Alberta Newsprint Company

Figure 4.62b

ALBERTA NEWSPRINT COMPANY
FOREST MANAGEMENT AGREEMENT AREA

Grizzly Bear Fall Feeding HSI model: Time 50

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

Habitat Suitability Index (HSI)

- 000-039
- 040-069
- 070-100

CARIBOU ZONE BOUNDARY

- ATS grid
- Recreation areas

Scale 1:425,000

10 0 10 km

Projection: Universal Transverse Mercator zone 11
NAD 83 GRS 80
By: mdavies
GDC project ref: 20-0096

GDC GEOGRAPHIC DYNAMICS CORP.

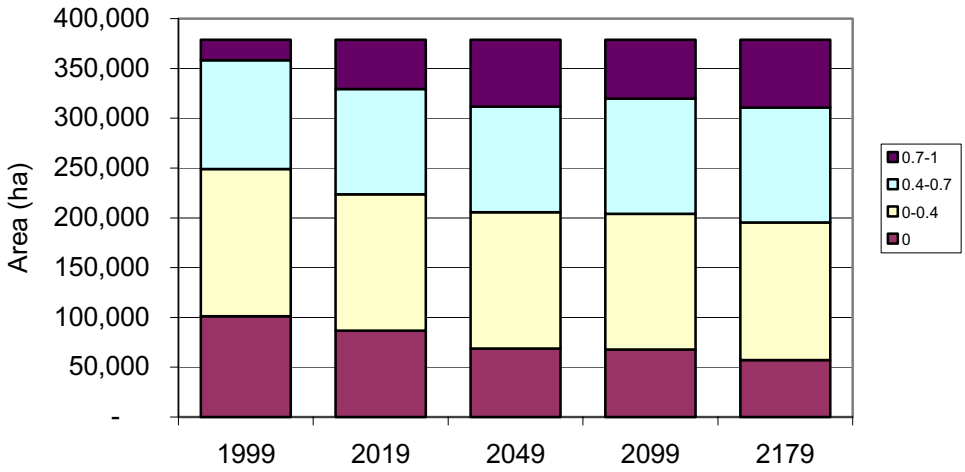

Figure 4.60 Area Summary of Grizzly Bear HSI in the FMA Area.

Table 4.24 Area summary of grizzly bear HSI in the FMA area, by 9-km^2 grid cells

HSI	1999	2019	2049	2099	2179
0	118	117	117	118	117
0-0.4	357	285	238	247	213
0.4-0.7	44	110	160	144	175
0.7-1	3	10	7	13	17
Total	522	522	522	522	522

Table 4.25 Percent area summary of grizzly bear HSI, by 9-km^2 grid cells

HSI	1999	2019	2049	2099	2179
0	22.6%	22.4%	22.4%	22.6%	22.4%
0-0.4	68.4%	54.6%	45.6%	47.3%	40.8%
0.4-0.7	8.4%	21.1%	30.7%	27.6%	33.5%
0.7-1	0.6%	1.9%	1.3%	2.5%	3.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

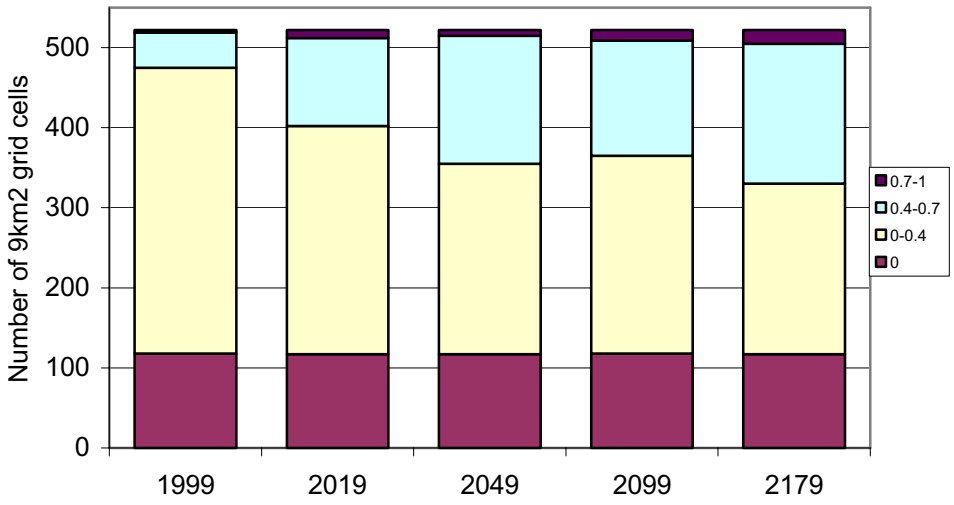

Figure 4.61 Area Summary of Grizzly Bear HSI By 9-km^2 Grid Cells.

