1. Introduction

This document contains the 2007 DFMP reporting requirements associated with VOIT 15 – Area of suitable habitat within each FMU for each biodiversity assessment species (1.2.1.1), as required by the Planning Standard. This reporting has been separated from *Appendix XXIII – Commitments* and from *Appendix XXIV – VOIT Reporting* due to its length (> 80 pages) and number of tables (17) and figures (102: 17 species * 2 FMUs * 3 periods).

The BAP analysis included 17 species, selected based on the work completed for Millar Western's 1997 DFMP (refer to *Appendix XIII – BAP Report #2 – The Species Selection Process*). For each species, there are between one and seven Habitat Supply Models, each representing an assessment of a habitat attribute, or combination of several attributes.

For this reporting component, the area of suitable habitat for each HSM is forecasted at years 0, 10, 50, 100 and 200 of the 200-year planning horizon. This information is summarized in tabular form for each species, by FMU.

In addition to the species summary tables, the Planning Standard also requires maps showing the forecasted distribution of the suitable habitat across the DFA at years 0, 10 and 50 of the 200-year planning horizon. Of the 17 species, 11 possess an "All" HSM, which provides an overall assessment of the suitable habitat area for each species; this is the HSM that is represented in the maps for these species. For the remaining six species, the HSM having the least amount of area at year 0 for each FMU is represented in the maps.

2. VOIT 15 - Habitat Supply Model Reporting

2.1 American marten

Table 1 summarizes the forecasted amount of suitable area for the American marten Habitat Supply Models (HSMs) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 1.   American marten suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.

FMU	2007 (km^2)	(%)	2017 (km^2)	(%)	2057 (km^2)	(%)	2107 (km^2)	(%)	2207 (km^2)	(%)
HSM: All										
W11	1,624	92%	1,626	92%	1,626	92%	1,625	92%	1,623	92%
W13	2,461	82%	2,412	80%	2,450	81%	2,454	81%	2,447	81%
Total	4,085	85%	4,037	84%	4,076	85%	4,079	85%	4,070	85%
HSM: Cover										
W11	1,054	60%	1,112	63%	1,233	70%	1,387	79%	1,364	77%
W13	2,362	78%	2,326	77%	2,336	77%	2,556	85%	2,664	88%
Total	3,415	71%	3,438	72%	3,569	75%	3,944	82%	4,028	84%
HSM: Hiding										
W11	1,641	93%	1,643	93%	1,645	93%	1,644	93%	1,642	93%
W13	2,919	97%	2,913	97%	2,912	96%	2,918	97%	2,913	96%
Total	4,560	95%	4,557	95%	4,558	95%	4,562	95%	4,555	95%

Figure 1, Figure 3 and Figure 5 illustrate the suitability index for the American marten HSM "All" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
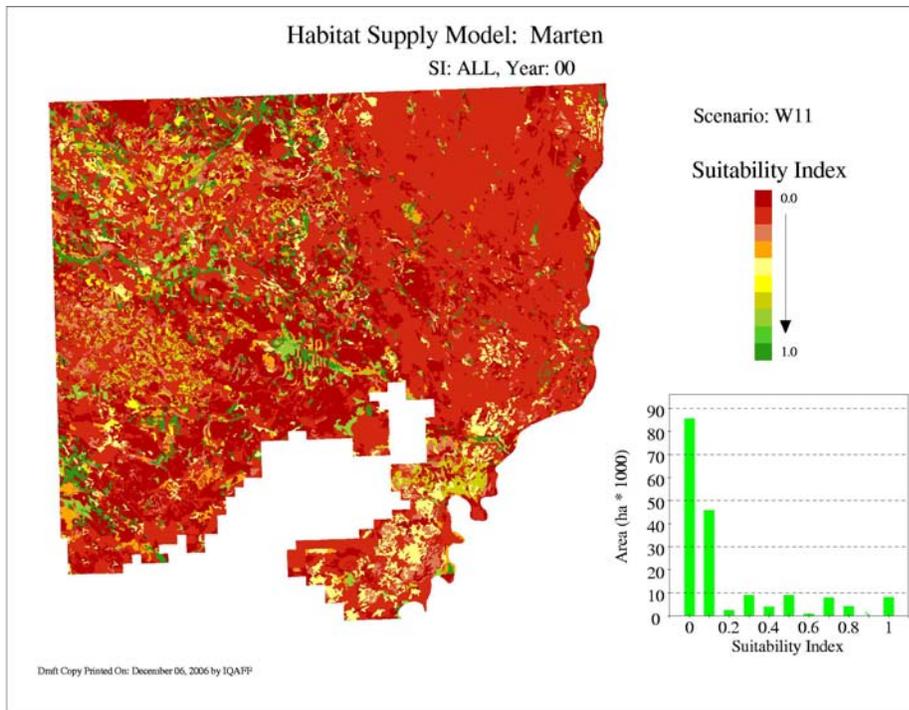
Figure 2, Figure 4 and Figure 6 illustrate the suitability index for the American marten HSM "All" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

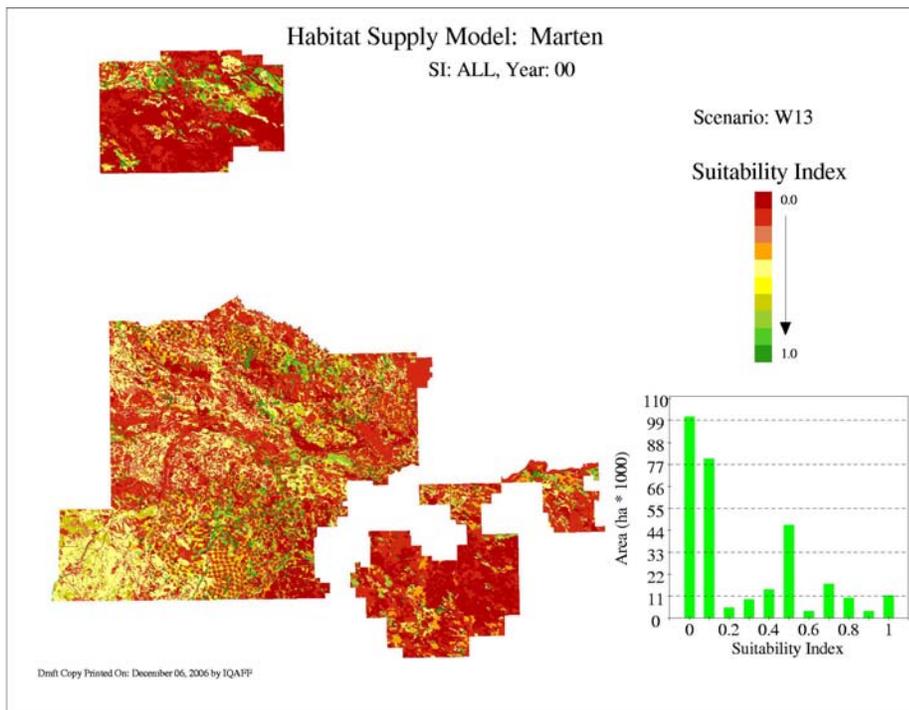**Figure 1.   American marten HSM: "All" for year 0 (2007) on the W11 FMU.**

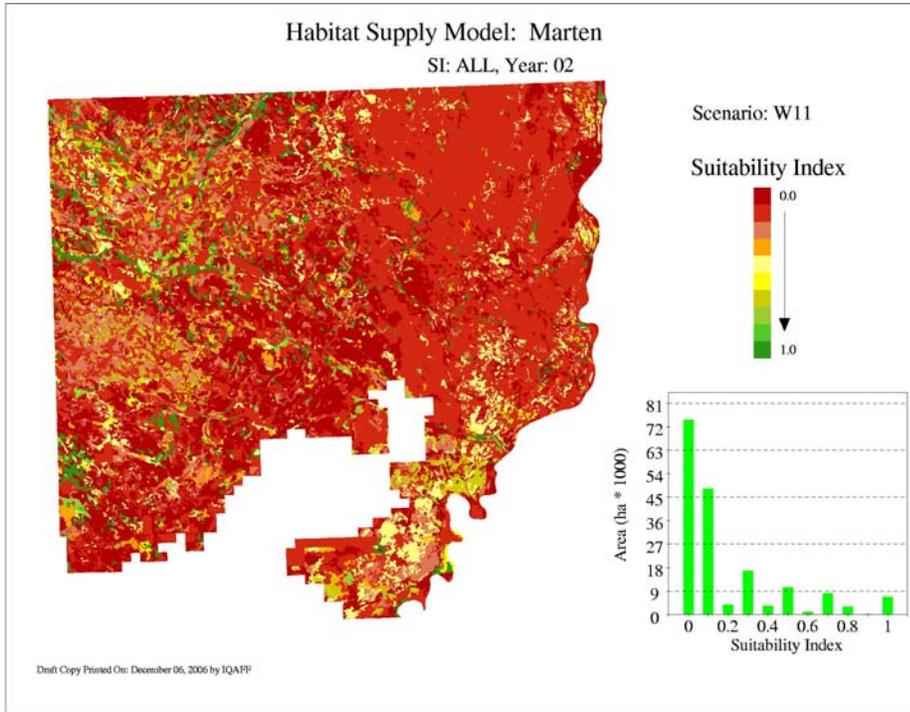**Figure 2.   American marten HSM: "All" for year 0 (2007) on the W13 FMU.**

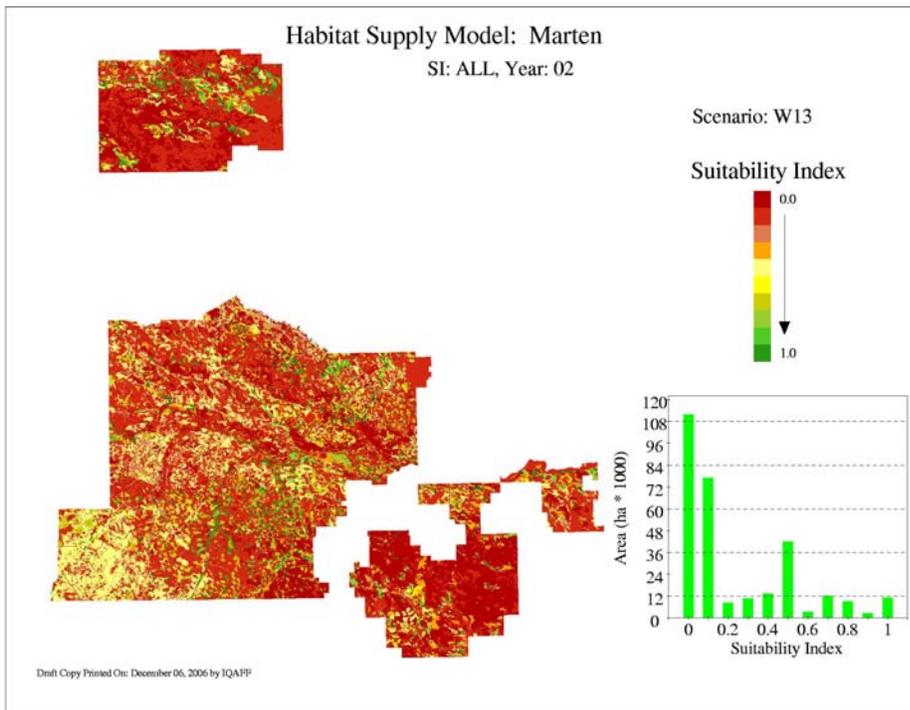**Figure 3.   American marten HSM: "All" for year 10 (2017) on the W11 FMU.**

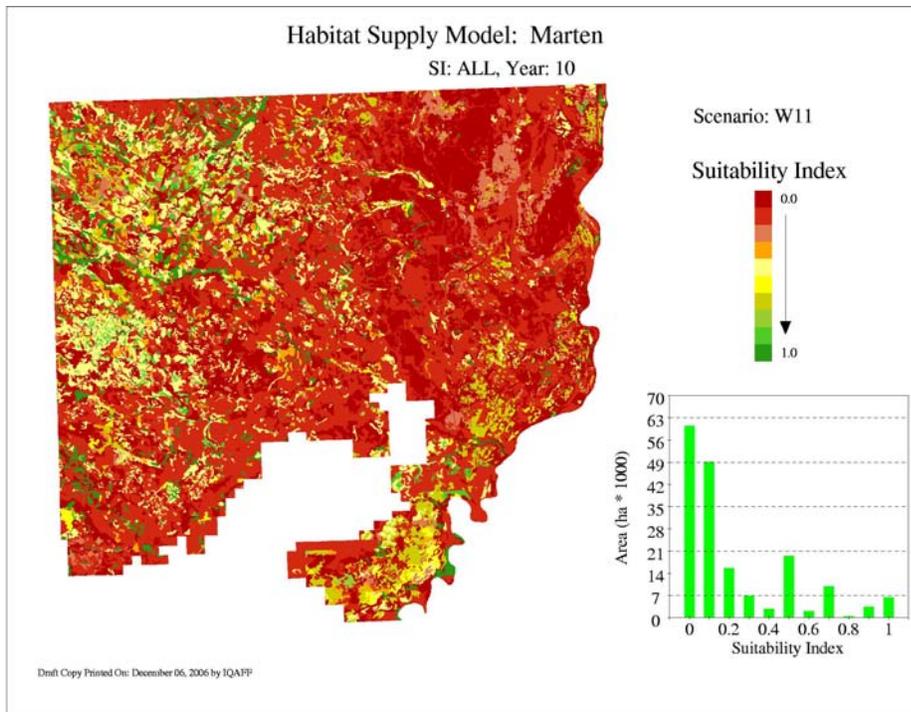**Figure 4.   American marten HSM: "All" for year 10 (2017) on the W13 FMU.**

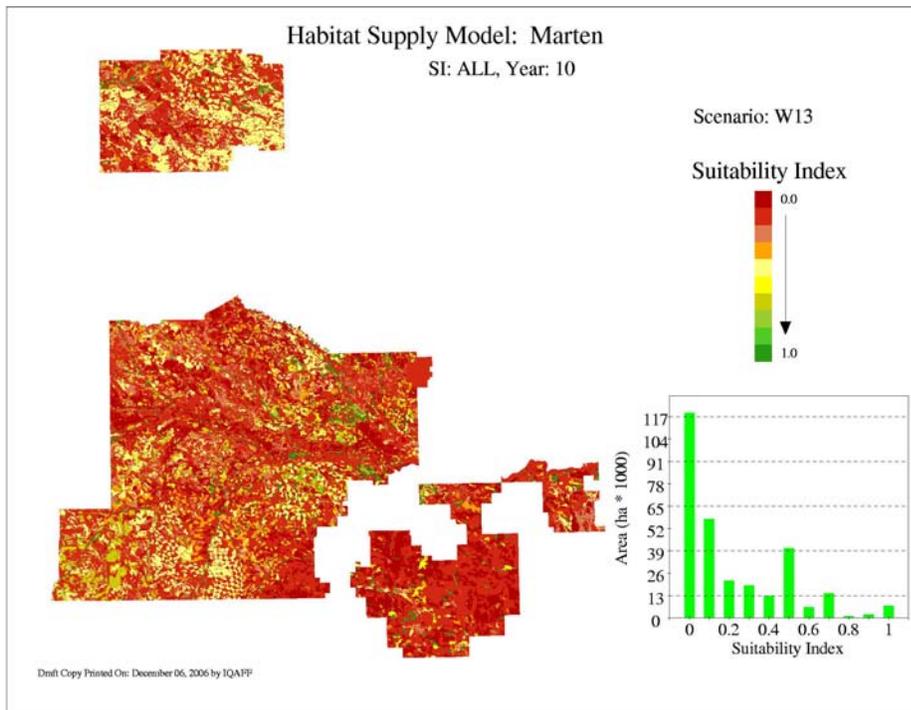**Figure 5.   American marten HSM: "All" for year 50 (2057) on the W11 FMU.**

Figure 6.   American marten HSM: "All" for year 50 (2057) on the W13 FMU.

