

Figure 4.26 Pure Conifer 20-Year Patch Size Predictions for the Entire FMA Area

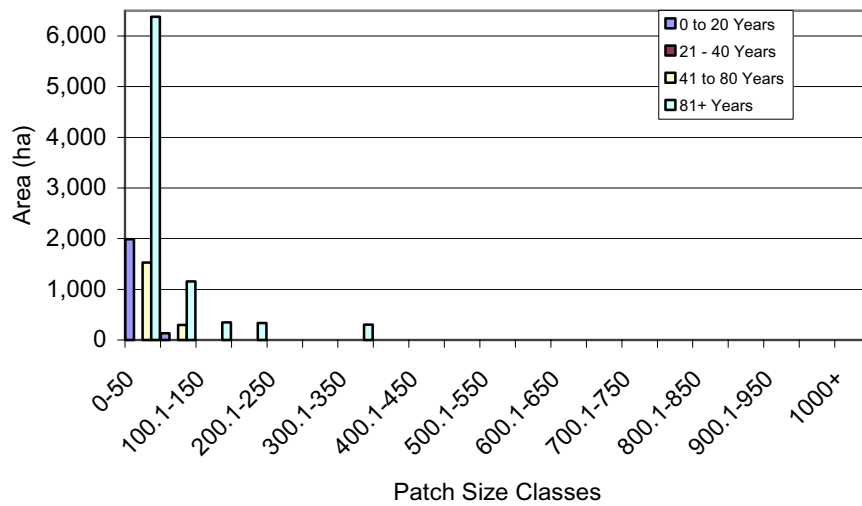


Figure 4.27 Conifer Leading Mixedwood 20-Year Patch Size Predictions for the Entire FMA Area

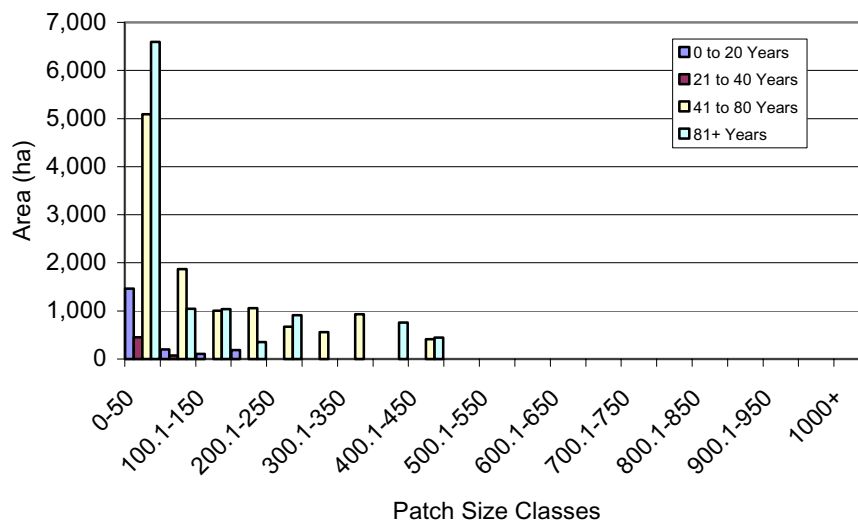


Figure 4.28 Pure Deciduous 20-Year Patch Size Predictions for the Entire FMA Area

