



WESTERN FOREST PRODUCTS INC.

SFM Plan 2011-2016

Appendix 2: Detailed Indicator & Results

Mid Island Forest Operation

Revised: April 2014

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SFM Criteria, Values, Objectives, Indicators & Targets

This section of the SFM Plan describes Mid Island Forest Operation's SFM Values, Objectives, Indicators and Targets. 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. This 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-Z809-08).

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 MIFLAG members, Mid Island Forest Operation staff and other Western Forest Products' 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 or condition of an indicator. Where possible, targets are clearly defined, time-limited and quantified.
- **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.
- **Legal References** are provided where they exist.

Performance Reporting

On an annual basis, the SFM Plan will be updated to include performance reporting information in order to facilitate review of the actual outcomes of each indicator (this will be reported within Appendix 2). Most indicators, (but not all) are reported on an annual basis from January 1 – December 31. The monitoring report (Appendix 2) is completed by Mid Island Forest

Operations Management, and presented for review to MIFLAG and WFP Management (EMS Management Review process) in the spring of each year (typically April). Changes are made to the plan as required to address feedback from MIFLAG and WFP Management Review.

The detailed indicator result information is stored digitally on a MIFO server and used to build these indicator reports. Depending on the indicator, this could be a report from Cenfor, our training database, a conversation or a pooling of information from a number of different resources.

MIFO SFMP Appendix 1: VOIT (Values, Objectives, Indicators and Target) Table indicates the specific responsibilities of each indicator to key staff positions (the SFM Plan contains a responsibility summary by department under monitoring). The MIFO manager designates a certification lead that is responsible for coordinating data and develops this summary of results. Annual internal audits will also evaluate the quality, validity, and meaningfulness of the locally determined indicators and all of the targets.

Summary of Results

For 2013, WFP Mid Island Forest Operation was in conformance with the target or the respective permitted variance for 42 of the 43 indicators. The indicators that were determined to be in non-conformance with both the target and variance were as follows and have been reviewed by MIFLAG:

| Indicator | Comment |
|-----------|----------------------------|
| 6.4.1 | MIFLAG Satisfaction Survey |

Summary of Changes

This section includes a summary of the changes to the SFM Plan Indicators, Targets and Variance that have been made since the last version. This does not reflect editorial changes.

| Date | Indicator | Comment |
|------------|-------------|---|
| April 2013 | 6.4.B/6.5.2 | As part of the 2012 Indicator review it was decided to delete Indicator 6.4B regarding the use of the MIFLAG website and roll an aspect of it into this indicator which reference's information being posted. It is also noted in the Terms of Reference that the members will annually review the website. |
| April 2013 | 4.1.1 | Review of the target led to the decision to change the target to "The net carbon uptake of the forest is positive measured on a 5 year rolling average. |
| May 2013 | 2.1.1b | Review of the indicator led the group to decide to drop this as an indicator and to have this as a discussion topic annually. |
| May 2013 | 6.2.A | On suggestion of auditors to review targets it was decided to change this indicator to report on the volume of wood made available to First Nations |

Indicator 1.1.1

| Element: 1.1 Ecosystem Diversity | | | | |
|---|-----------------------------------|------------------------|--|--|
| <i>Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Ecosystem types found on the DFA | Sustain ecosystem types over time | Ecosystem area by type | The ecosystem area (ha) by type (BEC zone) that is present changes <1% on a 5-year basis | Establish baseline in 2014 with data from 2012, 2013 reporting before setting variance |

History

New Core Indicator under CSA Z809-08 (relates to old indicator 2).

Justification

Baseline data was used from SFM Plan 2009 indicator 2 (old growth representation by Biogeoclimatic (BEC) zone) to assist in generating a target. Overall, ecosystem representation on the DFA should be relatively static, the only impacts to the representation should be as a result of road development and additions/reductions to the DFA (Indicator 2.2.1).

Representation is also reported split by second growth (all age classes not classified as old growth) and old growth, as MIFLAG is particularly interested in maintenance of old growth forests on the DFA.

Current Status & Interpretation

| Year | BEC Zone | Second Growth (ha) | Old Growth (ha) | Total Productive Area of BEC Zone (ha) | % Rep. of Productive | Target Met (Y/N) | Variance Met (Y/N) |
|------|----------|--------------------|-------------------|--|----------------------|------------------|--------------------|
| 2013 | CMA unp | 54.51 | 94.01 | 148.52 | 0.12 | Baseline | baseline |
| | CWH mm1 | 4503.98 | 817.25 | 5321.23 | 4.15 | | |
| | CWH mm2 | 96.06 | 132.87 | 228.93 | 0.18 | | |
| | CWH vm1 | 38119.83 | 11689.06 | 49808.89 | 38.87 | | |
| | CWH vm2 | 18356.64 | 20295.41 | 38652.05 | 30.17 | | |
| | CWH xm2 | 19912.01 | 1478.72 | 21390.73 | 16.69 | | |
| | MH mm1 | 1742.92 | 10833.55 | 12576.47 | 9.82 | | |
| | | Total | 128,126.82 | | | | |
| 2012 | CMA unp | 55.47 | 93.06 | 148.53 | 0.12 | Baseline | baseline |
| | CWH mm1 | 4513.10 | 801.70 | 5314.80 | 4.14 | | |
| | CWH mm2 | 95.60 | 133.33 | 228.93 | 0.18 | | |
| | CWH vm1 | 37990.47 | 11828.34 | 49818.81 | 38.85 | | |
| | CWH vm2 | 18127.79 | 20595.74 | 38723.53 | 30.19 | | |
| | CWH xm2 | 19933.14 | 1495.96 | 21429.10 | 16.71 | | |
| | MH mm1 | 1674.58 | 10909.47 | 12584.05 | 9.81 | | |
| | | Total | 128,247.75 | | | | |

| | | | | | | | |
|--------------|---------|-----------|-------------------|-----------|-------|----------------|----------------|
| 2011 | CMA unp | 16.35 | 214.96 | 231.31 | 0.18 | reference only | reference only |
| | CWH mm1 | 19,389.33 | 5,147.63 | 24,536.96 | 19.19 | | |
| | CWH mm2 | 5,162.49 | 3,911.09 | 9,073.58 | 7.06 | | |
| | CWH vm1 | 27,178.22 | 10,566.13 | 37,744.35 | 29.37 | | |
| | CWH vm2 | 8,492.75 | 14,170.62 | 22,663.37 | 17.63 | | |
| | CWH xm2 | 18,964.32 | 1,380.8 | 20,345.12 | 15.83 | | |
| | MH mm1 | 2,065.95 | 11,853.2 | 13,919.15 | 10.83 | | |
| Total | | | 128,513.84 | | | | |
| 2010 | CMA unp | 16.35 | 214.96 | 231.31 | 0.18 | reference only | reference only |
| | CWH mm1 | 19,342.90 | 5,100.63 | 24,443.53 | 19.05 | | |
| | CWH mm2 | 5,125.61 | 3,865.92 | 8,991.53 | 7.00 | | |
| | CWH vm1 | 27,199.52 | 10,509.68 | 37,709.20 | 29.39 | | |
| | CWH vm2 | 8,461.00 | 14,189.78 | 22,650.78 | 17.66 | | |
| | CWH xm2 | 18,940.54 | 1,402.20 | 20,342.74 | 15.86 | | |
| | MH mm1 | 2,051.83 | 11,864.38 | 13,916.21 | 10.85 | | |
| Total | | | 128,285.30 | | | | |

The 2013 numbers show % representation by BEC to be relatively static compared to 2012 (0-0.03% change). In 2012 there were a number of changes to the BEC zone representation. This is due to an improvement in available data as result of Terrestrial Ecosystem Mapping (TEM) project carried out by our Corporate office then rolled out to the Operations. This data is deemed more accurate than the previously used government data as it is done at a higher resolution with an element of ground truthing. With this new analysis, the baseline was established with 2012 and 2013 data and targets determined as part of the 2013 reporting year.

Strategies & Implementation

The map of BEC (Biogeoclimatic Ecosystem Classification) variants is obtained from the MoF and combined with the current forest inventory to generate the representation of site series groupings that are located within the DFA.

Ecosystem representation should remain relatively stable on the DFA, as the only measurable impacts to the ecosystem representation are additions/deletions to the DFA (as reported under Indicator 2.2.1 such as road construction, conversions, removals and additions to the DFA). Moreover, responsible forest management and harvesting activities should have little impact to the ecosystem representation.

MIFLAG has a particular interest in the representation of old growth on the DFA. As such, information on ecosystem representation is presented in a format that distinguishes between old growth and non-old growth areas of the DFA.

Several initiatives and legal requirements have been set relating to protected areas that help to contribute to ecosystem representation, including parks and protected areas, Old Growth Management Areas, Wildlife Habitat Areas, Ungulate Winter Ranges, Wildlife Tree Patches and other stand level retention initiative such as the WFP Forest Strategy (variable retention), etc. In addition, a fairly significant portion of the DFA exists in the non-contributing land-base (e.g., inoperable) and will not be harvested.

Forecasts

It is not anticipated that the overall ecosystem representation on the DFA will change significantly over the short-term. Responsible forest management activities should not impact the ecosystem representation on the DFA. Road construction will have some impact, but

restrictions on allowable site degradation/permanent access limits are prescribed under legislation (*FPPR*). Some additions or deletions to the DFA may also occur that can significantly impact this indicator and target, but these are typically outside of WFP's control (refer to Indicator 2.2.1).

Although responsible forest management and harvesting activities should have little impact to ecosystem representation, there is potential for significant change to ecosystem representation due to **Climate Change**. WFP is in the process of developing a "Silviculture strategy for climate change impacts: adaptation and mitigation".

Monitoring

The Planning Department requests GIS Analysis (GIS Department) after year end harvesting has been updated in the CENFOR database. Productive forest area is used to calculate the representation.

Indicator 1.1.2

| Element: 1.1 Ecosystem Diversity | | | | |
|---|---|--|---|--|
| <i>Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Species composition of forests on the DFA | The overall species composition of the DFA remains stable over time | Forest area by type or species composition | The forest area (ha) by species composition remains within 2% of the baseline on a 5-year basis | Establish baseline in 2014 with data from 2012, 2013 reporting before setting variance |

History

New Core Indicator under CSA Z809-08 (relates to old Indicator 5 and 6).

Justification

The target is based on the Timber Supply Analysis of age class and species representation information and the Chief Forester's AAC Determination in addition to the historical reporting of 2009 SFM Plan Indicator 5 and 6 as a benchmark.

Current Status & Interpretation

| Species | Hectares 2010 | Hectares 2011 | Hectares 2012 | Hectares 2013 | % Change |
|--------------------|----------------------|----------------------|--|----------------------|-----------------|
| Balsam | 21,503 | 21,735 | 21,610 | 21,572 | 0 |
| Cedar | 6,815 | 6,754 | 6,748 | 6,645 | -2 |
| Cypress | 9,192 | 9,259 | 9,097 | 8,864 | -4 |
| Fir | 15,921 | 15,699 | 15,870 | 15,589 | -2 |
| Hemlock | 56,839 | 57,399 | 57,096 | 57,221 | 1 |
| Pine | 29 | 33 | 32 | 37 | 28 |
| Spruce | 278 | 276 | 310 | 317 | 14 |
| Alder | | | 1,481 | 1,625 | |
| Other | 1,495 | 1,562 | 127 | 179 | -88* |
| TOTAL | 112,073 | 112,716 | 112,371 | 112,049 | |
| Target Met (Y/N) | baseline | | Will report on % 5 year average after 2014 | | |
| Variance Met (Y/N) | N/A | | | | |

A small portion of the DFA is not represented in the above breakdown (total productive forest 128,285 hectares) as a result of the percent error in the 'Stands' database. Alder is being reported on as of 2012 as it is now an accepted hardwood species that WFP is managing for.

Strategies & Implementation

WFP conducts reforestation activities consistent with legally required and approved stocking standards in the FSP that include the applicable tree species permitted for each ecosystem type and site series. Regeneration and Free growing surveys and milestone obligations ensure cutblocks are regenerated in accordance with approved stocking standards.

Forecasts

It is anticipated that the target will be achieved as regeneration and species composition is driven by legal requirements under FRPA and the approved stocking standards within the FSP. The Timber Supply Analysis supports the forecast of no major changes in tree species over the long term.

Climate change may effect representation of regenerated tree species. The establishment of Douglas-fir will likely increase while western hemlock and Amabilis fir may decrease with time for example.

The Timber Supply Analysis is currently being updated. It will be reviewed upon completion for development of a reasonable forecast for this indicator and target.

Monitoring

The Planning Department requests GIS Analysis (GIS Department) after year end harvesting has been updated in the CENFOR database. Productive forest area is used to calculate the representation.

Indicator 1.1.3

| Element: 1.1 Ecosystem Diversity | | | | |
|---|---|---|---|--|
| <i>Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| The distribution of age classes on the DFA | The distribution of age classes on the DFA is not dramatically skewed over time | Forest area by seral stage or age class | The forest area (ha) in each age class changes <3% over a 5-year period | Establish baseline data with 2010-2014 reporting before setting variance |

History

New Core Indicator under CSA Z809-08 (relates to old indicator 1 and 4).

Justification for the Target

The target is based on MIFLAG discussions related to maintenance of a balanced age class distribution across the DFA. Changes from one year to the next can vary more significantly to permit operational flexibility. The overall goal is to provide a five year period in which to measure the percent representation changes to allow for operational flexibility of fluctuating harvest rates (consistent with cut control limits and economic conditions) while maintaining overall balance within a five year period. The target is also related to the 2009 SFM Plan indicator 4.

Current Status & Interpretation

| Age Class | Productive Area 2010 (ha) | % Rep. 2010 | Productive Area 2011 (ha) | % Rep. 2011 | Productive Area 2012 (ha) | % Rep. 2012 | Productive Area 2013 (ha) | % Rep. 2013 | % Change |
|-----------------------------------|---------------------------|-------------|---------------------------|-------------|--|-------------|---------------------------|-------------|----------|
| 0-10 | 13,351 | 10.4 | 13,767 | 10.7 | 15,861 | 12.4 | 15,995 | 12.5 | 2.1 |
| 11-20 | 7,124 | 5.6 | 6,518 | 5.1 | 5,667 | 4.4 | 5,872 | 4.6 | -1.0 |
| 21-30 | 12,600 | 9.8 | 12,949 | 10.1 | 12,626 | 9.8 | 12,905 | 10.1 | 0.3 |
| 31-40 | 13,363 | 10.4 | 13,038 | 10.1 | 12,966 | 10.1 | 12,332 | 9.6 | -0.8 |
| 41-50 | 11,280 | 8.8 | 11,867 | 9.2 | 13,003 | 10.1 | 13,912 | 10.9 | 2.1 |
| 51-60 | 8,819 | 6.9 | 7,936 | 6.2 | 7,415 | 5.8 | 7,348 | 5.7 | -1.2 |
| 61-70 | 5,271 | 4.1 | 5,839 | 4.5 | 5,918 | 4.6 | 5,943 | 4.6 | 0.5 |
| 71-80 | 2,045 | 1.6 | 2,302 | 1.8 | 2,213 | 1.7 | 2,192 | 1.7 | 0.1 |
| 81-90 | 1,940 | 1.5 | 1,864 | 1.5 | 1,911 | 1.5 | 1,840 | 1.4 | -0.1 |
| 91-100 | 801 | 0.6 | 830 | .6 | 631 | .5 | 551 | 0.4 | -0.2 |
| 101-150 | 1,374 | 1.1 | 1,422 | 1.1 | 1,568 | 1.2 | 1,653 | 1.3 | 0.2 |
| 151+ | 50,316 | 39.2 | 50,183 | 39.0 | 48,469 | 37.8 | 47,584 | 37.1 | -2.1 |
| Total Productive Forest Area (ha) | 128,285 | | 128,514 | | 128,248 | | 128,127 | | |
| Target Met (Y/N) | baseline | | | | Will report on % 5 year average after 2014 | | | | |

| | | | | |
|---------------------------|-----|--|--|--|
| Variance Met (Y/N) | N/A | | | |
|---------------------------|-----|--|--|--|

% change with last 4 years data is reported in the above table for reference to determine whether 5-year target is achievable and to help determine what acceptable variance should be.

Strategies & Implementation

The TFL Management Plan and related Timber Supply Analysis measure and forecast the seral stage distribution across the DFA in relation to ensuring sustainable harvest levels (i.e., ensuring that harvest levels do not exceed the forest growth and aging of the younger seral stages to a harvestable age). The Chief Forester of BC then makes an AAC determination (i.e., sets the AAC) for the TFL (DFA) based on the Timber Supply Review package (data analysis package and rationale).

By managing the harvest levels to the allowable limits with the AAC, WFP will ensure that the age class distribution in the DFA remains 'balanced' with the classes projected in the analysis.

MIFLAG (and the public in general) has also expressed focussed interest on the maintenance of the old growth forest age classes on the DFA. Several initiatives and legal requirements have been set relating to protected areas that help to contribute to ecosystem representation (largely focussed on old growth but could include non-old growth forests), including Parks and protected areas, Old Growth Management Areas, Wildlife Habitat Areas, Ungulate Winter Ranges, Wildlife Tree Patches, etc. In addition, a fairly significant portion of the DFA exists in the non-contributing land-base (e.g., inoperable) and will not be harvested, thus further supporting maintenance of old forest seral stages in the DFA.

WFP Corporate Inventory and Analysis department maintains 30 to 40 years of historic data on age class distribution by area for total productive forest lands. This is generally updated on an annual basis. This data is located in the Forest Inventory for TFL 39 Block 2.

Forecasts

Age class distributions are forecast as part of the Timber Supply Analysis and the TFL Management Plan. The Timber Supply Analysis is currently being updated and will be submitted leading to an AAC determination. It will be reviewed upon completion and additional supporting information related to forecasts will be added at that time and revisions to the target will be considered if applicable.

Monitoring

The Planning Department requests GIS Analysis (GIS Department) after year end harvesting has been updated in the CENFOR database. Productive forest area is used to calculate the representation.

Indicator 1.1.4

| Element: 1.1 Ecosystem Diversity | | | | |
|---|---|---|--|----------|
| <i>Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Existing forests on the DFA | A portion of the existing forest is retained on the DFA | Degree of within stand structural retention | Minimum of 10% in Enhanced Basic (EB), 15% in Enhanced Dry(ED) and General Basic(GB) and 20% in General Dry(GD) and Special(S) | 3% |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan Indicator 7 and related to old Indicators 3 and 8).

