FOOTHILLS MODEL FOREST

DATA MODEL
PILOT PROJECT SUMMARY

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Foothills Model Forest

Pilot Project Summary Report

Completed By:

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INTRODUCTION

The Foothills Model Forest Pilot Project is the last step in the implementation of the data model before the creation of the database and loading of all historical records can begin. For the project a test area was selected covering two UTM mapsheets within the exte nts of the model forest for which most entities defined in the Data Model would be created and then loaded with existing Weldwood, Foothills Model Forest, and Land and Forest Service data.

The main objective of the pilot project was to test the logistics of the model and additionally supply the database administrator with estimates of dataset size and data loading time requirements to assist in projecting resource requirements for building the database for the model forest area. It is not intended to act as documentation for the model itself, table and field definitions will be written as part of the detailed documentation for the data model at a later date.

This document will describe in detail for each spatial layer the full feature and database attribute tabular descriptions and the predicted number of records that will be loaded for each. It is important to note that the data loading time estimations are based on the number of records that will exist at the time of loading, foreseen to be in the next six to twelve months. Prediction of the growth rate of the datasets are not included, but should be taken into consideration when allocating disk space requirements for the database. Where applicable, the document will describe a recommended procedure for gathering and entering historical records into the system, and the outstanding issues to be addressed before proceeding. Finally, it will report the actual time spent during the project to load the existing data for the test area and the estimated time requirements for loading under data entry contract circumstances.

A significant part of the Foothills Model Forest data set that was not included as part of this project were the entities relating to forest cover, historical cutover, and silviculture activities. These entities were discluded as they were to be tested and potentially remodelled during the development of Weldwood's Silviculture and Forest Cover Update GIS application that was underway during the time of the project. Due to time constraints the project did not include the construction of the database in Oracle nor was the model tested with the Arcforest software as originally intended. Most entities relating to wildlife research were also not completed as much of the data has yet to be recorded and the actual model for these has not been finalized.

TECHNICAL NOTES:

Actual coverage, feature and table field names in some cases had to be abbreviated due to software limitations. Arc/Info allows coverages and features up to 13 characters in length, and INFO allows field widths up to 16 characters in length. Features and INFO files with names longer than 8 characters will likely have to be shortened again to conform to the new 8.3 naming convention introduced in Arc/Info Rev.7. This new format has been adopted to permit portability of files from UNIX to DOS platforms, and with the expected implementation of Arcview on PC sytems by the Foothills Model Forest and Weldwood, these standards will have to be adhered to.

In the test workspace, all associated database attribute tables were given a '.FT' suffix to easily differentiate files that will reside in the Oracle database. It will not be necessary, and is not recommended to maintain this standard as it will only restrict naming clarity. Look-up tables that will likely remain in the INFO database were given a suffix '.LUT' to distinguish them from all other files.

Some more common table field names that were shortened to increase distinctiveness under the 16 character maximum enforced by INFO are listed below.

DATE eg. approval_date	DT approval_dt
YEAR	YR
NAME	NME
NUMBER	NUMB

In some cases the most efficient method of building feature subclass tables (ie. route and region) was from the values in a fields added to the spatial attribute table (AAT or PAT). In some cases these attributes remain on the tables in the test workspace to retain the link between the spatial features and the attributes in the event the latter is somehow corrupted. These additional fields are not listed in the doumentation to avoid confusion when building the database.

TABLE OF CONTENTS:

LAYER : *Geoadministrative Units*
COVERAGE NAME: *geoadmin*

GENERAL OVERVIEW:

This layer contains all of the administrative polygons covering the model forest and are divided into five categories that will define the Arc/Info region features. They are: administration units (eg. FMAs), AAC units (eg. working circles), allocation units (eg. such timber quotas), operating units (eg. compartments), and harvest plans. Attributes for this layer include the companies currently administering the areas and scheduling dates for harvest plans.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

GEOADMIN.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	GEOADMIN#	4	5	B	-		-
13	GEOADMIN-ID	4	5	B	-		-

Predicted number of records: 165

GEOADMIN.PATADMIN_UNIT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	ADMIN_UNIT#	4	5	B	-		-
13	ADMIN_UNIT-ID	4	5	B	-		-
17	ADMIN_UNIT_KEY	3	3	I	-		-

Predicted number of records: 12

GEOADMIN.PATHARVEST_PLAN

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	HARVEST_PLAN#	4	5	B	-		-
13	HARVEST_PLAN-ID	4	5	B	-		-
32	HARV_PLAN_KEY	4	4	I	-		-

Predicted number of records: 140

GEOADMIN.PATAAC_UNIT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	AAC_UNIT#	4	5	B	-		-
13	AAC_UNIT-ID	4	5	B	-		-
17	AAC_UNIT_KEY	2	5	I	-		-

Predicted number of records: 6

GEOADMIN.PATALLOC_UNIT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	ALLOC_UNIT#	4	5	B	-		-
13	ALLOC_UNIT-ID	4	5	B	-		-
17	ALLOC_UNIT_KEY	3	3	I	-		-

Predicted number of records: 1

GEOADMIN.PATOPER_UNIT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	OPER_UNIT#	4	5	B	-		-
13	OPER_UNIT-ID	4	5	B	-		-
17	OPER_UNIT_KEY	4	4	I	-		-

Predicted number of records: 132

ASSOCIATED DATABASE ATTRIBUTE TABLES:

ADMIN_UNIT.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	ADMIN_UNIT_KEY	3	3	I	-		-
4	GEOADMIN_TYPE	4	4	C	-		-
8	ADMIN_UNIT_NME	36	36	C	-		-

Predicted number of records: 9

HARVEST_PLAN.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	HARV_PLAN_KEY	4	4	I	-		-
21	AAC_UNIT_KEY	2	2	I	-		-
23	OPER_UNIT_KEY	4	4	I	-		-
27	ALLOC_UNIT_KEY	4	4	I	-		-
31	DSGN_SUBMIT_DT	8	11	D	-		-
39	DSGN_APPROV_DT	8	11	D	-		-
47	FULL_DSGN_APPROV	3	3	C	-		-
50	CLIENT_NUMB	4	4	I	-		-
54	HARV_PLAN_YEAR	4	4	I	-		-
58	HARVEST_PLAN_NME	4	4	C	-		-
62	FINAL_APPROV_DT	8	11	D	-		-

Predicted number of records: 140

HARV_LAYOUT_SUBMIT.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	HARV_PLAN_KEY	4	4	I	-		-
5	LAYOUT_SUBMIT_DT	8	11	D	-		-
13	LAYOUT_REPLY_DT	8	11	D	-		-
21	FULL_LAYOUT_APPR	3	3	C	-		-

Predicted number of records: 160

AAC_UNIT.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AAC_UNIT_KEY	2	2	I	-		-
3	COMPANY_NUMB	4	4	I	-		-
7	AAC_VOLUME	7	7	I	-		-
14	AAC_UNIT_NME	20	20	C	-		-
34	GEOADMIN_TYPE	4	4	C	-		-
38	AAC_METHOD	36	36	C	-		-
74	AAC_EFFECT_DT	8	11	D	-		-

Predicted number of records: 6

ALLOC_UNIT.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	ALLOC_UNIT_KEY	3	3	I	-		-
4	GEOADMIN_TYPE	4	4	C	-		-
8	COMPANY_NUMB	4	4	I	-		-

Predicted number of records: 1

OPERATING_UNIT.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	OPER_UNIT_KEY	4	4	I	-		-
5	CLIENT_NUMB	4	4	I	-		-
9	GEOADMIN_TYPE	4	4	C	-		-
13	AAC_UNIT_KEY	2	2	I	-		-
15	OPER_UNIT_NME	6	6	C	-		-

Predicted number of records: 132

USABILITY OF DATA:

The ADMIN_UNIT, AAC_UNIT, and OPER_UNIT geoadministration regions can be used on an operational basis as it is as accurate or more so than that currently used for mapping. The OPER_UNIT regions are a copy of the coverage $DATA/fma/compart created during a project to build a contiguous forest_cover layer for the FMA, and all compartments for which Weldwood held digital forest cover for at the time had a new, more accurate boundary created. Compartments that were not updated as part of this project, only six, were taken from the $DATA/fma/compartments coverage created by digitizing from a 1:250000 scale map.