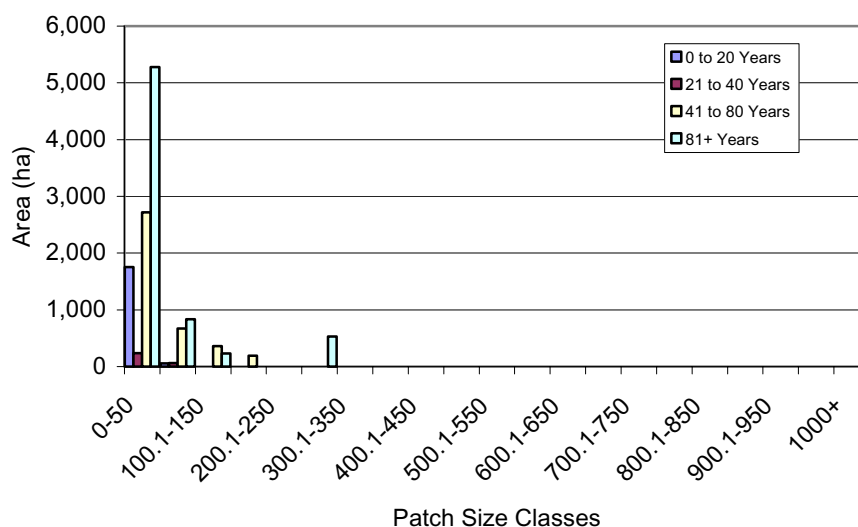


Figure 4.29 Deciduous Leading Mixedwood 20-Year Patch Size Predictions for the Entire FMA Area

The predictions of patch sizes indicate potential changes in the edge-to-area ratios (ETAR) over the next 20 years for small patch sizes (less than 50 ha). Currently, patches with area smaller than 50 ha usually have ETAR values of less than 1. In 10 to 20 years, ETARs are predicted to increase to be as high as 33.1 for pure conifer patches (refer to 10-year prediction). Analyses also indicate that large pure conifer areas with average ETAR less than 1 currently are dominating the landscape. Predictions indicate that this trend will be maintained in the future.

Twenty year predictions indicate no significant changes in patch sizes. Currently, forests have many pure conifer patches over 1,000 ha in size that are older than 81 years. The predictions

indicate that these areas will be maintained in the next 20 years. In addition, there will be areas of patches with areas less than 100 ha, which are comprised of pure deciduous, deciduous and conifer leading mixedwood species groups. In the next 20 years, the largest patch size class for pure deciduous species group is predicted to be less than 450 ha; for deciduous leading mixedwood, 300 ha; and for conifer leading mixedwood, 350 ha. By the end of the 180-year planning horizon, patch size distribution will be more evenly distributed among patch sizes between 300 and 1,000 ha and less area will be allocated to patches over 1,000 ha in size. Figures 4.30-4.34 show the spatial distribution of the fragmentation by age-class at five points in time.

4.3 Wildlife Habitat Types

The wildlife habitat types were developed to manage and monitor habitat supply based on the requirements for both pre- and post-harvest conditions. Based on the TSA, the dynamics of the age-class structure were predicted for five habitat types following recommendations by Alberta Sustainable Resource Development.

Young burnt/naturally disturbed forest communities (habitat type 2) and residual structure (habitat type 6) were evaluated at time zero (1999) only. No data were collected to analyze possible occurrences of stochastic natural disturbances and no models were developed to track the dynamics of dead trees and understorey structure, composition, and temporal changes.

4.3.1 Habitat Type 1 — Deciduous Forest Community

The deciduous forest community consists of all stands (including cutblocks) with primary deciduous species greater than or equal to 80% cover (D). The variables used in age-class structure analysis are stand-level AVI species group and stand age, which was adjusted according to the harvest scheduling plans. Habitat type 1 was summarized by nine 20-year age-classes with all ages over 160 years equaling one age-class and organized by natural subregions (Table 4.16). Area assessments are done at 0, 10, 20, 50, 100, and 180 years. Figures 4.35-4.37 are graphical depictions of these predictions.

