6.0 NET LANDBASE DETERMINATION

6.1 Landbase Determination

This section contains a detailed description of the methods used in determining the landbase classification assignments for the Vanderwell FMA area. The intent of this report is to update the landbase determination process completed in 1998.
There are four main sections (as defined in the April 1998 Interim Forest Management Planning Manual) to this document:

- Inventory;
- Inventory Stratification;
- Final Net Landbase Attribute File;
- Spatial Data.

6.2 Inventory

Forest Inventory

The forest inventory involved a complete stratification of all forested and non-forested areas within the FMA to current provincial standards. This "census" of the entire landbase will accommodate complete FMA-wide summaries by township, species, age class or any other inventory attribute and will facilitate short and long term planning.
The entire FMA area was stratified in accordance with the AVI version 2.1 specifications[2]. The Forest Service completed the inventory of the FMA area in January 1994, prior to the signing of the FMA. The inventory was derived from medium scale (1:20,000) "leaf on" black & white panchromatic (AGFA 150) photography, acquired in 1991. AVI polygon boundaries were transferred directly to orthophoto mosaics (created from 1:60,000 scale aerial photography acquired in 1991). All of the AVI interpretation, transfer, GIS loading and polygon attributing was completed by the Forest Service.

Inventory Updates

The following inventory updates have been acquired to reflect recent activity on the Vanderwell FMA:

- Mitsue fire boundary January 30, 2003;
- Chisholm fire boundary January 31, 2003;

[2] Alberta Vegetation Inventory Version 2.1, November 1991, Alberta Land & Forest Service.

- Disposition updates were acquired from LSAS on December 10, 2002;
- Vanderwell Contractors received updated boundary specifications and locations from the PLFD for the two dispositions identified by the PLFD to be excluded from the landbase. These dispositions are the locations of three George La Roi research plots. These process used in determining these dispositions are described in Appendix A.
- Anthropogenic non-forested updates acquired from Vanderwell's landuse updates as of May 31, 2000;
- Cutblock update boundaries were acquired to reflect salvage harvest activities as of April 8, 2003.

Vanderwell is in the process of acquiring 1:60,000 air photo coverage of the FMA area. This photography will be used to update landuse and forest harvesting activities which have occurred on the FMA area since the date of the AVI photography.

6.3 Inventory Stratification

Table 6-1 summarises the input coverages used in creating the initial gross landbase spatial GIS coverage.

