

# Land Base Inventory

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## FORWARD

Since 2015, Renewable Resources Inventory Section, of the Forest Planning Stewardship Branch has been responsible for generating an updated (Forest, Wetland, Non-Forest, and Water) Land Classification System. The most recent inventory cycle began with the use of 2013 vintage imagery and LIDAR products. Since then approximately one tenth of the province has been updated annually with the use of these products. Figure 1 depicts the acquisition schedule of these products.

**NEW BRUNSWICK'S  
INTEGRATED LAND CLASSIFICATION SYSTEM**

New Brunswick's Forest Inventory Classification System delineates provincial lands and water into the following categories:

I. NON-FORESTED LAND

II. WETLAND

III. WATER

IV. FORESTED LAND

**I. NON-FORESTED LAND CLASSIFICATION (NFLC)**

Non-Forested Land is described as land that is not primarily intended for growing or supporting a forest. Although some of these areas are treed, their primary land use involves non-forested management objectives.

The Non-Forest Land Classification identifies land polygons by the following hierarchy:

**Level 1 - Primary Land Use**

All non-forested land will be assigned a primary land use based on the following categories:

Agriculture (AGR) – land primarily used for growing agricultural products, non-timber tree products as well as fields and pasture land.

National Defense (DND) – land primarily used for National Defense training and exercises.

Industrial (IND) - land primarily used for industrial purposes including processing facilities.

Infrastructure (INF) – land primarily used for transportation, communication and utilities.

Recreation (REC) – land primarily used for sport, recreational, cultural and entertainment activities.

Settlement (SET) – land primarily used for urban and rural residential purposes.

Wildland (WIL) – land that is incapable of growing trees and uninfluenced by human activity.

**Level 2 – Specific Land Use**

All non-forested land will be assigned a specific land use which is directly related to one of the primary land use functions. These specific land uses are detailed in the table on the following page.

**Agricultural Lands:**

- CB – cultivated land used for blueberry production
- CH – cultivated land used for horticultural purposes; the production of sod, grass, flowers, ornamental trees and shrubs
- CL – cultivated land used for the production of crops including grains
- CO – cultivated orchards used for the production of fruit and seeds
- CT – cultivated land used for the production of Christmas trees
- FD – cultivated crop land protected from the tidal action of the Bay of Fundy
- FP – field/pasture land

**National Defense Lands:**

- BA – land occupied by military bases including buildings, parade grounds and installations
- EA – land used for military exercises and maneuvers
- IZ – impact zones for live ammunition ordinance training

**Industrial Lands:**

- GP – land used for the extraction of borrowed soil and gravel
- IP – land occupied by industrial and processing facilities, including storage and parking areas
- LF – landfill sites
- MI – land used for mining purposes
- PB – land used for the extraction of peat
- QU – land used for the extraction and crushing of rock material
- SG – land used for the treatment of sewage

**Infrastructure Lands:**

- AI – land used for airstrips
- AR – abandoned railways
- BO – breakwater in ocean
- BR – boat ramp
- BW – breakwater
- CS – land used for communication purposes such as television, radar and telephone towers
- DM – dam (polys only)
- FL – fish ladder
- GR – groyne
- PG – pipeline (gas)
- PP – land used for above ground and protected underground pipelines
- PW – pipeline (water)
  
- RD – provincial highways, causeways, resource access roads (not delineated during the interpretation phase)
- RR – railroads

- RY – land used for road right-of-ways
- SP – Slip
- TM – transmission lines
- WF – Wharf
- WT – Wind Turbine

#### Recreational Lands:

- CG – land used for campsites including picnic grounds and parking facilities
- GC – golf courses
- LE – leisure areas including large landscaped open areas used for entertainment purposes, playing fields, zoos, etc
- PA – treed parkland in residential settings
- SK – ski hill
- TR – land used for walking, hiking trails

#### Settlement:

- RU – residential rural settlements including churches, cemeteries, commercial businesses, farm storage facilities not within **1 km** of a designated municipality
- UR – urban settlements including residential, commercial and non-commercial facilities, infrastructure, parking areas, etc within a designated municipality

#### Wildland:

- BL – well-drained barren land that is incapable of growing merchantable sized trees.
- RF – lands located within and along rivers/streams that are periodically scoured by ice flows and possibly devoid of shrub, treed vegetation
- RO – rock outcrop, devoid of soil and vegetation

### **Level 3 – Active/Inactive Status**

All non-forested land will be assigned an active (A) or inactive (I) status.

### **Level 4 – Land Cover**

All non-forested land will be assigned a land cover which will denote the overall vegetative or non-vegetative nature of the polygon. Vegetative polygons will be further classified as to the type of vegetation present:

- NV – land with little or no vegetation present
- VG – land vegetated with grasses, crops, or other ground vegetation
- VS – land vegetated with shrubs
- VT – land vegetated with tree species





## II. WETLAND CLASSIFICATION

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is at or near the surface and the land is covered by shallow water at some time during the growing season. Wetlands are characterized by poorly drained soils, and have predominantly hydrophytic or water tolerant vegetation. New Brunswick's wetlands are grouped into two main wetland location (**WLOC**) categories: **freshwater/inland and coastal**. Please refer to the Wetland (WL) Classification Coding System table to see what attributes are available for each wetland or coastal feature class. The minimum polygon size (unless there are special cases) for delineation of wetlands is **1 hectare**.

The designation between freshwater wetlands or coastal wetlands (features) depends on their location on the landbase. The inland or coastal assignment will be based on the polygon's location relative to the ' Ordinary High Water Mark or Landward Limit of a Coastal Feature' line.

There are limitations to this line cover; on the major tributaries (i.e. Restigouche River), the delineation of coastal versus freshwater areas is not representative of the actual extent of coastal waters. These areas should be interpreted using common sense boundaries as is done with the assignment of ocean and river attributes.

### FRESHWATER WETLANDS (WLOC = F)

Freshwater or inland wetlands are typically located beyond the extent of salt water inundation and are landward of the high water mark/landward limit line. Each freshwater wetland polygon will be assigned a dominant wetland class (WC) based on area. One or more wetland classes may occur within the boundary of a larger wetland class, but all are treated as separate wetland polygons. These classes include:

**Aquatic Bed (AB)** - Includes all wetlands dominated by permanent shallow standing water (<2 meters in depth during mid summer) that may contain plants that grow on or below the surface of the water.

**Beach (BC)** - Beaches are unconsolidated deposits of sand, gravel, cobble and boulders on the shores of freshwater bodies. Although they are not a wetland they are features that may be associated with an adjacent wetland.

**Bog (BO)** - Includes all wetlands typically covered by peat, which have a saturated water regime as well as a closed drainage system (i.e. no water contributions from the upland). Bogs are distinguished from fens by their raised topography. The surface is frequently covered by ericaceous shrubs, sedges and sphagnum moss; black spruce is the common tree.

**Fen (FE)** - Includes all wetlands typically covered by peat, having a saturated water regime, and an open drainage system. Fens are natural depressions that receive water from surrounding upland areas or adjacent bogs through streams or surface runoff. The surface is typically covered by sedges. Beaver ponds and alder swamps (shrub wetland) are not considered fens.

**Freshwater Marsh (FM)** - Includes all wetlands dominated by rooted herbaceous plants. This class includes most typical marshes as well as seasonally flooded wet meadows.

**Forested Swamp (FS)** - This type of wetland is not common in New Brunswick since most treed wetlands fall under the 'Bog' classification. Included here are occasional forested areas with abundant standing water and the seasonally flooded forest of the Saint John River Valley and other floodplains. This class also includes areas with standing dead timber that have been flooded due to beaver ponds. These forested wetlands must have a BP modifier to highlight an altered water regime.

**Shrub Swamp (SS)** - Includes all wetlands dominated by a variety of shrubs. Most commonly includes shrub dominated marshes and alder thickets. This includes "Alders on Poor sites" (AP) from NFLC in the FOREST layer that are adjacent to wetlands or along watercourses (including intermittent streams).

## COASTAL WETLANDS AND SHORELINE FEATURES (WLOC = C)

Coastal wetlands and coastal shoreline features can be periodically or permanently covered by salt water or created by the influence of salt water. Wetlands seaward of the high water mark / landward limit line are considered to be coastal wetlands. These classes include:

**Beach (BC)** - Beaches are unconsolidated deposits of sand, gravel, cobble and boulders on the shores of saltwater bodies. Although they are not a wetland they are features that may be associated with an adjacent wetland.

**Coastal Marsh (CM)** - Coastal marshes are wetlands dominated by rooted herbaceous plants that drain directly into coastal waters and have the potential to be at least partially inundated with salt or brackish water.

**Dune (DU)** - Dunes are unconsolidated sand or gravel deposits capping beach environments recognized by raised topography. Dunes may be vegetated with salt-tolerant vegetation such as marram grass or may be established with ericaceous vegetation or tree species (e.g. forested dune). Although they are not a wetland they are features that are often associated with an adjacent wetland.

**Rocky Shore (RK)** - Rocky shores are areas of bedrock exposed between the extreme high and extreme low tide levels on the coastal shores. Rocky shores are often vegetated with rockweed and other plants that attach to the rock substrate. Although they are not a wetland they are features that are often associated with an adjacent wetland.

**Tidal Flat (TF)** - Tidal flat habitats are areas of mud and sandy mud exposed between the extreme high tide and extreme low tide marks. They form from the deposition of mud in sheltered tidal water, particularly in estuaries where there is a large sediment load. Tidal flats can be vegetated with various types of seaweed or sea grasses such as eel grass. Although they are not a wetland they are features that are often associated with an adjacent wetland.

## WETLAND ATTRIBUTES

Each wetland polygon will be assigned a water regime indicator (**WRI**), an impoundment modifier (**IM**) (only if the water regime is affected by it), a specific vegetation cover type (**VT**) and a percent vegetation cover for specific vegetation cover types (**SPVC**).

### Water Regime Indicator (WRI)

Each wetland and coastal/shoreline feature is assigned a water regime indicator which is a measure of the occurrence of water within the wetland.

**Permanently Flooded (PF)** - Greater than 20% of the wetland is covered by standing surface water for all or most of the growing season. Standing surface water includes vegetated and unvegetated ponds as well as all creeks.

**Saturated (SA)** - The substrate is saturated to the surface for extended periods during the growing season, but less than 20% of the wetland is covered by surface water. Bogs and fens have saturated water regimes.

**Seasonally Flooded (SF)** - Surface water is present on the wetland only for a short period during the growing season in most years.

**Tidal (TD)** - Surface water may only be present on wetlands during high tide. The level of water fluctuates with tidal influence or features of coastal environments are influenced by the tides (i.e. beach and dune formations are often affected by tidal fluctuations and storm surges but are not necessarily covered with water on a daily basis.)

### Impoundment Modifier (IM)

Wetlands with an obvious altered water regime may receive one of the following qualifiers:

**Beaver Pond (BP)** - Only to be used if the beaver dam is affecting the water regime of a wetland (does not include old beaver dams that are still visible). A wetland polygon can be subdivided if the beaver dam is only affecting a portion of the wetland's water regime.

### Man Made Impoundment (MI)

**Ducks Unlimited Impoundment (DI)** – Interpreters will be given NBDNR's Duck's Unlimited point shapefile to assist in assigning this modifier.

## Specific Vegetation Cover Type (VT)

In addition to the overall Wetland Class or Coastal Feature type, each wetland polygon is further subdivided into Specific Vegetation Cover Types. The minimum approximate polygon size for delineation of a Specific Vegetation Cover Type is **1 hectare**. The cover types will consist of the following:

**Alders (AW)** - Alder stands or swales that are associated with a watercourse or a wetland.

**Emergent Vegetation (EV)** - Common marsh plants include cattails, bur-reeds, various sedges, rushes and grasses like bluejoint and cordgrass spp., flowering herbaceous plants, goldenrods, asters and many others.

**Feature Unvegetated (FU)** - This vegetation type is used to describe coastal features or shoreline features that do not have visible vegetation.

**Feature Vegetated (FV)** - This vegetation type is used to describe coastal or shoreline features that have visible vegetation (i.e. exposed at low tide or visible submerged vegetation). Dunes may be vegetated with salt-tolerant vegetation such as marram grass or may be established with ericaceous vegetation or tree species (e.g. forested dune). Tidal flats can be vegetated with various types of submerged aquatic vegetation such as eel grass in large expansive areas extending from the shoreline or in narrow fringing beds along steeper shorelines. Rocky shores can be vegetated with various seaweeds commonly known as rockweed.

**Forested Softwood Vegetation (FS)** - Non-commercial or commercial softwood tree species such as cedar, tamarack and black spruce that are located in a forested wetland.

**Forested Hardwood Vegetation (FH)** - Non-commercial or commercial hardwood tree species such as silver maple that are located in a forested wetland. Hardwood-dominated forested wetlands are normally found in floodplain areas.

**Shrub Vegetation, except alders (SV)** - Some dominant species of shrub are willows, dogwoods, meadow sweet, bog rosemary, leatherleaf, Labrador tea and saplings of trees such as red maple.

**Moss and Low Shrub Vegetation (MV)** – Sphagnum species dominates with occasional low shrubs such as heath species.

**Open Water Unvegetated (OW)** - Open water and no vegetation is present. This designation is used for inland/freshwater wetlands only.