Justification

Stand level retention provides for diversity by increasing the range of habitat and stand structure. Retention also contributes to genetic diversity by increasing the potential range of parental genes. The WFP Forest Strategy (variable retention) establishes minimum retention targets based on ecosystem types to incorporate results of monitoring of windthrow levels in the different ecosystem types and levels of soil moisture. The targets above are established in the WFP Forest Strategy.

The variance is to account for operational flexibility to accommodate terrain challenges, windthrow hazard, economic conditions, etc.

Current Status & Interpretation

| Year | Resource Management Zone/ Variant Climate Class & Retention Target (%) | | | | | Target Met (Y/N) | Variance Met (Y/N) |
|------|--|------|------|------|------|------------------|--------------------|
| | ED | EB | GD | GB | S | | |
| | 15 | 10 | 20 | 15 | 20 | | |
| 2013 | 23.6 | 18.9 | 24.7 | 22.3 | 29.3 | Y | N/A |
| 2012 | 23.5 | 22.0 | 28.8 | 19.6 | 26.7 | Y | N/A |
| 2011 | 21.1 | 18.6 | 25.5 | 21.1 | 25.9 | Y | N/A |
| 2010 | 17.3 | 15.3 | n/a | 9.1 | 19.3 | N | N |
| 2009 | 18.1 | 15.9 | 35.7 | 21.0 | 28.7 | Y | N/A |

In 2013, retention targets were met for all management zones.

N/A indicates no harvesting in the particular zone in a given year.

Strategies & 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 Forest Strategy targets are met. Refer to the SFM Plan (main text) Management Strategies for details. Retention targets were modified in 2008 to incorporate the results of a windthrow monitoring study on the levels of windthrow in different ecosystems under different retention strategies.

Openings are defined as non-clearcut if they meet or exceed the minimum standards for variable retention. Variable retention is achieved when more than half the total area of the opening is within one tree height from the base of a tree or group of trees, whether or not the tree or group of trees is inside the opening. Stand level retention may include patches of trees (determined by estimating the area of the patches) and individual trees (area contribution is estimated by comparing the basal area of the trees to the average basal area of the initial stand). Inventory: Stand level retention objectives are established during the layout of a block and included and recorded in the CENFOR database.

Definitions: Resource Management Zones of the Vancouver Island Land Use Plan Variant Climate Class: Dry - CWHxm, mm1 and Wet - CWHmm2, vm1, vm2, MH.

Silvicultural System: *Retention system* means a silvicultural system that retains individual trees or groups of trees to: maintain structural diversity over the area of the cutblock for at least one rotation; leave more than half the total area of the cutblock within one tree height from the base of a tree or group of trees, whether or not the tree or group of trees is inside the cutblock. Retention can be dispersed throughout a cutblock as single trees or aggregated groups of trees.

Salvage harvesting opportunities may not adhere to the Forest Strategy retention levels, but this is anticipated to represent a small portion of the harvested volume.

Forecasts

The target is based on a corporate strategy for forest retention, and is therefore anticipated that it will be achieved. A three year phase in period was adopted to account for forest planning and layout activities to incorporate the changes to the retention targets based on ecosystem type (soil moisture levels) as a result of the windthrow study of retention levels. The three year period ended in 2011.

In the event that corporate policy or direction changes, the Forest Strategy may be revised (not anticipated, but could occur as a result of the Monitoring and Adaptive Management process for the Forest Strategy). In the event that this occurs, it will be discussed with MIFLAG and the target will be reviewed.

Monitoring

The Planning Department develops blocks based on the targets and definitions in the WFP Forest Strategy. The cutblock retention percentages are recorded in CENFOR. A report is then run querying CENFOR for the reporting year.

Indicator 1.1.A

| Element: 1.1 Ecosystem Diversity | | | | |
|---|---|---|---------------|-----------------|
| <i>Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Forest influence | Forest influence is maintained throughout harvested areas | The average annual % of the harvested area that is within one tree length of standing trees | >50% | 5% |

History

This indicator is carried over from the 2009 SFMP (Indicator 8).

Justification

Stand level retention provides for diversity by increasing the range of habitat and stand structure. Retention also contributes to genetic diversity by increasing the potential range of parental genes. The WFP Forest Strategy (variable retention) establishes minimum retention targets based on ecosystem types to incorporate results of monitoring of windthrow levels in the different ecosystem types and level of soil moisture. The targets above are established in the WFP Forest Strategy.

The variance is to account for operational flexibility to accommodate terrain challenges, windthrow hazard, economic conditions, etc.

Current Status & Interpretation

| Year | Total non-clearcut Harvest Area (ha) | Forest Influence (%) | Target Met (Y/N) | Variance Met (Y/N) |
|-------------|---|-----------------------------|-------------------------|---------------------------|
| 2013 | 1502.5 | 63.4 | Y | N/A |
| 2012 | 1442.0 | 60.0 | Y | N/A |
| 2011 | 1421.0 | 57.0 | Y | N/A |
| 2010 | 621.4 | 56.0 | Y | N/A |
| 2009 | 943.7 | 62.7 | Y | N/A |
| 2008 | 654.0 | 59.8 | Y | N/A |
| 2007 | 1,935.1 | 55.8 | Y | N/A |
| 2006 | 2,845.3 | 57.7 | Y | N/A |
| 2005 | 3,362.2 | 62.0 | Y | N/A |

Strategies & Implementation

Forest influence is defined as the area within an opening that is within one tree length of a patch of retention or within one tree length of a single tree retained within or immediately adjacent to the opening. By definition, at least half of the area harvested in non-clearcut openings must be within forest influence.

Forecasts

To remain above 50% forest influence in order to meet the requirements of retention harvesting.

Monitoring

The current approach is to map the areas of forest influence by timber heights on opening maps and then to calculate the proportion of forest influence over the harvest area. The Planning Department reports on the average cutblock retention for the areas harvested in the reporting year and reports the percent representation of the total area under prescription for each ecosystem type using the Forest Strategy Tracking Spreadsheet and the CENFOR database.

Indicator 1.2.1

| Element: 1.2 Species Diversity <i>Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.</i> | | | | |
|--|--|--|---|----------------|
| Value | Objective | Indicator | Target | Variance |
| The habitat for focal species, including species at risk exist on the DFA | Ensure habitat for focal species, including species at risk, is protected on the DFA | Degree of habitat protection for selected focal species, including species at risk | Area (ha) of UWR, WHA, and OGMA remains the same or increases from year to year | Decrease by 1% |

History

New Core Indicator under CSA Z809-08 (relates to old indicator 9).

Justification

The target is based on legal requirements under FRPA and the government initiatives underway through Land Use Planning processes and strategies such as the Identified Wildlife Management Strategy. The variance is meant to help account for fluctuation due to spatial issues (e.g. map base or scale) and natural disturbance factors.

“Habitat, in terms of both quantity and quality, is a key component of the health of species and animal populations” (CSA Sustainable Forest Management, 2008). Forest management can have both positive and negative effects for wildlife and their habitat. It is important to ensure forest habitat necessary to the survival of species is available for use in the short-term and long-term. Habitat reserved for focal species also contributes to the habitat needs of many other wildlife species.

Ungulate Winter Ranges are areas identified as critical to the survival of local populations of ungulates during severe winters. On Vancouver Island, black-tailed deer and Roosevelt elk need areas with suitable forest and topographical features that are able to provide shelter, forage and snow interception. Roosevelt elk are on the BC provincial blue-list and have a BC Conservation Framework Priority of 2 (BC Species and Ecosystems Explorer, 2010) as well as having local and cultural importance. Black-tailed deer are not considered a species of concern but have local importance for food, economic opportunity and recreation.

Marbled Murrelets are small seabirds that nest inland, with a majority of nests being found on large, high boughs in old conifers, up to 30 km inland. Much work has been done along the coast to identify and rank suitable nesting habitat for Marbled Murrelets. Marbled Murrelets are listed as Threatened on Schedule 1 of the Federal Species at Risk Act (SARA), provincially blue-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and considered Identified Wildlife, and have a BC Conservation Framework Priority of 1 (BC Species and Ecosystems Explorer, 2010). Identified Wildlife are considered to be sensitive to habitat alteration associated with forest and range practices and are considered to be at risk (endangered, threatened, vulnerable or regionally important).

Northern Goshawks are a relatively large forest dwelling hawk. They need a closed canopy forest with an open understory for nesting and foraging. The coastal subspecies is listed as Threatened on SARA Schedule 1, provincially red-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and are considered Identified Wildlife, and have a Conservation Priority of 1.

Current Status & Interpretation

| Year | Type of Habitat Protected/ Species | Measure | Area (ha) | | | Target Met (Y/N) | Variance Met (Y/N) |
|------|------------------------------------|--|-----------|----------|-----------|------------------|--------------------|
| | | | Legal | Proposed | Voluntary | | |
| 2013 | UWR | Spatially delineated ungulate winter range | 4943 | 0 | 0 | Y | N/A |
| | MAMU | Moderate to Very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA | 4223 | 221 | 0 | | |
| | Goshawk | Area reserved around known nests (WHA, other) | 335 | 208 | 304.2 | | |
| | Red-legged Frog | Spatially delineated habitat proposal (Sorenson Marsh) | 0 | 12 | 0 | | |
| 2012 | UWR | Spatially delineated ungulate winter range | 4943 | 0.0 | 0.0 | Y | N/A |
| | MAMU | Moderate to Very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA | 4223 | 224 | 0 | | |
| | Goshawk | Area reserved around known nests (WHA, other) | 335 | 0 | 108 | | |
| 2011 | UWR | Spatially delineated ungulate winter range | 4950.4* | 0.0 | 0.0 | Y | N/A |
| | MAMU | Moderate to Very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA | 4241.0 | 226.8 | 0.0 | | |
| | Goshawk | Area reserved around known nests (WHA, other) | 334.8 | 0.0 | 103.5 | | |
| 2010 | UWR | Spatially delineated ungulate winter range | 4,950.4* | 0.0 | 0.0 | Y | N/A |
| | MAMU | Moderate to Very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA | 4,241* | 2.48 | 0.0 | | |
| | Goshawk | Area reserved around known nests (WHA, other) | 334.8 | 0.0 | 48.2 | | |
| 2009 | UWR | Spatially delineated ungulate winter range | 4,950.4* | 0.0 | 0.0 | - | - |
| | MAMU | Moderate to Very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA | 1,359.5 | 2,884.5 | 0.0 | | |
| | Goshawk | Area reserved around known nests (WHA, other) | 334.8 | 0.0 | 41.3 | | |

* There is a 12 ha reduction due to a data correction where there was an overlap.

There are additional areas of identified habitat proposed for candidate reserves such as WHA or OGMA that will serve to ensure the target continues to be met if and when they are given legal status.

Ungulate Winter Ranges have been legally established for all tenures within the DFA. Ungulate Winter Range may also be available through other reserve areas (WHA, OGMA) but has not been spatially delineated as such. Of the 4950.4 ha of ungulate winter range, 4939.9 were from TFL 39 Block 2 (U-1-004) UWR Order, January 2004, and 10.5 ha from the Strathcona TSA (U-1-005) UWR Order, June 2006 (the approved UWR in the TSA overlaps the TFL/DFA by 10.5ha). The indicator is measured as the total area spatially delineated and conserved for ungulate winter range. This area must meet or exceed the target of 4950.4 ha. *Note:* 2012 reporting year has changed this number to 4943 as a result of changes to the DFA ha line work and UWR amendments.

Marbled Murrelet nesting habitat has been delineated within the DFA. We are currently working with government on MAMU WHA proposals. Potentially suitable habitat was modeled and further assessed and ranked by low-level aerial surveys done primarily in 2007. The surveys followed provincial standards ranking the habitat nil to very high quality. Habitat ranked moderate to very high is generally considered “suitable” habitat. In the short-term suitable habitat is protected in a variety of reserves. Some Wildlife Habitat Areas have been specifically delineated for Marbled Murrelets while other species’ Wildlife Habitat Areas and Ungulate Winter Ranges may incidentally encompass suitable nesting habitat. Old Growth Management Areas (OGMA) are spatially defined and set in legislation. Direction has been given by government to consider Marbled Murrelet nesting habitat when delineating OGMAs. This indicator is a measure of the amount of inventoried suitable nesting habitat reserved within the DFA. The amount should be consistent or increase from the current state and not be less than 1360 ha. *Note:* 2012 Legal decrease due to changes in OGMAs and DFA; Proposed correction due to ha accounting error.

Goshawk nesting habitat mapping is not available at this time. For the current process the amount of goshawk habitat is based solely on areas that will not be harvested due to the presence of goshawk nests. There are currently nine known nest territories within the DFA (one more nest than was recorded in 2010). Two were formally established in 2004 as 335 ha of WHA while the others have voluntary reserves applied by WFP. This indicator is a measure of the amount of habitat reserved from harvest directly around the known nests. It does not include the larger forested areas surrounding the nest. The amount should be consistent or increase from the current state and not be less than 335 ha. *Note:* 2013 there is work on going on further hectares for Goshawk that is Proposed and in final approval stages.

Red-legged Frog: a proposed WHA for Red-legged frog is proposed on the DFA and is expected to be approved shortly.

Strategies & Implementation

In general the management strategy for this indicator includes:

- To spatially designate and legally establish Wildlife Habitat Areas and Old Growth Management Areas. WFP has a mix of legally established and proposed areas. The intent is to move proposed areas through the process to become legally established.
- When it is necessary to build roads through or harvest adjacent to one of these reserves, WFP attempts to minimize the impact and provides replacement habitat of similar quality, if necessary.
- Species at Risk training is delivered to the operations to aid staff in identifying and working around Species at Risk.

- Northern Goshawk Management Protocol has been developed to guide operations managing forest activities around nests. Known nests will be monitored for activity when forest management activities are planned nearby.
- When other habitat is encountered that is actively used by a focal species including a species at risk, the site undergoes evaluation for potential candidacy as a permanent reserve.

Forecasts

As more reserves such as WHAs, UWRs and OGMA's become legally established the habitat conserved for focal species is expected to increase over the short-term. In the long-term, it is anticipated that as land use planning and government initiatives are completed and sufficient habitat areas are identified on the land-base that will provide for the identified species, the hectares of reserved areas for wildlife species should stabilize somewhat.

Monitoring

Corporate Forestry is responsible for coordinating GIS Analysis and reporting on this indicator:

- Reserves are mapped spatially in a layer of the GIS. Changes in boundaries are tracked by Corporate Forestry.
- All habitat supply will be monitored spatially relative to the target every year.
- Nests are documented when they are located and appropriate management strategies are developed within site-level plans.

Indicator 1.2.2

| Element: 1.2 Species Diversity | | | | |
|---|---|---|---|----------------|
| <i>Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| The habitat for focal species, including species at risk exist on the DFA | Ensure habitat for focal species, including species at risk, exist on the DFA | Degree of suitable habitat in the long term for selected focal species, including species at risk | The number of species with habitat modelling completed stays the same or increases over time and the amount of suitable habitat for species where habitat modelling exists stays the same or increases (on a 5yr basis) | Decrease by 1% |

History

New Core Indicator under CSA Z809-08 (relates to old indicator 9).

Justification

Some species need habitat that includes mature to old trees for their survival. Habitat currently unsuitable for species may develop the attributes necessary for the survival of the species as it ages. It is important to ensure critical habitat will be available in the long-term. Long-term is defined as twice the average life expectancy of the predominate trees in a DFA, up to a maximum of 300 years. Tree species within the DFA are long lived and the long-term is defined as the maximum of 300 years.

The target is based on the amount of suitable habitat that is identified through species habitat modeling exercises (whether by WFP or made available from other parties such as other licensees or government agencies). The intent is to report on the amount of potentially suitable habitat both currently available and projected over the long term through modeling exercises. The variance is meant to help account for fluctuation due to spatial issues (e.g. map base or scale) and natural disturbance factors.

Refer to Indicator 1.2.1 for more details on the key species and their habitat features/requirements.

Current Status & Interpretation

| Year | Species Modelling Complete | Measure | Hectares of Suitable Habitat (Modeled) – Current Status | Hectares of Suitable Habitat (Modeled) – Long Term | Target Met (Y/N) | Variance Met (Y/N) |
|------|----------------------------|---|---|--|------------------|--------------------|
| 2013 | MAMU Nesting Habitat | Potentially Suitable Habitat in WHA, UWR, OGMA and NCLB | 20,483.2 | 36,652.4 | Baseline | Baseline |
| 2010 | MAMU Nesting Habitat | Potentially Suitable Habitat in WHA, UWR, OGMA and NCLB | 16,289.9 | 20,838.6 | Baseline | Baseline |

The long term habitat above shows the result of the modeling exercise. In essence, as currently young stands grow, substantially more potentially suitable habitat is available in the long-term for the Marbled Murrelet.

In 2013, updated ha are reported for update on the baseline data. The increase in the Current Status suitable habitat is due to OGMA and UWR amendments, as well as better height data in the forest cover (in the past there were some errors with height not filled out in the forest cover data). The increase in long-term suitable habitat is mostly due the better height data in the forest cover.

Marbled Murrelet potentially suitable nesting habitat has been modeled within the DFA. Of the potentially suitable habitat within the DFA the areas within wildlife habitat areas, ungulate winter range and old growth management areas and found within the non-contributing land base (generally unharvestable) will be retained in the long-term. The potentially suitable habitat available in reserves was calculated using the current legal and proposed WHA, UWR and OGMAs. The non-contributing land base was calculated using data from the TFL 39 Block 2 Management Plan 8 (2000) datasets created for the timber supply analysis.

This indicator is a measure of the amount of potentially suitable nesting habitat retained within the DFA over the long-term. The amount should be consistent or increase from the current state and not be less than 16,289.9 ha (located in existing UWR, WHA, OGMA and the NCLB).

Goshawk nesting habitat modelling is in progress by the Northern Goshawk Recovery Team.

Strategies & Implementation

- As reliable habitat modelling tools and parameters become available for different species, WFP will apply them to its land base to guide the evolution of management prescriptions.
- Western's Forest Strategy around variable retention will leave a legacy of mature and old forest attributes.
- The long-term strategy is to spatially designate and legally establish Wildlife Habitat Areas, Ungulate Winter Range and Old Growth Habitat Areas to address habitat needs by multiple species. WFP has a mix of legally established and proposed areas. The intent is to move proposed areas through the process to become legally established. Proposed reserves will be managed as if established.