2.2 Barred owl

Table 2 summarizes the forecasted amount of suitable area for the barred owl Habitat Supply Models (HSMs) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 2.   Barred owl suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.

FMU	2007 (km²)	2007 (%)	2017 (km²)	2017 (%)	2057 (km²)	2057 (%)	2107 (km²)	2107 (%)	2207 (km²)	2207 (%)
HSM: All										
W11	1,125	64%	1,208	68%	1,317	75%	1,352	77%	1,014	57%
W13	2,260	75%	2,236	74%	2,267	75%	2,615	87%	2,315	77%
Total	3,385	71%	3,443	72%	3,584	75%	3,967	83%	3,329	70%
HSM: Cover										
W11	1,496	85%	1,524	86%	1,499	85%	1,470	83%	1,249	71%
W13	2,833	94%	2,745	91%	2,861	95%	2,875	95%	2,646	88%
Total	4,328	90%	4,269	89%	4,360	91%	4,345	91%	3,895	81%
HSM: Food										
W11	1,587	90%	1,612	91%	1,591	90%	1,572	89%	1,436	81%
W13	2,933	97%	2,907	96%	2,946	98%	2,940	97%	2,674	89%
Total	4,520	94%	4,519	94%	4,537	95%	4,513	94%	4,110	86%
HSM: Nesting										
W11	400	23%	407	23%	352	20%	534	30%	220	12%
W13	992	33%	911	30%	588	19%	840	28%	823	27%
Total	1,392	29%	1,318	28%	939	20%	1,374	29%	1,043	22%

Figure 7, Figure 9 and Figure 11 illustrate the suitability index for the barred owl HSM "All" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
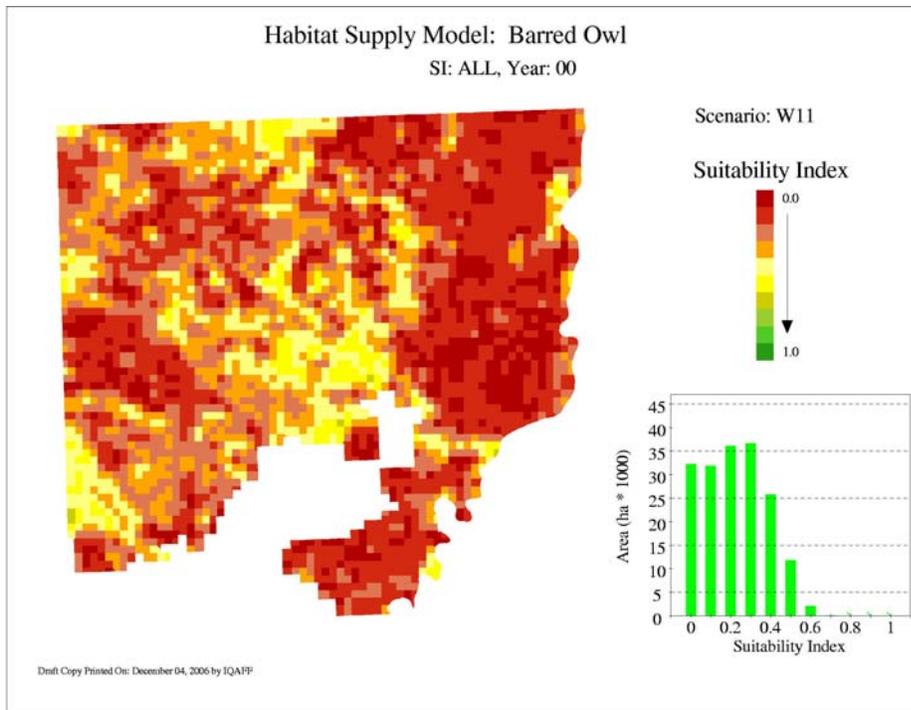
Figure 8, Figure 10 and Figure 12 illustrate the suitability index for the barred owl HSM "All" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

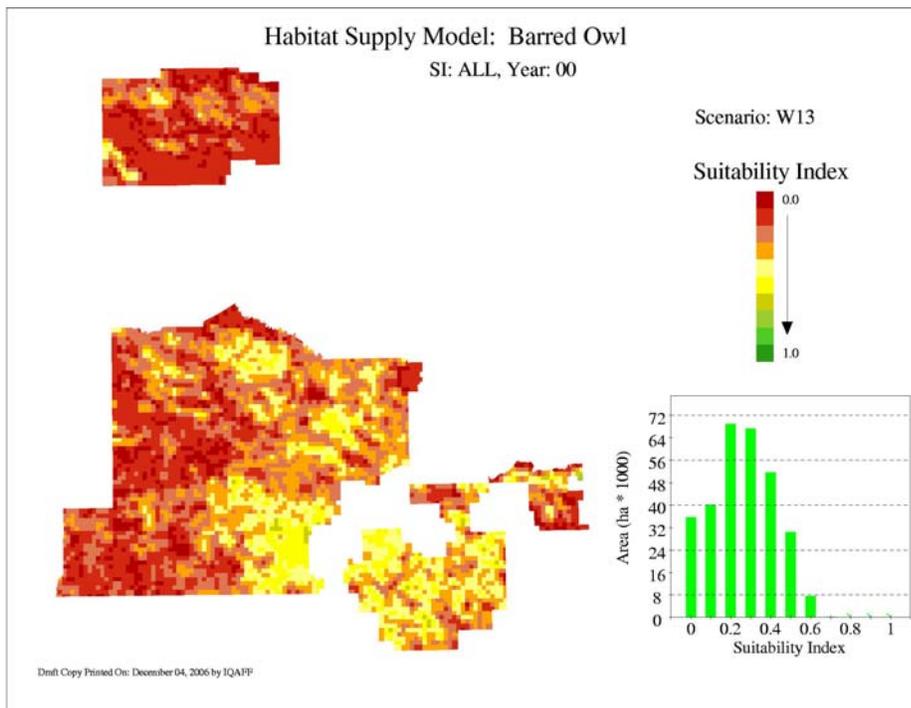**Figure 7.   Barred owl HSM: "All" for year 0 (2007) on the W11 FMU.**

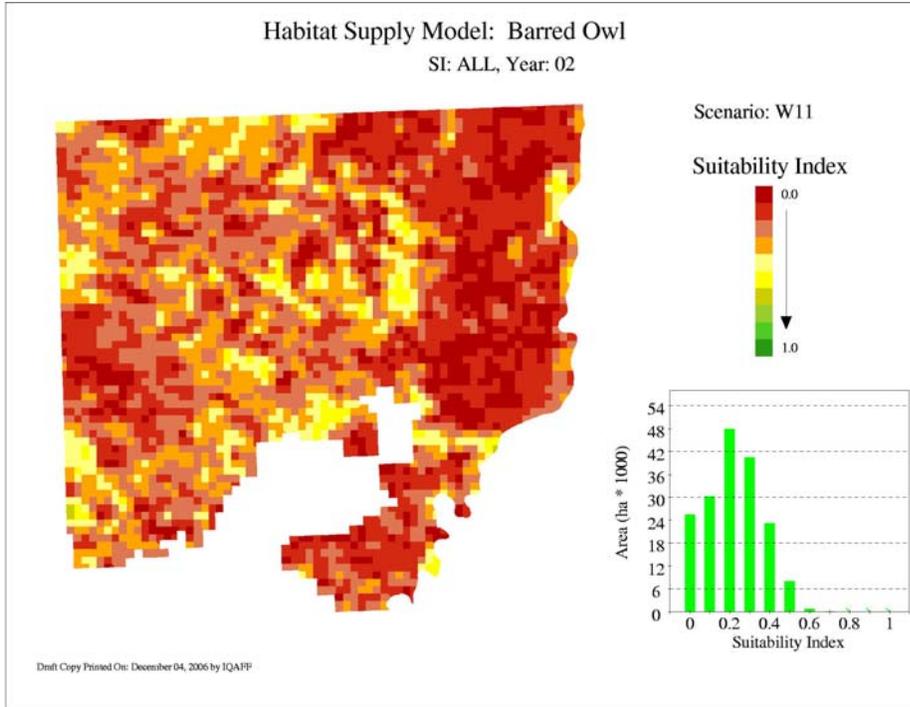**Figure 8.   Barred owl HSM: "All" for year 0 (2007) on the W13 FMU.**

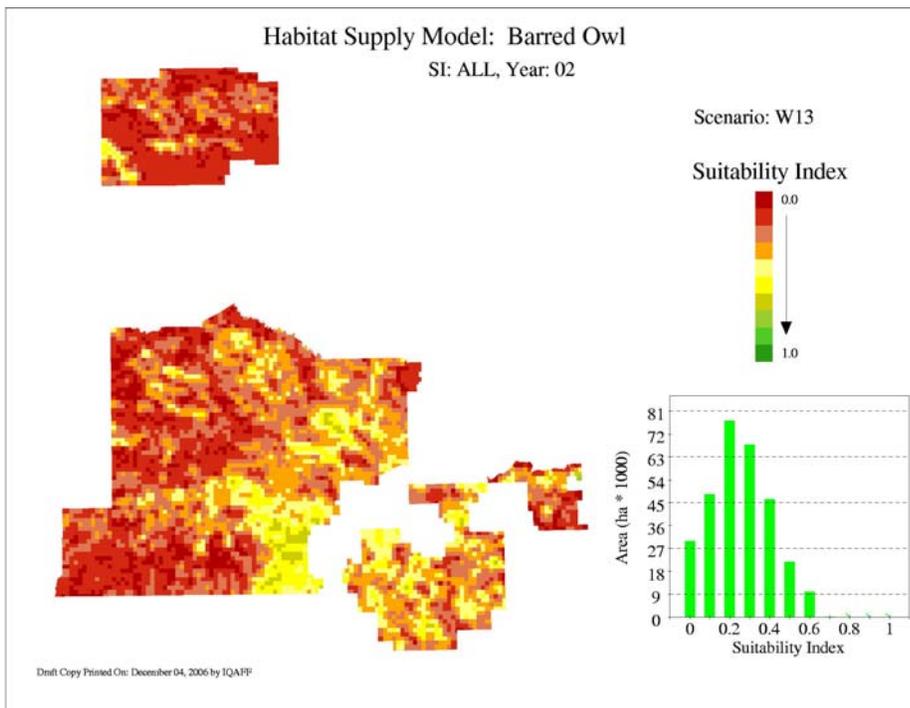**Figure 9.   Barred owl HSM: "All" for year 10 (2017) on the W11 FMU.**

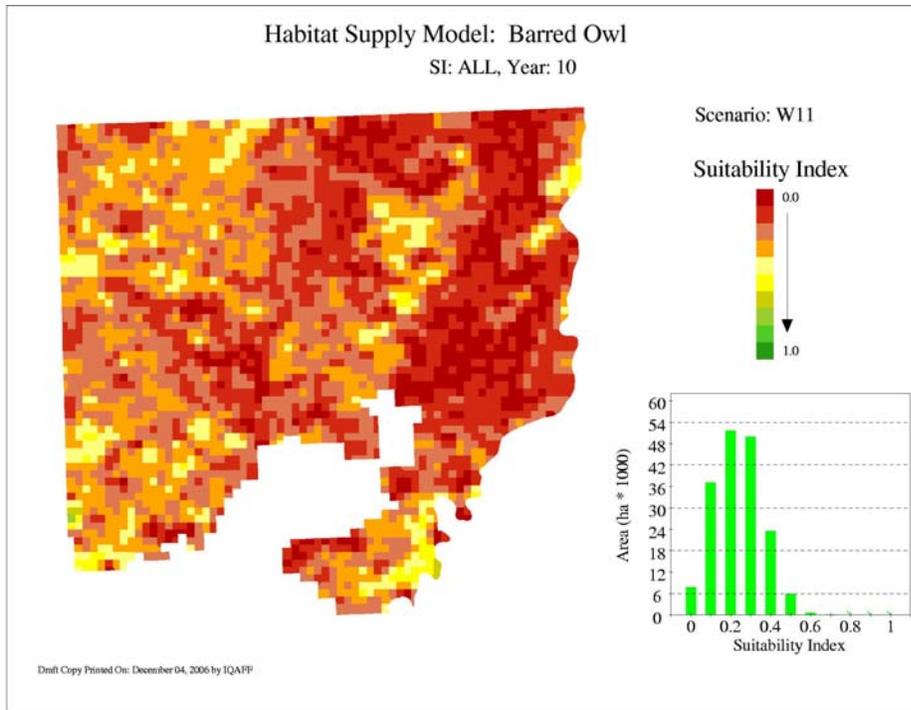**Figure 10. Barred owl HSM: "All" for year 10 (2017) on the W13 FMU.**

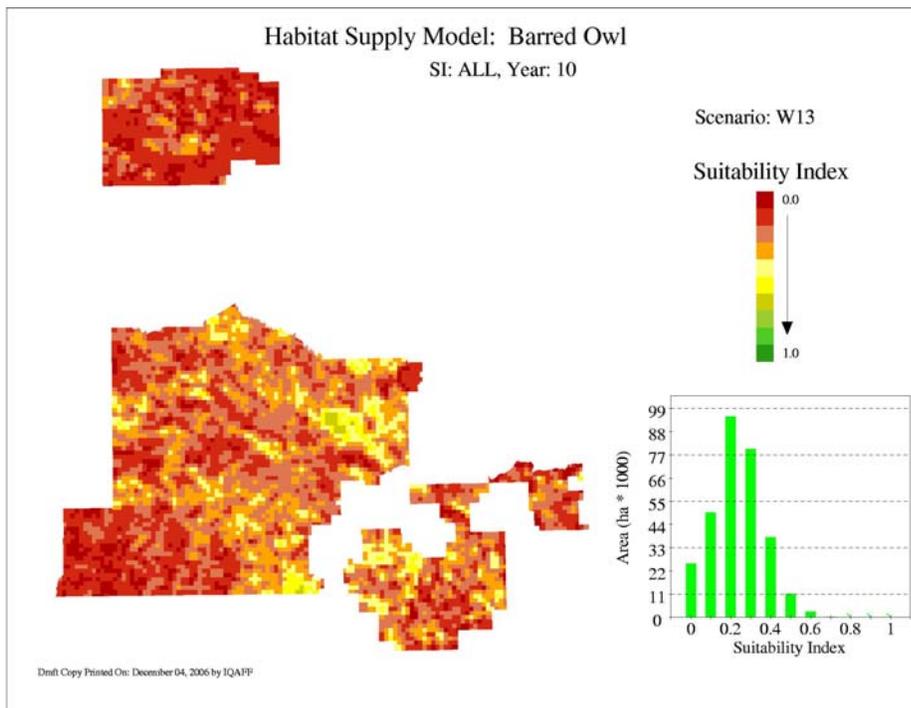**Figure 11. Barred owl HSM: "All" for year 50 (2057) on the W11 FMU.**

Figure 12. Barred owl HSM: "All" for year 50 (2057) on the W13 FMU.

