	All identified species of interest existing on the DFA have their habitat needs maintained.
Indicator 8:	The % of identified species of interest existing on the DFA for which a management program is implemented.
Target:	The % of identified species of interest existing on the DFA for which a management program is implemented is 100%. This target reflects a group decision to maintain all programs.
Variance:	-8% This variance acknowledges that if new species are brought forward late in the planning cycle, that a program may not be developed in time to be counted or implemented that year.
Current Status:	Over the past 6 years, between three and four programs have been maintained depending on how many species of special interest were identified. For 2006, programs will be developed for the following species: Elk, Black tail deer, Black bear, and Bald eagle.
Forecast:	100%. This forecast is based on previous history of maintaining all programs.
Implementation:	A program for elk and deer is developed in conjunction with the Ministry of Environment (e.g. DWR and spring forage areas). A program for bears and eagles is developed through a local management agreement with the Ministry of Environment. Strategies related to this indicator can be found in section 1.5.3 (Wildlife) below. This indicator will be revisited when the FSP is approved.

Value: The current status of species populations and their habitat needs on the DFA

Objective: Populations of species are not put "at risk" as a result of forest management activities

Indicator 9: % of planners trained in the Sensitive Ecosystem Inventory (SEI)

Target: The percentage of planners trained in SEI per year is 50%

Variance: -10%

This variance acknowledges that some planners may not receive training on time due to scheduling constraints.

Current Status: This is a new indicator. The previous indicator measured crews incorporating SEI into the planning process.

Forecast: 100%

Implementation: The SEI training program has been developed. This program is delivered by Bill Beese through an in-class format with mapped products used as references. The training program will be delivered to relevant staff, consultants, field crews, contractors etc.

Value: The knowledge of planners to incorporate ecosystem values

Objective: To ensure that all planners include red/blue species considerations into their work.

Indicator 10: % of planners oriented to red/blue species annually.

Target: The percentage of planners orientated with red/blue list species awareness and location within the previous 24 months is 50%

Variance: -10%

Current Status: This is a new indicator, but training has been delivered since 2002. During two year period of 2002-2003, approximately 50% of the planners were orientated. In 2004, 92% of the planners were trained, and in 2005 77% were trained.

Forecast: 100%

Implementation: The red/blue species orientation program has been developed. This program is delivered by Bill Beese through an in-class format. The training program will be delivered to relevant staff, consultants, field crews, contractors etc.

1.3 Genetic diversity

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

Value:	Genetic & species migration processes
Objective:	The ecosystem functions that support genetic and species migration are maintained in all landscape units
Indicator 11:	Status of Forest Ecosystem Networks (FENs) in each landscape unit
Target:	The status of FENs in each LU is maintained until such time as the LU planning process has identified OGMAs
Variance:	All FENs maintained This variance reflects the legal requirement to maintain FENs until the landscape unit process is completed
Current Status:	For the past 4 years, all FENs have been fully maintained.
Forecast:	No FENs. This forecast reflects the reality that in the near future FENs will be replaced with Old Growth Management Areas through the Landscape Unit Plannning process.
Implementation:	All FENs have been mapped. As new blocks are engineered there is an amendment process with the MoF and MoE to ensure the purpose of FENs is maintained. See section 1.5.5 for additional information.

1.4 Protected Areas and Sites of Special Biological Significance

Protected areas that are identified through government processes will be respected.

Note: Sites of special biological significance are addressed in 1.2 and through the use of SEI in planning.

Value: The percent of park perimeter harvested within any five year period.

Objective: DFA operations are planned to minimize risk to adjacent protected areas.

Indicator 12: The percent of park perimeter harvested within any five year period.

Target: The percent of park perimeter harvested within any five year period is less than 7%.

Variance: +1%

This variance is based on maintaining the current condition of 6% in the event that the forecasted 5% can not be met.

Current Status: In the past year of data collection, 6.9% of the protected area perimeter was harvested. Over a five year period, the average was 8.3% which is just outside of acceptable variance. This average is high due to high percentages in 2002-2003 (9.3% average). These numbers reflected a disproportionate amount of mature forest adjacent to protected areas.

Forecast: 5%. This forecast reflects the decreasing trend of % harvested in the last 2 years, and the trend that the cut is becoming more dispersed.

Implementation: During the preparation of the previous year's report, the annual plan for the upcoming year is reviewed. A strategy to mitigate impacts on parks is summarized below in section 1.5.4.

1.5 Management strategy

1.5.1 Biodiversity Conservation

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 Strategy. 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 Strategy zoning designations.

Developing a biodiversity conservation strategy that is based on management of individual species is not feasible or effective because practices that benefit some species are often detrimental to others. The development of an ecosystem management approach that provides suitable habitat conditions for all native species will provide habitat diversity that in turn provides species biodiversity.

The strategy for biodiversity conservation is:

- Institute landscape-level ecological planning.
- Plan forest management activities based on Forest Strategy 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 the Integrated Land Management Bureau (ILMB) specialists to further develop objectives and strategies for landscape units.
- Implement ecologically based stand-level practices as required under the Forest Strategy.
- 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.
- Cooperate with other agencies in research and inventory projects on species of concern.

1.5.2 Variable Retention

The Variable Retention (VR) approach to harvesting and silviculture system was developed by a team of experts under the auspices of “The Forest Project” (now known as the Forest Strategy). The intent was to develop a system, whereby old forests are conserved, harvesting is more ecologically driven, and coastal operations could obtain forest certification.

VR can be implemented with a wide range of harvesting systems, and can be combined with traditional silvicultural systems, such as shelterwood or selection, to meet forest regeneration objectives. As the name implies, various levels of retention can be used with different types, amounts and spatial patterns of structure. Retention can be dispersed throughout a cutblock (individual trees or small groups) or aggregated (clumps or patches) depending upon the objectives. For both safety and ecological reasons, aggregates are preferred.

On a landscape level the VR system divides the DFA into Stewardship Zones with differing levels of retention. Zones have not been formalized, as stakeholder review is required. However,

under this plan, SMZs and the Walbran/Haddon operating area are treated as "Habitat Zones", and the remainder of the area is "Timber Zone". Levels of retention in zones are as follows:

- Timber Zone: A range of 10-20% aggregate retention (or 5% dispersed retention) within every cutblock.
- Habitat Zone: A minimum of 15% dispersed or aggregate retention within every cutblock.
- Old Growth Zone: A minimum of 20% aggregate retention within every cutblock, 66% retention of the existing forest at any cutting cycle (minimum 30 year interval), combined with uneven-aged management (group selection or irregular shelterwood).

Retention levels will vary by cutblock and be dictated by ground conditions. Dispersed as well as aggregate retention will be used.

All planning is based on meeting the requirements of VR as per the Forest Strategy. To meet these requirements: more than 50% of the harvest area of every cutblock must be influenced by a forest edge; cutblocks must retain well distributed structural elements of the pre-harvest stand; and retention levels will be equal to those required under the proposed Stewardship Zones.

1.5.3 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 and Range Practices Act inside the TFL.
- Comply with government stated measures to manage WHAs, UWRs
- Provide operations and agency personnel feedback on guidelines as part of an ongoing process of improving conservation.
- Liaise with MoE wildlife and habitat protection staff on FSP issues, especially to identify and protect critical habitat for the TFL.
- 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 as directed by the stream indicators and objectives; 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

1.5.3 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.
- 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.
- Continue to identify and implement enhancement, mitigation, and rehabilitation opportunities with FIA funding.
- Achieve full compliance in meeting the requirements of the FRPA on the TFL.
- 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.

1.5.4 Harvesting Adjacent to Parks

The general strategy for harvesting adjacent to all Parks is:

- Active roads close to federal and provincial park boundaries will be gated after operational hours and will be deactivated after harvest.
- Use a professional windthrow expert to assess cutblock boundaries along park boundaries (all parks).
- Where the cutblock adjoins a park, a copy of the legal survey notes (if required) and a map will be forwarded to the MoF Tenures Forester, whereby:
  - at least one tie in the field from a FC to a station of the legal survey line is documented; and
  - the tie (including distance and bearing from the FC to the survey line station) is referenced in the SP.
- Review the common boundary on site, with a provincial or federal park representative.

The additional strategy for the falling of danger trees along Provincial Park boundaries is as follows:

- If danger trees standing outside the park boundary are felled into the park, only the portion lying outside the park boundary may be yarded (the portion in the park must be left as CWD); and
- Damage to surrounding trees and vegetation will be minimized.
- No trees within the park will be felled.

The additional strategy for harvesting adjacent to Pacific Rim National Park Reserve is:

- The portion of the common boundary between Pacific Rim National Park Reserve and TFL 44, from Tsusiat Lake to Black Lake that is adjacent or close to proposed cutblocks has been legally surveyed. The park boundary extending to the northeast from Tsusiat Lake is described as the height-of-land. This section of the boundary has been surveyed using a Global Positioning System (GPS). The boundary has been field reviewed by Parks Canada staff to 750m west of cutblock 7694. Parks Canada has agreed with the boundary location.
- Falling of danger trees along the Pacific Rim National Park Reserve boundary will be done as follows:
    - no cutting of wildlife trees (if unsafe, no work zones must be established around these wildlife trees);
    - no timber (standing or fallen) is to be removed from the park;
    - if danger trees standing outside the park boundary are felled into the park, only the portion lying outside the park boundary may be yarded (the portion in the park must be left as CWD);
    - damage to surrounding trees and vegetation will be minimized; and
    - an additional 5m no-harvest buffer is established along the Park/TFL boundary.

1.5.5 Forest Ecosystem Networks

FENs were developed in conjunction with MoE biologists and are reviewed periodically. They consist of permanent reserve areas with linkages connecting them. They are spatially distributed throughout the TFL so that BEC variants and most site series are represented. Linkage areas are considered temporary and may be replaced over time.

Minor revisions to the FENs are sometimes requested to improve the opportunities for economic harvesting of timber and allow flexibility for the MoE to change FEN configuration and improve habitat quality as increased on-site information becomes available. The FEN Amendment Process will be used where minor infringements are proposed, or a FEN Amendment Proposal will be developed.

1.5.6 Old Growth Targets

Strategies to meet the old growth targets in under-represented subzones include:

- Locating and identifying additional old forest stands as reserves, or

- Allowing the second growth stands that are currently reserved or identified as netdowns from the AAC to achieve old forest attributes. There is enough area of second growth in the under represented subzones netted out of the AAC to meet the target levels, if it achieves old forest status.
- Fostering old forest characteristics in the second growth through a variety of silvicultural treatments. Methods to achieve old forest attributes may vary with the age of the second growth stand.
- Determining whether to define a given area of old forest as a reserve, or to include a second growth stand in a preferred location to achieve old forest status as part of the LU planning process.
- Use analysis of LUs to address concerns about proposed Category A cutblocks.

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 Forest Ecosystem Resilience

Ecosystem resilience is conserved by maintaining both ecosystem processes and ecosystem conditions.

Value: The maintenance of ecosystem conditions that support successful forest tree regeneration

Objective: There is sufficient retention on cutblocks to ensure the ability of the ecosystem to recover is not compromised.

Indicator 13: The % of the total cutblock area that is retained.

Target: The average retention level of all cutblocks harvested in the year is no less than 15%.

Variance: -1%.

Current Status: Over the past 5 years, stand level retention has averaged 27.06%.

Forecast: 15%

This forecast is lower than the average percentage of retention to date because the new DFA has a greater number of landscape units in the timber zone than the previous DFA (which calls for a range of 10 – 20% aggregate retention within every cutblock). 15% is projected partially as the average, and because 10% is rarely used once streams and other resources are managed for.

Implementation: Retention for each block is planned based on the required protection of different resources (e.g. riparian, wildlife, cultural). If the minimum level of retention is not yet met, additional area is retained to ensure the VR targets are met. Strategies related to this indicator can be found in section 1.5.2. (Variable Retention)

Value: The timeliness of regeneration

Objective: Harvested areas are regenerated promptly

Indicator 14: The area out of conformance with regeneration due dates.

Target: The area out of conformance with regeneration due dates is < 15 ha annually.

This target is based on past performance.

Variance: +10 ha.

This variance acknowledges that exceptional circumstances happen from time to time leading to regeneration delays.

Current Status: In 2005 31 ha were out of conformance with regeneration due dates. This Most of this amount is attributed to other parties (other than Western Forest Products) operating within the DFA.

Forecast: 0 ha.

This forecast reflects the standard procedure of regenerating areas on a timely basis, and that non-conformances occur only due to exceptional circumstances.

Implementation: Planting is the primary management tool that ensures reforestation commitments are met.

Value: The successful establishment of regeneration

Objective: Harvested areas are successfully regenerated

Indicator 15: The area out of conformance with free-to-grow due dates.

Target: The area out of conformance with free-to-grow due dates is <50 ha by the end of 2006.

Variance: +10 ha

Current Status: In 2005, there were 73 ha out of conformance with free-to-grow due dates. However, this number includes area that is not part of the new DFA so the hectares are disproportionately high and can not be assessed against the target.

Forecast: 0 ha.

Implementation: Professional foresters are charged with the duty of implementing the forestry program to ensure that FTG obligations are met.

2.2 Forest Ecosystem Productivity

Forest ecosystem productivity and productive capacity will be conserved by maintaining conditions that are capable of supporting naturally occurring species.

Value: The incidence of operationally caused fires.

Objective: To avoid burning forest land through operationally-caused fires.

Indicator 16: The total hectares burned annually through operationally-caused fires.

Target: The total hectares burned annually through operationally-caused fires is less than 30 ha.

Variance: +10 ha.

Current Status: In 2005 there was one operationally-caused fire damage, however, this was in an area that is not part of the new DFA.

Forecast: 30 ha.

Implementation: Fire prevention measures include shut downs when fire danger risk passes a certain threshold, having fire fighting equipment on site in summer, monitoring weather conditions daily, and flying fire patrols after operations shut down at end of day. Following a fire in 2003, a post fire analysis was completed. A number of action times were determined to prevent escaped slash fires, including: better assessment of conditions before lighting of piles, and more aggressive mop-up. The strategy for fire prevention is summarized below in section 2.3.1.

Value: The extent of productive forest harvested.

Objective: To regulate the productive forest area harvested annually

Indicator 17: The percent of the productive forest area of the DFA harvested annually

Target: The percent of the productive forest area of the DFA harvested annually is less than 1%.

This target is based on the assumption of a 100 year rotation.

Variance: +0.5%.

Current Status: For 2005, the area harvested over the whole DFA was 0.95%

Forecast: 1%.

Implementation: The harvest level is controlled through AAC calculations. The area based commitment is then expressed as a volume.

Value: The extent of productive forest harvested by Landscape Unit (LU)

Objective: To regulate the productive forest area harvested annually by LU

Indicator 18: The % of productive area harvested in each LU greater than 10,000 ha.

Target: The percentage of productive area harvested in each LU greater than 10,000 ha is not to exceed 5% for the last five years except in the case of 2 LU's where it is not to exceed 7%.

This target is based on a baseline.

Variance: +1%

Current Status: In 2005, all of the landscape units were within the 2006 target, except for the Corrigan (5.58%) and Klanawa (9.49%). These percentages set a baseline.

Forecast: 5%

Implementation: During the preparation of the previous year's report, the annual plan for the upcoming year is reviewed.

Value: The incidence of land slides originating in harvested blocks or from roads.

Objective: To avoid affecting forest land through land slides originating in cut blocks harvested or from roads.

Indicator 19: The hectares of land affected annually by land slides that originated in blocks harvested since 1995 or from roads built since 1995.

Target: The hectares of land affected annually by land slides that originated in blocks harvested since 1995 or from roads built since 1995 is less than 10 ha.

This target is based on historical figures.

Variance: +5 ha

Current Status: In 2005, there were 7.6ha of slides originating in harvested areas or roads. This amount includes slides that occurred in areas that are no longer part of the DFA.

