Alberta Newsprint Company

Figure 4.33

ALBERTA NEWSPRINT COMPANY
FOREST MANAGEMENT AGREEMENT AREA

SPECIES GROUP FRAGMENTATION BY AGE CLASS (1999)Time: 100

SPECIES AGE BASED ON
AVI OVERSTOREY

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

N W E S

Fox Creek

Two Creeks

Muskeg River

CARIBOU ZONE

Provincial Location of FMA

SPECIES GROUP

STAND AGE (YEARS)	CONIFER DOMINANT	MIXEDWOOD CONIFER DOMINANT	MIXEDWOOD DECIDUOUS DOMINANT	DECIDUOUS DOMINANT
81+				
41-80				
21-40				
0-20				

CARIBOU ZONE BOUNDARY

ATS grid

Recreation areas

Scale 1:425,000

10 0 10 km

Projection: Universal Transverse Mercator zone 11
NAD83GRS80
By: mdesilets
GDC project ref: 20000916
Date: 08/2001

GDC GEOGRAPHIC DYNAMICS CORP.

Alberta Newsprint Company

Figure 4.34

ALBERTA NEWSPRINT COMPANY
FOREST MANAGEMENT AGREEMENT AREA

SPECIES GROUP FRAGMENTATION BY AGE CLASS (1999)Time:180

SPECIES AGE BASED ON
AVI OVERSTOREY

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

CARIBOU ZONE

Fox Creek

Two Creeks

Muskeg River

Provincial Location of FMA

SPECIES GROUP

STAND AGE (YEARS)

	CONIFER DOMINANT	MIXEDWOOD CONIFER DOMINANT	MIXEDWOOD DECIDUOUS DOMINANT	DECIDUOUS DOMINANT
81+				
41-80				
21-40				
0-20				

CARIBOU ZONE BOUNDARY

ATS grid

Recreation areas

Scale 1:425,000

10 0 10 km

Projection: Universal Transverse Mercator zone 11
NAD83/GRS80
By: mdesilets
GDC project ref: 20-0096
Date: 08/2001

GDC
GEOGRAPHIC DYNAMICS CORP.