PROCEDURE FOR DATA ENTRY:

Not applicable

POTENTIAL DATA SOURCES:

Not required

OUTSTANDING ISSUES:

• The compartment boundaries for Marlboro 7,8,16,24 Mcleod 2, and Berland 13 should be updated as they were not included in the forest cover project.

TIME SPENT ON LOADING TEST MAPSHEETS:

Not applicable

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

Not applicable

LAYER : *Township grid*
COVERAGE : *township_grid*

GENERAL DESCRIPTION:

This layer contains the legal township grid polygons to the township, section and quarter section levels. These levels will be used to define the Arc/Info region features and all attribute information has remained on the feature attribute tables as it was anticipated this layer would rarely be used for non-spatial querying .

ASSOCIATED FEATURE ATTRIBUTE TABLES:

TWP_GRID.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	TWP_GRID#	4	5	B	-		-
13	TWP_GRID-ID	4	5	B	-		-

Predicted number of records: 26121

TWP_GRID.PATTWP

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	TWP#	4	5	B	-		-
13	TWP-ID	4	5	B	-		-
17	MERIDIAN	1	1	I	-		-
18	RANGE	2	2	I	-		-
20	TOWNSHIP	2	2	I	-		-

Predicted number of records: 216

TWP_GRID.PATSEC

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	SEC#	4	5	B	-		-
13	SEC-ID	4	5	B	-		-
17	SECTION	2	2	I	-		-

Predicted number of records: 36

TWP_GRID.QSEC

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	QSEC#	4	5	B	-		-
13	QSEC-ID	4	5	B	-		-
17	QUARTER_SEC_NME	2	2	C	-		-

Predicted number of records: 4

ASSOCIATED DATABASE ATTRIBUTE TABLES:

None

USABILITY OF DATA:

The TWP_GRID was build by Carol Doering from the government data purchased by Weldwood and is considered accurate and usable on an operational basis.

PROCEDURE FOR DATA ENTRY:

Not applicable

OUTSTANDING ISSUES:

None

TIME SPENT ON LOADING TEST MAPSHEETS:
Not applicable

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:
Not applicable

LAYER : *Cultural Points*
COVERAGE : *cultural*

GENERAL DESCRIPTION:

This layer will contain point data for features such as townsites, fire towers, airstrips etc. and will be used mostly for spatial display and query.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

CULTURAL.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	CULTURAL#	4	5	B	-		-
13	CULTURAL-ID	4	5	B	-		-
17	CULTURAL_KEY	4	4	I	-		-

Predicted number of records: 80

ASSOCIATED DATABASE ATTRIBUTE TABLES:

CULTURAL.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	CULTURAL_KEY	4	4	I	-		-
5	CULTURAL_TYPE	4	4	C	-	TYPE	-
9	CULTURAL_NME	36	36	C	-	NAME	-

Predicted number of records: 80

USABILITY OF DATA:

The Cultural coverage was digitized from a 250000+ mapsheet and therefore lacks accuracy. This layer is likely more useful than the existing data being used for mapping but should be checked for completeness and relative accuracy as if this layer is to be drawn at a scale larger than 250000, there will likely be visible errors.

PROCEDURE FOR DATA ENTRY:

- plot 1:20000 or 1:75000 scale maps of each compartment/working circle of the FMA with existing cultural locations
- have personnel most familiar with the area in question to verify locations of existing points and append additional ones

POTENTIAL DATA SOURCES:

- trapper cabins from wildlife department
- ground status (candidate areas) from wildlife department
- spatial point locations from area coordinators

OUTSTANDING ISSUES:

- Points mapped as 'candidate natural areas' were input as only 'natural areas', it should be investigated as to their true status.
- All cabins must be located and entered as part of this coverage

TIME SPENT ON LOADING TEST MAPSHEETS:

4 hours to digitize and code 65 points over the entire FMA

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

- 2 hours to move existing points to correct locations
- 4 hours to digitize and code remaining points at a large scale (20000)

LAYER : *Universal Transverse Mercator grid*
COVERAGE : utm_grid

GENERAL DESCRIPTION:

This layer contains UTM_grid polygons at the quarter mapsheet level, each with attributes on the feature attribute table for map (eg. F), quadrant (eg. 08), and sheet (eg. NW).

ASSOCIATED FEATURE ATTRIBUTE TABLES:

UTM_GRID.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	UTM_GRID#	4	5	B	-		-
13	UTM_GRID-ID	4	5	B	-		-
17	MAP	1	1	C	-		-
18	QUAD	2	2	C	-		-
20	SHEET	2	2	C	-		-
**	REDEFINED ITEMS **						
17	SHEET_NAME	5	5	C	-		-

Predicted number of records: 86

ASSOCIATED DATABASE ATTRIBUTE TABLES:

None

USABILITY OF DATA:

The UTM_GRID is currently operational in the new Rev. 7 library. One problem with librarian; the fact that the grid coincides with the index boundaries does not allow plotting of the arcs forming the polygons, but does allow querying and shading.

PROCEDURE FOR DATA ENTRY:

Not applicable

POTENTIAL DATA SOURCES:

Mapsheet boundaries are located in the coverage 'KA' from the 1:20000 government base data

OUTSTANDING ISSUES:

- To plot the boundaries of the UTM layer in librarian, either the attributes will have to be added to the index coverage or a combination of selecting and labelling from the UTM layer and then plotting select tile boundaries from the index will have to be used.
- It is not clear as to the effects adding attributes to the index coverage will have on librarian - probably none.

TIME SPENT ON LOADING TEST MAPSHEETS:

Not applicable

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

Not applicable

LAYER : *Contours*
COVERAGE : *contour*

GENERAL DESCRIPTION:

The contour layer currently resides in the new Rev. 7 library with each contour assigned a 'C_TYPE' according to the government CCSM codes.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

CONTOURS.AAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	FNODE#	4	5	B	-		-
5	TNODE#	4	5	B	-		-
9	LPOLY#	4	5	B	-		-
13	RPOLY#	4	5	B	-		-
17	LENGTH	4	12	F	3		-
21	CONTOURS#	4	5	B	-		-
25	CONTOURS-ID	4	5	B	-		-
29	C_TYPE	1	1	I	-		-

Predicted number of records: 126000

ASSOCIATED DATABASE ATTRIBUTE TABLES:

None

USABILITY OF DATA:

The contours coverage was copied, not inserted, into the new Rev. 7 library and is usable on an operational basis.

PROCEDURE FOR DATA ENTRY:

- Each mapsheet with a a_ha (contours) coverage in the existing library was copied to the same mapsheet name in the new library.
- Arcs had 'C_TYPE' values assigned as follow according to the major and minor CCSM codes:

CCSM CODE	DESCRIPTION	C_TYPE CODE
16150 / 000	index contour	1
16150 / 300	index depression contour	2
16200 / 000	intermediate contour	3
16200 / 300	intermediate depression contour	4

POTENTIAL DATA SOURCES:

- Government base data

OUTSTANDING ISSUES:

- Will the contour coverage need to be edge-matched if ArcStorm is implemented ?