Forecasts

The quantity of potentially suitable habitat is forecast for Marbled Murrelets. This includes the current amount of potentially suitable habitat and future potentially suitable habitat (i.e., trees that are currently too young). This does not take into account habitat quality as the characteristics, such as moss development, are not easily modelled. It is expected that within the amount forecast, not all will be suitable.

To forecast suitable habitat into the future, only modelling can be used as the inventory gives the current state. Potentially suitable habitat was modelled using parameters from the Marbled Murrelet recovery team and in two steps.

- 1) For forests greater than 250 years old there was an assumption that the old growth characteristics would not change significantly in the long term and the following parameters were used: Forested area > 250 years old and ≥ 28.5 m tall. These parameters are from the "Most Likely" category defined in Table 3 in the Marbled Murrelet Conservation Assessment 2003, Part B.

- 2) For forests younger than 250 years old there is a potential to develop the necessary attributes. It was assumed that trees with a moderate or better site index had the potential to develop the characteristics and the following parameters were used:
Forested area \leq 250 years old and \geq 28.5 m tall or site index \geq 18.

Goshawk nesting habitat mapping is not available at this time. The Northern Goshawk Recovery Team is in the process of creating and testing a habitat model for Vancouver Island. Once this model is released it may be used to calculate the amount of habitat conserved within reserves.

Monitoring

Corporate Forestry is responsible for coordinating GIS Analysis and reporting on this indicator

The general monitoring measures are as follows:

- Potential habitat supply will be monitored spatially relative to the target every 5 years.
- Non-contributing land-base will be recalculated with new Timber Supply Analysis

Indicator 1.2.3

| Element: 1.2 Species Diversity | | | | |
|---|---|--|--|----------|
| <i>Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Native tree species on the DFA | Native tree species are maintained on the DFA | Proportion of regeneration comprised of native species | Native species comprise at least 90% of the regeneration established annually on harvested areas | None |

History

New Core Indicator under CSA Z809-08.

Justification

The target is based on legal requirements under FRPA and the associated Chief Forester's Standards for Seed Use, but accounts for slight variations in potential natural regeneration of non-native species or slight variations in planted seedlings, where approved by government (e.g., planting of non-native species noble fir in higher elevations where research indicates it is acceptable).

Current Status & Interpretation

| Year | Planted | % Native Species | Target Met (Y/N) |
|------|-----------|------------------|------------------|
| 2013 | 1,084,173 | 100.00 | Y |
| 2012 | 1,817,952 | 99.23 | Y |
| 2011 | 1,351,020 | 98.00 | Y |
| 2010 | 743,000 | 99.30 | Y |

In 2013, the following tree species were planted on the DFA: Douglas-fir (72%), Western Hemlock (11%), Cypress (yellow cedar) (1%), Western Red Cedar (5%), Sitka Spruce (3%), red alder (7%) and White Pine (1%). All are native species.

Strategies & Implementation

The FSP contains the approved stocking standards for regeneration for the DFA.

The indicator reports on the species representation of planted seedlings, assuming that all naturally regenerated areas are comprised of native species (i.e., regeneration and free growing surveys focus on the stems per hectare of preferred and acceptable species as permitted under the legal requirements and the approved stocking standards in the Forest Stewardship Plans)

Noble fir is not native to Canada but is found at higher elevations in Washington, Oregon and California. It has been approved for planting in BC at higher elevations where research projects have indicated good performance and survival.

Forecasts

It is anticipated that the target will be achieved as it relates to a legal requirement (FRPA, the Chief Foresters Standards for Seed Use and the approved Forest Stewardship Plan stocking standards).

Monitoring

The Planning Department is responsible to coordinate annual reports of planted species and associated quantities through the Plant Wizard and/ or CENFOR database and/ or the SPAR database.

Indicator 1.3.1

| Element: 1.3 Genetic Diversity <i>Conserve genetic diversity by maintaining the variation of genes within species and ensuring that reforestation programs are free of genetically modified organisms.</i> | | | | |
|--|--|--|--------|----------|
| Value | Objective | Indicator | Target | Variance |
| Maintain the genetic diversity on the DFA | Genetically modified organisms are not introduced in the DFA | The percent of the total trees planted annually that includes genetically modified organisms | 0% | None |

History

New Core Indicator under CSA Z809-08.

Basis for the Target

The target aligns with the current legal requirements: no genetically modified organisms are currently permitted (Chief Foresters Standards for Seed Use section 5.1.8e which prevents genetically modified seeds or vegetative material to be 'registered').

Current Status & Interpretation

Only seedlings from registered seedlots are planted on the DFA. No genetically modified organisms are planted.

| Year | Planted | % Genetically Modified | Target Met (Y/N) |
|------|-----------|------------------------|------------------|
| 2013 | 1,084,173 | 0 | Y |
| 2012 | 1,817,952 | 0 | Y |
| 2011 | 1,351,020 | 0 | Y |
| 2010 | 743,000 | 0 | Y |

In 2013, all of the seedlots utilized for planting were registered seedlots in BC and thus were not genetically modified in any way (genetically modified seedlings are not approved for registration or use in BC).

Strategies & Implementation

All seed destined for crown land reforestation must be registered with the Ministry of Forests. Registration at the Tree Seed Centre (TSC) ensures that seedlots meet the applicable collection criteria specified in the [Chief Forester's Standards for Seed Use](#). These standards include minimum requirements for genetic diversity and physical quality for BC and several northern US species and sources. The information is also used to guide transferability of seedlots to maximize forest productivity. Registration information and data integrity is maintained in the on-line web-based Seed Planning and Registry System (SPAR).

The only strategy in place related to this indicator is to only use seedlings from seedlots registered for use in BC in reforestation programs (legal requirement under FRPA and the Chief Forester's Standards for Seed Use). Alternatively, natural regeneration is also used to enhance restocking of cutblocks.

The seedlot number of all stock planted in the DFA is entered in silviculture records.

Forecasts

Currently, it is not anticipated that BC laws will change to allow for genetically modified organisms to be used to regenerate the forests. The Chief Foresters Standards for Seed Use and applicable amendments are posted at the following location:

<http://www.for.gov.bc.ca/code/cfstandards>

Monitoring

The Planning Department maintains the silviculture records through the entry of activity information in CENFOR. Planting specific data is also recorded within the Plant Wizard database and the provincial SPAR database for seeds and seedlings.

Indicator 1.4.1

| Element: 1.4 Protected Areas & Sites of Special Biological or Cultural Significance <i>Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special geological, biological, or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.</i> | | | | |
|--|--|---|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Protected areas on the DFA | Respect and maintain protected areas on the DFA through government processes | Proportion of identified sites with implemented management strategies | 100% of identified sites have implemented management strategies | None |

History

New Core Indicator under CSA Z809-08 (relates to old indicator 11).

Justification

The target is based on the 2009 SFM Plan Indicator 11, High Conservation Value sites and Special Management Zones (SMZ) as defined under the Vancouver Island Land Use Plan (VILUP), in particular, SMZ 11 – Schoen-Strathcona. The intent is to report on all sites of special biological significance in the DFA and the management strategies applied when forest operations are active in the vicinity of the site.

Protected areas in the DFA such as OGMAs, WHA, UWR are not included in this indicator as they are already covered in Indicator 1.2.1. Management strategies related to these legally established reserves are set in legislation. The FSP includes the management strategies for these areas and compliance is verified through internal and external inspections and audits. MIFLAG has expressed interest in development of indicators and targets that strive to achieve higher targets than legally required and cover aspects of forest management not already directly included in legal requirements.

Current Status & Interpretation

| Year | # of Identified Sites | # of Adjacent Cutblocks | # of Management Strategies Implemented | Summary of Implemented Management Strategy | Target Met (Y/N) |
|------|-----------------------|-------------------------|--|--|------------------|
| 2013 | 4 | 35 | 35 | Protection of Goshawk & Red Tail Hawk nests, and timing restrictions of adjacent activity to account for breeding seasons per Wildlife SOP; Identification and preservation of Bear dens around active cutblocks; Consultation with MoTCA on recreation and visual concerns; SMZ11; Follow management principles established for Horse Trail | Y |

| Year | # of Identified Sites | # of Adjacent Cutblocks | # of Management Strategies Implemented | Summary of Implemented Management Strategy | Target Met (Y/N) |
|------|-----------------------|-------------------------|--|---|------------------|
| 2012 | 5 | 17 | 17 | Protection of Goshawk nest and timing restrictions of adjacent activity to account for breeding seasons per Wildlife SOP; Consultation with MoTCA on recreation and visual concerns; Karst Management; SMZ11; potential MAMU habitat; | Y |
| 2011 | 5 | 6 | 6 | Protection of Goshawk nest and timing restrictions of adjacent activity to account for breeding seasons per Wildlife SOP; Karst management | Y |
| 2010 | 5 | 2 | 2 | Protection of Goshawk nest and timing restrictions of adjacent activity to account for breeding seasons per Wildlife SOP; Consultation with MoTCA on recreation and visual concerns | Y |
| 2009 | 2 | - | 2 | - | Y |
| 2008 | 2 | - | 2 | - | Y |
| 2007 | 2 | - | 2 | - | Y |
| 2006 | 2 | - | 2 | - | Y |

In 2013 harvesting took place in 35 blocks that had special consideration to the HCV sites as identified by MIFLAG. SMZ11-9; Wildlife-14; Recreation 6; Trails- 6.

The sites that have been identified by MIFLAG as High Conservation Value are:

- Special Management Zone 11 – Schoen – Strathcona.
- Key wildlife habitat features such as nests, dens
- GAR Recreation Sites
- Recreation Trails (H’Kusam & Horse Trail)

Strategies & Implementation

HCV areas include areas in which conservation of any of numerous social or ecological values is deemed to have an especially high priority. Identification of HCV areas may result from information supplied by First Nations, government agencies, company personnel or other stakeholders. A list of HCV areas is maintained by the Planning Department (within the SFM Plan) and will be updated annually to reflect special sites identified during the year. Any special management practices required for these areas will be noted or referenced. During cutblock

development processes this list will be reviewed to ensure forest management activities will not infringe upon or impact the value to be conserved.

Adjacent typically refers to a proximity to the proposed cutblock or road location of approximately 100m.

This indicator is intended to report on the special sites that are identified in the DFA and the management strategies that are implemented in order to provide for a wide range of 'management' which may include protection of the site/ feature in some cases or management strategies that include some level of harvesting/ modification of the site/ feature (where permitted). For example, a karst feature with high windthrow hazard may be managed by harvesting all of the merchantable timber adjacent, while maintaining understory vegetation and smaller regeneration.

Forecasts

It is anticipated that the number of sites identified as High Conservation Value will increase over time. However, decreases may occur from time to time to account for other government initiatives or cutbacks to maintain recreation sites or adjustments to account for natural events (e.g., The Sgt Randally trail was deactivated in 2009 because of the effect of significant windthrow and a replacement site was created; Admiral Broeren).

Monitoring

The Planning Department reports on the number of harvesting or road field layout/ planning activities adjacent to an identified HCV site and reports on the management strategies implemented to ensure conservation of the site.

Indicator 1.4.2

| Element: 1.4 Protected Areas & Sites of Special Biological or Cultural Significance <i>Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special geological, biological, or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.</i> | | | | |
|--|--|--|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Sacred and culturally important sites on the DFA | Provide protection for identified sacred and culturally important sites on the DFA | Protection of identified sacred and culturally important sites | 100% of identified sacred and culturally important sites, (ie: archaeological sites) are managed according to measures jointly developed by WFP and First Nations | None |

History

New Core Indicator under CSA Z809-08.

Justification

The target is based on legal requirements under the Heritage Conservation Act, FRPA and results/ strategies from the Forest Stewardship Plan for management of Cultural Heritage Resources. The target and the variance reflect the requirement to mitigate or control potential effects on identified culturally important sites through protection and/ or management prescriptions.

Current Status & Interpretation

| Year | # First Nations Special Sites Identified | # Sites Protected | # Sites Managed | Target Met (Y/N) |
|------|--|-------------------|-----------------|------------------|
| 2013 | 0 | 0 | 0 | Y |
| 2012 | 4 | 4 | 4 | Y |
| 2011 | 1 | 1 | 1 | Y |
| 2010 | 3 | 3 | 3 | Y |

16 blocks had AIA completed in proposed development areas in 2013 within the DFA. No archaeological resources were identified in the AIA process in 2013.

Strategies & Implementation

Based on Archaeological Overview Assessments (AOA) completed by government, the DFA has been categorized into areas based upon archaeological site potential and the need for an archaeological impact assessment (AIA). As required, AIAs are completed to identify and evaluate archaeological resources within the proposed development areas. AIAs identify and assess all impacts on archaeological resources that might result from the development, and recommend alternatives for managing unavoidable adverse impacts.

One of the primary archaeological resources identified in the AIA process are Culturally Modified Trees (CMTs). A CMT is a tree that has been altered by native people as part of their traditional use of the forest.

In most cases, AIAs are conducted jointly with representatives from the applicable First Nation. In addition, copies of the AIA report are referred to the First Nation for review and comment. Mid Island Forest Operation also maintains open communication with First Nations in regards to harvesting and road construction activities (i.e., meetings, email communications, etc.). Through this process, First Nations are provided with communication tools to respond to/ approve the management options that are proposed within the AIA Report for management of identified features.

WFP has a Standard Operating Procedure for Cultural Heritage Resources to guide planning activities in the identification, protection and management of features.

For the purposes of this indicator, 'protected' refers to protection of the feature from harvesting. 'Managed' refers to implemented buffer zones, prescriptions related to ensuring protection of the feature during activity in the vicinity and could also refer to modification/ harvesting of a cultural feature provided appropriate permits are in place and the applicable First Nation approves of the harvesting/ modification.

Forecasts

At this time, joint development of management options is completed through the participation in the AIA field work, referral of the AIA report to review and consider the proposed management options, and open communication through phone, letter and email communications. Through these processes, it is anticipated that the target will be achieved.

In the event that a particular First Nation expresses any concerns with the existing process, alternatives may need to be developed (e.g. Protocol Agreements).

Monitoring

The Planning Department reports on the number of cultural/archaeological sites identified within cutblocks harvested during the year and/or as a result of planning/layout for the year and provides a general summary of the management strategies implemented (CENFOR database.).

Indicator 2.1.1a

| Element: 2.1 Forest Ecosystem Resilience | | | | |
|--|---|-----------------------|--|-----------------|
| <i>Conserve ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Resilient forest ecosystems | Maintain ecosystem processes and ecosystem conditions | Reforestation Success | The annual number of hectares not meeting the Free Growing targets is zero | None |

History

New Core Indicator under CSA Z809-08 (carried forward from the 2009 SFM Plan Indicator 20).

Justification

The target and variance are tied to legal requirements under FRPA (WFP FSP, FRPA s.29 and FPPR s. 16 and 44 (1)(b)).

Current Status & Interpretation

| Year | Total Ha Due | Ha Not Meeting Target | % Not Meeting Target | Target Met (Y/N) |
|-------------|---------------------|------------------------------|-----------------------------|-------------------------|
| 2013 | 927.7 | 0.0 | 0.0 | Y |
| 2012 | 352.3 | 0.0 | 0.0 | Y |
| 2011 | 851.8 | 0.0 | 0.0 | Y |
| 2010 | 868.3 | 0.0 | 0.0 | Y |
| 2009 | 731.9 | 0.0 | 0.0 | Y |
| 2008 | 934.0 | 89.8 | 9.6 | N |
| 2007 | 1,526.2 | 38.3 | 2.5 | N |
| 2006 | 1,305.9 | 0.0 | 0.0 | Y |
| 2005 | 1,404.9 | 0.0 | 0.0 | Y |

In 2013, a total of 927.7ha were due for Free Growing. All areas were reported to MoF as having met Free Growing in 2013 or years earlier.

Strategies & Implementation

Milestone obligations for Free Growing dates are established within the Forest Stewardship Plan (approved stocking standards based on ecosystem types). Timelines are set in motion upon harvest start dates.

The CENFOR database contains a list of free growing commitments by standards units (measurement units) within each cutblock. The database is maintained by the Planning Department and is updated to reflect harvesting dates (sets the clock for the Free Growing due dates), planting or natural regeneration dates, surveys dates and planned future activities related to reforestation activities such as surveys, brushing, fill-plants, etc.).

Planting with appropriate species and brush control are the primary management tools that ensure free growing commitments are met on time. The Planning Department conducts surveys to ensure the success of reforestation.

Forecasts

It is anticipated that the target will be met, as it is a legal requirement.

Monitoring

Openings are regularly assessed in the field to ensure milestone obligations are met and reported to government. The Planning Department generates a report from the CENFOR database and/ or the MoF RESULTS database to summarize compliance with milestone obligations.

Indicator 2.1.A

| Element: 2.1 Forest Ecosystem Resilience | | | | |
|--|--------------------------------|--|---|---|
| <i>Conserve ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Timelines of regeneration on the DFA | Harvested areas are reforested | Reforestation performance on harvested areas | Regeneration delay performance is 90% of the regen delay period (i.e., better than the legal requirement) | None; unless biological or environmental rationales are provided on a site-specific basis |

History

Carried forward from the 2009 SFM Plan Indicator 12.

Justification

The target and variance are tied to legal requirements under FRPA (WFP FSP, FRPA s.29 and FPPR s. 16, 26 and 44). However, MIFLAG has expressed that targets that promote levels better than legal requirements are desired.

Current Status & Interpretation

| Year | Hectares | Legal Requirement (years) | Target 90% of Requirement (years) | Achieved (years) | Ha of Regen Delay Missed | Target Met (Y/N) | Variance Met (Y/N) |
|------|----------|---------------------------|-----------------------------------|------------------|--------------------------|------------------|--------------------|
| 2013 | 876.8 | 5.9 | 5.3 | 2.0 | 0.0 | Y | N/A |
| 2012 | 1400.2 | 6.0 | 5.4 | 2.7 | 0.0 | Y | N/A |
| 2011 | 936.7 | 6.0 | 5.4 | 2.5 | 0.9 | Y | N/A |
| 2010 | 1,193.9 | 5.8 | 5.2 | 2.1 | 0.0 | Y | N/A |
| 2009 | 1,255.1 | 4.6 | 4.1 | 1.9 | 0.0 | Y | N/A |
| 2008 | 1,115.4 | 4.9 | 4.4 | 2.0 | 1.0 | Y | N/A |

Strategies & Implementation

The objective is expressed as the weighted average of actual regen delay performance to target over the calendar year.