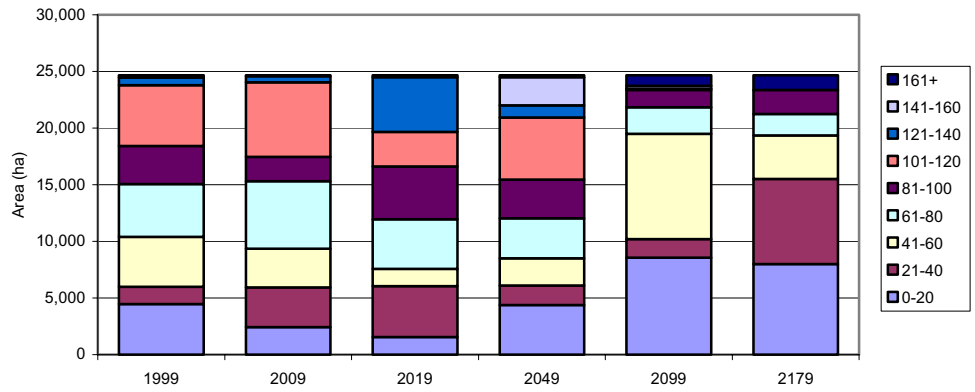

Figure 4.36 Habitat Type 1 Area Summary in the Lower Foothills NSR

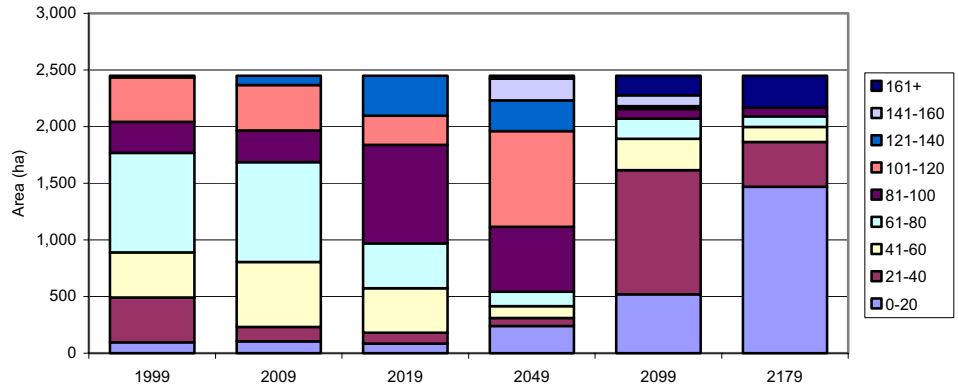

Figure 4.37 Habitat Type 1 Area Summary in the Upper Foothills NSR

In 100 years, planned management activities cause a shift in the age-class structure resulting in a different pattern, which forces age-classes into a bimodal distribution. Projections indicate that by 2179 (the end of the planning horizon) there will be 1,796 ha of older forests. The rest of the forests will be younger than 100 years, thus creating a gap in the age-class structure with zero hectares of stands being between the ages of 100 and 160.

4.3.2 Habitat Type 2 — Young Burnt/Naturally Disturbed Forest Communities

No future forecasting was made for this habitat type as random natural disturbance events were not modeled in the timber supply analysis.

4.3.3 Habitat Type 3 — Post-rotation Forest Communities

The forest community of post-rotation age includes all stands with an area of at least 10 ha and a minimum width of 200 m. This habitat type was summarized using two age-classes (100–140 years and 140+ years) and four species groups (D, DC, C, and CD). The amount of area within these age-classes was predicted at four points in time (0, 20, 100, and 180 years). In order to

obtain the current forest age-class structure and future projections for habitat type 3, the forest GIS polygon cover age was dissolved separately for every predicted point in the future.

Table 4.17 Area summary of post-rotation habitat type, by species groups

Age class (yrs)	1999	2019	2099	2179
Pure Deciduous --				
100-140	5,512	6,658	-	-
140+	161	135	411	411
Total Area (ha)	5,673	6,792	411	411
Mixedwood-Deciduous Leading --				
100-140	4,568	2,378	1	-
140+	17	33	216	217
Total Area (ha)	4,586	2,411	217	217
Pure Conifer --				
100-140	112,878	109,701	1,656	-
140+	24,526	24,037	59,114	59,265
Total Area (ha)	137,404	133,737	60,770	59,265
Mixedwood-Conifer Leading				
100-140	6,143	2,811	-	-
140+	231	200	211	211
Total Area (ha)	6,373	3,012	211	211
Grand Total (ha)	154,036	145,953	61,609	60,105