TIME SPENT ON LOADING TEST MAPSHEETS:

Not applicable

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

Not applicable

LAYER : *Traplines*
COVERAGE : *trapline*

General description
This layer contains the trapline polygons, and the attribute tables describing historical trapping and Weldwood Beaver program related data.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

TRAPLINE.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	TRAPLINE#	4	5	B	-		-
13	TRAPLINE-ID	4	5	B	-		-
17	TRAPLINE_NUMB	4	4	I	-		-

Predicted number of records: 156

ASSOCIATED DATABASE ATTRIBUTE TABLES:

PELT_PRICE.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	TRAP_YEAR	4	4	I	-		-
5	SPECIES_NUMB	3	3	I	-		-
8	AVG_PELT_PRICE	6	6	N	2		-

Predicted number of records: 14 for every past year loaded

TRAPLINE_TAKE.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	TRAPLINE_NUMB	4	4	I	-		-
5	TRAP_YR	4	4	I	-		-
9	ANIMALS_TAKEN	4	4	I	-		-
13	SPECIES_NUMB	4	4	I	-		-

Predicted number of records: 300 for every past year loaded

BEAVER_TAKE.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	TRAPLINE_NUMB	4	4	I	-		-
5	TRAP_YEAR	4	4	I	-		-
9	BEAVER_TAKEN	4	4	I	-		-

Predicted number of records: 30

BEAVER_PROGRAM.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	TRAPLINE_NUMB	4	4	I	-		-
5	JOIN_DT	8	11	D	-		-

Predicted number of records: 20

TRAPLINE_CURRENT_OWNER.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	TRAPLINE_NUMB	4	4	I	-		-
5	CLIENT_NUMB	4	4	I	-		-

Predicted number of records: 64

TRAPLINE_PREVIOUS_OWNER.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	TRAPLINE_NUMB	4	4	I	-		-
5	CLIENT_NUMB	4	4	I	-		-
9	START_YEAR	4	4	I	-		-
13	END_YEAR	4	4	I	-		-

Predicted number of records: 20

SPECIES.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	SPECIES_NUMB	4	4	I	-		-
5	SPECIES_CODE	4	4	C	-		-
9	COMMON_NME	32	32	C	-		-
41	SCIENTIFIC_NME	32	32	C	-		-

Predicted number of records: 374*

*note-This number includes a possible increase in the number of species in the list over the next two years.

USABILITY OF DATA:

The spatial trapline coverage and the TRAPLINE_CURRENT_OWNER.FT, BEAVER_TAKE.FT, and BEAVER_PROGRAM.FT tables are usable for the traplines falling in or partially in the pilot project area. The TRAPLINE_TAKE.FT table is correct for the entire FMA but only has records dating back to 1989. The PELT_PRICE.FT table has species numbers from the old numbering system and will have to be matched to the new system before they can be used. The SPECIES.FT is complete as it was imported directly from a database file supplied by Foothills Forest staff.

PROCEDURE FOR DATA ENTRY:

- load records into the TRAPLINE_TAKE table for years prior to 1989 either by:
  - requesting the records from the government in a format easily loaded into the TRAPLINE_TAKE table **OR**
  - use the shell script /ffdata/ffdsstest/programs/format_trap.sh to format the ASCII file supplied by the government

  (*NOTE: the original file must be in the same format as that supplied by Christy Butt during the pilot project or the format script will not work)
- manually enter records for PELT_COST.FT, BEAVER_PROGRAM.FT, BEAVER_TAKE.FT and TRAPLINE_PREVIOUS_OWNER.FT tables from paper records for years prior to 1989

POTENTIAL DATA SOURCES:

- digital and paper records from wildlife department
- additional species names and codes from Foothills Forest staff

OUTSTANDING ISSUES:

- the true boundaries for the traplines bordering the FMA boundary must be located

TIME SPENT ON LOADING TEST MAPSHEETS:

- 6 hours

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

- 3 hours

LAYER : *Area and Linear Dispositions*
COVERAGE : *area_disp, linear_disp*

GENERAL DESCRIPTION:

This 'Linear_disp' coverage contains the linear disturbances, not including road dispositions, inside the test area. There are two route subclasses derived from this coverage; the 'actual' subclass which has a route for each disposition, trail, or seismic line, and the 'access' subclass which has a route for each access course according to user type. The 'Area_disp' coverage contains area based dispositions such as mineral leases or drill sites. Attribute information for linear and area dispositions include disposition types, invoices, clients and companies. All entities in the data model relating to Lands Use have been implemented as part of the development of Weldwood's Lands GIS application and therefore tables associated to planned dispositions and disposition depth were not included in this project.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

AREA_DISP.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	AREA_DISP#	4	5	B	-		-
13	AREA_DISP-ID	4	5	B	-		-
17	DISP_KEY	9	9	C	-		-

Predicted number of records: 650

AREA_DISP.PATACTUAL

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	ACTUAL#	4	5	B	-		-
13	ACTUAL-ID	4	5	B	-		-
17	DISP_KEY	9	9	C	-		-

Predicted number of records: 650

LINEAR_DISP.AAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	FNODE#	4	5	B	-		-
5	TNODE#	4	5	B	-		-
9	LPOLY#	4	5	B	-		-
13	RPOLY#	4	5	B	-		-
17	LENGTH	4	12	F	3		-
21	LINEAR_DISP#	4	5	B	-		-
25	LINEAR_DISP-ID	4	5	B	-		-
29	DISP_KEY	9	9	C	-		-
38	ACCESS_KEY	4	4	C	-		-

Predicted number of records: 82,400

LINEAR_DISP.RATACTUAL

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	ACTUAL#	4	5	B	-		-
5	ACTUAL-ID	4	5	B	-		-
9	DISP_KEY	9	9	C	-		-

Predicted number of records: 500

LINEAR_DISP.RATACCESS

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	ACCESS#	4	5	B	-		-
5	ACCESS-ID	4	5	B	-		-
9	ACCESS_KEY	4	4	C	-		-

Predicted number of records: 200

ASSOCIATED DATABASE ATTRIBUTE TABLES:

DISPOSITION.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	DISP_TYPE	3	3	C	-		-
4	DISP_YEAR	2	2	I	-		-
6	DISP_NO	4	4	I	-		-
10	DISP_KEY	9	9	C	-		-
19	COMPANY_NO	4	4	I	-		-
23	PAPER_FILE_REF	11	11	C	-		-
34	DISP_AREA	8	8	F	2		-
42	CLEARED_AREA	8	8	F	2		-
50	APPROVAL_DT	8	11	D	-		-
58	ENTERED_DT	8	11	D	-		-
66	GROUND_STATUS	2	2	C	-		-
68	REGISTERED_WIDTH	8	8	F	2		-
76	ACTUAL_WIDTH	8	8	F	2		-
84	DISP_COMMENTS	40	40	C	-		-

Predicted number of records: 3400

LANDUSE_INVOPICE.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	INVOICE_NO	4	4	I	-		-
5	DISP_TYPE	3	3	C	-		-
8	DISP_YEAR	2	2	I	-		-
10	DISP_NO	4	4	I	-		-
14	DISP_KEY	9	9	C	-		-
23	INVOICE_TYPE	3	3	C	-		-
26	INVOICE_DT	8	11	D	-		-
34	DISP_VOL	8	12	F	2		-
42	SALVAGE_VOL	8	12	F	2		-
50	INVOICE_TDA	8	12	F	2		-
58	INVOICE_GST	8	12	F	2		-
66	INVOICE_CDUES	8	12	F	2		-
74	INVOICE_TOTAL	8	12	F	2		-

Predicted number of records: 2600

USABILITY OF DATA:

The DISPOSITION.FT and LANDUSE_INVOICE.FT tables are direct copies of those built as part of the Land Use GIS application and it is therefore not necessary to use the ones in the test directory. The spatial files for the area and lineal dispositions are not digitized and edited to a high enough standard to ensure sufficient accuracy and should not be used on an operational basis.