Table 4.16 Habitat Type 1 area projections, by NSR

Age class (yrs)	1999	2009	2019	2049	2099	2179
Central Mixedwood NSR						
0-20	644	409	336	1,030	1,249	1,176
21-40	646	768	644	263	-	1,325
41-60	60	510	646	409	1,339	254
61-80	264	209	60	768	263	359
81-100	896	951	264	510	336	73
101-120	481	481	896	191	-	-
121-140	394	51	481	151	42	-
141-160	-	7	58	6	3	-
161+	-	-	-	58	154	199
Lower Foothills NSR						
0-20	4,471	2,423	1,566	4,379	8,545	8,000
21-40	1,528	3,507	4,471	1,712	1,656	7,517
41-60	4,387	3,430	1,527	2,423	9,287	3,828
61-80	4,681	5,964	4,375	3,507	2,354	1,912
81-100	3,339	2,120	4,658	3,430	1,519	2,106
101-120	5,369	6,598	3,051	5,495	0	-
121-140	700	536	4,835	1,050	106	-
141-160	200	97	178	2,501	272	-
161+	-	0	15	178	934	1,312
Upper Foothills NSR						
0-20	95	105	84	240	521	1,468
21-40	396	126	95	71	1,095	395
41-60	397	574	394	105	276	134
61-80	879	881	395	126	179	94
81-100	274	280	871	574	84	75
101-120	393	400	255	844	10	-
121-140	16	84	355	273	14	-
141-160	-	-	0	192	97	-
161+	-	-	-	26	173	284

Note: all totals are based on the entire land base, before deletions

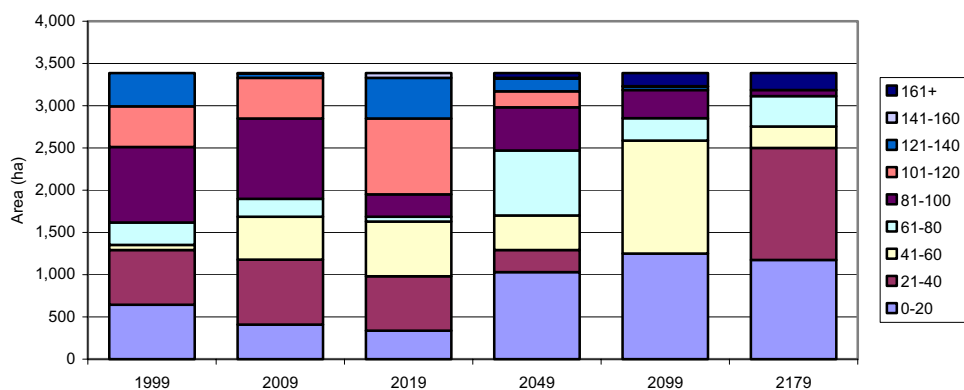
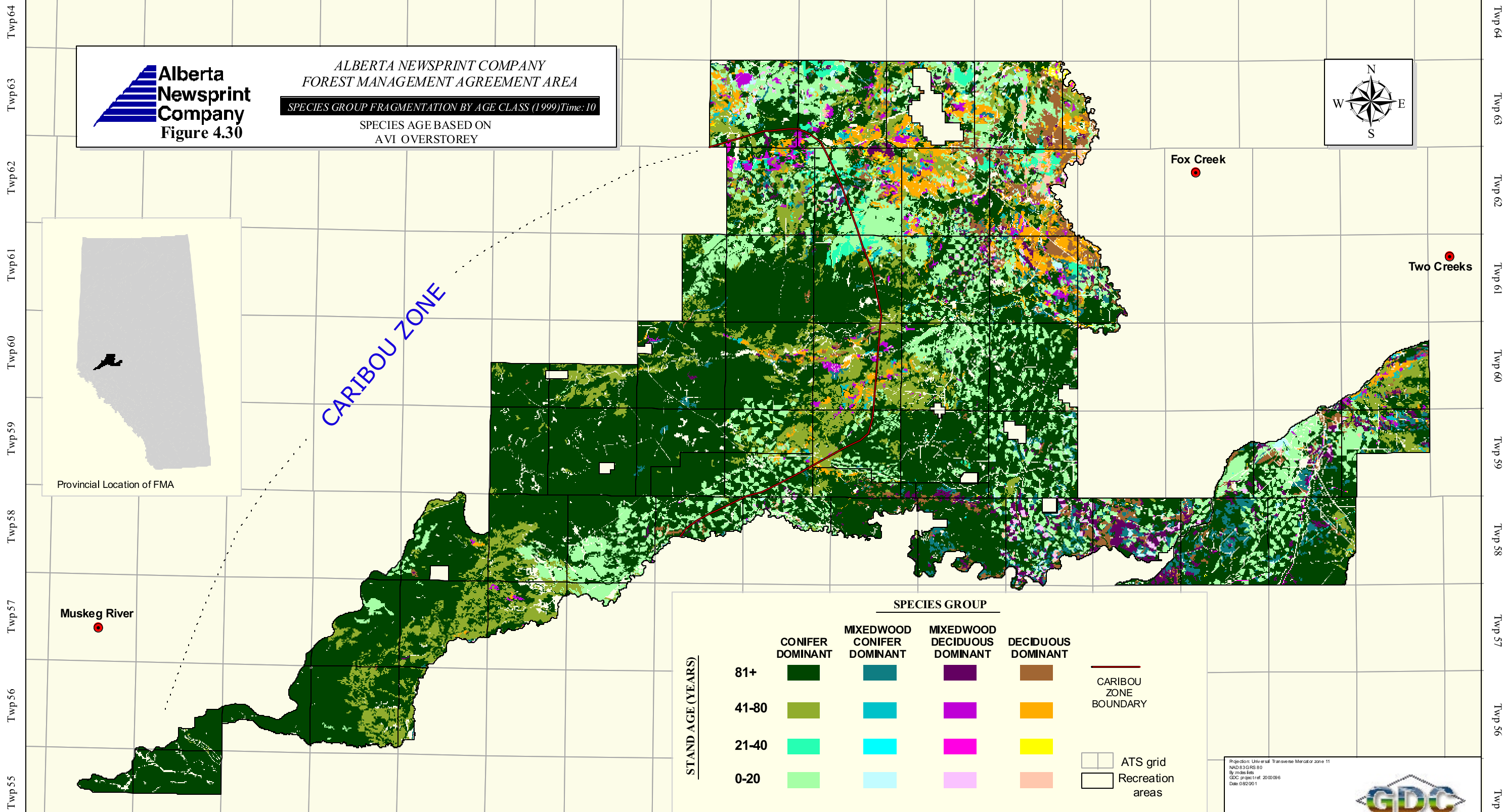