2.3 Brown creeper

Table 3 summarizes the forecasted amount of suitable area for the brown creeper Habitat Supply Models (HSMs) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 3. **Brown creeper suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.**

FMU	2007 (km^2)	(%)	2017 (km^2)	(%)	2057 (km^2)	(%)	2107 (km^2)	(%)	2207 (km^2)	(%)
HSM: All										
W11	628	36%	586	33%	425	24%	344	20%	229	13%
W13	1,157	38%	1,069	35%	740	25%	677	22%	559	19%
Total	1,785	37%	1,656	35%	1,165	24%	1,021	21%	788	16%
HSM: Food										
W11	587	33%	534	30%	401	23%	310	18%	189	11%
W13	1,072	36%	987	33%	708	23%	687	23%	702	23%
Total	1,659	35%	1,522	32%	1,109	23%	997	21%	891	19%
HSM: Hiding										
W11	698	40%	659	37%	509	29%	445	25%	315	18%
W13	1,262	42%	1,187	39%	934	31%	864	29%	662	22%
Total	1,960	41%	1,846	39%	1,443	30%	1,308	27%	976	20%
HSM: Nesting										
W11	613	35%	584	33%	442	25%	419	24%	432	24%
W13	1,253	42%	1,188	39%	770	25%	784	26%	957	32%
Total	1,866	39%	1,773	37%	1,212	25%	1,203	25%	1,389	29%

Figure 13, Figure 15 and Figure 17 illustrate the suitability index for the brown creeper HSM "All" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
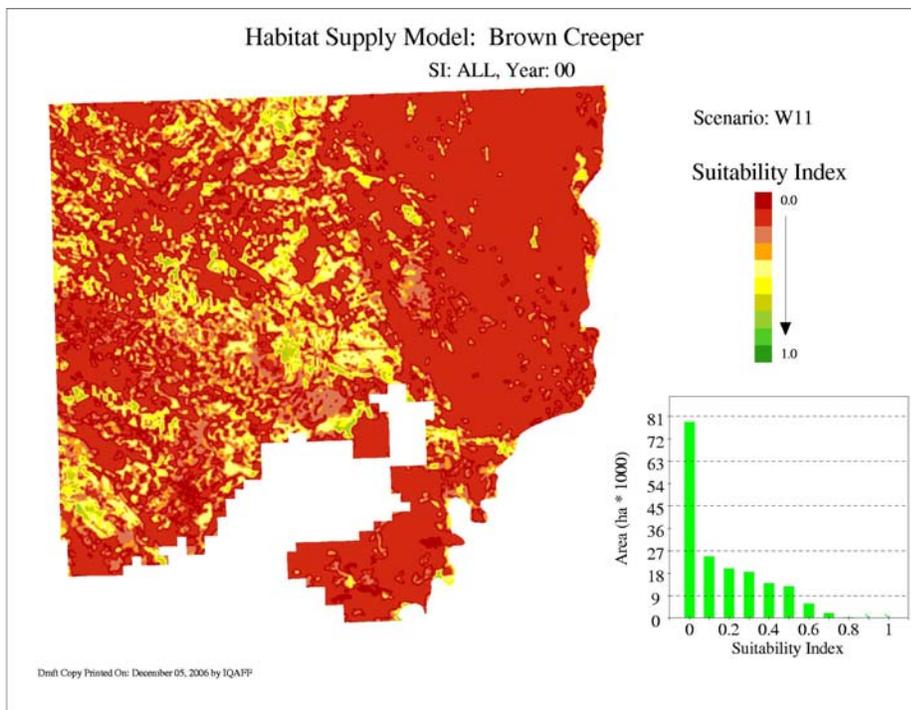
Figure 14, Figure 16 and Figure 18 illustrate the suitability index for the brown creeper HSM "All" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

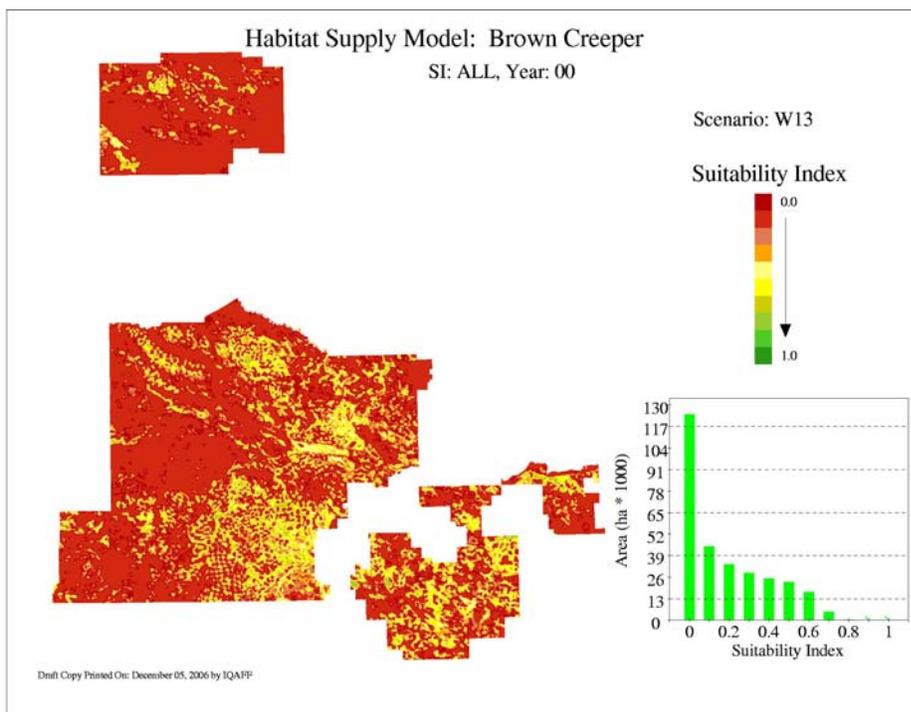**Figure 13. Brown creeper HSM: "All" for year 0 (2007) on the W11 FMU.**

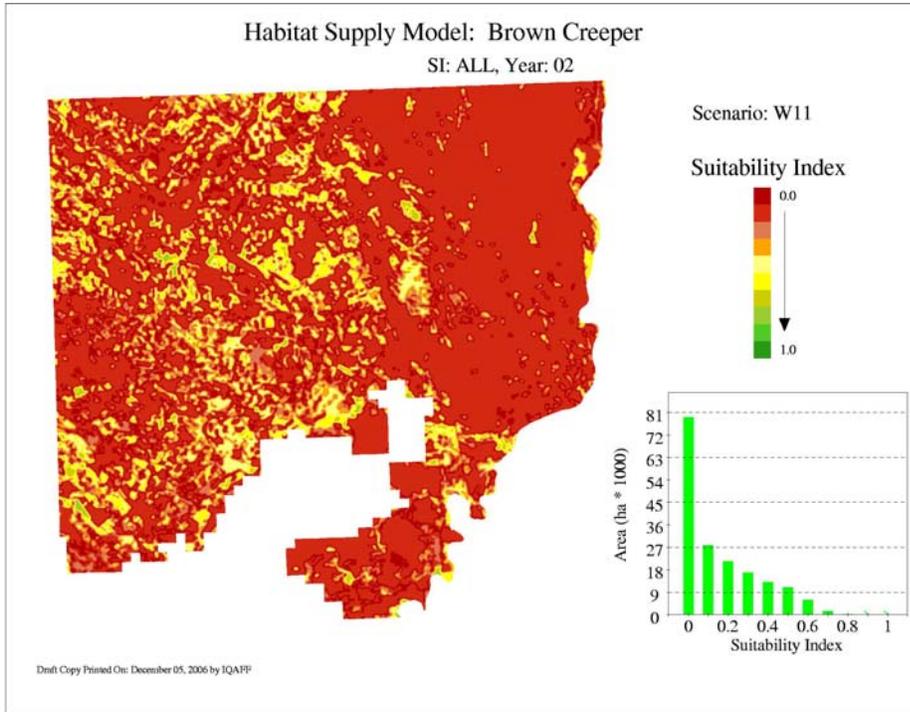**Figure 14. Brown creeper HSM: "All" for year 0 (2007) on the W13 FMU.**

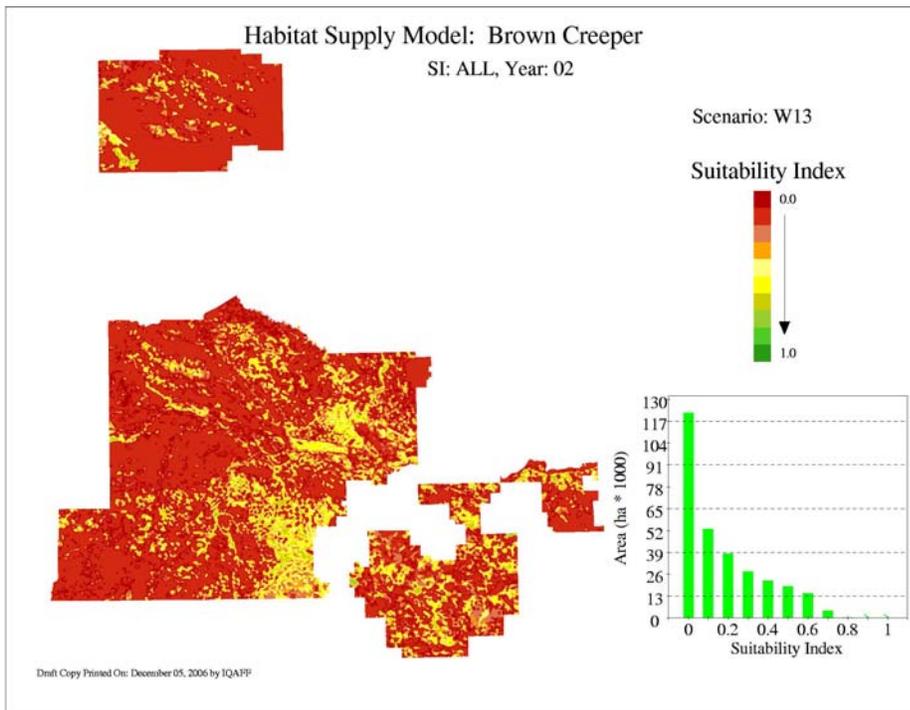**Figure 15. Brown creeper HSM: "All" for year 10 (2017) on the W11 FMU.**

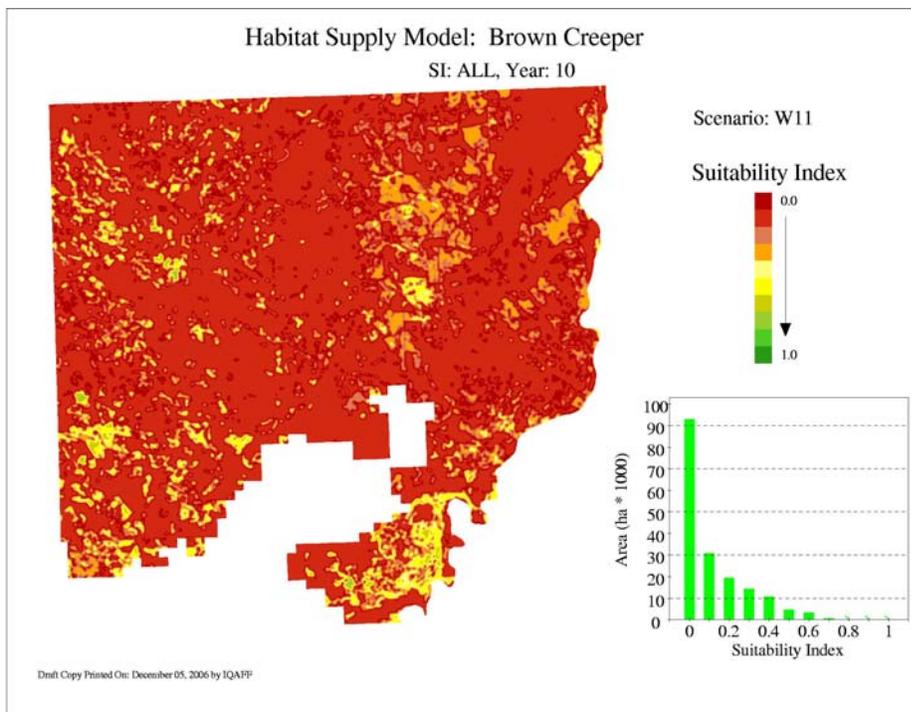**Figure 16. Brown creeper HSM: "All" for year 10 (2017) on the W13 FMU.**

Figure 17. Brown creeper HSM: "All" for year 50 (2057) on the W11 FMU.
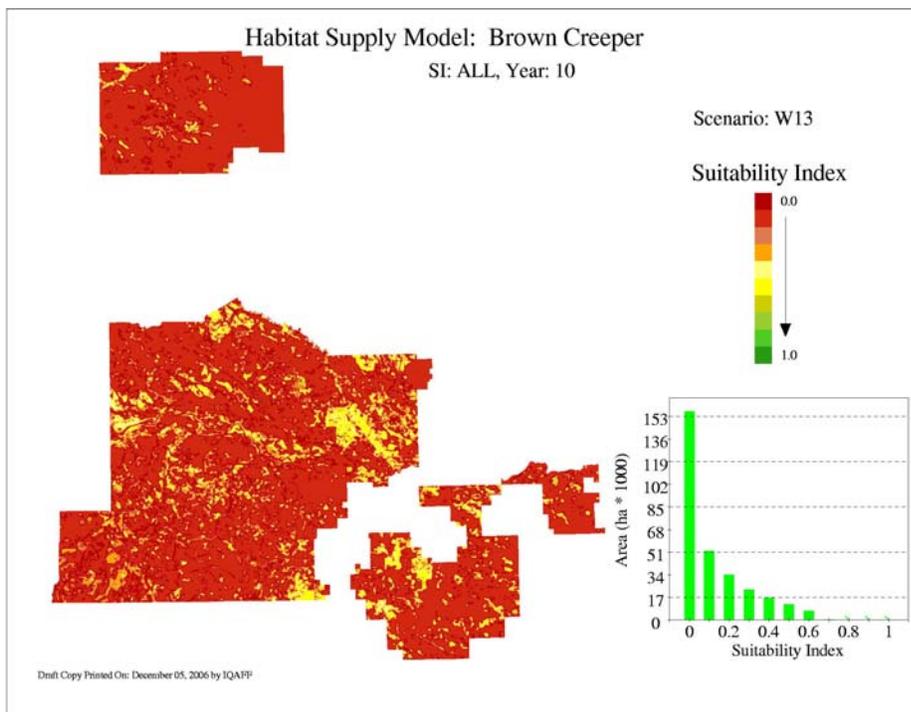

Figure 18. Brown creeper HSM: "All" for year 50 (2057) on the W13 FMU.