**Open Water Vegetated (OV)** - Open water with vegetation present on top of or near the water surface; includes areas of shallow water with visible submerged vegetation. This designation is used for inland/freshwater wetlands only.

**Percent Vegetation Cover for Specific Vegetation Cover Types (SPVC)**

This attribute is an estimate of the amount of wetland vegetation versus water or non-vegetated area in each of the Specific Vegetation Cover Types. All inland/freshwater wetland classes will typically be a ratio of vegetation to water, whereas coastal wetlands and features may be a ratio of vegetation to water or vegetated to non-vegetated areas. For example, the percent vegetation for tidal flats and rocky shores will be a ratio of vegetated to non-vegetated areas as they are flooded daily and may be covered with water when the aerial photo was taken. Coastal marshes may have dry areas (salt pannes) and/or ponds of water. Both of these should be considered when deciding the vegetation cover percentage. Coastal wetlands or features that are not vegetated (e.g. beach) will receive a SPVC = 1.

1. Less than 5% of the wetland area or coastal feature is covered in vegetation.
2. 5-25% of the wetland area or coastal feature is covered in vegetation.
3. 26-75% of the wetland area or coastal feature is covered in vegetation.
4. 76-95% of the wetland area or coastal feature is covered in vegetation.
5. Greater than 95% of the wetland area or coastal feature is covered in vegetation

### Wetland (WL) Classification Coding System

#### Wetland Location

| Freshwater Wetland/Feature (F)   |                |                                  |                                  |  |  |  | Coastal Wetland/Feature (C)   |                |                |                      |                 |
|----------------------------------|----------------|----------------------------------|----------------------------------|--|--|--|-------------------------------|----------------|----------------|----------------------|-----------------|
| Freshwater Wetland/Feature Class |                |                                  |                                  |  |  |  | Coastal Wetland/Feature Class |                |                |                      |                 |
| Aquatic Bed (AB)                 | Beach (BC)     | Bog (BO)                         | Fen (FE)                         | Forested (FW)                          | Marsh (FM)                             | Shrub (SB)                             | Beach (BC)                    | Marsh (CM)     | Dune (DU)      | Rocky Shoreline (RK) | Tidal Flat (TF) |
| Water Regime Indicator (WRI)     |                |                                  |                                  |  |  |  | Water Regime Indicator (WRI)  |                |                |                      |                 |
| PF<br>SF                         | SF             | SA                               | SA                               | PF<br>SF                               | PF<br>SF                               | PF<br>SF                               | TD                            | PF<br>SF<br>TD | TD             | TD                   | TD              |
| Impoundment Modifier (IM)        |                |                                  |                                  |  |  |  | Impoundment Modifier (IM)     |                |                |                      |                 |
| BP<br>MI<br>DI                   | BP<br>MI<br>DI | BP<br>MI<br>DI                   | BP<br>MI<br>DI                   | BP<br>MI<br>DI                         | BP<br>MI<br>DI                         | BP<br>MI<br>DI                         | BP<br>MI<br>DI                | BP<br>MI<br>DI | BP<br>MI<br>DI | BP<br>MI<br>DI       | BP<br>MI<br>DI  |
| Vegetation Cover Type (VT)       |                |                                  |                                  |  |  |  | Vegetation Cover Type (VT)    |                |                |                      |                 |
| OV<br>OW                         | FU             | AW<br>EV<br>FS<br>SV<br>OV<br>OW | AW<br>EV<br>FS<br>SV<br>OV<br>OW | AW<br>EV<br>FH<br>FS<br>SV<br>OV<br>OW | AW<br>EV<br>FH<br>FS<br>SV<br>OV<br>OW | AW<br>EV<br>FH<br>FS<br>SV<br>OV<br>OW | FU                            | FU<br>FV       | FU<br>FV       | FU<br>FV             | FU<br>FV        |
| Percent Vegetation Cover         |                |                                  |                                  |  |  |  | Percent Vegetation Cover      |                |                |                      |                 |
| 1,2,3,4,5                        | 1,2,3,4,5      | 1,2,3,4,5                        | 1,2,3,4,5                        | 1,2,3,4,5                              | 1,2,3,4,5                              | 1,2,3,4,5                              | 1,2,3,4,5                     | 1,2,3,4,5      | 1,2,3,4,5      | 1,2,3,4,5            | 1,2,3,4,5       |

### III. WATER CLASSIFICATION

All water polygons greater than 1 hectare in area will be interpreted using the following water code classification:

**Aquaculture (AQ)** – Saltwater or freshwater areas used for commercial fish farming.

**Lake (LK)** – A natural or artificial static body of freshwater which has a depth of more than two (2) meters in some portion of its area and is greater than five (5) hectares in area.

**Ocean (ON)** – A large body of salt water that is located at, along or near the province’s coastline.

**Pond (PN)** – A static body of freshwater often but not always artificially formed and is usually less than five (5) hectares in area. They can be shallow or greater than two (2) meters in depth with little or no emergent vegetation visible.

**River/Stream (RV)** – A watercourse formed when water flows between continuous, definable banks. Gravel bars are part of these watercourses while islands and river flats within the watercourse that have definable banks are not. A watercourse must have a width greater than twenty (20) meters before it can be considered a river polygon.

**Salt Lake (SL)** – A static body of unvegetated brackish water that is usually located on the inland side of coastal sand dunes.

**Tidal Influence (RT)** – That portion of a River/Stream that is affected by tidal influence.

**River Bed (RB)** – That portion of a watercourse that has its bed exposed at some point (photo capture) due to low water flow. (2011)

#### IV. PRODUCTIVE FOREST LAND

Productive forest land is defined as forest land that is producing or is capable of producing a merchantable stand of trees within a reasonable length of time. The Forest Development Classification System will classify productive forest land by three main categories:

##### FST 1 - Forest Stand Type 1

Productive forestland with no or minimal (occupying < 30% of the stand area) unmerchantable stand component.

##### FST 2 - Forest Stand Type 2

Productive forest land with both merchantable and unmerchantable stand components.

##### FST 3 - Forest Stand Type 3

Productive forest land with no or minimal (<35m<sup>3</sup>/ha) merchantable stand component.

#### STAND ATTRIBUTES OF ALL FST's:

##### Site Indicators:

All FST's may be assigned one the following site indicators (SITEI):

- D - the stand exhibits less than normal tree growth (height, diameter, stocking) that are on poor (rock, boulders, compacted soil) but well drained sites
- F - the stand is prone to periodic flooding
- P - the stand exhibits less than normal tree growth (height, diameter, stocking) that are on poorly drained sites (usually black spruce stands associated with bogs and fens)
- W - the stand exhibits normal tree growth but are usually associated with wetlands and/or wet soils. This excess moisture can be limiting in young or unmerchantable stands especially post disturbance

##### Residual Volume Indicators:

Only FST3's may be assigned one of the following residual volume indicators (VOLI):

- V - FST3's may be assigned volume indicator when residual volume is less than 35 m<sup>3</sup>/ha
- Y - FST3's that have merchantable volume present (less than 35 m<sup>3</sup>/ha) as a result of ingrowth which are merchantable



|                               |   |
|-------------------------------|---|
| <u>Stand Volume:</u>          | FST3 may be assigned the amount of residual volume (LIVOL) to the nearest 5 m <sup>3</sup> /ha.<br>FST1 and FST2 may also be assigned a stand volume (LIVOL) (m <sup>3</sup> /ha) <b>from an update record only.</b>  |
| <u>Stand Basal Area:</u>      | FST1 and FST2 may be assigned a basal area (L1BA) <b>from an update record only.</b>  |
| <u>Origin:</u>                | All FST's may be assigned the following origin code (ORIGIN), if known:<br>B - the stand originated from a burn<br>F - the stand originated from a field<br>G - the stand originated from a gravel pit<br>M - the stand originated from mining debris<br>N - the stand originated from natural succession<br>W - the stand originated from a blowdown (windthrow)<br><br>If the origin of a stand is the result of a cut or partial cut, no origin is required since it's contained in the harvest treatment. |
| <u>Treatment:</u>             | All FST's may be assigned one the most recent treatment or disturbance code (TRT):  |
| <u>Burn Disturbance:</u>      | All FST's may be assigned the following burn code as the result of forest fire damage<br><br>BB - the stand was entirely or extensively burned<br>PB - the stand was partially burned   |
| <u>Burn Disturbance Year:</u> | If the FST has received a burn disturbance, it must be assigned the year it received the treatment (if known).  |
| <u>Wind Disturbance:</u>      | Stands may be assigned the following windthrow code as result of wind damage<br><br>WD - the stand was partially or entirely blown down   |

Wind Disturbance Year: If the FST has received a wind disturbance, it must be assigned the year it received the treatment (if know).

License Key: All FST's may be assigned a **LIC\_KEY**, a unique identifying code supplied by Crown Land Licensees (**from record only**).

Harvest Treatments: All FST's may be assigned up to five (H1 to H4) harvest treatment codes to chronicle the various harvests that have influenced the stand's development. H1 will designate the oldest harvest treatment, H 4 the most recent.

Stands with a harvest treatment may be assigned a **HARV\_ID**, a unique identifying code supplied by Crown Land Licensees (**from record only**)

#### **Harvest Treatments include:**

##### **Clearcut Treatments**

CC - the stand received a final cut or clearcut  
 RC - the Stand received a regeneration protection cut  
 RR - the stand received a residual removal cut  
 FW - the stand received a fuelwood cleanup cut  
 SA - the stand received a salvage cut  
 (RC, FW, SA, SE) are not interpreted but are obtained from harvest records

##### **Partial Harvest Treatments – Group Selection**

PA - the stand received a patch cut  
 ST - the stand received a strip cut

##### **Partial Treatments – Single Tree Selection**

CT - the stand received a commercial thinning  
 IT - the stand received an intermediate/semi-commercial thinning  
 PC - the stand received a selection cut  
 TP - the stand received the first of a two pass harvest  
 SH - the stand received a shelterwood cut

SR - the stand received a softwood removal harvest  
 Note: IT, TP, SH, SR treatments are not interpreted but are obtained from harvest records.

Harvest Treatment Year: If an FST has received a harvest treatment, it must be assigned the year it received the treatment (if known).

Planted Treatments: All FST's may be assigned a planted treatment code. Plantations may be assigned a **PLANT\_ID**, a unique identifying code supplied by Crown Land Licensees (from record only).

**Planted treatments include:**

the stand received a fill plant  
 FP -  
 PL - the stand received a full plant  
 FT - a planted stand used for family testing of superior trees  
 PT - a planted stand used for progeny testing

Planted Treatment Year: If an FST has received a planted treatment, it must be assigned the year it received the treatment (if known).

Stand Improvement Treatments: All FST's may be assigned a stand improvement code. Pre-commercially thinned stands may be assigned a **THIN\_ID**, a unique identifying code supplied by Crown Land Licensees (from record only).

**Stand improvement treatments include:**

TI - the stand received a precommercial thinning  
 CL - the stand was planted and received a subsequent cleaning

Stand Improvement Treatment Year: If an FST has received a planted treatment, it must be assigned the year it received the treatment (if known).

**A. Forest Stand Type 1 - No Unmerchantable Component**

Forested land primarily made up of merchantable size tree species with no or a limited amount of unmerchantable stems.

**LAYER ATTRIBUTES:****INDIVIDUAL SPECIES ATTRIBUTES:**

Species: Individual species description (up to five) of all merchantable stems within a forest stand type 1 (FST 1).

| <b>Softwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
|---|------------------|------------------|
| BS, WS, RS, BF  | 10%              | 100%             |
| DF, DS, RP, JP, WP, TL, EC, EH                        | 10%              | 100%             |
| SF, FS, PI, OS, SP, SW                                | 10%              | 20%              |
|   |                  |                  |
| <b>Hardwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
| RM, SM, YB, BE, PO, BI, OH, NC, AL                    | 10%              | 100%             |
| AS, OA, WA, GA, BH, RO, BO, IR, BA,<br>BU, EM, SI, BC | 10%              | 100%             |
| TH, IH, HW  | 10%              | 20%              |

The species composition will contain a maximum of two age classes for an individual species.

Species SpecificAge Class:

Balsam fir and Spruce will be assigned a code to designate the age class (10yr increments for bF; 15yr increments for SP, bS, rS and wS) of that species within each stand.

| <b>Balsam Fir (bF)</b> |             | <b>Spruce (bS, wS, rS)</b> |             |
|------------------------|-------------|----------------------------|-------------|
| <b>Age Class</b>       | <b>Code</b> | <b>Age Class</b>           | <b>Code</b> |
|                        |             | 16 – 30                    | 2           |
| 21 - 30                | 3           | 31 – 45                    | 3           |
| 31 – 40                | 4           | 46 – 60                    | 4           |
| 41 -50                 | 5           | 61 – 75                    | 5           |
| 51 – 60                | 6           | 76 – 90                    | 6           |
| 61 – 70                | 7           | 91 – 105                   | 7           |
| 71 +                   | 8           | 106 – 120                  | 8           |
|                        |             | 121 +                      | 9           |

Development Stage: Each species within the classification (other than spruce and balsam fir) will be assigned a development stage which indicates that species' age and vigour.

| Development Stage (DS) | DS Code |
|------------------------|---------|
| Young                  | Y       |
| Immature               | I       |
| Mature                 | M       |
| Overmature             | O       |

Percent Ratio: Each species/age class component within the classification will be assigned a number (1-10) indicating the percent ratio of merchantable volume of that component to the total merchantable volume of the stand. The sum of all individual ratios must total at least 9 (or 90% of the stand composition must be described). Whenever possible, 100% of the stand should be described.

