

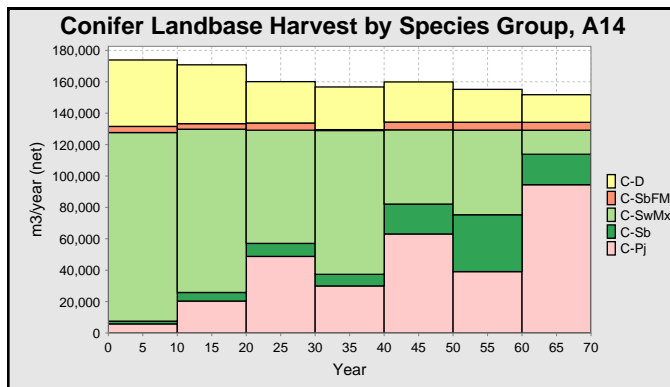
The Alberta-Pacific FMA Area 2015 Timber Supply Analysis
FMU A14 - V1_A14_refinement_v5e



Summary Category	Primary Conifer	Primary Deciduous	Total
Net Harvestable Landbase (ha)	-	-	150,901
2011 Approved AAC (net m3/yr)	174,424	126,923	301,347
Initial LRSY (net m3/yr)	138,726	100,909	239,635
2015 Patchworks AAC (net m3/yr)	129,066	92,027	221,093
Stand Retention Deduction	3.689% Pri only	5% Pri only	
Cull Deduction	2% Pri/Inc	4% Pri/Inc	

The landbase designation for this FMU is based on initial broad cover group assignments of D to deciduous and C/CD/DC to conifer.

Patchworks Conifer Landbase Harvest Summary by Species Group: 70 Year Average



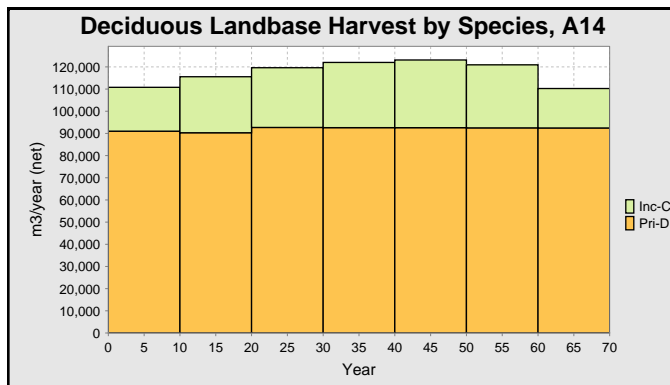
Primary Coniferous Average Harvest		
Species Group		net m3/year
C-SwMx	56%	72,055
C-Sb	11%	13,933
C-Pj	33%	43,079
Total		129,066

Primary SbFM Average Harvest		
Species Group		net m3/yr
C-SbFM	100%	3,937
Total		3,937

Incidental Deciduous Average Harvest		
Species Group		net m3/yr
D	100%	28,192
Total		28,192

Conifer Landbase Harvest 161,196

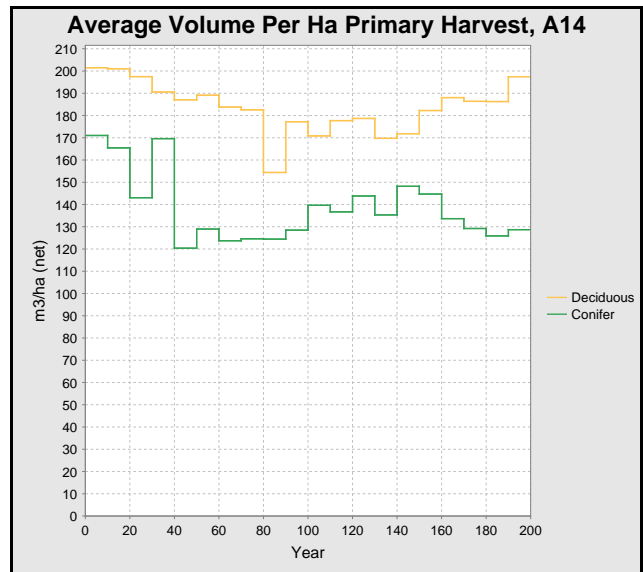
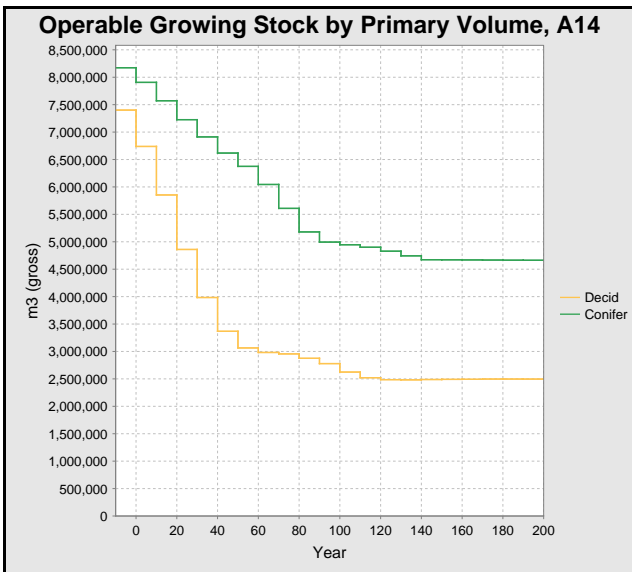
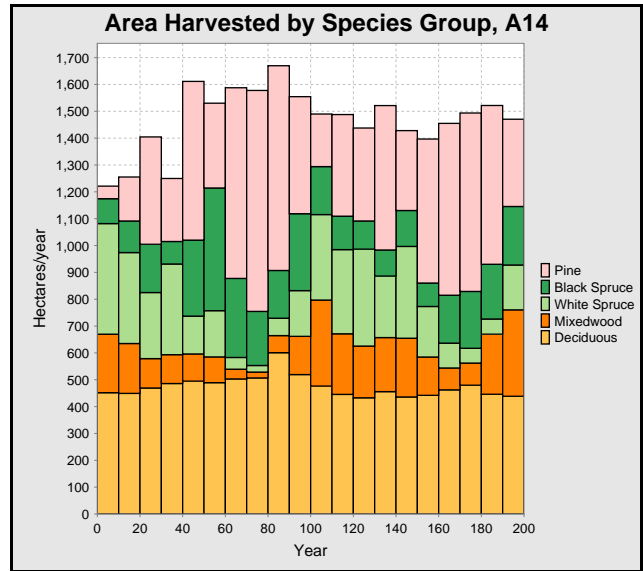
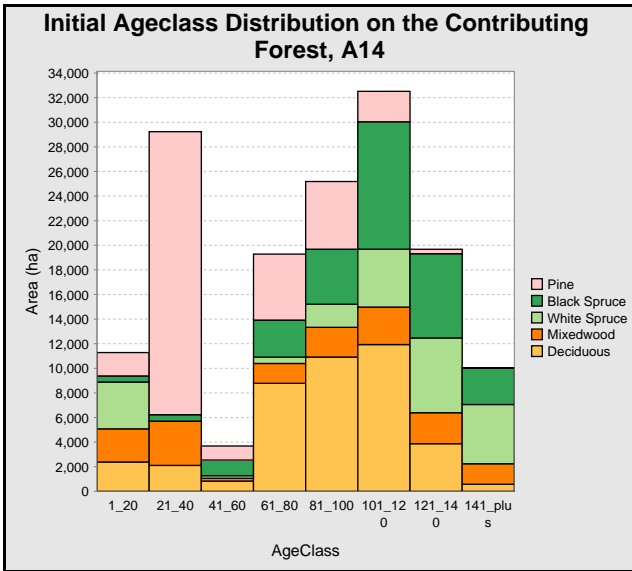
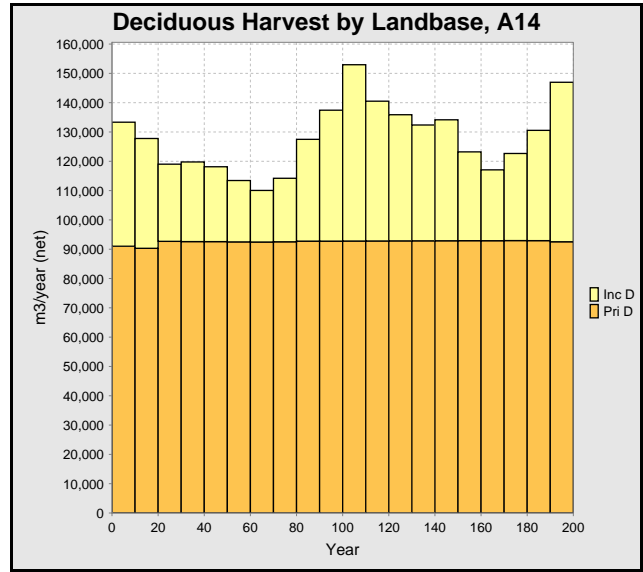
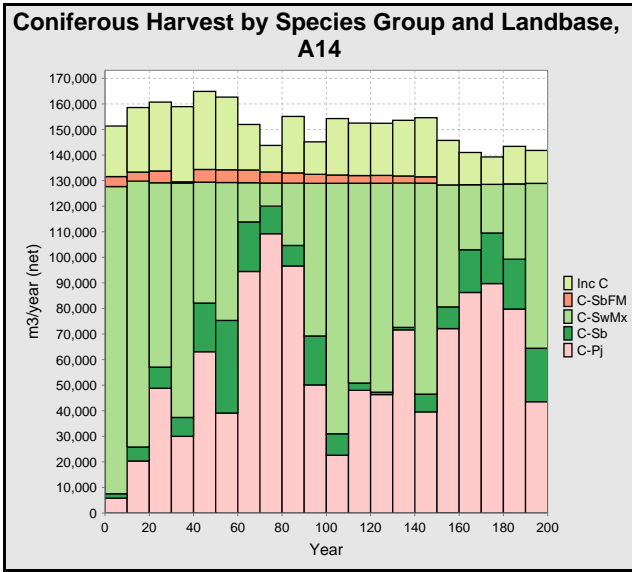
Patchworks Deciduous Landbase Harvest Summary by Species Group: 70-year Average

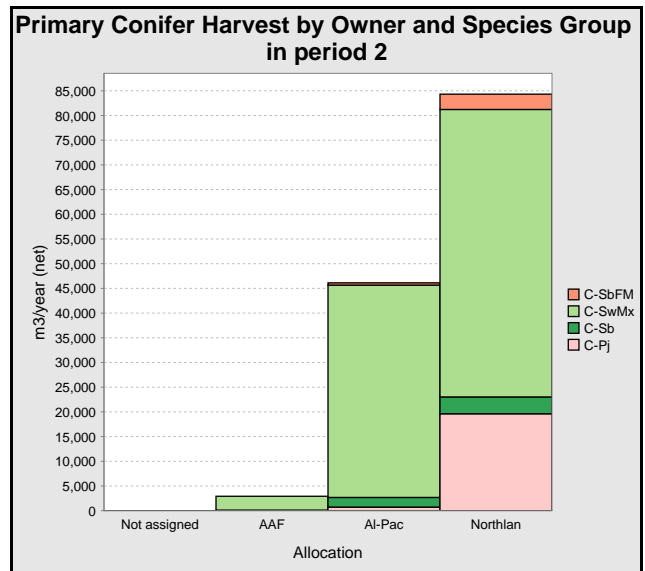
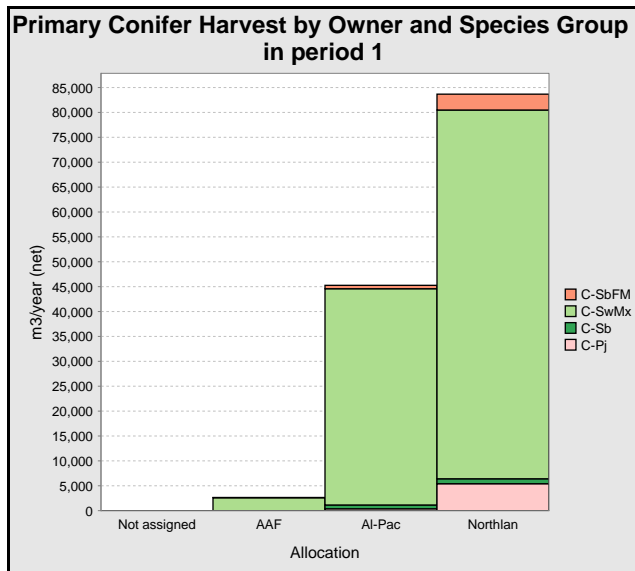
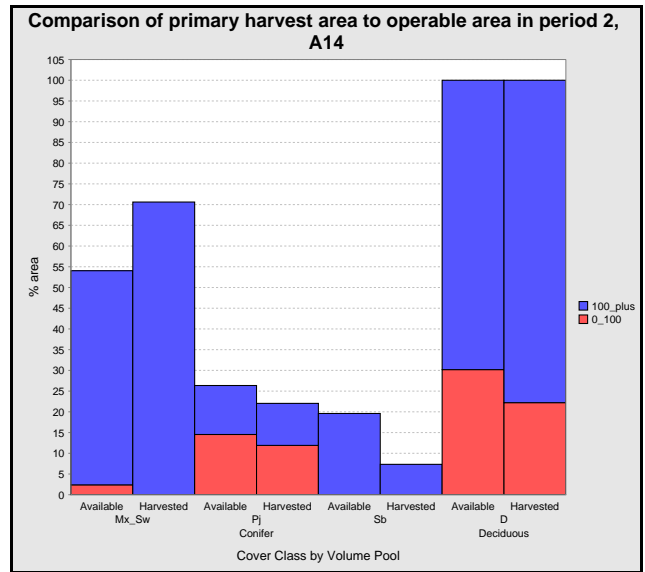
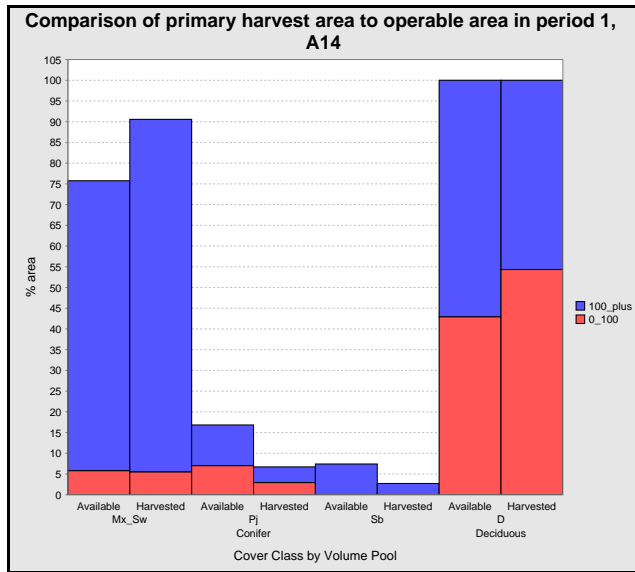


Primary Deciduous Average Harvest		
Species Group		net m3/yr
D	100%	92,027
Total		92,027

Incidental Coniferous Average Harvest		
Species Group		net m3/yr
C	100%	25,441
Total		25,441