Forecast: 10ha

Implementation: The terrain management code of practice, which is a company developed document, is followed to prevent slides from occurring. All slides that do occur are reviewed so preventative actions can be developed. Related strategies can be found below in section 2.3.5. (Terrain Management)

Value:	The incidence of operationally related windthrow.
Objective:	To minimize affecting forest land through windthrow that is operationally related.
Indicator 20:	The annual area affected by operation related windthrow as a percent of the total area harvested in the year.
Target:	The annual area affected by operation related windthrow as a percent of the total area harvested in the year is less than 5%. This target is based on historical figures.
Variance:	+1%.
Current Status:	In 2005, there was 1.1% windfall as a % of area harvested. This includes area that is no longer part of the DFA.
Forecast:	5%. This forecast reflects that practices to manage for windthrow are anticipated to be effective so the target can be met.
Implementation:	The windthrow management strategy document will be used to guide practices and maintain windthrow within the target. This strategy is summarized in section 2.3.4 (Windthrow Control).

2.3 Management strategy

2.3.1 Fire control

Since 1955 when the DFA's original TFL licenses were awarded, fire problems have not been significant. The largest fire, the Tay fire in 1967, started from blasting on the highway by highway crews 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 destroyed 1.5 million cubic meters of timber.

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:

- Pre-suppression plans are prepared annually;
- 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 and its Contractors maintain and use their 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.

2.3.2 Forest insect control

Similar to the fires, forest health problems have also not been significant. A black headed budworm outbreak in 1970 was closely watched for two years before the population collapsed and preparation for control abandoned.

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

  It is impossible to predict the future severity and consequences of BWA infestations; therefore a cautious approach allows a minor component of Ba as a crop tree, while ensuring that minimum standards are met by an alternative species. This will reduce reliance on Ba as a crop tree, while allowing it to be part of the future stand, should the severity of future BWA infestations decrease.

  Future yield losses will be minimized by:

  - Further restricting planting (no more than 20% of the total free growing well spaced trees) 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.

2.3.3 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 silviculture 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 for addressing mistletoe include:

- Selecting retention or reserve areas, preferring stands with a zero or low level of infection.
- Prescribing the:
  - removal or girdling of infected trees; and/or
  - regeneration of non-susceptible species.
- Implementing strategies before susceptible regeneration is 3m in height.

Strategies for addressing infections of *Phellinus weirii*, including:

- Visually assessing second growth stands proposed for harvest for the presence of laminated root rot during engineering and SP field work.
  - If the presence is negligible, no further survey is required.
  - If the presence is identified as low, a walk through survey is required.
  - If the presence is high, a grid survey by a forest health specialist may be completed. A grid survey is not required if the location of centers is obvious (e.g. between two roads), if infection is so severe that the entire cutblock will be treated, or if the cutblock will be managed for a non-susceptible species for the next rotation.
- Laminated root rot in retention patches will be allowed if expected windthrow in the remaining stand is considered acceptable, and the first 10m from the boundary of the

patch is planted with a non-susceptible species, or the stumps are removed from the ground. Group retention areas may also have infected trees if they are in the central portion of the group, at least 10 meters from the perimeter.

- Considering establishment of a deciduous stand for the next rotation where site characteristics are appropriate.
- Single trees selected for retention will have no visible infections and will be at least 10 meters from any visually infected tree.
- Maps outlining the incidence of root rot are kept on file when a detailed survey has been completed.
- Potential root-rot treatments by incidence level are:
  - Strata with very low to low (0% - 5%) incidence rates usually do not warrant treatment.
  - Strata with moderate levels of root-rot (6% - 15%), individual centers may be treated by stumping, or planting of alternate coniferous/deciduous species.
  - Strata with high or very high incidence rates (High = 16%-30%, VH = >30%), the entire stratum is usually treated as a single root rot center. Areas of concentrated root rot are generally felled. Root rot areas with gentle topography may be stumped post-harvest. Steeper areas and smaller dispersed centers are usually planted with alternate species that are more resistant to root rot than Fd.

2.3.4 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 and application of the WIT Windthrow Management Strategy.
- Determining the natural windthrow factors associated with a particular cutblock design (e.g., cutblock size, stand characteristics, soil properties, location and orientation to expected winds) at the 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.
- Determining the potential extend of windthrow associated with a particular cutblock if no mitigation is taken.
- Determining which forest management objectives may be impacted if windthrow occurs adjacent to a particular cutblock.
- Management practices are applied according to the assessed risk of windthrow. These practices may include feathering of edges, pruning of trees, leaving larger buffers around the forest resources identified to be managed, topping of trees, locating WTP in low windthrow risk areas, partial cutting, reconfiguring edges to a naturally windfirm edge, realigning boundaries to reduce the windthrow risk, partial salvage .
- Monitoring of windthrow and recovery of windthrow where practical and ecologically appropriate.
- Use of wind hazard maps.

- Training of field personnel to recognize the potential for windthrow.

2.3.5 Terrain Management

Terrain Stability Hazard Mapping has been completed for the community watersheds in the DFA. The remainder of the DFA, with the exception of a portion near Nitinat Lake, has reconnaissance terrain stability maps (Environmentally Sensitive Areas or ESA).

Strategies to minimize the incidence of landslides associated with harvesting include:

- Regularly use road construction methods such as full bench/end haul when building roads on unstable or potentially unstable terrain.
- Where roads are no longer required for access, deactivate and/or rehabilitate roads to reduce the risk of road failure and/or reduce site degradation.
- Identify any areas with erosion, slope stability, or sensitive soil concerns during engineering. Refer potential problem areas to a terrain specialist for a Terrain Stability Field Assessment (TSFA).
- Stablilize with grass seed and reforest slides characterized by non-consolidated (i.e. productive) material.
- Follow TSFA recommendations.
- Implementation of a Terrain Management Code of Practice.

2.3.6 Reforestation

Consistent with the silviculture 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 silvical 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 stocking standards approved within operational plans.
- 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 post harvest. 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. Planting will also become increasingly prevalent in advanced growth amabilis stands within the balsam woolly adelgid infestation zone.
- Free growing assessment – Before 1987, all stand establishment to the free growing 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:
    - A post-harvest survey confirms whether or not the treatments in the Site Plan (SP) regarding slash loading and disposal, site preparation, regeneration method, and timing still apply.
    - 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.
    - A survival survey generally occurs about one year after planting. If necessary, a fill plant or a replant is scheduled.
    - 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.
    - A free growing assessment is made near the end of the early free growing period. Necessary weeding or spacing treatments are scheduled.
    - A final free growing survey is carried out near the end of the late free growing period.

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 Soil Quality and Quantity

Soil resources are conserved by maintaining soil quality and quantity.

Value: The quality of forest soils

Objective: Harvesting activities do not excessively disturb forest soils.

Indicator 21: The number of cutblocks harvested in which soil disturbance exceeds 5%.

Target: The number of cutblocks harvested annually in which soil disturbance exceeds 5% is 2 or less cutblocks

The 5% threshold was established from the Forest Practices Code

Variance: +1 cutblock

This variance reflects the reality of extraordinary circumstances taking place from time to time.

Current Status: In the past 8 years, there have been no incidences recorded where openings exceeded allowable soil disturbance

Forecast: 0. This forecast reflects the trend of continuing to have no openings exceed the allowable level.

Implementation: The soil protection standard operating procedure is used to prevent soil disturbance. Strategies related to this indicator can be found below in section 3.3.3 (Soil Conservation).

Value:	The conversion of land to permanent access structures (roads).
Objective:	To avoid excessive conversion of forest lands into permanent access structures.
Indicator 22:	The average percentage of the area harvested each year in the DFA that is converted to permanent access structure.
Target:	The average percentage of the area harvested each year in the DFA that is converted to permanent access structure does not exceed 7%. 7% was a Forest Practices Code requirement, and is now a guideline in FRPA
Variance:	+1%
Current Status:	In 2005, 5.4% of opening areas were in permanent access structure. This includes area that is no longer part of the DFA.
Forecast:	6%. This forecast reflects the approximate historical average percentage.
Implementation:	To minimize permanent access structures, appropriate yarding systems are applied to minimize road, and roads are debuilt where necessary or appropriate. The 7% target is applied during planning to each block. Strategies that related to this indicator can also be found below in section 3.3.2 (Site Restoration).

3.2 Water Quality and Quantity

Water resources are conserved by maintaining water quality and quantity.

Value:	Natural quality of water.
Objective:	Forest operations do not diminish the natural quality of the water.
Indicator 23:	Water sample results (T, conductivity, tubidity, Ph and O2) from selected watersheds: S1 Rivers in Upper Ash China Creek, Franklin, Sarita
Target:	Annual water sample results (T, conductivity, turbidity, Ph and O2) from selected watersheds are within the parameters set in the BC Approved Water Quality Guidelines 100% of time. This target is based on meeting provincial guidelines.
Variance:	-10% This variance reflects potential spikes that may occur during severe storms
Current Status:	This is a new indicator for 2006 so no current status is available.
Forecast:	100%. This forecast reflects the need to fully meet provincial guidelines.
Implementation:	SOPs govern and limit any negative impacts to water quality.

Value: Degree of protection of S4, non-fish streams.

Objective: Increase the degree of protection given to non-ephemeral S4 non-fish streams

Indicator 24: The percent of stream length of S4 non-fish, non-ephemeral streams that are buffered > 15 meters in areas harvested annually

Target: The percentage of stream length of S4 non-fish, non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 39%

There is no percentage required by legislation. This percentage was selected through discussions between the group and the company.

Variance: -5%

Current Status: This indicator has been amended this year to reflect "non-ephemeral" streams so no current status can be reported. However, data in 2003 for S4 non-fish streams showed 53% of streams buffered.

Forecast: 39%. This forecast reflects that historical data shows that the target has been exceeded in the past and should be fully met.

Implementation: Planners utilize riparian areas when considering the best location for the placement of retention. Strategies related to this indicator can also be found below in section 3.3.5. (Riparian Management).

Value: Degree of protection of S4 fish bearing streams

Objective: Increase the degree of protection given to non-ephemeral S4 fish streams

Indicator 25: The percent of stream length of S4 fish, non-ephemeral streams that are buffered > 15 meters in areas harvested annually

Target: The % of stream length of S4 fish, non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 85%

Variance: -5%

Current Status: This indicator has been amended this year to reflect "non-ephemeral" streams so no current status can be reported. However, data in 2003 for S4 fish streams showed 85.2% of the streams buffered in the Alberni East area.

Forecast: 85%. This forecast reflects that historical data shows that the target has been met in the past and should continue to be fully met.

Implementation: Planners utilize riparian areas when considering the best location for the placement of retention. Strategies related to this indicator can also be found below in section 3.3.5. (Riparian Management).

Value: Degree of protection of S5 streams

Objective: Increase the degree of protection given to non-ephemeral S5 streams

Indicator 26: The percent of stream length of S5 non-ephemeral streams that are buffered > 15 meters in areas harvested annually

Target: The % of stream length of S5 non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 60%

There is no percentage required by legislation. This percentage was selected through discussions between the group and the company.

Variance: -5%

Current Status: This indicator has been amended this year to reflect "non-ephemeral" streams so no current status can be reported. However, data in 2003 for S5 streams showed the Alberni East area having 72% of the streams buffered.

Forecast: 60%. This forecast reflects that historical data shows that the target has been exceeded in the past and should continue to be fully met.

Implementation: Planners utilize riparian areas when considering the best location for the placement of retention. Strategies related to this indicator can also be found below in section 3.3.5. (Riparian Management).

Value: Degree of protection of S6 streams

Objective: Increase the degree of protection given to non-ephemeral S6 streams

Indicator 27: The percent of stream length of S6 non-ephemeral streams that are buffered > 15 meters in areas harvested annually

Target: The % of stream length of S6 non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 39%

There is no percentage required by legislation. This percentage was selected through discussions between the group and the company.

Variance: -5%

Current Status: This indicator has been amended this year to reflect "non-ephemeral" streams so no current status can be reported. However, data in 2003 for S6 streams showed the Alberni East area having 25.7% of the streams buffered.

Forecast: 39%. This forecast reflects the target that the group would like the company to meet, and that will be worked towards.

Implementation: Planners utilize riparian areas when considering the best location for the placement of retention. Strategies related to this indicator can also be found below in section 3.3.5. (Riparian Management).

Value: Natural hydrological regime of forested watersheds.

Objective: The natural hydrological regimes are perpetuated and damaged watersheds are restored.

Indicator 28:	The results of watershed assessments every 3 years (2003, 2006, 2009).

Target: The results of watershed assessments every 3 years are showing improvement over time.

Variance: -1 watershed

Current Status: A watershed assessment was last conducted in 2003.

Forecast: N/A – There is not a legal requirement anymore to conduct watershed assessment. However in the long term, it is expected that the watersheds will be fully recovered and assessments will not need to be conducted.

Implementation: To ensure that the results of watershed assessments improve, Western Forest Products implements the recommendations of past assessments, follows the terrain management code of practice, and ensures that roads are properly deactivated or maintained. Additional strategies related to this indicator can be found in section 3.3.4.

3.3 Management strategy

3.3.1 Road building and maintenance

Road building Standard Operating Procedures document plans/strategies for road construction and maintenance and for road deactivation. General strategies for the maintenance of roads include recapping, grading, adding or replacing culverts, roadside brushing, ditching short sections of road, applying dust control, bridge replacement, minor resurfacing and development of pits and quarries.

All permitted roads and bridges will meet legislative requirements. 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.

3.3.2 Site Restoration

Roads and landings are maintained or deactivated according to the conditions of the Road Permit unless needed for other purposes. Proposed deactivation is included with the Forest development Plan. 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.

3.3.3 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.
- Complete harvest plans in accordance with the Terrain Stability Code of Practice.
- 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.

3.3.4 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 5 community watersheds within the DFA 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.
- 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.

3.3.5 Riparian Management

Riparian areas are used by many species of wildlife. These areas are reserved by way of no-harvest areas along streams within FENs and/or RMAs. Generally, larger streams have greater levels of retention. Retention of trees may also be required where a stream is dependent on large woody debris for channel stability and/or streambank stability.

The RMA consists of a RMZ, and where required, a RRZ. The widths of the RMAs are determined by the attributes of the adjacent riparian feature. Attributes such as gradient, fish presence, width of stream, size of wetland and BEC subzone may impact the size of the RMA and the requirement for a RRZ.

Riparian management strategies include:

- Wherever possible, locate road to avoid RMAs.
- Propose road locations through RMAs in the Road Layout and Design where no other option exists, or locating the road outside the RMA would create a higher risk of sediment delivery to streams.
- Vary retention specifications for RMZs according to site conditions.
- Undertake professional assessments as necessary.
- Incorporate recommendations of assessments into SPs.

Strategies to protect fish habitat and non-fish streams may include:

- Basal area retention in RMZs based on riparian class and site-specific conditions.
- Partial cutting silviculture systems or no harvest buffers.
- Selecting trees to retain to reduce the risk of windthrow and to protect wildlife values.
- Where there are significant concerns about windthrow in the RMZ: extend the boundaries of the RMZ to a windfirm boundary; eliminate sharp corners or indentation from the outer boundary of the RMZ; and/or use edge stabilization treatments including feathering, pruning, or topping.
- Additional practices such as: retention of all non-merchantable conifer trees, understory deciduous trees, shrubs, and herbaceous vegetation within 5m of the channel to the fullest extent possible; retention of wildlife trees; falling and yarding away; removal of introduced tops and small woody debris; felling of shallow rooted, windthrow-prone leaners across the stream so that the butt clears the channel or the stem spans both streambanks. Stems will be removed from the stream if it can be done without damage to the channel or bank and in compliance with the Federal Fisheries Act.

4.0 Forest Contributions to Global Ecological Cycles

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

4.1 Carbon Update and Storage

Maintain the processes that take carbon from the atmosphere and store it in the forest ecosystems.

Value:	The uptake and storage of carbon.
Objective:	The uptake and storage of carbon is enhanced.
Indicator 29:	NSR equivalent years of Not Sufficiently Reforested (NSR) as a five year rolling average.
Target:	The equivalent years of NSR as a five year rolling average is maintained at <2 years harvest area.
Variance:	+1 year
Current Status:	In 2005, the area equivalent to the new DFA had an NSR equivalency of 0.57 years.
Forecast:	2 years. This forecast reflects the historical range of NSR equivalency
Implementation:	Strategies to reduce NSR can be found below in section 2.3.6

4.2 Forest Land Conversion

Protect forestlands from deforestation or conversion to non-forests

Value: The conversion of forest lands to other uses.