The milestone obligations measured in this indicator is regeneration delay dates that are established within the Forest Stewardship Plan (approved stocking standards based on ecosystem types. Timelines are set in motion upon harvest start dates.

Planting with appropriate species and brush control are the primary management tools that ensure reforestation and free growing commitments are met on time. WFP maintains an aggressive reforestation program that includes prompt planting of harvested areas.

Natural regeneration is also utilized on the DFA, where appropriate. Although regeneration takes longer to establish naturally, WFP conducts monitoring efforts to ensure that regeneration timelines are achieved. Fill planting is completed where necessary to achieve the objectives. The Standard Units approaching their time limit for regeneration are given planting priority.

Forecasts

It is anticipated that the target will be achieved based on historical performance and an aggressive reforestation program. The target may need to be reviewed in the next few years, as we anticipate greater utilization of natural regeneration, where appropriate, in future.

The aggressive reforestation program is also reflected in the Timber Supply Analysis and the TFL Management Plan in terms of modelling and forecasting of forest growth and contributions to AAC calculations.

Monitoring

Openings are regularly assessed in the field to ensure milestone obligations are met and reported to government. The Planning Department generates a report from the CENFOR database ('Regen Delay by Year') and/ or the MoF RESULTS database to summarize compliance with milestone obligations. A weighted average is calculated for 'Regen Met'.

Indicator 2.2.1a

| Element: 2.2 Forest Ecosystem Productivity <i>Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.</i> | | | | |
|--|--|--|--|----------|
| Value | Objective | Indicator | Target | Variance |
| Conserve productive capacity of the DFA | The integrity of the DFA is maintained over time | Additions and deletions to the forest area | The average percent of forest area harvested each year in the DFA that is converted to permanent access structure does not exceed 6% | 0.5 |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan Indicator 21).

Justification

The target and variance is based on legal requirements under FRPA (FPPR s36). Permanent Access Structures (PAS) is permitted to meet or exceed 7% in specific situations for variables such as safety considerations, terrain constraints, etc. provided appropriate rationale is documented. The target is focussed on deletions to the DFA, rather than additions as only deletions would result in an impact to the conservation of forest ecosystem productivity. Refer to indicator 2.2.1b for information relating to an overview of additions (and deletions) to the DFA.

Current Status & Interpretation

| Year | Access as % of TAUP | Target Met (Y/N) | Variance Met (Y/N) |
|------|---------------------|------------------|--------------------|
| 2013 | 6.5 | N | Y |
| 2012 | 6.3 | N | Y |
| 2011 | 5.9 | Y | Y |
| 2010 | 5.7 | N | N |
| 2009 | 5.5 | N | Y |
| 2008 | 5.6 | N | N |
| 2007 | 4.9 | Y | Y |
| 2006 | 5.2 | N | Y |
| 2005 | 5.4 | N | Y |

Strategies & Implementation

This indicator measures the proportion of harvest areas that is removed from the productive forest area because of permanent access structures (roads, landings, etc.). It indicates the reduction in the potential productive area and the increased risk or potential for environmental impact, particularly sedimentation of streams.

To minimize permanent access structures, appropriate yarding systems are applied to minimize road, and roads are rebuilt where necessary or appropriate. The 7% target is applied during

planning to each block. Strategies that related to this indicator can also be found in the SFM Plan Management Strategies (Site Restoration).

Forecasts

It is anticipated that the average PAS will range between 5-7% (allowing for slight variations between cutblocks as permitted under FRPA).

Monitoring

The Planning Department reports on the annual TAUP, PAS hectares and PAS % for the cutblocks harvested each year using the CENFOR database Stocking Status (NP UNN) and TAUP. Actual PAS is confirmed to have met the planned limits through EMS Post Harvest Inspections.

Indicator 2.2.2

| Element: 2.2 Forest Ecosystem Productivity | | | | |
|---|---|---|--|-----------------|
| <i>Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Sustainable harvesting on the DFA | The harvest level on the DFA is sustainable over time | Proportion of the calculated long-term sustainable harvest level that is actually harvested | The annual harvest level is within 50% of the AAC (within the 5 year cut control period for the TFL) | None |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan Indicator 22).

Justification

Forest Act (s8) cut control requirements in relation to comparison of actual harvest levels and the permitted harvest levels under the Allowable Annual Cut (AAC). This target will be used as a surrogate until the new Timber Supply Analysis is completed and current long term harvest level (LTHL) is available for comparison against the AAC.

Current Status & Interpretation

| Year | AAC (m³) | Harvested (m³) | Average Harvest as % of AAC | Target Met (Y/N) |
|--------------------------------|----------------------------|----------------------------------|------------------------------------|-------------------------|
| Cut Control 2009-2013 | 5,334,810 | 5,457,286 | 102.3 | Y |
| 2013 | 1,066,962 | 1,500,376 | 140.6 | |
| 2012 | 1,066,962 | 1,395,171* | 130.3 | |
| 2011 | 1,066,962 | 1,316,989 | 123.4 | |
| 2010 | 1,066,962 | *833,934 | 78.1 | |
| 2009 | 1,066,962 | *410,816 | 38.5 | |
| Cut Control 2006-2008 (3 year) | 3,200,886 | 2,299,848 | 71.8 | Y |
| 2008 | 1,066,962 | 423,399 | 39.7 | |
| 2007 | 1,066,962 | 748,030 | 70.1 | |
| 2006 | 1,066,962 | 1,128,419 | 105.7 | |

The annual harvest level was within the target level 50% of the AAC in 2013 (40.6% greater than annual harvest level). The end of 2013 was the end of the five year cut control period, and for this period, the total harvest level was 2.3% greater than the AAC.

*Numbers adjusted back to 2009 for consistency with how the numbers are reported within the cut control period. The Number is now the estimate of scale as recorded in the Ministry of Forests Harvest Billing System (HBS).

The Forest Industry and WFP experienced poor market conditions 2007-2010, resulting in lower harvest rates. In 2010, the industry improved significantly and continues to demonstrate promising economic conditions. The total harvest reported for 2010 also includes the billable waste and residue levels as well as the adjustments from the 2009 un-scaled volumes.

Strategies & Implementation

WFPs strategy is to achieve harvest levels as close to the AAC as possible each year. Harvest volumes in excess of the AAC may be achieved where possible, provided the cut control requirements are met (*Forest Act, Cut Control Regulation*). Under-harvests may occur in times of economic hardship for the forest industry and/ or WFP, but these are minimized as much as possible since under-cut volumes may be taken from WFP by the government and awarded to other parties in the DFA.

The LTHL is calculated by Corporate Forestry by evaluating the rate of growth (Timber Supply Analysis prepared in support of Chief Forester AAC Determination). The Chief Forester takes this number into consideration when the AAC is set.

LTHL is dependent on area, the productivity of the forestland, level of silviculture (e.g. numbers of trees established per ha, control of competing vegetation, fertilization etc.) and harvest constraints (e.g. restrictions on the rate of harvest). All of these factors are defined in the strategic analysis.

Forecasts

WFP's ability to control this indicator is limited. Government policy is to award undercut of AAC to third parties. Overcuts are permitted to some degree under legislation, but penalties are implemented for levels in excess of permitted ranges.

Monitoring

The Forestry Department is responsible for coordinating harvest volume data using the MoF Harvest Billing System scale reports (with assistance from the Cutting Permit submission coordinator).

The LTHL is calculated by Corporate Forestry during Timber Supply Analysis. AAC is used as a surrogate where the LTHL is not available or not current.

Indicator 3.1.1

| Element: 3.1 Soil Quality and Quantity <i>Conserve soil resources by maintaining soil quality and quantity.</i> | | | | |
|---|---|---------------------------|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Productive capacity of forest soils on the DFA | Harvest operations are conducted such that the productive capacity of forest soils on the DFA is maintained | Level of soil disturbance | The annual % of harvested openings in which soil disturbance levels exceed the plan is zero | None |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan Indicator 18).

Justification

The target and variance is based on legal requirements established in FRPA for protection of the environment (FRPA s46) and objectives/ practice requirements under the Forest Planning and Practices Regulation for soils (sensitive soils 5%, non-sensitive soils have a limit of 10% soil disturbance and roadside areas have a limit of 25%). The EMS and SOPs are designed to ensure that operations are completed consistent with the approved plans.

Current Status & Interpretation

| Year | # of Post Harvest Assessments Completed | # Openings Exceeding Soil Disturbance Plan (& % of Blocks) | Target Met (Y/N) |
|------|---|--|------------------|
| 2013 | 122 | 0 | Y |
| 2012 | 60 | 0 | Y |
| 2011 | 27 | 0 | Y |
| 2010 | 25 | 0 | Y |
| 2009 | 38 | 0 | Y |
| 2008 | 2 | 0 | Y |
| 2007 | 34 | 0 | Y |
| 2006 | 85 | 0 | Y |
| 2005 | 54 | 1 (1.9%) | N |

In 2013, Post Harvest Assessments were completed on 122 cutblocks, totalling 3708.3 ha. No excessive soil disturbance issues were identified.

Strategies & Implementation

This indicator measures the amount of soil disturbance that exceeds planned levels through post-harvest assessments that are completed for each harvested cutblock. Higher disturbance levels both reduce the productive area and increase the risk of environmental impact, particularly sedimentation of streams.

The strategy is to not exceed the soil disturbance limits specified in the Site Level plans and may include:

- Identify sensitive soils in the planning stages through field work (limits are recorded in Site Plans)
- Assign the appropriate harvest method (ground based, cable, aerial) for the soil conditions

- Assign the appropriate equipment to the soil conditions (hoechuck vs. skidder)
- Use woody debris to insulate soil disturbance
- Curtail operations during wet weather
- Complete EMS monitoring Inspections and Post Harvest Inspections to monitor whether the plan was adhered to and whether soil disturbance targets were achieved
- Prescribe rehabilitation measures where soil disturbance levels exceed the desired levels

Forecasts

Due to the long history of implementation of the EMS and SOPs in the DFA as part of the ISO and CSA certification initiatives, we anticipate that the target will be achieved.

Monitoring

Soil disturbance is assessed during cutblock inspections and post-harvest inspections. The Planning Department reviews inspection reports for cutblocks harvested within the year and reports the number of cutblocks that are recorded as exceeding the identified soil disturbance limit for the block. Standard Operating Procedures are updated with new information for minimizing soil disturbance, as required.

Indicator 3.1.2

| Element: 3.1 Soil Quality and Quantity <i>Conserve soil resources by maintaining soil quality and quantity.</i> | | | | |
|--|---|------------------------------|---------------------------------|---------------------------------|
| Value | Objective | Indicator | Target | Variance |
| Productive capacity of forest soils on the DFA | Soil degeneration on the DFA is prevented | Level of downed woody debris | > 15 m ³ per hectare | -5.0 m ³ per hectare |

History

New Core Indicator under CSA Z809-08.

Basis for the Target

The target and variance is guided by a FRPA requirement to retain a minimum of 10 m³ per hectare.

Current Status & Interpretation

| Year | Downed Woody Debris (m ³) per hectare | Target Met (Y/N) | Variance Met (Y/N) |
|------|---|------------------|--------------------|
| 2013 | 98 | Y | N/A |
| 2012 | 113 | Y | N/A |
| 2011 | 105 | Y | N/A |
| 2010 | 107 | Y | N/A |

In 2013 the average level of coarse woody debris in second growth stands was 66m³/ha and the average in old growth stands was 116m³/ha, resulting in an overall average of 98m³/ha. The challenge for WFP is to balance sufficient coarse woody debris that meets the legislated minimums and ensuring biodiversity/ wildlife values are met, while at the same time ensuring that the utilization is optimized and that maximum levels of waste and residue are not exceeded (i.e., limit the amount of waste).

Strategies & Implementation

Coastal stands often have significant levels of downed and dead standing woody debris at various levels of decomposition. Harvesting operations may remove some dead woody debris but more often add to these levels by leaving non-merchantable wood on site. Yarding activities attempt to leave non-merchantable wood dispersed on site rather than create unnecessary road-side accumulations. Broadcast burning of woody debris has been virtually eliminated as a site preparation tool.

Waste and residue surveys are conducted as required to measure the level of debris left on harvested cutblocks. A report is generated that provides a summary of the total volume remaining on site and the total revenue owed to government where residue levels exceed the allowable limits.

Forecasts

The level of downed woody debris is affected by the degree of old growth vs. second growth harvesting and the amount of conventional vs. helicopter yarding. Based on historic residue assessments, forecasted levels are expected to be 50-70 m³ per hectare.

Monitoring

The level of downed woody debris will be measured through the government residue monitoring process. The Planning Department reviews the results of waste and residue surveys and reports on the average volume.

Indicator 3.2.1

| Element: 3.2 Water Quality and Quantity <i>Conserve water resources by maintaining water quality and quantity.</i> | | | | |
|---|--|---|--|----------|
| Value | Objective | Indicator | Target | Variance |
| Water quality and quantity | Management operations do not endanger water quality and quantity | Proportion of watershed or water management areas with recent stand-replacing disturbance | Proportion of watershed units that are in the target condition (A,B) is improving over time (Mid-Island Watershed Assessment Report 2010) | None |

History

New Core Indicator under CSA Z809-08.

Justification

A Watershed Assessment was completed for TFL 39 by G. Horel, P. Eng. (GM Horel Engineering Ltd.) in 2009/ 2010. The Assessment Report identified proposed sustainable forest management indicators and targets in addition to recording the current status of watersheds in the DFA. The report also describes the long term forecast and estimated time to achieve the proposed targets.

It must be noted that the watershed condition is anticipated to take many years to reach the target conditions (i.e., 10+ years).

The assessment report defined four categories of overall watershed 'health':

- A – stable or consistent with natural
- B – improving, may have sites that are still disturbed
- C – moderately disturbed
- D – severely disturbed

Current Status & Interpretation

| Year | # of Watersheds In A, B Category | Area of Watersheds in A, B Category as a % | Target Met (Y/N) |
|------|----------------------------------|--|------------------|
| 2010 | 38/44 (86%) | 116,735/142,812 (82%) | Y |

Management Strategies are currently under development to address the results of the recently completed Watershed Assessment report.

Strategies & Implementation

A Watershed Assessment Report was completed for TFL 39 by G. Horel (GM Horel Engineering Ltd.) in 2009/ 2010. The objectives of the report were:

- To propose indicators for tracking the effectiveness of forest management strategies, and indicators for Sustainable Forest Management of watersheds;
- To identify candidate sites for possible riparian, in-stream restoration and road deactivation projects; and

- To characterize physical watershed conditions as the basis for developing forest management strategies (management strategies were not part of this project.)

The report makes some recommendations and considerations for the development of appropriate and effective management strategies to address the results of the report. Management Strategies are therefore under development in relation to this indicator.

The report indicates that a significant portion of the disturbance in watersheds is related to historical harvesting prior to the introduction of the Forest Practices Code and the more stringent legal requirements related to harvesting practices. The report also identifies that there may be some potential to conduct some riparian treatments in some areas to accelerate recovery of specific watersheds through conversion of alder to conifers or increased growth rate of conifers (the report cautions that riparian assessments would be required to assess feasibility of the treatments).

Forecasts

The Watershed Assessment report documents the forecast for Class C and D Watersheds to achieve the desired recovery targets in a range of 10-50 years (watershed specific forecasts are documented in the report).

Monitoring

The Planning Department coordinates updates to the current status information as part of the Watershed Assessment Report update process or through GIS analysis.

Indicator 4.1.1

| Element: 4.1 Carbon Uptake and Storage | | | | |
|---|---|-------------------|---|-----------------|
| <i>Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| The uptake of carbon | The rate of carbon uptake by the managed forest is consistent over time | Net carbon uptake | The net carbon uptake of the forest is positive measured on a five year average | +2% |

History

New Core Indicator under CSA Z809-08.

Justification

The net carbon uptake on the DFA is simply defined as the difference between the total carbon uptake on the DFA by its growing stock, minus the net carbon removed from the DFA through harvest operations and the total carbon emitted through fuel consumption during forest management operations. The target is based on the concept that regeneration objectives should balance with the harvested area of the DFA, resulting in a 'constant' measure of net carbon uptake.

The five-year average for the target and the variance is meant to help account for fluctuation in yearly cut levels due to market conditions and license obligations under provincial legislation.

Current Status & Interpretation

| Description | CO ₂ e (tonnes) | | | | | | Target Met (Y/N) | Variance Met (Y/N) |
|--|----------------------------|----------------|---------------|----------------|----------------|----------------|------------------|--------------------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 5-yr Average | | |
| Carbon uptake (from growing stock TFL 39/2) | 639,817 | 651,887 | 599,192 | 592,164 | 598,881 | 616,388 | Y | N/A |
| Carbon removed (to short-lived products ¹) | 186,300 | 254,343 | 564,103 | 526,482 | 558,336 | -417,913 | | |
| Fuel Consumed (harvest & transport) | -5,919 | -8,024 | -14,386 | -13,822 | -15,198 | -11,470 | | |
| Debris burned (debris disposal/operational fires) | -68,280 | 117,341 | -100 | 105,741 | 110,681 | -80,429 | | |
| NET Carbon Uptake | 379,318 | 272,179 | 20,603 | -53,881 | -85,334 | 106,577 | | |

¹ Short lived products refers to paper, cardboard, and firewood as a percentage of volume harvest.

2012 and 2013 showed a continued increased negative net carbon uptake due to increased relative amount of second growth harvest and aggressive pile burning programs.