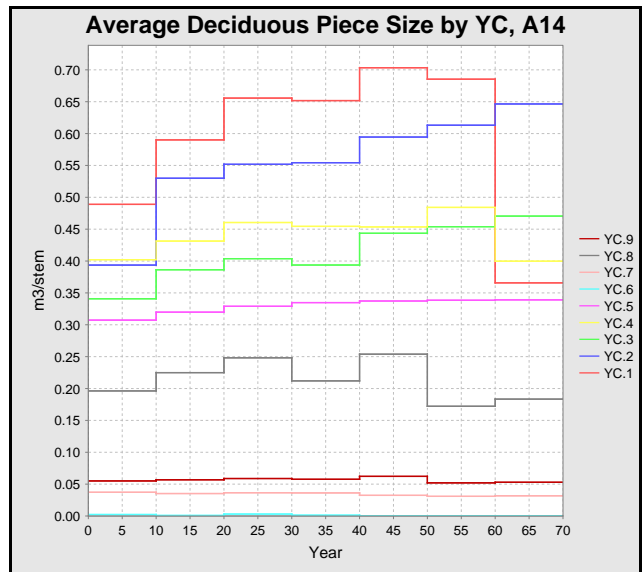
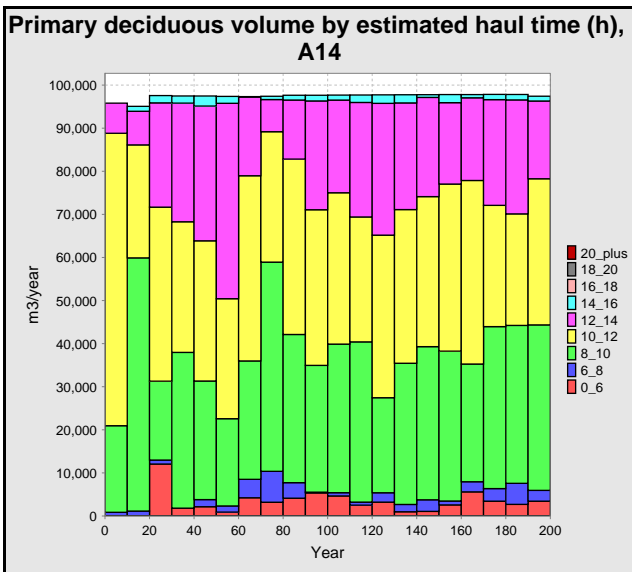
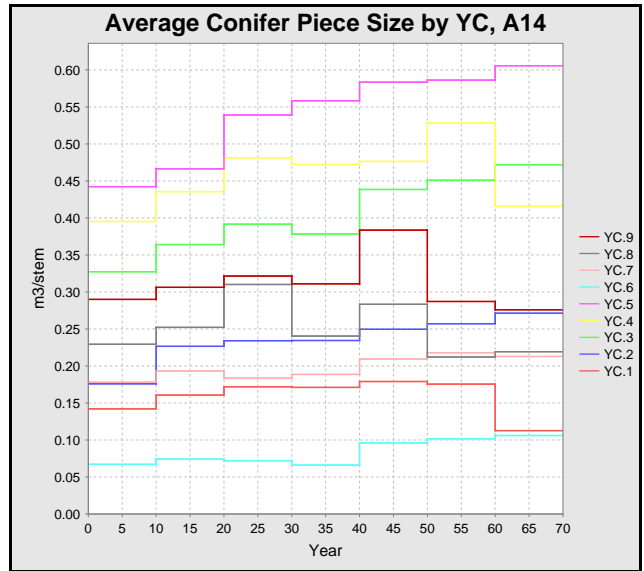
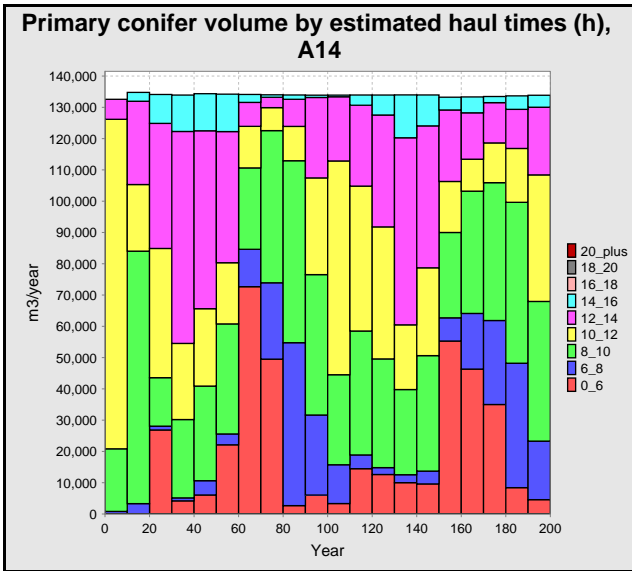
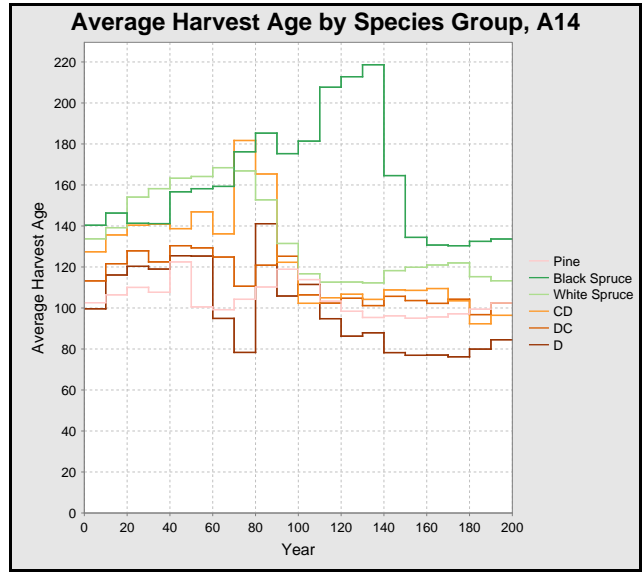
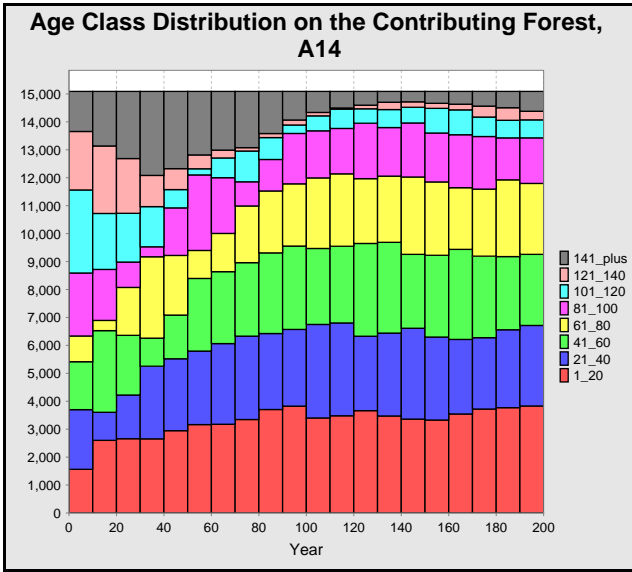
Deciduous Landbase Harvest 117,468





	C-Pj	C-Sb	C-SwMx	C-SbFM	Total
Not assigned	0	0	0	0	0
AAF	0	0	2,609	38	2,647
Al-Pac	381	759	43,447	678	45,265
Northlan	5,416	989	74,079	3,185	83,670

	C-Pj	C-Sb	C-SwMx	C-SbFM	Total
Not assigned	0	0	0	0	0
AAF	0	111	2,802	0	2,913
Al-Pac	721	1,955	42,991	443	46,110
Northlan	19,621	3,404	58,197	3,100	84,321



Strata description report - period 1

Area harvested by yield strata and age (hectares). This is an FMU summary of the digitally submitted file that details these areas by compartment.

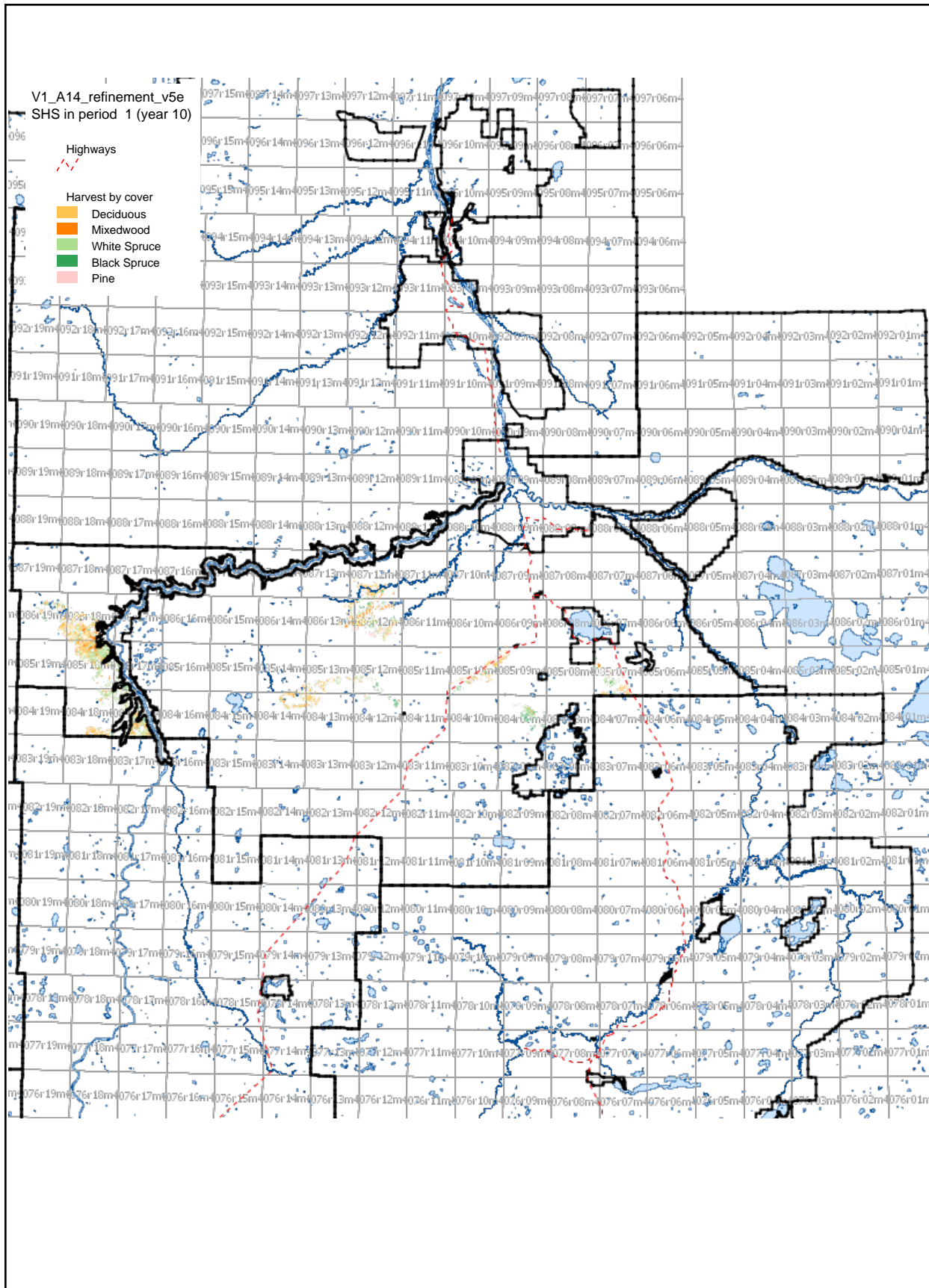
		Age Class										Total
		0_60	60_70	70_80	80_90	90_100	100_110	110_120	120_130	130_140	140_plus	
Strata	Aw-Nat	0	113	120	373	450	289	180	294	27	27	1,873
	AwU-Nat	0	107	339	554	400	1,025	104	81	18	18	2,645
	AwSx-Nat	0	0	0	0	291	195	202	99	39	201	1,028
	SxAw-Nat	0	0	0	13	81	90	72	225	231	440	1,151
	Sw-Nat	0	0	0	0	0	726	541	663	785	1,404	4,121
	SbFM-Nat	0	0	0	0	0	0	0	243	140	356	738
	SbG-Nat	0	0	0	0	0	0	0	120	10	60	189
	PjMx-Nat	0	0	0	0	41	14	0	14	0	0	69
	Pj-Nat	0	0	0	0	164	172	54	9	0	0	398
	Hw-RSA	0	0	0	0	0	0	0	0	0	0	0
	HwSx-RSA	0	0	0	0	0	0	0	0	0	0	0
	SwHw-RSA	0	0	0	0	0	0	0	0	0	0	0
	Sw-RSA	0	0	0	0	0	0	0	0	0	0	0
	SbHw-RSA	0	0	0	0	0	0	0	0	0	0	0
	Sb-RSA	0	0	0	0	0	0	0	0	0	0	0
	HwPI-RSA	0	0	0	0	0	0	0	0	0	0	0
	PIHw-RSA	0	0	0	0	0	0	0	0	0	0	0
	PI-RSA	0	0	0	0	0	0	0	0	0	0	0
	AwSx-Int	0	0	0	0	0	0	0	0	0	0	0
	SxAw-Int	0	0	0	0	0	0	0	0	0	0	0
	Sw-Int	0	0	0	0	0	0	0	0	0	0	0
	AwSw-UP	0	0	0	0	0	0	0	0	0	0	0
	SwAw-UP	0	0	0	0	0	0	0	0	0	0	0
Total	0	220	458	940	1,427	2,512	1,154	1,747	1,249	2,507	12,212	

Strata description report - period 2

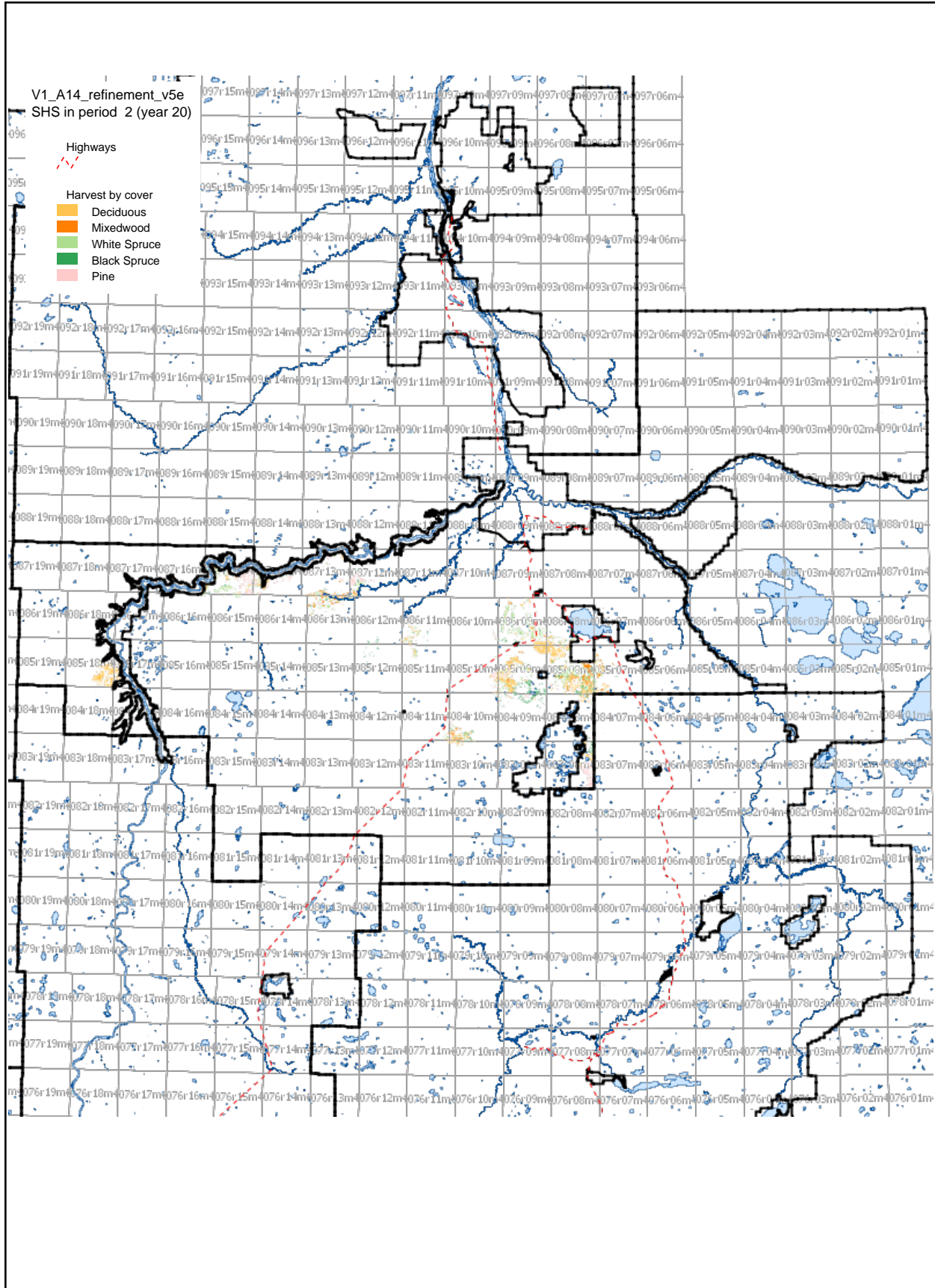
Area harvested by yield strata and age (hectares). This is an FMU summary of the digitally submitted file that details these areas by compartment.