TABLE 6-1: INPUT SPATIAL COVERAGES

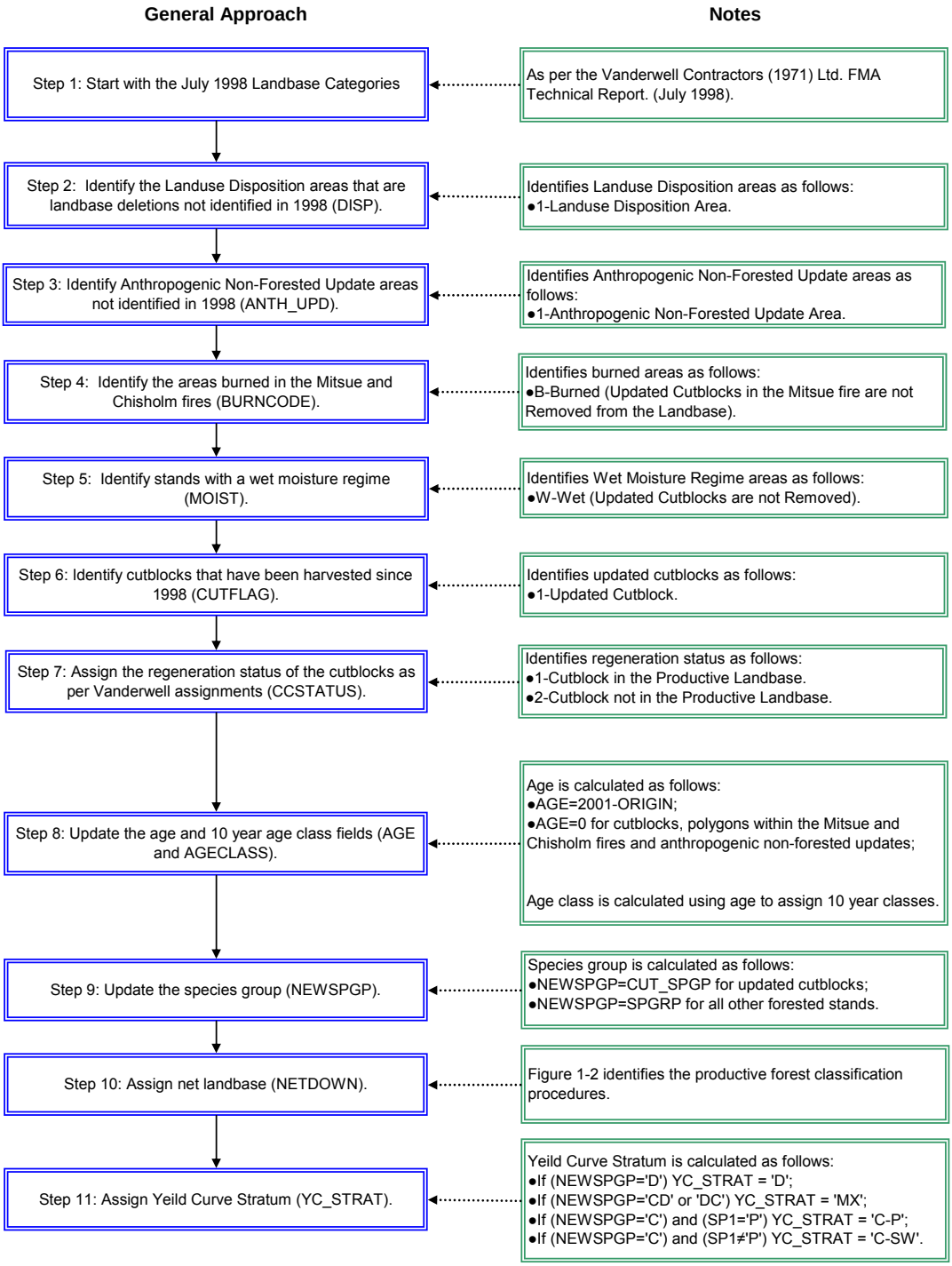
GIS Coverage	Description	Net Landbase Database Fields[3]
Forest Inventory	Description in section 1.0.	AVI overstorey and understorey attributes
Mitsue Fire	Mitsue fire coverage within the extent of the FMA area updated January 30, 2003.	MITSUEID, MITS_CLS
Chisholm Fire	Chisholm fire coverage within the extent of the FMA area updated January 31, 2003.	CHISHOLM, CHSM_CLS
Cutblocks	Salvage and inventory updates reflecting harvest activities as follows: ♦ Cutblocks identified in the forest inventory (stand modifier of 'CC'); ♦ Salvage cutblocks identified by Vanderwell on April 8, 2003.	BLK_NUM, BLK_AREA
Watercourse Buffers	Coverage identified as follows: ♦ Lake buffer: 100 m buffer applied to all lakes greater than 4 ha in area; ♦ River buffer: 60 m buffer applied to all rivers and large permanent streams; ♦ Stream buffer: 30 m buffer applied to all small permanent streams.	S30, S60, RIV, LAK
Disposition Exclusion	Boundary of excluded disposition as identified by PLFD.	DISP
Anthropogenic Non-Forested Updates	Landuse surface activities coverage as of May 31, 2000 (Polygon Coverage).	ANTH_UPD
Caribou Range	Caribou range coverage	CARIBOU
Ungulate Wintering Range	Ungulate wintering range coverage	UNGULATE
Dwarf Mistletoe	Dwarf Mistletoe coverage as of January 15, 1999	LPDM_
Trapping Area	Coverage identifying the trapping areas	TRAPLINE
1998 Landbase Determination Process	Net landbase process completed in 1998	OLDNET,SPGRP, USPGRP, LANBASE, MERCH, CUTBLOCK

[3] A complete database structure description is provided in Table 6-4.

6.4 Net Landbase Determination

The process used in the net landbase creation is summarized in Figure 6-1.