To calculate performance of this indicator, the following applies:

- The net carbon uptake on the DFA is simply defined as the difference between the total carbon uptake on the DFA by its growing stock, minus the net carbon removed from the DFA through harvest operations and the total carbon emitted through fuel consumption during forest management operations.
- The net volume of carbon removed is a factor of the total volume harvested that accounts for the portion of the harvest that remains sequestered in long-life products such as building lumber and furniture.
- Net carbon uptake can be expressed in a simple equation as follows:
 - Carbon uptake (from growing stock)
 - Carbon removed (to short-lived products)
 - Fuel consumed (harvest & transport)
 - Debris burned (debris disposal/operational fires)
 - Net carbon uptake
- Carbon uptake is estimated from forest growth and the carbon density of wood. Forest growth on the DFA is calculated through the harvest projection model by applying yield curves or growth estimates from the latest applicable timber supply analysis to the productive forest. For simplicity, no growth is assumed for "old-growth" age classes greater than 139 years of age. Growth is distributed by species according to volumes by species recorded for "second-growth" (less than 140 years of age) in inventory reporting. This estimated annual growth (in m³) is multiplied by the average carbon density estimates (kg/m³) by species to obtain the carbon uptake in tonnes of carbon.
- The carbon removed is calculated based on the log volume production for each species. The annual log production (in m³) is multiplied by the average carbon density estimates (kg/m³) by species to obtain the gross carbon removed. This is then multiplied by a factor of 60% to estimate the tonnes of carbon removed to short-lived products. For simplicity, only stem-wood volume is considered in the calculation which is consistent with the results of yield curves.
- The known fuel consumption is matched to the operational log production. When contractors independently purchase fuel, their consumption is assigned the average calculated rate (in L/m³) for the remaining of the operation's log production to estimate the total amount of fuel they consumed. The sum total of fuels consumed (in L) is then multiplied by the average carbon density by fuel types (in t/L) to obtain the tonnes of carbon emitted through fuel consumption.
- Finally, the carbon emitted through forest practices such as debris burning or through other operationally caused fires is estimated by multiplying the approximate volume of wood consumed (in m³) by the average carbon density estimates (kg/m³) of all of the entire harvested volume to obtain the carbon uptake in tonnes of carbon.

Strategies & Implementation

The primary strategy for ensuring a consistent net rate of carbon uptake on the DFA overtime is prompt and effective reforestation or regeneration of harvested areas that aims to establish free growing stands of healthy trees of mixed species in sufficient numbers and within set time frames. This is primarily achieved through a combination of natural regeneration and the planting of seedlings shortly after harvest is completed.

In certain circumstances, additional treatments/ strategies may be required in support of this core strategy to achieve its goal, including:

- Site preparation such as spot or broadcast burns or mechanical debris scattering or removal to ensure a good distribution of the regeneration throughout the harvested area.
- Fertilization at the time of planting to help initial seedling growth and establishment ahead of competing brush.
- Physical protection of seedlings against browsing pressures from deer and/or elk.
- The use of improved seed for planted seedlings that have improved growth performance and/or insect or disease resistance.
- Brushing treatments to relieve young trees from competition.
- Broadcast fertilization of stands to stimulate growth (e.g., SCHIRP) when funding is available.
- Forest fire preparedness & response that aim at the prevention of fires and the prompt control and extinguishment of those that occur.
- Modernizing or upgrading of equipment that result in improved fuel efficiencies.

Forecasts

The baseline results calculated for the Mid Island DFA for 2009 indicate that there is ample growing stock on the DFA to fix sufficient amounts of carbon to replace the volume harvested that year. Given that only a portion of the Allowable Annual Cut (AAC) was harvested that year, the Net Carbon Uptake is higher than it would be in a year of normal level of activity.

Testing of different harvest levels in the spreadsheet model indicates that the annual net carbon uptake would remain positive for the DFA at the normal AAC level of harvest but could turn negative in a year where substantially more than the AAC is harvested to compensate for a year of undercut.

It is expected that 2014 the amount of debris to burn will be significantly less. The amount of harvest will continue to be greater than AAC, however 2015 and beyond the harvest will decrease slightly and 5-yr rolling average should remain within target and variance.

Monitoring

The Certification Forester (Corporate Forestry) coordinates calculation of the Net Carbon Uptake using CENFOR and GIS database.

To monitor and calculate performance on this indicator, a number of parameters must be monitored or maintained for the DFA, including:

- Growing stock inventory over time (adjusted for age and for annual harvested area)
- The volume harvested annually
- The species profile of the harvested volume
- The age (i.e., old growth vs. 2nd growth) profile of the harvested volume
- Total annual fuel consumption (gasoline, diesel fuel, aircraft fuel)
- Annual area burnt in operationally caused forest fires
- Annual area burnt in broadcast silviculture fires
- Total number of debris piles burned annually for silviculture or fire abatement reasons and their average size

The parameters listed above are entered in a spreadsheet built to calculate the carbon values emitted. It includes conversion factors extracted from recognized and credible international research literature. These factors include carbon density (CO₂e) of wood by species in tonnes/m³, carbon density of various fuel types in tonnes/L and proportion (%) of wood harvested that is stored in short-lived products.

Indicator 2.2.1b

| Element 4.2 Forest Land Conversion | | | | |
|--|--|--|---|---|
| <i>Protect forest lands from deforestation or conversion to non-forests, where ecologically appropriate.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| The conversion of forest land to other uses | Avoid excessive conversion of forest lands into other uses | Additions and deletions to the forest area | The total area (ha) of the DFA remains constant | Some changes to the DFA are outside of the control of WFP |

History

New Core Indicator under CSA Z809-08.

Justification

The target is intended to represent additions and withdrawals from the DFA that are completed by WFP or by the government (e.g., areas converted for infrastructure development such as Dryland sorts, government ‘take-back’ areas or removals from the DFA and any additions that are made as a result of WFP purchases of land/ tenure).

Current Status & Interpretation

| Year | Total Area of the DFA- (ha) | Reason for Change | Target Met (Y/N) | Variance Met (Y/N) |
|------|-----------------------------|----------------------------------|------------------|--------------------|
| 2013 | 156,406 | No change | Y | N/A |
| 2012 | 156,406 | Refinement of the spatial layer. | Y | N/A |
| 2011 | 155,961 | No change | Y | N/A |
| 2010 | 155,961 | No change | Y | N/A |
| 2009 | 155,961 | - | - | - |

Strategies & Implementation

All Crown land in a tree farm license is designated as “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)*.

In general, WFP’s strategy is to maintain the DFA at current levels or increase through land or tenure purchases or compensation initiatives from the government (rarely occurs). There is a long history on the DFA so conversion of forest lands for infrastructure development is not anticipated. However, some changes remain outside of WFP’s control (e.g., government take-back areas such as the upcoming forest area to be given to the K’omoks First Nation as part of their Treaty settlement).

Forecasts

It is anticipated that the total area of the DFA will remain relatively constant, in relation to what changes are under WFPs control (e.g., government withdrawals are outside of WFP control). Some losses are required for capacity expansion such as Dryland Sorts, landfills, etc.

Monitoring

The Planning Department coordinates GIS Analysis of the area of the DFA as well as receipt of information from Corporate staff in the Properties and Permit department in regards to tenure changes or transfers, etc.

Indicator 5.1.1

| Element: 5.1 Timber and Non-Timber Benefits <i>Manage the forest sustainably to produce an acceptable and feasible mix of timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.</i> | | | | |
|---|--|--|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Timber and non-timber benefits | Timber and non-timber benefits are evaluated | Quantity and quality of timber and non-timber benefits, products, and services produced in the DFA | Track annual spending in the following areas: contract services, WFP crew labour, payments to government, purchases and misc. in relation to the annual harvest | None |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan Indicator 28)

Justification

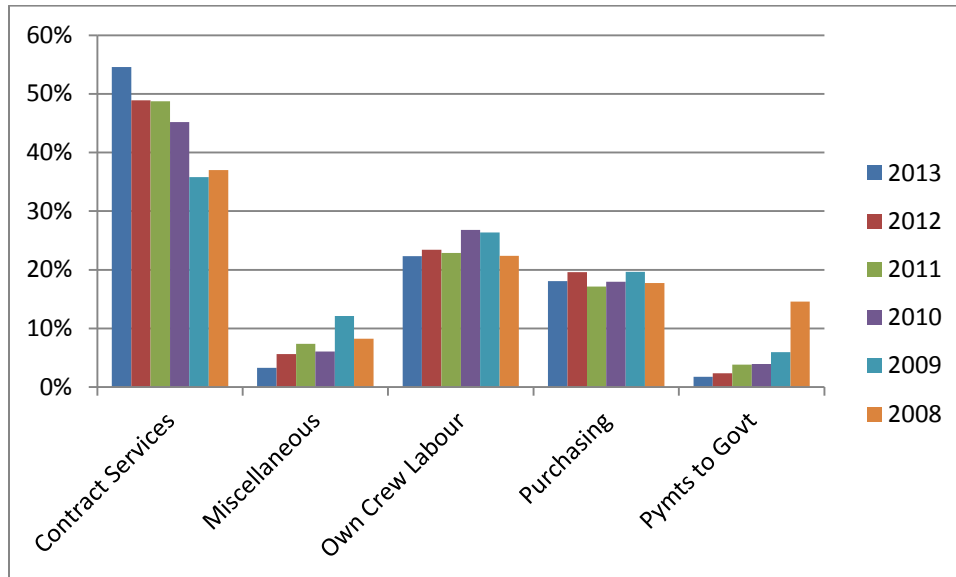
The distribution of Mid Island Operation's primary costs provides a measure of the operations overall contribution to local, regional and provincial economies. The target is based on previous SFM Plan Indicator 28.

Volume harvested of non-timber forest products are not tracked by WFP. However, activities related to non-timber forest products in relation to the annual number of agreements for non-timber forest products on the DFA, are reported under indicator 6.3.1.

Current Status & Interpretation

| Year | Volume Harvested (m ³) | Total Spending (\$) | Target Met (Y/N) |
|------|------------------------------------|---------------------|------------------|
| 2013 | 1,127,880 | 66,949,048 | Y |
| 2012 | 1,062,703 | 58,683,632 | Y |
| 2011 | 1,133,671 | 59,030,473 | Y |
| 2010 | 522,064 | 30,247,300 | Y |
| 2009 | Approx. 390,000 | - | Y |
| 2008 | Approx. 425,000 | - | Y |

Volume harvested reflects the actual volume harvested within the calendar year (i.e., does not include the billable waste).



Strategies & Implementation

Detailed cost reporting information is not provided as it is proprietary in nature. Rather, information is presented in charts/ graphs to demonstrate the relative distribution of the annual payments in the various categories (described below).

Information from the financial accounting system is collected monthly to report on the operation's primary costs to produce logs at tidewater.

Contract Services covers payments to full phase (stump to dump) logging contractors, single phase contractors, forestry and engineering contractors, general service contractors such as janitorial, electrical, and carpenters, etc. as well as consultants and professional services. These costs include the supply of labour, equipment and materials costs required to execute the contract work and invoiced as one "job".

Own crew labour includes the gross payment of wages paid to both salary and hourly employees without deduction for statutory or contractual deductions. It includes all benefits costs paid by the employer for statutory and contractual benefits including WorkSafe BC Assessments. Payments made to cover employees under the Employee and Family Assistance Program (EFAP) and costs related to EFAP programs are not included.

Payments to Government include only direct payments for stumpage and royalty fees, logging waste residue payments, timber taxes and fees allocated by Head Office properties department (municipal and regional district property taxes, foreshore leases, etc.), and amounts charged to licenses (e.g. radio licenses, highway crossing permits, etc.). Payments made to government do not include: Goods and Services Taxes, provincial sales taxes, provincial motor fuel taxes, federal excise taxes, payroll related taxes (employee income tax with holdings) and assessments for EI or CPP, corporate income taxes, or corporate capital taxes, etc.

Purchasing includes all supplies, materials and services purchased that don't fit into a category listed above. Some of the services in this category would include insurance coverage, road use charges, association dues, donations and repair supplies and services.

Miscellaneous is a category that includes any costs not captured in other categories. It includes, but is not limited to nor reconciles to the following: depletion on timber, road amortization, silviculture liability change, inventory change/allocations, depreciation and machine cost allocations.

Forecasts

Forecasting for this indicator is not feasible, as spending allocations will be in direct proportion to the condition of the forest industry in general, and the overall economic state of WFP. Reporting for 2009 reflect poor economic conditions.

Monitoring

This core information is reported on during each financial month end and reported on in the Mid Island financial statement. The information is presented in the SFM Plan expressed as a percentage of Mid Island total primary costs. The Planning Department coordinates reporting (with assistance from Accounting).

Indicator 5.2.1

| Element: 5.2 Communities and Sustainability | | | | |
|--|----------------------------------|--|---|----------|
| <i>Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Community sustainability | Support community sustainability | Level of investment in initiatives that contribute to community sustainability | Report summary of the “Support” category in the Communication Plan that are completed annually; maintain or increase the level of support | None |

History

New Core Indicator under CSA Z809-08 (related to 2009 SFM Plan Indicator 37).

Justification

The Annual Communication Plan provides a measure of success of MIFLAG commitments for public education, communications and consultation. One of the categories in the Communication Plan includes “Support” items such as programs (Forest Education Program), support to organisations (donations, in-kind-support such as Salmon Fest, Shoreline Carving Competition, etc.) and students (summer student employment).

Benefits from the forests to local communities is included under Indicator 5.1.1 (Timber and Non-Timber benefits), 5.2.3 (Employment), 6.2.A (volume of wood made available to First Nations) and 6.3.1 (local economy).

Current Status & Interpretation

| Year | Project Description | Contribution Type | Target Met (Y/N) |
|------|--|---|------------------|
| 2013 | Programs-1; Organisations-9; Students-4 | Support /donations for community events | Y |
| 2012 | Programs-1; Organisations-7; Students-8 | Support /donations for community events | Y |
| 2011 | Programs-1; Organisations-8; Students-3 | Support /donations for community events | Y |
| 2010 | Programs – 0; Organisations – 4; Students - 0 | Support/ donations for community events | Y |
| 2009 | Programs – 0; Organisations – 8; Students - 0 | - | Y |
| 2008 | Programs – 1; Organisations – 7; Students - 5 | - | Y |
| 2007 | Programs – 1; Organisations – 6; Students - 2 | - | Y |
| 2006 | Programs – 1; Organisations – 5; Students - 2 | - | Y |
| 2005 | Programs – 1; Organisations – 21; Students - 3 | - | Y |

In 2013, support was provided to the Campbell River Fish and Wildlife Association, CR Salmon Foundation, Campbell River Salmon Festival, Shoreline Carving Competition, Campbell River Hospital Foundation, Campbell River Minor Hockey Association, Sayward Tour de Rock, Special Olympics and the Kusam Klimb. MIFO employed 4 summer students. MIFO also supported the Carihi Forestry Program by providing 2 students with 3-day work shadows, several school visits/training sessions by WFP staff.

In addition to these programs, WFP hired 8 apprentices at the MIFO shop in 2013. Currently 5 of these hires continue to work at the MIFO Shop.

Strategies & Implementation

An annual Communication Plan is developed by WFP that includes plans for a public education program, support to the local community. The program may consist of tours, open houses, displays, appearances, sponsorships or communication. The objective is to complete all the activities listed in the program.

Note that support for programs, organizations and students is defined as MIFO support and does not include any that may be provided through the Timberlands corporate office in Campbell River except for the Forest Education program. Support may be in the form of monetary and/or in-kind assistance.

Although the MIFLAG is a group that was created in order to achieve CSA Certification on the DFA, MIFLAG members also feel that the work of the group (supported by WFP) contributes to community sustainability.

Forecasts

It is anticipated that the target will be achieved based on a strong history of successful past achievements.

Monitoring

The Planning Department works with MIFLAG to develop and implement the Annual Communication Program and reports on the achievements for the year.

Indicator 5.2.2

| Element: 5.2 Communities and Sustainability | | | | |
|--|-------------------------|--|--|----------|
| <i>Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Employee skills | Develop employee skills | Level of investment in training and skills development | Each employee receives at least 1 day of training per year | None |

History

New Core Indicator under CSA Z809-08.

Justification

The target is based on required training under the WFP EMS (ISO 14001 and CSA Certification Standards) and Safety System (SAFE Company standard) requirements. Results based era of the Forest and Range Practices Act and the Association of BC Forest Professionals also include continuing competency/ education requirements.

Current Status & Interpretation

| Year | # of Employees | Average Person Days of Training | Target Met (Y/N) |
|------|----------------|---------------------------------|------------------|
| 2013 | 164 | 1.5 | Y |
| 2012 | 156 | 1.9 | Y |
| 2011 | 155 | 3.9 | Y |
| 2010 | 114 | 2.5 | Y |

In 2013, a total of 252 days of training was completed. These numbers do not include trade ticketing, for example. Reported decrease in average person days of training is partly due to imperfect records of hours tracking. In 2013 WFP started to move into a new training tracking database which will result in more consistent tracking. 2013 tracking was from 2 different databases.

Strategies & Implementation

WFP provides numerous training and skill development opportunities for employees and contractors under the existing Environmental Management System, Safety System and the Sustainable Forest Management Plan. In addition there are some training courses that are legally required such as Transportation of Dangerous Goods, Blasting, Crew Boat Operator, First Aid, etc.

This target is intended to measure the average number of person days of completed training per year in all categories (e.g., EMS, SOP, Safety, Professional Development, etc.)

Employee training records are maintained in the WFP Training Database.

Forecasts

The status for 2010 reflects the amount of completed training hours during poor economic conditions. Given that, depending on the type of training, it may be required anywhere from annually to every 3 plus years and it is therefore anticipated that the target will generally be exceeded but with fluctuations from year to year.

Monitoring

The Planning Department coordinates a report from the Training Database for total training hours by category, and obtains the person days per year statistic based on the staff and hourly number for that year.

Indicator 5.2.3

| Element: 5.2 Communities and Sustainability <i>Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.</i> | | | | |
|--|--------------------|---|---|--------------|
| Value | Objective | Indicator | Target | Variance |
| Employment | Provide employment | Level of direct and indirect employment | Level of direct and indirect employment associated with the DFA is constant on a 5-year rolling average | 5% reduction |

History

New Core Indicator under CSA Z809-08.

Justification

The target of constant employment has been established by MIFLAG as a reflection of the definition of sustainability (maintenance of a particular value in the long term). The five-year rolling average and variance is added to acknowledge some variability from year to year due to poor economic conditions, with the overall target of a steady average over a five year period (while acknowledging that WFP is somewhat limited to ensuring constant levels of employment in poor economic conditions).

Current Status & Interpretation

| Year | Employment Exposure Hours (Direct & Indirect) | Estimated Indirect Employment Exposure Hours | Target Met (Y/N) | Variance Met (Y/N) |
|------|---|--|-----------------------|-----------------------|
| 2013 | 696,542 | 696,542 | To be determined 2015 | To be determined 2015 |
| 2012 | 685,973 | 685,973 | | |
| 2011 | 639,156 | 639,156 | | |
| 2010 | 368,567 | 368,567 | | |

Strategies & Implementation

It is currently Western's strategy to set operational levels that align as much as possible with market demand within the AAC limits set by legal agreements and regulation. Also, employment is guided by contractual agreement with the union and contractor rights under legislation (Bill 13).