		Age Class										Total
		0_60	60_70	70_80	80_90	90_100	100_110	110_120	120_130	130_140	140_plus	
Strata	Aw-Nat	0	10	16	130	319	312	538	144	213	42	1,723
	AwU-Nat	0	0	15	164	346	294	1,297	329	254	72	2,770
	AwSx-Nat	0	0	0	0	0	0	414	216	253	87	969
	SxAw-Nat	0	0	0	0	0	0	162	94	224	407	887
	Sw-Nat	0	0	0	0	0	0	730	606	823	1,230	3,389
	SbFM-Nat	0	0	0	0	0	0	0	0	304	327	631
	SbG-Nat	0	0	0	0	0	0	0	74	148	323	545
	PjMx-Nat	0	0	0	0	96	44	64	18	12	0	235
	Pj-Nat	0	0	0	0	788	233	224	116	41	0	1,402
	Hw-RSA	0	0	0	0	0	0	0	0	0	0	0
	HwSx-RSA	0	0	0	0	0	0	0	0	0	0	0
	SwHw-RSA	0	0	0	0	0	0	0	0	0	0	0
	Sw-RSA	0	0	0	0	0	0	0	0	0	0	0
	SbHw-RSA	0	0	0	0	0	0	0	0	0	0	0
	Sb-RSA	0	0	0	0	0	0	0	0	0	0	0
	HwPI-RSA	0	0	0	0	0	0	0	0	0	0	0
	PIHw-RSA	0	0	0	0	0	0	0	0	0	0	0
	PI-RSA	0	0	0	0	0	0	0	0	0	0	0
	AwSx-Int	0	0	0	0	0	0	0	0	0	0	0
	SxAw-Int	0	0	0	0	0	0	0	0	0	0	0
	Sw-Int	0	0	0	0	0	0	0	0	0	0	0
	AwSw-UP	0	0	0	0	0	0	0	0	0	0	0
	SwAw-UP	0	0	0	0	0	0	0	0	0	0	0
Total	0	10	31	294	1,548	883	3,430	1,598	2,272	2,487	12,552	

Spatial Harvest Sequence - period 1 (years 1 - 10)

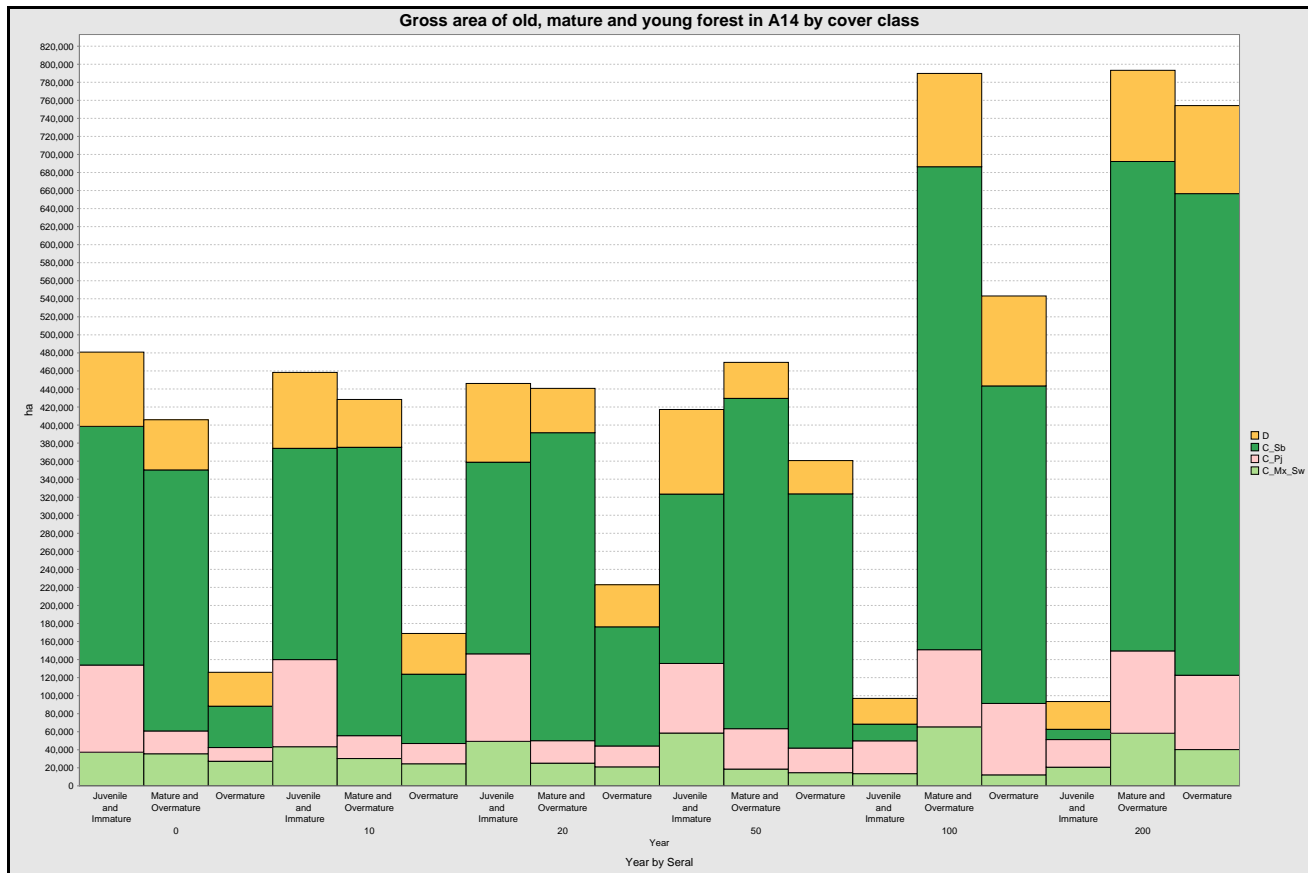


Spatial Harvest Sequence - period 2 (years 11 - 20)



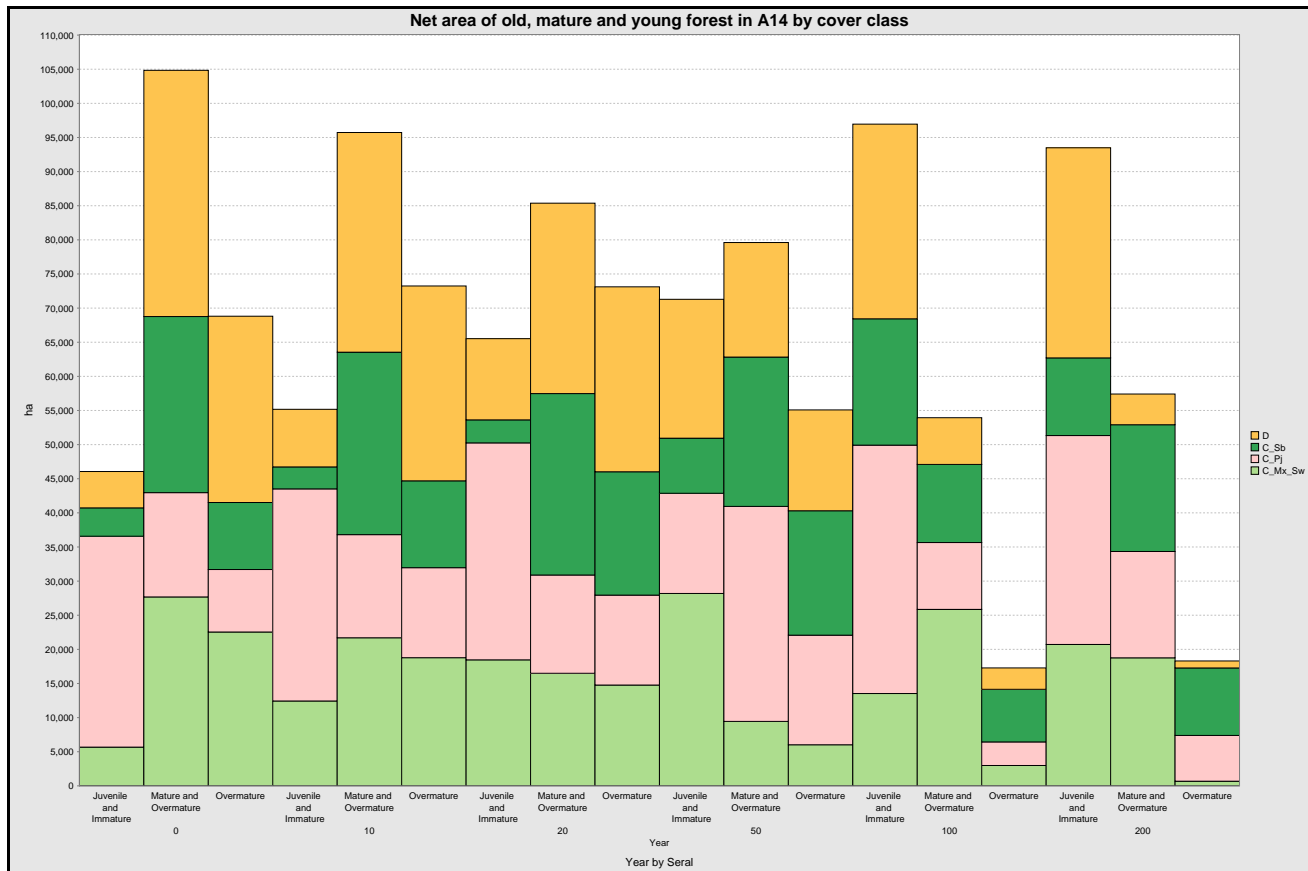
Voit 1.1.1.1 a) Gross area of old, mature and young forest

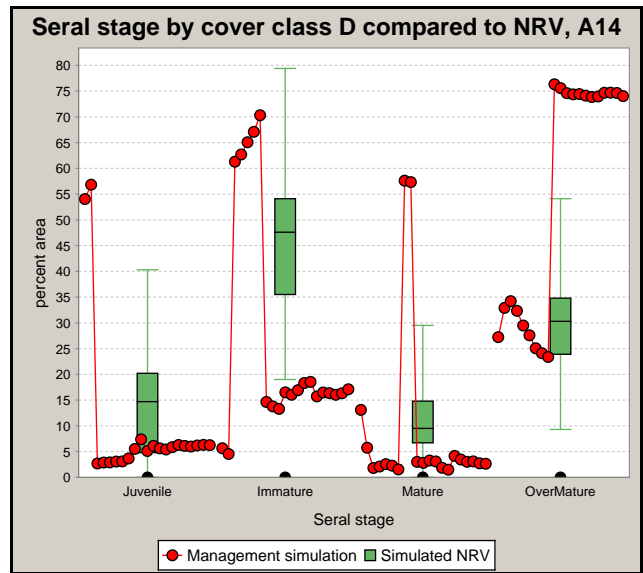
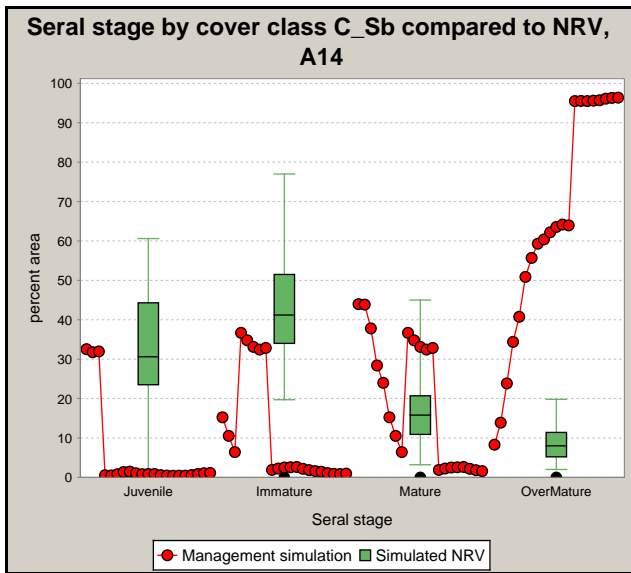
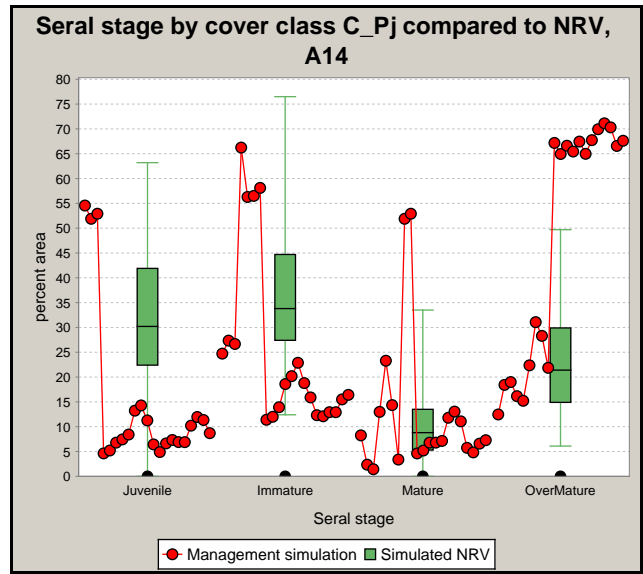
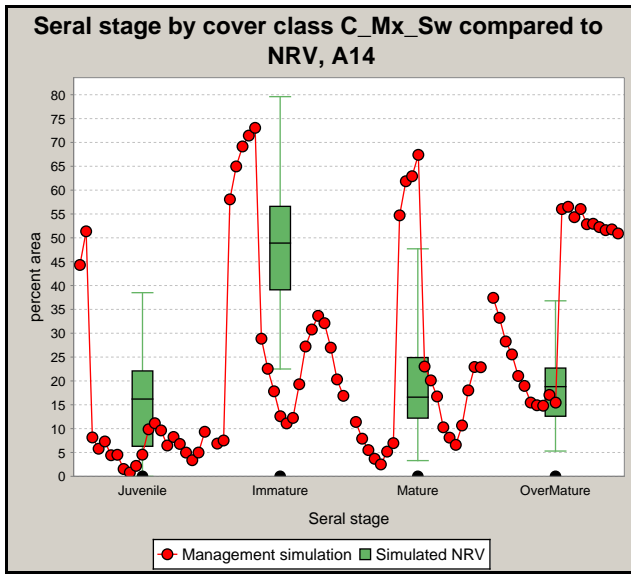
			C_Mx_Sw	C_Pj	C_Sb	D	Total
Year	0	Juvenile and Immature	37,320	96,647	264,571	82,350	480,889
		Mature and Overmature	35,603	25,260	289,397	55,633	405,893
		Overmature	27,289	15,200	45,860	37,565	125,913
	10	Juvenile and Immature	43,391	96,583	234,234	84,182	458,391
		Mature and Overmature	30,310	25,323	319,735	53,024	428,392
		Overmature	24,494	22,463	76,868	45,137	168,962
	20	Juvenile and Immature	49,353	97,013	212,487	87,251	446,104
		Mature and Overmature	25,176	24,894	341,482	49,128	440,679
		Overmature	21,074	23,155	132,085	46,653	222,967
	50	Juvenile and Immature	58,560	77,147	187,771	93,797	417,276
		Mature and Overmature	18,636	44,759	366,197	39,914	469,506
		Overmature	14,635	27,262	281,828	36,879	360,604
	100	Juvenile and Immature	13,532	36,391	18,509	28,525	96,958
		Mature and Overmature	65,423	85,516	535,459	103,426	789,825
		Overmature	12,207	79,174	352,027	99,716	543,124
200	Juvenile and Immature	20,721	30,608	11,378	30,782	93,489	
	Mature and Overmature	58,326	91,298	542,591	101,078	793,293	
	Overmature	40,249	82,426	533,902	97,605	754,182	



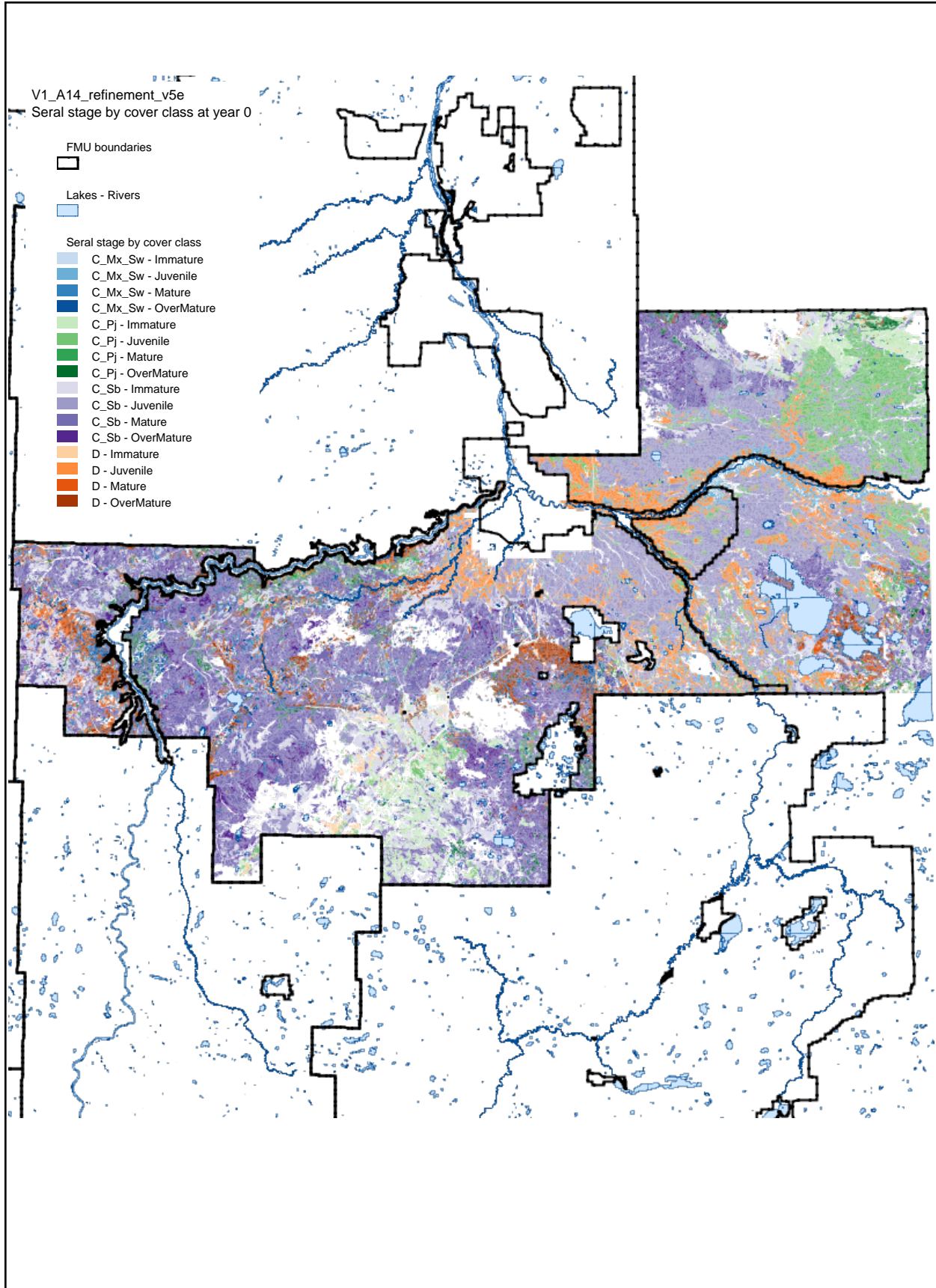
Voit 1.1.1.1 b) Net area of old, mature and young forest