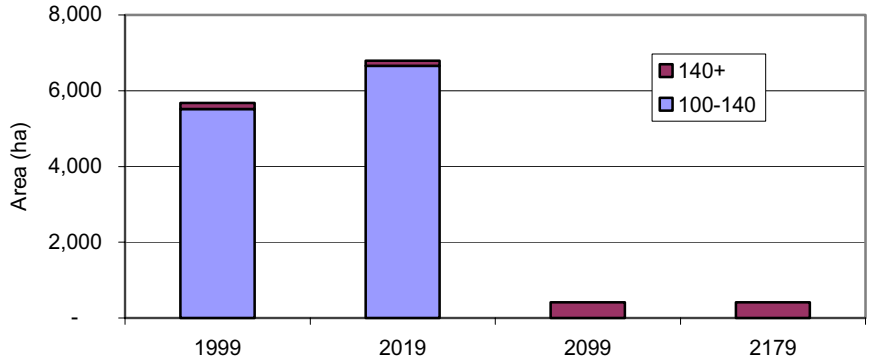

Figure 4.38 Habitat Type 3 Area Summary for Pure Deciduous Species Group

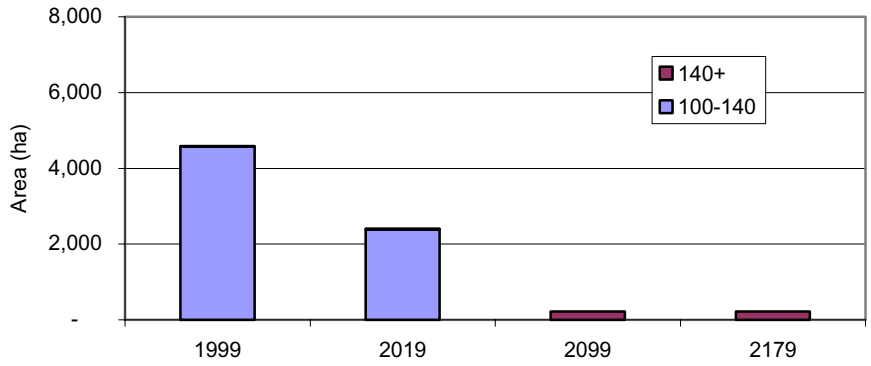

Figure 4.39 Habitat Type 3 Area Summary for Deciduous Leading Mixedwood Species Group

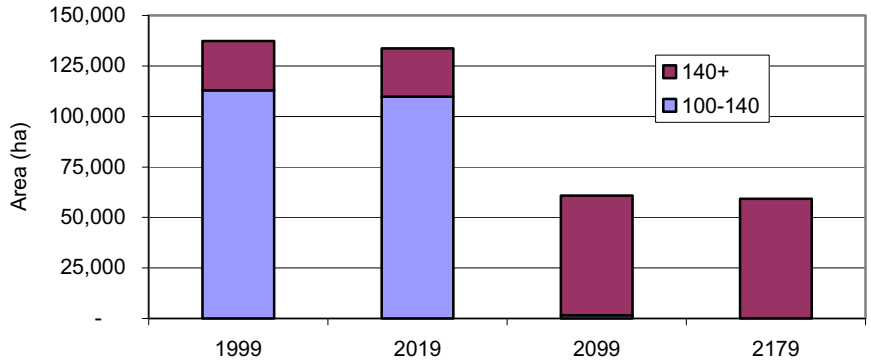

Figure 4.40 Habitat Type 3 Area Summary for Pure Conifer Species Group

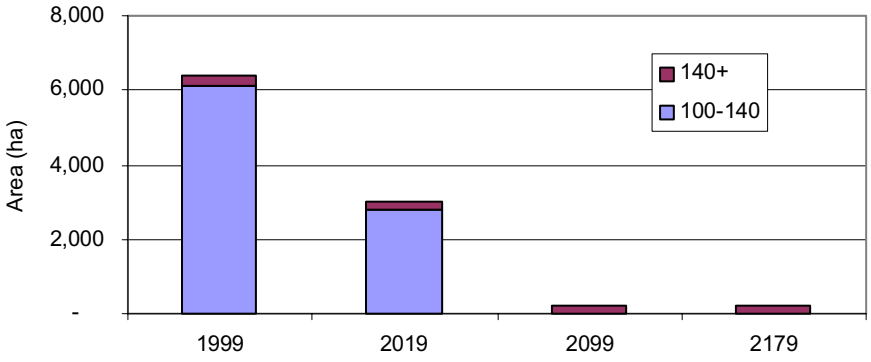

Figure 4.41 Habitat Type 2 Area Summary for Conifer Leading Mixedwood Species Group

The post-rotation wildlife habitat was forecasted for three points in the future (20, 100, and 180 years). In 20 years, post-rotation wildlife habitat type area will decrease from current levels by 8,083 ha (5%); in 100 years by 92,427 ha (60%); and in 180 years by 93,931 ha (61%). The 20-year prediction indicates an area increase of deciduous post-rotation habitat type from 5,673 ha to 6,792 ha (20% gain). By the end of the planning horizon, all of this habitat type shifts to the older age-class (140+ years). Figures 4.42-4.44 depict the changes in distribution predicted at three points in time.

4.3.4 Habitat Type 4 — Riparian Areas

Riparian areas are predicted at six key points in time (0, 10, 20, 50, 100, and 180 years). Summaries are done by four species groups (D, DC, C, and CD) and nine 20-year age-classes, where stands older than 160 years are aggregated into a single class ('160+').