PROCEDURE FOR DATA ENTRY:

*note - The ACTUAL, ACCESS, DISP, and NAME route systems for the LINEAR_DISP and ROAD coverages were built by adding key fields to the AAT, coding each arc and then using MEASUREROUTE to create the subclasses and their routes. However this method does not allow a single arc to belong to more than one route in the same subclass and this may be required on areas outside the test mapsheets. In this situation the routes will have to be edited directly in Arcedit from the command line or through an editing application. The method for building route systems described here is not necessarily the most efficient and others should be investigated before undertaking the entry of the entire FMA.

- Manually transfer spatial data from 1:15840 scale township disposition maps to paper printouts of the current GIS digital base to be digitized
- Assign 'disp_key' values to the AAT or PAT feature attribute tables using the following format:

LOC 89 1234
disp_type, disp_year, disp_number

- The following disposition types did not match the new data format and will have to be reassigned new values as follows :

Existing Format	New Format
registered land title 'KS' eg. 4444KS	assign a disposition type value of 'KSP' KSP334444
railways 'R' eg. 44R	assign a disposition type value of 'RRZ' RRZ330044
disposition types without a designated year eg. PLS004444	use a disposition year value of '33' PLS334444
dispositions with a five digit type (and no designated year) eg. PLS014444	use a disposition year value of '31' 314444

• In the RBASE table \rb31\landback\ledger on the Lands PC, designate a compatible disp_key in the GIS_KEY field for each disposition not conforming to the new system.
• Port the RBASE records with their attributes from the PC to the INFO or ORACLE disposition table. It is not necessary to port all the records as old disposition numbers that fit the new system were already transferred to the INFO table 'LU_DISP_ALL' located in the Lands application directory.
• Merge the linear dispositions coverage with the seismic/trails coverage and code all digital linework NOT assigned a disposition as follows:

Disturbance Type	Disposition_key
seismic lines	GEO330000
trails	TRL330000

• All linear disturbances (any arcs/routes in the amalgamated coverage) that are identified as access routes either by Weldwood staff or as part of the Foothills Model Forest recreation inventory should assigned an access type in a second route subclass 'ACCESS' as follows:

Access purpose	Access_type
Biking	'BIKE'
Hiking	'HIKE'
All terrain vehicle	'ATV'
Access to traplines and/or cabins	'TRAP'
Historical routes	'HIST'

POTENTIAL DATA SOURCES:

- all disposition records from Land Use RBase database
- spatial location of dispositions from Land Use disposition Township maps
- disposition table from Landuse GIS application directories
- access routes from wildlife department and Foothills Model Forest staff

OUTSTANDING ISSUES:

- There will have to be changes made to the Lands GIS application to accommodate the changes made to the data model.

TIME SPENT ON LOADING TWO MAPSHEETS:

32 hours*

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

20 hours*

*note: The indicated time requirements listed include digitizing or copying of linework and coding of attributes for the LINEAR_DISP and ROAD coverages.

LAYER : *Roads*
COVERAGE : *road*

GENERAL DESCRIPTION:

This layer contains all the road arcs for the test area each belonging to one or both of two categories that form the Arc/Info route features for the coverage. They categories are; roads with dispositions ('disp' route), and roads with numbers ('numb' route). It has not yet been determined exactly how the roads will be modelled therefore there are no associated attribute files created in the test workspace.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

ROAD.AAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	FNODE#	4	5	B	-		-
5	TNODE#	4	5	B	-		-
9	LPOLY#	4	5	B	-		-
13	RPOLY#	4	5	B	-		-
17	LENGTH	4	12	F	3		-
21	ROAD#	4	5	B	-		-
25	ROAD-ID	4	5	B	-		-
29	COMPART	5	5	C	-		-
34	DISP_KEY	9	9	C	-		-
43	ROAD_KEY	6	6	I	-		-

Predicted number of records: 14,000

ROAD.RATDISP

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	DISP#	4	5	B	-		-
5	DISP-ID	4	5	B	-		-
9	DISP_KEY	9	9	C	-		-

Predicted number of records: 700

ROAD.RATNUMBER

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	NUMB#	4	5	B	-		-
5	NUMB-ID	4	5	B	-		-
9	ROAD_KEY	6	6	I	-		-

Predicted number of records: 2500

USABILITY OF DATA:

Both the spatial and attribute files for the roads layer must be redone as several issues, such as roads running between compartments changing classes, were not corrected during the time of editing.

PROCEDURE FOR DATA ENTRY:

See Linear_disp and Area_disp coverages

POTENTIAL DATA SOURCES:

- road names, locations and status from area coordinators and harvest plans
- dispositions from Lands department

OUTSTANDING ISSUES:

- How many road classes will be required taking into consideration new ground rules and the fact that all roads will now require LOCs?
- Where will the mileage markers be located, at their true UTM coordinates or their correct location in relation to other base features?
- Will the roads require a temporal tracking model to monitor road construction and destruction over time?

TIME SPENT ON LOADING TEST MAPSHEETS:

The entry of the spatial data was completed at the same time the linear and area disposition coverages were done and are included in the same time estimates. It is still not known how long the road attributes will require for completion as the model has not yet been finalized.

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

See Linear_disp and Area_disp coverages

LAYER: *Aquatic Sample Points*
COVERAGE: *aquatic_pnt*

GENERAL DESCRIPTION:

This layer contains aquatic sampling point data inside the test area. Attributes for these points describe both stream and stream crossing characteristics such as stream width and culvert or bridge size. Whether the stream crossing features will be modelled as simple points or as events along road systems has not yet been decided.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

AQUATIC_POINT.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	AQUATIC_PNT#	4	5	B	-		-
13	AQUATIC_PNT-ID	4	5	B	-		-
17	AQUATIC_KEY	4	4	I	-		-

Predicted number of records: 460

ASSOCIATED DATABASE ATTRIBUTE TABLES:

AQUATIC_POINT.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AQUATIC_KEY	4	4	I	-		Indexed
5	INVENTORY_DT	8	11	D	-		-
13	GRND_CREEK_CLASS	1	1	I	-		-
14	CHANNEL_WIDTH	5	5	N	2		-
19	CHANNEL_DEPTH	4	4	N	2		-
23	CHANNEL_VELOCITY	5	5	N	3		-
28	BOTTOM_TYPE	2	2	C	-		-
30	FISH_PASSAGE	1	1	C	-		-
31	OBSTRUCTIONS	36	36	C	-		-
67	RECREATIONAL_USE	10	10	C	-		-
77	BEAVER_ACTIVITY	15	15	C	-		-
92	BANK_DESC	36	36	C	-		-

Predicted number of records: 450

CROSSING.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AQUATIC_KEY	4	4	I	-		-
5	ROAD_KEY	6	6	I	-		-
11	ROAD_POSITION	5	5	N	1		-
16	CROSSING_TYPE	1	1	C	-		-
17	MATERIAL	1	1	C	-		-
18	INTAKE_PHOTO	5	5	C	-		-
23	INTAKE_COMMENT	36	36	C	-		-
59	OUTFLOW_PHOTO	5	5	C	-		-
64	OUTFLOW_COMMENT	36	36	C	-		-
100	STRUCTURE_WIDTH	4	4	N	2		-
104	STRUCTURE_LENGTH	5	5	N	2		-
109	FILL_HEIGHT	5	5	N	2		-
114	EMBANK_COMMENT	36	36	C	-		-