2.4 Canada lynx

Table 4 summarizes the forecasted amount of suitable area for the Canada lynx Habitat Supply Models (HSMs) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 4.   Canada lynx suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.

FMU	2007 (km^2)	(%)	2017 (km^2)	(%)	2057 (km^2)	(%)	2107 (km^2)	(%)	2207 (km^2)	(%)
HSM: Cover										
W11	790	45%	921	52%	810	46%	804	46%	559	32%
W13	1,616	54%	1,591	53%	1,530	51%	1,522	50%	1,343	44%
Total	2,406	50%	2,512	52%	2,340	49%	2,325	49%	1,902	40%
HSM: Denning										
W11	875	50%	854	48%	769	44%	830	47%	817	46%
W13	1,705	57%	1,622	54%	827	27%	779	26%	731	24%
Total	2,581	54%	2,477	52%	1,596	33%	1,610	34%	1,548	32%
HSM: Food										
W11	1,090	62%	1,236	70%	1,180	67%	1,177	67%	950	54%
W13	2,192	73%	2,143	71%	2,306	76%	2,293	76%	2,153	71%
Total	3,282	69%	3,379	71%	3,486	73%	3,470	73%	3,103	65%

Figure 19, Figure 21 and Figure 23 illustrate the suitability index for the Canada lynx HSM "Cover" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
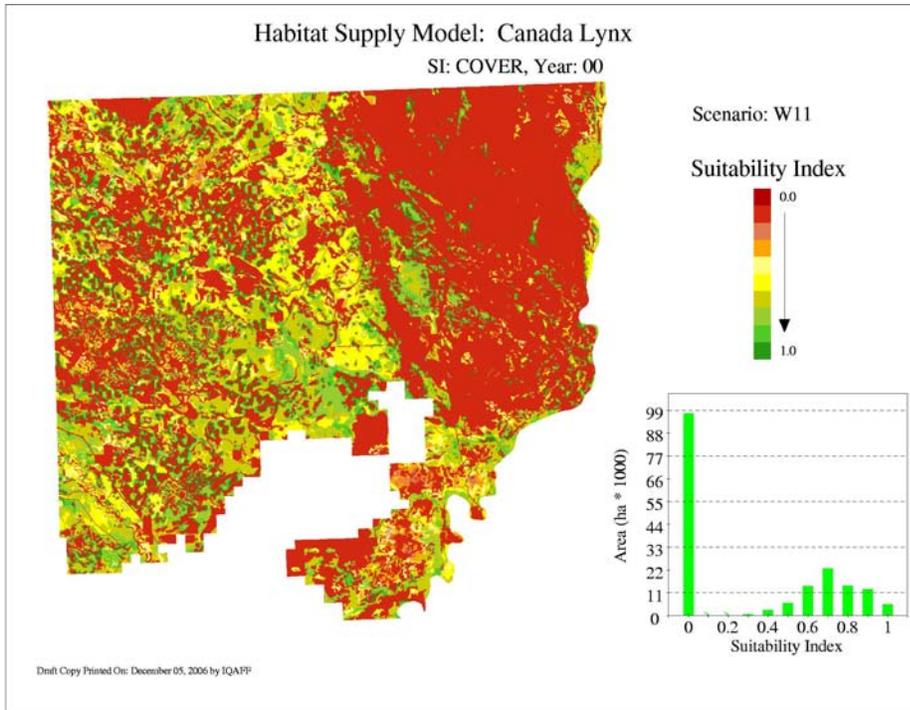
Figure 20, Figure 22 and Figure 24 illustrate the suitability index for the Canada lynx HSM "Cover" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

Figure 19. Canada lynx HSM: "Cover" for year 0 (2007) on the W11 FMU.
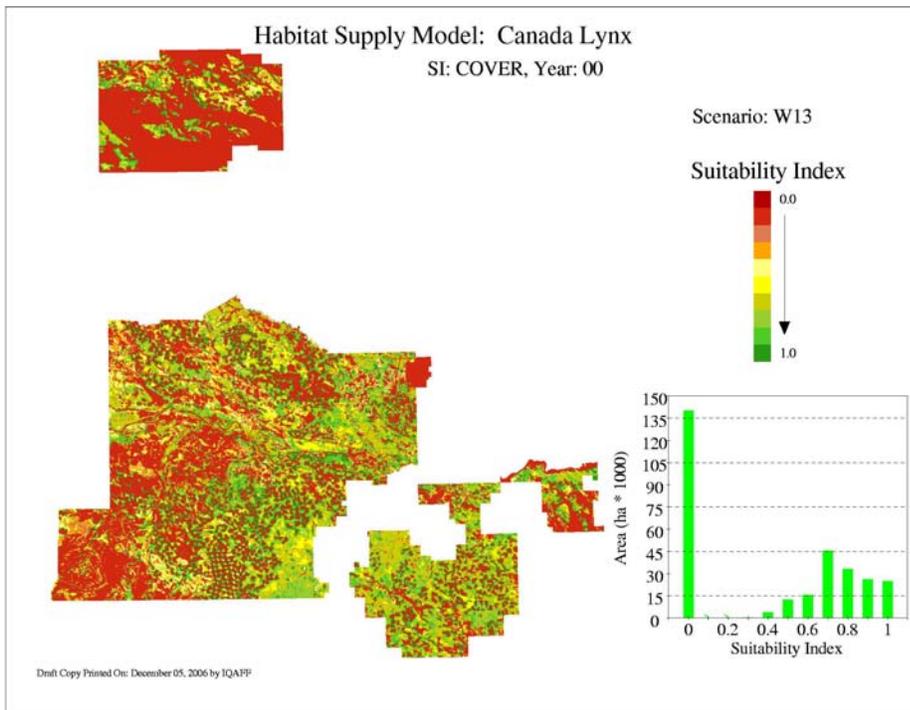

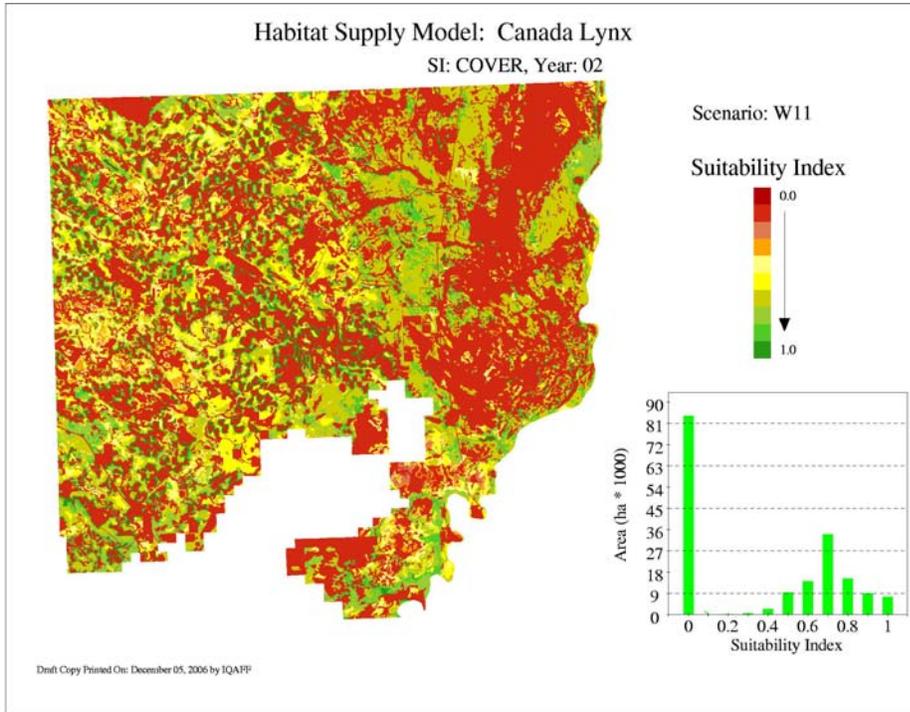**Figure 20. Canada lynx HSM: "Cover" for year 0 (2007) on the W13 FMU.**

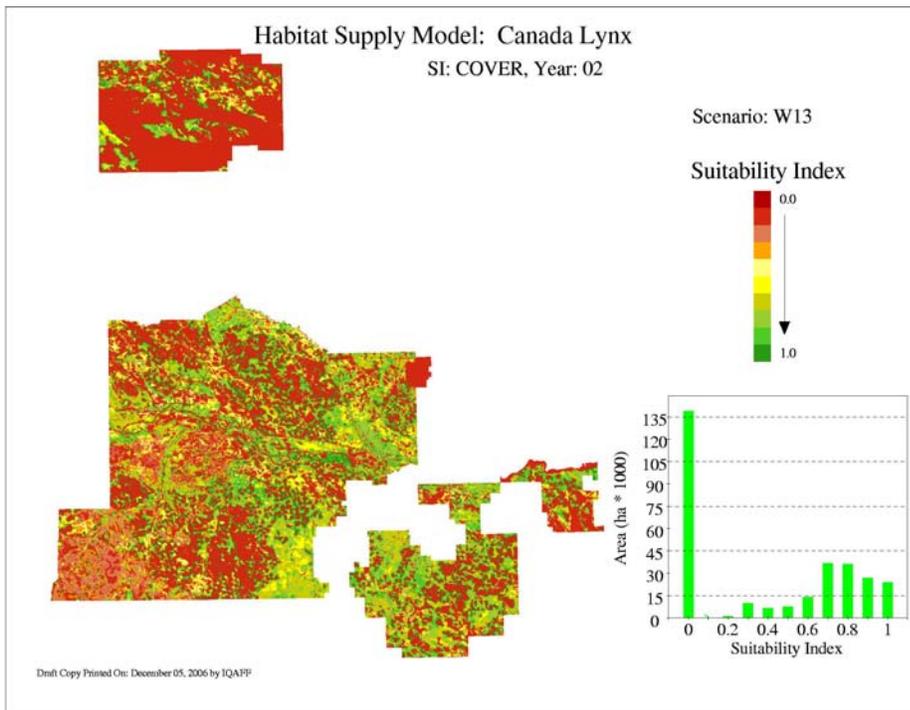**Figure 21. Canada lynx HSM: "Cover" for year 10 (2017) on the W11 FMU.**

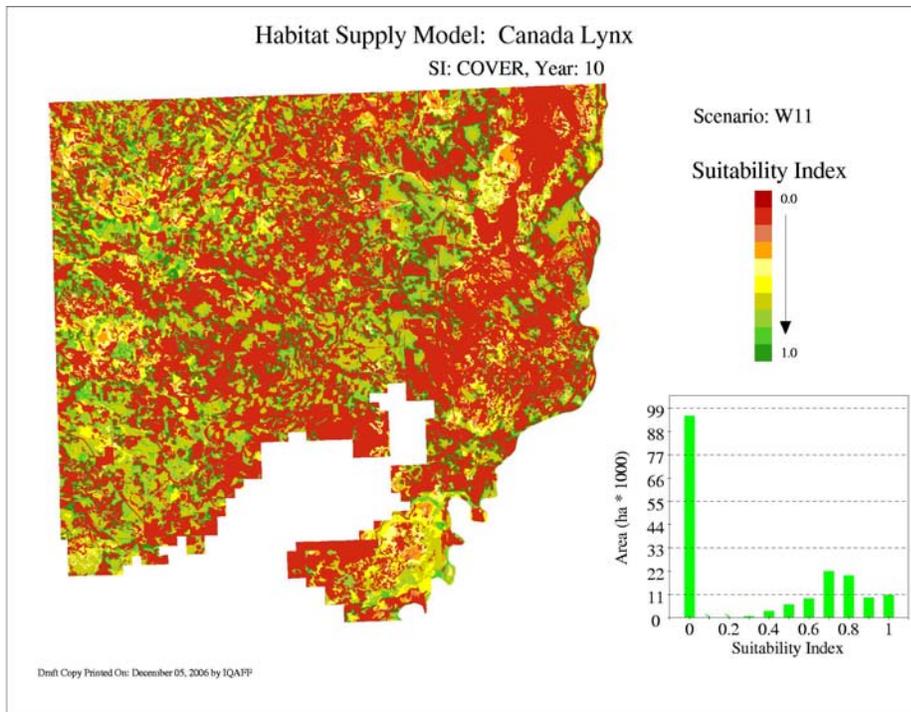**Figure 22. Canada lynx HSM: "Cover" for year 10 (2017) on the W13 FMU.**

Figure 23. Canada lynx HSM: "Cover" for year 50 (2057) on the W11 FMU.
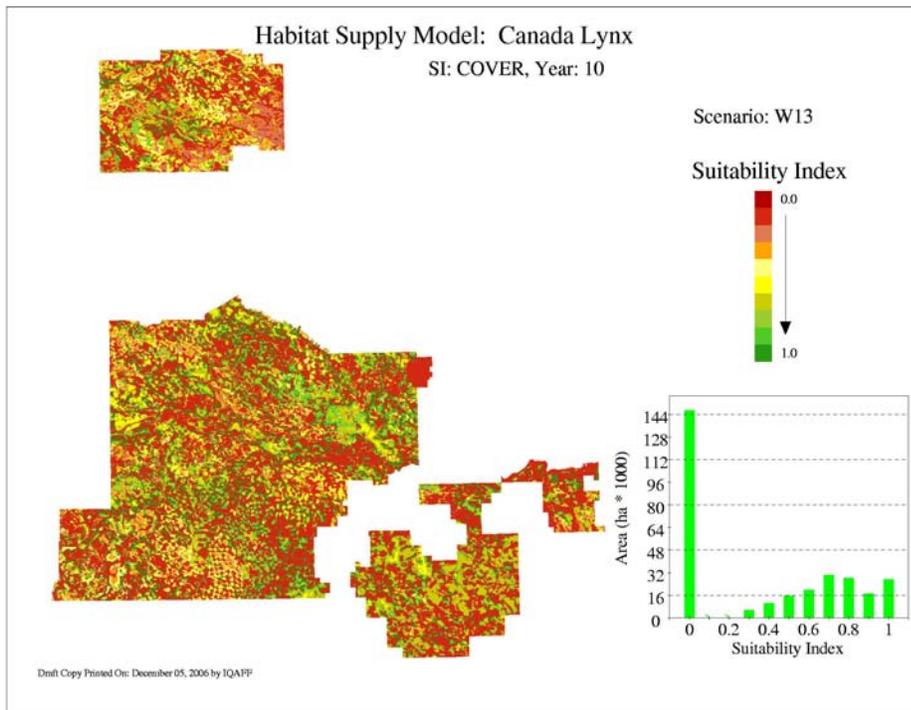

Figure 24. Canada lynx HSM: "Cover" for year 50 (2057) on the W13 FMU.