Objective: To avoid excessive conversion of forest lands into other uses

Indicator 30:	The percent of the DFA forest land that is annually converted to other uses (Special Use Permits (SUP), ind. Etc.).

Target: The percent of the DFA forest land that is annually converted to other uses (SUP, ind. Etc.) is < 0.001%.

Variance: +.0005%

Current Status: In 2004 there was no conversion across the DFA. For 2005 a new baseline needed to be set to reflect the new DFA.

Forecast: .001%

Implementation: All Crown land in a tree farm licence is designated a "Provincial Forest" land. This designation limits the ability of the company to convert the land to other uses. The *Land Act* establishes that land can be converted for easements or rights of way, or for other purposes if the Chief Forester deems those uses to be compatible with uses described in the *Forest and Range Practices Act (Provincial Forest Use Regulation).*

4.3 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.

4.3.1 Forest growth and yield plan

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

- The establishment and measurement of one large scale (80 ha) and several edge studies examining the effects of different amounts and patterns of variable retention 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-yr cycle.
- A light model has been developed to examine the impact of variable retention on yield and a moisture sub-model is being developed.

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 Timber and Non-Timber Benefits

Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits.

Value:	Non-timber forest products
Objective:	Forest Management Practices continue to provide sustainable opportunities for Non-Timber Forest Products harvesting.
Indicator 31:	The proportion of the DFA within 200 meters of maintained road and 20 years + in age class.
Target:	The proportion of the DFA within 200 meters of maintained road and 20 years + in age class is maintained at the. Benchmark in 2006
Variance:	N/A. A variance will be set next year based on the benchmark.
Current Status:	This is a new indicator this year so no current status has been established yet. This indicator has been developed based on the rationale that much of the non-timber forest product collection takes place within 200m of maintained road.
Forecast:	N/A. A forecast will be set next year based on the benchmark.
Implementation:	GIS is used to evaluate where the roads intersect with the relevant age classes.

Value: Timber forest products

Objective: To maintain the production of timber at the level defined by the Long Term Harvest Level (LTHL).

Indicator 32: The 5-year average annual harvest level as a percent of the LTHL.

Target: The 5-year average annual harvest level is within 10 percent of the LTHL.

Benchmark in 2006

Variance: +1%

Current Status: A new LTHL has been calculated for the new DFA. For 2005, 1,584,239m3 were harvested compared to the LTHL of 1,166,000. This represents an average harvest of 136% of the LTHL. The higher percentage than previous years (107% in 2000-2004) reflects part of the undercut being allocated to First Nations.

Forecast: LTHL

Implementation: The LTHL is calculated by Peter Kofoed by evaluating the rate of growth. The Chief Forester takes this number into consideration when the AAC is set.

Value: The representation of the 80 – 160 year age class in the DFA

Objective: The representation of the 80 – 160 year age class by LU is sufficient to allow for future old growth needs.

Indicator 33: The number of hectares of the 80 – 160 year age class that is outside of reserves, by LU.

Target: Benchmark in 2006 the number of hectares of the 80 – 160 year age class that is outside of reserves, by LU.

Variance: New

Current Status: This is a new indicator for 2006. It reflects previous data collection showing a relatively low representation of this age class, and reflects the desire of the advisory group to have old growth available in perpetuity for commercial and cultural harvest.

Forecast: N/A. A forecast will be set next year based on the benchmark.

Implementation: GIS is used to establish the benchmark.

Value: Access to recreation areas

Objective: To maintain public access to the recreation areas identified in the DFA and outlined in the recreation access inventory.

Indicator 34:	The percent of roads identified in the recreation access inventory that are accessible. (Inventory includes class of road by 2-wheel, 4-wheel & foot access)

Target: The percent of identified roads accessible by two wheel drive vehicle is 90%, and by four wheel drive vehicle is 90%.

Variance: -5%

Current Status: Over the past four years of reporting, identified roads with access has ranged from 95 – 97%.

Forecast: 90%

Implementation: Most of the roads in inventory are main roads that won't be deactivated. The inventory is referenced though when deactivation plans are being developed to ensure the target is met.

Value: The recreation experience quality

Objective: Western Forest Products is respectful of the high value of recreation

Indicator 35: recreation.	The number of complaints received by Western Forest Products relating to

Target: The number of complaints received by Western Forest Products relating to recreation does not increase from year to year

A set number of complaints is not appropriate because it does not speak to the nature or severity of the complaint.

Variance: N/A.

Current Status: This is a new indicator for 2006, and replaces tracking of the percentage of the DFA that is covered by a recreational inventory.

Forecast: N/A. A forecast is not appropriate since there is not a set number in the target.

Implementation: The EMS includes an Incident Tracking System. There is a complaint form for the public to fill in, and form data is input into the system.

Value: Recreation information available to the public

Objective: Timely and accurate information is available to the general public

Indicator 36:	Western Forest Products will develop a communications strategy for the effective dispersal of recreation information to the public.

Target: Complete a recreation communications plan by June 2006

Once the plan is completed, a new indicator and target will be set to measure the effectiveness of the plan.

Variance: By August.

Current Status: This is a new indicator so there is no current status to report.

Forecast: N/A

Implementation: This plan will include information topics needing dissemination (e.g. public access roads, gate locations, recreation safety, road closures) and methods to disseminate each topic (e.g. website, printed maps).

Value: Historical and physical environments and features

Objective: Significant historical and physical environments and features are identified and their important qualities and protected.

Indicator 37:	Inventory of all known karsts & historical sites within the DFA.

Target: Inventory of karsts and historical features by 2007

Once the inventory is completed, a new indicator and target will be set to address management and/or protection of the features.

Variance: By 2008

This variance reflects the uncertainty of the number of features that may require inventorying.

Current Status: This is a new indicator so there is no current status to report.

Forecast: N/A

Implementation: Karst potential mapping has been completed. The planning forester will show this mapping to local cavers, and update the inventory as needed to include local knowledge. Historical info (e.g. plane crashes) will be brainstormed and also added to the GIS system. Once the inventory is completed, a SOP will be developed to ensure that this GIS layer is checked during planning.

Value: Visual Quality of harvest areas

Objective: Western Forest Products is respectful of the high value of the tourism experience

Indicator 38:	The number of hectares in which visual condition fails to meet Visual Quality Objectives (VQO)

Target: The number of hectares in which visual condition fails to meet VQO is reduced from previous reports

Variance: The same

Current Status: For 2005, 5.18% of the area failed to meet VQO. This represents a consistent reduction from previous years (7.04 in 2002 and 8.07 in 2000). This indicator will be benchmarked again this year to reflect the new DFA size.

Forecast: 0.

Implementation: The VQO inventory will be updated in 2006. If any harvesting exceeds the VQO requirements no additional visible harvesting will be added to that area. There is a legal requirement to meet the VQO order, so this order will be implemented. Strategies for addressing VQO can be found below in section 5.4.2.

Monitoring: Previously this indicator was updated every 5 years. Monitoring frequency will be revised to every 3 years.

5.2 Communities and Sustainability

Providing diverse opportunities to derive benefits from forests and participate in their use and management will contribute to the sustainability of communities.

Value: The value of the annual harvest from the DFA

Objective: The total harvest value is stable or increasing over time (Assumption: that the value covers all related costs of harvest. Need total $/ha spent locally.)

Indicator 39:	The dollar value of harvest by hectares. (Cubic meters harvested by species multiplied by the MoF $ Value tables for each species and divided by productive hectares for the last 5 years.)

Target: The harvest value is stable or increasing over time

Variance: -4%

Current Status: The average harvest value ($/ha) for 2005 was $916.65. This is up from $688.78 in 2004.

Forecast: Inflation

Implementation: Western Forest Products can not affect the log market values, but they can maximize the value / hectare by bucking to length and minimizing breakage as an example. This is a reporting indicator and requires no additional implementation by Western Forest Products.

5.3 Fair Distribution of Benefits and Costs

Promote the fair distribution of timber and non-timber benefits and costs.

Value: Western Forest Products local harvesting employment and purchasing relating to the DFA.

Objective: To have a fair proportion of all Western Forest Products harvesting employment/contracts & purchasing held by residents or businesses of the Alberni Clayoquot Region.

Indicator 41: Proportion of major logging (20,000 cubic meters or more/year) contractors that have a policy in support of local hiring & purchasing

Target: By 2007, the proportion of major logging (20,000m3 or more/yr) contractors that have a policy in support of local hiring and purchasing is 100%.

Variance: -30%

Current Status: This indicator previously reflected employment spending in the Alberni-Clayoquot Region. Therefore, there is no current status to report.

Forecast: 100%

Implementation: There are 3 major contractors working in the DFA. WIWAG will take the lead on this indicator through its conversations in the community and through the contractor representatives.

Value: Local conversion of logs

Objective: To have information on the local conversion of logs

Indicator 42: The proportion of Western Forest Products harvested logs converted in local mills

Target: The proportion of Western Forest Products harvested logs converted in local mills is reported annually

Variance: N/A

Current Status: This indicator previously looked at the annual harvest compared to local log consumption.

Forecast: N/A

Implementation: This is a reporting indicator only. The advisory group has an interest in revisiting this indicator to establish a target of x % of logs harvested being converted locally. This indicator will be revisited later in 2006.

Value:	First Nations' derivation of economic benefits from the DFA
Objective:	In increase First Nations' derivation of economic benefits from the DFA
Indicator 43:	Proportion of wood volume harvested by FN annually (from 2002 to date).
Target:	Proportion of wood volume harvested by FN annually stays stable or increases
Variance:	10% This variance reflects annual fluctuations in harvest levels.
Current Status:	First Nations harvested 14.7% of the volume in 2005. This is up from 10.8% in 2004. Undercut awards for First Nations largely account for this increase, and will continue to do so for the next couple of years.
Forecast:	Stable. This forecast reflects Western Forest Product's commitment to continue working with First Nations on economic opportunities.
Implementation:	This indicator is implemented through logging agreements.

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 Management and Forest Development and through the conduct of logging and other activities in accordance with approved plans and prescriptions. Through implementation of the Forest Strategy the company is committed to performance results of a higher standard than those required by law. The Forest 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

One 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:

- Identify new, significant recreational attractions in the course of inventory or development work and protect them.
- 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". It is 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 silviculture strategies to reduce the time to achieve visually effective green-up.

5.4.3 Road Access

Recreation users, especially hunters, are very concerned about road access to preferred recreation areas. The recreation use of these areas is considered during development of deactivation plans. The goal is to balance environmental risk and recreation access. The objective is to maintain vehicle access to areas of high recreation use, while minimizing environmental risks.

Roads may be gated if there is equipment in the area to protect from vandalism, for safety concerns if timber is partially felled, or to control access to Provincial and National parks. Gates have been installed on some roads to prevent garbage dumping.

Strategies to address road access for recreation include:

- Identifying potential and known recreational use areas in the TFL.
- Maintaining established recreation areas with participation from the MoF.
- Working with recognized caving organizations to protect cave entrances and underground features. Protect cave entrances and underground features by:
  - Restricting falling and yarding.
  - Altering blasting or road building techniques.
  - Excluding sensitive areas from harvesting.
  - Using water management techniques.
  - Using slash management practices.
- Developing site-specific measures to address recreation concerns in the SP and/or road layout and design.
- Seeking advice from the MoF Recreation Resource Officer where public comments indicate there are recreation concerns.
- Where the recreation resource is temporally sensitive, operate within timing windows where practicable. For example, harvesting may be restricted to off-peak periods of use where noise could detract from a wilderness experience such as hiking on the West Coast Trail. Site-specific factors as well as economic impacts are considered when determining if harvest can be delayed to periods of low recreational use.

- It may be necessary to adjust or relocate established trails to accommodate harvesting. Contact, seek input, and incorporate feedback from local recreation groups, individuals who have expressed an interest during the public review process, and the MoF.
- Rehabilitating significant trails post-harvest.

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 Aboriginal and Treaty Rights

Aboriginal and treaty rights are recognized and respected.

Value: Relationships with First Nations

Objective: To establish a working relationship with willing First Nations, as a way of recognizing aboriginal interests in the DFA

Indicator 44:	The # of willing First Nations with established relationship frameworks

Target: The # of willing First Nations with an established relationship framework is 100% by 2008

A two year target reflects the varying capacity and interest of First Nations in forestry, and that it may not be possible to always come to agreement on the framework.

Variance: -10%.

Current Status: This is essentially a new indicator. Previously, a similar indicator measured cultural heritage contracts. However, this amended indicator reflects the need to build relationships before projects, economic opportunities and information sharing can progress. Western Forest Products has reached out to all First Nations affected by the DFA through the planning process, but relationships are more advanced with those First Nations with the highest capacity.

Forecast: 100%

Implementation: Each First Nation affected by the DFA will be approached to determine the nature and scope of relationship that they wish to have with Western Forest Products. These relationships may range from a very low level of engagement (First Nation only wanting to be informed about Western Forest Product's operations), to a moderate level of engagement (First Nations actively reviewing operational plans and working with Western Forest Products to ensure interests are addressed), to a high level of engagement (First Nations utilizing land use planning and traditional use information to jointly participate in forestry management at a strategic level). A framework (formal or informal as the parties deem appropriate) will be drafted between the parties that acts as an "action plan" of what goals are to be worked on within a set timeframe.

Value:	Information related to natural resource needs
Objective:	For willing FN, document natural resource needs (eg: trees, plants & animals – consumptive) for use in the planning process
Indicator 45:	The % of First Nation requests for support towards completing natural resource needs inventories for cultural purposes that are fulfilled.
Target:	The % of First Nations requests for support towards completing natural resource needs inventories for cultural purposes that are fulfilled is 80%. This target reflects the fact that not all requests may be within the ability of Western Forest Products to support.
Variance:	-10%
Current Status:	This is a new indicator for 2006. Western Forest Products has been providing these types of supports to First Nations in the past, but they have not been tracked.
Forecast:	N/A. In the long-term, all First Nations will have quantified/documented their natural resource needs and this indicator will not be required.
Implementation:	Discussions with First Nations on Indicator 44 will reveal which First Nations have an interest in documenting and sharing this type of information with Western Forest Products. Western Forest Products may be able to provide support in varying ways depending on the approach that each First Nation decides to take. Supports may include supporting funding applications to third parties or providing in-kind resources such as mapping information.

Value:	Information related to traditional use sites
Objective:	For willing FN, document traditional use sites for use in the planning process
Indicator 46:	The % of First Nations requests for support to document traditional use sites (TUS)
Target:	The % of First Nations requests for support to document traditional use sites (TUS) that are fulfilled is 80% of requests annually. This target reflects the fact that not all requests may be within the ability of Western Forest Products to fulfill.
Variance:	-10%
Current Status:	This is a new indicator for 2006. Western Forest Products has been providing these types of supports to First Nations in the past, but they have not been tracked.
Forecast:	N/A. In the long-term, all First Nations will have documented their traditional use sites and this indicator will not be required.
Implementation:	Discussions with First Nations on Indicator 44 will reveal which First Nations have an interest in documenting and sharing this type of information with Western Forest Products. Western Forest Products may be able to provide support in varying ways depending on the approach that each First Nation decides to take. Supports may include supporting funding applications to third parties or providing in-kind resources such as mapping information.

Value: Information related to archaeological and reconnaissance surveys

Objective: For willing FN, develop criteria and protocols for conducting reconnaissance surveys

Indicator 47:	The % of willing First Nations with protocols in place for conducting Reconnaissance Surveys

Target: The % of willing First Nations with protocols in place for conducting Reconnaissance Surveys is 50% by 2006, and 00% by 2007

This target reflects the time required to develop protocols and the varying capacity of First Nations.

Variance: -10%. This variance is equivalent to one First Nation, and reflects the unpredictable amount of time to develop these protocols, and that it may not be possible to always come to agreement on a protocol.

Current Status: This is a revised indicator for 2006. Previously, data was collected on the percent of surveys conducted vs. the number requested. Since data has been gathered, Western Forest Products has had 100% of surveys conducted. Western Forest Products has some criteria for determining where there is potential for cultural heritage resources to be located, however this criteria is not fully supported by First Nations. Similarly, some First Nations have developed their own methods to determine where survey needs to take place. In other cases, First Nations have made a blanket statement that all blocks must be surveyed. All of these approaches were largely formed several years ago when there was not a lot of base data to accurately predict where cultural resources might be located. However, since that time, hundreds of blocks have been surveyed. In the interest of focusing surveying resources where they will have the greatest effectiveness, Western Forest Products is encouraging criteria and protocols to be developed to guide reconnaissance surveys.

