

Integrated Silviculture Strategy for the Mackenzie TSA

Implementation Monitoring Plan

Version 1.0

March 31, 2018

Project 419-35

Prepared by:

*Forsite Consultants Ltd.
330 – 42nd Street SW
PO Box 2079
Salmon Arm, BC V1E 4R1
250.832.3366*

Prepared for:

*BC Ministry of Forest, Lands and Natural
Resource Operations
Resource Practices Branch
PO Box 9513 Stn Prov Govt
Victoria, BC V8W 9C2*



Executive Summary

Implementation monitoring is intended to inform future ISS iterations and other forest-level analyses. At each reporting period, assessments will determine how well actual performance aligns with the key indicators from the tactical plans. Significant variances or new objectives (i.e., constraints) may suggest the need to update these forest-level analyses to produce new tactical plans that reflect actual performance.

This document describes an implementation monitoring plan that includes periodic assessments of how well various aspects of the tactical plans developed through the Integrated Silviculture Strategy for the Mackenzie TSA. The following monitoring details were developed for a total of nine indicators across three tactical plans (Reserve, Harvest, and Silviculture): planning indicators, objective, strategy, means of achieving objective, current status, target, and monitoring & reporting. Specific monitoring and reporting requirements are also listed for each plan.

Table of Contents

Executive Summary.....	1
Table of Contents.....	2
List of Tables.....	2
Document Revision History.....	2
1 Introduction.....	3
2 Implementation Monitoring Plan.....	4
2.1 Reserve Plan.....	4
2.2 Harvest Plan.....	5
2.3 Silviculture Plan.....	7
3 Monitoring and Reporting Requirements.....	8
4 Discussion.....	9

List of Tables

Table 1 Reserve Plan indicator table.....	4
Table 2 Harvest Plan indicator table.....	5
Table 3 Silviculture Plan indicator table.....	7
Table 4 Monitoring and Reporting Requirements.....	8

Document Revision History

Version	Date	Notes/Revisions
0.1	March 9, 2018	First version distributed to project team for review and comment prior to development of the tactical plans.
1.0	March 31, 2018	Included harvest plan targets for cable areas and stands with extreme fire risk (based on tactical plan results), as well as, silviculture plan targets.

1 Introduction

This document describes an Implementation Monitoring Plan for the Mackenzie TSA – ISS Tactical Plan¹. While forest licensees are not legally required to follow the tactics proposed in the ISS planning exercise, these tactics provide important guidance for key activities that will be monitored relative to harvesting and other performance indicators. Monitoring will focus on the implementation of these tactics over the life of the Tactical Plan. Ultimately, implementation monitoring is intended inform future ISS iterations and other forest-level analyses.

This monitoring plan reflects the outcomes generated through the Combined Scenario described in the Analysis Report² and used to develop the Tactical Plan: Reserve Plan, Harvest Plan and Silviculture Plan. For each scenario an indicator table was developed that captures the concepts and tactics of each scenario and provides a structured process to monitor implementation of the tactical plan. Each table is organized with the following items³:

- Planning Indicator — a variable that measures or describes the state or condition of a value identified during the ISS process;
- Objective — a broad statement describing a desired future state or condition of a value;
- Strategy — a coordinated set of actions designed to meet established targets;
- Means of Achieving Objective – a statement describing the intended method(s) to achieve an objective;
- Current Status – description of the current status of the indicator(s);
- Target — a specific statement describing a desired future state or condition of an indicator; and,
- Monitoring & Reporting – description of procedures, timelines, and method to monitor and report on performance to achieving targets. Periodic assessment of the quality and meaningfulness of the targets and indicators is recommended.

This document also provides a table that details the ongoing data requirements to complete the monitoring and reporting components of the implementation monitoring plan.

¹ Forsite Consultants Ltd. 2018. Integrated Silviculture Strategy for the Mackenzie TSA – Tactical Plan. Version 1.0. March 2018.

² Forsite Consultants Ltd. 2018. Integrated Silviculture Strategy for the Mackenzie TSA – Analysis Report. Version 1.1. March 2018.

³ Structure of the indicator table has been informed by the CSA Z809-16 standard,
<http://shop.csa.ca/content/ebiz/shopcsa/resources/documents/codes-and-standards/2424363.pdf>

2 Implementation Monitoring Plan

Various approaches⁴ were considered for the focus of a monitoring plan.