Table 4.18 Area summaries in riparian areas habitat type, by species groups

Age Class	1999	2009	2019	2049	2099	2179
Pure Deciduous --			2,262			
000-019	220	71	45	268	508	571
020-039	257	298	220	68	135	322
040-059	436	360	257	71	381	197
060-079	360	497	436	298	130	46
080-099	408	270	359	360	43	63
100-119	465	618	406	469	-	-
120-139	97	97	446	192	132	-
140-159	19	48	79	420	252	-
160+	-	0	13	115	681	1,065
Mixedwood - Deciduous Leading --			1,178			
000-019	68	63	62	170	150	218
020-039	97	52	68	73	114	194
040-059	245	163	97	63	261	163
060-079	103	246	245	52	86	56
080-099	189	98	103	163	56	36
100-119	417	463	187	240	-	-
120-139	60	94	387	80	40	-
140-159	-	-	30	285	135	-
160+	-	-	-	52	337	511
Pure Softwood --			27,329			
000-019	919	2,430	3,732	3,545	2,175	2,610
020-039	437	273	919	3,515	2,548	3,168
040-059	1,045	927	437	2,430	3,120	3,856
060-079	4,155	2,722	1,044	273	3,485	3,638
080-099	4,714	4,501	4,134	927	3,256	1,340
100-119	8,842	8,421	4,556	2,386	28	-
120-139	3,516	3,225	7,288	3,625	150	-
140-159	1,991	2,244	2,558	5,143	412	-
160+	1,710	2,588	2,662	5,486	12,156	12,718

Table 4.18 Continued

Age Class	1999	2009	2019	2049	2099	2179
Mixedwood - Softwood Leading --			1,080			
000-019	43	99	106	202	108	103
020-039	34	30	43	109	43	180
040-059	54	53	34	99	226	161
060-079	85	63	54	30	133	123
080-099	110	88	85	53	99	42
100-119	584	554	106	63	-	-
120-139	153	139	529	62	10	-
140-159	17	50	110	337	24	-
160+	0	3	12	124	436	470

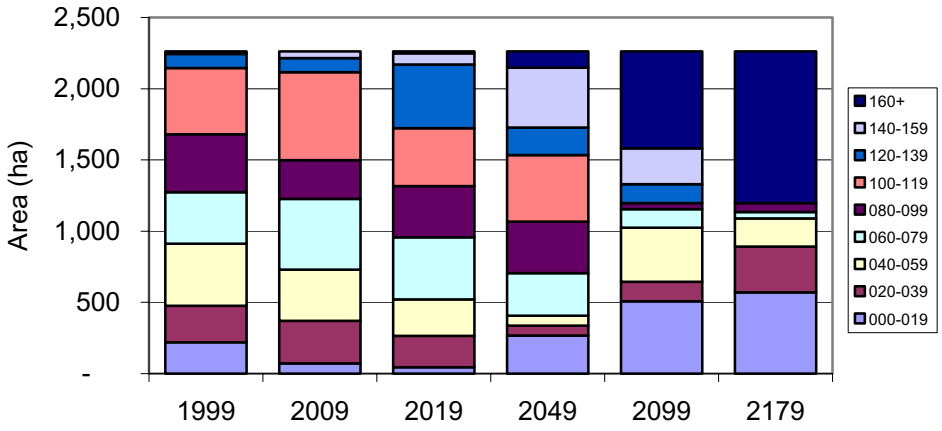

Figure 4.45 Habitat Type 4 Area Summary for the Pure Deciduous Species Group

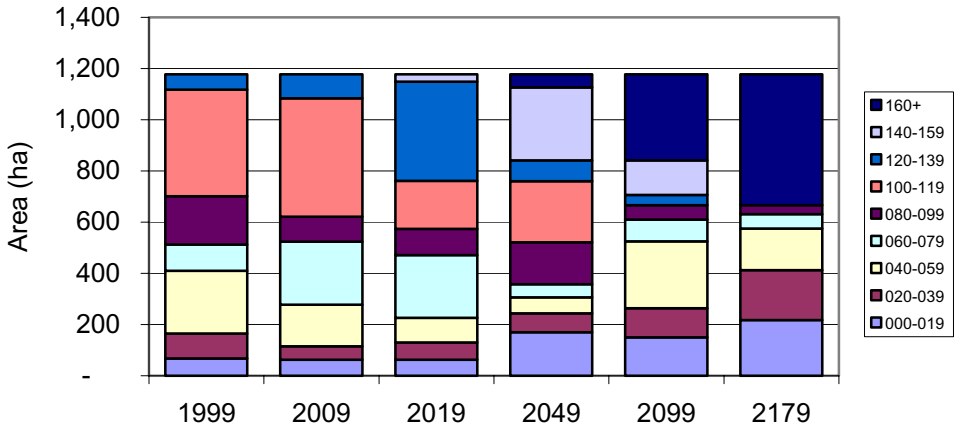

Figure 4.46 Habitat Type 4 Area Summary for the Deciduous Leading Mixedwood Species Group