The other issue related to this indicator is how the surveys are conducted. First Nations reconnaissance crews have varying experience so the reporting received by Western Forest Products also varies. Further, where a survey area falls within territory that is claimed by more than one First Nation, there has not been a consistent way of approaching the survey.

Forecast: N/A. In the long-term, all First Nations will have criteria and protocols developed and this indicator will not be required.

Implementation: Discussions with First Nations on Indicator 44 will reveal which First Nations have an interest in developing reconnaissance survey criteria and protocols. The results of previous survey work, along with First Nations traditional use site information will be used to assist the criteria development process. Protocol development will consider issues such as crew training and experience, reporting requirements, and timely coordination of surveys.

Value:	Information collected is documented and retained
Objective:	Western Forest Products maintains mapping of where archaeological and reconnaissance surveys have taken place.
Indicator 48:	Mapping of where archaeological and reconnaissance surveys have taken place exists
Target:	Mapping is updated on an ongoing basis
Variance:	N/A
Current Status:	This indicator was included in the previous versions of the SFMP, and then removed because the activity became a regular part of operations. However, with the introduction of new contractors, mapping has been irregular at times in the past few years so the indicator has been brought back.
Forecast:	N/A.
Implementation:	A record is kept of all blocks that are surveyed. If cultural heritage resources (e.g. CMTs) are found, points are mapped within the block. This information is maintained in Genus.

6.2 Respect for Aboriginal Forest Values, Knowledge and Uses

The Aboriginal input process ensures that Aboriginal forest values and uses are identified and respected

Value: First Nations involvement in planning

Objective: Establish information sharing / referral processes with willing First Nations

Indicator 49:	The % of willing First Nations with which Western Forest Products has jointly developed First Nations information sharing / referral processes

Target: The % of willing First Nations with which Western Forest Products has jointly developed First Nations information sharing / referral processes is 100% by 2008

Variance: -13% (1 First Nation).

This variance reflects that these processes make take additional time, or that it may not be possible to reach agreement with all First Nation.

Current Status: Western Forest Products engages in information sharing with all First Nations affected by the DFA. In many cases, Western Forest Products approaches information sharing according to the terms established within FRPA. Often, these terms are viewed as inadequate by First Nations. In turn, some First Nations have drafted their own "consultation protocols" but the feasibility of implementing these protocols may not yet have discussed with Western Forest Products. This indicator is an amendment to a similar indicator in previous SFMPs and emphasizes processes that are "jointly developed" to ensure the interests of all parties are reflected.

Forecast: 100%.

Implementation: Discussions with First Nations on Indicator 44 will reveal which First Nations have an interest in documenting and sharing this type of information with Western Forest Products. Both requirements for FRPA and First Nations drafted processes can be used to guide jointly developed processes. These processes may consider what types of information gets shared, what types of information gets referred, prioritizing referrals, and ensuring timely responses.

Value: Natural resources of significance to First Nations

Objective: The supply of natural resources meets the cultural and sustenance needs of First Nations

Indicator 50: The % of the total amount of agreed to natural resources required that is conserved

Target: The % of the total amount of agreed to natural resources required that is conserved is 100%

Variance: 0. This variance recognizes that Aboriginal Rights are second only to conservation.

Current Status: This is a new indicator for 2006. First Nations have been hunting and gathering resources within the DFA, and accessing logs for cultural purposes through Free Use Permits. However, many First Nations express concern about diminishing level of resources (e.g. certain plants and animals) and about the potential that old growth cedar needs may not be met in the future.

Forecast: 100%.

Implementation: This indicator works in conjunction with Indicator 45. Once needs are quantified/documented, Western Forest Products will work with First Nations to develop management strategies to protect those resources to needs are met. Strategies to address this indicator may include considerations around rate of harvest, timing of harvest, habitat issues, and net downs.

Value: Access to natural resources of significance

Objective: First Nations have access to natural resources of significance

Indicator 51: The % of reasonable requests for access where access was limited or prevented annually

Target: Access was limited or prevented for 0% of reasonable requests annually

Variance: -13%.

Current Status: This is a new indicator for 2006. First Nations have access to the DFA for the exercise of Aboriginal Rights. From time to time access may be limited due to gates erected for safety purposes. Western Forest Products has actively worked with First Nations to understand access requirements and ensure that access has not been unreasonably limited.

Forecast: N/A

Implementation: This indicator works in conjunction with Indicator 45. Once needs are quantified/documented, Western Forest Products will work with First Nations to develop strategies to ensure access to the resources. Strategies to address this indicator may include considerations around timing of harvest, communication on road closures and providing support for Free Use Permits.

Value:	Archaeological sites
Objective:	Archaeological sites are managed in a way that is consistent with the interests of First Nations
Indicator 52:	The % of archaeological sites managed according to measures jointly developed by Western Forest Products and First Nations
Target:	The % of archaeological sites managed according to measures jointly developed by Western Forest Products and First Nations is 100%
Variance:	-10%
Current Status:	This is an amended indicator and was reflected in previous plans as the percent of blocks by band where agreement is reached around the management of Cultural Heritage Resources. Over the past 7 years, there has been consent on 100% of blocks.
Forecast:	N/A
Implementation:	This indicator is related to Indicator 47. Once archaeological sites are found there will be discussions with First Nations about how to manage the sites. Discussions with First Nations will include the topic of management options which may range from full protection, to alteration of the site once it has been fully documented. Discussions will also include tailoring measures to protect on a site by site basis, as previous history shows that a blanket protection prescription (e.g. x meter buffer) is not always the most effective way to manage a site.

Value: Small scale sacred sites

Objective: Sacred sites of 5 hectares or less are managed in a way that is consistent with the interests of First Nations

Indicator 53: The % of small scale sacred sites managed according to measures jointly developed by Western Forest Products and First Nations.

Note: Larger scale sacred sites are also of value and there is an objective to manage these sites as well. However, larger scale sacred sites have tenure implications and need to be taken up with the Ministry. At 5 hectares it can be handled at the block level, but there is a willingness to discuss larger sites.

Target: The % of small scale sacred sites managed according to measures jointly developed by Western Forest Products and First Nations is 100%

Variance: -10%

Current Status: This is a new indicator for 2006 but provides additional detail on an indicator that was reflected in previous plans (agreement around the management of Cultural Heritage Resources). Over the past 7 years, there has been consent on 100% of blocks.

Forecast: 100%

Implementation: This indicator is related to Indicator 46. Once traditional use sites, such as sacred sites, are identified, there will be discussions with First Nations about how to manage the sites. Discussions with First Nations will include the measures to protect the site and may include the topics of buffers, and timing of harvest to ensure privacy of the site.

Value:	First Nations familiarity with the SFMP
Objective:	The First Nations affected have been orientated to the SFMP
Indicator 54:	The % of affected First Nations that participate in an orientation to the SFMP
Target:	The % of affected First Nations that participate in an orientation to the SFMP is 100% by 2008 This target reflects the time demands on First Nations and the potential difficulty of scheduling orientations
Variance:	By 2009
Current Status:	This is a new indicator for 2006. Previously, only those First Nations that have participated in the advisory group have had any orientation to the SFMP. This only represents approximately 25% of the affected First Nations.
Forecast:	N/A. A long-term forecast is no appropriate since all First Nations will eventually receive the orientation.
Implementation:	An orientation presentation will be developed that includes a history of WIWAG, summary of indicators of particular relevance to First Nations, summary of potential benefits to participation, and options for participation. These orientation sessions may be scheduled with individual First Nations or with groups representing multiple First Nations (e.g. treaty tables, tribal councils, forestry councils). These sessions may also be scheduled as an independent meeting item, or may be delivered during other meetings such as FSP presentations.

Value: Workers knowledge and understanding of Aboriginal and Treaty Rights of First Nations

Objective: To increase the knowledge and understanding of Aboriginal and Treaty Rights of First Nations by those that work in the DFA

Indicator 55:	The percentage of workers that received the First Nations Cultural Awareness Program per year

Target: The percentage of workers that received First Nations Cultural Awareness Program per year is at least 70%

This target reflects that other training must also be scheduled and delivered with workers.

Variance: -10%

Current Status: The Cultural Awareness Program has been delivered for the past 2 years. In 2004, 85% of workers received the Program, but in 2005 this number of 59%.

Forecast: 100% of workers

Implementation: A Cultural Awareness Programs has been developed that is delivered as part of the EMS systems of Western Forest Products and Hayes. A training program exists for job that determines how often training is required.

6.3 Public Participation

The SFM public participation process is designed and functioning to the satisfaction of the participants.

Value: WIWAG participation

Objective: WIWAG members are monitoring, and improving as needed, the Advisory process

Indicator 56:	Results of bi/annual satisfaction surveys are discussed

Target: Twice/year

Variance: Once/year

Current Status: This is a new indicator for 2006 so there is no current status to report.

Forecast: N/A

Implementation: A satisfaction survey will be developed that has participants rate the advisory group on several topics. The survey will be formatted in a similar way to the First Nations Contracting survey conducted several years ago, and will also consider surveys used by other CSA advisory groups. A combination of objective responses that correspond to a numbered rating system will provide a comparative scale that rates the success of the advisory group function.

6.4 Information for Decision Making

Interested parties are provided relevant information to support their involvement in the public participation process, and their knowledge of ecosystem processes and human interactions with forest ecosystems is increased.

Value: The local community's understanding of local forest management and processing activities

Objective: To increase the local knowledge of local forest management and processing activities

Indicator 57: The percent of communication activities planned that are implemented

Target: The percent of communication activities planned that are implemented is >50% in 2006; >75% in 2007; 100% in 2008

Variance: -10%

Current Status: In 2003, 77% of planned activities were implemented. In 2004, the percentage rose slightly to 78.6%. For 2005, 92% were implemented.

Forecast: N/A

Implementation: A communications plan for 2006/07 has been approved by the advisory group. This plan clearly defines which party is responsible for implementing specific activities. Ongoing/regular activities are all in place and actively being carried out. There are two special public sessions being planned for the year – one for the spring and one for the fall. The advisory group facilitator is responsible for organizing these sessions.

Value: Youth awareness and participation in forest management

Objective: The youth awareness and participation in forest management is increased

Indicator 58: Gently Down the Creek is providing funding.
The ADSS Liaison provides a woods tour for ADSS class.

Target: That both programs continue through the period of the plan

Variance: -1

Current Status: The Gently Down the Creek program has been funded for the last few years. Ten Grade 5 classes participated in the program in 2004. The ADSS Forestry Program recommenced in 2005. Western Forest Products and Island Timberlands have each committed to fund ½ the program.

Forecast: N/A

Implementation: The Gently Down the Creek curriculum has been developed and will be delivered at McLean's Mill as per previous years. The focus and timing of the ADSS woods tour will be determined based on discussions with the forestry teacher.

Value:	Educational sessions
Objective:	That opportunities exist for WIWAG and other stakeholders to participate in educational sessions related to forest processes and management
Indicator 59:	The # of educational opportunities made available each year
Target:	The # of educational opportunities made available each year is 2 sessions / year
Variance:	1 / year
Current Status:	This is a new indicator for 2006.
Forecast:	N/A
Implementation:	Annual planned education opportunities are defined by WIWAG and included in the communications plan.

6.5 Management strategies

6.5.1 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:

- Information sharing in planning and in communication of forestry practices and planned activities.
- Employment opportunities in forest management activities subject to constraints of existing labour agreements.

6.5.2 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.

6.5.3 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 FIA, FSP or other funding programs for projects of particular or strategic concern to the TFL 44 license area.
- Cooperate with research organizations in conducting basic and applied research.
- Test and develop practicable applications and uses of published research that are relevant to Western Forest Products 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 major focus of the program in recent years is the adaptive management and monitoring program implemented under the company's Coast Forest Strategy.[1] This program is evaluating our ability to sustain biological diversity in managed forests.
- Silviculture – The silviculture research program focuses on examining silvicultural practices for regeneration through a combination of planting and natural regeneration. Various trials—some with over 20 years of monitoring—examine species, stock types, prescribed burning, mechanical site preparation, vegetation control and fertilization.
- Forest Growth and Yield – The aim of this program is to quantify forest growth and yield across the range of site conditions on the company's tenure. A recent focus of plot establishment has been to examine the impact of variable retention harvesting and edge effects on early establishment and growth.

Major projects in which Western Forest Products 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 silviculture treatments. Ten-year growth was measured on a study site near Ucluelet in 2005
- MASS — Montane Alternative Silvicultural Systems. This research cooperative was established in 1992 to examine alternative approaches for managing high elevation forests. Research projects are examining a full range of impacts, including regeneration, windthrow, nutrition, genetics, pathology, vegetation and biological diversity. For project descriptions, a listing of reports and publications, and brief summaries of findings from some of over 20 studies that are examining the economic and biological impacts see the MASS website, maintained by the Canadian Forest Service, Pacific Forestry Centre at: www.pfc.cfs.nrcan.gc.ca/silviculture/mass/index_e.html.

A summary of research activities for 2005 is given in Appendix 6.

[1] For additional information, see the *Coast Forest Strategy Implementation Summary 1999-2004. Beese, WJ, Dunsworth, BG, and Smith, NJ. March 2005.*

SECTION 2 - Alternate Strategies

WIWAG members put forward four strategies, which are summarized in this section. These strategies were discussed with Western Forest Products staff in Nov. 2005 and Jan. 2006. As a result of these discussions, the final strategies put forward for modeling were slightly modified. In addition to the four scenarios put forward by members, it is necessary to run a scenario using the current projections (ramping down toward the LTHL) by way of comparison of impacts.

Strategy Summaries

The strategies are based on the following assumptions:

- Data base will be based on the new DFA
- Draft OGMA's will be incorporated where they are available from the LU Planning process.
- Unless otherwise specified the data will be based on a full profile of species and age class.
- The price for logs harvested will be based on current market price as quoted by log supply, or on export prices (to be determined).

Note: All Indicator #s are based on Nov. 21 Draft SFMP table.

Strategy 1: Maintaining Old Growth for Future Harvest

What is the impact of a 125 yr. or older rotation? (e.g. if it was "illegal to cut" stands that were 124 years or younger)

The 2006 SFMP indicators addressed through the scenario are:

(1)..... The # of LU's in the DFA with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the non-spatial old growth order.

(17)... The % of the productive forest area of the DFA harvested annually.

(18)... The % of productive area harvested in each LU greater than 10,000 ha.

(32)... The 5 year average annual harvest level as a % of the level approved in the strategy of LTHL.

(33)... The representation of 80-160 year age class that is outside of reserves by LU.

(39)... The dollar value of harvest by hectares.

Strategy 2: Hupacasath Old Growth Strategy

Run a scenario that assumes all the polygons identified in the Hupacasath Old Growth Strategy are preserved exclusively for cultural uses.

The 2006 SFMP indicators addressed through the scenario are:

(1)..... The # of LU's in the DFA with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the non-spatial old growth order.

(17)... The % of the productive forest area of the DFA harvested annually.

(18)... The % of productive area harvested in each LU greater than 10,000 ha.

(32)... The 5 year average annual harvest level as a % of the level approved in the strategy of LTHL.

(33)... The number of hectares of the 80-160 year age class that is outside of reserves, by LU.

(39)... The dollar value of harvest by hectares.

(43)... Proportion of wood volume harvested by FN annually (from 2002 to date)

(50)... The % of the total amount of agreed to natural resources that is conserved

Hupacasath will provide Western Forest Products with the polygons and maps developed for the strategy, and will identify which areas are commercially harvestable and which are not.

Strategy 3: Hupacasath Land Use Plan Standards

Run a scenario that shows full implementation of the Hupacasath 2005 Land Use Plan standards.

This scenario would be very difficult and costly to run. Therefore, the modeling the full scenario has been put on hold at this time. However, the riparian management section of the plan will be modeled. This includes:

- 50m on either side of all fish streams and lakes
- 30m on either side of all non fish streams
- 100m on either side of streams that have a sacred significance

The 2006 SFMP indicators addressed through the scenario are:

(5)..... The percent of cutblocks harvested where reserve zones (as per table attached) are not maintained (stream crossings are excluded).

