



**June 7, 2012**

## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **Morice TSA**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

The majority of the air photos on which the forest cover inventory is based were acquired in the early 1990s.

##### **1.2 Inventory standard**

The forest cover attributes for the majority of the area conform to the FIP standard.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2011. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

Within the TSA, there are 97 inventory permanent sample plots (PSPs).

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on PEM or TEM coverage and SIBEC site index estimates.

##### **1.7 Audit analysis**

An inventory audit analysis was completed in 1998. Audit ground sample volume exceeded inventory file volume by 1%. The next inventory audit analysis will be completed in 2013.

### **1.8 MPB impact on the inventory**

After photo-interpretation, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of many forest stands. An estimated 24% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic.

### **2. Inventory Activities**

In 2011, SIBEC sampling was undertaken in Morice TSA. In 2012, 50 VRI Phase 2 samples will be taken in mature stands and 50 CMI samples will be established in young stands. Inventory audit analysis is planned for 2013. Ongoing activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

### **3. Acronyms**

CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.

FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.

GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.

MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.

NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.

PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.

PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.

SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.

TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.

THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.

TSA – Timber Supply Area. A large administrative area of Crown land.

VDYP – Variable Density Yield Prediction. A computer model used to estimate stand yield.

VRI – Vegetation Resources Inventory. The inventory system and standards in use today.



## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **Lakes TSA**

**June 7, 2012**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

The majority of the air photos on which the forest cover inventory is based were acquired in the late 1980s and early 1990s. In Tweedsmuir Park the inventory dates from the 1950s.

##### **1.2 Inventory standard**

The forest cover attributes for the majority of the area conform to the FIP standard.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2011. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

Within the TSA, there are 31 inventory permanent sample plots (PSPs), 80 VRI Phase 2 ground samples from 2000, 115 VRI Phase 2 ground samples from 2008, and 124 trees sampled for NVAF.

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on PEM or TEM coverage and SIBEC site index estimates.

##### **1.7 Audit analysis**

An inventory audit analysis was completed in 2008. VRI Phase 2 ground sample volume exceeded VDYP7 inventory file volume by 10%.

### **1.8 MPB impact on the inventory**

After photo-interpretation, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of many forest stands. An estimated 49% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic.

### **2. Inventory Activities**

In 2011, SIBEC sampling was undertaken in Lakes TSA. In 2012, mid-scale, digital air photos will be acquired for the TSA. A VRI inventory is planned for 2013-15. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

### **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
- VDYP – Variable Density Yield Prediction. A computer model used to estimate stand yield.
- VRI – Vegetation Resources Inventory. The inventory system and standards in use today.



## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **Prince George TSA**

**June 7, 2012**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

The air photos on which the forest cover inventory is based were acquired in the late 1990s and early 2000s.

##### **1.2 Inventory standard**

The forest cover attributes for the majority of the area conform to the VRI standard.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA with the exception of some TFL area (and minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2010. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

In the Fort St. James portion of the TSA there are 162 VRI Phase 2 ground samples from 2006. In the Prince George portion of the TSA there are 113, 161, and 38 VRI Phase 2 ground samples from 2000, 2006, and 2008, respectively. In the Vanderhoof portion of the TSA there are 70 VRI Phase 2 ground samples from 2001. In the TSA, there are 175 inventory permanent sample plots (PSPs) and 355 trees have been sampled for NVAF.

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on PEM or TEM coverage and SIBEC site index estimates.

##### **1.7 Audit analysis**

An inventory audit analysis was completed in 2010. VRI Phase 2 ground sample volume exceeded VDYP7 inventory file volume by 12%, 4%, and 10% in Prince George, Fort St James, and Vanderhoof, respectively.

##### **1.8 MPB impact on the inventory**

After photo-interpretation, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of many forest stands. Of the pre-beetle (1999) timber volume on the THLB, an estimated 25%, 20%, and 54% has been killed in the Fort St James, Prince George, and Vanderhoof districts, respectively.