#### **MERCHANTABLE LAYER ATTRIBUTES:**

Year of Establishment: An FST 1 may be assigned a year in which the stand was established either through an intervention (cut or plantation) or natural causes (fire or blowdown) or L1ESTYR

Development Stage: Each FST 1 will be assigned a predominant development stage:

| Development Stage (DS) | DS Code |
|------------------------|---------|
| Young                  | Y       |
| Immature               | I       |
| Mature                 | M       |
| Overmature             | O       |

Horizontal StandStructure:

Each FST 1 will be assigned a Crown Closure code which indicates the percent of ground area covered by the vertically projected tree crown areas.

| <b>% Crown Closure (%CC)</b> | <b>%CC Code</b> |
|------------------------------|-----------------|
| 10-30%                       | 1               |
| 10-30%, patchy, variable     | 61              |
| 30-50%                       | 2               |
| 30-50%, patchy, variable     | 62              |
| 50-70%                       | 3               |
| 50-70%, patchy, variable     | 63              |
| 70-90%                       | 4               |
| 70-90%, patchy, variable     | 64              |
| 90% +                        | 5               |

PlantationStocking Class

An FST 1 that has been fill planted or full planted will be assigned a stocking class code which indicates the percent of the stand occupied by **planted** trees.

| <b>% of Area Occupied by Planted Species</b> | <b>Stocking Class Code</b> |
|--|----------------------------|
| 0-20%  | 1                          |
| 21-30%                                       | 2                          |
| 31-40%                                       | 3                          |
| 41-50%                                       | 4                          |
| 51-60%                                       | 5                          |
| 61-70%                                       | 6                          |
| 71-80%                                       | 7                          |
| 81-90%                                       | 8                          |
| 91-100%                                      | 9                          |

Vertical StandStructure:

Each FST 1 will be assigned a VSS code which will describe the number of canopy layers in the forest stand.

| <b>Vertical Stand Structure (VSS)</b> | <b>VSS Code</b> |
|---------------------------------------|-----------------|
| one canopy layer                      | 1               |
| two canopy layers                     | 2               |
| multi-canopied (more than 2)          | 3               |

In order to be considered a separate canopy layer, each canopy level must cover at least 30% of the area of the stand and average heights of separate canopy layers must vary by more than 25% i.e. the average height of the lower canopy level must be less than 75% of the average height of the upper canopy level.

Average Stand

Height:

Each FST 1 will be assigned an average stand height to the nearest meter based on the dominant/codominant trees whose individual development stage matches the stand development stage.

Merchantable

Density Class:

Each FST 1 will be assigned an average density class code for all merchantable stems.

| Density Classes (DC in stems/ha) | DC Code |
|----------------------------------|---------|
| 0 - 600                          | 1       |
| 600 - 1200                       | 2       |
| 1200 +                           | 3       |

Size Class:

Each FST 1 will be assigned a DBH class representing the diameter range containing the most merchantable volume.

| DBH Size Classes (SC) | SC Code |
|-----------------------|---------|
| 10 – 14               | 1       |
| 16 – 24               | 2       |
| 26 +                  | 3       |

Year of  
Establishment:

An FST 1 may be assigned a year in which the stand was established either through an intervention (cut or plantation) or natural causes (fire, blowdown) or L1ESTYR. An FST1 can also be assigned a year in which advanced regeneration prior to an intervention was first established or L1ARYR (**from record only**).

Basal Area:

An FST 1 may be assigned a basal area (m<sup>2</sup>/ha) (**from record only**)

**Forest Stand Type 1 (FST1) – No Unmerchantable Component**

| ATTRIBUTE                                      | STAND   |                            |                            |                            |                            |
|--|---|----------------------------|----------------------------|----------------------------|----------------------------|
| Site Indicator                                 | D, P, W   |                            |                            |                            |                            |
| Origin   | B, F, N, W  |                            |                            |                            |                            |
| Burn Disturbance                               | BB, PB  |                            |                            |                            |                            |
| Burn Disturbance Year                          | 4 digits  |                            |                            |                            |                            |
| Wind Disturbance                               | WD  |                            |                            |                            |                            |
| Wind Disturbance Year                          | 4 digits  |                            |                            |                            |                            |
| License Key                                    | Not specified   |                            |                            |                            |                            |
| Harvest Treatment                              | Clearcut treatments CC, RC, RR, FW, SA, SE<br>Partial Harvest Treatments PA, ST, CT, IT, PC, SC, TP, SH, SR |                            |                            |                            |                            |
| Harvest Treatment Year                         | 4 digits  |                            |                            |                            |                            |
| Planted Treatments                             | FP, FT, PL, PT  |                            |                            |                            |                            |
| Planted Treatment Year                         | 4 digits  |                            |                            |                            |                            |
| Stand Improvement Treatment                    | TI, CL  |                            |                            |                            |                            |
| Stand Improvement Treatment Year               | 4 digits  |                            |                            |                            |                            |
| ATTRIBUTE                                      | INDIVIDUAL SPECIES  |                            |                            |                            |                            |
| Species<br>(as per species list)               | S1  | S2                         | S3                         | S4                         | S5                         |
| Stand Specific Age Class                       | if bF or SP<br>3-8; 2-9   | if bF or SP<br>3-8; 2-9    | if bF or SP<br>3-8; 2-9    | if bF or SP<br>3-8; 2-9    | if bF or SP<br>3-8; 2-9    |
| Development Stage<br>(other than bF or Spruce) | Y, I, M, O  | Y, I, M, O                 | Y, I, M, O                 | Y, I, M, O                 | Y, I, M, O                 |
| Percent Ratio<br>(merchantable volume)         | 2-10<br>(10%<br>classes)  | ≤ PRS1<br>(10%<br>classes) | ≤ PRS2<br>(10%<br>classes) | ≤ PRS3<br>(10%<br>classes) | ≤ PRS4<br>(10%<br>classes) |
| ATTRIBUTE                                      | LAYER   |                            |                            |                            |                            |
| Development Stage                              | Y, I, M, O  |                            |                            |                            |                            |
| Horizontal Stand Structure (Crown Closure)     | 1-5, 6-variable, patchy   |                            |                            |                            |                            |
| Stocking Class                                 | 1-4   |                            |                            |                            |                            |
| Plantation Stocking Class                      | 1-9   |                            |                            |                            |                            |
| Vertical Stand Structure                       | 1-3   |                            |                            |                            |                            |
| Average Stand Height                           | to the nearest 1m   |                            |                            |                            |                            |
| Average Density Class of SW and HW             | 1-5   |                            |                            |                            |                            |
| Year of Establishment                          | 4 digits  |                            |                            |                            |                            |
| Basal Area (m <sup>3</sup> /ha)                | to the nearest 1m <sup>3</sup>  |                            |                            |                            |                            |



## B. Forest Stand Type 2 - Merchantable and Unmerchantable Components

Forest land containing a merchantable overstory and an unmerchantable understory. The unmerchantable component must occupy at least 30% of the stand area and the volume of the merchantable component must be greater than 35 m<sup>3</sup>/ha\*. A full description of the merchantable overstory as well as the unmerchantable understory is required for these forest stands.

### MERCHANTABLE OVERSTORY COMPONENT

#### LAYER ATTRIBUTES:

#### INDIVIDUAL SPECIES ATTRIBUTES OF THE MERCHANTABLE OVERSTORY:

Species: Individual species description (up to five) of all merchantable stems within a forest stand type 2 (FST 2).

| <b>Softwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
|---|------------------|------------------|
| BS, WS, RS, BF  | 10%              | 100%             |
| DF, DS, RP, JP, WP, TL, EC, EH                        | 10%              | 100%             |
| SF, FS, PI, OS, SP, SW                                | 10%              | 20%              |
|   |                  |                  |
| <b>Hardwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
| RM, SM, YB, BE, PO, BI, OH, NC, AL                    | 10%              | 100%             |
| AS, OA, WA, GA, BH, RO, BO, IR, BA,<br>BU, EM, SI, BC | 10%              | 100%             |
| TH, IH, HW  | 10%              | 20%              |

The species composition will contain a maximum of two age classes for an individual species.

Species SpecificAge Class:

Balsam Fir and Spruce will be assigned a code to designate the age class (10yr increments for bF; 15yr increments for SP, bS, rS and wS) of that species within the overstory.

| <b>Balsam Fir (bF)</b> |             | <b>Spruce (bS, wS, rS)</b> |             |
|------------------------|-------------|----------------------------|-------------|
| <b>Age Class</b>       | <b>Code</b> | <b>Age Class</b>           | <b>Code</b> |
|                        |             | 16 – 30                    | 2           |
| 21 - 30                | 3           | 31 – 45                    | 3           |
| 31 – 40                | 4           | 46 – 60                    | 4           |
| 41 -50                 | 5           | 61 – 75                    | 5           |
| 51 – 60                | 6           | 76 – 90                    | 6           |
| 61 – 70                | 7           | 91 – 105                   | 7           |
| 71 +                   | 8           | 106 – 120                  | 8           |
|                        |             | 121 +                      | 9           |

Development Stage:

Each species within the classification (other than spruce and balsam fir) will be assigned a development stage which indicates that species' age and vigour.

| <b>Development Stage (DS)</b> | <b>DS Code</b> |
|-------------------------------|----------------|
| Young                         | Y              |
| Immature                      | I              |
| Mature                        | M              |
| Overmature                    | O              |

Percent Ratio:

Each species/age class component within the classification will be assigned a number (1-10) indicating the percent ratio of the merchantable volume of that component to the total merchantable volume of the overstory.

The sum of all individual percent ratios must total at least 9 (or 90% of the stand composition must be described). Whenever possible, 100% of the stand should be described.

**MERCHANTABLE LAYER ATTRIBUTES OF THE OVERSTORY**Year of Establishment:

The merchantable overstory be assigned a year in which the stand was established either through an intervention (cut or plantation) or natural causes (fire, blowdown) or L1ESTYR. The merchantable overstory can also be assigned a year in which advanced regeneration prior to an intervention was first established or L1ARYR (**from record only**).

DevelopmentStage:

The merchantable overstory will be assigned a predominant development stage.

| Development Stage (DS) | DS Code |
|------------------------|---------|
| Young                  | Y       |
| Immature               | I       |
| Mature                 | M       |
| Overmature             | O       |

Horizontal StandStructure:

The merchantable overstory will be assigned a Crown Closure code which indicates the percent of ground area covered by the vertically projected tree crown areas.

| % Crown Closure (%CC)    | %CC Code |
|--------------------------|----------|
| 10-30%                   | 1        |
| 10-30%, patchy, variable | 61       |
| 30-50%                   | 2        |
| 30-50%, patchy, variable | 62       |
| 50-70%                   | 3        |
| 50-70%, patchy, variable | 63       |
| 70-90%                   | 4        |
| 70-90%, patchy, variable | 64       |
| 90% +                    | 5        |

Plantation  
Stocking  
Class

A merchantable overstory that has been fill planted or full planted will be assigned a stocking class code which indicates the percent of the stand occupied by **planted** trees.

| <b>% of Area Occupied by Planted Species</b> | <b>Stocking Class Code</b> |
|--|----------------------------|
| 0-20%  | 1                          |
| 21-30%                                       | 2                          |
| 31-40%                                       | 3                          |
| 41-50%                                       | 4                          |
| 51-60%                                       | 5                          |
| 61-70%                                       | 6                          |
| 71-80%                                       | 7                          |
| 81-90%                                       | 8                          |
| 91-100%                                      | 9                          |

Vertical Stand  
Structure:

The merchantable overstory will be assigned a VSS code which will describe the number of canopy layers in the merchantable overstory.

| <b>Vertical Stand Structure (VSS)</b> | <b>VSS Code</b> |
|---------------------------------------|-----------------|
| one canopy layer                      | 1               |
| two canopy layers                     | 2               |
| multi-canopied (more than 2)          | 3               |

In order to be considered a separate canopy layer, each canopy level must cover at least 30% of the area of the stand and average heights of separate canopy layers must vary by more than 25% i.e. the average height of the lower canopy level must be less than 75% of the average height of the upper canopy level.

Average Stand  
Height:

The merchantable overstory will be assigned an average height to the nearest meter based on the dominant/codominant trees whose individual development stage matches the stand development stage.

MerchantableDensity Class:

The merchantable overstory will be assigned an average density class code for all merchantable stems.

| Density Classes (DC in stems/ha) | DC Code |
|----------------------------------|---------|
| 0 - 600                          | 1       |
| 600 - 1200                       | 2       |
| 1200 +                           | 3       |

Size Class:

The merchantable overstory will be assigned a DBH class representing the diameter range containing the most merchantable volume.

| DBH Size Classes (SC) | SC Code |
|-----------------------|---------|
| 10 – 14               | 1       |
| 16 – 24               | 2       |
| 26 +                  | 3       |

Basal Area:

The merchantable overstory may be assigned a basal area (m<sup>2</sup>/ha) (**from record only**).