Figure 4.35 Habitat Type 1 Area Summary in the Central Mixedwood NSR

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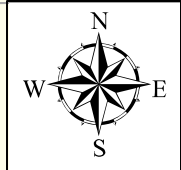


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Figure 4.30

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 FOREST MANAGEMENT AGREEMENT AREA

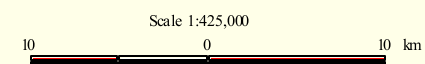
SPECIES GROUP FRAGMENTATION BY AGE CLASS (1999) Time: 10

SPECIES AGE BASED ON
 AVI OVERSTOREY



CARIBOU ZONE

STAND AGE (YEARS)	SPECIES GROUP				CARIBOU ZONE BOUNDARY
	CONIFER DOMINANT	MIXEDWOOD CONIFER DOMINANT	MIXEDWOOD DECIDUOUS DOMINANT	DECIDUOUS DOMINANT	
81+					CARIBOU ZONE BOUNDARY ATS grid Recreation areas
41-80					
21-40					
0-20					



Projection: Universal Transverse Mercator zone 11
 NAD83 GRS 80
 GDC project ref: 2000/016
 Date: 09/20/01



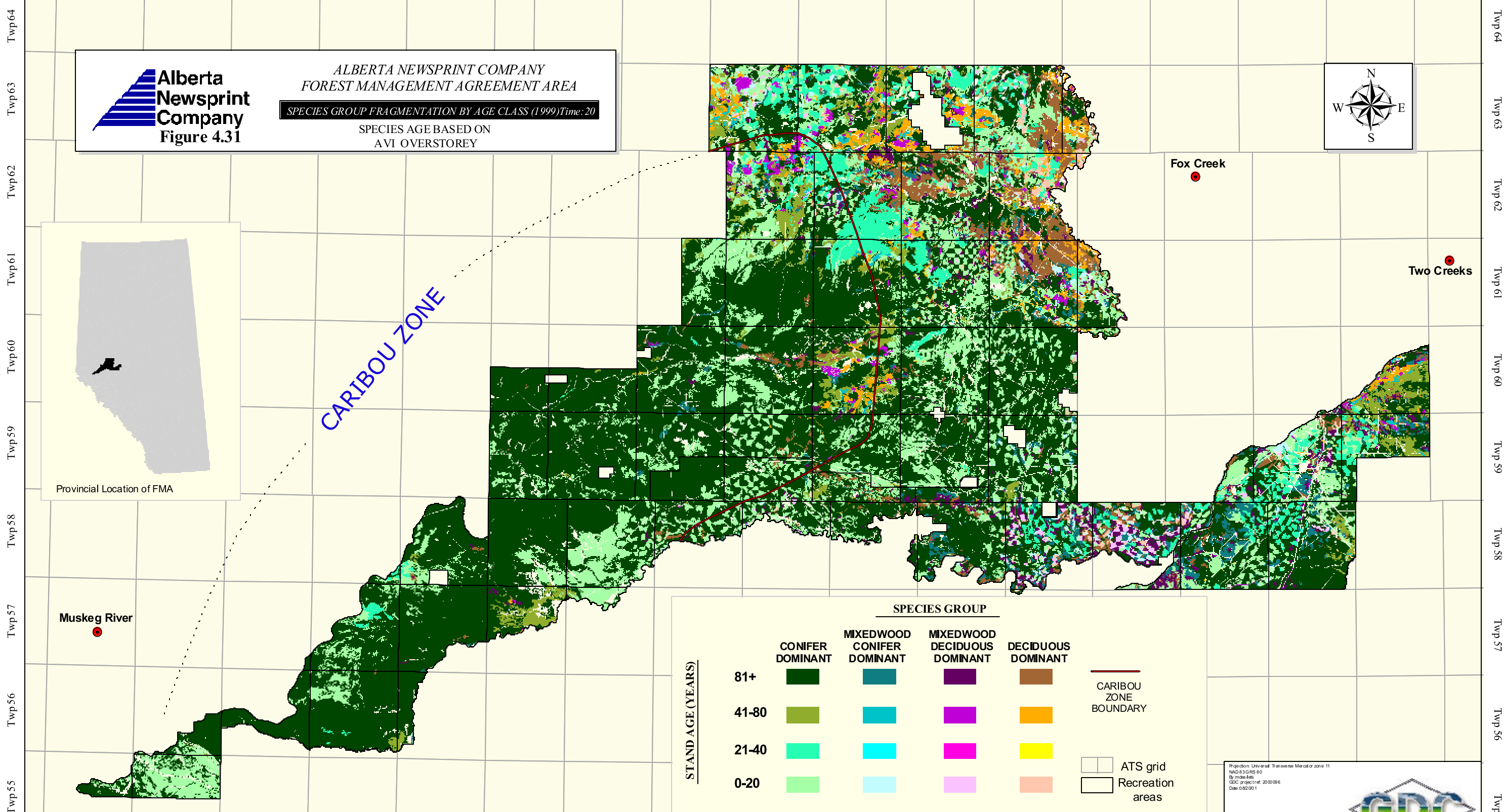
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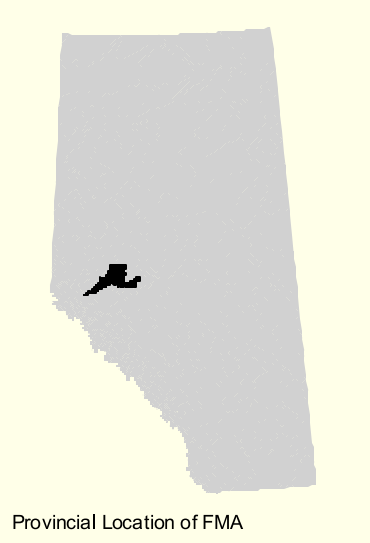
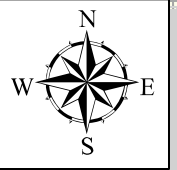
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**ALBERTA NEWSPRINT COMPANY
FOREST MANAGEMENT AGREEMENT AREA**
SPECIES GROUP FRAGMENTATION BY AGE CLASS (1999) Time: 20
SPECIES AGE BASED ON
AVI OVERSTOREY