Predicted number of records: 410

CULVERT.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AQUATIC_KEY	4	4	I	-		-
5	CULVERT_TYPE	1	1	C	-		-
6	IN_POOL_LENGTH	3	3	N	1		-
9	IN_POOL_WIDTH	3	3	N	1		-
12	OUT_POOL_LENGTH	3	3	N	1		-
15	OUT_POOL_WIDTH	3	3	N	1		-
18	HANG_HEIGHT	4	4	N	2		-
22	CULVERT_VELOCITY	1	1	C	-		-
23	POOLS_PRESENT	1	1	C	-		-
24	SUBSTRATE	3	3	C	-		-
27	CULVERT_SIZE	3	3	I	-		-

Predicted number of records: 290

AQUATIC_SPECIES.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AQUATIC_KEY	4	4	I	-		-
5	SPECIES_NUMBER	4	4	I	-		-
9	FISH_NUMBER	2	2	I	-		-
11	AVERAGE_SIZE	2	2	I	-		-
13	LOCATION_CODE	5	5	C	-		-

Predicted number of records: 450

USABILITY OF DATA:

The aquatic point locations are accurate enough to be used on an operational basis although only those points which fall inside the test area were entered.

PROCEDURE FOR DATA ENTRY:

- Enter spatial points and attribute data for Aquatic sample points supplied by the Weldwood wildlife department. Record bridge attributes from maintenance and inspections forms supplied by Forest Operations.
- Append bridge (and culvert if available) locations and attributes for crossings not yet surveyed as aquatic points by wildlife personnel.

*note - bridge or culvert locations not recorded as aquatic points by the Wildlife staff but which are maintained by operations will have several blank fields in the AQUATIC_POINT.FT and CROSSING.FT tables.

POTENTIAL DATA SOURCES:

- aquatic sample points from Wildlife department
- bridge maintenance and inspection data from Forest Operations

OUTSTANDING ISSUES:

- At the time of the project completion it had not yet been decided whether the crossings data would be modelled as simply point features or as events along route features.
- Descriptions for substrate/bottom_type must be defined.
- The road numbering system should be in place in order to relate aquatic_point plot information to road locations along road systems.
- Crossing material descriptions must be defined.
- Must ensure that there is a standard way of differentiating null values vs. data not recorded.
- There was no data entered for the in the Aquatic_species table, and the 'location_code' field collected for these points has yet to be defined.

TIME SPENT ON LOADING TWO MAPSHEETS:

3 hours

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

2 hours

LAYER : *Hydrology*
COVERAGE : *hydrology*

GENERAL DESCRIPTION:

This layer contains the river and stream arcs for the test area. One route subclass has been created called 'name' to define a route for each creek that has a designated name. Attributes for hydrology include stream class and stream order.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

HYDROLOGY.AAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	FNODE#	4	5	B	-		-
5	TNODE#	4	5	B	-		-
9	LPOLY#	4	5	B	-		-
13	RPOLY#	4	5	B	-		-
17	LENGTH	4	12	F	3		-
21	HYDROLOGY#	4	5	B	-		-
25	HYDROLOGY-ID	4	5	B	-		-

Predicted number of records: 55,000

HYDROLOGY.RATNAME

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	NAME#	4	5	B	-		-
5	NAME-ID	4	5	B	-		-
9	CREEK_NAME	24	24	C	-		-

Predicted number of records: 700

ASSOCIATED DATABASE ATTRIBUTE TABLES:

HYDRO_DESC.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	HYDROLOGY_KEY	6	6	I	-		-
7	STREAM_CLASS	3	3	C	-		-
10	STREAM_ORDER	2	2	I	-		-
12	ARC_LENGTH	4	12	F	3		-

Predicted number of records: 55,000

USABILITY OF DATA:

The data in the Hydrology coverage will be more accurate in terms of connectivity and direction of flow than the original data but should be inspected to ensure correctness of the NAME route and CLASS attributes.

PROCEDURE FOR DATA ENTRY:

- Correct arc direction and connectivity to insure streams flow downhill and that they connect at intersections
- Similar to the LINEAR_DISP and ROAD coverages, hydrology route subclasses and routes were built by adding a field to the AAT and using MEASUREROUTE.
- Assign stream_class to each stream in the HYDRO_DESC.FT table using the following categories:

Code	Stream class
'LP'	large permanent
'SPF'	small permanent with fish
'SPN'	small permanent without fish
'INT'	intermittent
'EPH'	ephemeral

POTENTIAL DATA SOURCES:

- spatial data from result of stream update project
- stream classification, bottom_type from Wildlife department surveys

OUTSTANDING ISSUES:

- It has yet to be resolved if or how the stream order and classification will be tracked.

TIME SPENT ON LOADING TWO MAPSHEETS:

12.5 hours

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

12.5 hours

LAYER : *Wildlife zones*
COVERAGE : *wildlife_zone*

GENERAL DESCRIPTION:

This layer contains wildlife zone polygon data for the test area. The coverage is composed of two regions; the first for a small scale delineation already completed called 'planning' and the second for a more detailed interpretation to be completed during the compartment habitat assessments called 'operational'. Attributes for this layer include who interpreted the zones and the scale at which they were interpreted.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

WILDLIFE_ZONE.PAT

1	AREA	4	12	F	3	-
5	PERIMETER	4	12	F	3	-
9	WILDLIFE_ZONE#	4	5	B	-	-
13	WILDLIFE_ZONE-ID	4	5	B	-	-
17	WELD_WILDZONE#	4	5	B	-	-
21	WELD_WILDZONE-ID	4	5	B	-	-
25	WILDZONE_KEY	3	3	I	-	-
28	GOV_WILDZONE#	4	5	B	-	-
32	GOV_WILDZONE-ID	4	5	B	-	-
36	ZONE	1	1	I	-	-

Predicted number of records: 130

WILDLIFE_ZONE.PATOPERATIONAL

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	OPERATIONAL#	4	5	B	-		-
13	OPERATIONAL-ID	4	5	B	-		-
17	WILDZONE_KEY	3	3	I	-		-

Predicted number of records: 4

WILDLIFE_ZONE.PATPLANNING

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	PLANNING#	4	5	B	-		-
13	PLANNING-ID	4	5	B	-		-
17	ZONE	1	1	I	-		-

Predicted number of records: 4

ASSOCIATED DATABASE ATTRIBUTE TABLES:

WILDLIFE_ZONE.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	WILDZONE_KEY	3	3	I	-		-
4	SCALE	6	6	I	-		-
10	CLIENT_NUMB	4	4	I	-		-
14	JUSTIFICATION	36	36	C	-		-

Predicted number of records: 300

USABILITY OF DATA:

Both the PLANNING and OPERATIONAL regions in the wildlife coverage were clipped to the mapsheet boundaries and are not worth attempting to insert back into the original coverages.

PROCEDURE FOR DATA ENTRY:

• digitize operational zones from hand drawn maps created by the Wildlife department as part of their habitat assessments for each new harvest plan

POTENTIAL DATA SOURCES:

• operational regions from compartment maps that have hand drawn zones from the Wildlife department
• planning regions from $DATA/fma/wildzones OR $DATA/fma/p_wildzones, it is not clear which is the most current

OUTSTANDING ISSUES:

• Which of the two coverages, $DATA/fma/wildzones or p_wildzones is to be used as the planning region.