### B1. Forest Stand Type (FST2) – Merchantable and Unmerchantable Components – Merchantable Overstory Component

| ATTRIBUTE                                      | STAND   |                         |                         |                         |                         |
|--|---|-------------------------|-------------------------|-------------------------|-------------------------|
| Site Indicator                                 | D, P, W   |                         |                         |                         |                         |
| Origin   | B, F, N, W  |                         |                         |                         |                         |
| Burn Disturbance                               | BB, PB  |                         |                         |                         |                         |
| Burn Disturbance Year                          | 4 digits  |                         |                         |                         |                         |
| Wind Disturbance                               | WD  |                         |                         |                         |                         |
| Wind Disturbance Year                          | 4 digits  |                         |                         |                         |                         |
| License Key                                    | Not specified   |                         |                         |                         |                         |
| Volume Indicator                               | V, Y  |                         |                         |                         |                         |
| Residual Volume                                | 15, 20, 25, 30  |                         |                         |                         |                         |
| Harvest Treatment                              | Clearcut Treatments CC, RC, RR, FW, SA, SE<br>Partial Harvest Treatments PA, ST, CT, IT, PC, SC, TP, SH, SR |                         |                         |                         |                         |
| Harvest Treatment Year                         | 4 digits  |                         |                         |                         |                         |
| Planted Treatments                             | FP, FT, PL, PT  |                         |                         |                         |                         |
| Planted Treatment Year                         | 4 digits  |                         |                         |                         |                         |
| Stand Improvement Treatment                    | TI, CL  |                         |                         |                         |                         |
| Stand Improvement Treatment Year               | 4 digits  |                         |                         |                         |                         |
| ATTRIBUTE                                      | INDIVIDUAL SPECIES  |                         |                         |                         |                         |
| Species<br>(as per species list)               | S1  | S2                      | S3                      | S4                      | S5                      |
| Stand Specific Age Class                       | if bF or SP<br>3-8; 2-9   | if bF or SP<br>3-8; 2-9 | if bF or SP<br>3-8; 2-9 | if bF or SP<br>3-8; 2-9 | if bF or SP<br>3-8; 2-9 |
| Development Stage<br>(other than bF or Spruce) | Y, I, M, O  | Y, I, M, O              | Y, I, M, O              | Y, I, M, O              | Y, I, M, O              |
| Percent Ratio<br>(merchantable volume)         | 2-10<br>(10% classes)   | ≤ PRS1<br>(10% classes) | ≤ PRS2<br>(10% classes) | ≤ PRS3<br>(10% classes) | ≤ PRS4<br>(10% classes) |
| ATTRIBUTE                                      | LAYER   |                         |                         |                         |                         |
| Development Stage                              | Y, I, M, O  |                         |                         |                         |                         |
| Horizontal Stand Structure (Crown Closure)     | 1-5, 6-variable, patchy   |                         |                         |                         |                         |
| Stocking Class                                 | 1-4   |                         |                         |                         |                         |
| Plantation Stocking Class                      | 1-9   |                         |                         |                         |                         |
| Vertical Stand Structure                       | 1-3   |                         |                         |                         |                         |
| Average Stand Height                           | to the nearest 1m   |                         |                         |                         |                         |
| Average Density Class of SW and HW             | 1-5   |                         |                         |                         |                         |
| Year of Establishment                          | 4 digits  |                         |                         |                         |                         |
| Basal Area (m <sup>3</sup> /ha)                | to the nearest 1m <sup>3</sup>  |                         |                         |                         |                         |

### UNMERCHANTABLE UNDERSTORY COMPONENT

The unmerchantable component of a Forest Stand Type 2 (FST 2) will be characterized by two distinct stages:

Regenerating Stage Understory: An understory predominantly comprised of trees which are less than 3 meters in height with no merchantable volume present.

Sapling Stage Understory: An understory predominantly comprised of trees which are approximately 2-7 meters in height with DBH's ranging from 1.0 to 9.0 cm. Trees in this stage have not yet accumulated merchantable volume.

#### LAYER ATTRIBUTES:

#### INDIVIDUAL SPECIES ATTRIBUTES OF THE UNMERCHANTABLE UNDERSTORY:

Species: Individual species description (up to five) of all merchantable stems within a forest stand type 2 (FST 2).

| <b>Softwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
|---|------------------|------------------|
| BS, WS, RS, BF  | 10%              | 100%             |
| DF, DS, RP, JP, WP, TL, EC, EH                        | 10%              | 100%             |
| SF, FS, PI, OS, SP, SW                                | 10%              | 20%              |
|   |                  |                  |
| <b>Hardwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
| RM, SM, YB, BE, PO, BI, OH, NC, AL                    | 10%              | 100%             |
| AS, OA, WA, GA, BH, RO, BO, IR, BA,<br>BU, EM, SI, BC |                  |                  |
| TH, IH, HW  | 10%              | 20%              |

\*Exception: In the regenerating stage, when individual softwood and hardwood species cannot be identified, they may be grouped as SW or HW up to 100%. This exception should only be applied for recent disturbances. If there is no visible regeneration present, no individual species need be identified.

Unmerchantable

Stage: Each species within the unmerchantable understory (including spruce and fir) will be assigned an unmerchantable stage.

| Development Stage (DS) | DS Code |
|------------------------|---------|
| Regenerating           | R       |
| Sapling                | S       |

Percent Ratio: Each species/unmerchantable stage component within the understory will be assigned a number (1-10) indicating the percent abundance of that component to the total abundance of all in the understory.

The sum of all individual percent ratios must total at least 9 (or 90% of the unmerchantable understory must be described).

**UNMERCHANTABLE LAYER ATTRIBUTES OF THE UNDERSTORY**Year of Establishment:

The unmerchantable understory may be assigned a year in which the stand was established either through an intervention (cut or plantation) or natural causes (fire, blowdown) or L2ESTYR. The unmerchantable understory can also be assigned a year in which advanced regeneration prior to an intervention was first established or L2ARYR (**from record only**).

Development Stage: The unmerchantable understory will be assigned a predominant development stage based on the species composition and disturbances.

| Development Stage (DS) | DS Code |
|------------------------|---------|
| Regenerating           | R       |
| Sapling                | S       |



Horizontal StandStructure:

In the unmerchantable understory the horizontal stand structure (HSS) will consist of an estimate of crown closure and an estimate of stocking.

The crown closure code indicates the percent of ground area covered by the vertically projected tree crown areas.

| <b>% Crown Closure (%CC)</b> | <b>%CC Code</b> |
|------------------------------|-----------------|
| 10-30%                       | 1               |
| 10-30%, patchy, variable     | 61              |
| 30-50%                       | 2               |
| 30-50%, patchy, variable     | 62              |
| 50-70%                       | 3               |
| 50-70%, patchy, variable     | 63              |
| 70-90%                       | 4               |
| 70-90%, patchy, variable     | 64              |
| 90% +                        | 5               |

StockingClass

The stocking class code indicates the percent of the stand area occupied by natural commercial SW and HW stems (not used for plantations) in the unmerchantable understory.

| <b>Stocking Class (SC of naturals)</b> | <b>SC Code</b> |
|--|----------------|
| 0-25%                                  | 1              |
| 25-50%                                 | 2              |
| 50-75%                                 | 3              |
| 75-100%                                | 4              |

PlantationStockingClass

An unmerchantable understory that has been fill planted or full planted will be assigned a stocking class code which indicates the percent of the stand occupied by **planted** trees.

| <b>% of Area Occupied by Planted Species</b> | <b>Stocking Class Code</b> |
|--|----------------------------|
| 0-20%  | 1                          |
| 21-30%                                       | 2                          |

|         |   |
|---------|---|
| 31-40%  | 3 |
| 41-50%  | 4 |
| 51-60%  | 5 |
| 61-70%  | 6 |
| 71-80%  | 7 |
| 81-90%  | 8 |
| 91-100% | 9 |

Vertical StandStructure:

The unmerchantable understory will be assigned a VSS code which will describe the number of canopy layers comprising the understory.

| <b>Vertical Stand Structure (VSS)</b> | <b>VSS Code</b> |
|---------------------------------------|-----------------|
| one canopy layer                      | 1               |
| two canopy layers                     | 2               |

In order to be considered a separate canopy layer, each canopy level must cover at least 30% of the area of the stand and average heights of separate canopy layers must vary by more than 25% i.e. the average height of the lower canopy level must be less than 75% of the average height of the upper canopy level.

Average StandHeight:

The unmerchantable understory will be assigned an average height to the nearest metre based on the dominant/codominant trees whose individual development stage matches the stand development stage.

Density Class:

All commercial stems in the unmerchantable understory will be assigned an average density class code.

| <b>Density Classes (DC in stems/ha)</b> | <b>DC Code</b> |
|---|----------------|
| 0 – 5000                                | 1              |
| 5000 - 10000                            | 2              |
| 10000 - 20000                           | 3              |
| 20000 - 30000                           | 4              |
| 30000 +                                 | 5              |

**B2. Forest Stand Type (FST2) – Merchantable and Unmerchantable Components –  
Unmerchantable Understory Component**

| ATTRIBUTE                                  | STAND   |                         |                         |                         |                         |
|--|---|-------------------------|-------------------------|-------------------------|-------------------------|
| Site Indicator                             | D,P, W  |                         |                         |                         |                         |
| Origin                                     | B,F,N,W   |                         |                         |                         |                         |
| Burn Disturbance                           | BB, PB  |                         |                         |                         |                         |
| Burn Disturbance Year                      | 4 digits  |                         |                         |                         |                         |
| Wind Disturbance                           | WD  |                         |                         |                         |                         |
| Wind Disturbance Year                      | 4 digits  |                         |                         |                         |                         |
| License Key                                | Not specified   |                         |                         |                         |                         |
| Volume Indicator                           | V, Y  |                         |                         |                         |                         |
| Residual Volume                            | 15, 20, 25, 30  |                         |                         |                         |                         |
| Harvest Treatment                          | Clearcut Treatments CC, RC, RR, FW, SA, SE<br>Partial Harvest Treatments PA, ST, CT, IT, PC, SC, TP, SH, SR |                         |                         |                         |                         |
| Harvest Treatment Year                     | 4 digits  |                         |                         |                         |                         |
| Planted Treatments                         | FP, FT, PL, PT  |                         |                         |                         |                         |
| Planted Treatment Year                     | 4 digits  |                         |                         |                         |                         |
| Stand Improvement Treatment                | TI, CL  |                         |                         |                         |                         |
| Stand Improvement Treatment Year           | 4 digits  |                         |                         |                         |                         |
| ATTRIBUTE                                  | INDIVIDUAL SPECIES  |                         |                         |                         |                         |
| Species<br>(as per species list)           | S1  | S2                      | S3                      | S4                      | S5                      |
| Unmerchantable Stage                       | S or R  | S or R                  | S or R                  | S or R                  | S or R                  |
| Percent Ratio<br>(merchantable volume)     | 2-10<br>(10% classes)   | ≤ PRS1<br>(10% classes) | ≤ PRS2<br>(10% classes) | ≤ PRS3<br>(10% classes) | ≤ PRS4<br>(10% classes) |
| ATTRIBUTE                                  | LAYER   |                         |                         |                         |                         |
| Development Stage                          | Y, I, M, O  |                         |                         |                         |                         |
| Horizontal Stand Structure (Crown Closure) | 1-5, 6-variable, patchy   |                         |                         |                         |                         |
| Stocking Class                             | 1-4   |                         |                         |                         |                         |
| Plantation Stocking Class                  | 1-9   |                         |                         |                         |                         |
| Vertical Stand Structure                   | 1-3   |                         |                         |                         |                         |
| Average Stand Height                       | to the nearest 1m   |                         |                         |                         |                         |
| Average Density Class of SW and HW         | 1-5   |                         |                         |                         |                         |
| Year of Establishment                      | 4 digits  |                         |                         |                         |                         |
| Basal Area (m <sup>3</sup> /ha)            | to the nearest 1m <sup>3</sup>  |                         |                         |                         |                         |

**C. Forest Stand Type 3 - Merchantable Stand Component < or = 35 m<sup>3</sup>/ha**

Forest land comprised of an unmerchantable component with no or a minimal (< 35 or = m<sup>3</sup>/ha) merchantable component. These forest stands will be characterized by two distinct stages:

Regenerating Stage: Forest stands predominantly comprised of trees which are less than 3 metres in height with no merchantable volume present.

Sapling Stage: Forest stands predominantly comprised of trees which are approximately 2-7 metres in height with DBH's ranging from 1.0 to 9.0 cm. Trees at this stage have not accumulated merchantable volume.