More recently, Western's approach has been to make operating decisions based on the financial margins generated by Operations.

Direct employment is calculated using the safety reporting statistics for the calculation of the Medical Incident Rate and Severity Rate for WFP and Contractors. The Employment Statistics for the BC Forest Industry 1999 (PricewaterhouseCoopers) is used to extrapolate the exposure hours and relate to indirect employment. The employment statistics report a multiplier of 1 in relation of direct to indirect jobs.

Forecasts

It is expected that the actual employment levels will fluctuate due to the cyclical nature of the forest industry. Other external forces that can have a detrimental effect include labor strikes, extended weather extremes, productivity gains due to technological advancements and unforeseen land base reductions.

Monitoring

The Planning Department coordinates with Human Resources on the reporting of this indicator, using the statistics that are calculated as part of the WFP Safety Program (Medical Incident Rate and Severity Rate).

Indicator 5.2.4

| Element: 5.2 Communities and Sustainability <i>Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.</i> | | | | |
|--|--|---|--|----------|
| Value | Objective | Indicator | Target | Variance |
| Aboriginal forest economy | Maintain or increase the aboriginal forest economy | Level of Aboriginal participation in the forest economy | Report on the joint participation of First Nations and WFP in employment building activities | None |

History

New Core Indicator under CSA Z809-08(carried forward from 2009 SFM Plan Indicator 27).

Justification

This indicator tracks aboriginal employment activities that build towards employment in the forest sector. This indicator and target was carried forward from the 2009 SFM Plan (Indicator created in 2008).

Current Status & Interpretation

| Year | Employment Building Type | | | | | Target Met (Y/N) |
|------|--------------------------|--------------|-----------------|-----------------|-------------------------------|------------------|
| | Aboriginal Career Fairs | Job Postings | Student Program | Work Experience | Silviculture Crew Person Days | |
| 2013 | 1 | 17 | 0 | 0 | 216 (MIR 0) | Y |
| 2012 | 1 | 13 | 0 | 0 | 253 (MIR 0) | Y |
| 2011 | 0 | 22 | 0 | 0 | 192 (MIR 0) | Y |
| 2010 | 0 | 11 | 0 | 0 | 325 (MIR 0) | Y |
| 2009 | 0 | 0 | 0 | 0 | 408 (MIR 0) | Y |
| 2008 | 0 | 1 | 0 | 0 | 285 (MIR 0) | Y |

Strategies & Implementation

WFP is committed to working with local First Nations regarding employment opportunities through participating in Aboriginal Career Fairs (when they are held), posting available job openings at local First Nations band offices, participating in student programs (e.g., forestry summer student work), general work experience opportunities (e.g., job shadowing) and silviculture crew work in the DFA (e.g., planting, brushing, surveys, etc.).

Forecasts

It is expected that employment levels will fluctuate in the DFA, including First Nations employment, due to the cyclical nature of the forest industry. Other external forces that can have a detrimental effect include labour strikes, extended weather extremes, productivity gains due to technological advancements and unforeseen land base reductions.

Monitoring

The Planning Department coordinates with Human Resources on the reporting of the various employment building activities that are completed with First Nations in the DFA.

| | |
|---|---------------|
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Indicator 6.1.1

| Element: 6.1 Aboriginal and Treaty Rights <i>Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights and treaty rights.</i> | | | | |
|--|--|---|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Aboriginal title and rights | Aboriginal title and rights are understood | Evidence of a good understanding of the nature of Aboriginal title and rights | Report on the progress of interim measures agreements and/ or treaties for First Nations in the DFA | None |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan Indicator 39).

Justification

Treaties and interim measures agreements are issued under the Constitution Act and the Indian Act (Federal). The target was designed to reflect the current status of interim measures agreements or treaties completed for First Nations in the DFA. The target is designed to report on the status of completion of agreements/ treaties. Once agreements are in place, the target will be re-visited to address evidence of a good understanding of the agreements.

Current Status & Interpretation

| Year | First Nation | Treaty Stage | # of Treaties Complete | # of Interim Measures Agreements Completed | Compliance (%) | Target Met (Y/N) |
|------|----------------|--------------|------------------------|--|----------------|------------------|
| 2013 | Wei Wai Kum | 4 | 0 | 0 | n/a | Y |
| | We Wai Kai | 4 | 0 | 0 | n/a | |
| | K'omoks | 5 | 0 | 0 | n/a | |
| | Tlowitsis | 4 | 0 | 0 | n/a | |
| 2012 | Wei Wai Kum | 4 | 0 | 0 | n/a | Y |
| | We Wai Kai | 4 | 0 | 0 | n/a | |
| | K'omoks | 5 | 0 | 0 | n/a | |
| | Tlowitsis | 4 | 0 | 0 | n/a | |
| 2011 | Wei Wai Kum | 4 | 0 | 0 | n/a | Y |
| | We Wai Kai | 4 | 0 | 0 | n/a | |
| | K'omoks | 5 | 0 | 0 | n/a | |
| | Tlowitsis | 4 | 0 | 0 | n/a | |
| 2010 | Campbell River | 4 | 0 | 0 | n/a | Y |
| | Cape Mudge | 4 | 0 | 0 | n/a | |
| | K'omoks | 4 | 0 | 0 | n/a | |
| | Tlowitsis | 4 | 0 | 0 | n/a | |

Wei Wai Kum (Campbell River Indian Band) and We Wai Kai (Cape Mudge Band) are represented in treaty process by Laich-Kwil-Tach Council of Chiefs; K'omoks First Nations signed an Agreement-in-Principle March 24, 2012.

Strategies & Implementation

In the future, once interim measures or treaties are completed, MIFO will implement measures to understand and comply with treaty settlements or interim measures agreements that are imposed on the DFA.

MIFO and MIFLAG continue to monitor treaty negotiations and work with First Nations through the Laich-Kwil-Tach Council of Chiefs, Tlowitsis Nation and K'omoks First Nation.

Forecasts

As agreements/ treaties are completed, MIFLAG will re-visit this indicator and establish a new target that can reflect understanding and knowledge of rights and title and the agreements defining them.

Monitoring

The BC Treaty Commission maintains a website that describes the current status of treaties and interim measures: [BC Treaty Commission](http://www.bctc.ca). Information may also be forwarded to operations from Corporate office (Corporate also circulates legal updates/ information from legal counsel).

The MIFLAG Facilitator also provides updates during meetings and information is recorded in the meeting minutes.

The Planning Department reports on the number of completed treaties and interim agreements.

Indicator 6.1.2

| Element: 6.1 Aboriginal and Treaty Rights | | | | |
|--|---|---|---|----------|
| <i>Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights and treaty rights.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| First Nation information sharing | First Nation input into operational and strategic plans | Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans | Report summary of annual communication of WFP information sharing processes with First Nations (MP, FSP, PMP, SFMP) | None |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan Indicator 26 and 40).

Justification

Information sharing of the TFL Management Plan, Forest Stewardship Plan and Pest Management Plan are all required under legislation (FRPA). Information sharing of the SFMP is required under the CSA Standard.

| Year | First Nation Information Sharing Summary | Target Met (Y/N) |
|------|--|------------------|
| 2013 | <p>Annual Information Sharing: info sharing blocks for 2013–2018 (5 years' volume) harvesting, responses received from Cape Mudge, & Tlowitsis. 16 field visits conducted with all First Nations. Meetings had with K'omoks, Cape Mudge, Campbell River, Tlowitsis with Nanwakolas present accordingly.</p> <p>Additional info sharing request with respect to identification of Large Cultural Cedar (LCC) from Nanwakolas within proposed harvest areas. New process established including training of field crews (cruisers) by FN carvers on identification of LCC.</p> <p>FSP: information sharing packages went to Nanwakolas regarding a new FSP for MIFO in Dec 2012. Review and Comment period extended into 2013. Comments were received from K'omoks, Cape Mudge, Campbell River, Tlowitsis.</p> <p>NOTE: In 2012, Nanwakolas became the central contact for all information sharing with First Nations that overlap our DFA.</p> | Y |
| 2012 | <p>Annual Information Sharing: info sharing blocks for 2012-2014 harvesting, responses received from K'omoks, Cape Mudge, Campbell River, Tlowitsis and Nanwakolas. Some field visits conducted with all First Nations. Meetings had with K'omoks, Cape Mudge, Campbell River, Tlowitsis with Nanwakolas present accordingly.</p> <p>FSP: information sharing packages went to Nanwakolas regarding a new FSP for MIFO in Dec 2012. Review and Comment period extended into 2013.</p> | Y |

| | | |
|------|--|---|
| | NOTE: In 2012, Nanwakolas became the central contact for all information sharing with First Nations that overlap our DFA. | |
| 2011 | <p>Annual Info Sharing – info sharing blocks for 2011-2013 harvesting, responses received from K’omoks, Laich-Kwil-Tach Treaty Society, Nanwakolas and Tlowitsis. Some field visits conducted with Laich-Kwil-Tach Treaty Society and K’omoks. One meeting was held with the K’omoks (May) to discuss proposed development. Six blocks were walked at the FN request.</p> <p>FSP – info sharing packages went out to all FNs regarding a 5 year extension of the existing FSP. Aug 2, 2011. Correspondence was received from all FNs.</p> <p>SFMP – MIFLAG email of posting on May 12, 2011.</p> <p>Nanwakolas – a meeting was held to discuss the information sharing protocol agreement and processes to date.</p> | Y |
| 2010 | <p>Annual Info Sharing – info sharing blocks for 2010-2012 harvesting, responses received from K’omoks, Laich-Kwil-Tach Treaty Society, Nanwakolas and Tlowitsis. Some field visits conducted with Laich-Kwil-Tach Treaty Society and K’omoks. One meeting was held with the Tlowitis (April) to discuss proposed development.</p> <p>PMP January 18 – WFP sends notification letter and Notice of Intent to Treat, January 26 – WFP emails requesting confirmation of receipt. Response received from K’omoks and Laich-Kwil-Tach Treaty Society.</p> <p>SFMP – An annual summary report of the SFM Plan (2009 report) was sent out to First Nations, stakeholders, and other interested parties.</p> | Y |
| 2009 | <p>FSP Various - 22 separate communications and 1 meeting with Tlowitsis Tribe as a result of 3 referral packages.</p> <p>PMP Extension July 10 – Sayward News and Courier Islander; May – follow up phone calls and letters with First Nations (on file)</p> | Y |
| 2008 | <p>FSP Various - 21 separate communications and 1 meeting based upon 5 FSP referral packages.</p> <p>PMP – not required.</p> | Y |
| 2007 | <p>FSP Various - 60 separate communications based upon 7 FSP referral packages and 1 data access agreement.</p> <p>PMP August 3 – Campbell River; 10, 23 Sayward</p> | Y |
| 2006 | <p>FSP January 13 & June 16 - Two major amendments to the Forest Development Plan were submitted to First Nations for review and comment. No request by first Nations for a meeting and consequently no meetings were held.</p> <p>FSP Jan 27-Apr 6 – Campbell River</p> <p>PMP July 7, 14 – Campbell River and Sayward</p> | Y |

Strategies & Implementation

Management Plan referrals include TFL Management Plan, Forest Stewardship Plans, Pest Management Plans, and the Sustainable Forest Management Plan. For the MP, FSP and PMP, referrals occur as required under legislation. The Sustainable Forest Management Plan is referred to all First Nations in the DFA when the plan is revised and updated. The annual report is also available on the MIFLAG web site (annually).

Forecasts

Plan referrals for TFL MPs, FSPs, and PMPs are legally required. In addition, the legislation requires documentation and records of comments received, as well as records of changes to the plans to address the concerns/ comments.

Referral of the SFMP is not legally required, but is required under the CSA Standard (Core Indicator 6.2.2).

In general, First Nations are somewhat reluctant to document “acceptance” of management plans as it may impact their treaty negotiations. In addition, some First Nations lack the capacity to review and comment on plans. WFP will continue to work with First Nations in the DFA to communicate plans and share information, and incorporate/ address concerns and comments that are raised.

Monitoring

The Planning Department documents Forest Stewardship Plans, PMPs and the SFMP reviews that occur with First Nations. A summary of First Nations information sharing and reviews is maintained in the CENFOR database. Corporate Forestry completed and documents information sharing in relation to the TFL Management Plan.

Indicator 6.1.3

| Element: 6.1 Aboriginal and Treaty Rights <i>Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights and treaty rights.</i> | | | | |
|--|--|--|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Areas where culturally important practices and activities occur | Areas where culturally important practices and activities occur are managed for or protected | Level of management and/or protection of areas where culturally important practices and activities (hunting, fishing, gathering) occur | Report on management and/ or protection of knowledge, values and sites that are identified through the process described in 6.1.2 | None |

History

New Core Indicator under CSA Z809-08.

Justification

The target is based on MIFLAG discussions regarding the importance of building relationships based on trust and respect as the foundation to meaningful information sharing and willingness of the First Nations to share confidential information on areas of the DFA that are culturally important. An important component of building trust may be to offer to meet in the First Nations offices, where they are comfortable (resulting in the reference to Indicator 6.1.2 in the target). The target for Indicator 6.1.2 reflects the objective of WFP to make efforts to build a trusting relationship that can result in information sharing that respects confidentiality of information and important sites, and then incorporating the information to ensure management and/ or protection of the information and areas of the DFA important for cultural practices under Indicator 6.1.3.

Current Status & Interpretation

| Year | # First Nations Special Sites Identified | Sites Managed (%) | Target Met (Y/N) |
|------|---|-------------------|------------------|
| 2013 | Opening 50504; Management of the H'Kusam Forest | 100 | Y |
| 2012 | Opening 50504; 1 elk 'Wallow'; H'Kusam Study Area | 100 | Y |
| 2011 | 1 elk 'Wallow' 'Hotel Block' area | 100 | Y |
| 2010 | 1 Elk 'Wallow' | 100 | Y |

In 2013, phase 1 of H'Kusam Forest was established, protecting 199.2 ha within an OGMA. H'Kusam Forest is a regionally-significant area of pre-contact First Nations' forest use. The Vision of the Agreement is that "the H'Kusam Forest enables the First Nations, forestry workers, and public to better understand the traditional forest management practices of First Nations peoples. The Agreement on the Management of the H'Kusam Forest is between Ministry of Forests, Lands and Natural Resource Operations (FLNR) – Campbell River Natural Resource

District (CRNRD) and We Wai Kai, Wei Wai Kum and K'omoks First Nations. WFP involvement with the H'Kusam Forest includes initiating the discussion and applying for the establishment of the 199.2 ha OGMA. Phase 2 will involve establishing an additional 29.4 ha into OGMA as soon as practicable. This 29.4 ha has been identified as culturally important and is currently deferred for harvesting.

Opening 50504 was harvested in 2013 as a partnership with the We Wai Kai First Nation.

Strategies & Implementation

Site specific culturally important sites that are protected under the Heritage Conservation Act (e.g., Culturally Modified Trees, Burial Grounds, Etc.) are covered under Indicator 1.4.2.

The intent of Indicator 6.1.3 is to manage for/ protect general areas of the DFA that have been communicated by First Nations as providing for important cultural practices such as hunting, fishing and gathering. An important component of this indicator is also ensuring adequate management and protection of the information that is shared to ensure confidential information is secure but at the same time recorded in some manner to ensure the information can be tracked and accessed during forest management planning.

MIFLAG also discussed that culturally important knowledge can include general ecological knowledge in terms of the First Nations cultural foundation of "everything is connected".

Forecasts

The challenge to meeting the target lies in building a foundation of a relationship built on trust and respect so that First Nations are willing to share confidential information with WFP. Secondly, the challenge will be for WFP to develop a process to document and communicate important sites to ensure that they are considered during forest management planning, while at the same time respecting confidentiality of the information shared.

Monitoring

The Planning Department reports on the areas of the DFA that First Nations have communicated are culturally important (while respecting confidentiality of information where requested). For example, a particular area of the DFA may be identified as important for berry picking. WFP would record and track the general area of importance to the Nation while respecting the confidentiality of the site specific location.

Indicator 6.2.1

| Element: 6.2 Respect for Aboriginal Forest Values, Knowledge & Uses <i>Respect traditional Aboriginal forest values, knowledge and uses as identified through the Aboriginal input process.</i> | | | | |
|---|---|---|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Aboriginal knowledge | Aboriginal knowledge provided is used and respected | Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values | i. 100% of requests by First Nations for field visits to planned cutblocks are completed ii. Report on on-going status and results of the implementation of the Monumental Cedar Strategy (e.g., number recorded, number protected, number used by First Nation) | None |

History

New Core Indicator under CSA Z809-08.

Justification

Indicator 6.2.1 intends to capture WFP efforts to build relationships with First Nations through face to face meetings/ visits to planned cutblocks to address concerns and issues the First Nation may have identified through information sharing processes as well as capture another important resource to First Nations that has been identified though past processes; (e.g. monumental cedar).

Relationships built on trust and respect as discussed under Indicator 6.1.2 and 6.1.3. Indicator 1.4.2 considers protection of cultural and sacred sites under legislation. Indicator 6.1.2 and 6.1.3 considers general areas of the DFA that are important to the Nations for cultural use.

Current Status & Interpretation

| Year | Field Visits | Monumental Cedar | Target Met (Y/N) |
|------|--------------|--|------------------|
| 2013 | 16 | Identified – 4; Current Inventory/ Protected – 131 trees; Utilized by First Nations - 0 | Y |
| 2012 | 21 | Identified – 13; Current Inventory/ Protected – 127 trees; Utilized by First Nations - 0 | Y |
| 2011 | 5 | Identified – 0; Current Inventory/ Protected – 114* trees; Utilized by First Nations - 0 | Y |
| 2010 | 5 | Identified – 0; Current Inventory/ Protected – 55 trees; Utilized by First Nations - 0 | Y |

In 2013, through information sharing, Large Cultural Cedar (LCC) were identified as an important resource to First Nations. LCC are defined as cedar logs greater than 125cm dbh with no rot, twist or defect that will be suitable for either house logs, totem logs or canoe logs. An agreement between WFP and Nanwakolas was implemented on the ground to train WFP Timber Cruisers to accurately identify LCC. This training was completed with traditional carvers from Cape Mudge First Nation, Campbell River First Nation, and Tlowitsis First Nation. With the completion of this training, First Nations are confident that the WFP Timber Cruisers have the ability and knowledge to confidently mark and record LCC. LCC are recorded in all future cutblocks by the Timber Cruisers and location of these LCC are shared with the First Nations at time of cutblock information sharing (Step 6 Process).