(17)... The % of the productive forest area of the DFA harvested annually.

(24)... The percent of stream length of S4 non-fish, non-ephemeral streams that are buffered > 15 meters in areas harvested annually

(25)... The percent of stream length of S4 fish, non-ephemeral streams that are buffered > 15 meters in areas harvested annually

(26)... The percent of stream length of S5 non-ephemeral streams that are buffered > 15 meters in areas harvested annually.

(27)... The percent of stream length of S6 non-ephemeral streams that are buffered > 15 meters in areas harvested annually

(39)... The dollar value of harvest by hectares.

(43)... Proportion of wood volume harvested by FN annually (from 2002 to date)

(50)... The % of the total amount of agreed to natural resources required that is conserved

(53)... The % of small scale sacred sites managed according to measures jointly developed by Western Forest Products and First Nations

Strategy 4: Longer Rotations on Douglas Fir Stands

Run a scenario that assumes 60, 90 and 180 year rotations on Douglas Fir Stands as per the Mark Wigg paper, and all other factors remain the same.

The 2006 SFMP indicators addressed through the scenario are:

(3)..... The # of LU's in the DFA with more than 30% in the 0-20 years seral stage.

(17)... The % of the productive forest area of the DFA harvested annually.

(18)... The % of productive area harvested in each LU greater than 10,000 ha.

(32)... The 5 year average annual harvest level as a % of the level approved in the strategy of LTHL.

(33)... The number of hectares of the 80-160 year age class that is outside of reserves, by LU.

(39)... The dollar value of harvest by hectares.

Strategy 5: Current harvest strategy of ramping down to LTHL within 50 years

Run a scenario that forecasts the impacts of continuing this approach. The 50 year time frame reflects the strategy in Management Plan #4, and represents an approximate 10% reduction per year.

The 2006 SFMP indicators addressed through the scenario are:

(1)..... The # of LU's in the DFA with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the non-spatial old growth order.

(17)... The % of the productive forest area of the DFA harvested annually.

(18)... Area harvested in each LU as % of total productive forest area for those areas greater than 10,000 ha, for the last five years.

(32)... The 5 year average annual harvest level as a % of the level approved in the strategy of LTHL.

(33)... The number of hectares of the 80-160 year age class that is outside of reserves, by LU.

(39)... The dollar value of harvest by hectares.

Summary of Indicators Addressed by the Scenarios

Indicator #	Criterion / Critical Element	Category
1	1.1	Ecological
3	1.1	Ecological
5	1.1	Ecological
17	2.2	Ecological
18	2.2	Ecological
24	3.2	Ecological
25	3.2	Ecological
26	3.2	Ecological
27	3.2	Ecological
32	5.1	Ecological / Social
33	5.1	Ecological / Social
39	5.2	Social / Economic
43	5.3	Social / Economic
50	6.2	Ecological / Social
53	6.2	Social

SECTION 3 - Glossary

Acronyms used in this document

AAC	Annual Allowable Cut
ADSS	Alberni District Secondary School
BEC	Biogeoclimatic Ecosystem Classification
BEO	Biodiversity Emphasis Option
CHR	Cultural Heritage Resources
CFS	Canadian Forest Service
CMT	Culturally Modified Tree
CSA	Canadian Standards Association
CWAP	Coastal Watershed Assessment Procedure
CWD	Course Woody Debris
CWS	Community Watersheds
EMS	Environmental Management System
ESA	Environmentally Sensitive Areas
DFA	Defined Forest Area
DWR	Deer Winter Range
FC	Falling Corner
FEN	Forest Ecosystem Network
FIA	Forest Investment Account
FPC	Forest Practices Code
FRPA	Forest and Range Practices Act
FSP	Forest Stewardship Plan
GIS	Geographic Information System
GPS	Global Positioning System
HCV	High Conservation Value
ILMB	Integrated Land Management Bureau
ISO	International Organization for Standardization
LRSY	Long Run Sustained Yield
LTHL	Long Term Harvest Level
LU	Landscape Unit
MoE	BC Ministry of Environment
MoF	BC Ministry of Forests and Range
MP	Management Plan
NSR	Not Sufficiently Restocked

NTFP	Non-Timber Forest Product
OGMA	Old Growth Management Area
RIR	Recordable Incident Rate
RMA	Riparian Management Area
RMZ	Riparian Management Zone
RRZ	Riparian Reserve Zone
SEI	Sensitive Ecosystem Inventory
SFM	Sustainable Forest Management
SFMP	Sustainable Forest Management Plan
SMZ	Special Management Zone
SOP	Standard Operating Procedure
SP	Silviculture Prescription (pre Dec 17-02) Site Plan (post Dec 17-02)
SU	Standards Units
SUP	Special Use Permits
TEK	Traditional Ecological Knowledge
TFL	Tree Farm License
TSFA	Terrain Stability Field Assessment
TUS	Traditional Use Study or Traditional Use Site
UWR	Ungulate Winter Range
VQO	Visual Quality Objective
VR	Variable Retention
WHA	Wildlife Habitat Area
WIT	West Island Timberlands
WIWAG	West Island Woodlands Advisory Group
WLAP	BC Ministry of Water, Land and Air Protection (now the Ministry of Environment)
WTP	Wildlife Tree Patch

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 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 and Range Practices Act (FRPA): The *Forest and Range Practices Act* and its regulations govern the activities of forest and range licensees in B.C. The statute sets the requirements for planning, road building, logging, reforestation, and grazing. FRPA and its regulations took effect on Jan. 31, 2004.

Forest Stewardships Plan (FSP): Under the Forest and Range Practices Act and its regulations, all major tenure holders – companies, groups or individuals with logging rights on Crown land – must prepare a forest stewardship plan. The FSP is the cornerstone of the results-based approach governing forest practices under the Act. In their plans, tenure holders must state explicitly how they will address government objectives for key forest values, such as soils and wildlife. These proposals are the “results” of the results-based framework. A FSP must address objectives set by government to preserve the integrity of the environment and to enable sustainable commercial forest and rangeland practices. Tenure holders address these objectives by crafting results or strategies, which are required to be measurable and enforceable, contributing to effective compliance and enforcement by government

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 Growing: 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.

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.

Silviculture system: A planned program of treatments throughout the life of the stand to achieve defined objectives. A silviculture 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 Strategy, 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 silviculture 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.

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

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 silviculture 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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APPENDIX 1 – TERMS OF REFERENCE

1.0 Mission Statement

The West Island Woodlands Advisory Group (WIWAG) is composed of a cross section of community representatives who work with Western Forest Products and Island Timberlands Limited Partnership (ITLP) staff on behalf of all those who have an interest in, or are affected by, sustainable forest management in the Defined Forest Area (DFA).

Guided by recognized certification criteria, the WIWAG will maintain an open and transparent process that facilitates and acknowledges the widest community input possible.

Our goal is to advise on the development, monitoring, and ongoing improvement of sustainable forest management practices in the area.

2.0 Purpose & Role

Provide ongoing public input into the development, implementation, monitoring, and continual improvement of the sustainable forest management performance and system.

3.0 Rights and Responsibilities of Participants

3.1 Rights of Members

- members have the right to a safe and respectful environment for speaking out;
- members have the right to get the relevant information they need to make informed decisions unless it is proprietary to the company;
- members participation in WIWAG will not be viewed by the company as having consulted with that sector in full;
- Aboriginal & Treaty rights will be respected and participation in the process will not prejudice those rights.

3.2 Responsibility of Members

- staying informed and up to date on the issues being discussed
- make efforts to represent the views of their constituents, the public, and their own views and identifying clearly which perspective they are speaking from
- to adhere to the group guidelines for conduct (see guidelines attached)
- to inform their alternate and their organizations on the progress of the group and issues related to SFM and communicate responses back to the group
- following through on any commitments they undertake
- participating fully in each meeting
- articulate concerns or issues at the table, rather than outside of the meeting
- RSVP and otherwise respond to communications sent to members

3.3 Responsibility of the Facilitator or Chair

- keeping the group focused and on topic
- ensuring time is not wasted
- making sure the group accomplishes it's tasks
- tracking the gaps and priorities
- making sure everyone has a chance to speak
- facilitating agreement around difficult decisions
- ensuring the agenda and minutes are circulated a week before each meeting (through the group recorder)
- ensuring that the facility is booked, food is ordered, supplies and resources are available as required for each meeting
- liaising with members as requested between meetings to review missed meetings or other issues or tasks
- acting as the spokesperson for the group and responding to inquiries
- other tasks as negotiated with the group or members from time to time that will expedite and/or move the group forward around issues and tasks
- educating oneself about the issues related to SFM and the work of the group
- ongoing analysis of tasks, timeframe and design of process that will meet members needs and accomplish the tasks at hand

3.4 Responsibility of WIT and ITLP

- provide technical, information and professional support as requested
- finance (each) 50% of pre-approved group operating costs
- coordinate field trips
- respond to members requests in a timely fashion

3.5 Responsibility of the Recorder

- to take minutes of all meetings or ensure they are taken
- to maintain archived and current records of all meetings, correspondence, etc.
- to forward information to members and others on a regular basis
- to maintain up to date: member lists, "other interested" lists, binders & files
- to respond to requests for information from members
- to ensure space, food, equipment etc. are organized for meetings
- to organize meetings, events or other tasks as requested by the facilitator

4.0 Conflict of Interest

Members must declare a possible perceived conflict of interest around any issue and should state which individual or collective "hat" they are wearing during any given discussion.

5.0 Confidentiality

Information should flow freely between all members of WIWAG. All information will be deemed to be public information unless it is marked confidential, in which case any dissemination or use of the information by other than Advisory Members will be prohibited without the consent of the group or individual bringing it forward. Information will be provided in the most useable form that is possible. Discussions must be declared "In Camera" in order to remain confidential. Any member may request that a portion of discussion be "In Camera".

6.0 Decision Making and Conflict Resolution

Members have agreed that 100% agreement on issues is not required. All perspectives will be documented however, with final recommendations going forward when the "opposition to them is limited". Effort will be made to listen, understand, and incorporate all views in the final recommendations.

A quorum will be 50% plus one of the active members (filled seats), but effort will be made to ensure that decisions are made by a cross section of the group and that significant input is not omitted due to a reasonable absence.

Members agree to an open, frank, and respectful dialogue and to operating from an interest-based perspective (as opposed to position based). Issues will be addressed in terms of how they relate to Sustainable Forest Management. Conflict between members is expected to be handled by those involved, with the best interest of the group and its mission in mind.

When a conflict does occur the following dispute resolution steps should be followed:

1. The parties involved should attempt to resolve the dispute between themselves.
2. If they are unable to do so, they can request that the Facilitator meet with them to mediate the dispute.
3. If this is unsuccessful, both parties need to identify the concerns and the points of conflict, as well as the steps that have been taken to resolve the conflict, in writing. At this time both parties will identify what needs to change, on their part and the part of the other party, in order to resolve the dispute.
4. The Facilitator may call on outside expertise to support a second mediation, or meet with the parties to develop an agreement to disagree that will not threaten ongoing and future collaboration around the table.
5. Members who believe that a decision, or disagreement from others, is NOT in the best interests of the group at large, or of the variety of interests in the community, must decide for themselves if they can live with the decision, or if it is grounds for their resignation.
6. The process from steps 2 through 5 should not take more than 4 weeks.

7.0 Membership

Although the preference is for ongoing participation through membership and attendance at meetings, WIWAG members acknowledge that they need to make efforts to include the input from sectors or interests that may choose not to join as formal members. In other words, there are a variety of methods to ensure the process is inclusive and open, and while it is a preferred method, membership is only one of those methods.

7.1 Group Members

The designated membership seats currently reflect the following sectors. Some of these seats are currently vacant, or come vacant from time to time.

Parks Canada	City Government
Forest-Related Contractors	Regional Government
Forest Recreation	Bamfield
Environment	Small Business/Tourism
Forest-Related Small Business	Hupacasath First Nations
Watershed/Fisheries	Placer Miners
Outdoor Sportsmen	Woodlot Owners
Tseshaht First Nations	Uchucklesaht First Nations
Forest Sector Labour	Non-Timber Forest Products
Huu-ay-aht First Nations	Ditidaht First Nations
Cowichan First Nations	Lake Cowichan Tribes
Naturalists	

7.2 Alternates

Members are encouraged to identify an alternate to attend in their absence. Alternates will be included on the master distribution list and will receive all minutes, agendas, etc.

7.3 Resource and Support Staff

Western Forest Products:	Steve Chambers, Mike Davis. Additional resources will be determined by the group as required.
ITLP:	Diane Medves
Group Facilitator:	Tawney Lem
Group Recorder:	Ryan Dvorak
Other Resources:	MoFR

7.4 Membership Renewal/Replacement

Criteria for members is as follows:

- An interest in, knowledge of and networks within a sector that has specific interests in forest land management in the area.
- A willingness to share information and gather input from within their organization or sector.
- A willingness to put the required time into meetings and related discussions.

Membership will be reviewed on an annual basis in order to ensure that full representation exists. From time to time new issues or interests emerge and the group will be as responsive as possible to securing representation and/or input from those interests.

When a member resigns s/he should have a replacement come forward from their sector or organization. If no replacement is identified, WIWAG will make a formal request that this happen, and may also choose to fill a sector seat by approaching another group for a representative. This is at the discretion of the group based on a 2/3rds majority vote.

There is no limit to the length of term for members.

7.5 Members Attendance

At the discretion of the group, a member or their alternate who misses three consecutive meetings without cause may be asked to resign.

7.6 Resource People

The facilitator or the members can invite stakeholders or resource people to attend meetings as presenters or participants based on their information, expertise etc. All guest requests should go through the facilitator.

7.7 Observers

Any number of observers may attend meetings. This will be advertised on the web site. The Facilitator will involve them in discussion or take their questions as time allows, allowing at least one opportunity for comment at the close of the meeting. Observers are bound by the group guidelines for conduct. Their input will be included in the Minutes of that meeting.

8.0 Agenda

The agenda will be set by the facilitator based on the previous meeting, the work-plan priorities, and suggestions from members. Members are requested to call the facilitator prior to the meeting with any agenda items. Agendas will be sent to members one week in advance of each meeting by the recorder. The agenda will be reviewed and approved at the start of each meeting and will be negotiated as required during the meeting.

9.0 Minutes

The recorder will take minutes and distribute these to all members at least one week prior to the next meeting. The minutes will include an Action Page that summarizes the commitments of members from each meeting. Minutes will be approved at the beginning of the following meeting and will not be distributed more broadly until they are approved. Each member will be responsible for sharing approved minutes with their alternate and their organization or sector as appropriate. Each member will be responsible for ensuring that the recorder has their appropriate email or fax for these communications.

Minutes will be posted on the web site once they are approved and distributed more broadly on a request basis.

10.0 Procedures & Work-plan

WIWAG will develop a work-plan that includes a timeframe for addressing priority tasks. The timeline will be reviewed regularly. The group will review the effectiveness of their process and work together on a regular basis and make changes as required to strengthen the group.

Any member can provide written material as handouts at a meeting.

Although Western Forest Products and ITLP are not bound to accept every recommendation, they will make every effort to accommodate reasonable requests and will identify in writing their rationale for not accepting recommendations.

10.1 Ad-Hoc or Standing Committees

As work is identified the Advisory can chose to assign tasks to committees. Committees:

- can be composed of any number of members, resource people and non-members with related interest or knowledge and will be open to any member of the Advisory
- will have a specific mandate and timeframe for their work approved by the Advisory
- will have a facilitator or chair identified
- will take and distribute to members notes or minutes of their discussions
- will present all recommendations back to the Advisory for information or decisions

Currently, there is a Standing Committee on recreation and two Ad Hoc Committees that are primarily responsible for respective portions of the SFMP for review and revision: eco sub-committee and the socio-economic sub committee.

11.0 Media & Public Relations

Members will identify an appropriate spokesperson(s) on a request by request basis depending on the nature of the topic. Otherwise, the facilitator is the spokesperson for the group and can appoint other spokespersons as required to respond to requests.

Approved minutes and membership lists will be made available by request. A mailing list of those who are not members but wish to receive regular minutes will be maintained.