**LAYER ATTRIBUTES:****INDIVIDUAL SPECIES ATTRIBUTES:**

Species: Individual species description (up to five) of all merchantable stems within a forest stand type 3 (FST 3).

| <b>Softwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
|---|------------------|------------------|
| BS, WS, RS, BF  | 10%              | 100%             |
| DF, DS, RP, JP, WP, TL, EC, EH                        | 10%              | 100%             |
| SF, FS, PI, OS, SP, SW                                | 10%              | 20%              |
|   |                  |                  |
| <b>Hardwoods</b>                                      | <b>min % vol</b> | <b>max % vol</b> |
| RM, SM, YB, BE, PO, BI, OH, NC, AL                    | 10%              | 100%             |
| AS, OA, WA, GA, BH, RO, BO, IR, BA,<br>BU, EM, SI, BC |                  |                  |
| TH, IH, HW  | 10%              | 20%              |

\*Exception: In the regenerating stage, when individual softwood and hardwood species cannot be identified, they may be grouped as SW or HW up to 100%. This exception should only be applied for recent disturbances. If there is no visible regeneration present, no individual species need be identified.

UnmerchantableStage:

Each species within a forest stand type 3 (FST 3) will be assigned an unmerchantable stage.

| Development Stage (DS) | DS Code |
|------------------------|---------|
| Regenerating           | R       |
| Sapling                | S       |

Percent Ratio:

Each species/unmerchantable stage component within a forest stand type 3 will be assigned a number (1-10) indicating the percent abundance of that component to the total abundance of all species in the stand. Abundance is a subjective estimate of the relative amount of any species within a FST 3 considering density, stocking and crown cover.

The sum of all individual percent ratios must total at least 9 (or 90% of the stand composition must be described). Whenever possible, 100% of the stand should be described.

**UNMERCHANTABLE LAYER ATTRIBUTES:**Year ofEstablishment:

An FST 3 may be assigned a year in which the stand was established either through an intervention (cut or plantation) or natural causes (fire, blowdown) or L2ESTYR. The FST 3 can also be assigned a year in which advanced regeneration prior to an intervention was first established or L2ARYR (**from record only**).

Development Stage:

An FST 3 will be assigned a predominant development stage based on the species composition and disturbance.

| Development Stage (DS) | DS Code |
|------------------------|---------|
| Regenerating           | R       |
| Sapling                | S       |

Horizontal StandStructure:

In an FST 3, the HSS will consist of an estimate of crown closure and an estimate of stocking.

Crown Closure

The crown closure code indicates the percent of ground area covered by the vertically projected

| <b>% Crown Closure (%CC)</b> | <b>%CC Code</b> |
|------------------------------|-----------------|
| 10-30%                       | 1               |
| 10-30%, patchy, variable     | 61              |
| 30-50%                       | 2               |
| 30-50%, patchy, variable     | 62              |
| 50-70%                       | 3               |
| 50-70%, patchy, variable     | 63              |
| 70-90%                       | 4               |
| 70-90%, patchy, variable     | 64              |
| 90% +                        | 5               |

Stocking Class:

The stocking class code indicates the percent of the stand area occupied by natural commercial SW and HW stems (not used for plantations) in the unmerchantable understory.

| <b>Stocking Class (SC of naturals)</b> | <b>SC Code</b> |
|--|----------------|
| 0-25%                                  | 1              |
| 25-50%                                 | 2              |
| 50-75%                                 | 3              |
| 75-100%                                | 4              |

Plantation  
Stocking  
Class

An FST 3 that has been fill planted or full planted will be assigned a stocking class code which indicates the percent of the stand occupied stand occupied by **planted** trees.

| <b>% of Area Occupied by Planted Species</b> | <b>Stocking Class Code</b> |
|--|----------------------------|
| 0-20%  | 1                          |
| 21-30%                                       | 2                          |
| 31-40%                                       | 3                          |
| 41-50%                                       | 4                          |
| 51-60%                                       | 5                          |
| 61-70%                                       | 6                          |
| 71-80%                                       | 7                          |
| 81-90%                                       | 8                          |
| 91-100%                                      | 9                          |

Vertical Stand

Structure:

An FST 3 will be assigned a VSS code which will describe the number of canopy layers in an FST 3.

| <b>Vertical Stand Structure (VSS)</b> | <b>VSS Code</b> |
|---------------------------------------|-----------------|
| one canopy layer                      | 1               |
| two canopy layers                     | 2               |

In order to be considered a separate canopy layer, each canopy level must cover at least 30% of the area of the stand and average heights of separate canopy layers must vary by more than 25% i.e. the average height of the lower canopy level must be less than 75% of the average height of the upper canopy level.

Average Stand

Height:

Each FST 3 will be assigned an average height to the nearest meter based on the dominant/codominant trees whose individual development stage matches the stand development stage.

Density Class: An FST 3 will be assigned an average density class code for the density of all commercial stems.

| Density Classes (DC in stems/ha) | DC Code |
|----------------------------------|---------|
| 0 – 5000                         | 1       |
| 5000 - 10000                     | 2       |
| 10000 - 20000                    | 3       |
| 20000 - 30000                    | 4       |
| 30000 +                          | 5       |

**C. Forest Stand Type (FST3) – Merchantable Stand Components < 35 m<sup>3</sup>/ha**

| ATTRIBUTE                                  | STAND   |                         |                         |                         |                         |
|--|---|-------------------------|-------------------------|-------------------------|-------------------------|
| Site Indicator                             | D,P, W  |                         |                         |                         |                         |
| Origin                                     | B,F,N,W   |                         |                         |                         |                         |
| Burn Disturbance                           | BB, PB  |                         |                         |                         |                         |
| Burn Disturbance Year                      | 4 digits  |                         |                         |                         |                         |
| Wind Disturbance                           | WD  |                         |                         |                         |                         |
| Wind Disturbance Year                      | 4 digits  |                         |                         |                         |                         |
| License Key                                | Not specified   |                         |                         |                         |                         |
| Volume Indicator                           | V, Y  |                         |                         |                         |                         |
| Residual Volume                            | 5, 10, 15, 20, 25, 30   |                         |                         |                         |                         |
| Harvest Treatment                          | Clearcut Treatments CC, RC, RR, FW, SA, SE<br>Partial Harvest Treatments PA, ST, CT, IT, PC, SC, TP, SH, SR |                         |                         |                         |                         |
| Harvest Treatment Year                     | 4 digits  |                         |                         |                         |                         |
| Planted Treatments                         | FP, FT, PL, PT  |                         |                         |                         |                         |
| Planted Treatment Year                     | 4 digits  |                         |                         |                         |                         |
| Stand Improvement Treatment                | TI, CL  |                         |                         |                         |                         |
| Stand Improvement Treatment Year           | 4 digits  |                         |                         |                         |                         |
| ATTRIBUTE                                  | INDIVIDUAL SPECIES  |                         |                         |                         |                         |
| Species<br>(as per species list)           | S1  | S2                      | S3                      | S4                      | S5                      |
| Unmerchantable Stage                       | S or R  | S or R                  | S or R                  | S or R                  | S or R                  |
| Percent Ratio<br>(merchantable volume)     | 2-10<br>(10% classes)   | ≤ PRS1<br>(10% classes) | ≤ PRS2<br>(10% classes) | ≤ PRS3<br>(10% classes) | ≤ PRS4<br>(10% classes) |
| ATTRIBUTE                                  | LAYER   |                         |                         |                         |                         |
| Development Stage                          | Y, I, M, O  |                         |                         |                         |                         |
| Horizontal Stand Structure (Crown Closure) | 1-5, 6-variable, patchy   |                         |                         |                         |                         |
| Stocking Class                             | 1-4   |                         |                         |                         |                         |
| Plantation Stocking Class                  | 1-9   |                         |                         |                         |                         |
| Vertical Stand Structure                   | 1-3   |                         |                         |                         |                         |
| Average Stand Height                       | to the nearest 1m   |                         |                         |                         |                         |
| Average Density Class of SW and HW         | 1-5   |                         |                         |                         |                         |
| Year of Establishment                      | 4 digits  |                         |                         |                         |                         |
| Basal Area (m <sup>3</sup> /ha)            | to the nearest 1m <sup>3</sup>  |                         |                         |                         |                         |



**D. LIST OF SPECIES/SPECIES GROUPS (Photo-Interpreted)**

- SP - when BS, RS, or WS occur in the same stand, but individually do not make up 10% of the stand volume, they are grouped and identified as SP to a maximum of 20% of the stand volume.
- RS - red spruce
- BS - black spruce
- WS - white spruce
- SF - when spruce and balsam fir occur in the same stand, but individually do not make up 10% of the stand volume and spruce is the dominant species, they are grouped and identified as SF to a maximum of 20% of the stand volume.
- BF - balsam fir
- FS - when balsam fir and spruce occur in the same stand, but individually do not make up 10% of the stand volume and balsam fir is the dominant species, they are grouped and identified as FS to a maximum of 20% of the stand volume.
- DF - merchantable dead fir
- DS - merchantable dead spruce
- JP - jack pine
- RP - red pine
- WP - white pine
- PI - when pine species occur, but individually do not make up 10% of the stand, they are grouped and identified with PI to a maximum of 20%
- TL - larch/tamarack
- EC - cedar
- EH - hemlock
- OS - when TL, EC, and EH occur, but individually do not make up 10% of the stand, they are grouped and identified with OS to a maximum of 20%

- SW - when any one or grouped softwood species (PI, OS) occur, but individually do not make up 10% of the stand (or 10% for FS and SF), they are grouped and identified with SW to a maximum of 20%.
- RM - red maple
- SM - sugar maple
- YB - yellow birch
- BE - beech
- AS - ash undifferentiated
- OA - oak undifferentiated
- OH - other hardwood (white ash (WA), green ash (GA), black ash (BH), red oak (RO), bur oak (BO), ironwood (IR), basswood (BA), butternut (BU), American elm (AE), silver maple (SI)); when thinning records, interpreted visuals, forest development survey data or continuous landscape inventory data are available, these species can be retained as a valid interpreted species (2010-2015)
- TH - tolerant hardwood; when RM, SM, YB, BE, AS, OA and OH occur but individually do not make up 10% of the stand, they are grouped and identified with TH to a maximum of 20%
- PO - poplar species (trembling aspen (TA), large tooth aspen (LA), balsam poplar (BP)); when thinning records, interpreted visuals, forest development survey data or continuous landscape inventory data are available, these species can be retained as valid interpreted species (2010-2015)
- BI - birch species (white birch (WB), grey birch (GB)); when thinning records, interpreted visuals, forest development survey data or continuous landscape inventory data these species can be retained as valid interpreted species (2010-2012)
- IH - intolerant hardwood; when PO, BI, black cherry (BC) and all other hardwood species (other than NC and those listed under TH) occur, but individually do not make up 10% of the stand, they are grouped and identified with HW to a maximum of 20%.
- HW - hardwood; when any one or grouped hardwood species (RM, SM, YB, BE, OH, PO, BI, IH, TH) occur, but individually do not make up 10% of the stand, they are

grouped and identified with HW to a maximum of 20%.

NC - non-commercial hardwood tree species (pin cherry, choke cherry, alders, willows, mountain maple, striped maple, mountain ash, apple).

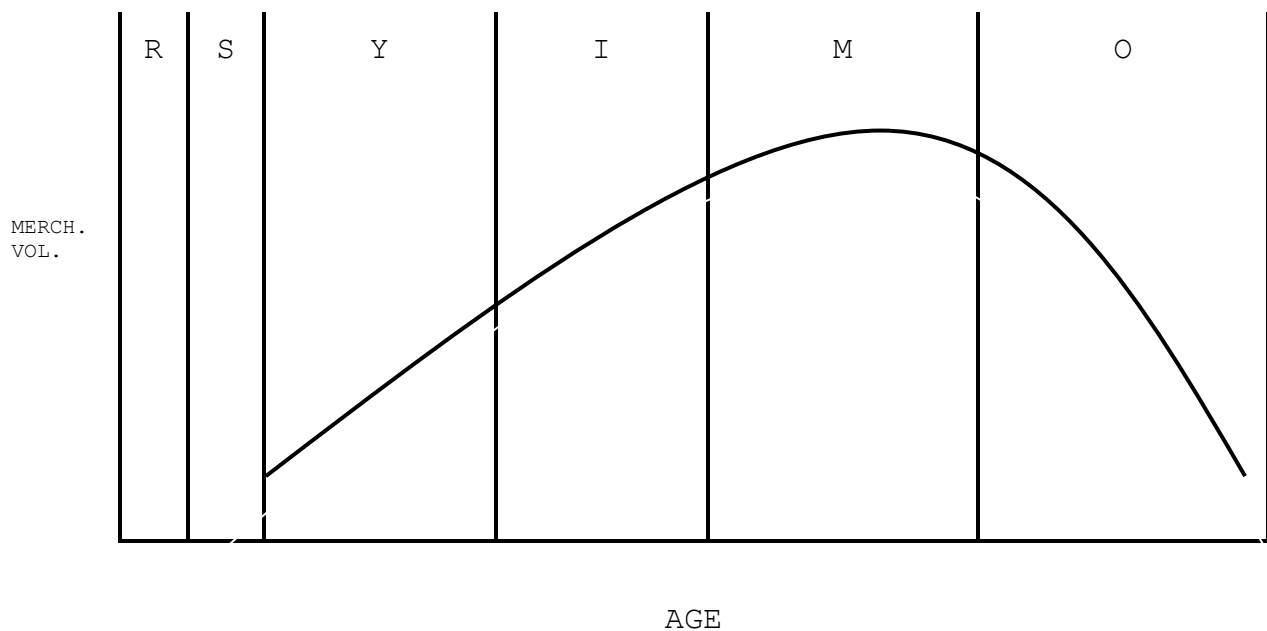
AL - alder species

- When other tree species, not listed above, appear in existing silviculture records, they are to be retained in the interpreted species list.