2.5 Elk

Table 5 summarizes the forecasted amount of suitable area for the elk Habitat Supply Models (HSMs) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 5. **Elk suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.**

FMU	2007		2017		2057		2107		2207	
	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)
HSM: Cover - Summer										
W11	1,363	77%	1,325	75%	1,385	78%	1,323	75%	1,213	69%
W13	2,292	76%	2,221	74%	2,321	77%	2,388	79%	2,393	79%
Total	3,655	76%	3,546	74%	3,705	77%	3,712	78%	3,606	75%
HSM: Cover - Winter										
W11	1,363	77%	1,325	75%	1,385	78%	1,323	75%	1,213	69%
W13	2,292	76%	2,221	74%	2,321	77%	2,388	79%	2,393	79%
Total	3,655	76%	3,546	74%	3,705	77%	3,712	78%	3,606	75%
HSM: Food - Summer										
W11	1,628	92%	1,627	92%	1,627	92%	1,626	92%	1,615	91%
W13	2,859	95%	2,937	97%	2,926	97%	2,936	97%	2,917	97%
Total	4,488	94%	4,564	95%	4,553	95%	4,562	95%	4,532	95%
HSM: Food - Winter										
W11	1,639	93%	1,628	92%	1,638	93%	1,637	93%	1,635	93%
W13	2,754	91%	2,780	92%	2,756	91%	2,737	91%	2,772	92%
Total	4,393	92%	4,408	92%	4,394	92%	4,374	91%	4,407	92%
HSM: Hiding - Summer										
W11	1,443	82%	1,411	80%	1,466	83%	1,450	82%	1,442	82%
W13	2,230	74%	2,257	75%	2,425	80%	2,350	78%	2,279	75%
Total	3,673	77%	3,668	77%	3,891	81%	3,799	79%	3,720	78%
HSM: Hiding - Winter										
W11	1,456	82%	1,418	80%	1,473	83%	1,458	83%	1,442	82%
W13	2,230	74%	2,253	75%	2,420	80%	2,344	78%	2,275	75%
Total	3,686	77%	3,671	77%	3,893	81%	3,802	79%	3,718	78%

Figure 25, Figure 27 and Figure 29 illustrate the suitability index for the elk HSM "Cover - winter" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

Figure 26, Figure 28 and Figure 30 illustrate the suitability index for the elk HSM "Hiding - winter" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
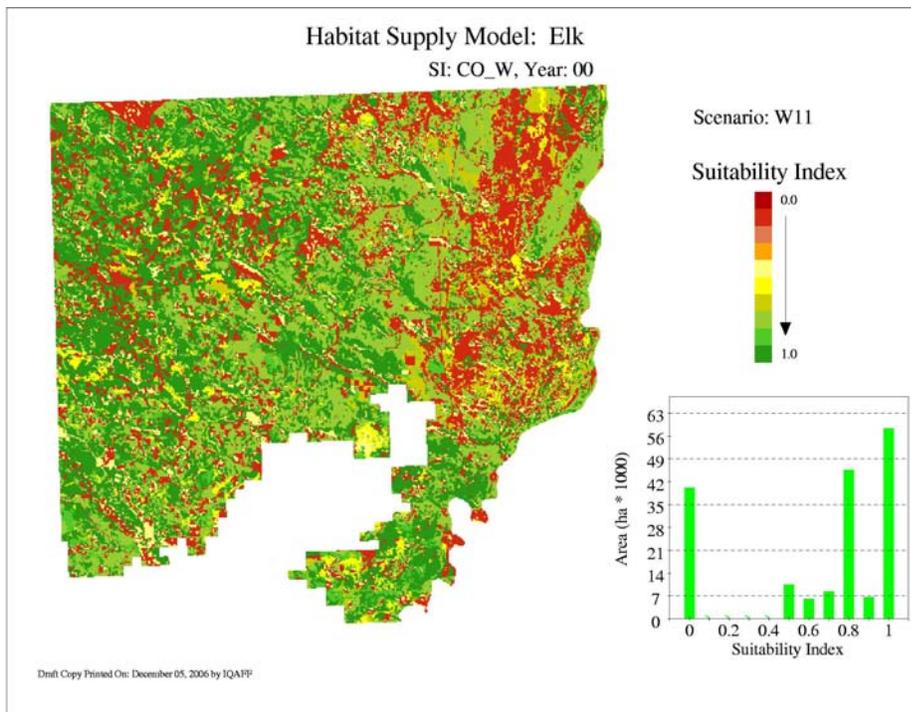

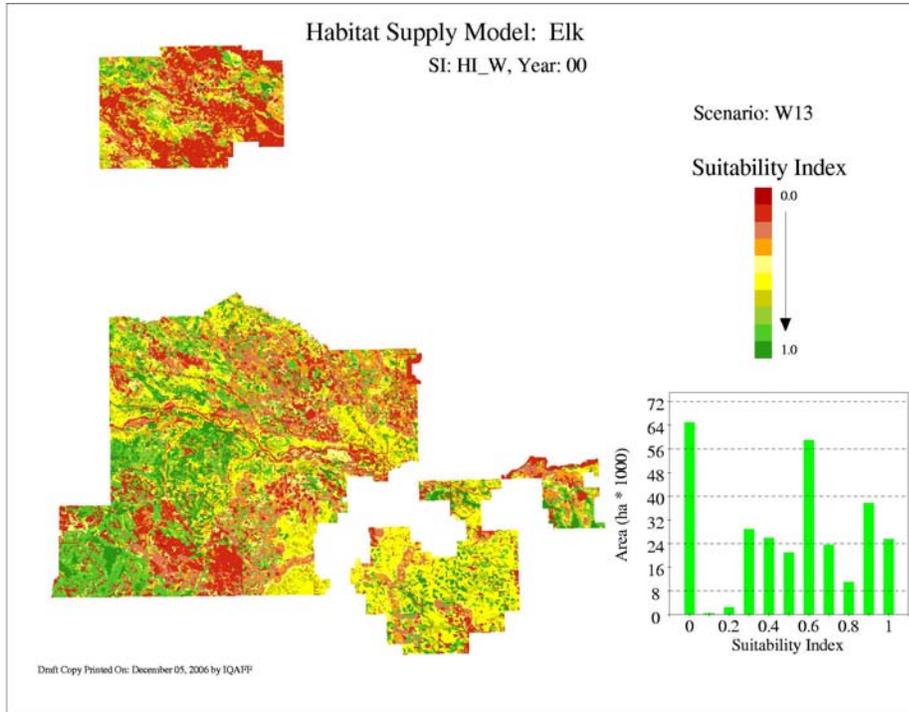**Figure 25. Elk HSM: "Cover -winter" for year 0 (2007) on the W11 FMU.**

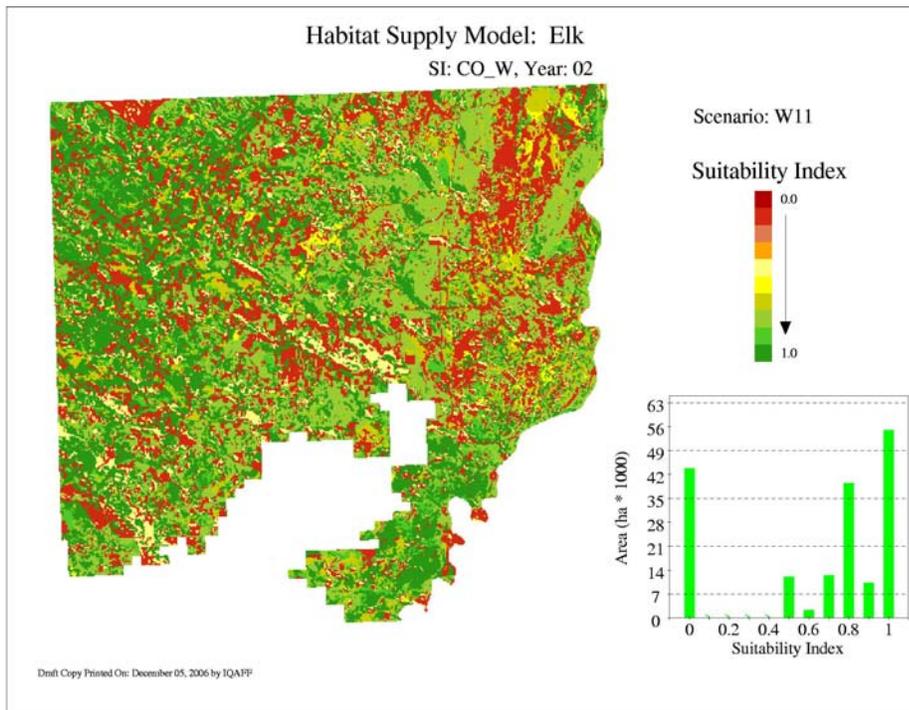**Figure 26. Elk HSM: "Hiding - winter" for year 0 (2007) on the W13 FMU.**

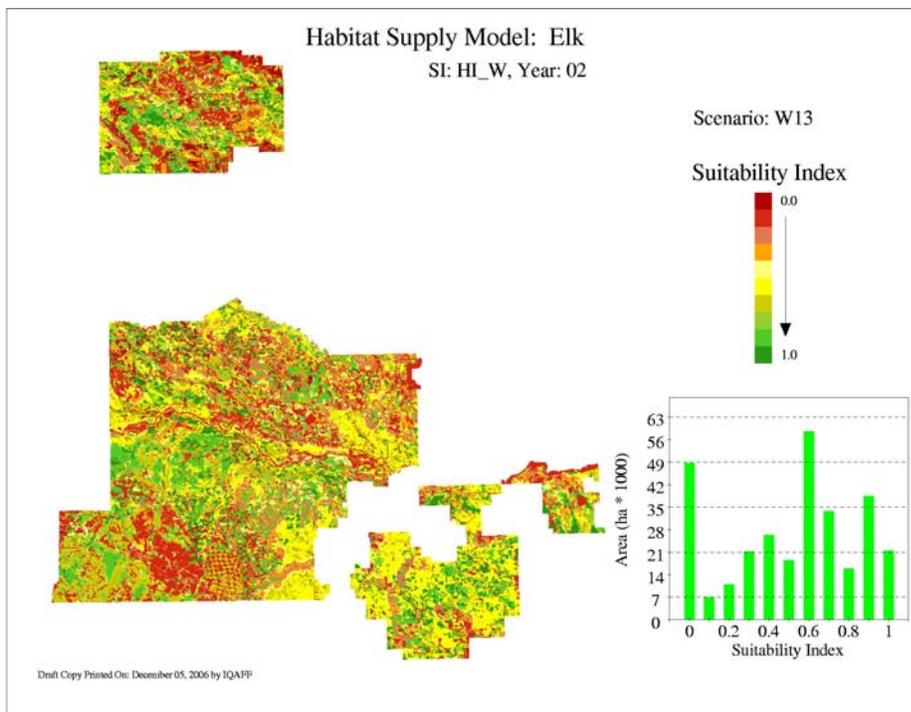**Figure 27. Elk HSM: "Cover - winter" for year 10 (2017) on the W11 FMU.**

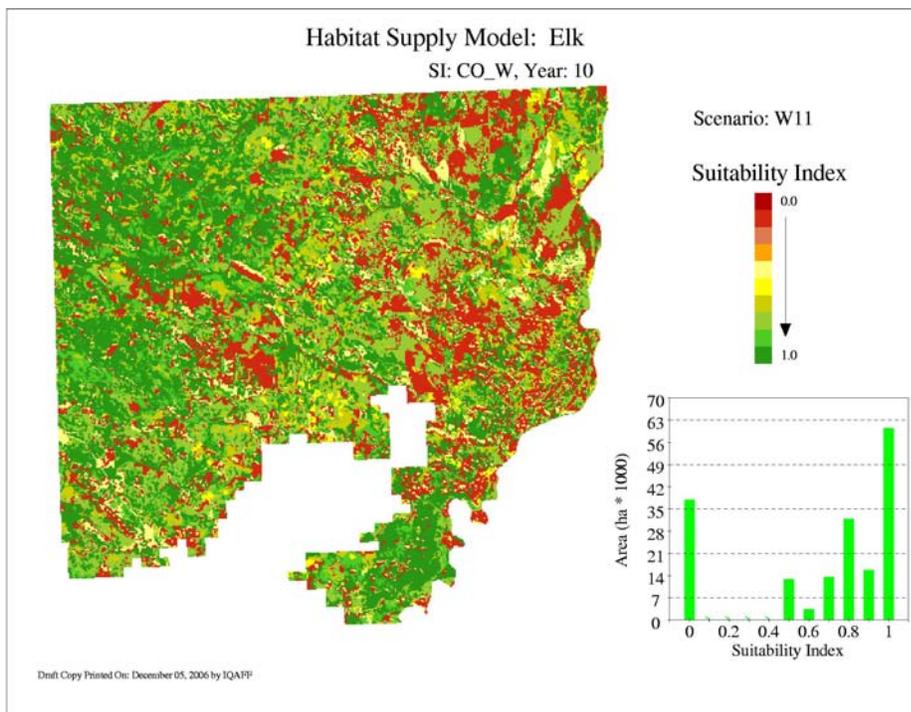**Figure 28. Elk HSM: "Hiding - winter" for year 10 (2017) on the W13 FMU.**

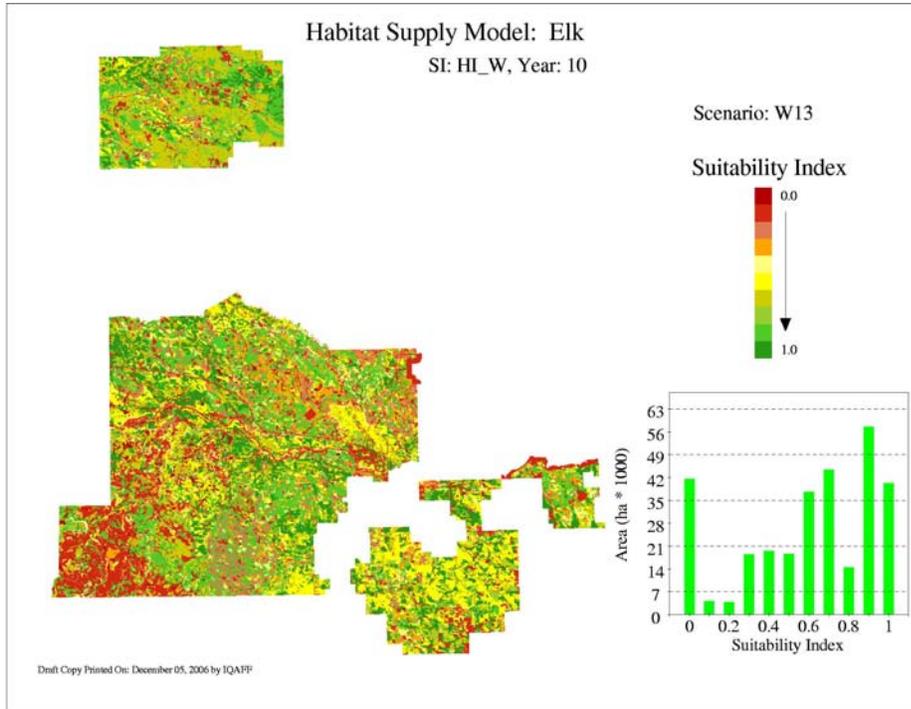**Figure 29. Elk HSM: "Cover - winter" for year 50 (2057) on the W11 FMU.**

Figure 30. Elk HSM: "Hiding - winter" for year 50 (2057) on the W13 FMU.