The web site will include the following: Agendas, Minutes, Terms of Reference, Press Releases, the SFM Plan, Annual Data Sets, Meeting Schedule, Links and contact information. Unless otherwise designated, the Recorder will respond to general inquiries from the website and the Facilitator will be the phone contact.

As the process proceeds WIWAG will develop additional public and stakeholder communication methods. (SEE ATTACHED COMMUNICATIONS PLAN)

12.0 Other

These Terms of Reference will be reviewed and revised as required on an annual basis.

GROUP GUIDELINES

1. The success of your group is based on the strength of the full participation of each member. Members will get involved and participate to the fullest extent they are able.
2. Although full participation is important, you will not be required to do anything that you don't want to do.
3. Group members are responsible for the outcomes or the content of their work. The facilitator is responsible for ensuring safe, full participation and keeping discussion on track.

4. An essential component of success is effective communication. This requires that you are open to others points of view, that you suspend your judgments and reactions, and that you approach the dialogue from a perspective of curiosity and learning about others thoughts and interests.
5. Solid dialogue is built on honesty, integrity, goodwill and respect. This requires you to tell the truth and assume that others will too. It also implies that the language you use, your tone of voice and your body language will demonstrate your integrity and respect for others.
6. Creativity and innovation are important aspects of planning. They do not thrive in environments where people are made to feel wrong or stupid. To this end, you are encouraged to resist the temptation to criticize others ideas.
7. Groups often have members with quite divergent opinions and ideas of what the solutions are. The strongest solutions or outcomes are found when you build on the best that each perspective offers. In order to do this, group members will work to express their interests around an issue as opposed to their positions.
8. At some points it may be necessary to form a group position in issues. Each member will be aware of such positions and communicate them to the public, in addition to their own/their sectors views – if the views happen to differ.

APPENDIX 2 – WIWAG RED FLAG ITEMS

Western Forest Products Flagged Items List:	Plan Towards Action
• Define a sustainable harvest rate	Subcommittee
• Indicator 42 – WIWAG group has an interest in the indicator being amended to "100% of crown land logs within the DFA are converted locally". • All socio-economic indicators (e.g. local hiring) • Develop new indicator to replace Indicator 40 • Develop new indicator to address watershed health • Indicator 17 – consider changing to harvest 1% of the volume vs. the area. Also consider reporting on % of THLB vs. productive forest area • Indicator 8 – consider increasing objective to 20% • Develop safety indicators, have safety presentations • Indicator 18 – would like to see slides reported on a landscape unit basis • Develop indicator to address the value of "carbon budget" and objective of "enhance the long term uptake and storage of carbon"	Review after WFP transition is complete

APPENDIX 3 – 2005 DATA SET

(separate document)

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 3 & 4	1.	1.0 **Conservation of Biological Diversity:** Conserve biological diversity by maintaining integrity, function, and diversity of living organisms and the complexes of which they are part.	1.1 **Ecosystem Diversity:** Conserve ecosystem diversity at the landscape level by maintaining the variety of communities and ecosystems that naturally occur in the Defined Forest Areas (DFA).	The representation of the old growth forest seral stage on the DFA	The representation of old growth forest seral stage on the DFA is not further compromised as per the "non-spatial old growth order" (year).	The number of landscape units in the DFA with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the "non-spatial old growth order" (year)	The percentage of landscape units in the DFA (affected by WFP harvesting) with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the "non-spatial old growth order" (year) is 100%	-8%	**n/a** (Because the "non special old growth order" will be replaced by the outcomes of the OGMA LUP process
NEW	2.			The representation of the non-contributing landbase	The level of the non-contributing landbase is understood	The # of LUs where non-contributing landbase unit is analyzed	In 2006, once OGMA designations are complete, analyze the non-contributing landbase in 4 landscape units.	**-1 (or3)**	**all**
WI 2	3.			The representation of the 0-20 years forest seral stage on the DFA	The representation of the 0-20 years forest seral stage on the DFA does not dominate landscape units.	The number of landscape units in the DFA with more than 30 % in the 0-20 years seral stage.	The number of landscape units in the DFA with more than 30 % in the 0-20 years seral stage is not increased.	Increase of 1 LU	No change
WI 1	4.			The representation of commercial tree species on the DFA	Species conversion on the DFA is limited.	The movement in the representation of each commercial tree species in the inventory, using 2004 as the baseline levels.	Re-establish a baseline based on the new DFA area.	N/A	More heat tolerant species
WI 29 (25-28)	5.			The riparian ecosystems.	The riparian ecosystems are protected to a high degree.	The percent of cutblocks harvested where reserve zones (as per table attached) are not maintained (stream crossings are excluded).	100% of cutblocks harvested have their reserve zones (as per the attached table) maintained. (Note: see indicator #X re: buffers on S4, S5, S6 streams	-5%	100%

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 6	6.			The variety of structure at the stand level	A portion of existing stands structure is retained on all cutblocks.	The % of the total area harvested annually that is done under a variable retention system.	The % of the total area harvested annually that is done under a variable retention system is 80% by the end of 2006.	-5%	95%
WI 9	7.	*Species ID in Provincial Order:* *Red legged frog* *Great Blue Heron* *Marbled Murrelet* *Goshawk* *Marmot* *Scouler's* ***Corydalis***	1.2 **Species Diversity:** Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time.	The existence of "at-risk" species and their habitat needs on the DFA. Note: species includes both plants & animals here.	All at-risk species existing on the DFA have their habitat needs maintained.	The % of at-risk species existing on the DFA for which a management program is implemented.	The % of at-risk species existing on the DFA for which a management program is implemented is at 100%.	1 program	100%
WI 12	8.	*Species ID:* *Elk, Black Tail Deer, Black Bear, Bald Eagle*		The existence of identified species of special interest and their habitat needs on the DFA.	All identified species of interest existing on the DFA have their habitat needs maintained.	The % of identified species of interest existing on the DFA for which a management program is implemented.	The % of identified species of interest existing on the DFA for which a management program is implemented is 100%.	-8%	100%
WI 10, 11	9.			The current status of species populations and their habitat needs on the DFA	Populations of species are not put "at risk" as a result of forest management activities	% of planners trained in the Sensitive Ecosystem Inventory (SEI)	The percentage of f planners trained in SEI per year is 50%	-10%	100%
	10.			The knowledge of planners to incorporate ecosystem values.	To ensure that all planners include red/blue species considerations into their work.	% of planners oriented to red/blue species annually.	The percentage of planners orientated with red/blue list species awareness and location within the previous 24 months is 50%	-10%	100%

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 7	11.		1.3 **Genetic Diversity**: Conserve genetic diversity by maintaining the variation of genes within species.	Genetic & species migration processes	The ecosystem functions that support genetic and species migration are maintained in all landscape units.	Status of FENs in each landscape unit	The status of FENs in each LU is maintained until such time as the LU planning process has identified OGMA's	All FEN's maintained	No FENS (Because replaced by OGMA's)
WI 36	12.	**Note that Sites of special biological significance are addressed through 1.2 & use of SEI in planning.**	1.4 **Protected Areas and Sites of Special Biological Significance**: Respect protected areas identified through government processes. Identify sites of special biological significance within the DFA and implement management strategies appropriate to their long-term maintenance.	Protected areas (Parks and Ecological reserves) potentially affected by operations.	DFA operations are planned to minimize risk to adjacent protected areas.	The percent of park perimeter harvested within any five year period.	The percent of park perimeter harvested within any five year period is less than 7%.	+1%	5%
WI 8	13.	2.0 **Maintenance and Enhancement of Forest Ecosystem Condition and Productivity**: Conserve forest ecosystem condition and productivity by maintaining the health, vitality, and rates of biological production.	2.1 **Forest Ecosystem Resilience**: Conserve ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.	The maintenance of ecosystem conditions that support successful forest tree regeneration	There is sufficient retention on cutblocks to ensure the ability of the ecosystem to recover is not compromised.	The % of the total cutblock area that is retained.	The average retention level of all cutblocks harvested in the year is no less than 15%.	-1%	15%
WI 21	14.			The timeliness of regeneration.	Harvested areas are regenerated promptly.	The area out of conformance with regeneration due dates.	The area out of conformance with regeneration due dates is < 15 ha annually.	+ 10 ha	0

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 19	15.			The successful establishment of regeneration.	Harvested areas are successfully regenerated.	The area out of conformance with free-to-grow due dates.	The area out of conformance with free-to-grow due dates is <50 ha by the end of 2006.	+ 10 ha	0
WI 14	16		2.2 NEW: **Forest Ecosystem Productivity**: Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species.	The incidence of operationally caused fires.	To avoid burning forest land through operationally-caused fires.	The total hectares burned annually through operationally-caused fires.	The total hectares burned annually through operationally-caused fires is less than 30 ha.	+ 10 ha	30
WI 15	17.			The extent of productive forest harvested.	To regulate the productive forest area harvested annually.	The percent of the productive forest area of the DFA harvested annually.	The percent of the productive forest area of the DFA harvested annually is less than 1%.	+ .5%	<1%
WI 16	18.			The extent of productive forest harvested by Landscape Unit (LU)	To regulate the productive forest area harvested annually by LU	The % of productive area harvested in each LU greater than 10,000 ha.	The % of productive area harvested in each LU greater than 10,000 ha is not to exceed 5% for the last five years except in the case of 2 LU's where it is not to exceed 7%.	+ 1%	5%
WI 18	19.			The incidence of land slides originating in harvested blocks or from roads.	To avoid affecting forest land through land slides originating in cut blocks harvested or from roads.	The hectares of land affected annually by land slides that originated in blocks harvested since 1995 or from roads built since 1995.	The hectares of land affected annually by land slides that originated in blocks harvested since 1995 or from roads built since 1995 is less than 10 ha.	+ 5 ha	10 ha
WI 17	20.			The incidence of operationally related windthrow.	To minimize affecting forest land through windthrow that is operationally related.	The annual area affected by operation related windthrow as a percent of the total area harvested in the year.	The annual area affected by operation related windthrow as a percent of the total area harvested in the year is less than 5%.	+ 1%	5%

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 24	21.	3.0 **Conservation of Soil and Water Resources**: Conserve soil and water resources by maintaining their quality and quantity in forest ecosystems.	3.1 **Soil Quality and Quantity**: Conserve soil resources by maintaining soil quality and quantity.	The quality of forest soils	Harvesting activities do not excessively disturb forest soils.	The number of cutblocks harvested in which soil disturbance exceeds 5%.	The number of cutblocks harvested annually in which soil disturbance exceeds 5% is 2 or less cutblocks	+ 1	0
WI 13	22.			The conversion of land to permanent access structures (roads).	To avoid excessive conversion of forest lands into permanent access structures.	The average percentage of the area harvested each year in the DFA that is converted to permanent access structure.	The average percentage of the area harvested each year in the DFA that is converted to permanent access structure does not exceed 7%.	+ 1%	6 %
NEW	23.		3.2 **Water Quality and Quantity**: Conserve water resources by maintaining water quality and quantity.	Natural quality of water.	Forest operations do not diminish the natural quality of the water.	Water sample results (T, conductivity, turbidity, Ph and O2) from selected watersheds: (S1 Rivers in: Upper Ash China Creek* Franklin Sarita Nitnat Klanawa)	Annual water sample results (T, conductivity, turbidity, Ph and O2) from selected watersheds are within the parameters set in the BC Approved Water Quality Guidelines 100% of time.	-10%	100%
WI 25, 26, 27 & 28	24.			Degree of protection of S4, non-fish streams.	Increase the degree of protection given to non-ephemeral S4 non-fish streams	The percent of stream length of S4 non-fish, non-ephemeral streams that are buffered ≥ 15 meters in areas harvested annually.	The % of stream length of S4 non-fish, non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 39%	-5%	39%

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
	25.			Degree of protection of S4 fish bearing streams.	Increase the degree of protection given to non-ephemeral S4 fish streams	The percent of stream length of S4 fish, non-ephemeral streams that are buffered ≥ 15 meters in areas harvested annually.	The % of stream length of S4 fish, non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 85%	-5%	85%
	26			Degree of protection of S5 streams.	Increase the degree of protection given to non-ephemeral S5 streams	The percent of stream length of S5 non-ephemeral streams that are buffered ≥ 15 meters in areas harvested annually.	The % of stream length of S5 non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 60%	-5%	60%
	27.			Degree of protection of S6 streams.	Increase the degree of protection given to non-ephemeral S6 streams	The percent of stream length of S6 non-ephemeral streams that are buffered ≥ 15 meters in areas harvested annually.	The % of stream length of S6 non-ephemeral streams that are buffered >15 meters in areas harvested annually is ≥ 39%	-5%	39%
WI 30	28.	*Sarita & Klanawa are ranked as high impact & fish values Do we prioritize these areas? What about other areas of concern (Ash & Stamp?)?*		Natural hydrological regime of forested watersheds.	The natural hydrological regimes are perpetuated and damaged watersheds are restored.	The results of watershed assessments every 3 years (2003, 2006, 2009).	The results of watershed assessments every 3 years are showing improvement over time.	-1 watershed	n/a

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 20	29.	4.0 Forest Ecosystem Contributions to Global Ecological Cycles: Maintain forest conditions and management activities that contribute to the health of global ecological cycles.	4.1 **Carbon Uptake and Storage:** Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.	The uptake and storage of carbon.	The uptake and storage of carbon is enhanced.	NSR equivalent years of Not Sufficiently Reforested (NSR) as a five year rolling average.	The equivalent years of NSR as a five year rolling average is maintained at <3 years harvest area.	+ 1 year	2.0 years
WI 22	30.		4.2 **Forest Land conversion:** Protect forestlands from deforestation or conversion to non-forests.	The conversion of forest lands to other uses.	To avoid excessive conversion of forest lands into other uses	The percent of the DFA forest land that is annually converted to other uses (Special Use Permits (SUP), ind. Etc.).	The percent of the DFA forest land that is annually converted to other uses (SUP, ind. Etc.) is < 0.001%.	+ .0005%	.001%
WI 33 (G21 & 22)	31.	5.0 Multiple Benefits to Society: Sustain flows of forest benefits for current and future generations by providing multiple goods and services.	5.1 Timber and Non-Timber Benefits: Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits.	Non-Timber Forest Products	Forest Management Practices continue to provide sustainable opportunities for Non-Timber Forest Products harvesting.	The proportion of the DFA within 200 meters of maintained road and 20 years + in age class.	The proportion of the DFA within 200 meters of maintained road and 20 years + in age class is maintained. Benchmark in 06	New	n/a
WI 34	32.			Timber Forest Products.	To maintain the production of timber at the level defined by the Long Term Harvest Level (LTHL).	The 5-year average annual harvest level as a percent of the LTHL.	The 5-year average annual harvest level is within 10 percent of the LTHL. Benchmark in 06	+ or - 1%	LTHL
	33.			The representation of the 80-160 year age class in the DFA	The representation of the 80-160 year age class by LU is sufficient to allow for future old growth needs	The number of hectares of the 80-160 year age class that is outside of reserves, by LU.	Benchmark in 2006 the number of hectares of the 80-160 year age class that is outside of reserves, by LU	New	n/a

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 37	34.			Access to Recreation Areas	To maintain public access to the recreation areas identified in the DFA and outlined in the recreation access inventory.	The percent of roads identified in the recreation access inventory that are accessible. (Inventory includes class of road by 2-wheel, 4-wheel & foot access)	The percent of identified roads accessible by two wheel drive vehicle is 90%, and by four wheel drive vehicle is 90%.	-5%	90%
WI 38	35.			The recreation experience quality.	WFP is respectful of the high value of recreation.	The number of complaints received by WFP relating to recreation	The number of complaints received by WFP relating to recreation does not increase from year to year	n/a	n/a
WI 39	36.			Recreation information available to the public	Timely and accurate information is available to the general public.	WFP will develop a communications strategy for the effective dispersal of recreation information to the public.	Complete a recreation communications plan by June 2006.	By August	n/a
	37.	STEVE – You need to review this if you haven't already – new from last meeting.		Historical and physical environments and features	Significant historical and physical environments and features are identified & their important qualities are protected	Inventory of all known karsts & historical sites within the DFA	Inventory of karsts & historical features by 2007	By 2008	n/a
WI 39	38.			Visual Quality of harvest areas	WFP is respectful of the high value of the tourism experience.	The number of hectares in which visual condition fails to meet Visual Quality Objectives (VQO)	The number of hectares in which visual condition fails to meet VQO is reduced from previous reports.	The same	0