TIME SPENT ON LOADING TWO MAPSHEETS:

2 hours to digitize and coded a single compartment

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

2 hours to digitize and code a single compartment

LAYER : *Air Photo Lines and Points*
COVERAGE : *photo_line*

GENERAL DESCRIPTION:

This layer contains both line and point data of flight line and photo centres for the 1993 flying of the entire FMA. Historical flight patterns will likely not be converted to digital format therefore time requirements and data sources were not listed.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

PHOTO.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	PHOTO#	4	5	B	-		-
13	PHOTO-ID	4	5	B	-		-
17	PHOTO_CNTR_NUMB	4	3	I	-		-
21	PHOTO_LINE_NUMB	3	2	I	-		-
24	PHOTO_ROLL_NUMB	5	5	I	-		-
29	PHOTO_JOB_NUMB	4	4	I	-		-

Predicted number of records: 830

PHOTO.AAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	FNODE#	4	5	B	-		-
5	TNODE#	4	5	B	-		-
9	LPOLY#	4	5	B	-		-
13	RPOLY#	4	5	B	-		-
17	LENGTH	4	12	F	3		-
21	PHOTO#	4	5	B	-		-
25	PHOTO-ID	4	5	B	-		-
29	PHOTO_LINE_NUMB	3	3	I	-		-
32	PHOTO_JOB_NUMB	4	4	I	-		-
36	PHOTO_ROLL_NUMB	5	5	I	-		-

Predicted number of records: 90

ASSOCIATED DATABASE ATTRIBUTE TABLES:

AIR_PHOTO_JOB.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	PHOTO_JOB_NUMB	4	4	I	-		-
5	FILM_TYPE	36	36	C	-		-
41	PHOTO_SCALE	7	7	I	-		-
48	PHOTO_FLIGHT_YR	4	4	I	-		-
52	PHOTO_START_MNTH	2	2	I	-		-
54	PHOTO_END_MNTH	2	2	I	-		-
56	CLIENT_NUMB	4	4	I	-		-

Predicted number of records: 5

USABILITY OF DATA:

The PAT and AAT records for the photo coverage are correct for the 1993 photo job covering the entire FMA. Attributes in the AIR_PHOTO_JOB.FT table are not entirely correct and should not be used.

PROCEDURE FOR DATA ENTRY:

*note - Historical flightlines will most likely not be converted to digital format.

POTENTIAL DATA SOURCES:

Not required

OUTSTANDING ISSUES:
None

TIME SPENT ON LOADING TWO MAPSHEETS:
Not applicable

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:
Not applicable

LAYER : *Digital Data update*
COVERAGE : *update*

GENERAL DESCRIPTION:
The update coverages themselves are individual coverages of, for example historical cuts or linear disturbances, that will be archived onto a hard copy. These coverages are tracked in the update_desc.ft attribute table using the actual coverage name as the key. Attributes for the coverages include the update method and the date the new information was inserted into the database.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

Variable, the update coverage name will be the key for the UPDATE_DESC.FT table using a standard coverage name

example: FC408_UPD ==> cover type, wc, compt, update

ASSOCIATED DATABASE ATTRIBUTE TABLES:

UPDATE_DESC.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	COVER_NME	13	13	C	-		-
14	CLIENT_NUMB	4	4	I	-		-
18	UPDATE_YR	4	4	I	-		-
22	UPDATE_TYPE	4	4	C	-		-
26	UPDATE_METHOD	20	20	C	-		-
46	PHOTO_JOB_NUMB	4	4	I	-		-
50	PROJECT_NUMB	4	4	I	-		-
54	INTERPRETER_NME	24	24	C	-		-
78	FC_UPDATE_DT	8	11	D	-		-
86	OPEN_UPDATE_DT	8	11	D	-		-
94	COMMENTS	36	36	C	-		-

Predicted number of records: 60

USABILITY OF DATA:
At this time the UPDATE_DESC.FT table should not be used as it contains inaccurate data.

PROCEDURE FOR DATA ENTRY:
- Make a duplicate of the update coverage in a directory for archiving
- Fill in attribute information for each coverage

POTENTIAL DATA SOURCES:
- forest cover, historical cut from Forest Planning Department
- linear disturbance from Land Use department (?)

OUTSTANDING ISSUES:
- Is the above standard naming scheme sufficient for all update archives?

TIME SPENT ON LOADING TWO MAPSHEETS:
Not applicable

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:
Not applicable

LAYER : *Ecological Classification*
COVERAGE : *eco_class*

GENERAL DESCRIPTION:

This layer contains ecological classification polygon data for a single compartment within the test area. The actual model for the ecological data is subject to change as the 'Area Event' system employed by the Silviculture and Forest Cover Update GIS application will require that the ecological, ground activity, and forest cover coverages be merged into one. Attributes for this layer include ecological site, phase and community percentages.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

ECO_CLASS.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	ECO_CLASS#	4	5	B	-		-
13	ECO_CLASS-ID	4	5	B	-		-

Predicted number of records: 42,000

ASSOCIATED DATABASE ATTRIBUTE TABLES:

ECO_POLY_DESC.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	ECO_CLASS-ID	4	5	B	-		-
5	NATURAL_REGION	3	3	C	-		-
8	SAMPLE_TYPE	2	2	C	-		-
10	AREA	4	12	F	3		-

Predicted number of records: 42,000

ECO_PHASE_DESC.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	ECO_CLASS-ID	4	5	B	-		-
5	ECO_SITE	1	1	C	-		-
6	ECO_SITE_PHASE	1	1	I	-		-
7	SOIL_TEXTURE	4	4	C	-		-
11	COARSE_FRAGMENT	2	2	I	-		-
13	MOISTURE_REGIME	2	2	I	-		-
15	NUTRIENT_REGIME	1	1	C	-		-
16	PHASE_PERCENT	2	2	I	-		-
18	COMMUNITY_TYPE	1	1	I	-		-

Predicted number of records: 44,000

USABILITY OF DATA:

It will not be necessary to use any of the test area data as from this point on the ECological-class coverages and tables will be delivered by the contractor in the data model format and the coverage currently residing in the test workspace is simply a copy from one of the completed compartments..

PROCEDURE FOR DATA ENTRY:

Not applicable

POTENTIAL DATA SOURCES:

- all related data from Forest Planning department

OUTSTANDING ISSUES:

None

TIME SPENT ON LOADING TWO MAPSHEETS:
Not applicable

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:
Not applicable

LAYER : *Forest Plots*
COVERAGE : *forest_plot*

GENERAL DESCRIPTION:

This layer contains all forest management sample plot point data. Such plots include PGS, stand tending and Wesbogy. In order to ensure adequate protection of all permanent plots an agreement was struck with the provincial government to have each registered as a disposition but it has yet to be decided if or how all historical plot locations will be recorded.

ASSOCIATED FEATURE ATTRIBUTE TABLES:

FOREST_PLOTS.PAT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	AREA	4	12	F	3		-
5	PERIMETER	4	12	F	3		-
9	FOREST_PLOT#	4	5	B	-		-
13	FOREST_PLOT-ID	4	5	B	-		-
17	FOREST_PLOT_KEY	4	4	I	-		-

Predicted number of plots: 3100

ASSOCIATED DATABASE ATTRIBUTE TABLES:

FOREST_PLOT_DESC.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	FOREST_PLOT_KEY	4	4	I	-		-
5	COMPANY_NUMB	4	4	I	-		-
9	FOREST_PLOT_TYPE	4	4	C	-		-
13	FOREST_PLOT_CAT	4	4	C	-		-
17	PAPER_FILE_NUMB	11	11	C	-		-
28	DISP_KEY	9	9	C	-		-

Predicted number of records: 4500

PLOT_PGS.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	FOREST_PLOT_KEY	4	4	I	-		-
5	WORKING_CIRCLE	1	1	I	-		-
6	INSTALL_NUMB	2	2	I	-		-
8	PLOT_NUMB	4	4	I	-		-
12	PLOT_STATUS	1	1	C	-		-
13	DISP_KEY	9	9	C	-		-

Predicted number of records: 3100

USABILITY OF DATA:

The forest_plot coverage in the test directory is simply an amalgamation of the $DATA/fma/pgs and the $DATA/fma/research coverages and can easily be recreated at the time the rest of the FMA plots are created. Also, the plots from the research coverage must be somehow categorized into individual plot types as described in the look up table.