In 2014, the Target of this indicator should be amended to reflect the change from Monumental Cedar Strategy to include LCC implementation tracking and info sharing.

Strategies & Implementation

WFP is committed to completing field visits to planned cutblocks where requested by First Nations during Information Sharing or otherwise communicated/ requested. WFP has a strong history of completing field visits and successful resolution of issues and concerns of First Nations.

The Cultural Heritage SOP also contains information and requirements related to identification and recording of identified monumental cedar. The Ministry of Forests is also working on a monumental cedar strategy at the District level.

Forecasts

It is anticipated that all 'reasonable' requests from First Nations to conduct field visits of planned cutblocks will be fulfilled and will result in successful resolution of the Nations issues and concerns. This is based on a strong history of information sharing, site visits and resolution of First Nation concerns.

WFP will monitor the MOF Monumental Cedar Strategy development and assess implications to WFP strategies (e.g., will the MOF strategy apply to WFP). Once the Monumental Cedar Strategy has been implemented over a few years, MFLAG can re-visit the target to assess effectiveness of the strategy in achieving identification and protection of monumental cedar.

Monitoring

The Planning Department reports on the number requests for field visits each year and the number of completed site visits as well as a brief summary of issues and concerns and related resolutions.

The Planning Department reports on the status of implementation of the Monumental Cedar Strategy (under the Cultural Heritage Resources SOP).

Indicator 6.2.A

| Element: 6.2 Respect for Aboriginal Forest Values, Knowledge & Uses <i>Respect traditional Aboriginal forest values, knowledge and uses as identified through the Aboriginal input process.</i> | | | | |
|--|---|---|--|----------|
| Value | Objective | Indicator | Target | Variance |
| Culturally important resources and values | Old growth cedar continues to be available to First Nations | The annual volume of old growth cedar made available to First Nations | Report on the volume of wood made available to First Nations | None |

History

MIFLAG indicator carried over from the 2009 SFM Plan Indicator 29.

Justification

MIFLAG discussed the important distinction between monumental cedar and old growth cedar and the importance of both resources to First Nations. Old growth western red cedar logs are important to First Nations for traditional, cultural and ceremonial purposes. The target also supports the acknowledgement of aboriginal rights.

Current Status & Interpretation

| Year | Volume of Cedar/ Cypress (m ³) | Target Met (Y/N) |
|------|--|------------------|
| 2013 | 211.8 | Y |
| 2012 | 33.5 | Y |
| 2011 | 17.1 | Y |
| 2010 | 332.9 | Y |
| 2009 | 60.7 | Y |
| 2008 | 9.0 | Y |
| 2007 | 31.0 | Y |
| 2006 | 25.0 | Y |

In 2013, all requests for old growth cedar and cypress to WFP were fulfilled. There was 201m³ of Free Use Permit volume from DFA, and 10.8m³ of Cypress (1 log) made available. This does not include wood made available for carvers from the waste piles at the DLS.

Strategies & Implementation

The volume of logs that is made available to First Nation groups is scaled and recorded at the point of delivery. This volume is reported to and tracked by the Planning Department representative in charge of Special Forest Products (and Dryland Sort representatives).

First Nations requests for access to old growth cedar are documented and tracked for follow up (Corporate Forestry Donation Requests and MoF Free Use Permits).

Forecasts

WFP is committed to fulfilling all reasonable requests for volume of cedar and cypress for First Nations with traditional territory in the DFA and has a long history of providing volume to First Nations. It is therefore anticipated that the target will be achieved.

Monitoring

The Planning Department coordinates reporting of the annual volume of cedar and cypress provided to First Nations in the DFA (assistance may be provided by Dryland Sort personnel or Corporate Forestry and MoF Free Use Permit information).

Indicator 6.3.1

| Element: 6.3 Forest Community Well-being and Resilience | | | | |
|--|----------------------------|--|---|---------------------------|
| <i>Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Other forest users | Support other forest users | Evidence that the organization has co-operated with other forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy | 75 agreements in place for alternate uses (e.g., minor forest products, firewood, lesser vegetation, road use agreements, boughs, Sayward Futures Society, etc.). | -10 Agreements/ Contracts |

History

New Core Indicator under CSA Z809-08.

Justification

The target reflects MIFLAG discussions on representation of diversification in the local economy that may not already be covered under other Elements, Indicators and Targets (e.g., employment, Timber Benefits, Community Sustainability, etc.). This target captures the non-timber benefits from the DFA that contribute to the diversification of the local economy. The specific target of 75 agreements was generated from a review of the current status for 2010.

Current Status & Interpretation

| Year | Agreements | Target Met (Y/N) | Variance Met (Y/N) |
|-------------|--|-------------------------|---------------------------|
| 2013 | Commercial/ Private Firewood – 193 Minor Forest Products – 2 Fence posts/ shake blocks – 1 Lesser Vegetation (ferns) – 1 Boughs – 1 Road Use Agreements - 5 Total: 203 | Y | N/A |
| 2012 | Commercial/ Private Firewood – 175 Minor Forest Products – 4 Fence posts/ shake blocks – 2 Lesser Vegetation (ferns) – 1 Boughs – 1 Road Use Agreements - 5 Total: 188 | Y | N/A |
| 2011 | Commercial/ Private Firewood – 110 Minor Forest Products – 5 Fence posts/ shake blocks – Lesser Vegetation (ferns) – 1 Boughs – 1 Road Use Agreements - 6 Total: 123 | Y | Y |

| Year | Agreements | Target Met (Y/N) | Variance Met (Y/N) |
|------|---|------------------|--------------------|
| 2010 | Commercial/ Private Firewood – 67 Minor Forest Products – 5 Fence posts/ shake blocks – 1 Lesser Vegetation (ferns) – 1 Boughs – 1 Total: 75 | Y | Y |

Strategies & Implementation

WFP engages in many activities that support/ strengthen the local economy and foster a cooperative relationship with the community and local business owners including signed agreements for access to fibre and other forest products in the DFA. In addition, WFP supports other activities on the DFA, such as the annual Memekay cave event and the Kusam Klimb.

WFP also maintains contract agreements (services for fee) with various service providers such as harvesting, roads, planning, and silviculture) which support diversification and strength of the local economy.

Forecasts

WFP maintains a long history of cooperation with local business owners and the community, including relationship building, capacity development, support of minor forest products and non-timber forest products. It is anticipated that WFP will be able to provide multiple examples of support for the local economy due to historical support. However, during periods of economic downturns in the industry, support may be limited or non-existent for short durations.

Monitoring

The Planning Department reviews the central file and reports on the efforts to engage and support the local economy and relationship building through the existing number of agreements that are in place.

Indicator 6.3.2

| Element: 6.3 Forest Community Well-being and Resilience | | | | |
|--|---|---|---|----------|
| <i>Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Worker safety program | Maintain a worker safety program in cooperation with workers and unions | Evidence of co-operation with DFA-related workers and their unions to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities | Minimum of one Joint Health and Safety Committee meeting per month during active operations | None |

History

New Core Indicator under CSA Z809-08.

Justification

Safety Programs are required under WorkSafe BC legislation, Occupational Health and Safety Regulation (requirements are dependent on the number of employees). WorkSafe BC and Union Agreements also require joint health and safety committees to meet regularly.

Current Status & Interpretation

| Year | # of HSC Meetings | Target Met (Y/N) |
|------|-------------------|------------------|
| 2013 | 11* | Y |
| 2012 | 12 | Y |
| 2011 | 12 | Y |
| 2010 | 12 | Y |

Operation shut down for heat in August therefore only 11 meetings held in 2013.

Strategies & Implementation

Safety performance is a key measurable for MIFO. Improvements in Safety are supported by the EH&S Team, corporate polices, standards, hazard reports, work procedures etc. Locally, MIFO manages safety utilizing an OHS Program, emergency response procedures and by maintaining a "SAFE" company certification with the BC Forestry Safety Council. Continual improvement is a key component of the WFP Safety System, WorkSafe BC requirements and the Forest Safety Council SAFE Company certification requirements.

Health and Safety Committees are comprised of WFP representatives, contractor representatives and union representatives, meetings are held on a regular basis (typically monthly during operations).

Forecasts

It is anticipated that the target will be met as the current union agreement and the WorkSafe BC legislation requires joint Health and Safety Committees to meet regularly. WFP has expressed some recent challenges relating to union attendance at the meetings.

Monitoring

The Planning Department coordinates reporting of the number of joint Health and Safety Committee meetings held each year.

Indicator 6.3.3

| Element: 6.3 Forest Community Well-being and Resilience | | | | |
|--|----------------------------------|--|---|----------|
| <i>Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Worker safety | Maintain a worker safety program | Evidence that a worker safety program has been implemented and is periodically reviewed and improved | WFP and Contractors (with active signed contracts) are SAFE Certified | None |

History

New Core Indicator under CSA Z809-08.

Justification

Safety Programs are required under WorkSafe BC legislation, Occupational Health and Safety Regulation. SAFE certification is a voluntary certification through the BC Forest Safety Council. An audit score of 85% or better is required to maintain certification. MIFLAG has discussed SAFE certification and the challenges of reporting safety achievements of contractors on many occasions and therefore has selected a generic target relating to maintenance of SAFE certification.

Current Status & Interpretation

| Year | SAFE Company Certification | | Target Met (Y/N) |
|------|----------------------------|-------------|------------------|
| | WFP | Contractors | |
| 2013 | Yes | Yes | Y |
| 2012 | Yes | Yes | Y |
| 2011 | Yes | Yes | Y |
| 2010 | Yes | Yes | Y |

A total of fifty active contractors in the DFA are SAFE Certified in 2013.

Strategies & Implementation

Safety performance is a key measurable for MIFO. Improvements in safety are supported by the EH&S Team, corporate polices, standards, hazard reports, work procedures etc. Locally, MIFO manages safety utilizing an OHS Program, emergency response procedures and by maintaining "SAFE" company status with the BC Forestry Safety Council.

SAFE certification of contractors is confirmed at time contracts are signed (upon receipt of the Orientation Paperwork). In addition, contract administrators also periodically review active contractors to ensure their SAFE certification status is current.

Forecasts

It is anticipated that the target will be met as current corporate policies include support of the BC Forest Safety Council SAFE certification program (which supplements the legal requirements for a safety program).

Monitoring

The Planning Department coordinates review of the safety files and reports on the SAFE certification status of WFP and active contractors (an excel tracking sheet recording SAFE status and certificate expiry date is maintained by the contract administrative department).

Indicator 6.4.1

| Element: 6.4 Fair and Effective Decision Making <i>Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.</i> | | | | |
|--|--|---|--|----------|
| Value | Objective | Indicator | Target | Variance |
| Stakeholder/First Nations participation satisfaction | CSA public participation at this table is responsive, communicative and representative of stakeholder and First Nations' values. | Level of participant satisfaction with the public participation process | All criteria evaluated in the annual MIFLAG Satisfaction Survey are ranked 80% or better | None |

History

New Core Indicator under CSA Z809-08 (relates to old Indicator 34).

Justification

MIFLAG has determined that an overall score of the satisfaction survey of greater than 80% represents successful achievement of satisfaction.

Current Status & Interpretation

| Year | Satisfaction Survey Completed (Y/N) | Level Satisfaction | Target Met (Y/N) |
|------|-------------------------------------|---|------------------|
| 2013 | Yes | 18/20 criteria evaluated ranked greater than 80%; 2 were at 66%. | N |
| 2012 | Yes | 16/20 criteria evaluated ranked greater than 80%; 3: were at 75%; 1 at 50% | N |
| 2011 | Yes | All criteria 100% except FN Participation 14% | N |
| 2010 | Yes | All criteria 100% except: FN Participation 50%; MIFLAG non-member input, member selection criteria, interest in the process, and collaboration with other decision making parties 90% | N |
| 2009 | Yes | N/A | Y |
| 2008 | Yes | N/A | Y |
| 2007 | Yes | N/A | Y |
| 2006 | Yes | N/A | Y |

The 2 questions (criteria) that did not meet 80% satisfaction were: "Interest has left AG due to concerns with process?" and "AG has criteria for membership selection?". There were no specific comments given why membership was not satisfied with any of the questions asked in the Satisfaction Survey.

Strategies & Implementation

WFP and MIFLAG have demonstrated a successful, strong and committed working relationship over the last several years (>10).

In general, feedback from MIFLAG is an on-going event, through the regular meetings and field trip processes. This contributes to ensuring the target is met (i.e., issues are addressed as they occur rather than waiting until the end of year survey).

A Satisfaction Survey is typically completed with the MIFLAG on an annual basis. The survey responses are coded as: Strongly disagree, disagree, agree, strongly agree.

Feedback relating to specific presentations is also gathered following each presentation.

Where communication or the results of the survey indicate a less than satisfactory result in any category, WFP and MIFLAG will work together to successfully resolve the issues.

Forecasts

It is anticipated that the target will be met based on a long history of results that show a high level of satisfaction with the progress and communication between WFP and MIFLAG. WFP will strive for continual improvement in survey results and to improve the score of satisfaction over time.

Monitoring

The MIFLAG Facilitator reports on the results of the annual Satisfaction Survey.

Indicator 6.4.2

| Element: 6.4 Fair and Effective Decision Making | | | | |
|--|---|---|--|-----------------|
| <i>Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Public participation capacity | Develop/improve public participation capacity over time | Evidence of efforts to promote capacity development and meaningful participation in general | MIFLAG - schedule and arrange the opportunity for members to attend 2 field trips and 2 presentations each calendar year | None |

History

New Core Indicator under CSA Z809-08.

Justification

The MIFLAG maintains an Annual Communication Program designed to provide a measure of success of MIFLAG commitments for public education, communications and consultation. Through the implementation of the Communication Program and the specific events measured (e.g., forest tours, open houses, school visits, presentations, guest speakers, donations, etc.) and the outreach of the MIFLAG and WFP into the community, it supports promotion of capacity development of the MIFLAG and the public in general for participation in the certification process. The specific target of the number of field trips and presentations is designed to measure the specific efforts to promote capacity development

Current Status & Interpretation

| Year | Field Trips/ Presentations | # | Target Met (Y/N) |
|-------------|--|----------|-------------------------|
| 2013 | Field Trips: Opportunity for members to attend 2 field trips. Only 1 field trip completed in June. Second field trip planned to visit heli operation but cancelled due to lack of confirmed attendance. | 1* | Y |
| | Presentations: CSA Technical Committee Rep (Jane Cameron - from Stillwater Advisory Group) : How Advisory Group is working and Q&A; Jeff Ternan: Operations Manager | 2 | |
| 2012 | Field Trips: Reps from Sayward Fish and Wildlife Club, Campbell River Chamber of Commerce and Campbell River Environmental Committee attend WFP all PAG meeting and field trip at SFO | 1 | N |
| | Presentations: Kerry McGourlick: What does Certification mean to WFP; Mike Davis: Timber Supply Analysis in support of Management Plan 9 for TFL39; Jeff Ternan: Operations Manager | 3 | |
| 2011 | Field Trips: Sayward Valley recent and historic brushing treatments | 1 | N |
| | Presentations: Michel de Bellefeuille discussing Carbon Indicators; Jeff Ternan, Operation Manager. | 2 | |

| Year | Field Trips/ Presentations | # | Target Met (Y/N) |
|------|--|---|------------------|
| 2010 | Field Trips: Salmon River Valley, Old Growth and Biodiversity (June) | 1 | N |
| | Presentations: Ministry Tourism, Culture & Arts (January); WFP AAC & Cut Control (May); WFP Species at Risk (September); Glynnis Horel, Hydrology (December) | 3 | |

*Continued difficulty to get members out on field trips. 2 field trips planned in 2013, however only one completed due to lack of attendance.

Strategies & Implementation

The annual MIFLAG Action Plan is completed and reviewed on an annual basis that establishes WFP and MIFLAG commitment to public education, communications and consultation through the year. The Action Plan includes provisions/ plans for field trips and presentations.

In addition, annual planned education opportunities such as field trips and presentations are discussed during meetings (date setting, communication of specific details such as locations and times, etc.) and are documented within the meeting minutes.

Forecasts

It is anticipated that educational opportunities such as field trips and presentations will be provided on an annual basis based on a long successful history of performance, but is subject to whether sufficient capacity and funding exists.

Monitoring

The MIFLAG minutes and website are reviewed for educational opportunities provided to the MIFLAG.

Indicator 6.4.3

| Element: 6.4 Fair and Effective Decision Making | | | | |
|--|---|---|---|-----------------|
| <i>Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Aboriginal participation capacity | Develop/improve aboriginal participation capacity over time | Evidence of efforts to promote capacity development and meaningful participation for Aboriginal communities | Each First Nation with traditional territory in the DFA is invited to participate in the MIFLAG and review the SFM Plan annually at the First Nations office/ territory; on-going communication is maintained | None |

History

New Core Indicator under CSA Z809-08.

Justification

The target is based on MIFLAG discussions regarding the importance of building relationships based on trust and respect as the foundation to meaningful information sharing, understanding and participation in the MIFLAG process. The target is designed to assist building a trusting and respectful relationship by including an offer to meet at the First Nations office to review and discuss the SFMP or discuss the DFA in general in addition to extending an annual invitation related to the participation in MIFLAG. The group also discussed the possibility of having First Nations deliver a presentation to MIFLAG on an annual basis.

Current Status & Interpretation

| Year | First Nation | # of Invitations to Participate & Review the SFM Plan | # of Meetings Held at First Nations office | On-Going Communication | Target Met (Y/N) |
|-------------|---------------------|--|---|--|-------------------------|
| 2013 | Cape Mudge | 1 | 0 | Yes – Facilitator phone calls & emails, meeting minutes and other mail outs. | Y |
| | Campbell River | 1 | 0 | | |
| | K'omoks | 1 | 0 | | |
| | Tlowitsis | 1 | 0 | | |
| 2012 | Cape Mudge | 1 | 0 | Yes – Facilitator phone calls & emails, meeting minutes and other mail outs. | Y |
| | Campbell River | 1 | 0 | | |
| | K'omoks | 1 | 0 | | |
| | Tlowitsis | 1 | 0 | | |
| 2011 | Cape Mudge | 1 | 0 | Yes – Facilitator phone calls & emails, meeting minutes and other mail outs. | Y |
| | Campbell River | 1 | 0 | | |
| | K'omoks | 1 | 0 | | |
| | Tlowitsis | 1 | 0 | | |

| Year | First Nation | # of Invitations to Participate & Review the SFM Plan | # of Meetings Held at First Nations office | On-Going Communication | Target Met (Y/N) |
|------|----------------|---|--|--|------------------|
| 2010 | Cape Mudge | 1 | 0 | Yes – Facilitator phone calls & emails, meeting minutes and other mail outs. | Y |
| | Campbell River | 1 | 0 | | |
| | K'womoks | 1 | 0 | | |
| | Tlowitsis | 1 | 0 | | |

On-going communication is maintained by WFP and MIFLAG regarding regularly scheduled meetings, field trips and workshops to each First Nation. Meeting packages and minutes are also communicated to each First Nation. The Facilitator also provided updates to the K'omoks Chief and Council on several occasions throughout the year.