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 40	39.		5.2 Communities and Sustainability: Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and to participate in their use and management.	The value of the annual harvest from the DFA	The total harvest value is stable or increasing over time Assumption: that the value covers all related costs of harvest. Need total $/ha spent locally.	The dollar value of harvest by hectares (Cubic meters harvested by species multiplied by the MoF $ Value tables for each species and divided by productive hectares for the last 5 years.)	The harvest value is stable or increasing over time.	-4%	Inflation
WI 51	40.		5.3 Fair Distribution of Benefits and Costs: Promote the fair distribution of timber and non-timber benefits and costs.	AG to develop					
WI 41	41.	Note in appendix that the intent is to revisit for 2008 & set targets related to % of local hiring/contracting & spending.		WFP local harvesting employment and purchasing relating to the DFA.	To have a fair proportion of all WFP harvesting employment/contracts & purchasing held by residents or businesses of the Alberni Clayoquot Region.	Proportion of major logging (20,000 cubic meters or more/year) contractors that have a policy in support of local hiring & purchasing.	By 2007, the proportion of major logging (20,000m3 or more / yr) contractors that have a policy in support of local hiring and purchasing is 100%.	-30%	100%
WI 49, 50	42.			Local conversion of logs.	To have information on the local conversion of logs.	The proportion of WFP harvested logs converted in local mills.	The proportion of WFP harvested logs converted in local mills is reported annually.	n/a	n/a
WI 56, 57	43.			First Nations' derivation of economic benefits from the DFA.	To increase First Nations' derivation of economic benefits from the DFA.	Proportion of wood volume harvested by FN annually (from 2002 to date).	Proportion of wood volume harvested by FN annually stays stable or increases.	-10%	stable

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 53 (52)	44.	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 Aboriginal and Treaty Rights: Recognize and respect Aboriginal and treaty rights.	Relationships with First Nations	To establish a working relationship with willing First Nations, as a way of recognizing aboriginal interests in the DFA	The # of willing First Nations with an established relationship frameworks	The # of willing First Nations with an established relationship framework is 100% by 2008	-10%	100%
	45.			Information related to natural resource needs	For willing FN, document natural resource needs (eg: trees, plants & animals – consumptive) for use in the planning process	The % of First Nations requests for support towards completing natural resource needs inventories for cultural purposes that are fulfilled.	The % of First Nations requests for support towards completing natural resource needs inventories for cultural purposes that are fulfilled is 80%.	-10%	n/a
	46.			Information related to traditional use sites	For willing FN, document traditional use sites for use in the planning process	The % of First Nations requests for support to document traditional use sites (TUS)	The % of First Nations requests for support to document traditional use sites (TUS) that are fulfilled is 80% of requests annually	-10%	n/a
	47.			Information related to archeological and reconnaissance surveys	For willing FN, develop criteria and protocols for conducting Reconnaissance Surveys	The % of willing First Nations with protocols in place for conducting Reconnaissance Surveys	% of willing First Nations with protocols in place for conducting Reconnaissance Surveys is 50% by 2006, and 100% by 2007	-10%	n/a

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 62	48.			Information collected is documented and retained	WFP maintains mapping of where archaeological and reconnaissance surveys have taken place	Mapping of where archaeological and reconnaissance surveys have taken place exists	Mapping is updated on an ongoing basis	n/a	n/a
WI 54	49.		6.2 Respect for Aboriginal Forest Values, Knowledge, and Uses: Respect traditional Aboriginal forest values and uses identified through the Aboriginal input process.	First Nations involvement in planning	Establish information sharing / referral processes with willing First Nations	The % of willing First Nations with which WFP has jointly developed First Nations information sharing / referral processes	The % of willing First Nations with which WFP has jointly developed First Nations information sharing / referral processes is 100% by 2008	-13%	100%
	50.			Natural resources of significance to First Nations	The supply of natural resources meets the cultural and sustenance needs of First Nation	The % of the total amount of agreed to natural resources required that is conserved	The % of the total amount of agreed to natural resources required that is conserved is 100%	0	100%
	51.			Access to natural resources of significance	First Nations have access to natural resources of significance	The % of reasonable requests for access where access was limited or prevented annually	Access was limited or prevented for 0% of reasonable requests annually	13%	n/a
	52.			Archaeological sites	Archaeological sites are managed in a way that is consistent with the interests of First Nations	The % of archaeological sites managed according to measures jointly developed by WFP and First Nations	The % of archaeological sites managed according to measures jointly developed by WFP and First Nations is 100%	-10%	n/a

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
	53.	DRAFT: Tawney needs to consult on this one.	*Note for appendix: larger sacred sites have tenure implications & need to be taken up with the Ministry. At 5 hectares it can be handled at a block level, but there is willingness to discuss larger sites.	Small scale sacred sites	Sacred sites of 5 hectares or less are managed in a way that is consistent with the interests of FN.	The % of small scale sacred sites managed according to measures jointly developed by WFP and First Nations	The % of small scale sacred sites managed according to measures jointly developed by WFP and First Nations is 100%	-10%	100%
	54.			FN familiarity with the SFMP	The FN affected have been oriented to the SFMP.	The % of affected First Nations that participate in an orientation to the SFMP	The % of affected First Nations that participate in an orientation to the SFMP is 100% by 2008	By 2009	N/A
	55.			Workers knowledge and understanding of Aboriginal and Treaty Rights of First Nations	To increase the knowledge and understanding of Aboriginal and Treaty Rights of First Nations by those that work in the DFA.	The percentage of workers that received the First Nations Cultural Awareness Program per year.	The percentage of workers that received the First Nations Cultural Awareness Program per year is at least 70%.	-10%	100% of workers
WI 55	56.	Steve – you need to review this one which came out of last meeting as draft only.	6.3 Public participation: Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants.	WIWAG Participation	WIWAG members are monitoring, and improving as needed, the Advisory process	Results of bi/annual satisfaction surveys are discussed	Twice/year	Once / year	N/A
WI 58	57.		6.4 Information for Decision-Making: Provide relevant information to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.	The local community's understanding of local forest management and processing activities.	To increase the local knowledge and understanding of local forest management and processing activities.	The percent of communication activities planned that are implemented.	The percent of communication activities planned that are implemented is: >50% in 2006; >75% in 2007; 100% in 2008.	-10%	n/a

2005 Plan Indicator #	New Ind. #	CCFM Criterion	CSA SFM Elements	Value	Objective	Indicator	Target	Variances	Forecast
WI 61	58.	WFP GDC support: √ ITLP GDC support: not yet confirmed		Youth awareness and participation in forest management.	The youth awareness and participation in forest management is increased.	Gently Down the Creek is provided funding. The ADSS Liaison provides a woods tour for ADSS class.	That both programs continue through the period of the plan.	-1	N/A
	59.			Educational Sessions	That opportunities exist for WIWAG & other stakeholders to participate in educational sessions related to forest processes and management	The # of educational opportunities made available each year	The # of educational opportunities made available each year is 2 sessions/year	1 / year	n/a

APPENDIX 5 – TABLE OF GOALS, INDICATORS OVER TIME

Indicator Description	2006-08	2003-05	2002	1999 - 2001
The number of landscape units in the DFA with a % of old growth forest seral stage for each BEC variant that meets the recommended levels in the "non-spatial old growth order" (year)	1	3&4		
The # of landscape units where non-contributing landbase is analyzed	2			
The # of landscape units in the DFA with more than 30% in the 0-20 years seral stage	3	2	2	20/27
The movement in the representation of each commercial tree species in the inventory, using 2004 as the baseline levels	4	1	1	2
The percent of cutblocks harvested where reserve zones (as per table attached) are not maintained (stream crossings are excluded)	5	29		
The % of the total area harvested annually that is done under a variable retention system	6	6	5	7
The % of at-risk species existing on the DFA for which a management programs is implemented	7	9	8/9	8
The % of identified species of special interest existing on the DFA for which a management program is implemented	8	12	10	10
% of planners trained in the Sensitive Ecosystem Inventory	9	10/11		
Percent of planners oriented to red/blue list species annually	10	60		
Status of FENs in each landscape unit	11	7	6	
The percent of park perimeter harvested within any 5 year period	12	36		
The % of the total cutblock area that is retained	13	8	7	6
The area out of conformance with regeneration due dates	14	21		
The area out of conformance with free-to-grow due dates	15	19	16	29
The total hectares burned annually through operationally-caused fire	16	14	12	16
The percent of the productive forest area of the DFA harvested annually	17	15	13	17
The % of productive forest area harvested in each greater than 10,000 hectares	18	16	13	
The hectares of land affected annually by land slides that originated in blocks harvested since 1995 or from roads built since 1995	19	18	15	19
The annual area affected by operation related windthrow as a percent of the total area harvested in the year	20	17	14	18
The number of cutblocks harvested in which soil disturbance exceeds 5%	21	24	21	35
The average percentage of the area harvested each year in the DFA that is converted to permanent access structures	22	13	11	15

Indicator Description	2006-08	2003-05	2002	1999 - 2001
Water sample results (T, conductivity, turbidity, Ph and O2) from selected watershed: (S1 rivers in: Upper Ash, China Creek, Franklin, Sarita, Nitnat, Klanawa)	23			
The percent of stream length of S4 non-fish, non-ephemeral streams buffered > 15meters in areas harvested annually	24	25	23	21
The percent of stream length of S4 fish, non-ephemeral streams that are buffered > 15 meters in areas harvested annually	25	26	23	21
The percent of stream length of S5 non-ephemeral streams that are buffered > 15 meters in areas harvested annually	26	27	23	21
The percent of stream length of S6 non-ephemeral streams that are buffered > 15 meters in areas harvested annually	27	28	24	21
The results of watershed assessments every 3 years (2003, 2006, 2009)	28	30		
Equivalent years of Not Sufficiently Reforested (NSR) as 5-year rolling average	29	20	19	40
The % of the DFA forest land that is annually converted to other uses (Special Use Permits, ind., Etc.)	30	22		
The proportion of the DFA within 200 meters of maintained road and 20 years + in age class	31	33		
The 5 -year average annual harvest level as percent of LTHL	32	34	30	36
The number of hectares of the 80-160 year age class that is outside of reserves, by LU	33			
The percent of roads identified in the recreation access inventory that are accessible (inventory includes class or road by 2-wheel, 4-wheel & foot access)	34	37	34	31/52
The number of complaints received by Western Forest Products relating to recreation	35	38	35	43
Western Forest Products will develop a communications strategy for the effective dispersal of recreation information to the public	36			
Inventory of all known karsts and historical sites within the DFA	37			
The number of hectares in which visual condition fails to meet Visual Quality Objectives	38	39	36	53
The dollar value of harvest by hectares	39	40	37	49
To be developed	40	51		
Proportion of major logging (20,000 cubic meter or more/year) contractors that have a policy in support of local hiring and purchasing	41	41		
The proportion of Western Forest Products harvested logs converted in local mills	42	49/50		

Indicator Description	2006-08	2003-05	2002	1999 - 2001
Proportion of wood volume harvested by FN annually (from 2002 to date)	43	56/57		
The # of willing First Nations with an established relationship framework	44	52	50	
The % of First Nations requests for support towards completing natural resource needs inventories for cultural purposes that are fulfilled.	45			
The % of First Nations requests for support to document traditional use sites (TUS)	46			
The % of willing First Nations with protocols in place for conducting Reconnaissance Surveys	47	53	49	
Mapping of where archaeological and reconnaissance surveys have taken place exists	48			
The % of willing First Nations with which Western Forest Products has jointly developed First Nations information sharing / referral processes	49	54	51	60
The % of the total amount of agreed to natural resources required that is conserved	50			
The % of reasonable requests for access where access was limited or prevented annually	51			
The % of archaeological sites managed according to measures jointly developed by Western Forest Products and First Nations	52	55	53	58
The % of small scale sacred sites managed according to measures jointly developed by Western Forest Products and First Nations	53	55	53	58
The % of affected First Nations that participate in an orientation to the SFMP	54			
The percentage of workers that received the First Nations Cultural Awareness Program per year.	55	62		
Results of bi/annual satisfaction surveys are discussed	56			
The percent of communication activities planned that are implemented	57	59		
Gently Down the Creek is provided funding. The ADSS Liaison provides a woods tour for ADSS class.	58	61		
The # of educational opportunities made available each year	59			

APPENDIX 6 - 2005 Monitoring and Research Projects
Western Forest Products

Coast Forest Strategy — Variable Retention Implementation Monitoring (AM[1])
We continued to monitor the amount, type and retention levels used with VR implementation throughout the company, which now consists of approximately 800k hectares of Crown forest tenure in coastal BC. Private lands formerly owned by Weyerhaeuser are now under the management of Island Timberlands. Independent assessments of VR cutblocks were completed by Ken Zielke and Bryce Bancroft of Symmetree Consulting on a random sample of 17% of the area logged from 1999 through 2003. Symmetree completed special evaluations for Large Patch VR and Standing Stem Harvesting cutblocks in 2004. No additional blocks were evaluated in 2005. The company completed the 5-year phase-in of VR in 2003, with over 90% of its harvested area logged using the VR approach. This level was maintained in 2004; data from 2005 are not yet compiled. Over the phase-in period, most VR was group retention (60%) or mixed retention (33%) with minor amounts of dispersed retention (5%) or shelterwood and selection systems (2%). Average long term retention was 21%.

Variable Retention Adaptive Management (VRAM) Experimental Sites (AM) Installation of VRAM experimental sites continued. These sites provide a scientifically sound basis for comparison of VR systems focused on key uncertainties. Logging was completed on 2.5 sites in 2005 (Group size – WIT Klanawa, Group percent – QCT Hoodoo, Riparian retention – NIT Moakwa, heli-yarding portion), bringing the total harvested to 9 of the 15 sites originally planned. Planting treatments were coordinated with operations and permanent growth and yield "sector plots" were established under the direction of Nick Smith. Several post-harvest studies are ongoing at each VRAM site. There are currently no candidates for the remaining 6 VRAM sites.

VR Structural Monitoring (J.S. Sandford; AM, FIA) **This study documents the structural attributes (i.e., habitat) provided by variable retention harvesting in relation to benchmark natural forests. From 1999 to 2004, transects were established to monitor retained habitat structure in 193 VR blocks, 98 benchmark unharvested sites (including pre-harvest VRAM sites), 19 blocks with old remnant patches, 19 blocks with riparian reserves, 8 older clearcuts and 6 scrub sites. Measured habitat attributes included live trees (species, DBH, height), snags (species, DBH, height, decay class), coarse woody debris (CWD; species, diameter, decay class, height above ground), cover layers (canopy, small tree, shrub, herb, moss, litter, mineral soil), dominant shrub and herb species, and site series. Summaries were compiled for major types of these attributes and for some important specific structures (e.g., large cedar snags, large well-decayed CWD, etc.). The monitoring design allows several types of comparisons such as changes over time, type of VR and differences in ecological units.**

In 2004 and 2005, 72 cutblocks were re-sampled to assess 5-year post-harvest changes. This sample includes 18 dispersed, 46 group and 8 mixed retention types across 7 biogeoclimatic subzones. Detailed results are summarized in a report by Dave Huggard. Examples of the findings are: overall tree density in retention declined about 20% over 5 years; snag density increased in dispersed and mixed retention for the three driest subzones; most edge effects for structural attributes were either negligible or occurred over short distances.

Response of Birds to Group Retention (AM, FIA) This study is a detailed examination of bird use of retention patches by Mike Preston, who will complete his MSc thesis at Simon Fraser University in early 2006. Species presence, abundance and habitat use was documented using point-count stations. Results show that the frequency of occurrence of common species from uncut stands is more similar after harvesting with group retention than with clearcutting – showing value in leaving patches. Data are from bird surveys over two seasons in 12 group retention stands, 12 clearcuts, and 12 uncut control stands, each containing five monitoring stations, and each surveyed three times each year. In total, 1,065 surveys were completed yielding 3,259 songbird observations. Preliminary results showed that all of the 18 most frequently detected species occurring in uncut stands were represented in group retention stands, but most (66%) occurred in lower abundance. Compared to clearcuts, group retention sites supported more species and, unlike clearcuts, were not dominated by Dark-eyed Junco and Winter Wren. The response of most forest-dependent species to percent retention appears relatively linear (i.e., greater abundance as retention increases).