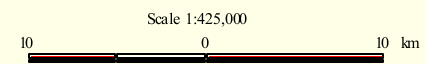
CARIBOU ZONE

Fox Creek

Two Creeks

Muskeg River

STAND AGE (YEARS)	SPECIES GROUP				CARIBOU ZONE BOUNDARY
	CONIFER DOMINANT	MIXEDWOOD CONIFER DOMINANT	MIXEDWOOD DECIDUOUS DOMINANT	DECIDUOUS DOMINANT	
81+					CARIBOU ZONE BOUNDARY ATS grid Recreation areas
41-80					
21-40					
0-20					



Projection: Universal Transverse Mercator zone 11
NAD 83 GRS 80
30 m x 30 m cells
GDC project ref: 2000086
Date: 09/20/01



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Rge 5 Rge 4 Rge 3 Rge 2 Rge 1 6th MER Rge 27 Rge 26 Rge 25 Rge 24 Rge 23 Rge 22 Rge 21 Rge 20 Rge 19 Rge 18 Rge 17

Twp 64 Twp 63 Twp 62 Twp 61 Twp 60 Twp 59 Twp 58 Twp 57 Twp 56 Twp 55

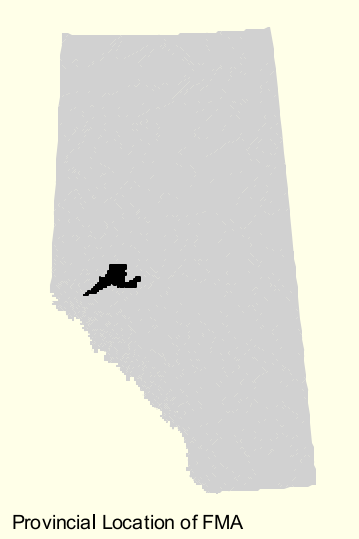


**ALBERTA NEWSPRINT COMPANY
FOREST MANAGEMENT AGREEMENT AREA**
SPECIES GROUP FRAGMENTATION BY AGE CLASS (1999) Time: 50
SPECIES AGE BASED ON
AVI OVERSTOREY



Fox Creek

Two Creeks



Provincial Location of FMA

CARIBOU ZONE

Muskeg River

STAND AGE (YEARS)	SPECIES GROUP				CARIBOU ZONE BOUNDARY
	CONIFER DOMINANT	MIXEDWOOD CONIFER DOMINANT	MIXEDWOOD DECIDUOUS DOMINANT	DECIDUOUS DOMINANT	
81+					CARIBOU ZONE BOUNDARY ATS grid Recreation areas
41-80					
21-40					
0-20					

Scale 1:425,000
10 0 10 km

Projection: Universal Transverse Mercator zone 11
NAD 83 GRS 80
30 metres file
GDC project ref: 200008
Date: 09/20/01



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