PROCEDURE FOR DATA ENTRY:

Not applicable

POTENTIAL DATA SOURCES:

- plot location and attribute data from/through Forest Planning department
- plot disposition numbers from Land Use department

OUTSTANDING ISSUES:

None

TIME SPENT ON LOADING TWO MAPSHEETS:
2 hours to load two plot types, PGS and research into the FOREST_PLOT.FT table (discluding digitizing)

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:
Exceptionally variable depending on plot type, amount of data collected, and if the points exist digitally.

LAYER : *Client and Company Lists*
COVERAGE : (only attribute tables)

GENERAL DESCRIPTION:
These attribute tables contain the lists of all clients (contacts, employees etc.), companies, and addresses relating to all possible entities that require them in the data model. A client/company cross reference table, 'client_xref.ft' was created to accommodate companies having more than one employee, and for clients belonging to more than one company.

ASSOCIATED FEATURE ATTRIBUTE TABLES:
None

ASSOCIATED DATABASE ATTRIBUTE TABLES:

CLIENT_LIST.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	CLIENT_NUMB	4	4	I	-		-
5	LAST_NME	20	20	C	-		-
25	FIRST_NME	20	20	C	-		-
45	PHONE_NUMB	8	8	C	-		-
53	FAX_NUMB	8	8	C	-		-
61	AREA_CODE	3	3	I	-		-
64	EXTENSION	3	3	I	-		-
67	MOBILE	8	8	C	-		-
75	CLIENT_COMMENTS	36	36	C	-		-

Predicted number of records: 1000

COMPANY_LIST.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	COMPANY_NME	48	48	C	-		-
49	COMPANY_NUMB	4	4	I	-		-
53	VENDOR_NUMB	5	5	I	-		-
58	COMPANY_TYPE	4	4	C	-		-

Predicted number of records: 550

CLIENT_XREF.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	COMPANY_NUMB	4	4	I	-		-
5	CLIENT_NUMB	4	4	I	-		-
9	POSITION	32	32	C	-		-

Predicted number of records: 1000

ADDRESS_LIST.FT

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
1	COMPANY_NUMB	4	4	I	-		-
5	ADDRESS1	25	25	C	-		-
30	ADDRESS2	25	25	C	-		-
55	CITY	15	15	C	-		-
70	PROV	2	2	C	-		-
72	POSTAL_CODE	7	7	C	-		-
79	AREA_CODE	3	3	I	-		-
82	PHONE_NO	8	8	C	-		-
90	FAX_NO	8	8	C	-		-
98	COMPANY_COMMENTS	36	36	C	-		-

Predicted number of records: 550

USABILITY OF DATA:
At this point in time the data in the above tables should not be used on an operational basis. The records that do reside in the ADDRESS.FT, COMPANY_LIST.FT, and CLIENT_LIST.FT are correct but the keys to the CLIENT_XREF.FT table should be re-established once all the clients and companies have been entered to minimize the chance of duplication.

PROCEDURE FOR DATA ENTRY:
- To build COMPANY_LIST, use the records in the table created during the test to build from as it contains most of the Lands companies plus many of the Forest Operations companies from the list supplied by Marsh Spearin.
- Manually add records from the Lands RBASE company_list that were not successfully ported to INFO due to inconsistent data formats

- To build the ADDRESS_LIST, use the records created during the test as it contains most of the Lands companies plus the addresses of trappers whose lines fell within the test area
- Manually add records from the Lands RBASE address_list that were not successfully ported to INFO due to inconsistent data formats

- Build the CLIENT_XREF as the last step once all, or as many as possible, clients and companies have been entered.
- Ensure that the addresses match the company_numbers and they have a one to one relationship

POTENTIAL DATA SOURCES:
- company names and addresses and clients from Land Use RBase files and from each department's contractor lists

OUTSTANDING ISSUES:
None

TIME SPENT ON LOADING TWO MAPSHEETS:
1.5 hours to load 26 records into the client_list and client_xref tables

PREDICTED TIME REQUIREMENTS FOR LOADING TWO MAPSHEETS:

To load existing data for all clients and companies:

address_list	- 3 hours
company_list	- 4 hours
client_list	- 5 hours
client_xref	- 4 hours

Appendix A

LIST OF LOOK-UP TABLES:

COMPANY_TYPE.LUT

Record	COMPANY_TYPE	COMPANY_DESC
1	FOCN	FORESTRY CONSULTING
2	FOPR	FOREST PRODUCTS
3	GOVT	GOVERNMENT AGENCY
4	MINE	MINING
5	MISC	MISCELLANEOUS
6	OIGA	OIL AND GAS
7	OPCO	OPERATIONS CONTRACTING
8	RECR	RECREATIONAL
9	RSCH	RESEARCH
10	SICO	SILVICULTURE CONTRACTING
11	TRAP	TRAPLINES

CULTURAL_TYPE.LUT

Record	CULTURAL_TYPE	CULTURAL_DESC
1	TOWR	FIRE TOWER
2	CABN	CABIN
3	TOWN	TOWN
4	RECR	RECREATIONAL DEVELOPMENT AREA
5	PLAN	INDUSTRIAL PLANT
6	ASTR	AIRSTRIP
7	MINE	MINE

DISP_TYPE.LUT

Record	DISP_TYPE	DISP_DESC
1	AAG	ANCILLARY AGREE-GRAZING LEASE
2	AFS	AGRICULTURE FARM SALE
3	AHM	ALBERTA HOUSING METIS LEASE
4	CHL	CIVILIAN HOMESTEAD LEASE
5	CHS	CIVILIAN HOMESTEAD SALE
6	CTL	CONIFEROUS TIMBER LICENSE
7	CTP	CONIFEROUS TIMBER PERMIT
8	CUL	CULTIVATION LEASE
9	CUP	CULTIVATION PERMIT
10	DTL	DECIDUOUS TIMBER LICENSE
11	DTP	DECIDUOUS TIMBER PERMIT
12	ECA	ECOLOGICAL CORRIDOR AGREEMENT
13	EZE	EASEMENT
14	FDL	FARM DEVELOPMENT LEASE
15	FDS	FARM DEVELOPMENT SALE
16	FGL	FOREST GRAZING LEASE
17	FMA	FOREST MANAGEMENT AGREEMENT
18	FRD	FORESTRY ROAD
19	FWD	FINAL WATER DEVELOPMENT LICENSE
20	GEO	EXPLORATION APPROVAL
21	GRL	GRAZING LEASE
22	GRP	GRAZING PERMIT
23	GRR	PROVINCIAL GRAZING RESERVE
24	LOC	LICENSE OF OCCUPATION
25	MLL	MISCELLANEOUS LEASE
26	MLP	MISCELLANEOUS PERMIT
27	MSL	MINERAL SURFACE LEASE
28	MTS	MISCELLANEOUS TOWNSITE LEASE