- *Effectiveness monitoring* is meant to assess whether the intent of the plan is being achieved. For example, if the plan is to trying to maintain a healthy population of wildlife species, then indicators to assess the population on the ground need to be developed for that. Because these measures can only be assessed on the ground, they are quite different than modeling indicators.
- *Validation monitoring* is meant to test the assumptions made in a modeling exercise, and is often more about pure research than monitoring. There is also the possibly of conducting a monitoring plan that *Supports Research* but this is not the current requirement of a monitoring plan.
- *Implementation monitoring* is designed to understand if tactics in a plan are being followed. Because the tactics in the ISS planning exercise for Mackenzie TSA are not legally binding on the Licensees implementation monitoring is considered the better approach in order to understand if the forest management activities within the Mackenzie TSA are moving key metrics towards the objectives and targets for each of the indicators. Monitoring indicators will keep the focus on big questions associated with the ISS planning process - what are we most interested in? Why did we use the tactics that we did use for a certain value?

The following monitoring plan focuses on the Reserve, Harvest and Silviculture Plans as described in the Analysis Report and Tactical Plan.

2.1 Reserve Plan

The Reserve Plan was designed to answer the question, “Where and how should we reserve forested stands to address landscape-level biodiversity and non-timber values while minimizing impacts to the working forest?” The underlying purpose of this scenario was to explore tactics aimed at maintaining the harvest area while providing a wide range of values on the land base (i.e. co-location).

Based on the above, the following indicator table was developed to establish a method to monitor progress towards targets and objectives.

Table 1 Reserve Plan indicator table.

Matrix Element	Description
Indicator(s)	1) The area and location of candidate reserves that remain intact (i.e., not harvested).
Objective	Maintain candidate reserves identified to address landscape-level biodiversity and non-timber values while minimizing impacts to the working forest.
Strategy	The Reserve Plan process determined that there are already large non-THLB areas that meet the old seral and interior old forest requirements. In other cases, old THLB areas – as well as some mature areas (non-THLB or THLB) were identified to meet the old seral requirements. Some examples where the model had to select old THLB area include 2-High-Selwyn, 4-Intermediate-Nation, 4-Low-Philip, 5-Low-Philip, and 6-High-Selwyn. Most of these assessment units (except 4-Low-Philip) are relatively small (<5,000 ha). Overall, the candidate reserves include 10,494 ha of THLB (<1% of the total THLB). There were also assessment units without enough old forest to meet the interior old forest requirement. Again, these assessment units were relatively small; some examples include 2-High-Selwyn CFLB area = 119 ha, CFLB old = 2 ha), 5-High-Nation (CFLB area = 715 ha, CFLB old = 12 ha), and 14 assessment units in BEC group 67.

⁴ Contributions from Ken Zielke, May 5, 2017

	The reserve strategy identifies areas that have not yet been field checked. Revisions to these candidate reserves are expected provided suitable replacements are identified (area-for-area) within the same BEC group /BEO/LU assessment unit.
Means of Achieving Objective	Forested candidate reserves identified within the non-THLB nearly meet the landscape-level reserve requirements thereby limiting recruitment needed from the THLB and minimizing overlaps with forest harvesting activities. Licensees will be informed of the candidate reserves identified in the tactical plan to potentially incorporate during operational planning.
Current Status	Spatial OGMA's are only designated for some LUs throughout the southern section of the Mackenzie TSA. For the rest of TSA, the landscape level biodiversity objectives are addressed through non-spatial old growth orders. The current process impacts THLB and forest operations.
Target	Maintain at least the area identified as reserves within each BEC group/BEO/LU throughout the 20 year tactical plan; with less than 1.0% of the THLB identified as reserves at the end of the tactical plan.
Monitoring & Reporting	Annual harvesting information with 5-year roll-up. Within each BEC group /BEO/LU, all harvest-related clearings (blocks and roads) will be spatially overlaid with candidate reserves (amended as required) to determine overlap. Report: <ul style="list-style-type: none"> ○ areas of candidate reserves by BEC group /BEO/LU and contribution class (Non-THLB and THLB), ○ total block and road area within each BEC group /BEO/LU, ○ area of blocks and roads overlapping with candidate reserves by BEC group/BEO/LU, and ○ reserve area remaining by BEC group /BEO/LU and contribution class. Report will be in a table or graph and will identify if reserve area is above, at, or under the area of candidate reserves along with the % of THLB reserved.