FIGURE 6-1: NET LANDBASE CREATION PROCESS



GIS Coverage Data

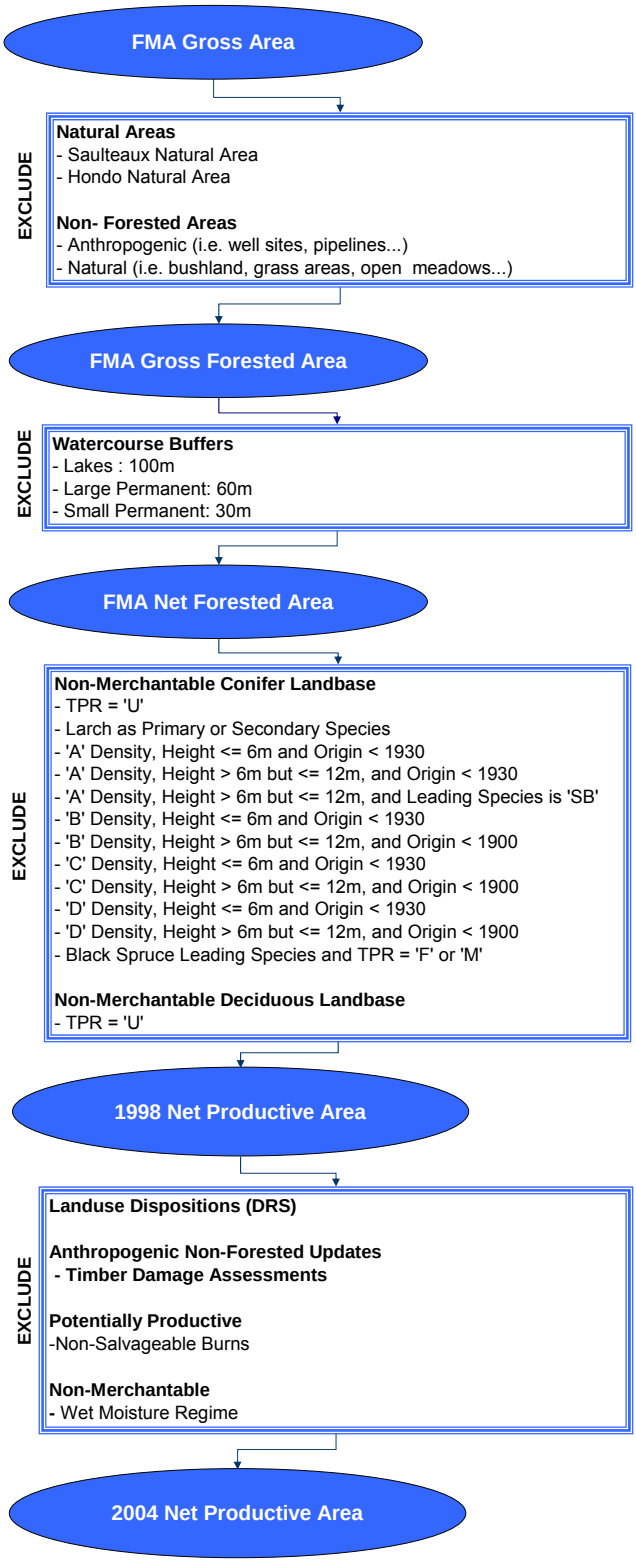
The enclosed CD contains the ArcInfo net landbase coverage for AVI 2.1 and the associated net landbase database. The link between the coverage and the net landbase is GIS_LINK.

Estimates of the net productive forest area were developed in a manner consistent with Forest Service procedures. The hierarchical set of decision rules applied to the FMA gross landbase are illustrated in Figure 6-2. The intent of this process was to label, classify and aggregate individual stands into non-productive vs. productive areas.

Map 6-1 illustrates the landbase categories across the Vanderwell FMA. The FMA-wide species group age class distribution within net productive area is presented on Map 6-2 of this document.

The area in each landbase category and the net landbase age class distribution by overstorey species group are presented for the entire FMA in Table 6-2, Table 5-6, and Figure 6-3.

FIGURE 6-2: PRODUCTIVE FOREST CLASSIFICATION PROCEDURES



LANDBASE CATEGORIES

N

Rge 3 | Rge 2 | Rge 1

Twp 72 | Twp 71 | Twp 70 | Twp 69 | Twp 68 | Twp 67

LANDBASE CATEGORY

- Natural Areas
- 60 Metre Large Permanent Watercourse Buffer
- 100 Metre Lake Buffer
- 30 Metre Large Permanent Watercourse Buffer
- Non Forested Areas
- Non Merchantable Areas
- Anthropogenic Non-Forested Updates
- Dispostions
- Potentially Productive Areas
- Wet Moisture Regime
- Productive Areas
- Waterbody

PLANIMETRIC LEGEND

LEGAL
- Township/Range
- FMA Boundary

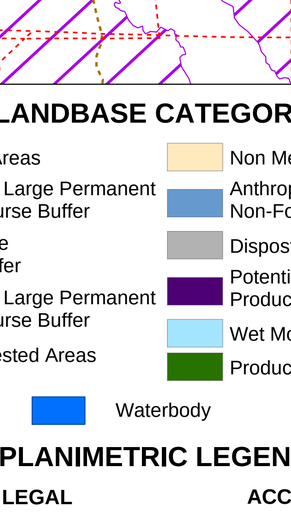
ACCESS
- Utility/Railway
- Cutline

ROADS
- Paved Primary
- Gravel Primary
- Gravel Secondary
- Improved
- Truck Trail

WATER
- Perennial
- Indefinite

FIRES
- Mitsue
- Chisholm

PROVINCIAL INDEX



Vanderwell Contractors FMA

Rge 3 | Rge 2 | Rge 1

0 5 10

KILOMETRES

SILVACOM LTD.
ISO 9001 Certified Quality System
DATA IS OUR CORE BUSINESS™

Map Version 1.00
Map Date: February 17, 2004
Original Map Scale 1:50000
Map Production: Silvacom Ltd.
Silvacom Reference: E-023
Map File: ./e-023/netland/maps/net20040217.mxd