29	PIL	PIPELINE INSTALLATION LEASE
30	PLA	PIPELINE AGREEMENT
31	PLS	PRIVATE LAND SALE
32	PPL	PUBLIC PIT LICENSE
33	PSA	PRIVATE SURFACE AGREEMENT
34	PTT	PERMISSION TO TRAP
35	PLS	PUBLIC LAND SALE
36	RDS	PROVISIONAL ROADWAY
37	REA	RURAL ELECTRIC ASSOC. EASEMENT
38	REC	RECREATION LEASE
39	RIA	RANGE IMPROVEMENT AGREEMENT
40	ROE	RIGHT OF ENTRY AGREEMENT
41	ROW	RIGHT OF WAY LEASE
42	RRD	REGISTERED ROADWAY
43	RTA	REGISTERED TRAPPING AREA
44	SCL	SEED CROP LEASE
45	SGL	SAND AND GRAVEL LEASE
46	SHL	STAFF HOUSING LAND LICENSE
47	SMC	SURFACE MATERIAL LICENSE
48	SME	SURFACE MATERIAL EXPLORATION
49	SML	SURFACE MATERIAL LEASE
50	TOF	TEST OF FUNCTION
51	TPA	TRAPPING AREA
52	TQU	TIMBER QUOTA
53	TRS	TAX RECOVERY SALE
54	VHL	VETERAN HOMESTEAD LEASE
55	VHS	VETERAN HOMESTEAD SALE
56	WDL	WATER DEVELOPMENT LICENSE
57	WRO	WILD RICE OPERATION
58	CNT	CONSULTATIVE NOTATION
59	DRS	DISPOSITION RESERVE
60	HRS	HOLDING RESERVATION
61	NAA	NATURAL AREAS
62	NOT	NOTATION
63	PNT	PROTECTIVE NOTATION
64	RRS	RESTRICTIVE RESERVATION
65	SRS	STUDY AREA RESERVATION
66	CAV	CAVEAT
67	CSL	CONDITIONAL SURRENDER
68	ENC	ENCUMBRANCE
69	LEN	LIEN
70	MTG	MORTGAGE
71	POA	POWER OF ATTORNEY
72	PEZ	R&P EASEMENT
73	PGL	R&P GRAZING LEASE
74	PGP	R&P GRAZING PERMIT
75	PLC	R&P LICENSE OF OCCUPATION
76	PML	R&P MISCELLANEOUS LEASE
77	PMP	R&P MISCELLANEOUS PERMIT
78	PMS	R&P MINERAL SURFACE SALE
79	PPA	R&P PIPELINE AGREEMENT
80	PPI	R&P PIPELINE INSTALLATION LEASE
81	PRA	R&P RURAL ELECTRICAL APPLICATION
82	PRD	R&P ROADWAYS
83	PRE	R&P RIGHT OF ENTRY
84	PSH	R&P STAFF HOUSING LICENSE
85	PRL	R&P RECREATION LEASE
86	PSM	R&P SURFACE MATERIAL LEASE
87	PDR	R&P DISPOSITION RESERVATION
88	HAM	MA HAMLET MINERAL SURFACE LEASE
89	HDR	MA DISPOSITION RESERVATION
90	HEI	MA HAMLET EASEMENT INDUSTRIAL

91	HEU	MA HAMLET EASEMENT UTILITY
92	HEZ	MA EASEMENT
93	HGR	MA GRAZING LEASE
94	HHL	MA STAFF HOUSING LAND LEASE
95	HLC	MA HAMLET LEASE COMMERCIAL
96	HLI	MA HAMLET LEASE INDUSTRIAL
97	HLO	MA HAMLET LICENSE OF OCCUPATION
98	HLR	MA HAMLET LEASE RESIDENTIAL
99	HML	MA MISCELLANEOUS LEASE
100	HMP	MA MISCELLANEOUS PERMIT
101	HMS	MA MINERAL SURFACE LEASE
102	HMT	MA MISCELLANEOUS TOWNSITE LEASE
103	HOC	MA HAMLET OPTION LEASE COMMERCIAL
104	HOI	MA HAMLET OPTION LEASE INDUSTRIAL
105	HOR	MA HAMLET OPTION LEASE RESIDENTIAL
106	HPA	MA PIPELINE AGREEMENT
107	HPI	MA PIPELINE INSTALLATION LEASE
108	HPL	MA PRIVATE LAND SALE
109	HPS	MA PRIVATE SURFACE AGREEMENT
110	HRA	MA RURAL ELECTRIC ASSOC. EASEMENT
111	HRC	MA RECREATION LEASE
112	HRD	MA ROADWAY
113	HRE	MA RIGHT OF WAY AGREEMENT
114	HRN	MA RIGHT OF WAY LEASE
115	HRO	MA RIGHT OF ENTRY
116	HSE	MA SURFACE MATERIAL EXPLORATION
117	HSG	MA SAND AND GRAVEL LEASE
118	HSH	MA SURFACE MATERIAL LICENSE
119	HSL	MA SURFACE MATERIAL LEASE
120	HSX	MA HAMLET SALE
121	MAL	ALLOTMENT
122	MCO	CERTIFICATE OF OCCUPANCY
123	MRE	RIGHT OF ENTRY ORDER
124	MPL	PUBLIC LAND USE
125	MRD	ROADS
126	MGL	SETTLEMENT GRAZING LEASE
127	MNT	NOTIFICATION
128	MEZ	EASEMENT
129	MBV	BUSINESS LEASE
130	ISP	INDUSTRIAL SAMPLE PLOTS

NEW 'INTERNAL' DISOSITION TYPES TO SOMEHOW DISTINGUISH SEISMIC LINES WITH NO CURRENT DISPOSITION FROM TRAILS.

131	TRL	TRAIL
132	GEO	SEISMIC LINE WITH NO DISPOSITION

FOREST_PLOT_type.lut

Record	FOREST_PLOT_TYPE	FOREST_PLOT_DESC
1	PLAN	TREE PLANTING
2	STEN	STAND TENDING
3	PROG	PROGENY
4	WILD	WILDLIFE
5	SUTR	SUPERIOR TREE
6	ARCH	ARCHEOLOGICAL SITE
7	PATH	PATHEOLOGICAL
8	FERT	FERTILIZATION
9	SIPR	SITE PREPARATION
10	ARBO	ARBORETUM
11	SOIL	SOILS

12	HARV	HARVESTING
13	SISY	SILVICULTURE SYSTEMS
14	PGS	PERMANENT GROWTH SAMPLE
15	WESB	WESBOGY

GEOADMIN_TYPE.LUT

Record	GEOADMIN_TYPE	GEOADMIN_DESC
1	COMP	COMPARTMENT
2	CTL	CONIFEROUS TIMBER LICENSE
3	CTP	COMMERCIAL TIMBER PERMIT
4	CTQ	CONIFEROUS TIMBER QUOTA
5	DTL	DECIDUOUS TIMBER LICENSE
6	FMA	FOREST MANAGEMENT AREA
7	FMU	FOREST MANAGEMENT UNIT
8	ID	IMPROVEMENT DISTRICT
9	LTP	LOCAL TIMBER PERMIT
10	LUZO	LAND USE ZONE
11	MD	MUNICIPAL DISTRICT
12	MINE	MINE SITE
13	MRES	MISC. RESERVES
14	PARK	PARK
15	PRIV	PRIVATE LAND
16	RSCH	RESEARCH AREA
17	TOWN	TOWN SITE
18	WC	WORKING CIRCLE
19	FWAR	F&W ADMIN REGION
20	FWD	F&W ADMIN DISTRICT
21	IRP	INTEGRATED RESOURCE PLAN

UPDATE_TYPE.LUT

Record	UPDATE_TYPE	UPDATE_DESC
1	FC	FOREST_COVER
2	HIST	HISTORICAL CUTOVER
3	LIDI	LINEAR DISTURBANCE