2.2 Harvest Plan

The Harvest Plan aimed to answer the question “Which stands should be prioritized for harvest/salvage in the short term (and what are the mid/long-term consequences of not following this strategy)?” The underlying purpose of this plan was to improve timber harvesting opportunities while mitigating the risk of economic loss to natural disturbances like insects and fire.

Based on the above, the following indicator table was developed to establish a method to monitor progress towards targets and objectives.

Table 2 Harvest Plan indicator table.

Matrix Element	Description
Indicator(s)	<ol style="list-style-type: none"> 1) Harvested area relative to the 5 established partitions (see below). 2) Harvested locations relative to the locations identified in the Harvest Plan (cumulative variance of overlapping areas - planned vs. actual). 3) Harvested area by TSB (Cumulative variance of area summarized by TSB - planned vs. actual). 4) Harvested area by designated harvest system (i.e., slope class). 5) Harvested area from stands with extreme fire risk.
Objective	Focus timber harvesting on stands that are forecasted to achieve the best balance of non-timber values and timber harvest levels into the long-term.
Strategy	<ol style="list-style-type: none"> 1) A sensitivity analysis showed that turning off the five harvest partitions resulted in a 12.3% harvest increase in the short-term, and 14.5% increase in the mid- and long-term. In addition, more deciduous and balsam leading stands were converted to future managed stands that included significant proportions of pine and spruce, which in turn, resulted in more pine and spruce volume being harvested in the long-term. Whether the go-north partition remains in place or not, reporting on harvest volume by species in the southwest TSA and the rest of the TSA is important to understand any developing trends.