**E. DEVELOPMENT STAGE**

The development stage is a classification which represents the age and condition of a species, group of species or forest stands. The development stages used for this classification are listed as follows:

- R - Regenerating
- S - Sapling
- Y - Young
- I - Immature
- M - Mature
- O - Overmature



The graph defines the development stages with respect to volume and age.

The following gives some further information about each stage:

The following species ages will be used to determine the development stage of a species, group of species or forest stand:

| Species              | STAND AGE |       |       |       |        |      |
|----------------------|-----------|-------|-------|-------|--------|------|
|                      | R         | S     | Y     | I     | M      | O    |
| Balsam Fir           | 0-12      | 10-25 | 20-35 | 30-50 | 45-70  | 65 + |
| Red Spruce           | 0-12      | 10-30 | 25-45 | 40-70 | 65-110 | 105+ |
| Black Spruce         | 0-12      | 10-30 | 25-45 | 40-70 | 65-110 | 105+ |
| White Spruce         | 0-10      | 8-20  | 15-40 | 35-60 | 55-110 | 105+ |
| White Pine           | 0-12      | 10-30 | 25-50 | 45-90 | 85-160 | 155+ |
| Jack Pine            | 0-10      | 8-20  | 15-40 | 35-70 | 65-110 | 105+ |
| Red Pine             | 0-10      | 8-20  | 15-40 | 35-70 | 65-110 | 105+ |
| Eastern Cedar        | 0-12      | 10-30 | 25-45 | 40-70 | 65-110 | 105+ |
| Eastern Hemlock      | 0-12      | 10-30 | 25-50 | 45-90 | 85-140 | 135+ |
| Larch                | 0-10      | 8-20  | 15-45 | 40-70 | 65-110 | 105+ |
| Tolerant Hardwoods   | 0-12      | 10-30 | 25-50 | 45-80 | 75-160 | 155+ |
| Red Maple            | 0-12      | 10-25 | 20-45 | 40-70 | 65-110 | 105+ |
| Intolerant Hardwoods | 0-10      | 8-20  | 15-35 | 30-50 | 45-70  | 65+  |
| Grey Birch           | 0-8       | 5-15  | 10-25 | 20-40 | 35-50  | 45+  |

**R - Regenerating**

- A stand that has received a renewal of a forest crop by natural or artificial means. Trees are less than 3 meters in height with no merchantable volume present.

**S - Sapling**

- A forested stand whose trees are between two and seven meters tall and have a DBH between 1.0 cm and 9.0 cm but have not yet accumulated any merchantable volume.

**Y - Young**

- A forested stand which has grown past the sapling stage and is accumulating merchantable volume at a rapid rate. The majority of stems at this development stage have a DBH > 9.1 cm.

**I - Immature**

- A forested stand which is accumulating merchantable volume at a reasonable rate but is older and approaching maturity. Significant merchantable volume is present.

**M - Mature**

- A forested stand which is no longer accumulating merchantable volume, but is stable because growth and mortality are about equal. Significant volume is again present at this stage.

- O - Overmature-** A forested stand which is losing merchantable volume at a rapid rate due to natural mortality.

**F. LIST OF TREE SPECIES FOUND IN NEW BRUNSWICK**

| <b>TREES</b> |                               |                            |
|--------------|-------------------------------|----------------------------|
| <b>Code</b>  | <b>Latin Name</b>             | <b>English common Name</b> |
| BF           | <i>Abies balsamea</i>         | Balsam fir                 |
| ST           | <i>Acer pensylvanicum</i>     | Striped maple              |
| RM           | <i>Acer rubrum</i>            | Red maple                  |
| SI           | <i>Acer saccharinum</i>       | Silver maple               |
| SM           | <i>Acer saccharum</i>         | Sugar maple                |
| MM           | <i>Acer spicatum</i>          | Mountain maple             |
| AL           | <i>Alnus rugosa</i>           | Speckled alder             |
| SB           | <i>Amelanchier spp.</i>       | Serviceberry               |
| YB           | <i>Betula alleghaniensis</i>  | Yellow birch               |
| WB           | <i>Betula papyrifera</i>      | White birch                |
| GB           | <i>Betula populifolia</i>     | Grey birch                 |
| HT           | <i>Crataegus monogyna</i>     | Hawthorns                  |
| BE           | <i>Fagus grandifolia</i>      | Beech                      |
| WA           | <i>Fraxinus Americana</i>     | White ash                  |
| GA           | <i>Fraxinus pennsylvanica</i> | Green ash                  |
| BH           | <i>Fraxinus nigra</i>         | Black ash                  |
| BU           | <i>Juglans cinerea</i>        | Butternut                  |
| TL           | <i>Larix laricina</i>         | Tamarack                   |
| AP           | <i>Malus sylverstris</i>      | Apple                      |
| PC           | <i>Prunus pensylvanica</i>    | Pin cherry                 |
| CC           | <i>Prunus serotina</i>        | Choke cherry               |
| BC           | <i>Prunus virginiana</i>      | Black cherry               |
| IR           | <i>Ostrya virginiana</i>      | Ironwood                   |
| NS           | <i>Picea abies</i>            | Norway spruce              |
| WS           | <i>Picea glauca</i>           | White spruce               |
| BS           | <i>Picea mariana</i>          | Black spruce               |
| RS           | <i>Picea rubens</i>           | Red spruce                 |
| JP           | <i>Pinus banksiana</i>        | Jack pine                  |
| RP           | <i>Pinus resinosa</i>         | Red pine                   |
| WP           | <i>Pinus strobus</i>          | White pine                 |
| SP           | <i>Pinus sylvestris</i>       | Scotch pine                |

|               |                                  |                          |
|---------------|----------------------------------|--------------------------|
| BP            | <i>Populus balsamifera</i>       | Balsam poplar            |
| LA            | <i>Populus grandidentata</i>     | Large-tooth aspen        |
| TA            | <i>Populus tremuloides</i>       | Trembling aspen          |
| BO            | <i>Quercus macrocarpa</i>        | Bur oak                  |
| RO            | <i>Quercus rubra</i>             | Red oak                  |
| BL            | <i>Robinia pseudo-acacia</i>     | Black locust             |
| CL            | <i>Robinia viscosa</i>           | Clammy locust            |
| WI            | <i>Salix</i> spp.                | Willows                  |
| MA            | <i>Sorbus</i> spp.               | Mountain ash             |
| EC            | <i>Thuja occidentalis</i>        | Eastern white cedar      |
| EH            | <i>Tsuga canadensis</i>          | Eastern hemlock          |
| AE            | <i>Ulmus americana</i>           | American elm             |
| BA            | <i>Tilia Americana</i>           | Basswood                 |
| <b>SHRUBS</b> |                                  |                          |
|               | <i>Andromeda glaucophylla</i>    | Bog rosemary             |
|               | <i>Apocynum androsaemifolium</i> | Spreading dogbane        |
|               | <i>Arctosaphylos uva-ursi</i>    | Bearberry                |
|               | <i>Aronia melanocarpa</i>        | Chokeberry               |
|               | <i>Betula pumila</i>             | Swamp birch              |
|               | <i>Chamaedaphne calyculata</i>   | Leatherleaf              |
|               | <i>Comptonia peresgrina</i>      | Sweet fern               |
|               | <i>Cornus alternifolia</i>       | Alternate-leaved dogwood |
|               | <i>Cornus rugosa</i>             | Alder-leaf dogwood       |
|               | <i>Cornus sericea</i>            | Red osier dogwood        |
|               | <i>Corylus cornuta</i>           | Beaked hazel             |
|               | <i>Crataegus</i> spp.            | Hawthorns                |
|               | <i>Diervilla lonicera</i>        | Bush honeysuckle         |
|               | <i>Gaylussacia baccata</i>       | Black huckleberry        |
|               | <i>Hamamelis virginiana</i>      | Witch hazel              |
|               | <i>Ilex verticillata</i>         | Winterberry holly        |
|               | <i>Kalmia angustifolia</i>       | Lambkill (sheep laurel)  |
|               | <i>Ledum groenlandicum</i>       | Labrador tea             |
|               | <i>Lonicera Canadensis</i>       | Fly honeysuckle          |
|               | <i>Lonicera villosa</i>          | Mountain fly honeysuckle |
|               | <i>Myrica gale</i>               | Sweetgale                |
|               | <i>Nempanthus mucronata</i>      | Mountain holly           |
|               | <i>Rhamnus alnifolia</i>         | Alderleaf buckthorn      |
|               | <i>Rhododendron canadense</i>    | Rhodora                  |
|               | <i>Ribes glandulosum</i>         | Skunk currant            |
|               | <i>Ribes lacustre</i>            | Bristly currant          |
|               | <i>Ribes triste</i>              | Amercian red currant     |
|               | <i>Rubus alleghaniensis</i>      | Black raspberry          |
|               | <i>Rubus chamaemorus</i>         | Cloudberry               |
|               | <i>Rubus idaeus</i>              | Red raspberry            |

|  |                                |                      |
|--|--------------------------------|----------------------|
|  | <i>Sambucus Canadensis</i>     | Common elderberry    |
|  | <i>Sambucus pubens</i>         | Red elderberry       |
|  | <i>Spiraea alba</i>            | Narrowleaf spiraea   |
|  | <i>Spiraea latifolia</i>       | Broadleaf spiraea    |
|  | <i>Taxus Canadensis</i>        | Ground hemlock (yew) |
|  | <i>Vaccinium angustifolium</i> | Sweet low blueberry  |
|  | <i>Vaccinium myrtilloides</i>  | Velvetleaf blueberry |
|  | <i>Vaccinium macrosapon</i>    | Large cranberry      |
|  | <i>Vaccinium oxycoccus</i>     | Bog cranberry        |
|  | <i>Viburnum alnifolium</i>     | Hobblebush           |
|  | <i>Viburnum cassinoides</i>    | Northern wild raisin |
|  | <i>Viburnum edule</i>          | Squashberry          |
|  | <i>Viburnum trilobum</i>       | Highbush cranberry   |

## GUIDELINES FOR THE DELINEATION AND INTERPRETATION OF SILVICULTURE AND HARVEST ACTIVITIES ON CROWN LAND

### BACKGROUND

All forest stands that have been harvested and/or silviculturally treated on Provincial Crown Land within NBDNR's Geodatabase are assigned a treatment identification code (HARV.ID, PLANT.ID, or THIN.ID), which provides a link to the detailed treatment that has occurred on these stands. It is important to retain this information in the new interpretation except where the interpreters feel that a spatial or attribute change is required.

The following criteria will be used for the delineation and interpretation of these stands types.

### HARVEST TREATMENTS

The following lookup table is a summary of harvest treatments currently contained in NBDNR's Geodatabase. Some of these harvest treatments are prescribed for follow-up silvicultural activities while others are strictly an operational prescription.

| <b>New Brunswick Crown Land Harvest Treatments</b> |                            |   |
|--|----------------------------|---|
| Interpreted Harvest Treatment                      | Specific Harvest Treatment | Description of Specific Harvest Treatment   |
| CC<br>(Clearcut)                                   | CC                         | Clearcut (Residual GMV < 35m <sup>3</sup> / ha)   |
|  | RR                         | Removal of all merchantable stems on areas previously harvested (Residual GMV < 35 m <sup>3</sup> /ha not likely but possible)    |
|  | RC                         | Regeneration Protection Cut (Residual GMV < 35m <sup>3</sup> /ha) to maintain advanced regeneration present before the harvest.   |
|  | FW                         | Fuelwood cut to remove remaining GMV in low volume stands   |
|  | SE                         | Clearcut (Residual GMV < 35m <sup>3</sup> /ha) leaving residuals for seed trees   |
|  | SA                         | Salvage cut removing trees that are dead, dying or deteriorating because of overmaturing or susceptibility to disease/damage/fire |
| GS<br>(Grouped Selection Harvests)                 | PA                         | Patch Cut to remove small pattern-designed (square/circular) areas of merchantable trees  |
|  | ST                         | Strip Cut to remove merchantable trees in strips of varying widths, leaving forested areas between the cut strips.                |
| PC<br>(Partial Cuts)                               | CT                         | Commercial Thinning to remove a portion of the merchantable trees for commercial purposes   |
|  | IT                         | Intermediate/Semi-commercial thinning yielding a reasonably mix of trees of commercial and non-commercial value                   |
|  | PC                         | Partial Cut of selected species and/or products from a stand with no planned silvicultural follow-up                              |
|  | SC                         | Selection Cut removing trees in all merchantable size classes to maintain an uneven-aged stand structure                          |



| New Brunswick Crown Land Harvest Treatments (continued) |    |  |
|---|----|--|
| PC<br>(Partial Cuts)                                    | SH | Shelterwood removal of a portion of the merchantable overstory to establish/promote a new crop under the protection of the old |
|   | SR | Softwood Removal harvest of softwood species from predominantly hardwood cover types   |
|   | TP | Two Pass Cut to remove a specific species or a maturity class component from a forest stand                                    |

The following criteria shall be followed when assigning the proper attributes to forest stands that have been recently harvested:

### Clearcuts:

A clearcut is defined as an area of forest land from which all merchantable trees have recently been harvested. In New Brunswick's forest inventory a stand is said to be clearcut if less than 35 m<sup>3</sup>/ha of the residual merchantable trees are standing after harvest. If a specific clearcut treatment listed in the table above is not provided, interpreters can only assign CC as the clearcut treatment.