## **2. Inventory Activities**

In 2010, SIBEC sampling was undertaken in Prince George TSA. In 2011, NVAF sampling was undertaken and the Vanderhoof PEM was assessed for accuracy. In 2012, mid-scale, digital air photos will be acquired for the Vanderhoof portion of the TSA and a VRI inventory is planned for 2013-15. In 2012 in the Prince George and Fort St James portions of the TSA, air photos will be acquired in strips for an inventory improvement project based on re-measurement of the NFI photo-plots. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

## **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
- VDYP – Variable Density Yield Prediction. A computer model used to estimate stand yield.
- VRI – Vegetation Resources Inventory. The inventory system and standards in use today.



## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **Mackenzie TSA**

**June 7, 2012**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

The air photos on which the forest cover inventory is based were acquired in the late 2000s, late 1990s, and 1970s in the southern, central, and northern portions of the TSA, respectively.

##### **1.2 Inventory standard**

In the southern and central portions that comprise about 80% of the TSA, the forest cover attributes conform to the VRI standard.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2010. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

Within the TSA, there are 283 inventory permanent sample plots (PSPs) and 70 VRI Phase 2 ground samples from 2011.

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on a biophysical site index model.

##### **1.7 Audit analysis**

An inventory audit analysis was completed in 1993. Audit ground volume was 10% less than inventory file volume. A second inventory audit analysis will be completed in 2012.

### **1.8 MPB impact on the inventory**

After photo-interpretation, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of many forest stands. An estimated 23% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic.

### **2. Inventory Activities**

In 2010, a VRI re-inventory was completed in the southern portion of the TSA. In 2011, 70 VRI Phase 2 ground samples were taken. In 2012, an inventory audit analysis will be completed. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

### **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
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## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

**Quesnel TSA**

**June 7, 2012**

### **1. State of the Forest Inventory**

#### **1.1 Vintage**

The air photos and satellite imagery on which the forest cover inventory is based were acquired in the late 2000s.

#### **1.2 Inventory standard**

In the eastern portion of the TSA, the forest cover attributes conform to the VRI standard. In the western portion of the TSA, the forest cover attributes conform to the LVI standard.

#### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA with the exception of some TFL area (and minor gaps that can result from private land, GIS slivers, and other factors).

#### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2011. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

#### **1.5 Ground samples**

Within the TSA, there are 71 inventory permanent sample plots (PSPs), 30 young stand monitoring (CMI) plots, 50 VRI Phase 2 ground samples from 2009, 100 understory samples from 2009, and 50 trees sampled for NVAF.

#### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on PEM or TEM coverage and SIBEC site index estimates.

#### **1.7 Audit analysis**

An inventory audit analysis was completed in 2011 for the eastern portion of the TSA. VRI Phase 2 ground sample volume was 80% of VDYP7 inventory file volume.

### **1.8 MPB impact on the inventory**

An estimated 54% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic. The air photos and satellite imagery on which the western Quesnel LVI inventory are based were acquired after the MPB epidemic had subsided. In eastern Quesnel, after photo-interpretation, MPB killed additional mature lodgepole pine and changed the characteristics of some forest stands. However, because lodgepole pine is not abundant in eastern Quesnel, post-photography mortality has a limited impact on the inventory.

### **2. Inventory Activities**

VRI Phase 1 inventory was completed in eastern Quesnel in 2009. In 2010, SIBEC sampling and VRI Phase 2 ground sampling was completed. In 2011, an LVI-based inventory was completed for the western portion of the TSA. In 2012, 30 (CMI) samples will be established to complete the young stand monitoring network in the TSA. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

### **3. Acronyms**

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- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
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## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **Williams Lake TSA**

**June 7, 2012**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

The air photos on which the forest cover inventory is based were acquired in the 1980s and 90s for the western portion of the TSA and in the late 2000s for eastern portion of the TSA. Along the western boundary of the TSA some inventory dates from the 1960s.