	<p>2) The 20 year plan shows the forecasted harvest from cable harvest areas increases from 3% to 15%. This trend is paramount to maintaining the mid-term harvest level – particularly the front end.</p> <p>3) The wildfire management tactic aimed to incorporate stand- and landscape-level wildfire management strategies to mitigate wildfire risk. The forecasted harvest was prioritized for stands identified with 'extreme' risk through the 2015 Provincial Strategic Threat Analysis. These stands cover approximately 120,000 ha THLB.</p>																																																							
Means of Achieving Objective	<p>1) Continue to focus on salvaging MPB- and IBS-attacked stands.</p> <p>2) Harvest stands that maintain the 5 partitions identified in the latest timber supply review:</p> <ul style="list-style-type: none"> a) for the first 15 years, min 67% from pine-leading stands, b) for the first 15 years, max non-pine leading at 905,000 m³/yr, c) for the first 15 years, max non-pine leading at 300,000 m³/yr from the SW portion of the TSA, d) for the entire planning horizon, max 100,000 m³/yr deciduous, and e) for the entire planning horizon, even-flow balsam leading stands at 92,000 m³/yr. <p>3) Continue to explore economically viable ways to harvest timber from steeper slopes using cable harvest systems.</p> <p>4) Prioritize harvesting of stands identified with extreme wildfire risk and conifer-leading stands landscape-level fuel break.</p>																																																							
Current Status	A summary of the current status for each of the indicators listed above was not completed.																																																							
Targets	<p>1) Harvest within the following partition criteria:</p> <table border="1"> <thead> <tr> <th>Plan Years</th> <th>PI-Leading</th> <th>Non-PI-Leading</th> <th>Non-PI-Leading from SW TSA</th> <th>BI-Leading</th> <th>Deciduous-Leading</th> </tr> </thead> <tbody> <tr> <td>1-5</td> <td>67%</td> <td><905K m³/yr</td> <td><300K m³/yr</td> <td><92K m³/yr</td> <td><100 m³/yr</td> </tr> <tr> <td>6-10</td> <td>67%</td> <td><905K m³/yr</td> <td><300K m³/yr</td> <td><92K m³/yr</td> <td><100 m³/yr</td> </tr> <tr> <td>11-15</td> <td>67%</td> <td><905K m³/yr</td> <td><300K m³/yr</td> <td><92K m³/yr</td> <td><100 m³/yr</td> </tr> <tr> <td>16-20</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td><92K m³/yr</td> <td><100 m³/yr</td> </tr> </tbody> </table> <p>2) Harvest within the following Harvest Plan criteria (as described in the tactical plan):</p> <table border="1"> <thead> <tr> <th>Plan Years</th> <th>Variance from Planned Harvest Locations¹/Areas²</th> <th>Variance¹ from Planned Opening Size Levels³</th> <th>Identified Cable Areas</th> <th>Extreme Fire Risk</th> </tr> </thead> <tbody> <tr> <td>1-5</td> <td><25%</td> <td><25%</td> <td>≥3.4%</td> <td>≥33.8%</td> </tr> <tr> <td>6-10</td> <td><25%</td> <td><25%</td> <td>≥4.3%</td> <td>≥37.8%</td> </tr> <tr> <td>11-15</td> <td><20%</td> <td><20%</td> <td>≥5.7%</td> <td>n/a</td> </tr> <tr> <td>16-20</td> <td><20%</td> <td><20%</td> <td>≥6.3%</td> <td>n/a</td> </tr> </tbody> </table> <p>¹ Cumulative variance of overlapping areas (planned vs. actual) ² Cumulative variance of area summarized by TSB (planned vs. actual) ³ Cumulative variance of minimum, mean, maximum areas</p>	Plan Years	PI-Leading	Non-PI-Leading	Non-PI-Leading from SW TSA	BI-Leading	Deciduous-Leading	1-5	67%	<905K m ³ /yr	<300K m ³ /yr	<92K m ³ /yr	<100 m ³ /yr	6-10	67%	<905K m ³ /yr	<300K m ³ /yr	<92K m ³ /yr	<100 m ³ /yr	11-15	67%	<905K m ³ /yr	<300K m ³ /yr	<92K m ³ /yr	<100 m ³ /yr	16-20	n/a	n/a	n/a	<92K m ³ /yr	<100 m ³ /yr	Plan Years	Variance from Planned Harvest Locations ¹ /Areas ²	Variance ¹ from Planned Opening Size Levels ³	Identified Cable Areas	Extreme Fire Risk	1-5	<25%	<25%	≥3.4%	≥33.8%	6-10	<25%	<25%	≥4.3%	≥37.8%	11-15	<20%	<20%	≥5.7%	n/a	16-20	<20%	<20%	≥6.3%	n/a
Plan Years	PI-Leading	Non-PI-Leading	Non-PI-Leading from SW TSA	BI-Leading	Deciduous-Leading																																																			
1-5	67%	<905K m ³ /yr	<300K m ³ /yr	<92K m ³ /yr	<100 m ³ /yr																																																			
6-10	67%	<905K m ³ /yr	<300K m ³ /yr	<92K m ³ /yr	<100 m ³ /yr																																																			
11-15	67%	<905K m ³ /yr	<300K m ³ /yr	<92K m ³ /yr	<100 m ³ /yr																																																			
16-20	n/a	n/a	n/a	<92K m ³ /yr	<100 m ³ /yr																																																			
Plan Years	Variance from Planned Harvest Locations ¹ /Areas ²	Variance ¹ from Planned Opening Size Levels ³	Identified Cable Areas	Extreme Fire Risk																																																				
1-5	<25%	<25%	≥3.4%	≥33.8%																																																				
6-10	<25%	<25%	≥4.3%	≥37.8%																																																				
11-15	<20%	<20%	≥5.7%	n/a																																																				
16-20	<20%	<20%	≥6.3%	n/a																																																				
Monitoring & Reporting	<p>1) Summarize timber harvest data for the 5 established partition criteria over each 5-year period. Reporting will include tables, graphs, and/or maps.</p> <p>2) Summarize timber harvest data for the Harvest Plan criteria over each 5-year period. Reporting will include tables, graphs, and/or maps.</p>																																																							

2.3 Silviculture Plan

The Silviculture Plan aims to enhance timber quantity and quality over the mid- and long-term, as well as, improve biodiversity, wildlife habitat, and cultural interests. The plan was developed from the combined scenario by integrating three key silviculture tactics: 1) fertilization, 2) enhanced basic silviculture, and 3) rehabilitating MPB/IBS impacted stands. The Silviculture Plan reflects the best combination of these treatments given a speculative funding level of \$3 million per year over the first 20 years of the planning horizon.

Table 3 Silviculture Plan indicator table.