If a stand has been clearcut and residual volume is present (> 0 m<sup>3</sup>/ha and < 10m<sup>3</sup>/ha), the following treatment description is required:

| FST 3 – Unmerch Component |                   |
|---------------------------|-------------------|
| Layer Attribute           | Layer Value       |
| L1ESTABYR                 | Year of Harvest   |
| Stand Attribute           | Stand Value       |
| ORIG                      | Blank, B, F, N, W |
| VI                        | V or Y            |
| VN                        | 5, 10             |
| H1                        | CC                |
| H1YR                      | Year of CC        |
| HARVID                    | If known          |

If a stand has been clearcut and a residual volume (> 10 m<sup>3</sup>/ha but < 35m<sup>3</sup>/ha) is present and was similar to the trees that were harvested, the following treatment description is required:

| FST 2 – Merch Component |             | FST 2 – Unmerch Component |                   |
|-------------------------|-------------|---------------------------|-------------------|
| Layer Attribute         | Layer Value | Layer Attribute           | Layer Value       |
| L1ESTYR                 | If known    | L2ESTYR                   | Year of Harvest   |
|                         |             | Stand Attribute           | Stand Value       |
|                         |             | ORIG                      | Blank, B, F, N, W |
|                         |             | VI                        | V                 |
|                         |             | VN                        | 15, 20, 25, 30    |
|                         |             | H1                        | CC                |
|                         |             | H1YR                      | Year of CC        |
|                         |             | HARVID                    | If known          |

Although all clearcut treated stands are technically FST 3's they are classified as FST 2's. A description of the residual component is required in the merchantable layer with the crown closure (L1CC) equal to 0.

VOLI = V when the residual volume is comprised of merchantable trees that were dominant or co-dominant in the previous stand.

If a stand has been clearcut and a merchantable volume (> 10 m<sup>3</sup>/ha but < 35m<sup>3</sup>/ha) is present as a result of ingrowth, the following treatment description is required:

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |                 |
|-------------------------|-----------------|---------------------------|-----------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value     |
| L1ESTYR                 | If known        | L2ESTYR                   | Year of Harvest |
|                         | Stand Attribute | Stand Value               |                 |
|                         | ORIG            | Blank, B, F, N, W         |                 |
|                         | VI              | V                         |                 |
|                         | VN              | 15, 20, 25, 30            |                 |
|                         | H1              | CC                        |                 |
|                         | H1YR            | Year of CC                |                 |
|                         | HARVID          | If known                  |                 |

Although these clearcut treated stands are technically FST 3's they are classified as FST 2's. A description of the ingrowth component is required in the merchantable layer with the crown closure (L1CC) equal to 0.

VI = Y when the merchantable volume present is a result of ingrowth.

Although this section applies to harvest treatments, the VI=Y designation can apply to other origins, in particular old fields (F) that have regenerated to a forest condition.

If a stand has been clearcut after a previous partial harvest and no residual volume is present as a result of ingrowth or previous merchantable dominant/co-dominant trees, the following treatment description is required:

| FST 3 – Unmerch Component |                   |
|---------------------------|-------------------|
| Layer Attribute           | Layer Value       |
| L1ESTABYR                 | Year of CC        |
| Stand Attribute           | Stand Value       |
| ORIG                      | Blank, B, F, N, W |
| VI                        | blank             |
| VN                        | blank             |
| H1                        | PC                |
| H1YR                      | Year of PC        |
| H2                        | CC                |
| H2YR                      | Year of CC        |
| HARVID                    | If known          |

LIESTABYR will be the year of the final CC treatment if there is no merchantable component remaining.

### **Partial Harvests:**

All partially harvested stands are assumed to have greater than 35 m<sup>3</sup>/ha of merchantable trees remaining after harvest. If a specific partial harvest treatment listed in the table above is not provided, interpreters can only assign PC or GS as the partial harvest treatment.

If a stand has been partially cut (>35 m<sup>3</sup>/ha of the residual merchantable stand remains), the following treatment description is required:

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |                 |
|-------------------------|-----------------|---------------------------|-----------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value     |
| L1ESTYR                 | If known        | L2ESTYR                   | Year of Harvest |
|                         | Stand Attribute | Stand Value               |                 |
|                         | ORIG            | Blank, B, F, N,<br>W      |                 |
|                         | VI              | blank                     |                 |
|                         | VN              | blank                     |                 |
|                         | H1              | PC                        |                 |
|                         | H1YR            | Year of PC                |                 |
|                         | HARVID          | If known                  |                 |

A full description of the merchantable overstory and unmerchantable understory are required. The stand origin will describe the origin of the merchantable overstory.

If a stand has received a two pass cut to remove a particular component of a stand (species or maturity class) and subsequently is strip cut, the following treatment description is required:

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |                 |
|-------------------------|-----------------|---------------------------|-----------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value     |
| L1ESTYR                 | If known        | L2ESTYR                   | Year of Harvest |
|                         | Stand Attribute | Stand Value               |                 |
|                         | ORIG            | Blank, B, F, N,<br>W      |                 |
|                         | VI              | blank                     |                 |
|                         | VN              | blank                     |                 |
|                         | H1              | TP                        |                 |
|                         | H1YR            | Year of TP                |                 |
|                         | H2              | ST                        |                 |
|                         | H2YR            | Year of ST                |                 |
|                         | HARVID          | If known                  |                 |

A full description of the merchantable overstory and unmerchantable understory are required. The stand origin will describe the origin of the merchantable overstory.

If a stand has received a strip cut treatment, but the interpreter clearly sees that it was in a patch cut design, a change in the treatment may be required; the following treatment description is required.

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |                 |
|-------------------------|-----------------|---------------------------|-----------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value     |
| L1ESTYR                 | If known        | L2ESTYR                   | Year of Harvest |
|                         | Stand Attribute | Stand Value               |                 |
|                         | ORIG            | Blank, B, F, N,<br>W      |                 |
|                         | VI              | blank                     |                 |
|                         | VN              | blank                     |                 |
|                         | H1              | ST                        |                 |
|                         | H1YR            | Year of ST                |                 |
|                         | HC              | PA                        |                 |
|                         | HCYR            | Year of PA                |                 |
|                         | HARVID          | If known                  |                 |

A full description of the merchantable overstory and unmerchantable understory are required. The interpreter has the opportunity to use the HC (harvest change) treatment but will retain the same treatment year that was originally provided. The stand origin will describe the origin of the merchantable overstory.

### **Other Harvest Treatment Interpretation Guidelines:**

Photo-interpreters will correct obvious errors in the spatial delineation and/or attribute assignment to any harvest record when they occur.

Photo-interpreters will leave existing stand boundaries between adjacent cutovers alone when there is a difference between the type and year of harvest.

Adjacent cutovers identified by the same harvest treatment code (same type and year of harvest) may be amalgamated into one cutover if their interpreted attributes are similar.

Photo-interpreters will further stratify within harvested stands when obvious areas differing in species association or other attributes are delineable. The minimum stand size of 2 ha will apply in these cases.

Forest stands within harvested areas that are less than 2 ha can be retained if the interpreter can accurately describe the attributes required, if not, they may be dissolved within the cutover, or when adjacent to the edge of another forested polygon may get dissolved in that polygon if this makes more sense.

Non-forested areas (i.e. wetlands) less than 2 ha in size should be delineated and interpreted within harvested stands.

All clearcut and partial harvest treatments accumulated for a particular stand will be retained in H1 to H4, cataloguing the historical harvests that have occurred on a particular stand.

**SILVICULTURE – PLANTED TREATMENTS**

The following lookup table is a summary of planted treatments currently contained in NBDNR's Geodatabase.

| <b>New Brunswick Crown Land Silviculture - Plantation Treatments</b> |  |  |
|--|--|--|
| <b>Silviculture Treatment</b>  | <b>Specific Silviculture Treatment</b> | <b>Description of Specific Silviculture Treatment</b>  |
| PL   | PL                                     | Plantation – a forest stand composed primarily of trees established by planting or artificial seeding.   |
|  | FP                                     | Fill Planting to supplement existing acceptable natural softwood regeneration in order to raise the stocking level of planted plus natural softwood seedlings to a minimum of 90%.                             |
|  | FT                                     | Family Test – a plantation established from seedlings grown from seed collected from pheno-typically superior trees selected in the wild. Used for research purposes not fibre source.                         |
|  | PT                                     | Progeny Test – a plantation established from seedlings collected from family test areas primarily used to identify best clones to establish in seed orchards. Used for research purposes not for fibre source. |

The following criteria shall be followed when assigning the proper attributes to forest stands that have been silviculturally treated:

If a stand has been clearcut and subsequently planted (full), the following treatment description is required:

| <b>FST 3 – Unmerch Component</b> |                    |
|----------------------------------|--------------------|
| <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTABYR                        | Plant Year         |
| <b>Stand Attribute</b>           | <b>Stand Value</b> |
| ORIG                             | Blank, B, F, N, W  |
| VI                               | V or Y             |
| VN                               | 5, 10              |
| H1                               | CC                 |
| H1YR                             | Year of CC         |
| HARVID                           | If known           |
| PL                               | PL                 |
| PLYR                             | Plant Year         |
| PLANT_ID                         | If known           |

If a stand has been clearcut and subsequently fill planted, the following treatment description is required:

| <b>FST 3 – Unmerch Component</b> |                    |
|----------------------------------|--------------------|
| <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTABYR                        | Fill Plant Year    |
| <b>Stand Attribute</b>           | <b>Stand Value</b> |
| ORIG                             | Blank, B, F, N, W  |
| VI                               | V or Y             |
| VN                               | 5, 10              |
| H1                               | CC                 |
| H1YR                             | Year of CC         |
| HARVID                           | If known           |
| PL                               | FP                 |
| PLYR                             | Fill Plant Year    |
| PLANT_ID                         | If known           |

If a stand has been partially harvested and subsequently fill planted, the following treatment description is required:

| <b>FST 2 – Merch Component</b> |                    | <b>FST 2 – Unmerch Component</b> |                    |
|--------------------------------|--------------------|----------------------------------|--------------------|
| <b>Layer Attribute</b>         | <b>Layer Value</b> | <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTYR                        | If known           | L2ESTYR                          | Fill Plant Year    |
| <b>Stand Attribute</b>         | <b>Stand Value</b> |                                  |                    |
| ORIG                           | Blank, B, F, N, W  |                                  |                    |
| VI                             | blank              |                                  |                    |
| VN                             | blank              |                                  |                    |
| H1                             | PC                 |                                  |                    |
| H1YR                           | Year of PC         |                                  |                    |
| HARVID                         | If known           |                                  |                    |
| PL                             | FP                 |                                  |                    |
| PLYR                           | Fill Plant Year    |                                  |                    |
| PLANT_ID                       | If known           |                                  |                    |

A full description of the merchantable overstory and unmerchantable understory are required. The stand origin will describe the origin of the merchantable overstory.

**SILVICULTURE – STAND IMPROVEMENT TREATMENTS**

The following lookup table is a summary of stand improvement treatments currently contained in NBDNR's Geodatabase.

| <b>New Brunswick Crown Land Silviculture – Stand Improvement Treatments</b> |  |   |
|---|--|---|
| <b>Stand Improvement Treatment</b>  | <b>Specific Silviculture Treatment</b> | <b>Description of Specific Silviculture Treatment</b>   |
| SI  | CL                                     | Plantation Cleaning or release treatment during the sapling stage of a planted forest stand to free planted trees from less desirable natural species of a similar age that overtop or are likely to overtop the planted species. |
|   | TI                                     | Pre-Commercial Thinning that does yield trees of commercial value, usually designed to improve crop spacing and ultimately increase growth/quality.   |

The following criteria shall be followed when assigning the proper attributes to forest stands that have been silviculturally treated:

If a stand has been clearcut and subsequently full planted then cleaned, the following treatment description is required:

| <b>FST 3 – Unmerch Component</b> |                    |
|----------------------------------|--------------------|
| <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTABYR                        | Plant Year         |
| <b>Stand Attribute</b>           | <b>Stand Value</b> |
| ORIG                             | Blank, B, F, N, W  |
| VI                               | blank              |
| VN                               | blank              |
| H1                               | CC                 |
| H1YR                             | Year of CC         |
| HARVID                           | If known           |
| PL                               | PL                 |
| PLYR                             | Plant Year         |
| PLANT_ID                         | If known           |
| SI                               | CL                 |
| SIYR                             | Year of CL         |
| THIN_ID                          | If known           |

If a stand has been clearcut and subsequently pre-commercially thinned, the following treatment description is required:

| <b>FST 3 – Unmerch Component</b> |                    |
|----------------------------------|--------------------|
| <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTABYR                        | Plant Year         |
| <b>Stand Attribute</b>           | <b>Stand Value</b> |
| ORIG                             | C                  |
| VI                               | blank              |
| VN                               | blank              |
| H1                               | CC                 |
| H1YR                             | Year of CC         |
| HARVID                           | If known           |
| SI                               | TI                 |
| SIYR                             | Year of TI         |
| THIN ID                          | If known           |

If a stand has been partially cut (>35 m<sup>3</sup>/ha of the residual merchantable stand remains) and subsequently fill planted and cleaned, the following treatment description is required:

| <b>FST 2 – Merch Component</b> |                    | <b>FST 2 – Unmerch Component</b> |                    |
|--------------------------------|--------------------|----------------------------------|--------------------|
| <b>Layer Attribute</b>         | <b>Layer Value</b> | <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTYR                        | If known           | L2ESTYR                          | Fill Plant Year    |
| <b>Stand Attribute</b>         | <b>Stand Value</b> |                                  |                    |
| ORIG                           | Blank, B, F, N, W  |                                  |                    |
| VI                             | blank              |                                  |                    |
| VN                             | blank              |                                  |                    |
| H1                             | PC                 |                                  |                    |
| H1YR                           | Year of PC         |                                  |                    |
| HARVID                         | If known           |                                  |                    |
| PL                             | FP                 |                                  |                    |
| PLYR                           | Fill Plant Year    |                                  |                    |
| PLANT ID                       | If known           |                                  |                    |
| SI                             | CL                 |                                  |                    |
| SIYR                           | Year of CL         |                                  |                    |
| THIN ID                        | If known           |                                  |                    |

A full description of the merchantable overstory and unmerchantable understory are required. The stand origin will describe the origin of the merchantable overstory.