		C_Mx_Sw	C_Pj	C_Sb	D	Total	
Year	0	Juvenile and Immature	5,676	30,904	4,150	5,329	46,059
		Mature and Overmature	27,682	15,281	25,803	36,075	104,842
		Overmature	22,544	9,153	9,818	27,297	68,813
	10	Juvenile and Immature	12,437	31,075	3,220	8,441	55,174
		Mature and Overmature	21,699	15,110	26,733	32,185	95,727
		Overmature	18,781	13,188	12,724	28,549	73,242
	20	Juvenile and Immature	18,467	31,788	3,370	11,900	65,524
		Mature and Overmature	16,498	14,398	26,583	27,899	85,377
		Overmature	14,773	13,176	18,073	27,094	73,117
	50	Juvenile and Immature	28,189	14,680	8,074	20,349	71,291
		Mature and Overmature	9,442	31,506	21,880	16,782	79,610
		Overmature	6,025	16,053	18,233	14,771	55,083
	100	Juvenile and Immature	13,532	36,391	18,509	28,525	96,958
		Mature and Overmature	25,859	9,794	11,444	6,846	53,943
		Overmature	2,986	3,452	7,709	3,136	17,283
	200	Juvenile and Immature	20,721	30,608	11,378	30,782	93,489
		Mature and Overmature	18,761	15,577	18,575	4,498	57,412
		Overmature	684	6,705	9,887	1,025	18,301

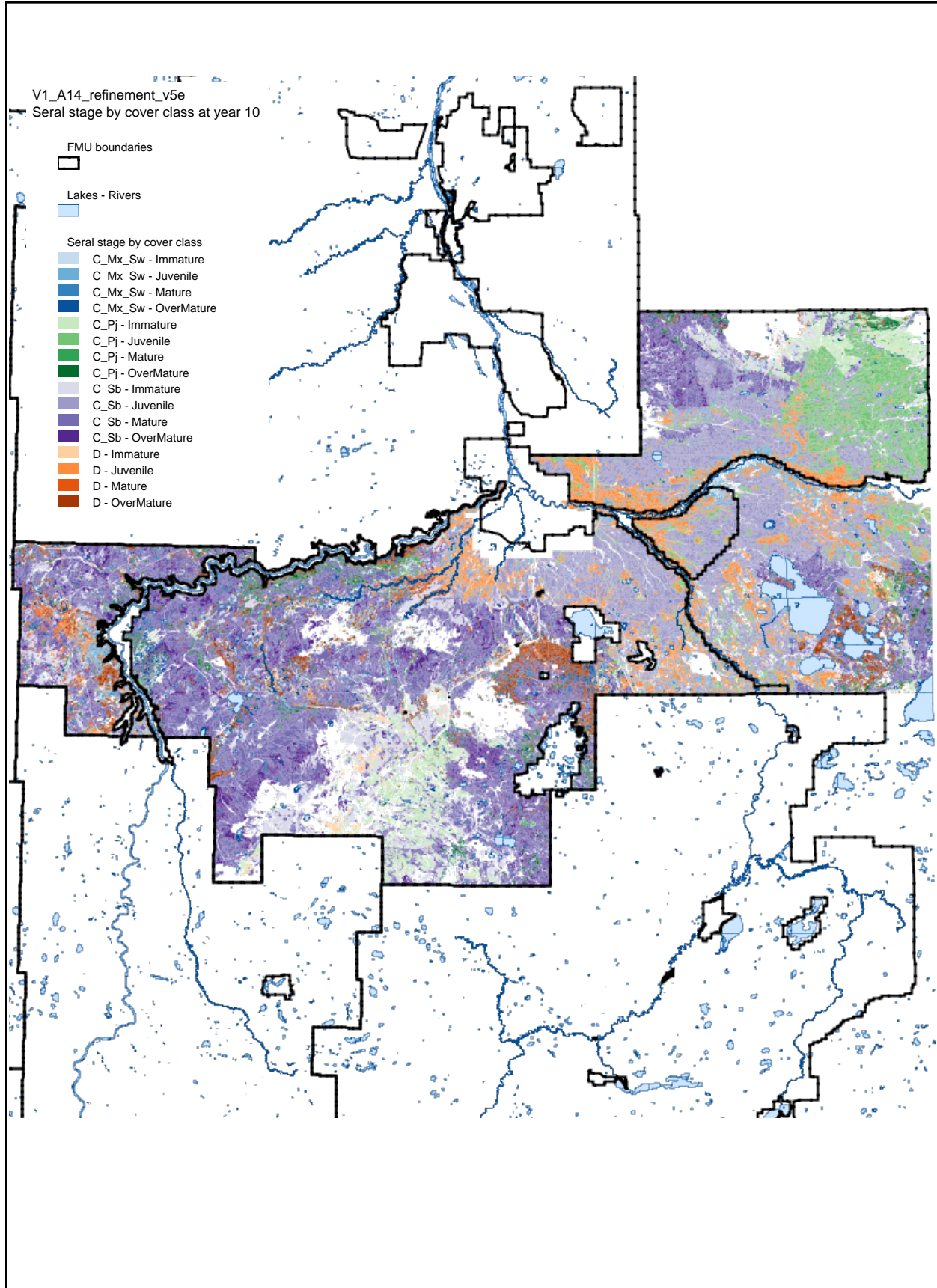




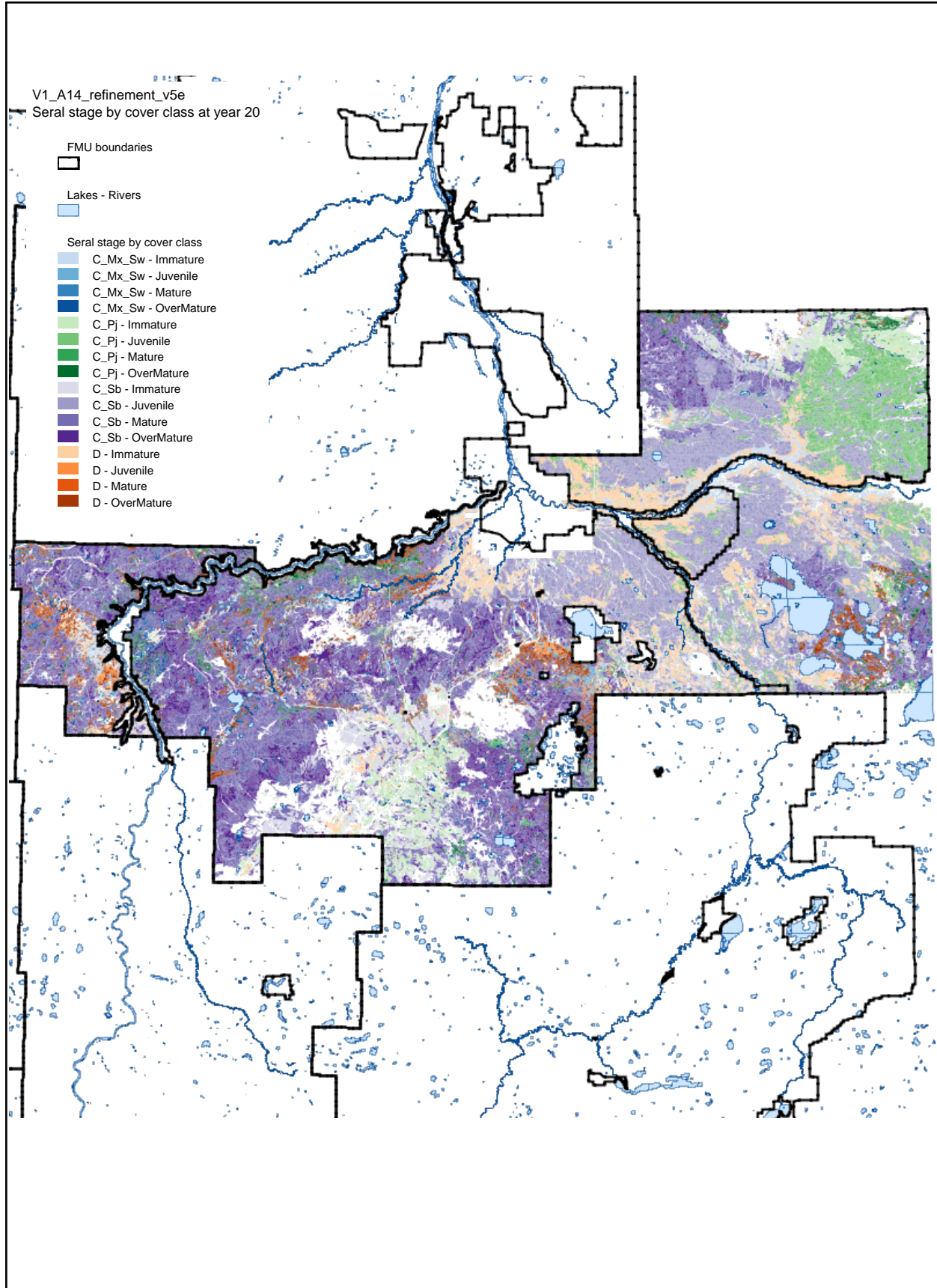
Voit 1.1.1.1 Seral stage by cover class - period 0



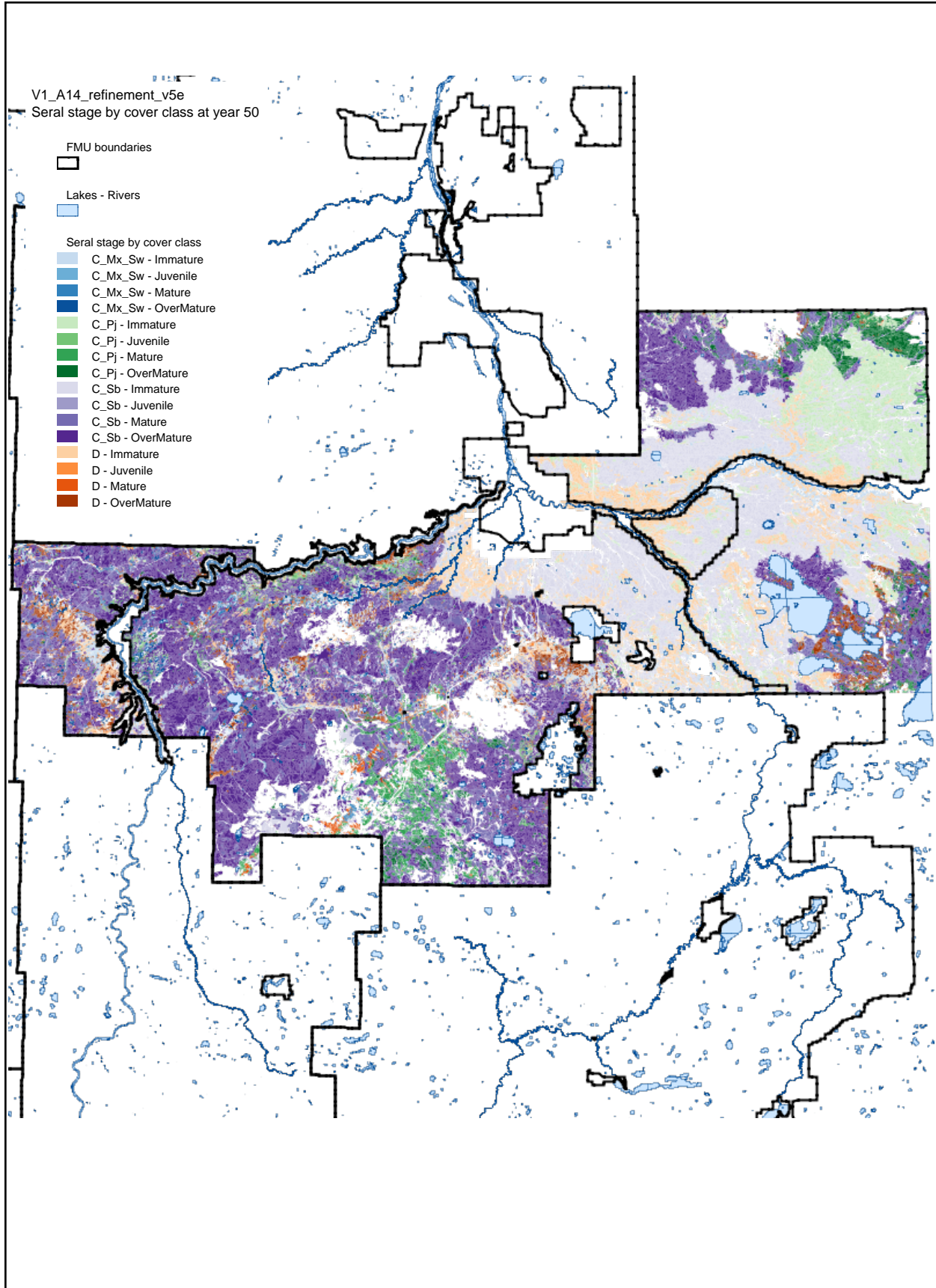
Voit 1.1.1.1 Seral stage by cover class - period 1



Voit 1.1.1.1 Seral stage by cover class - period 2



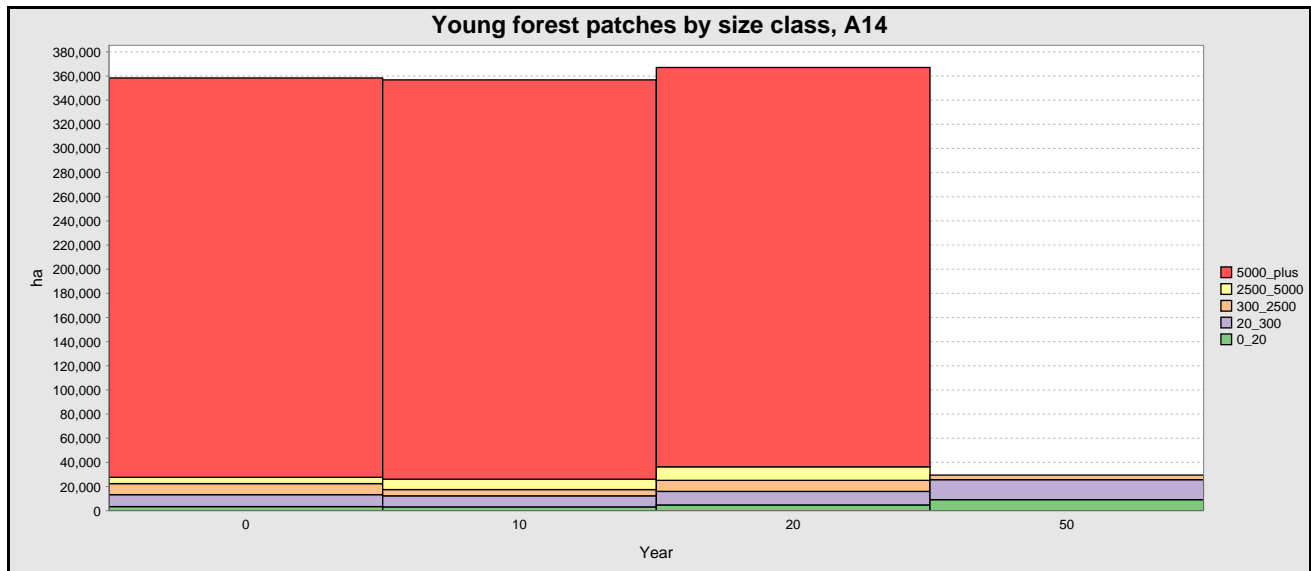
Voit 1.1.1.1 Seral stage by cover class - period 5



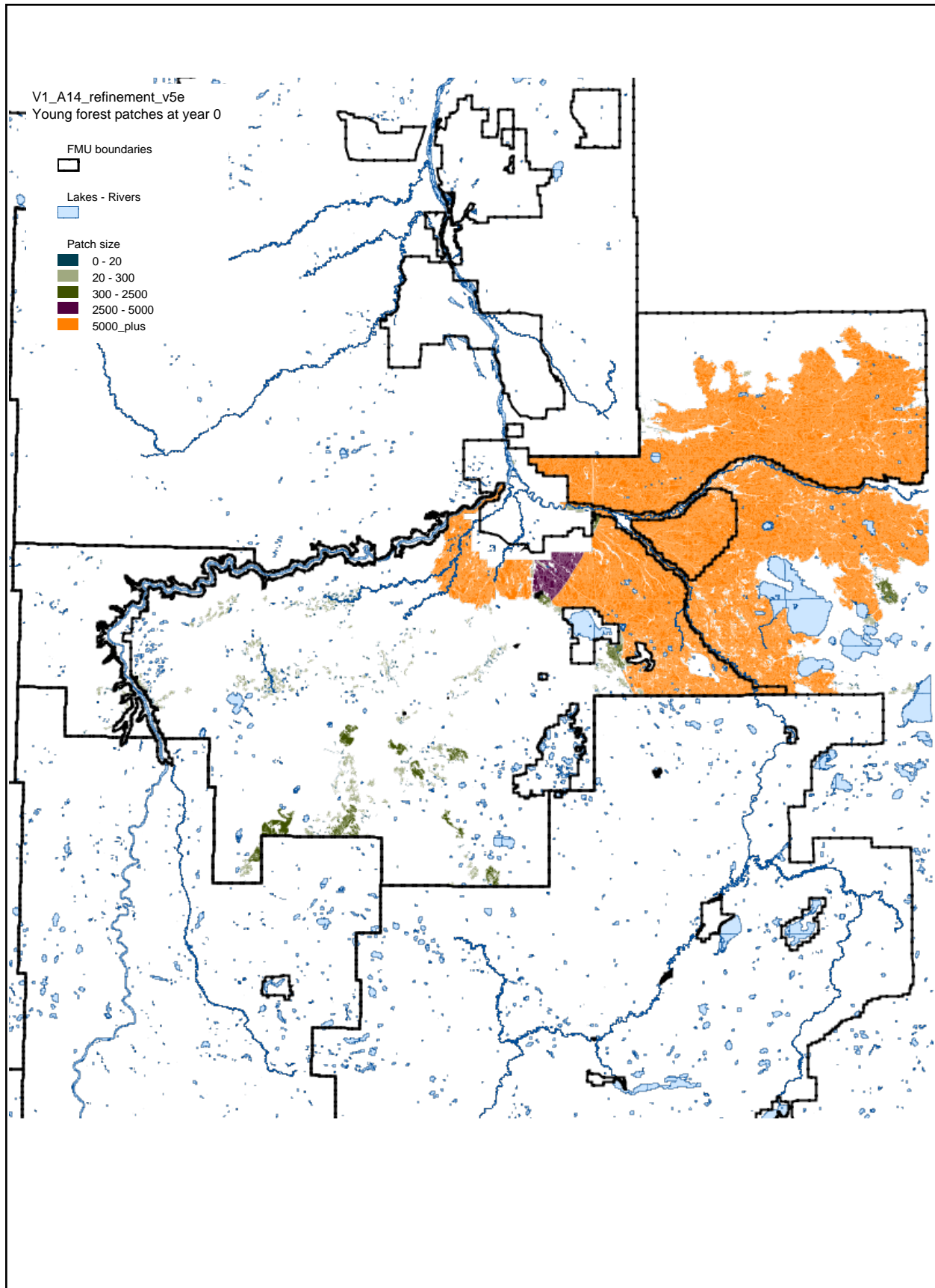
Voit 1.1.1.2a - Young Forest Patches

The following table shows the area (in hectares) and frequency (count) of the young forest patches by size class