2.6   Least flycatcher

Table 6 summarizes the forecasted amount of suitable area for the least flycatcher Habitat Supply Model (HSM) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 6.   Least flycatcher suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.

FMU	2007 (km^2)	(%)	2017 (km^2)	(%)	2057 (km^2)	(%)	2107 (km^2)	(%)	2207 (km^2)	(%)
HSM: Food										
W11	791	45%	753	43%	671	38%	730	41%	724	41%
W13	1,318	44%	1,235	41%	1,115	37%	1,092	36%	562	19%
Total	2,109	44%	1,989	42%	1,786	37%	1,822	38%	1,286	27%

Figure 31, Figure 33 and Figure 35 illustrate the suitability index for the least flycatcher HSM "Food" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
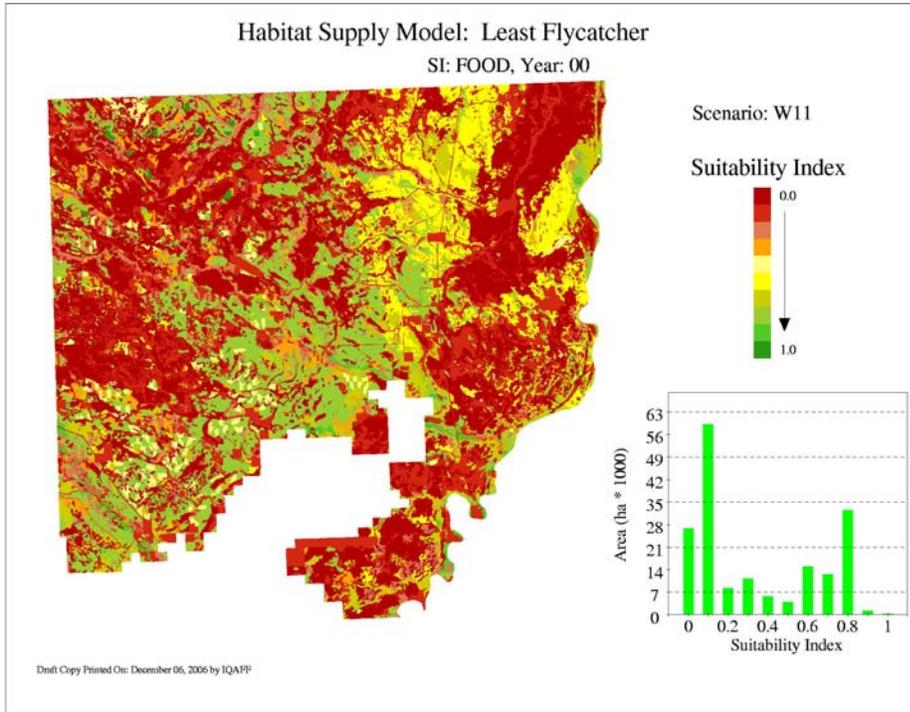
Figure 32, Figure 34 and Figure 36 illustrate the suitability index for the least flycatcher HSM "Food" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

Figure 31. Least flycatcher HSM: "Food" for year 0 (2007) on the W11 FMU.
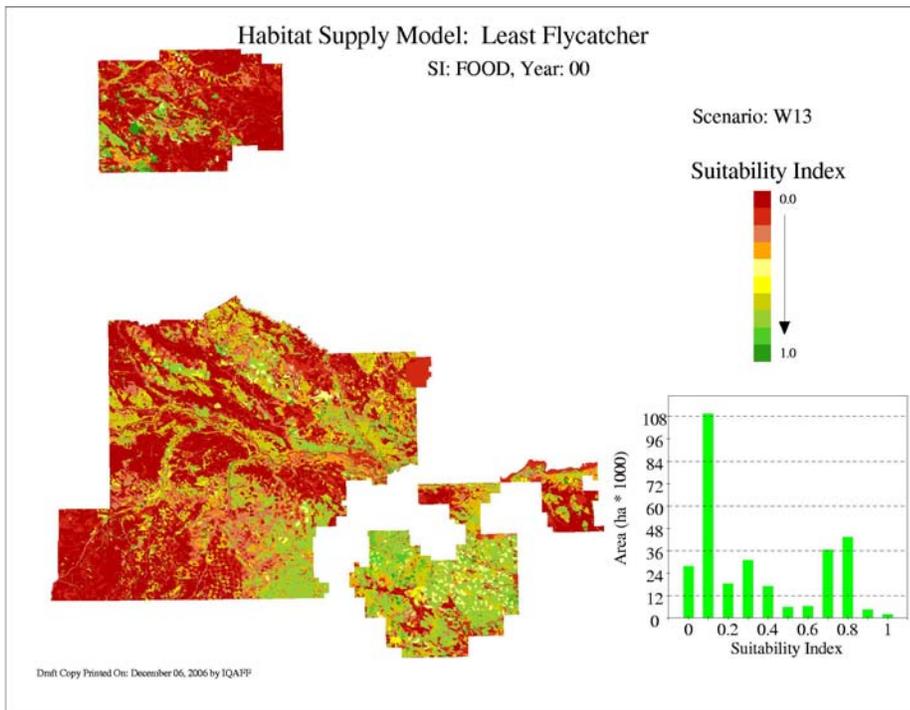

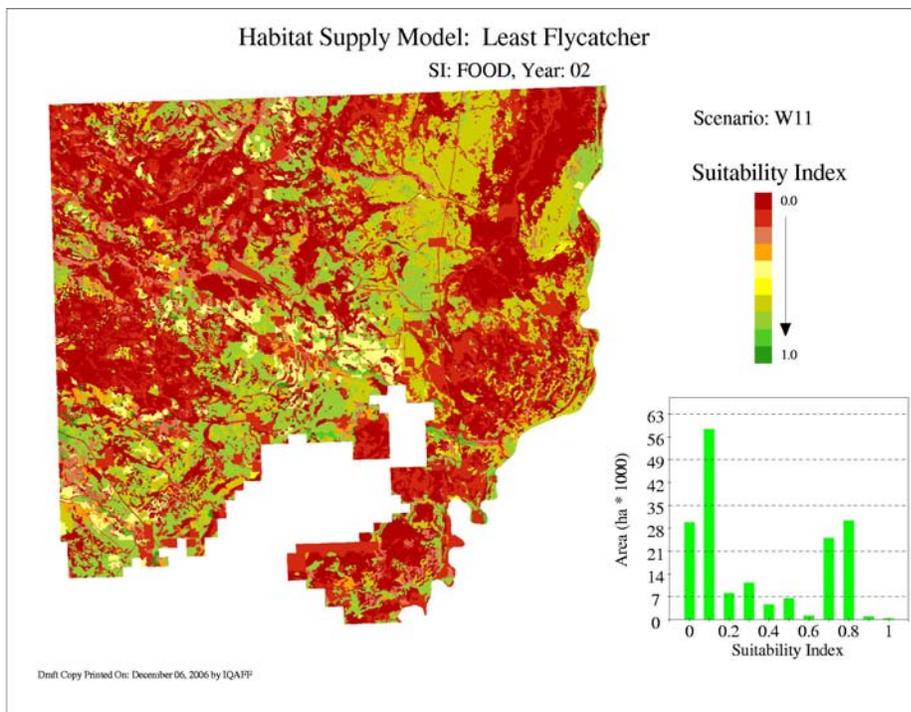**Figure 32. Least flycatcher HSM: "Food" for year 0 (2007) on the W13 FMU.**

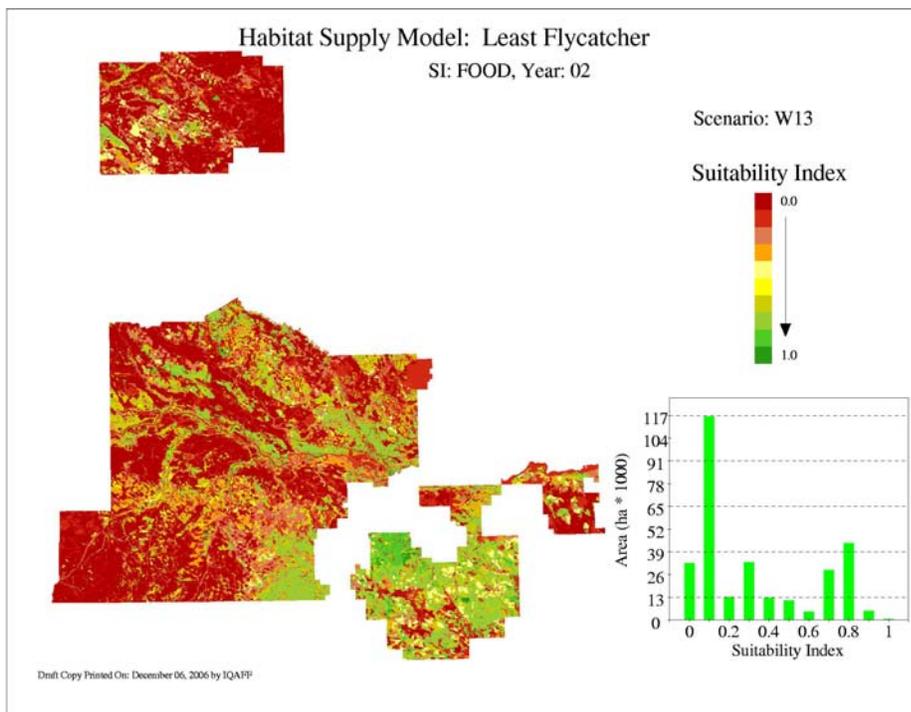**Figure 33. Least flycatcher HSM: "Food" for year 10 (2017) on the W11 FMU.**

Figure 34. Least flycatcher HSM: "Food" for year 10 (2017) on the W13 FMU.
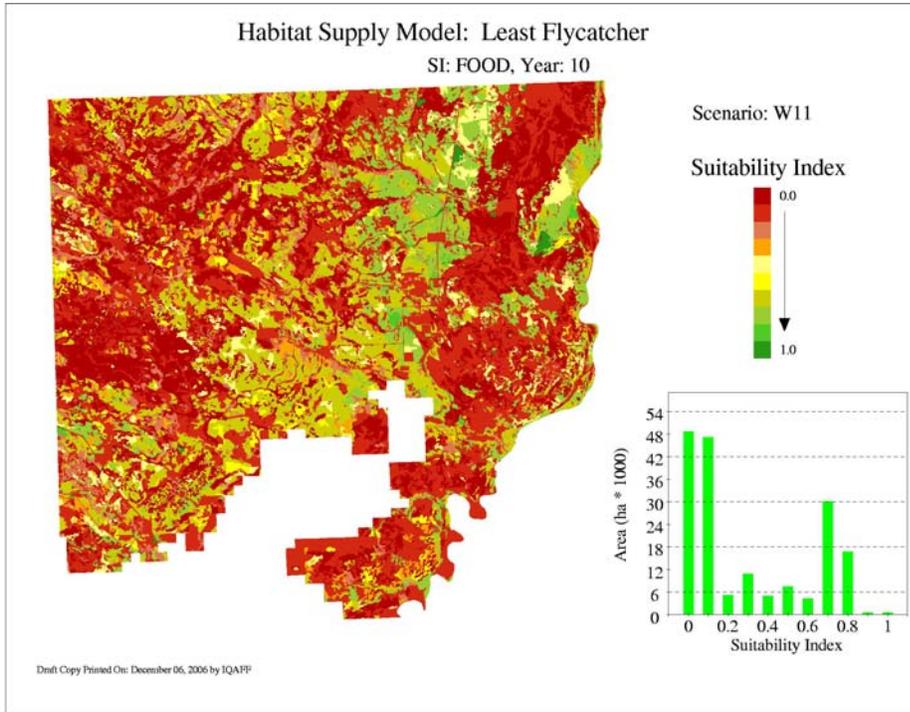
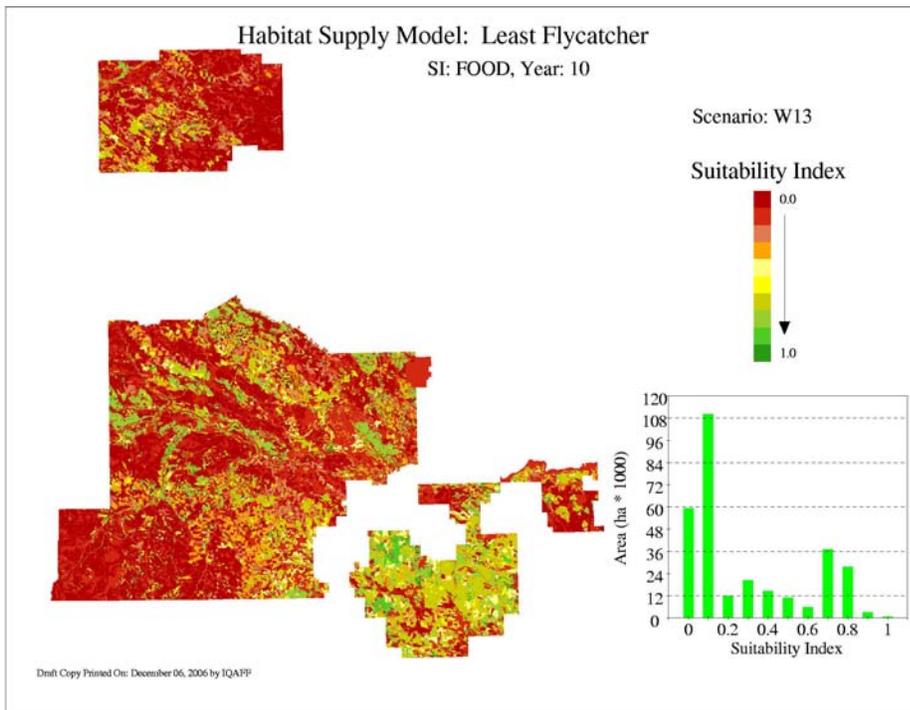**Figure 35. Least flycatcher HSM: "Food" for year 50 (2057) on the W11 FMU.**

Figure 36. Least flycatcher HSM: "Food" for year 50 (2057) on the W13 FMU.

2.7 Moose

Table 7 summarizes the forecasted amount of suitable area for the moose Habitat Supply Models (HSMs) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 7.   Moose suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.