##### **1.2 Inventory standard**

In the eastern portion of the TSA, the forest cover attributes conform to the VRI standard. In the western portion of the TSA, the forest cover attributes conform to the FIP standard.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2011. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

Within the TSA, there are 119 inventory permanent sample plots (PSPs), 503 VRI Phase 2 ground samples from 1998, 60 VRI Phase 2 ground samples from 2000, and 198 trees sampled for NVAF in 1998-2002.

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on PEM or TEM coverage and SIBEC site index estimates.

##### **1.7 Audit analysis**

An inventory audit analysis was completed in 1998. Audit ground sample volume was 13% less than inventory file volume. The next inventory audit analysis is planned for 2014.

### **1.8 MPB impact on the inventory**

An estimated 33% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic. The air photos on which the inventory for eastern Williams Lake is based were acquired after the MPB epidemic had subsided. In western Williams Lake, after photo-interpretation, MPB has killed mature lodgepole pine and changed the characteristics of many forest stands.

### **2. Inventory Activities**

In 2010 and 2011, SIBEC sampling was completed. In 2012, VRI Phase 1 inventory will be completed in eastern Williams Lake. In 2012, an LVI-based inventory will be initiated for the western portion of the TSA. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

### **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
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## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **100 Mile House TSA**

**June 7, 2012**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

The air photos on which the forest cover inventory is based were acquired in the 1970s.

##### **1.2 Inventory standard**

The forest cover attributes conform to the FIP standard.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file, suspended while a re-inventory is underway, are current to 2007. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

Within the TSA, there are 90 inventory permanent sample plots (PSPs), 125 VRI Phase 2 ground samples from 1997-98, 75 VRI Phase 2 ground samples from 2001, and 114 trees sampled for NVAF.

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on PEM or TEM coverage and SIBEC site index estimates.

##### **1.7 Audit analysis**

An inventory audit analysis was completed in 2005. VRI Phase 2 ground sample volume was 6% less than VDYP6 inventory file volume.

## **1.8 MPB impact on the inventory**

After photo-interpretation for the current 70's era inventory, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of many forest stands. An estimated 38% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic.

## **2. Inventory Activities**

In 2010, SIBEC sampling was undertaken in the TSA. The VRI re-inventory currently underway in 100 Mile House is scheduled for completion in 2013. Ongoing inventory activities are continuing. Additional inventory activities will be identified in the future as required.

## **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
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- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
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## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **Kamloops TSA**

**June 7, 2012**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

In the southern portion of the TSA, the air photos on which the forest cover inventory is based were acquired in the late 90s. In the northern portion of the TSA, the photos were acquired in the 80s. The forest cover inventory in Tweedsmuir Park derives from photos acquired in the 50s.

##### **1.2 Inventory standard**

The forest cover attributes conform to the VRI standard in the southern portion of the TSA and to the FIP standard in the northern portion of the TSA.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2011. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

Within the TSA, there are 247 inventory permanent sample plots (PSPs), 21 CMI monitoring plots, 83 VRI Phase 2 ground samples from 2001, 34 VRI Phase 2 ground samples from 2003, and 225 trees sampled for NVAF.

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on site index predictions from a biophysical model.

### **1.7 Audit analysis**

An inventory audit analysis was completed in 2008. VRI Phase 2 ground sample volume exceeded VDYP7 inventory file volume by 1%.

### **1.8 MPB impact on the inventory**

After photo-interpretation, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of many forest stands. An estimated 14% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic.

## **2. Inventory Activities**

In 2011, air photos were acquired for the Kamloops TSA. A VRI re-inventory will commence in 2012. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

## **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
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## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

**Merritt TSA**

**June 7, 2012**

### **1. State of the Forest Inventory**

#### **1.1 Vintage**

The air photos on which the forest cover inventory is based were acquired in the early 1990s.

#### **1.2 Inventory standard**

The forest cover attributes conform to the FIP standard.

#### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

#### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2009. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

#### **1.5 Ground samples**

Within the TSA, there are 133 inventory permanent sample plots (PSPs), 125 VRI Phase 2 ground samples from 1999, and 168 trees sampled for NVAF.

#### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on PEM or TEM coverage and SIBEC site index estimates.

#### **1.7 Audit analysis**

An inventory audit analysis was completed in 2001. VRI Phase 2 ground sample volume was 4% less than VDYP6 inventory file volume.

### **1.8 MPB impact on the inventory**

After photo-interpretation, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of many forest stands. An estimated 14% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic.

### **2. Inventory Activities**

In 2012 the PEM in Merritt is being updated. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

### **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
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- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
- TEM – Terrestrial Ecosystem Mapping. Ecosystem mapping by photo-interpretation.
- THLB – Timber Harvesting Land Base. The area that is economically and environmentally suitable for timber harvesting.
- TSA – Timber Supply Area. A large administrative area of Crown land.
- VDYP – Variable Density Yield Prediction. A computer model used to estimate stand yield.
- VRI – Vegetation Resources Inventory. The inventory system and standards in use today.



## **State of the Forest Inventory and Synopsis of Current Inventory Activities**

### **Robson Valley TSA**

**June 7, 2012**

#### **1. State of the Forest Inventory**

##### **1.1 Vintage**

The air photos on which the forest cover inventory is based were acquired in the early 1990s, excepting some area in Mt Robson Park that dates from the 1970s.

##### **1.2 Inventory standard**

The forest cover attributes conform to the FIP standard.

##### **1.3 Completeness**

The publicly posted inventory file contains complete coverage of the TSA (excepting some minor gaps that can result from private land, GIS slivers, and other factors).

##### **1.4 Currency**

Harvest and reforestation updates to the inventory file are current to 2008-09. Harvest detection mapping based on satellite imagery is current to 2011. Recent fires and free-growing survey results have not been integrated into the inventory file. The inventory file has been projected to 2011 and polygon volumes have been adjusted to reflect MPB mortality observed in the 2010 forest health overview flight.

##### **1.5 Ground samples**

Within the TSA, there are 82 inventory permanent sample plots (PSPs), 73 VRI Phase 2 ground samples from 2008, and 60 trees sampled for NVAF.

##### **1.6 Site productivity**

The entire TSA is mapped for site index, primarily based on site index predictions from a biophysical model.

##### **1.7 Audit analysis**

An inventory audit analysis was completed in 2011. VRI Phase 2 ground sample volume exceeded VDYP7 inventory file volume by 20%.

### **1.8 MPB impact on the inventory**

After photo-interpretation, mountain pine beetle has killed mature lodgepole pine and changed the characteristics of some forest stands. An estimated 5% of the pre-beetle (1999) timber volume on the THLB has been killed in the current MPB epidemic.

### **2. Inventory Activities**

In 2010, VRI Phase 2 ground sampling was completed. In 2011, an inventory audit analysis was completed. Ongoing inventory activities, such as harvest and reforestation updates and adjusting polygon volume for MPB mortality, are continuing. Additional inventory activities will be identified in the future as required.

### **3. Acronyms**

- CMI – Change Monitoring Inventory. A PSP type used to monitor the growth of young stands.
- FIP – Forest Inventory Planning. The acronym often used for the photo-interpretation forest inventory standards that preceded the introduction of the VRI.
- GIS – Geographic Information System. A computer system for storing, manipulating, and presenting spatial data.
- MPB – Mountain Pine Beetle. A species of bark beetle native to western North America.
- NVAF – Net Volume Adjustment Factor. A correction for bias in predicted net tree volume derived from detailed on-the-ground tree measurements.
- PEM – Predictive Ecosystem Mapping. Ecosystem mapping by predictive models.
- PSP – Permanent Sample Plot. A ground sample plot re-measured periodically to record stand growth.
- SIBEC – Site index - Biogeoclimatic Ecosystem Classification. A method to predict site index from a location's ecosystem classification.
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