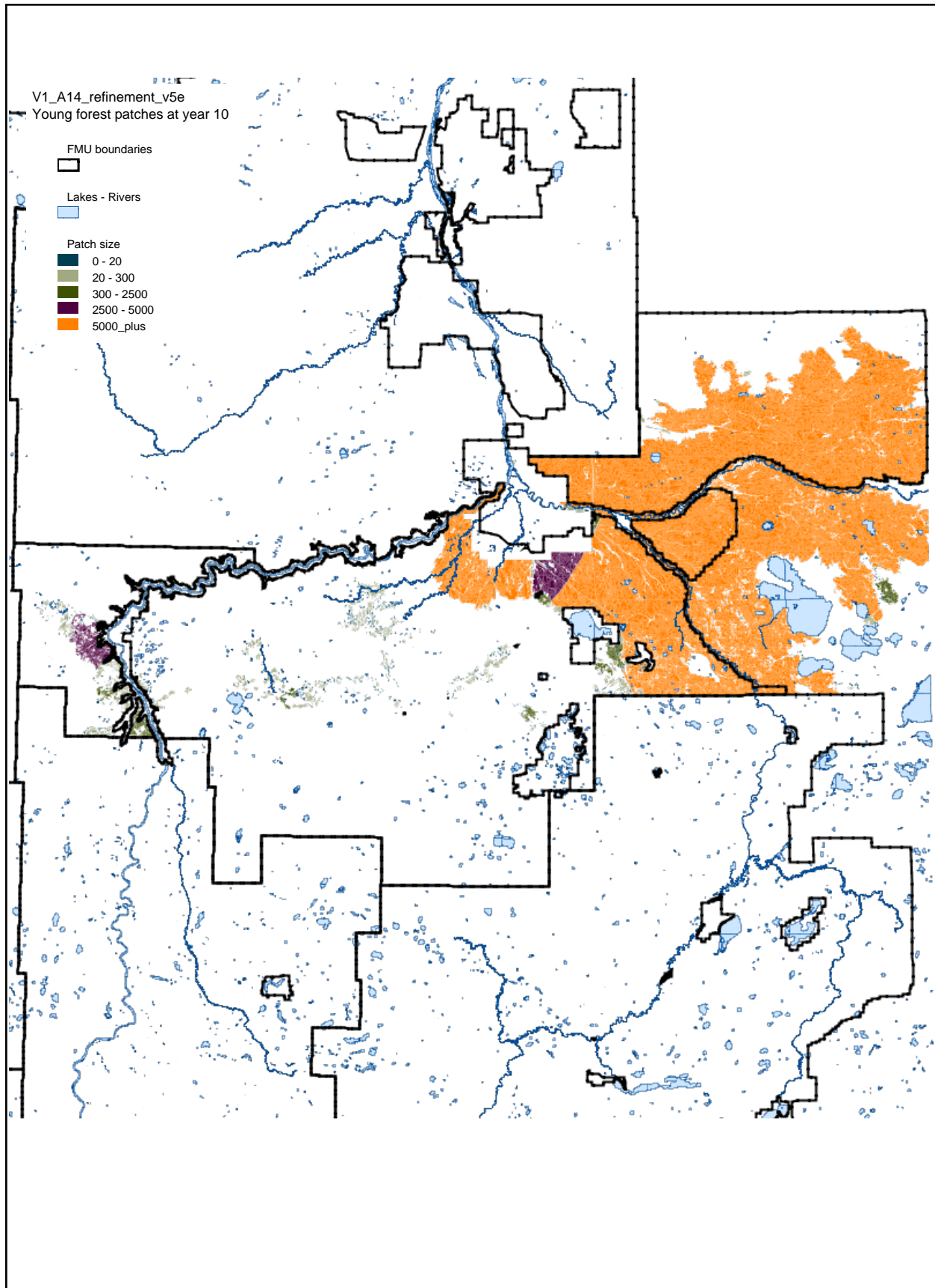
PERIOD	YEAR	Area						Frequency					
		0_20	20_300	300_2500	2500_5000	5000_plus	Total	0_20	20_300	300_2500	2500_5000	5000_plus	Total
0	0	3,385	9,882	9,158	5,213	330,777	358,414	668	172	15	2	4	861
1	10	3,131	9,172	5,161	8,617	330,738	356,819	723	151	11	3	4	892
2	20	4,746	11,205	9,172	11,218	330,728	367,069	1084	183	15	4	4	1290
5	50	9,131	16,559	3,769	0	0	29,459	1991	320	6	0	0	2317



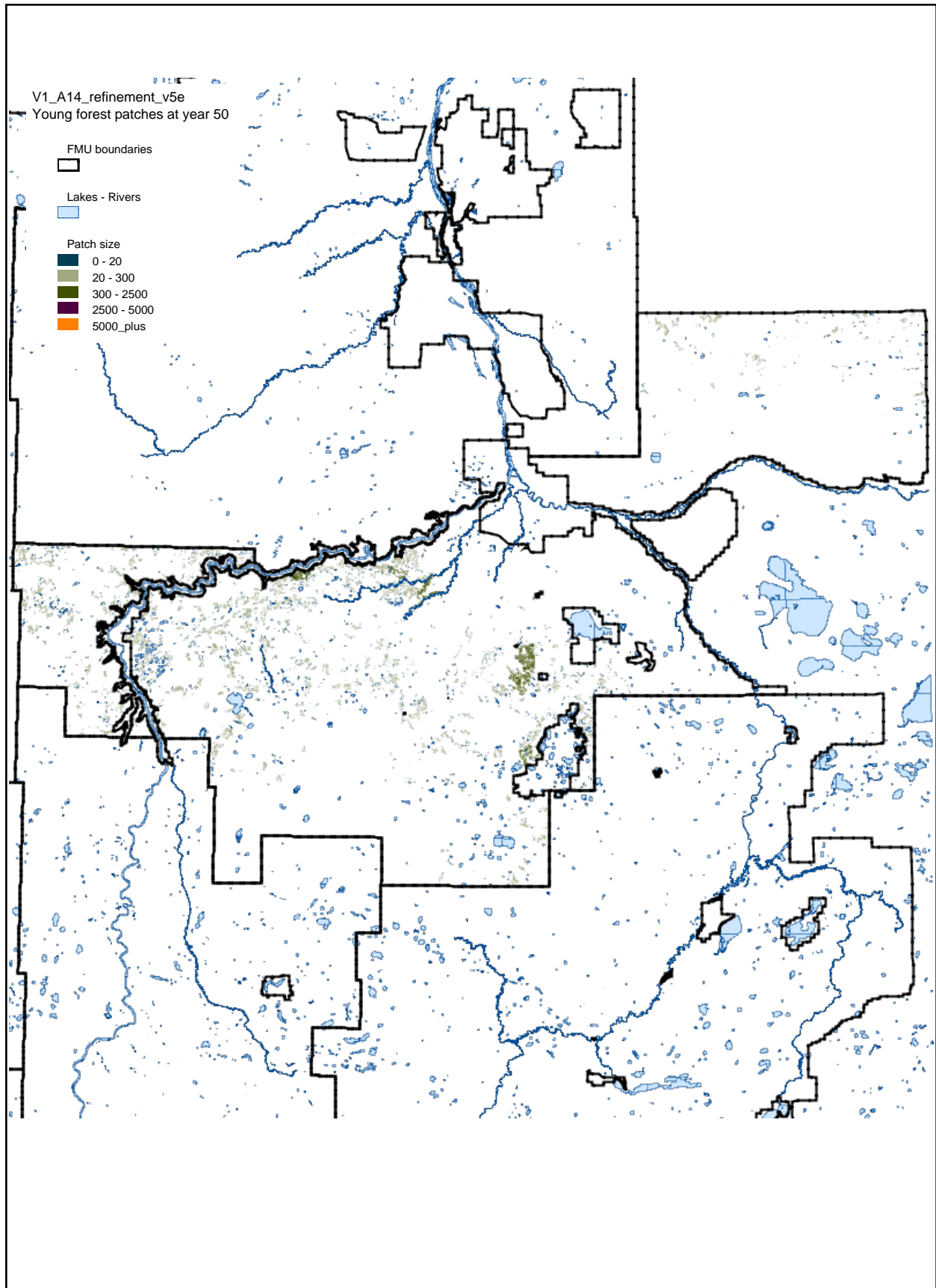
Voit 1.1.1.2a - Young Forest Patches - period 0



Voit 1.1.1.2a - Young Forest Patches - period 1



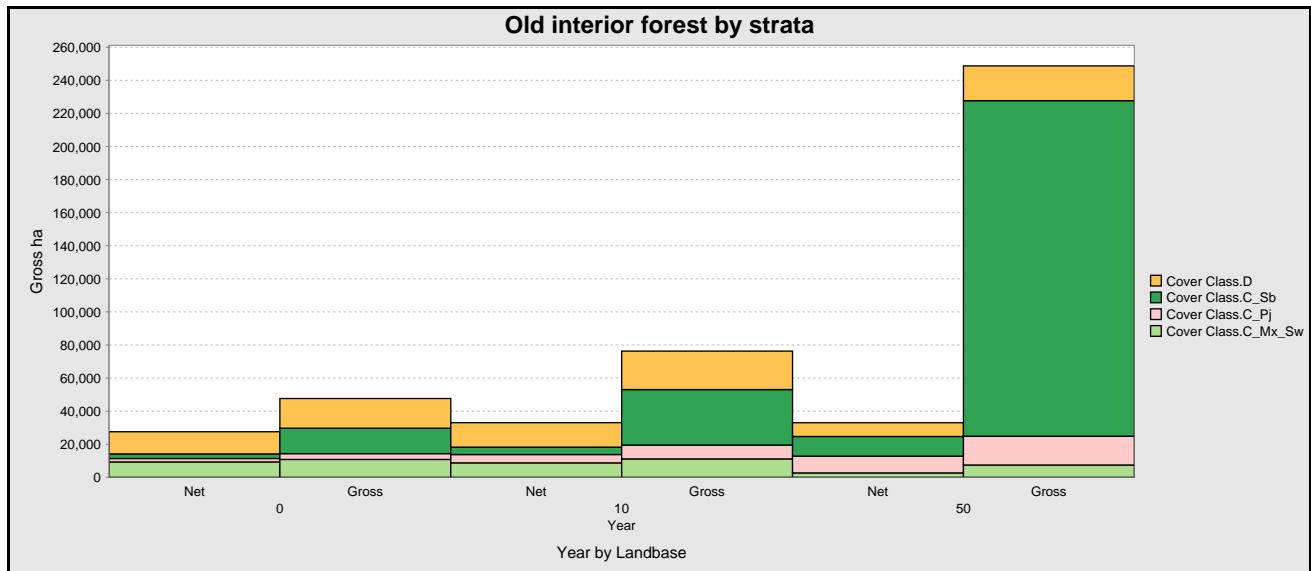
Voit 1.1.1.2a - Young Forest Patches - period 5