FMU	2007 (km^2)	2007 (%)	2017 (km^2)	2017 (%)	2057 (km^2)	2057 (%)	2107 (km^2)	2107 (%)	2207 (km^2)	2207 (%)
HSM: Cover - Summer										
W11	1,500	85%	1,458	83%	1,477	84%	1,455	82%	1,444	82%
W13	2,458	81%	2,348	78%	2,614	87%	2,588	86%	2,561	85%
Total	3,958	83%	3,806	80%	4,091	86%	4,043	85%	4,005	84%
HSM: Cover - Severe winter										
W11	1,443	82%	1,388	79%	1,411	80%	1,379	78%	1,365	77%
W13	2,286	76%	2,119	70%	2,426	80%	2,381	79%	2,353	78%
Total	3,729	78%	3,507	73%	3,837	80%	3,760	79%	3,718	78%
HSM: Food - Mild winter										
W11	1,558	88%	1,527	86%	1,296	73%	1,142	65%	1,146	65%
W13	2,618	87%	2,500	83%	2,482	82%	2,252	75%	2,184	72%
Total	4,176	87%	4,027	84%	3,777	79%	3,394	71%	3,331	70%
HSM: Food - Summer										
W11	1,631	92%	1,632	92%	1,632	92%	1,631	92%	1,631	92%
W13	2,892	96%	2,897	96%	2,942	97%	2,942	97%	2,942	97%
Total	4,523	95%	4,529	95%	4,574	96%	4,574	96%	4,573	96%
HSM: Food - Severe winter										
W11	1,572	89%	1,548	88%	1,558	88%	1,554	88%	1,541	87%
W13	2,510	83%	2,400	79%	2,630	87%	2,586	86%	2,636	87%
Total	4,082	85%	3,947	83%	4,187	88%	4,140	87%	4,177	87%
HSM: Hiding										
W11	1,351	76%	1,360	77%	1,391	79%	1,420	80%	1,467	83%
W13	2,507	83%	2,560	85%	2,549	84%	2,576	85%	2,479	82%
Total	3,858	81%	3,920	82%	3,940	82%	3,996	84%	3,946	82%

Figure 37, Figure 39 and Figure 41 illustrate the suitability index for the moose HSM "Hiding" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

Figure 38, Figure 40 and Figure 42 illustrate the suitability index for the moose HSM "Cover – severe winter" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
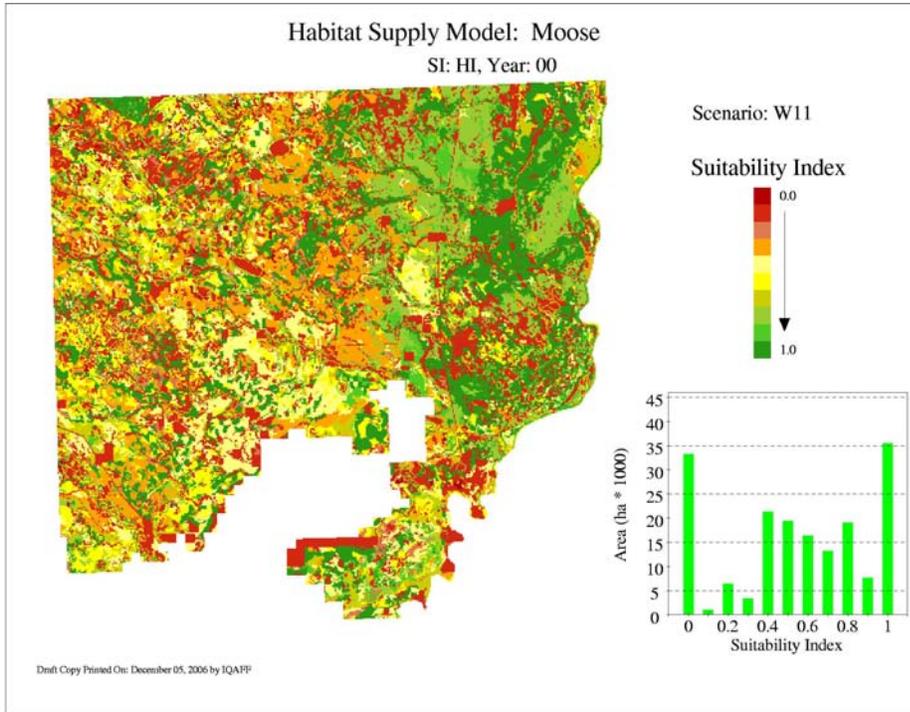
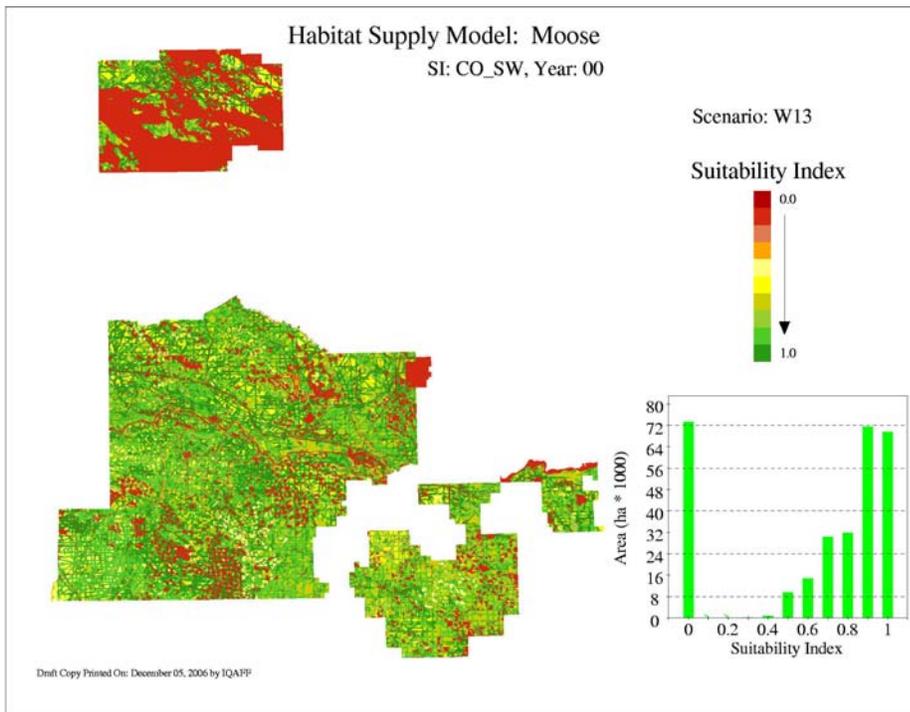**Figure 37. Moose HSM: "Hiding" for year 0 (2007) on the W11 FMU.**

Figure 38. Moose HSM: "Cover – severe winter" for year 0 (2007) on the W13 FMU.
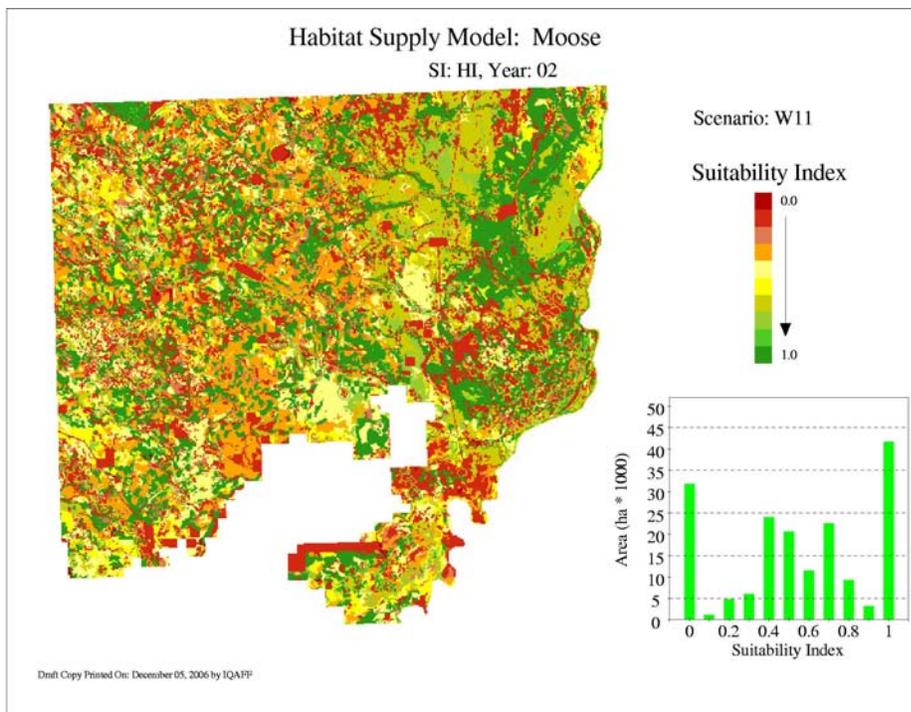
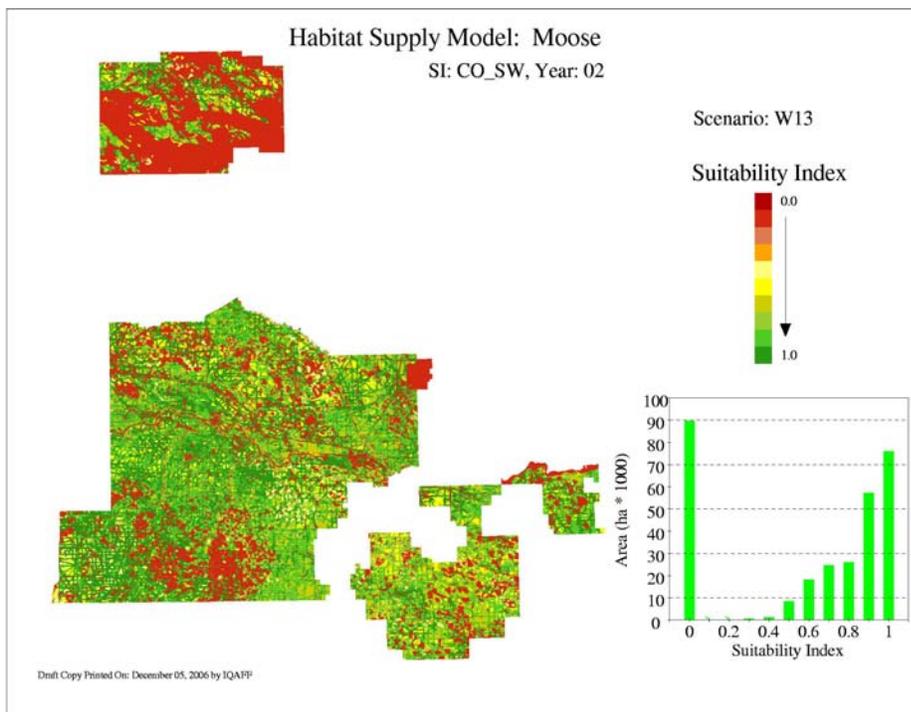**Figure 39. Moose HSM: "Hiding" for year 10 (2007) on the W11 FMU.**

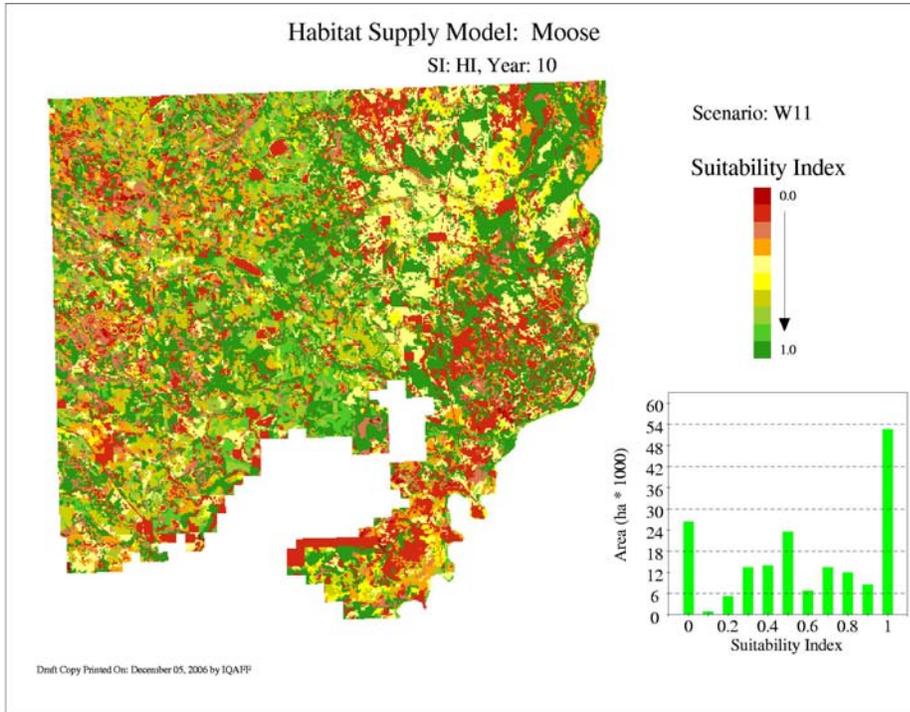**Figure 40. Moose HSM: "Cover - severe winter" for year 10 (2007) on the W13 FMU.**

Figure 41. Moose HSM: "Hiding" for year 50 (2007) on the W11 FMU.
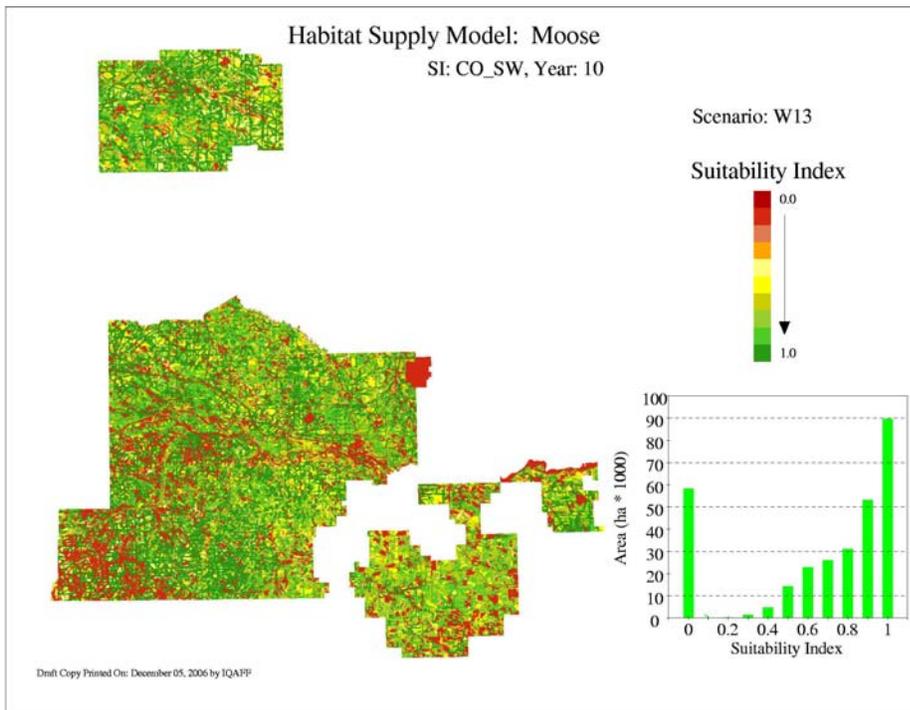

Figure 42. Moose HSM: "Cover - severe winter" for year 50 (2007) on the W13 FMU.

2.8 Northern flying squirrel

Table 8 summarizes the forecasted amount of suitable area for the northern flying squirrel Habitat Supply Models (HSMs) on the Defined Forest Area, by Forest Management Unit. These forecasted areas are summarized for years 0 (2007), 10 (2017), 50 (2057), 100 (2107) and 200 (2207) of the 200-year planning horizon.