If a stand has been clearcut ( $> 10 \text{ m}^3/\text{ha}$  but  $< 35\text{m}^3/\text{ha}$  of the residual merchantable stand remains) and subsequently pre-commercially thinned, the following treatment description is required:

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |             |
|-------------------------|-----------------|---------------------------|-------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value |
| L1ESTYR                 | If known        | L2ESTYR                   | Year of PC  |
|                         | Stand Attribute | Stand Value               |             |
|                         | ORIG            | Blank, B, F, N, W         |             |
|                         | VI              | V or Y                    |             |
|                         | VN              | 15, 20, 25, 30            |             |
|                         | H1              | CC                        |             |
|                         | H1YR            | Year of CC                |             |
|                         | HARVID          | If known                  |             |
|                         | SI              | TI                        |             |
|                         | SIYR            | Year of TI                |             |
|                         | THIN ID         | If known                  |             |

Although all clearcut treated stands are technically FST 3's they are classified as FST 2's. A description of the residual component is required in the merchantable layer with the crown closure (L1CC) equal to 0. The stand origin will describe the origin of the merchantable overstory.

If a thinning (thinned stand originated from a clearcut and the harvest treatment and treatment year is known) has received a commercial thinning ( $>35 \text{ m}^3/\text{ha}$  of the residual merchantable stand remains), the following treatment description is required:

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |             |
|-------------------------|-----------------|---------------------------|-------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value |
| L1ESTYR                 | Year of CC      | L2ESTYR                   | Year of CT  |
|                         | Stand Attribute | Stand Value               |             |
|                         | ORIG            | Blank, B, F, N, W         |             |
|                         | VI              | blank                     |             |
|                         | VN              | blank                     |             |
|                         | H1              | CC                        |             |
|                         | H1YR            | Year of CC                |             |
|                         | H2              | CT                        |             |
|                         | H2YR            | Year of CT                |             |
|                         | HARVID          | If known                  |             |
|                         | SI              | CL                        |             |
|                         | SIYR            | Year of CL                |             |
|                         | THIN ID         | If known                  |             |

A full description of the merchantable overstory and unmerchantable understory are required.

If a plantation (planted stand originated from a clearcut and the harvest treatment and treatment year is known) has received a commercial thinning (>35 m<sup>3</sup>/ha of the residual merchantable stand remains), the following treatment description is required:

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |             |
|-------------------------|-----------------|---------------------------|-------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value |
| L1ESTYR                 | Year of CC      | L2ESTYR                   | Year of CT  |
|                         | Stand Attribute | Stand Value               |             |
|                         | ORIG            | Blank, B, F, N, W         |             |
|                         | VI              | blank                     |             |
|                         | VN              | blank                     |             |
|                         | H1              | CC                        |             |
|                         | H1YR            | Year of CC                |             |
|                         | H2              | CT                        |             |
|                         | H2YR            | Year of CT                |             |
|                         | HARVID          | If known                  |             |
|                         | PL              | PL                        |             |
|                         | PLYR            | Year of PL                |             |
|                         | PLANT ID        | If known                  |             |

### **Other Silvicultural Treatment Interpretation Guidelines:**

Photo-interpreters will correct obvious errors in the spatial delineation and/or attribute assignment to any silviculture record when they occur.

Photo-interpreters will leave existing stand boundaries between adjacent silviculturally treated stands alone when there is a difference between the type and year of silviculture treatment.

Adjacent silviculturally treated stands identified by the same silviculture treatment code (same type and year of silviculture treatment) may be amalgamated into one polygon if their interpreted attributes are similar.

Photo-interpreters will further stratify within silviculturally treated stands when obvious areas differing in species association or other attributes are delineable. The minimum stand size of 2 ha will apply in these cases.

Non-treated polygons within silviculturally treated stands that are less than 2 ha can be retained if the interpreter can accurately describe the attributes required, if not, they may be dissolved within the treated stand, or when adjacent to the edge of another similar polygon may get dissolved in that polygon if this makes more sense.

Non-forested areas (i.e. wetlands) greater than 2 ha in size should be delineated and interpreted within silviculturally treated forest stands.

All plantation and stand improvement treatments accumulated for a particular stand will be retained in PL and SI, cataloguing the historical silviculture treatments that have occurred on a particular stand.

Photo-interpreters will retain individual planted species as identified in the silviculture records. Additional species which are not included in the 'New Brunswick Integrated Classification System' but have been planted on Crown Land include:

| <b>Other Planted Species on Crown Land</b> |                   |
|--|-------------------|
| <b>Symbol</b>                              | <b>Species</b>    |
| <b>Softwoods</b>                           |                   |
| AP   | Austrian Pine     |
| EL   | European Larch    |
| FD   | Douglas Fir       |
| JF   | Japanese Fir      |
| LP   | Lodgepole Pine    |
| NS   | Norway Spruce     |
| PR   | Rigida Pine       |
| PS   | Scots Pine        |
| WC   | Western Red Cedar |
| <b>Hardwoods</b>                           |                   |
| AS   | Ash               |
| BD   | Black Alder       |
| BL   | Black Locust      |
| IR   | Ironwood          |
| OA   | Oak               |
| WB   | White Birch       |

Photo-interpreters, using the silviculture records, shall interpret all silviculturally treated areas using the 'New Brunswick Integrated Classification System'. Photo-interpreters should keep in mind that some plantations may have failed and planted species may be difficult to identify. The interpreted stand classification should represent what the new photography reveals about the plantation, the silviculture records should only be used as a guide. Where conflicting data is given to the interpreter for a particular treated stand, the interpreter will determine, through the new imagery, the most accurate classification to assign to that stand.

All silviculturally treated areas that are thriving or have failed should still be labelled as a plantation or thinning.

## **BURNS**

The harvest and silviculture treatments described earlier are man-induced interventions; NBDNR's Geodatabase recognizes natural causes that can suddenly change the structure of existing forest stands. Forested stands that have been completely burned or partially burned are described in the same manner as clearcuts and partial cuts.

The following lookup table is a summary of burn treatments currently contained in NBDNR's Geodatabase.

| <b>New Brunswick Crown Land Burn Disturbance</b> |                                  |  |
|--|----------------------------------|--|
| <b>Burn Disturbance</b>                          | <b>Specific Burn Disturbance</b> | <b>Description of Specific Burn Disturbance</b>  |
| BB   | BB                               | Burn – the majority of the forest stand was burned, < 35 m <sup>3</sup> /ha of merchantable timber is left after the fire. |
| PB   | PB                               | Partial Burn – > 35 m <sup>3</sup> /ha of merchantable timber is left following a fire.                                    |

If a stand has been entirely burned and no or little residual merchantable volume is present (< 10 m<sup>3</sup>/ha), the following treatment description is required:

| <b>FST 3 – Unmerch Component</b> |                    |
|----------------------------------|--------------------|
| <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTABYR                        | Year of BB         |
| <b>Stand Attribute</b>           | <b>Stand Value</b> |
| ORIG                             | B                  |
| VI                               | blank              |
| VN                               | blank              |
| HC                               | BB                 |
| HCYR                             | Burn Year          |

If a stand has been partially burned (>35 m<sup>3</sup>/ha of the residual merchantable stand remains), the following treatment description is required:

| <b>FST 2 – Merch Component</b> |                    | <b>FST 2 – Unmerch Component</b> |                    |
|--------------------------------|--------------------|----------------------------------|--------------------|
| <b>Layer Attribute</b>         | <b>Layer Value</b> | <b>Layer Attribute</b>           | <b>Layer Value</b> |
| L1ESTYR                        | If known           | L2ESTYR                          | Year of PB         |
| <b>Stand Attribute</b>         | <b>Stand Value</b> |                                  |                    |
| ORIG                           | B                  |                                  |                    |
| VI                             | blank              |                                  |                    |
| VN                             | blank              |                                  |                    |
| HC                             | PB                 |                                  |                    |
| HCYR                           | Year of PB         |                                  |                    |

A full description of the merchantable overstory and unmerchantable understory are required.

If a stand has been burned and  $> 10 \text{ m}^3/\text{ha}$  but  $< 35 \text{ m}^3/\text{ha}$  of the residual merchantable stand remains, the following treatment description is required:

| FST 2 – Merch Component |                 | FST 2 – Unmerch Component |             |
|-------------------------|-----------------|---------------------------|-------------|
| Layer Attribute         | Layer Value     | Layer Attribute           | Layer Value |
| L1ESTYR                 | If known        | L2ESTYR                   | Year of PB  |
|                         | Stand Attribute | Stand Value               |             |
|                         | ORIG            | B                         |             |
|                         | VI              | V                         |             |
|                         | VN              | 15, 20, 25, 30            |             |
|                         | HC              | BB                        |             |
|                         | HCYR            | Year of BB                |             |

Although these stands are technically FST 3's they are classified as FST 2's. A description of the residual component is required in the merchantable layer with the crown closure (L1CC) equal to 0.

|                               |
|-------------------------------|
| <b>Quality Control Checks</b> |
|-------------------------------|

| QUALITY CONTROL CHECKS FOR THE 2003-2012 PHOTO INTERPRETATION CONTRACTS |      |  |
|---|------|--|
| POLYGONS  |      |  |
| Source  | Code | Action (1 <sup>st</sup> or revised submissions)  |
| Interpreter   | X    | Interpreter requesting a DNR field check or office review (1 <sup>st</sup> submission)   |
| Interpreter   | Y    | Interpreter has made major changes to Silviculture or Harvest Updates  |
| Interpreter   | H    | Interpreter overrides Minimum and Maximum Height Ranges  |
| Interpreter   | Q    | Interpreter has changed either spatial delineation or attribute(s) based on DNR recommendation (revised submission)  |
| Interpreter   | R    | Interpreter required to review and revise spatial location of polygons based on conversion of SNB's orthophoto to the 2003 orthophoto (revised submission) |
| Interpreter   | V    | Interpreter has conducted a field check of the polygon (1 <sup>st</sup> submission)  |
| DNR   | A    | DNR requires revision(s) to polygon attributes based on field check or office review   |
| DNR   | D    | DNR requires revision(s) to polygon delineation based on field check or office review  |
| DNR   | C    | DNR has conducted a field check of the polygon , interpreter is to review field notes for possible revision(s)   |
| DNR   | I    | DNR requires revision(s) of the species composition and/or development stages (age classes) to forest polygons   |
| DNR   | O    | DNR has examined, via an office review, an interpreter's check request   |
| DNR   | S    | DNR requires the interpreter to review wetland reverting to forest or forest reverting to wetland designations   |
| DNR   | U    | DNR cannot find any attributes assigned to a polygon   |
| F&W   | P    | PSW (Provincially Significant Wetland) retain as wetland where possible; complete spatial corrections, delineation and attribute revisions when required.  |
| F&W   | G    | F&W has conducted a ground check, retain as wetland; complete spatial corrections, delineation and attribute revisions when required.                      |

**FINAL INTERPRETATION CONFIDENCE CODE CHECKS**

**POLYGONS**

| Source      | Code | Explanation  |
|-------------|------|--|
| Interpreter | R    | Interpretation based on 2003 photos but delineation is on SNB's orthophotos and may require spatial revision when DNR's 2003 Ortho's become available. |
| Interpreter | V    | Interpreter has conducted a field check (Visual) of the polygon  |
| DNR         | C    | DNR has conducted a field check(Visual) on this stand , interpretation adjusted where required   |
| DNR         | F    | DNR has FDS info available on this stand   |
| DNR         | O    | DNR has conducted an office review of this polygon, interpretation adjusted where required   |
| F&W         | W    | DNR Fish and Wildlife Branch has conducted an Office review of this stand.   |
| F&W         | P    | PSW (Provincially Significant Wetland)   |
| F&W         | G    | F&W has conducted a pre-interpretation ground check.   |