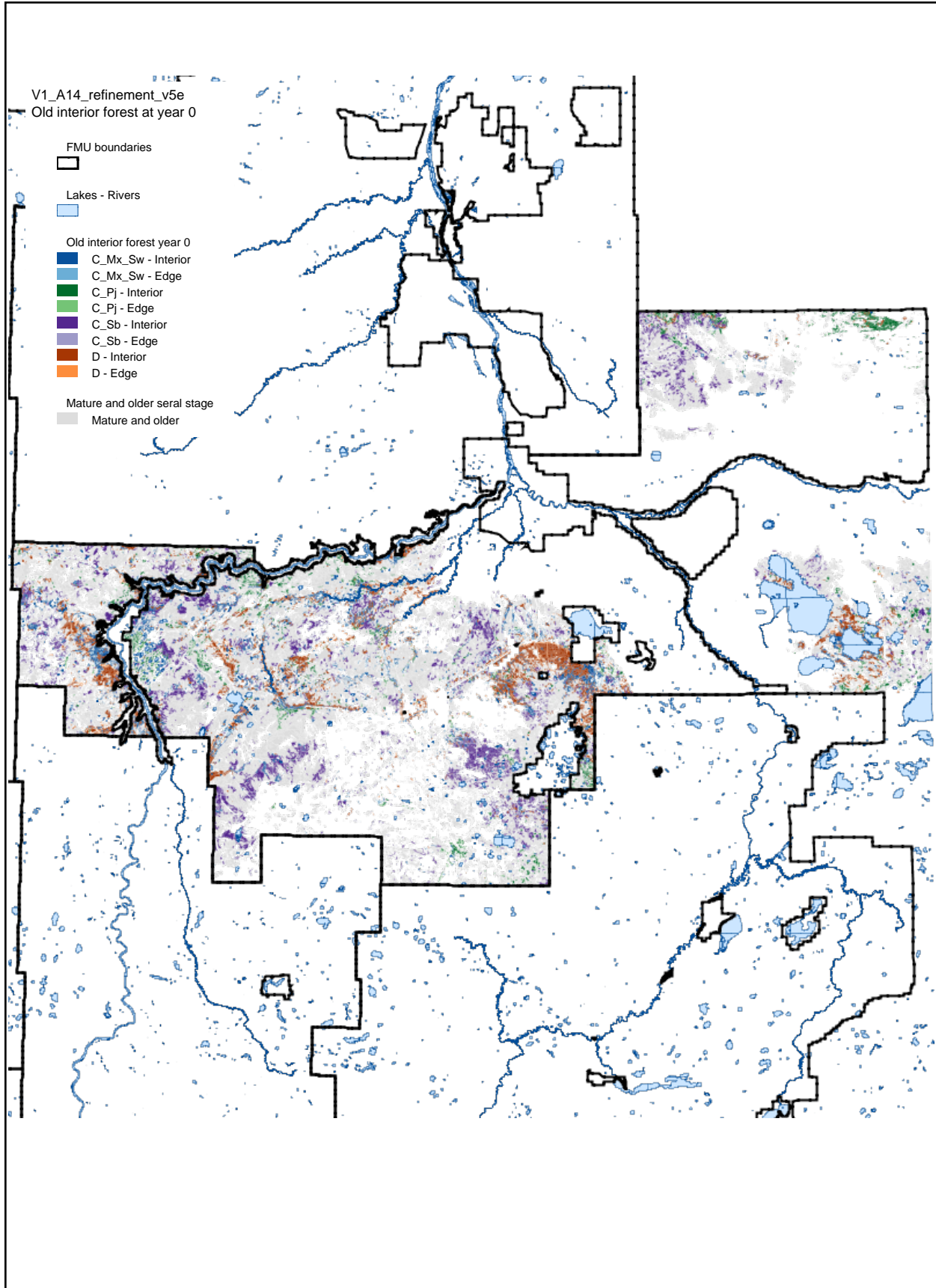
Voit 1.1.1.2b - Interior Core Summary

Area in hectares of old interior cores larger than 100 hectares

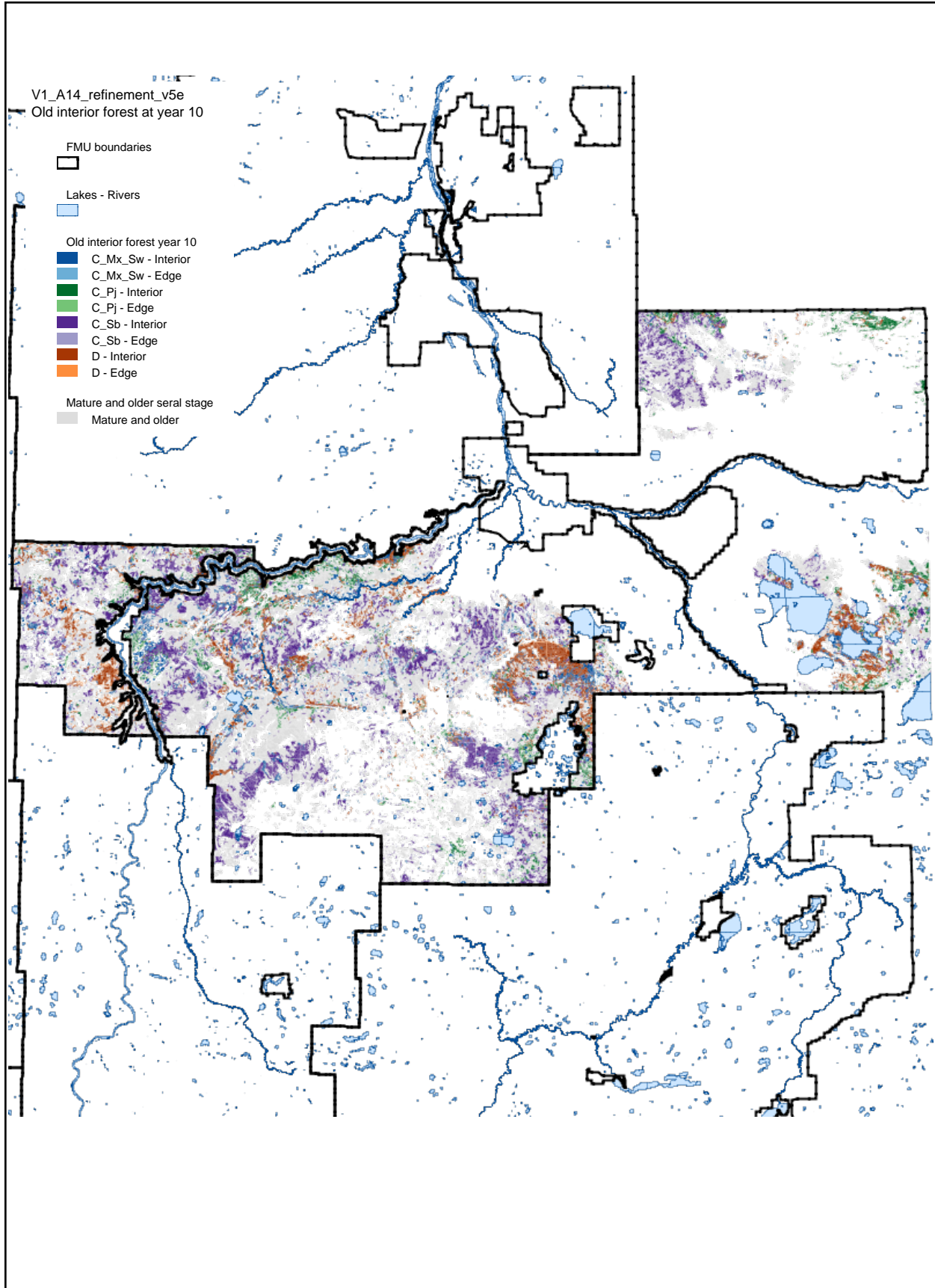
			Cover Class				Total
			C_Mx_Sw	C_Pj	C_Sb	D	
Year	0	Net	9,338	2,045	2,787	13,387	27,557
		Gross	10,809	3,528	15,354	17,962	47,654
	10	Net	8,755	5,027	4,463	14,780	33,025
		Gross	11,138	8,371	33,566	23,246	76,321
	50	Net	2,674	10,137	11,885	8,312	33,007
		Gross	7,453	17,429	202,838	20,999	248,718



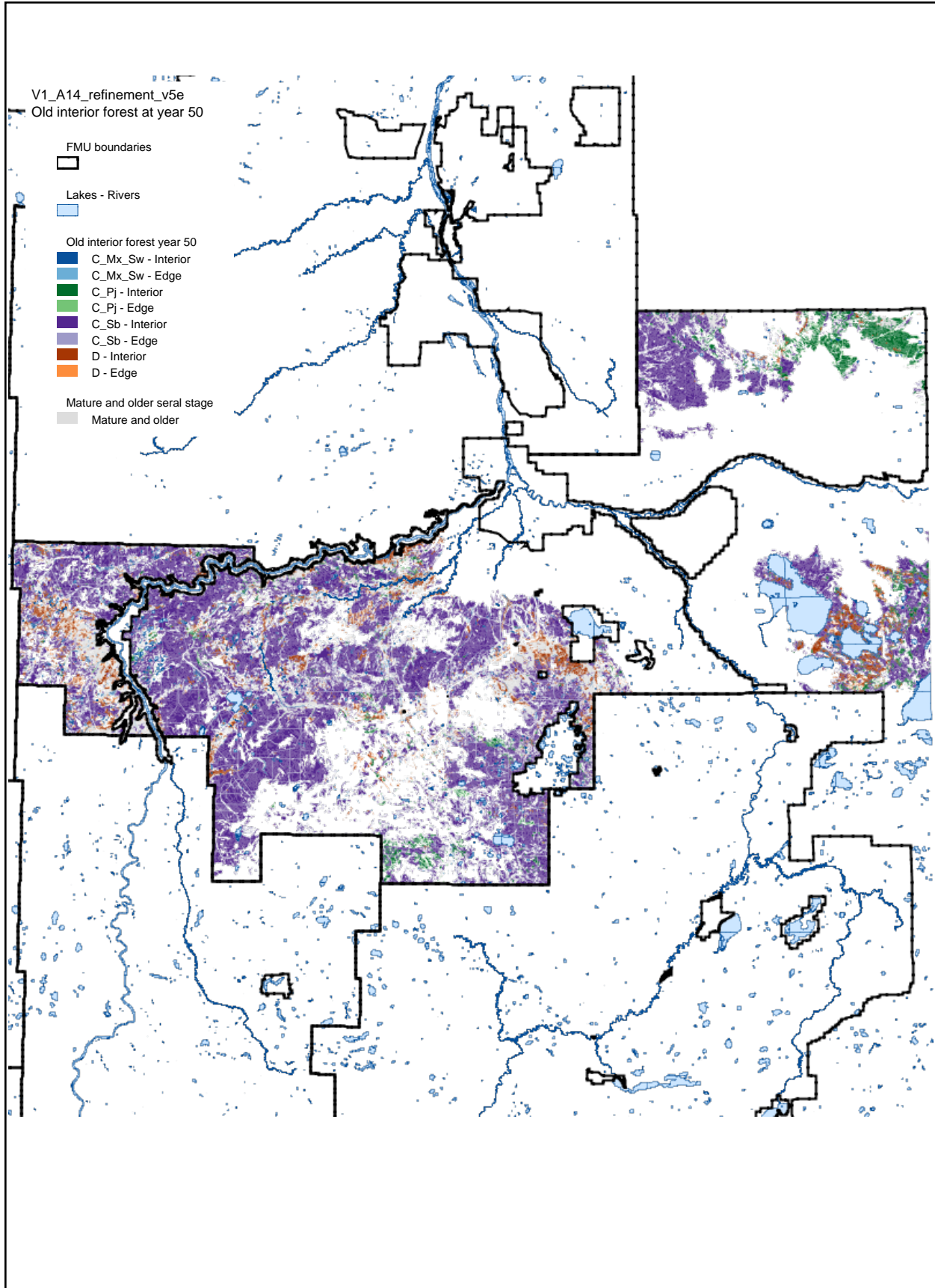
Voit 1.1.1.2b - Old interior core - period 0



Voit 1.1.1.2b - Old interior core - period 1



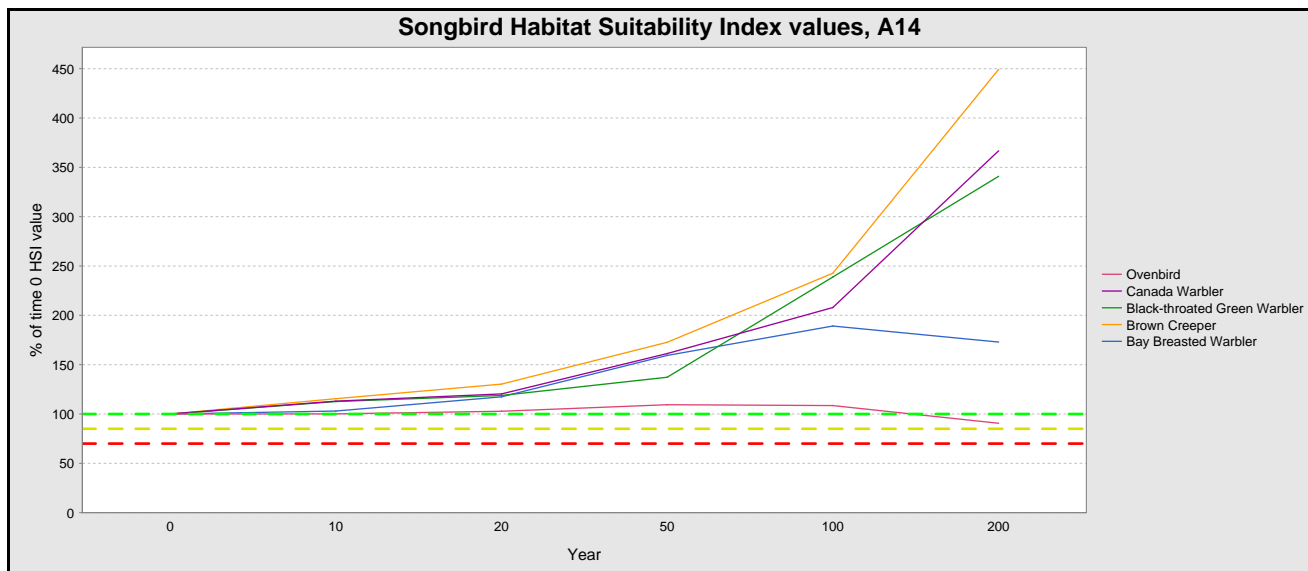
Voit 1.1.1.2b - Old interior core - period 5



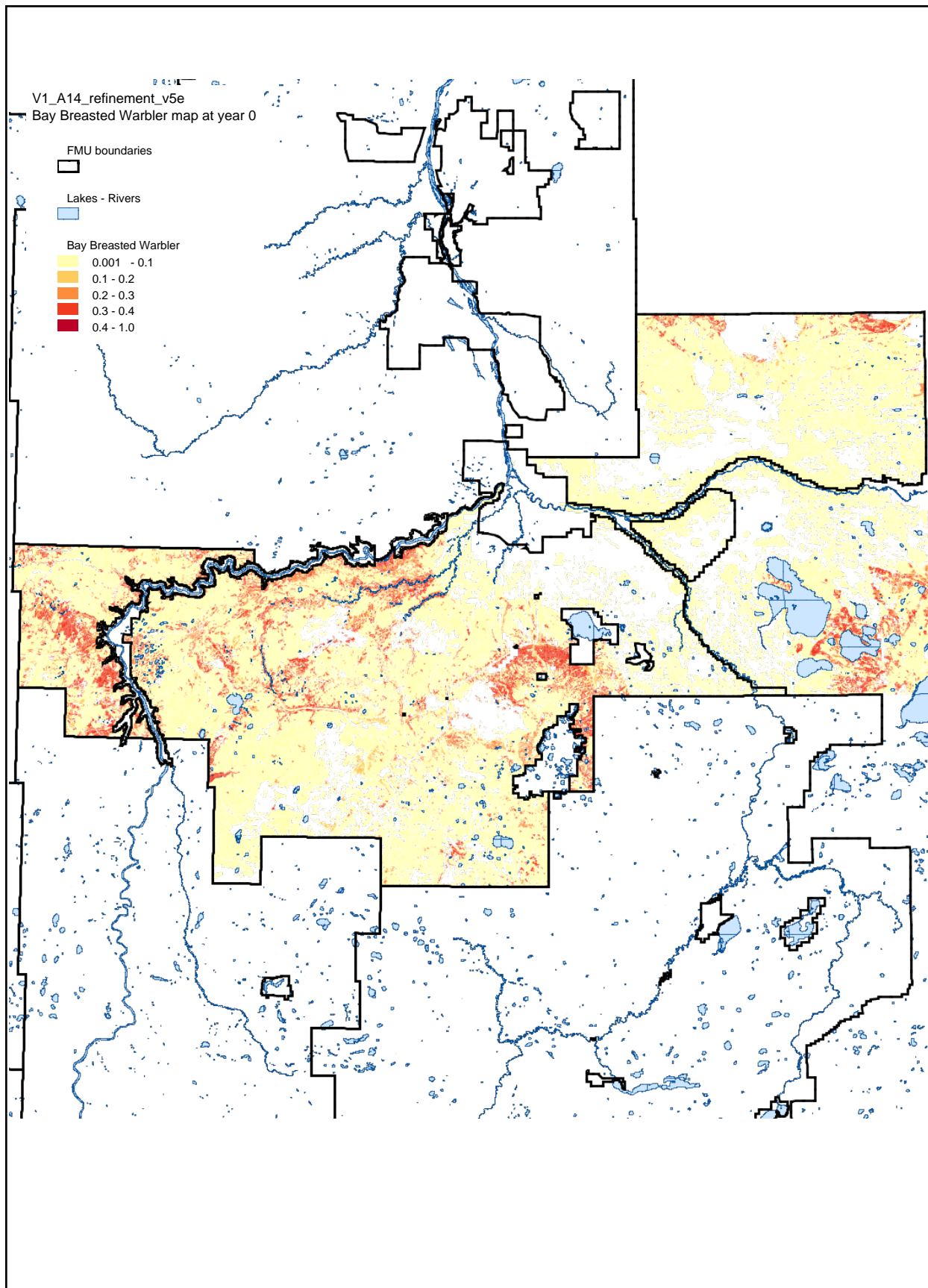
Songbird Habitat Suitability Index values

This table shows the songbird Habitat Suitability Index values as a percentage of levels that occurred at time zero. The line chart shows change relative to the time zero values. The dashed yellow reference line is 15% below the time zero value. The dashed red reference line is 30% below the time zero value.

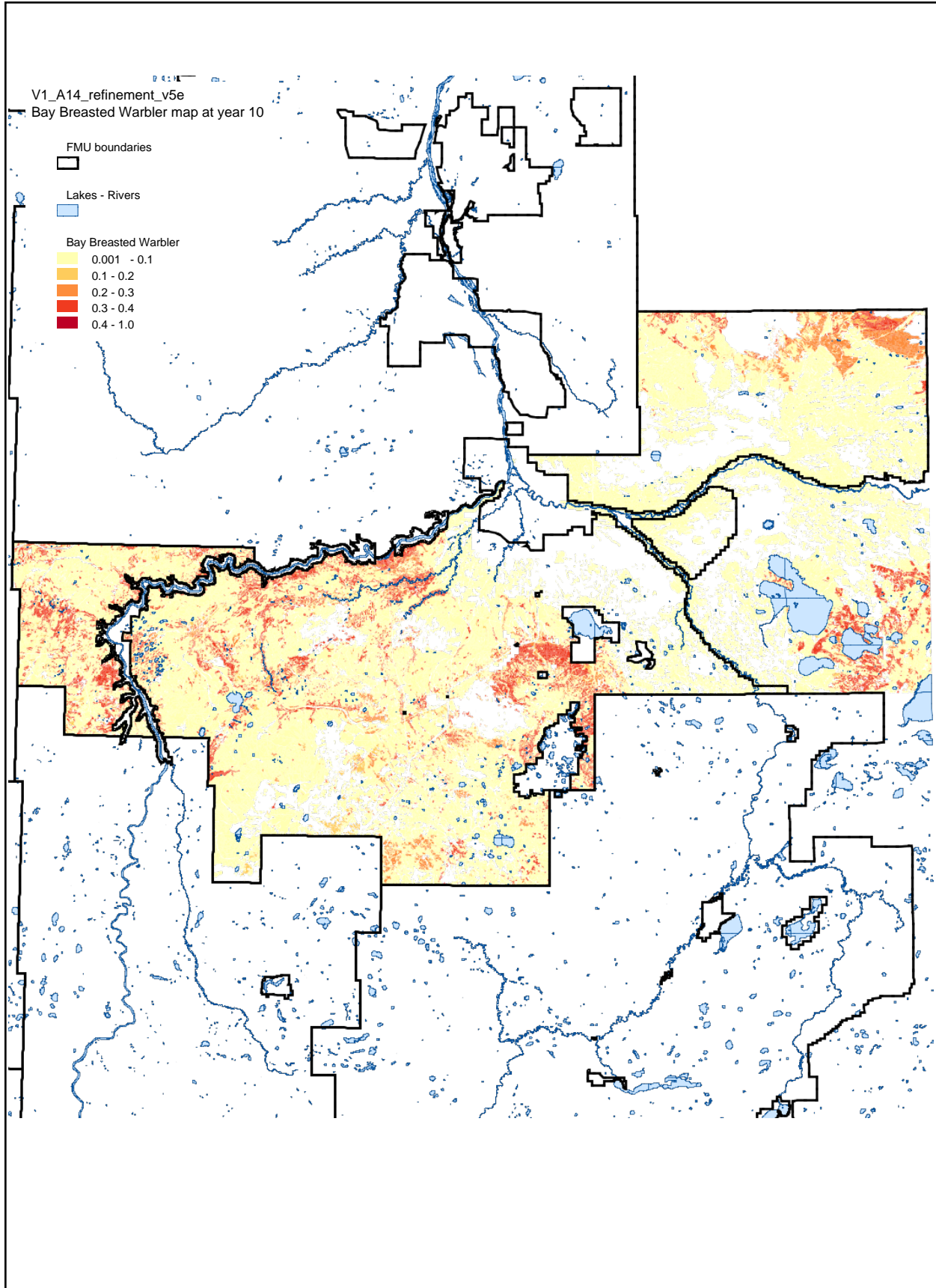
Period	Year	Bay Breasted Warbler	Brown Creeper	Black throated Green Warbler	Canada Warbler	Ovenbird
0	0	100	100	100	100	100
1	10	103	116	113	113	100
2	20	117	130	119	120	103
5	50	159	173	137	161	109
10	100	189	243	239	208	109
20	200	173	449	341	367	91