Table 8.   Northern flying squirrel suitable habitat of each HSM on the DFA by FMU at year 0, 10, 50, 100 and 200 of the 200-year planning horizon.

	2007		2017		2057		2107		2207	
FMU	**(km²)**	**(%)**	**(km²)**	**(%)**	**(km²)**	**(%)**	**(km²)**	**(%)**	**(km²)**	**(%)**
HSM: All										
W11	1,608	91%	1,606	91%	1,592	90%	1,608	91%	1,597	90%
W13	2,911	96%	2,870	95%	2,823	94%	2,833	94%	2,713	90%
Total	4,519	94%	4,476	94%	4,415	92%	4,441	93%	4,311	90%
HSM: Cover										
W11	1,124	64%	1,047	59%	917	52%	849	48%	763	43%
W13	2,027	67%	1,881	62%	1,615	54%	1,360	45%	694	23%
Total	3,151	66%	2,928	61%	2,531	53%	2,209	46%	1,456	30%
HSM: Food										
W11	1,633	92%	1,635	93%	1,632	92%	1,631	92%	1,631	92%
W13	2,950	98%	2,950	98%	2,945	98%	2,944	98%	2,948	98%
Total	4,584	96%	4,584	96%	4,577	96%	4,576	96%	4,579	96%
HSM: Hiding										
W11	1,644	93%	1,642	93%	1,638	93%	1,654	94%	1,655	94%
W13	2,930	97%	2,914	97%	2,903	96%	2,928	97%	2,915	97%
Total	4,574	96%	4,557	95%	4,541	95%	4,582	96%	4,570	96%

Figure 43, Figure 45 and Figure 47 illustrate the suitability index for the northern flying squirrel HSM "All" for the W11 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.
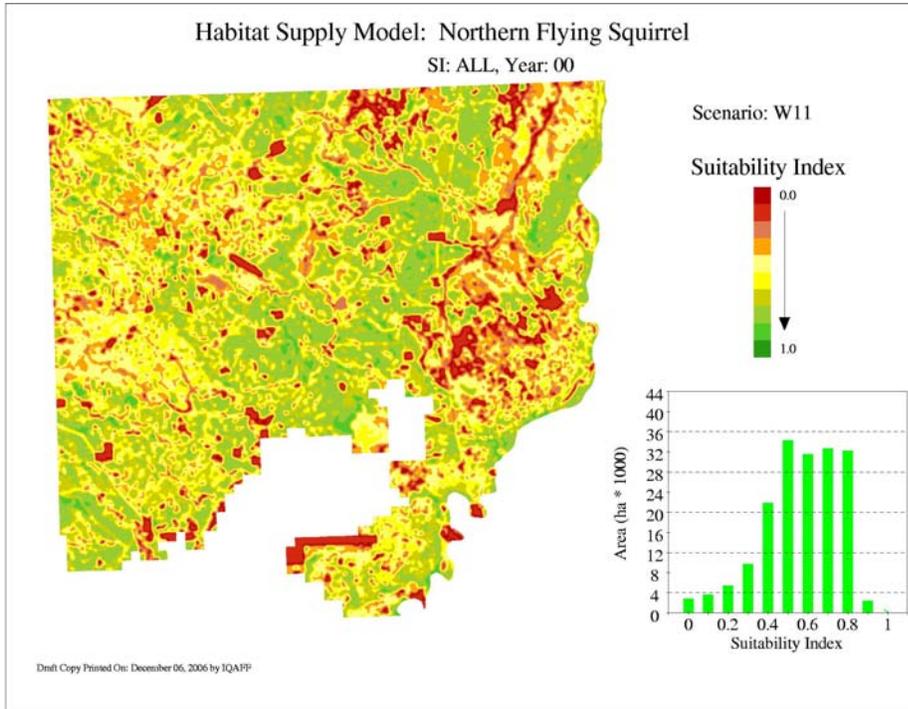
Figure 44, Figure 46 and Figure 48 illustrate the suitability index for the northern flying squirrel HSM "All" for the W13 FMU at the forecasted years 0 (2007), 10 (2017) and 50 (2057) of the 200-year planning horizon, respectively.

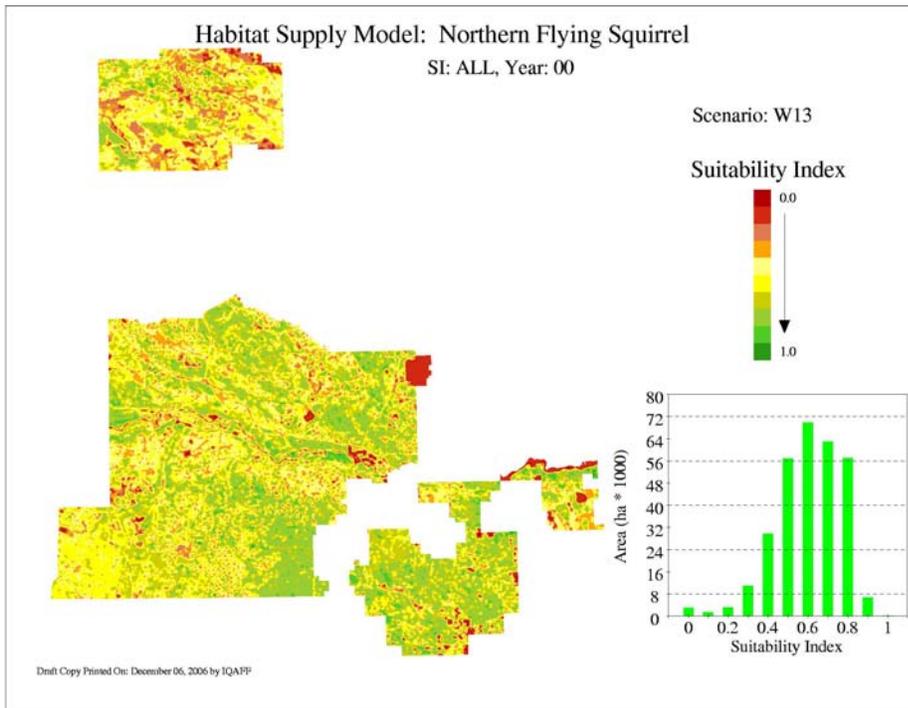**Figure 43. Northern flying squirrel HSM: "All" for year 0 (2007) on the W11 FMU.**

Figure 44. Northern flying squirrel HSM: "All" for year 0 (2007) on the W13 FMU.
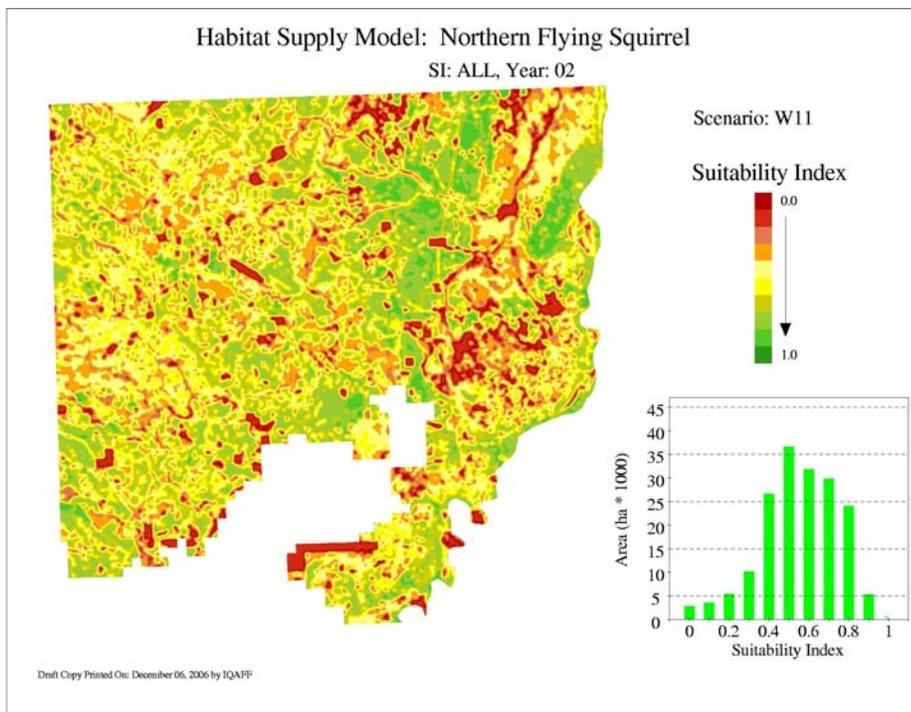
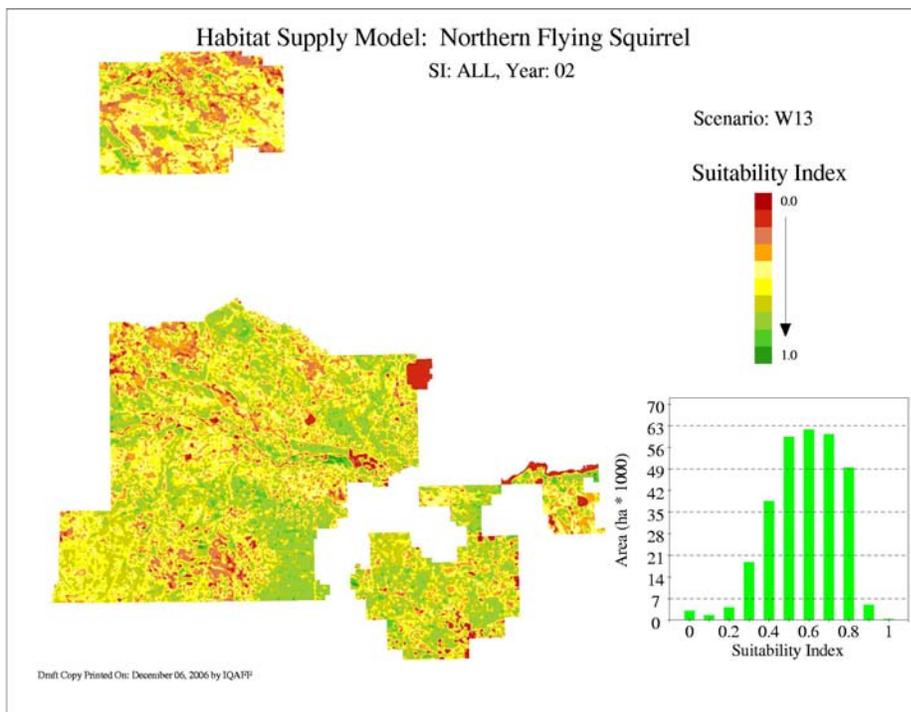**Figure 45. Northern flying squirrel HSM: "All" for year 10 (2017) on the W11 FMU.**

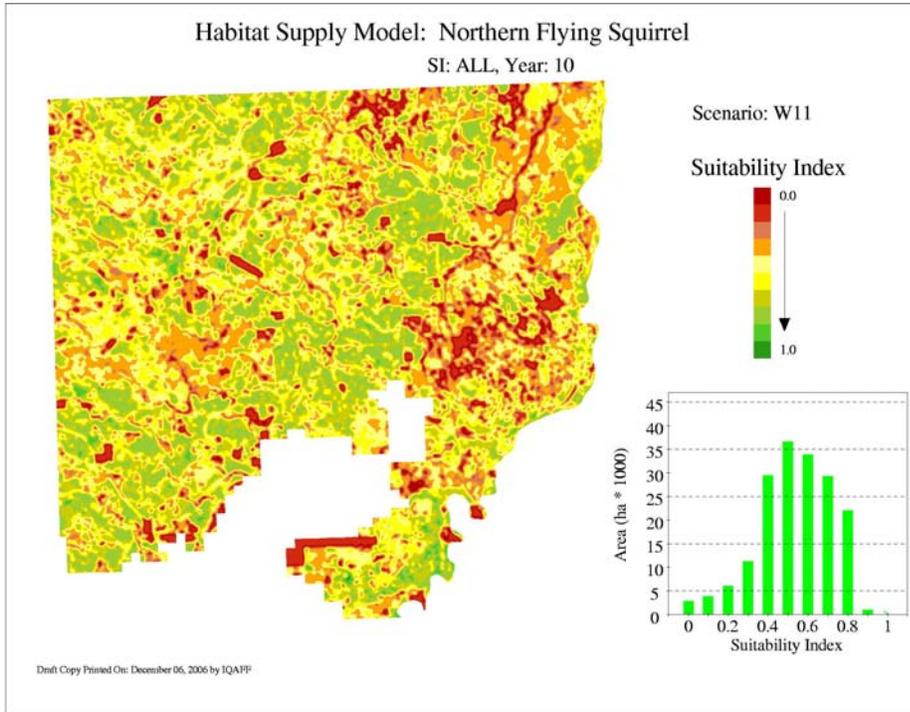**Figure 46. Northern flying squirrel HSM: "All" for year 10 (2017) on the W13 FMU.**

Figure 47. Northern flying squirrel HSM: "All" for year 50 (2057) on the W11 FMU.
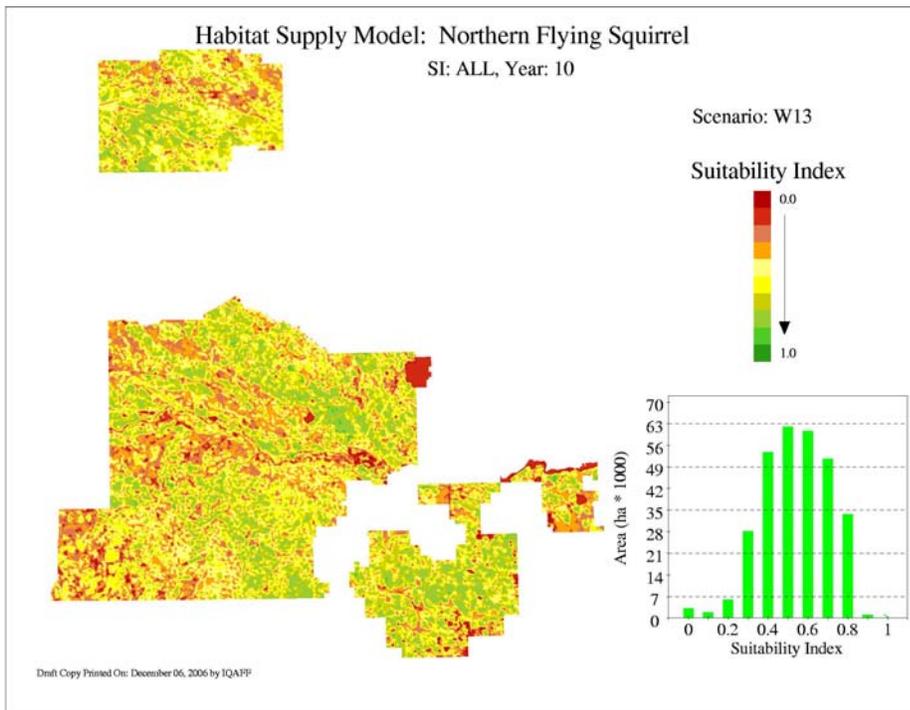

Figure 48. Northern flying squirrel HSM: "All" for year 50 (2057) on the W13 FMU.