Table 4.26. Area summary in hectares of grizzly bear fall feeding Habitat Suitability Index, including 9-km^2 grid level component (i.e., HSI= s1*s2*s3*s4*s5*s6).

HSI	1999	2019	2049	2099	2179
0	172,247	161,905	148,583	146,919	139,727
0-0.39	106,542	98,469	97,393	97,814	97,488
0.4-0.69	83,069	81,145	81,262	89,077	86,914
0.7-1.0	16,867	37,205	51,487	44,915	54,595
Total (ha)	378,725				

Table 4.27 Percentage of grizzly bear fall feeding Habitat Suitability Index area, including 9-km^2 grid level component (i.e., HSI= s1*s2*s3*s4*s5*s6).

HSI	1999	2019	2049	2099	2179
0	45.5%	42.8%	39.2%	38.8%	36.9%
0-0.39	28.1%	26.0%	25.7%	25.8%	25.7%
0.4-0.69	21.9%	21.4%	21.5%	23.5%	22.9%
0.7-1.0	4.5%	9.8%	13.6%	11.9%	14.4%
Total (ha)	100.0%	100.0%	100.0%	100.0%	100.0%

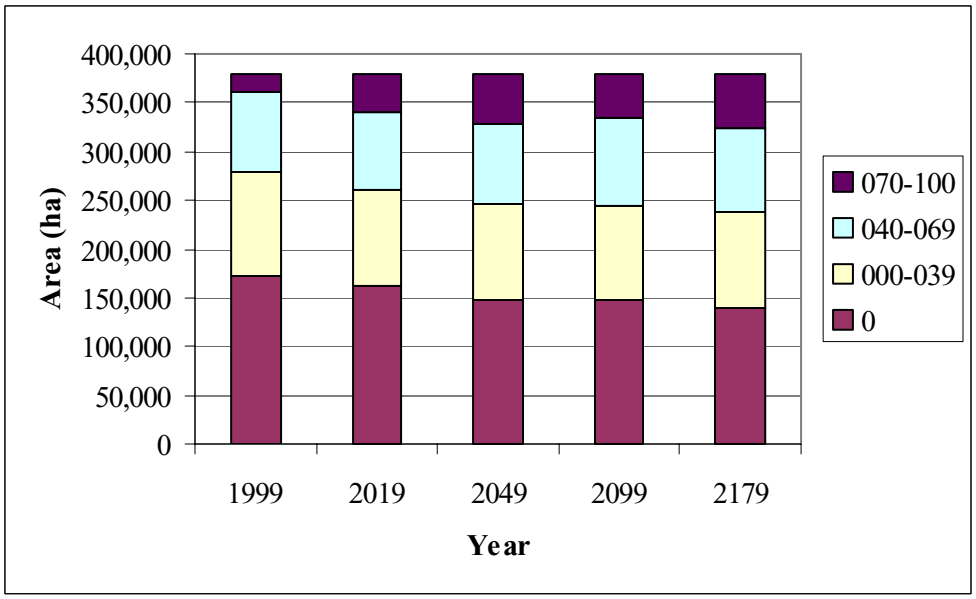

Figure 4.62 Summary, by area, of habitat suitability index classification of grizzly bear habitat

Area predictions of suitable future grizzly bear habitat indicate a steady increase in the most suitable habitat areas over the planning horizon. Area summaries indicate that the most suitable habitat type (HSI = '0.7-1') will increase from 49,266 ha (5.4%) to 68,150 ha (18%) at the end of the 180-year planning period. Unsuitable habitat areas (HSI = 0) will decrease by 43.3% from 101,092 ha to 57,300 ha at the end of planning horizon. Areas in '0-0.4' and '0.4-0.7' HSI classes, on average, are predicted to maintain their current levels.

Similar results are predicted using 9-km^2 grid cells. In the prediction of the most suitable grizzly bear habitat (HSI = '0.7-1'), a number of 9-km^2 grid cells increases from 3 to 17 by the end of 180-year planning horizon. Similarly, the next best HSI (0.4-0.7) class will increase from 44 to 175 9-km^2 grid cells. These increases are offset by area decrease in the (0-0.4) HSI class, for which there is an area decrease from 357 to 247 9-km^2 grid cells. The unsuitable HSI class (HSI = 0) is predicted to remain at the current levels, which is around 118 9-km^2 grid cells or 22.6% of the total FMA area. Figures 4.62-4.68 shows the predicted change in habitat suitability index according to the HSI model and the grid cell model, each at four points in time.

Literature Cited

1999. Silvacom Ltd. Forest Inventory, Timber Supply Analysis.

2001. Silvacom Ltd. Supplemental Landscape Analysis. Forest Inventory, Timber Supply Analysis.