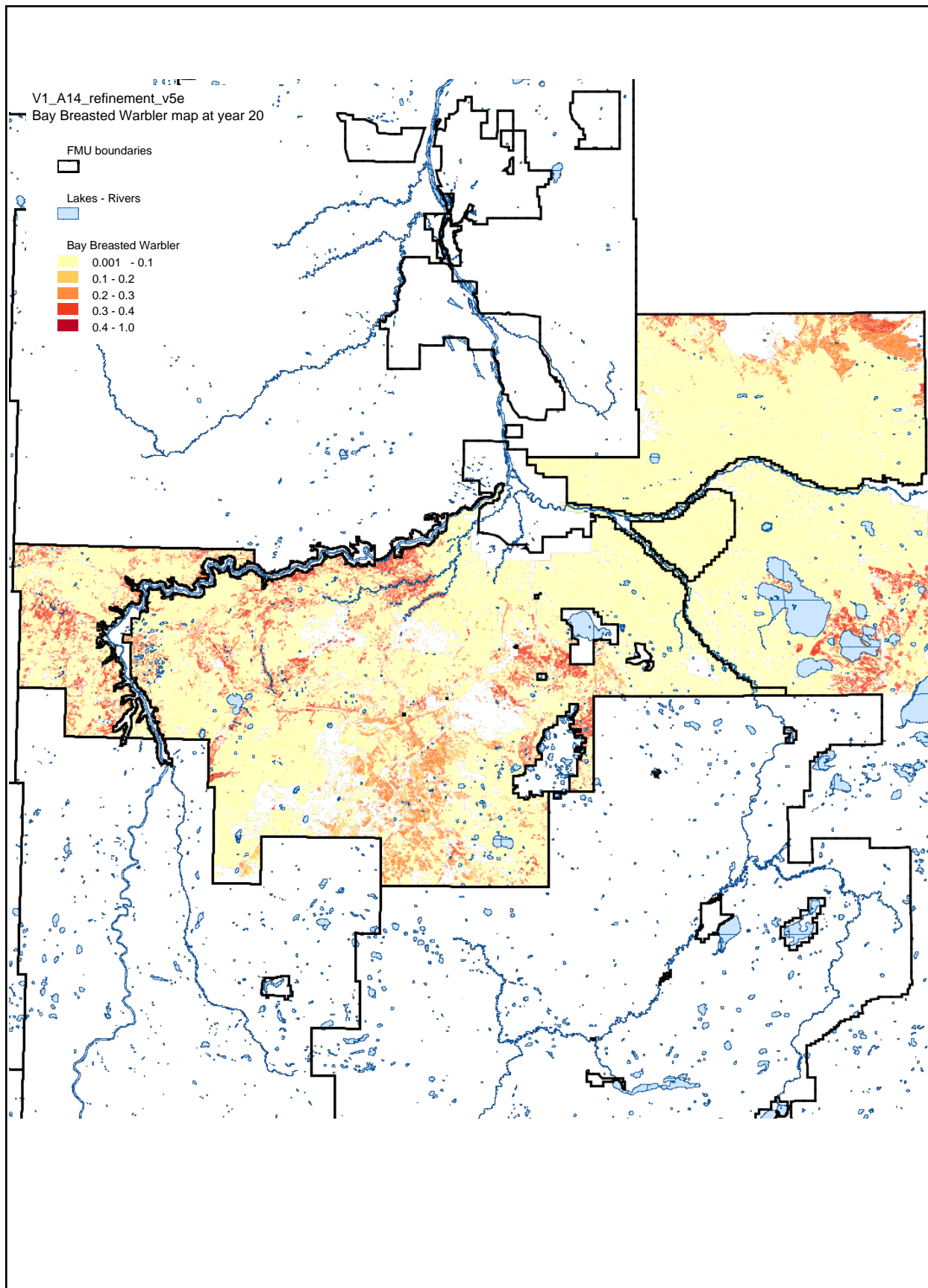
Bay Breasted Warbler HSI - period 0



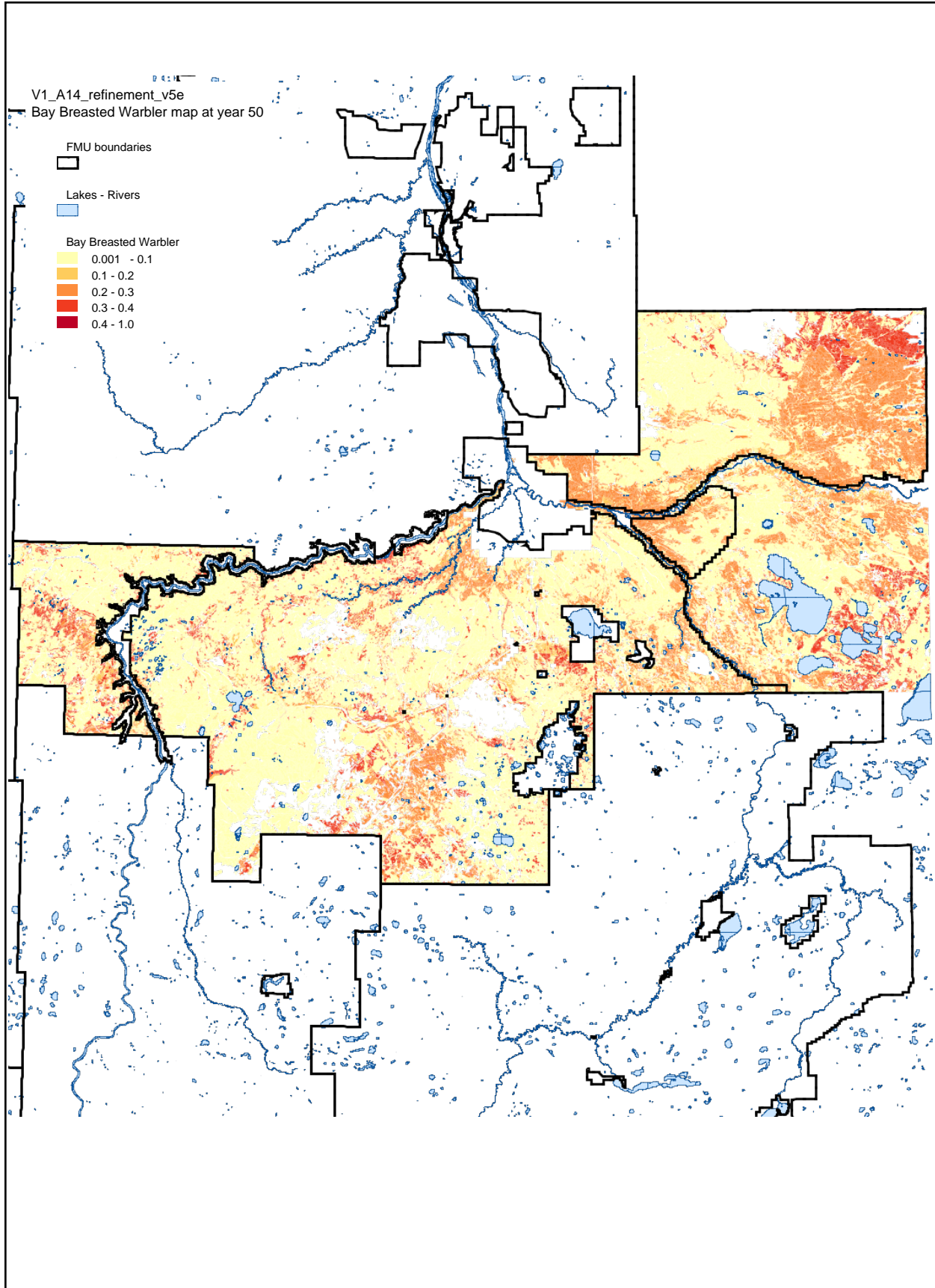
Bay Breasted Warbler HSI - period 1



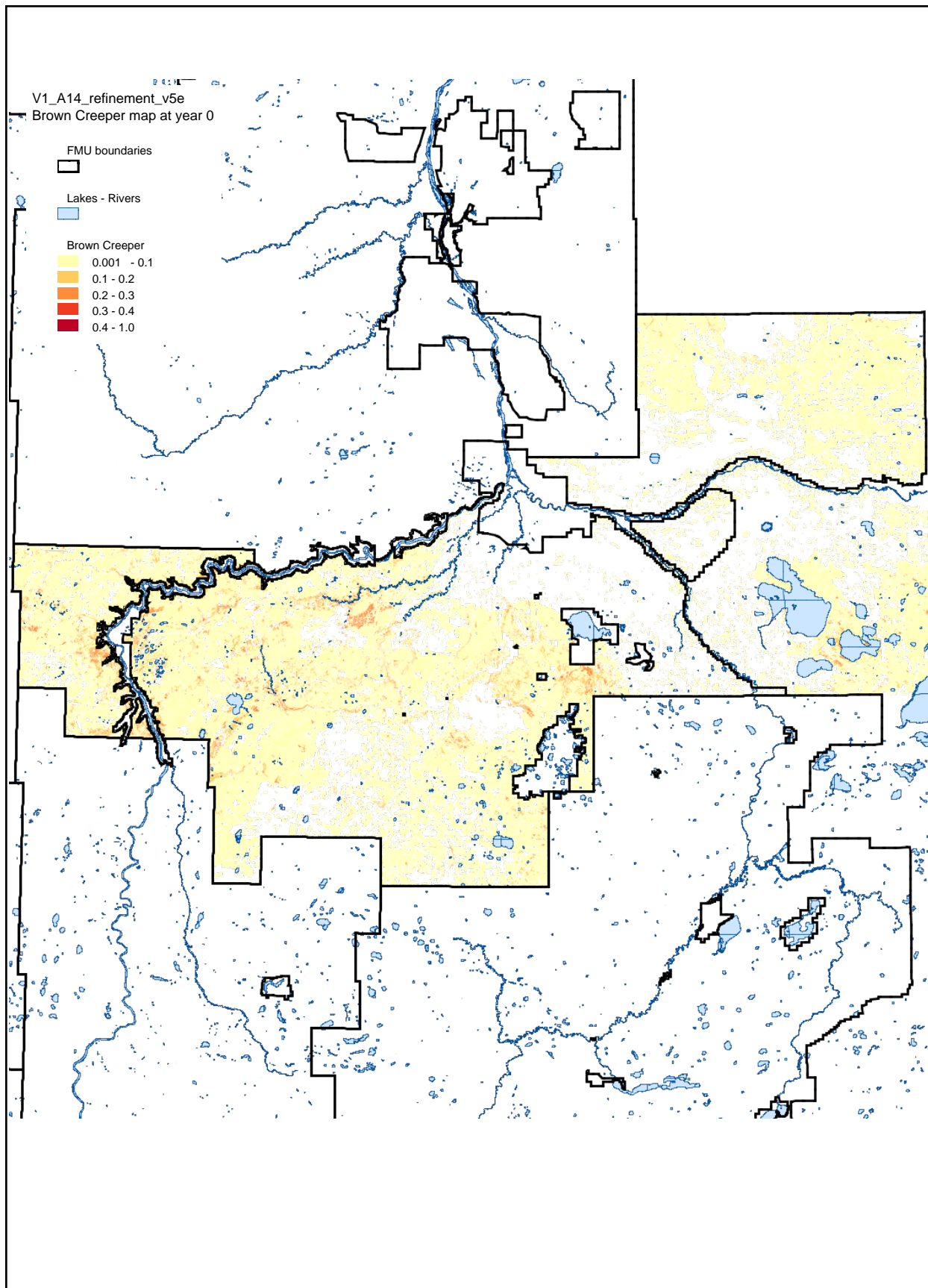
Bay Breasted Warbler HSI - period 2



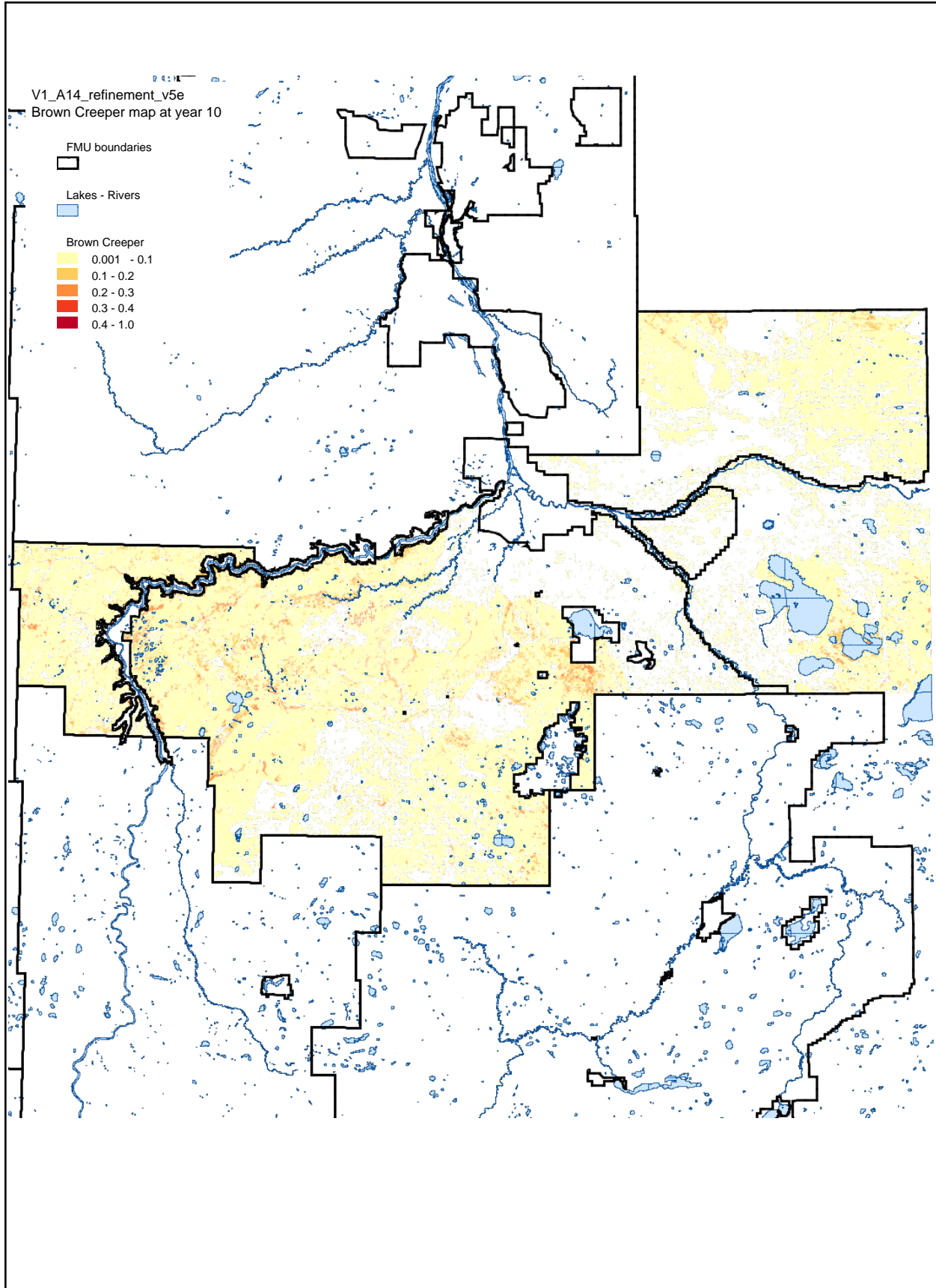
Bay Breasted Warbler HSI - period 5



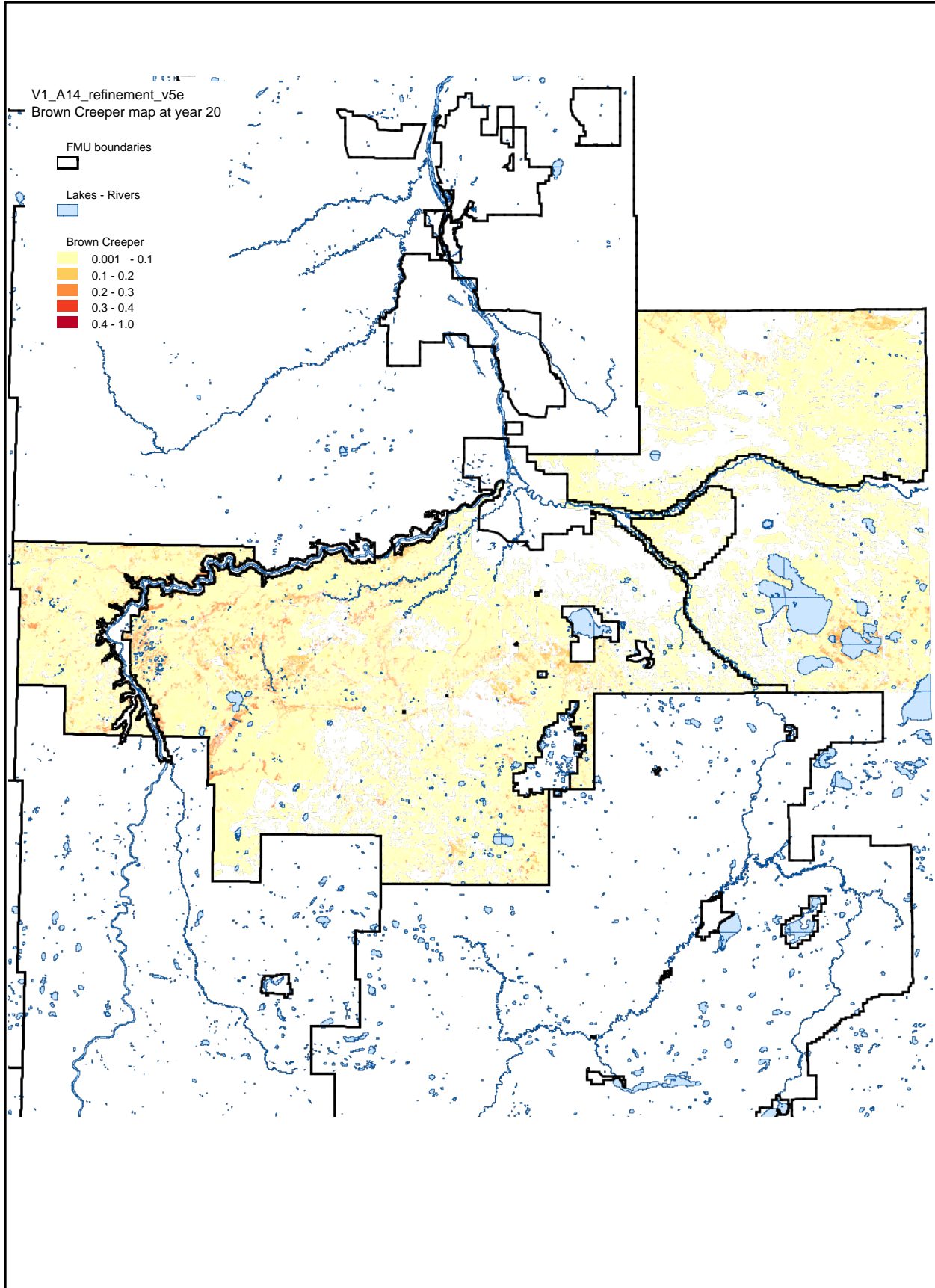