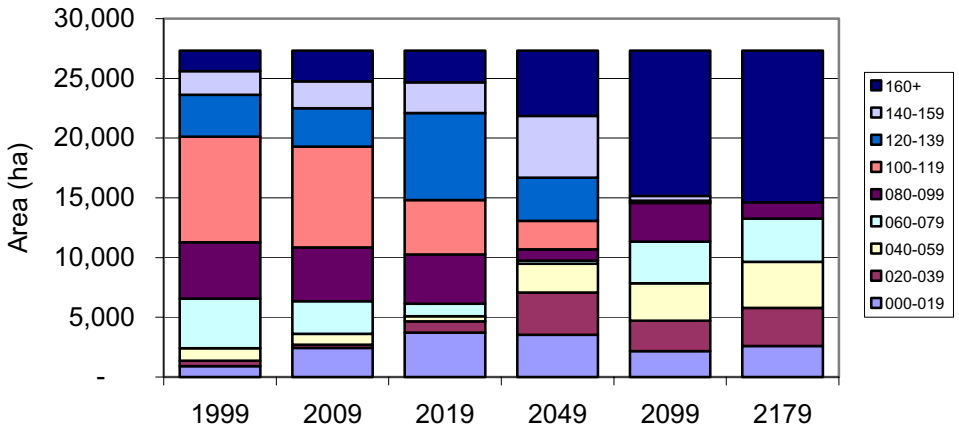

Figure 4.47 Habitat Type 4 Area Summary for the Pure Conifer Species Group

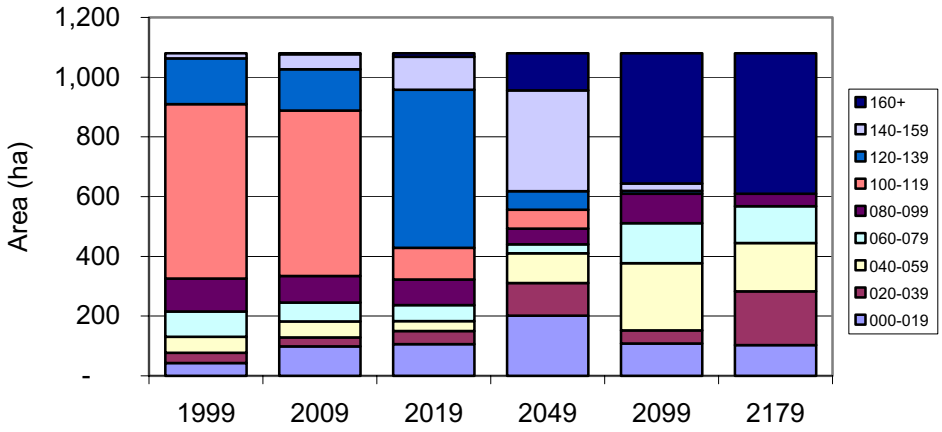

Figure 4.48 Habitat Type 4 Area Summary for the Conifer Leading Mixedwood Species Group

The future area predictions indicate changes in the age-class structure of riparian areas. In the next 20 years a significant area loss is predicted in the 100 to 119 year age-classes. The 100-year predictions show that bimodal age-class distribution will start to manifest itself in the FMA area. By the end of the planning horizon (180 years), 300 hectares of riparian area forest will be between 100 and 160 years old.

4.3.5 Habitat Type 5 — Thermal Cover

The overstorey height criterion was modelled using stand age as a surrogate The variables used in age-class structure analysis were stand-level AVI species group and 20-year age-classes, which were adjusted according to the harvest scheduling plans. Habitat type 5 was summarized by nine 20-year age-classes with all ages over 160 years equaling one age-class. Area assessments were conducted at current (1999) and forecasted at 10, 20, 50, 100, and 180 years from 1999.