Matrix Element	Description																				
Indicator(s)	<ol style="list-style-type: none"> Annual funding available and spent to support silviculture investments. Area treated by TSB for each tactic: fertilization, enhanced basic silviculture, and rehabilitation (Cumulative variance of area summarized by TSB - planned vs. actual). 																				
Objective	Enhance timber quantity and quality over the mid- and long-term.																				
Strategy	<p>The Silviculture Plan reflects an opportunity to mix of 3 tactics at an annual funding level of \$3M /yr that results in timber supply gains (approximately 5% over the short- and mid-term) that may be used to stabilize the harvest flow or to off-set future reductions associated with enhancing non-timber values. The actual future realized gains depend entirely on the area treated and, by extension, the investment level throughout the 20-year plan period. Tracking these investments and areas treated will provide the data needed to reflect actual gains into future analyses and plans.</p> <p>Note: funding for enhanced basic silviculture regimes, through an operational cost allowance, must be developed for this project area.</p>																				
Means of Achieving Objective	<ol style="list-style-type: none"> Rehabilitate eligible MPB- and IBS-impacted stands to capture the economic benefit of any remaining timber from the stand and to quickly reforest these areas so that they will contribute to mitigating wildfire risk, ameliorating watershed health, improving habitat, and increasing the amount of harvestable timber sooner. To increase the amount of harvestable timber, apply fertilizer on eligible stands at least 10 years prior to harvest. Where possible, undertake multiple applications of fertilizer at least 10 years apart. Incorporate enhanced basic silviculture treatments that increase stocking levels of the best trees available on eligible stands. This aims to mitigate forest health issues, reduce the time to crown closure and ultimately increase the amount of available timber at harvest. 																				
Current Status	<p>A summary of the current status for each of the indicators listed above was not completed.</p> <p>These silviculture investments are expected to be supported through various funding sources (e.g., Land Based Investment, Forest Enhancement Society, and Operational Cost Allowance). Factors involved to allocate funds are outside the scope of this Silviculture Plan.</p>																				
Target	<p>There are no requirements or funding commitments established towards the opportunities presented in the silviculture plan. Accordingly, targets – and associated benefits – described under this plan only relate to the \$3 million funding level for all activities, which is uncertain.</p> <p>1) Treat within the following Silviculture Plan criteria (as described in the tactical plan):</p> <table border="1"> <thead> <tr> <th>Plan Years</th> <th>Variance from Areas¹ Planned for Rehabilitation</th> <th>Variance from Areas¹ Planned for Fertilization</th> <th>Variance from Areas¹ Planned for Enhanced Basic Silviculture</th> </tr> </thead> <tbody> <tr> <td>1-5</td> <td><25% (at least 8,046 ha)</td> <td><25% (at least 758 ha)</td> <td><25% (at least 827 ha)</td> </tr> <tr> <td>6-10</td> <td><25% (at least 6,949 ha)</td> <td><25% (at least 1,313 ha)</td> <td><25% (at least 3,845 ha)</td> </tr> <tr> <td>11-15</td> <td><25% (at least 5,021 ha)</td> <td><25% (at least 2,381 ha)</td> <td><25% (at least 8,861 ha)</td> </tr> <tr> <td>16-20</td> <td><25% (at least 4,484 ha)</td> <td><25% (at least 3,018 ha)</td> <td><25% (at least 9,765 ha)</td> </tr> </tbody> </table> <p>¹ Cumulative variance of area summarized by TSB (planned vs. actual)</p>	Plan Years	Variance from Areas ¹ Planned for Rehabilitation	Variance from Areas ¹ Planned for Fertilization	Variance from Areas ¹ Planned for Enhanced Basic Silviculture	1-5	<25% (at least 8,046 ha)	<25% (at least 758 ha)	<25% (at least 827 ha)	6-10	<25% (at least 6,949 ha)	<25% (at least 1,313 ha)	<25% (at least 3,845 ha)	11-15	<25% (at least 5,021 ha)	<25% (at least 2,381 ha)	<25% (at least 8,861 ha)	16-20	<25% (at least 4,484 ha)	<25% (at least 3,018 ha)	<25% (at least 9,765 ha)
Plan Years	Variance from Areas ¹ Planned for Rehabilitation	Variance from Areas ¹ Planned for Fertilization	Variance from Areas ¹ Planned for Enhanced Basic Silviculture																		
1-5	<25% (at least 8,046 ha)	<25% (at least 758 ha)	<25% (at least 827 ha)																		
6-10	<25% (at least 6,949 ha)	<25% (at least 1,313 ha)	<25% (at least 3,845 ha)																		
11-15	<25% (at least 5,021 ha)	<25% (at least 2,381 ha)	<25% (at least 8,861 ha)																		
16-20	<25% (at least 4,484 ha)	<25% (at least 3,018 ha)	<25% (at least 9,765 ha)																		

Monitoring & Reporting	1) Summarize treated area data for the Silviculture Plan criteria over each 5-year period. Reporting will include tables, graphs, and/or maps.
-----------------------------------	--

3 Monitoring and Reporting Requirements

The following table summarizes the data and reporting requirements for each indicator.