Summer Bird Surveys (AM, FIA) A sixth season of monitoring was completed on summer bird transects--51 routes and approximately 2500 stations throughout coastal BC (28 on Vancouver Island, 16 on the Sunshine Coast and 6 on Haida Gwaii/QCI). This study documents landscape-level trends in bird populations in forested landscapes. Analysis of 2005 results are underway. During the first 5 seasons, 25 to 47 bird species were observed on each survey route. The most frequently observed species were winter wren, American robin, Swainson's thrush, Townsend's warbler, varied thrush, Pacific slope flycatcher and Hammond's flycatcher. It will likely take 10 years of monitoring to determine significant trends. Project leaders are Wayne Campbell and Mike Preston of Westcam Consulting.

VRAM & Operational Bird Studies (AM, UBC) Breeding season surveys were done in 2005 to compare bird use of different approaches to variable retention. The study, led by Ann Chan-Macleod at UBC, evaluated the Memekay (NIT), Klanawa (WIT), Goat Island and Lewis Lake (SWT) VRAM sites. Results to date show that about one-third of individual bird species and all "guilds" (groups with similar habitat preference) were affected by retention level. Removal of 31% of the original forest in various sizes of groups (69% retention) had little impact on forest bird communities. Retention levels of 5% to 10% showed no significant overall difference in bird abundance from clearcuts, which favored shrub nesters and "open" habitat species. Group size appeared to have an impact on some species, with large groups (1 ha) preferred over small to medium-sized groups (0.25 to 0.5 ha), although results with retention type and level were highly variable.

Terrestrial Gastropod Study (AM, FSP) Intensive pre-disturbance surveys of slugs and snails using litter sampling and artificial cover objects were completed for 6 VRAM sites from 2001 to 2003 by Lennart Sopuck and Kristiina Ovaska of Biolinx Environmental Research. Twelve to 16 species of gastropods were found on each site, comprised of small litter snails, large snails, carnivorous snails and slugs. Small litter snails accounted for the most species on all sites. Two sites were re-surveyed in 2005, 4 years after logging: Tsitika (NIT) & Horseshoe Lake (SWT). At the Tsitika site (% group retention), most species showed no treatment effects; however, two species of snails were most abundant in the uncut forest and decreased with retention level. At the Horseshoe Lake site (% dispersed retention), small litter snails had the highest density by far of any VRAM site and were most abundant in the uncut forest and 30% retention treatment (compared to clearcut, 5% and 10% dispersed). Some species showed no apparent treatment impact while others appeared to be reduced after logging. Post-harvest monitoring will be done on 4 more VRAM sites over the next two years.

Variable Retention Windthrow Monitoring (AM, FIA) Windthrow monitoring of VR cutblocks continued in 2005, led by Terry Rollerson of Golder Associates with field work by Colin Peters. The windthrow database now consists of total of 3355 plots distributed throughout the company's BC coastal operations. A total of 112 harvested blocks are included in the sample, representing nearly 220 km of external setting boundaries, 29 km of larger patch edges, 134 ha of smaller retention patches and 56 km of riparian and other strip edges. Monitoring found that wind damage increases with increasing boundary exposure, fetch distance, elevation (topographic exposure), and as tree height and rooting depths increase. Results show that strips and small patches have higher rates of windthrow (25% to 36%) over 3 to 5 years than external edges and large patch edges (15% to 21%), although a greater proportion of total windthrow is due to cutblock edges because of the greater length of edge. Windthrow also varies with boundary and patch geometry (e.g. symmetrical patches tend to have less damage than irregular patches). Edge treatments appear to be effective for reducing windthrow if topping or pruning penetrates 10 to 15 metres into an edge. Windthrow along gullies and stream escarpments can be reduced when windward edges are set back 10 to 20 metres.

Aquatic Breeding Amphibians (AM, FSP) This study occurs on three cutblocks within the private lands of Island Timberlands, led by Elke Wind. Different buffers widths were assigned to small wetlands to test the efficacy of retention patches for maintaining breeding populations of amphibians. In 2005, post-harvest monitoring was completed on one site, and pre-harvest monitoring continued for a second year on the other two sites. Unfortunately, loss of buffer replication occurred on two sites during logging operations; however, these sites can be monitored for harvesting impacts. Additional work is planned for 2006 on Crown land with funding through the BC FSP. Four amphibian species were found breeding in small ponds: long-toed salamander, rough-skinned newt, Pacific chorus frog and red-legged frog. Water levels increased significantly at ponds in the harvested site, especially at ponds with no retention or in-pond vegetation. There was continued use of ponds after harvesting at the logged site where the occurrence of Pacific chorus frogs increased at ponds and in ditches along roads. Additional monitoring is needed before conclusions can be reached on logging impacts for these amphibians.

Carabid Beetles (AM, FSP) A study of post-harvest beetle populations by Isobel Pearsall compared group size at the Klanawa VRAM site and several operational cutblocks at WIT. Transects across timber edges were monitored at intervals throughout the season. Carabid beetles showed a response to patch size in group retention sites, with higher catches per trap of "forest specialists" in larger patches than in smaller patches. This response was seen in both old growth and 2nd growth sites. Three years post-harvest, the patches were able to retain forest specialists at all of the sites. However, retention of forest specialists was generally better in old growth patches than 2nd growth patches, and small patches of 2nd growth sites were particularly poor at retaining forest specialists. Carabid beetles showed edge responses, and several species had higher catches at or close to the edge of patches.

Ectomycorrhizal Fungi (AM, CFS-FSP) **A study was established to examine the abundance of ectomycorrhizal fungi on tree seedlings in relation to dispersed trees and cutblock edges. Transects were established at the dispersed VRAM site (SWT-Horseshoe Lake). A chronosequence of sites was studied at the Northwest Bay operation of Island Timberlands to examine persistence of mycorrhizae in different ages of forest in proximity to mature timber edges. Data analysis for these studies is underway. An earlier study with group retention showed that the abundance of these fungi decreased with distance from forest edges. These studies are under the direction of Tony Trofymow with the Canadian Forest Service.**

Variable Retention and Small Streams (AM, UBC-FSP, NSERC) Pre- and post-harvest monitoring of water flow and temperature continued. The two study areas were logged June through November 2004, and April 2003 through April 2004. Data were downloaded from stream probes and weather stations in 2005. Litter samples were collected in spring and dry weights were determined at the Malaspina UC AERL lab. Steve Guenther, an MSc student with Dan Moore at UBC, is examining stream temperature. Preliminary results suggest that retention patches located at the downstream end of small streams can be effective in some, but not all cases, at mitigating the effect of logging on maximum stream temperatures.

Growth and Yield — Edge Study (N.J. Smith; AM, FIA) This study by Nick Smith examines the influence of forest edges (either adjacent stands or retention patches) on seedling growth. Most of the impact on tree growth is restricted to 10m from the edge but is noticeable in all directions for all species examined. The results are highly correlated with surficial moisture. Impacts when spread across the cutblock, however, were small. There was no difference in impacts with azimuth due to high microsite variability for these young trees. Greater seedling impacts were noted for small group removal sites, rather than edges or group retention.

Growth and Yield — VRAM Experimental Plots (N.J. Smith; AM, FIA, FSP) Permanent plots were established in experimental comparison areas to measure the impact of the amount and spatial distribution of retention on tree growth. Results are consistent with the Edge Study (above). A model is under development that tracks growing season light and moisture for fir and hemlock and produces results consistent with the field data.

Regeneration Research — Stocking, Seedlings, Seedling Improvement, Deer Browse, and Fertilization at Planting (J.S. Sandford) Many trials have been established over the years to monitor plantations and natural regeneration performance. New trials are established each year to address specific questions. These studies are continually measured and analyzed to provide feedback on regeneration practices to operations. Costs were shared for trials of mutual interest to Western Forest Products and Island Timberlands. Results show that:

1. Douglas-fir seedlings fertilized at time of planting (FAP) on mesic sites responded better than seedlings fertilized on dry and rich sites. The best cost-benefit in terms of average 2nd-year height at the mesic site was from a 412A seedling fertilized with 10g of 20-11-9 delivered in a teabag, compared to other treatment combinations: unfertilized trees, higher amounts of fertilizer (20g or 30g) and other stock types (410, 512A, 615A and 1+1 BR).
2. Three deer repellants were tested to evaluate their effectiveness in reducing incidence of deer browse. “PlantSkydd” and hydrolyzed casein were applied in the spring at two sites. Neither product significantly reduced incidence of deer browse on newly planted Douglas-fir and western redcedar seedlings.
3. Douglas-fir seedlings planted in an area that had been mechanically site-prepared (MSP) were significantly taller and larger than seedlings planted in an equivalent control area (no MSP). Plastic brush blankets were also tested at this site but had no effect on average tenth-year height or stem volume.

4. Fifteen-year height and diameter data were recorded at 10 "Plantation Assessment" sites. Information from these sites is used to address knowledge gaps in early plantation performance.
5. Results from a fertilizer screening trial established in a poorly performing stand of 30 to 40-year old Douglas-fir trees indicated that broadcast treatments of nitrogen (N), nitrogen + phosphorous (N+P), and N+P plus micro-nutrients had no significant effect on fifth-year tree height or diameter.
6. Results from 3 study sites comparing various fertilizer treatments showed that fertilizer incorporated into the growing medium at the nursery had no significant effect on average third-year height and/or stem volume. Seedlings fertilized at time of planting (FAP) with fertilizer delivered in teabags were generally larger than un-fertilized controls but results were highly variable due in part to deer browse.

MASS — Montane Alternative Silvicultural Systems (W.J. Beese; CFS, FSP) This study was established in 1992 to examine alternative approaches for managing high elevation forests. Climate monitoring continued, access to the site was maintained and new trails were established with Long-Term Research Installation infrastructure funding by the FSP. Additional vegetation transects assessing edge effects were established in 2005. A report on 10-year post-harvest vegetation response was also completed. Publications on the results of natural regeneration and windthrow monitoring are underway. For project descriptions, a listing of reports and publications, and brief summaries of findings from some of over 20 studies that are examining the economic and biological impacts see the MASS website, maintained by the Canadian Forest Service, Pacific Forestry Centre at: www.pfc.cfs.nrcan.gc.ca/silviculture/mass/index_e.html.

Effects of Prescribed Burning (W.J. Beese) This study was established in 1985 to investigate the impact of prescribed burns of different intensity on soils, tree growth, vegetation response and nutrition. Twenty-year post-fire measurements of tree growth, foliar nutrition, vegetation and erosion were completed in 2005. Several publications are underway.

SCHIRP — Salal-Cedar-Hemlock Integrated Research Program (W.J. Beese; UBC, FSP) A west-coast Vancouver Island study site was established near Ucluelet in 1995 to investigate silvicultural treatments for establishing conifers on salal-dominated sites. This site replicates treatments from the original SCHIRP program on northern Vancouver Island. Treatments include mechanical site preparation, fertilization, planting density and species selection. Ten-year measurements of tree growth, foliar nutrition and vegetation cover were completed in 2005. Reports will be completed in 2006. For a program synthesis, field guides and publications see the SCHIRP website maintained by UBC at: www.forestry.ubc.ca/schirp/homepage.html.

Growth and Yield — Permanent Sample Plots (FIA, N.J. Smith) A network of PSPs is maintained throughout the BC coast to monitor forest growth on a 5-year measurement cycle. These data contribute to timber supply projections and modelling.

Old Growth Age (W.J. Beese) Two studies undertaken in the early 1990s on the age of old growth forests on Vancouver Island were updated for publication. One compiled a database of over 5000 dominant and co-dominant trees in forests over 150 years old from various published and unpublished sources to examine broad trends in the age distribution by species, elevation, geographical area and

biogeoclimatic unit. The second study examined the distribution of tree ages in several stands for three geographical areas on Vancouver Island. The mean tree age for dominant and co-dominant trees in old-growth forests in this sample was 326 years. The oldest species from full ring counts were yellow-cedar, western redcedar and Douglas-fir—all with confirmed ages over 1100 years and some estimated ages over 1400 years. Mean age was lowest on southern VI (290 years) and highest in the Northern Island Mountains ecosection (384 years)—a triangular region between Sayward, Gold River and Port McNeill. There was a general trend of greater tree age with increasing elevation and distance from the coastline. The Mountain Hemlock zone and montane Coastal Western Hemlock variants (CWHmm2, CWHvm2) had the highest median tree ages. Many stands show an "all-aged" structure, consistent with small gap disturbance, while some show a two-aged structure arising from fire disturbance.

Research Projects with Company Support in 2005

Linking multiple indicators of biological diversity to forest management (AM, UBC-FSP,MOE)

Evaluation of biological control for salmonberry and salal competition (CFS)

Development of Native Grasses for Coastal BC (FIA)

Windthrow Natural Disturbance History (UBC-SMRFA)

Vancouver Island Marmot Study (VIM Foundation, MOE)

Marbled Murrelet Research (D. Lank, SFU, NSERC)

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[1]AM = Part of the Adaptive Management program in support of the Coast Forest Strategy (formerly The Forest Project). Funding sources other than the company are shown as: FIA = Forest Investment Account, Land-based Investment Program; FSP = Forest Science Program. Both are BC Provincial government programs. Western Forest Products project leaders are also listed in parentheses.

Coast Forest Strategy Website: www.forestbiodiversityinbc.ca/forest_strategy/default.htm

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March 2006

APPENDIX 7 – COMMUNICATIONS PLAN

Updated: Feb. 21, 2006

Regular and Ongoing Activities

Directed at the Public and Stakeholders

Communications Activities	Western	WIWAG
□ Members share information between the Advisory Group & their interest groups		■
□ Website (wiwag.org) to include minutes, agendas, ToR, SFM Plan, FDPs, brochure, etc. (WFP staff currently manage the site.)	■	
□ WIWAG Brochure - website promotion, SFM Plan/Cert. info, contacts	■	■
□ TFL 44 Logging Rd. & Recreation Guide	■	
□ Distribution of WIWAG minutes (agendas etc.) to members, and others	■	■
□ Press releases and articles (AV Times, corporate newsletters) promotion of WIWAG events and certification accomplishments/milestones	■	■
□ Participate in community events, such Forest Festival and Fall Fair	■	■
□ Promote the public involvement processes, such as FDP public review/comment	■	
□ Road closure notices on website / sent to members & other interest groups	■	
□ Utilize a 'feedback form' at all public events	■	■
□ Designate a WIWAG spokesperson & respond to media inquiries	■	■
□ Customer Tours as requested	■	

Directed at WIWAG Members

Communications Activities	WFP	WIWAG
□ Distribution of corporate newsletters to WIWAG members	■	

Directed at Employees & Contractors

Communications Activities	WFP	WIWAG
□ EMS training	■	
□ FN Cultural Awareness Program	■	
□ Planners oriented to red/blue species	■	
□ WIWAG Minutes distributed	■	
□ “Certification Shorts” newsletter developed & distributed	■	■

Directed at Youth

Communications Activities	WFP	WIWAG
❑ Funding for Forestry Awareness Program with SD #70 for Grade 5 students (Gently Down the Creek, Tree Planting)	■	
❑ ADSS Forestry Program Liaison (with Hayes)	■	

Specific Activities for 2006

Directed at Public & Stakeholder Groups

Public Session – Updates on major changes to forestry in BC and how it applies to the DFA • Tenure changes (Bill 28, take back areas, First Nations Section 13, BCTS) – who owns what • Summary of new ownership (Western Forest Products, ITLP) • Rules governing activities on Crown and private • AAC overview (how it is developed and what the cut level is Crown, what the equivalent process is on private) • Compliance and Enforcement (Crown and Private)	Representatives from the Ministry of Forests and the Private Forest Land Council	June
Public Session – How the purchasing and supplier relationships of WFP and its contractors builds on the existing community based employment services and community development efforts	Representatives from WFP and contractors	Fall

Directed at WIWAG Members

Presentation on the protection of Mount Arrowsmith	Peter Rothermel or Don Cameron of the Federation of Mountain Clubs of BC	WIWAG meeting