Strategies & Implementation

The MIFLAG Facilitator extends invitations to the First Nations in the DFA to participate in the MIFLAG on an annual basis. On-going communications also occur, such as distribution of the meeting minutes to each Nation, phone calls, and open invitations to MIFLAG meetings.

MIFLAG may also consider adding an invitation to speak at a designated meeting during the year.

Forecasts

It is anticipated that the target will be consistently met based on past performance. There is some reluctance from First Nations to participate in the process due to potential conflicts with treaty negotiations.

Monitoring

The MIFLAG Facilitator reviews correspondence files to report on the efforts to engage First Nations in MIFLAG and/ or review of the SFM Plan, with focus on discussions held at the First Nation's office.

Indicator 6.4.A

| Element: 6.4 Fair and Effective Decision Making | | | | |
|--|---|--|---------------|-----------------|
| <i>Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| Sector representation on PAG | All relevant sectors are represented in the PAG | The percentage of PAG sector seats that have active representation | 100% | 10% |

History

New Core Indicator under CSA Z809-08 (carried forward from the 2009 SFM Plan, Indicator 31).

Basis for the Target

This indicator tracks the active functioning of the Mid Island Forest Lands Advisory Group (MIFLAG). It provides one indication of the relative success of an ongoing mechanism to allow for meaningful input from all sectors of the local community into SFM planning on the DFA.

Current Status & Interpretation

| Sector | MIFLAG Membership | | | | | | | | |
|--|-------------------|------|------|------|------|------|------|------|------|
| | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 |
| Sayward Fish & Game Club | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| First Nations | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| Ministry of Forests | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| City of Campbell River | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Education/ Youth | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Contractor | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Supplier | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| Village of Sayward | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Strathcona Regional District | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Campbell River Environmental Committee | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Member at Large | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Labour (United Steelworkers' Union) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Campbell River Chamber of Commerce | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Campbell River Senior | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Target Met (Y/N) | Y | N | Y | Y | Y | N | N | N | N |
| Variance Met (Y/N) | Y | Y | Y | Y | Y | Y | Y | Y | N |

14/14 sectors or 100% attended minimum 1 meeting. Added supplier sector member in late 2013 but lost CR Chamber of Commerce member. First Nation representation, but only 1 meeting attended.

Strategies & Implementation

The Planning Department and MIFLAG Facilitator are responsible for supporting and monitoring participation in the advisory group. There is a membership list and Terms of Reference for the advisory group.

Minutes are recorded for each meeting that includes attendance. The MIFLAG membership list is maintained and posted on the MIFLAG internet website.

The MIFLAG Facilitator makes efforts throughout the year to contact stakeholders that do not have representation at MIFLAG, as well as seek out alternate members for those that are represented at the table but may have scheduling challenges resulting in absentees at the meetings. These efforts are communicated to MIFLAG and documented in the meeting minutes.

Forecasts

It is not anticipated that the target will be consistently achieved based on historical performance (the target has only been achieved once in the last six years).

MIFLAG has not been successful in maintaining 100% sector representation over the last several years, despite significant efforts. MIFLAG will continue to approach representatives and strive to fill all sector seats at the table. First Nations has been particularly challenging. The MIFLAG Facilitator makes extra efforts to communicate with First Nations that are not represented at the table.

Monitoring

The Planning Department coordinates review of the active membership list and compiles reporting information for active sector representation.

MIFLAG may want to consider re-visiting this indicator to include reporting of First Nation representation on MIFLAG for each First Nation in the DFA, rather than reporting First Nations as one sector.

Indicator 6.5.1

| Element: 6.5 Information for Decision Making <i>Provide relevant information and educational opportunities to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interaction with forest ecosystems.</i> | | | | |
|--|---|---|--|----------|
| Value | Objective | Indicator | Target | Variance |
| Public education and communication | A continuous public education and communication program exists. | Number of people reached through educational outreach | 100% of the Communication Program elements are fulfilled | None |

History

New Core Indicator under CSA Z809-08 (carried forward from 2009 SFM Plan indicator 37).

Justification

Communication Program. This indicator measures success at meeting commitments for public education, communications and consultation and includes categories such as forest tours, open houses, school visits, support for the Forest Education Program, presentations, various communications for MIFLAG and support for organisations in the community, programs and students.

Current Status & Interpretation

| Year | # Planned | # Completed | % Completed | Target Met (Y/N) |
|------|-----------|-------------|-------------|------------------|
| 2013 | 15 | 30 | >100 | Y |
| 2012 | 18 | 32 | >100 | Y |
| 2011 | 16 | 21 | >100 | Y |
| 2010 | 11 | 18 | >100 | Y |
| 2009 | 11 | 25 | >100 | Y |
| 2008 | 21 | 33 | >100 | Y |
| 2007 | 18 | 28 | >100 | Y |
| 2006 | 18 | 21 | >100 | Y |

Strategies & Implementation

Annually, a public education program is developed. The program may consist of tours, open houses, displays, appearances, sponsorships or communication. The objective is to complete all the activities listed in the program.

The Program contains elements such as tours, public education, open houses, school visits, Forest Education Program, presentations, stakeholder/ First Nation communication, and support (programs, organisations, students).

Forecasts

It is anticipated that the target will be exceeded based on historical participation. However, during economic downturns, participation may be lower.

Monitoring

The Planning department maintains records and reports on the performance of completed program elements on an annual basis for the SFMP results.

Indicator 6.5.2

| Element: 6.5 Information for Decision Making <i>Provide relevant information and educational opportunities to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interaction with forest ecosystems.</i> | | | | |
|--|----------------------------------|--|---|----------|
| Value | Objective | Indicator | Target | Variance |
| Relevant information | Relevant information is provided | Availability of summary information on issues of concern to the public | Current SFM Plan and 100% of MIFLAG minutes are posted to the website | None |

History

New Core Indicator under CSA Z809-08.

Justification

This indicator measures success at meeting commitments for public education, communications and consultation. The key disbursement of this information is via the MIFLAG website.

Current Status & Interpretation

| Year | SFM Plan Version Posted | # Meeting Minutes Posted | MIFLAG Website Review Completed | % Completed | Target Met (Y/N) |
|------|--|--------------------------|---------------------------------|-------------|------------------|
| 2013 | Version 4.0 (April 2011); 2012 Indicator Results | 6/6 | Yes | 100 | Y |
| 2012 | Version 4.0 (April 2011); 2011 Indicator Results | 6/6 | N/A | 100 | Y |
| 2011 | Version 4.0 (April 2011); 2010 Indicator Results | 6/6 | N/A | 100 | Y |
| 2010 | Version 3.1 (April 2009); 2009 Indicator Report | 9/9 | N/A | 100 | Y |
| 2009 | Version 3.1 (April 2009); 2008 Indicator Report | 10/10 | N/A | 100 | Y |
| 2008 | Version 3.0 (May 2006); 2007 Indicator Report | 9/9 | N/A | 100 | Y |
| 2007 | Version 3.0 (May 2006) | 10/10 | N/A | 100 | Y |
| 2006 | Version 3.0 (May 2006) | 8/8 | N/A | 100 | Y |

As part of the 2012 Indicator review it was decided to delete Indicator 6.4B regarding the use of the MIFLAG website and roll an aspect of it into this indicator which reference's information being posted. It is also noted in the Terms of Reference that the members will annually review the website.

In 2013, there were several Website Updates including a detailed DFA map that identifies 20-yr plan cutblock locations, updated roads and road projections. Meeting Minutes were posted in a timely manner and Terms of Reference and Membership list updated. All the necessary Orientation Information (Orientation Binder) was added to the website for new members and old members alike. MIFLAG website usage has been included in the yearly summary of 'non-reportable' indicators for interest purposes only.

Strategies & Implementation

All meeting, workshop and field trip minutes are posted to the miflag.org website once ratified by MIFLAG. Other key documents for MIFLAG are also posted on the MIFLAG website. General concerns of the MIFLAG are addressed through indicator development, MIFLAG meeting discussions, workshops, etc., and meeting presentations (open to the public). The MIFLAG website is the main vehicle for communication with the public (maintained by WFP).

Forecasts

It is anticipated that the target will be achieved based on historical performance (since 1999).

Monitoring

MIFLAG website contents are summarized annually.

Indicator 6.5.A

| Element: 6.5 Information for Decision Making <i>Provide relevant information and educational opportunities to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interaction with forest ecosystems.</i> | | | | |
|--|--|---|-----------------------|----------|
| Value | Objective | Indicator | Target | Variance |
| Research in the DFA is supported by WFP | WFP supports research in the DFA, including the deployment of non-herbicide alternatives | The list of active research projects and the related categories (i.e., alternatives to herbicides, ecosystem management, operational, etc.) | Annual report summary | None |

History

This indicator and target are carried forward from the 2009 SFM Plan (Indicator 35 and 38).

Justification for the Target

This indicator tracks the allocation of resources from WFP to the development and implementation of non-herbicide alternatives specific to current herbicide uses and other research projects such as ecosystem management and other operational related projects contributing to better quality decisions for Sustainable Forest Management. WFP involvement is up and down with economic uncertainty. This indicator tracks WFP's continued involvement in research and development.

Current Status & Interpretation

| Year | Research Project | Target Met (Y/N) |
|------|--|------------------|
| 2013 | <ul style="list-style-type: none"> - Variable Retention Adaptive Management (4) - Yellow Cypress Clonal Trials - Silviculture Practices for Climate Change (1) - Species at Risk (1) - Species Accounting System (1) - Breeding Birds (1) - Regeneration Research (3) - Growth & Yield - Espacement Trials - Trial use of Chontrol Peat Paste Biological Control Agent; - Hardwood management of appropriate sites. - Provenance, progeny & related genetic trials and tests (30+) | Y |
| 2012 | <ul style="list-style-type: none"> - Variable Retention Adaptive Management (4) - Salal Cedar Hemlock Integrated Research Program (SCHIRP) (6) - Yellow Cypress Clonal Trials (3) - Seed Orchard Pest Management (1) - Pollination dynamics (2) - Old-growth speckled-bellied Lichen (1) | Y |

| Year | Research Project | Target Met (Y/N) |
|------|--|------------------|
| | <ul style="list-style-type: none"> - Silviculture Practices for Climate Change (1) - Species at Risk (2) - Species Accounting System (1) - Breeding Birds (1) - Regeneration Research (3) - Growth & Yield - Espacement Trials - Trial use of Chontrol Peat Paste Biological Control Agent; - Hardwood management of appropriate sites. | |
| 2011 | <ul style="list-style-type: none"> - Variable Retention Adaptive Management (5) - Salal Cedar Hemlock Integrated Research Program (SCHIRP) (6) - Yellow Cypress Clonal Trials (3) - Pollination dynamics (2) - Species at Risk (4) - Species Accounting System (1) - Breeding Birds (1) - Regeneration Research (3) - Growth & Yield - Espacement Trials - Trial use of Chontrol Peat Paste Biological Control Agent; - Hardwood management of appropriate sites. | Y |
| 2010 | <ul style="list-style-type: none"> - Variable Retention Adaptive Management Experimental Sites - Forest Structure Monitoring - VRAM Bird Monitoring (wrap up report) - Northern Goshawk Nest Territory Monitoring - Old Growth Specklebelly Lichen Survey - Effects of Retention on Carabid Beetles - Species Accounting System - SCHIRP – data analysis - Yellow Cypress Clonal Trials - Pollination Dynamics in Douglas-fir - Growth & Yield Permanent Sample Plots & Edge Regeneration Studies - ALT. HERBICIDE - Communications under way regarding trial use of Chontrol Peat Paste Biological Control Agent; Participation in development and implementation of the strategy “Hardwood Management in the Coast Forest Region” (7.6ha committed to hardwood management in 2010) | Y |

| | | |
|------|--|---|
| 2009 | <ul style="list-style-type: none"> - See list above - ALT. HERBICIDE - Participation in development and implementation of the strategy "Hardwood Management in the Coast Forest Region". Note: 10.7 ha committed to manage for Dr in 2009 | Y |
| 2008 | <ul style="list-style-type: none"> - ALT. HERBICIDE-The Rubus spp. research was not yielding viable results after 4 years of study. Funding support for this project has been discontinued. - OTHER – Refer to the 2008 SFM Plan Indicator Reporting. | Y |
| 2007 | <ul style="list-style-type: none"> - ALT. HERBICIDE-WFP continued to support the 2006 research into biological controls for Rubus spp. (primarily salmonberry) with study sites in the Stillwater operation. - OTHER – Refer to the 2007 SFM Plan Indicator Reporting. | Y |
| 2006 | <ul style="list-style-type: none"> - ALT. HERBICIDE-Cascadia/WFP continued to support the above research into biological controls for Rubus spp. (primarily salmonberry) with study sites in the Stillwater operation. Because the study areas and dry salal sites of most concern are located on S.E. Vancouver Island, the research on biological controls for Salal is now being done in collaboration with Island Timberlands. - OTHER – Refer to the 2006 SFM Plan Indicator Reporting. | Y |

Strategies & Implementation

WFP maintains a corporate commitment to research activities across the company and this is demonstrated through a long history of support for research projects and initiatives. Research activities are managed through Corporate Forestry.

Research programs are summarized in individual reports maintained by Corporate Forestry. WFP Corporate Forestry maintains the up to date documentation of research activities. This documentation includes project plans, budgets, research activity progress, and actual dollars spent.

Corporate Forestry also facilitates the transfer of "Best Practices" from company and other agency research to operational planning staff.

MIFLAG has expressed particular interest in support of research that includes alternatives to herbicide use. Biological herbicides may be one potential replacement.

A biological herbicide is a non-chemical herbicide that contains a micro-organism as the active ingredient. It may be used to prevent or suppress the growth of a weed species. A weed may be considered as any plant that is growing where it is not wanted; attractive ornamentals may thus be considered weeds, if they appear in a location where they pose a problem.

Most existing biological herbicides contain either bacterial or fungal species as the active ingredient. Since they are considered to be herbicides, in the same way as all chemical herbicide products, biological herbicides must be subject to the same regulatory evaluation in order to ensure their safety for human populations, non-target species and the environment in general.

Forecasts

Continued allocation of resources to support applicable research is expected.

Monitoring

The Planning Department coordinates an annual summary of research projects supported by WFP (research is tracked by Corporate Forestry).

Indicator 6.5.B

| Element: 6.4 Fair and Effective Decision Making | | | | |
|--|---|---|---------------|-----------------|
| <i>Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.</i> | | | | |
| Value | Objective | Indicator | Target | Variance |
| The use of herbicides in the DFA is limited | Vegetation management in the DFA emphasizes non-herbicide methods | The cumulative percentage of brushing activities that is done using herbicides over the term of the PMP | ≤ 20% | None |

History

This indicator and target are carried forward from the 2009 SFM Plan (Indicator 36)

Justification

This indicator tracks the amount of brushing that is done on the DFA in order to meet our free growing obligations. WFP's intention is to minimize the use of herbicides. This indicator will track both herbicide and manual brush treatments to measure what proportion of the brushing program utilizes herbicides.

Current Status & Interpretation

| Year | Manual Brushing | | % | Herbicide Brushing | | % | Total ha Brushed | Target Met (Y/N) |
|-----------|-----------------|------------------|-----|--------------------|---------------|----|------------------|-----------------------|
| | Girdle | Brush Saw/ Other | | Ind. Tree | Ground Foliar | | | |
| 2013 | 97.0 | 22.2 | 43 | 155.5 | 0 | 57 | 274.7 | To be determined 2015 |
| 2012 | 142.8 | 21.4 | 40 | 231.8 | 12.5 | 60 | 408.5 | |
| 2011 | 74.2 | 87.3 | 45 | 198.7 | | 55 | 360.2 | |
| 2010 | 30.9 | 105.8 | 33 | 236.7 | 40.2 | 67 | 413.6 | |
| 2004-2009 | - | | 80 | - | | 20 | - | Y |
| 2009 | 17.7 | 564.1 | 81 | 51.5 | 81.8 | 19 | 715.1 | |
| 2008 | 0 | 128.1 | 100 | 0 | 0 | 0 | 128.1 | |
| 2007 | 1 | 57.0 | 94 | 0 | 3.8 | 6 | 60.8 | |
| 2006 | 0 | 63.7 | 51 | 61.0 | 0 | 49 | 124.7 | |
| 2005 | 0 | 142.1 | 71 | 58.4 | 0 | 29 | 124.7 | |

2010 is the first year in the five year term of the PMP. The five year average will be determined in 2015.

Strategies & Implementation

Brush control is essential for the establishment of new plantations and achieving free growing obligations. Herbicides are used where manual methods are ineffective or economically impractical. While the area of herbicide treatment may fluctuate from year to year it is the company's intent to minimize the use of herbicides and work towards the 20% target over the term of the PMP.

Over the last few years we have had an increase in amount of second growth harvesting. This harvesting is occurring on some of the richest sites on the DFA, where the brush hazard is greatest. In part to minimize the amount of brushing, identified sites where alder will regenerate naturally as a competitor to conifers, hardwood management strategies and stocking standards are being used up to a limited area (defined in FSP).

Areas of concern from public consultation process will be assessed for manual methods. Certain areas within the Sayward Valley previously identified by the Advisory Group will be brushed manually.

Forecasts

We anticipate that over the life of the PMP we will not be able to achieve the current targets. In 2014 this indicator needs to be reviewed.

Monitoring

The Planning Department coordinates reporting of the annual cumulative percentage of brushing activities that are done using herbicides. Herbicide use is also summarized annually and reported to the Pesticide Control Branch.