Table 4 Monitoring and Reporting Requirements

Plan	Indicator #	Data	Reporting Period	Reporting Format
Reserve	1	Spatial layer(s) of the following: <ul style="list-style-type: none"> o BEC group/BEO/LU o contribution class (Non-THLB and THLB) o candidate reserves developed in the Reserve Plan o cutblocks and buffered road widths (dissolved on opening id) harvested over the reporting period. 	5 year	Table and graph
	1	Spatial layer(s) of the following: <ul style="list-style-type: none"> o leading species and merchantable volume estimated from the forest inventory used in the Harvest Plan o area assigned as the SW portion of the TSA o cutblocks and buffered road widths (dissolved on opening id) harvested over the reporting period. 	5 year	Table
Harvest	2	Spatial layer(s) of the following: <ul style="list-style-type: none"> o openings developed in the Harvest Plan o cutblocks and buffered road widths (dissolved on opening id) harvested over the reporting period. 	5 year	Table, Graph, and Map
	3	Spatial layer(s) of the following: <ul style="list-style-type: none"> o BEC group/BEO/LU used in the Harvest Plan o contribution class (Non-THLB and THLB) used in the Harvest Plan o harvested blocks and buffered road widths (dissolved on opening id). 	5 year	Table and graph
	4	Spatial layer(s) of the following: <ul style="list-style-type: none"> o slope classification (i.e., ground vs. cable) used in the Harvest Plan o harvested blocks and buffered road widths (dissolved on opening id). 	5 year	Table and graph
	5	Spatial layer(s) of the following: <ul style="list-style-type: none"> o stands identified in the Harvest Plan with extreme fire risk o harvested blocks and buffered road widths (dissolved on opening id). 	5 year	Table and graph
	6	Spatial layer(s) of harvested blocks and buffered road widths (dissolved on opening id).	5 year	Table and graph
Silviculture	1	Summary data of the following: <ul style="list-style-type: none"> o annual funding allocated to the TSA by source 	5 year	Table

		<ul style="list-style-type: none"> ○ annual expenditures over the TSA by activity and funding source 		
	2	Spatial layer(s) of the following: <ul style="list-style-type: none"> ○ BEC group/BEO/LU ○ areas rehabilitated ○ areas fertilized ○ areas reforested under an enhanced basic silviculture regime 	5 year	Table and graph

4 Discussion

As described above, implementation monitoring is intended to inform future ISS iterations and other forest-level analyses. At each reporting period, results are compiled and compared to determine how well actual performance aligns with the key indicators from the tactical plans. Similar results indicate that we are on track towards achieving the future forest conditions described in the Combined Scenario, while large deviations would suggest that we are not. In fact, significant variances or new objectives (i.e., constraints) may also suggest the need to update these forest-level analyses to produce new results. At each reporting period, the indicators, objectives, and targets should also be reviewed to ensure they continue to align with planned outputs and expectations.

Many of the indicators described above are designed to compare the current status against results from the tactical plans. This warrants a complete package of summaries and spatial datasets developed in these plans to help simplify the monitoring steps in future assessments.

To fully understand the key elements for the monitoring steps described above, a preliminary assessment of all indicators should be undertaken within the first year, rather than waiting until the first reporting period to undertake. This will help to identify new reporting and analysis needs that are unforeseen at this time. For example, reporting processes within government systems (e.g., RESULTS, Forest Tenure Administration, Harvest Billing System, and Stumpage Cost Allowances) may need to be clarified or revised. Similarly, new methods for tracking annual funding levels and treatment costs may be required.

While the Silviculture Plan focuses on three tactics (rehabilitation, fertilization, and enhanced basic silviculture), monitoring efforts should note other silviculture activities being conducted to enhance timber quantity and quality.

As noted above, funding for enhanced basic silviculture regimes, through an operational cost allowance, must be developed for this project area.