Brown Creeper HSI - period 0



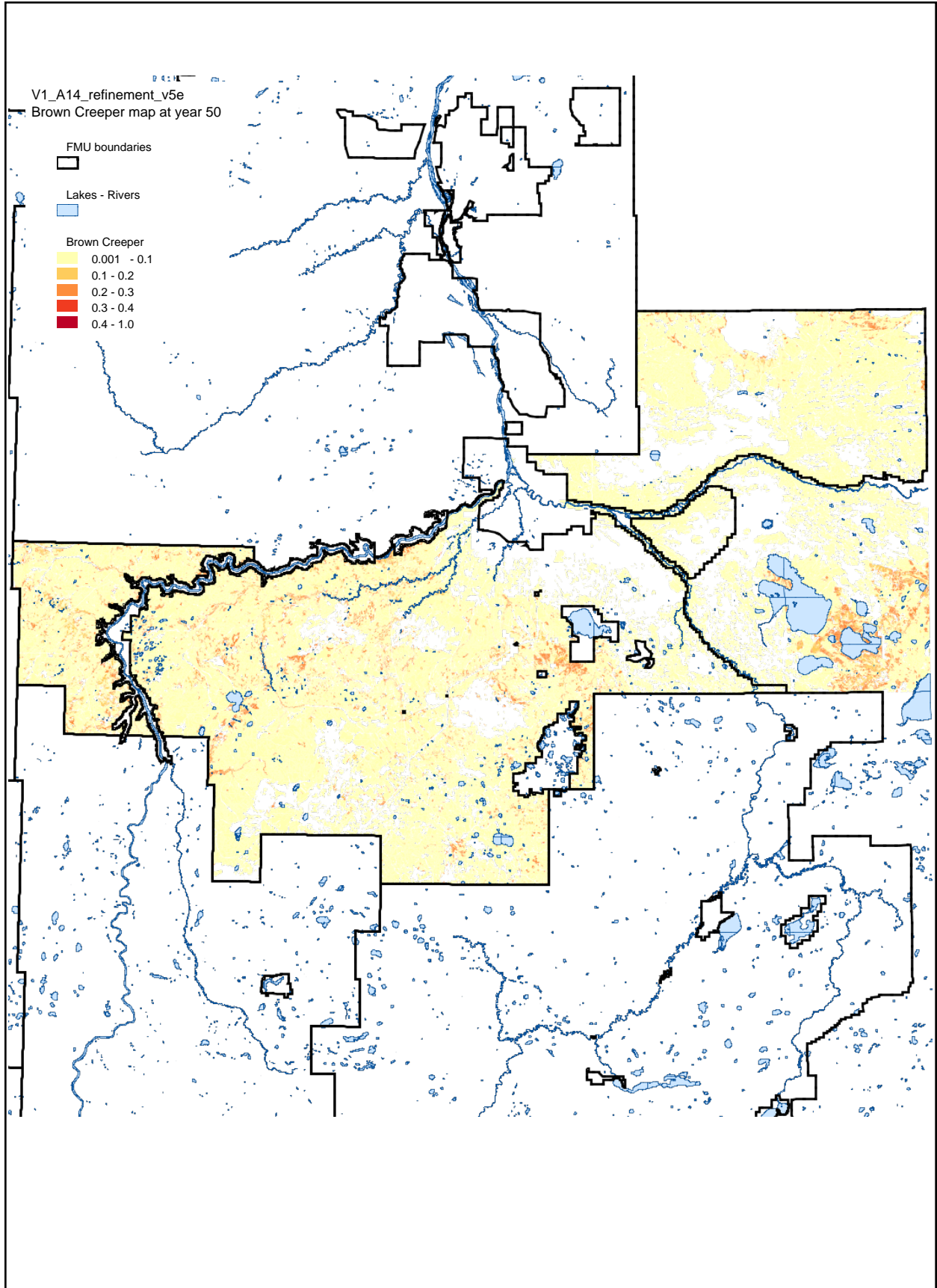
Brown Creeper HSI - period 1



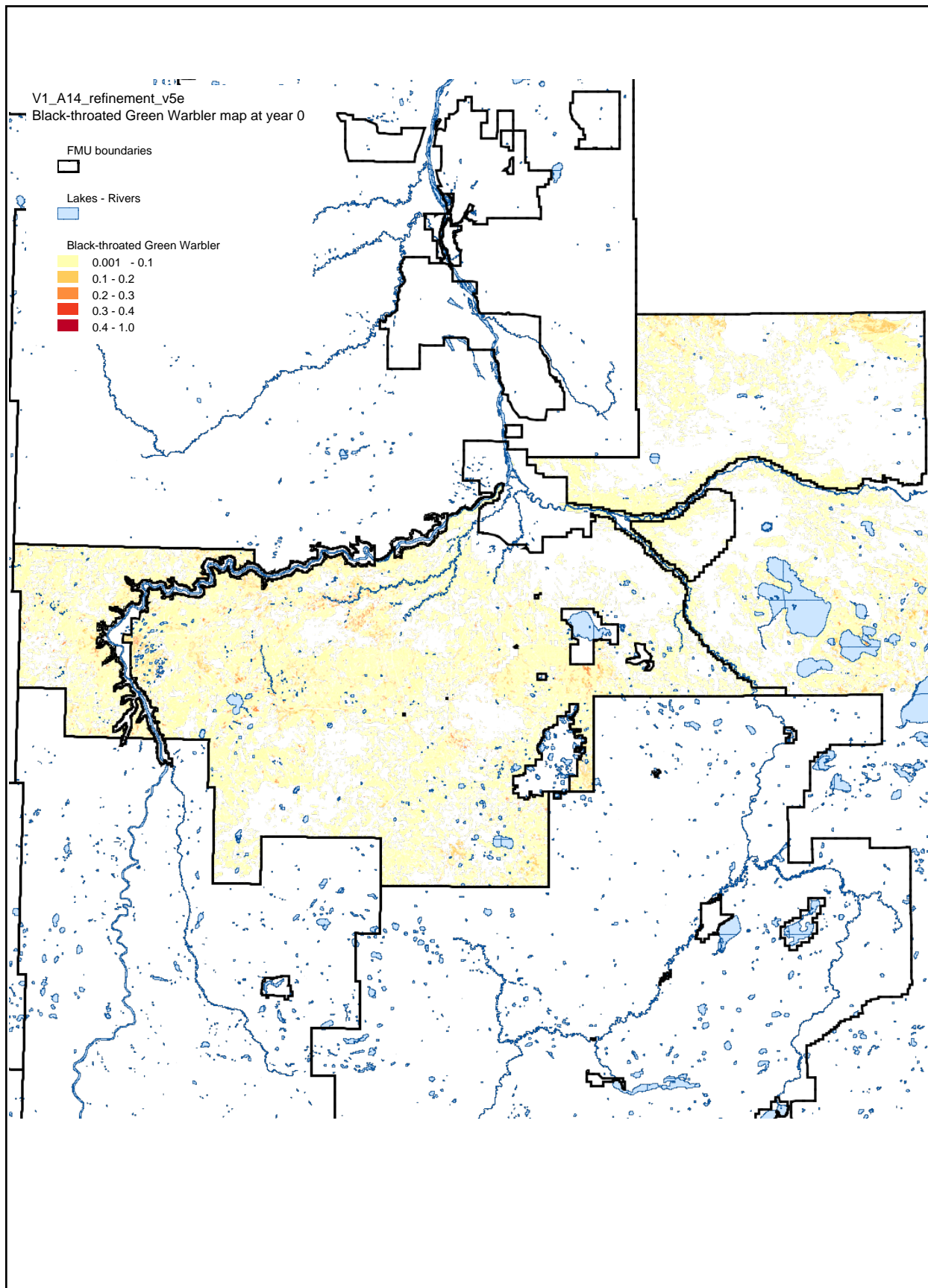
Brown Creeper HSI - period 2



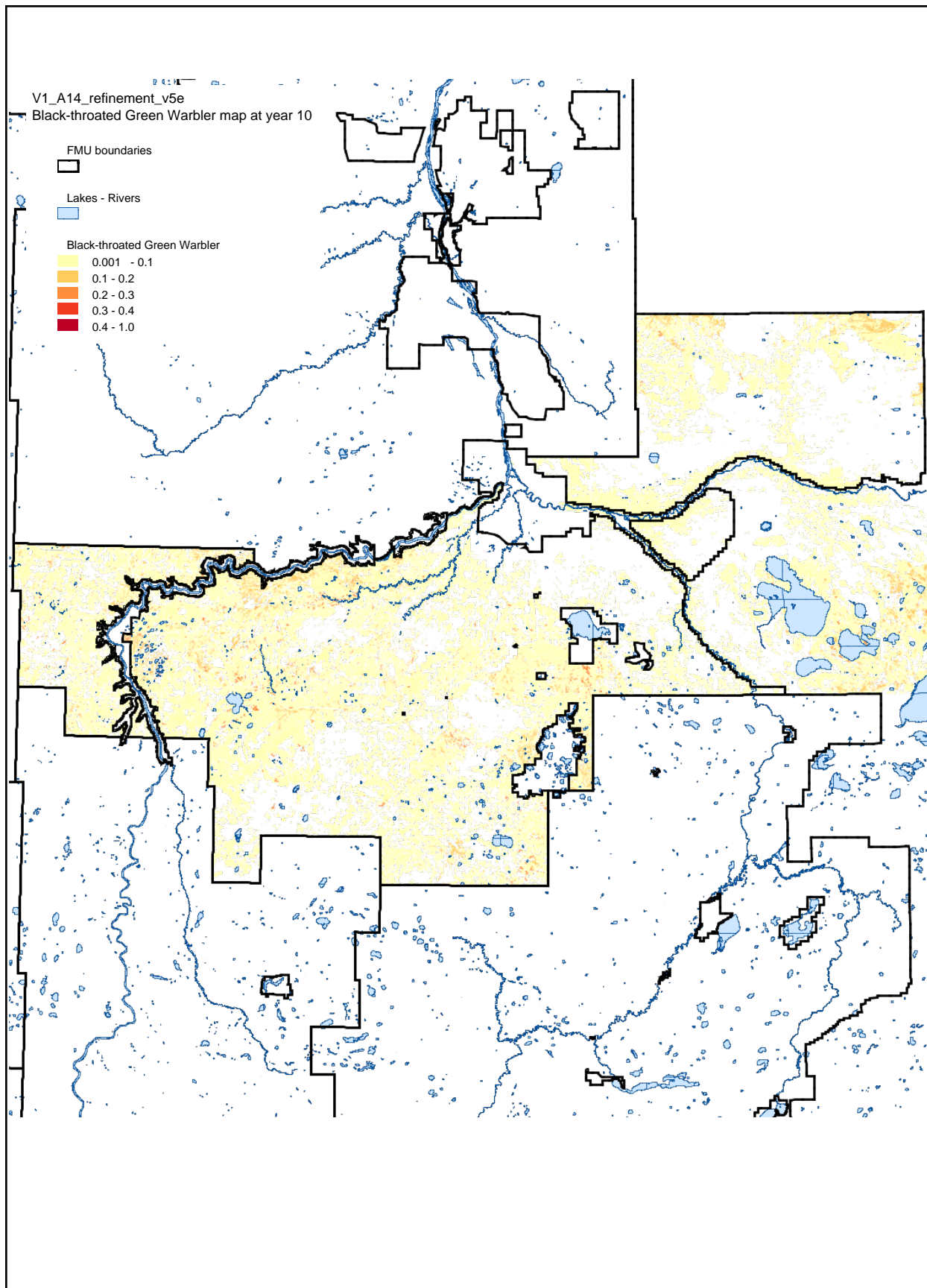
Brown Creeper HSI - period 5



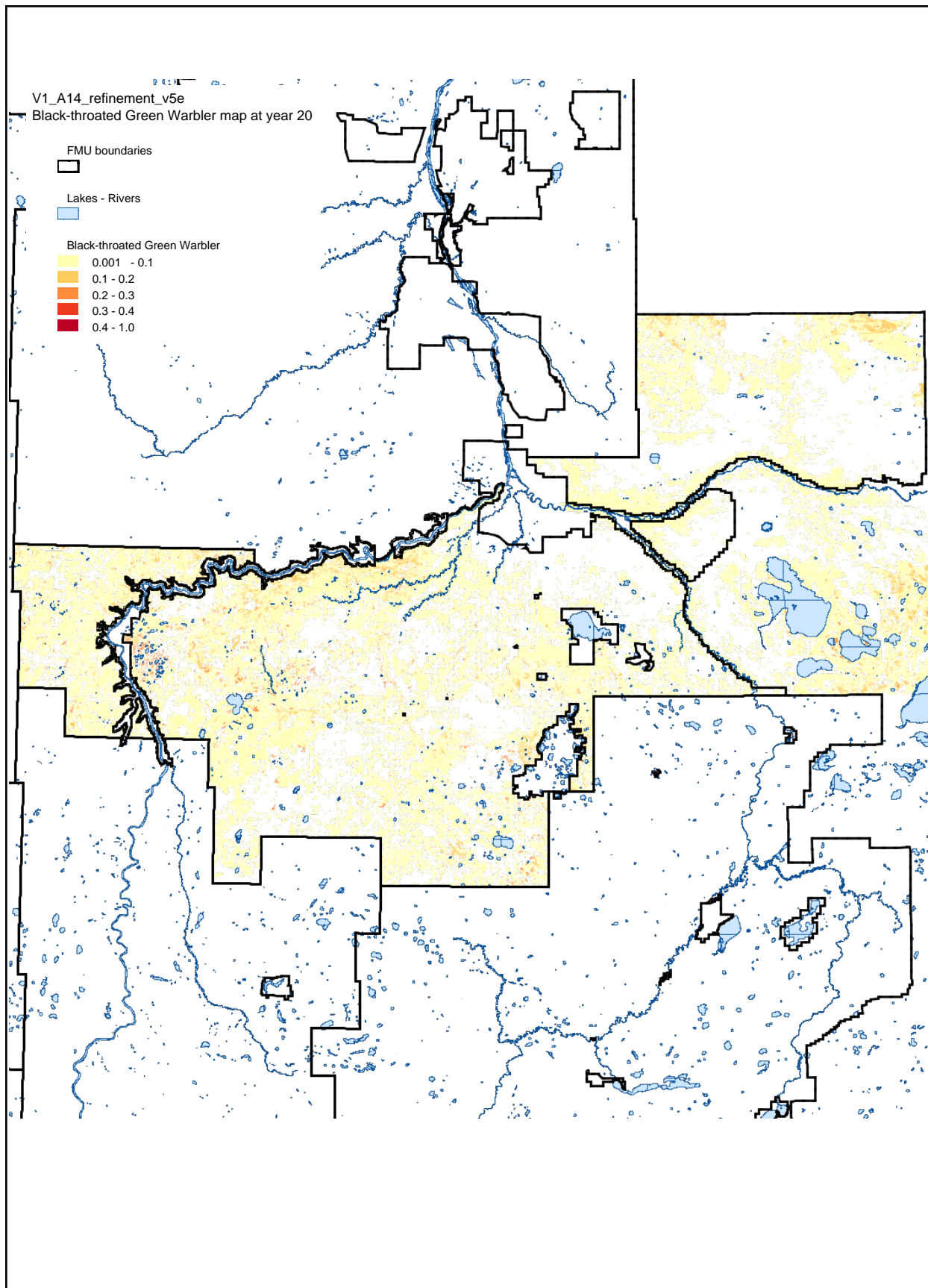
Black-throated Green Warbler HSI - period 0



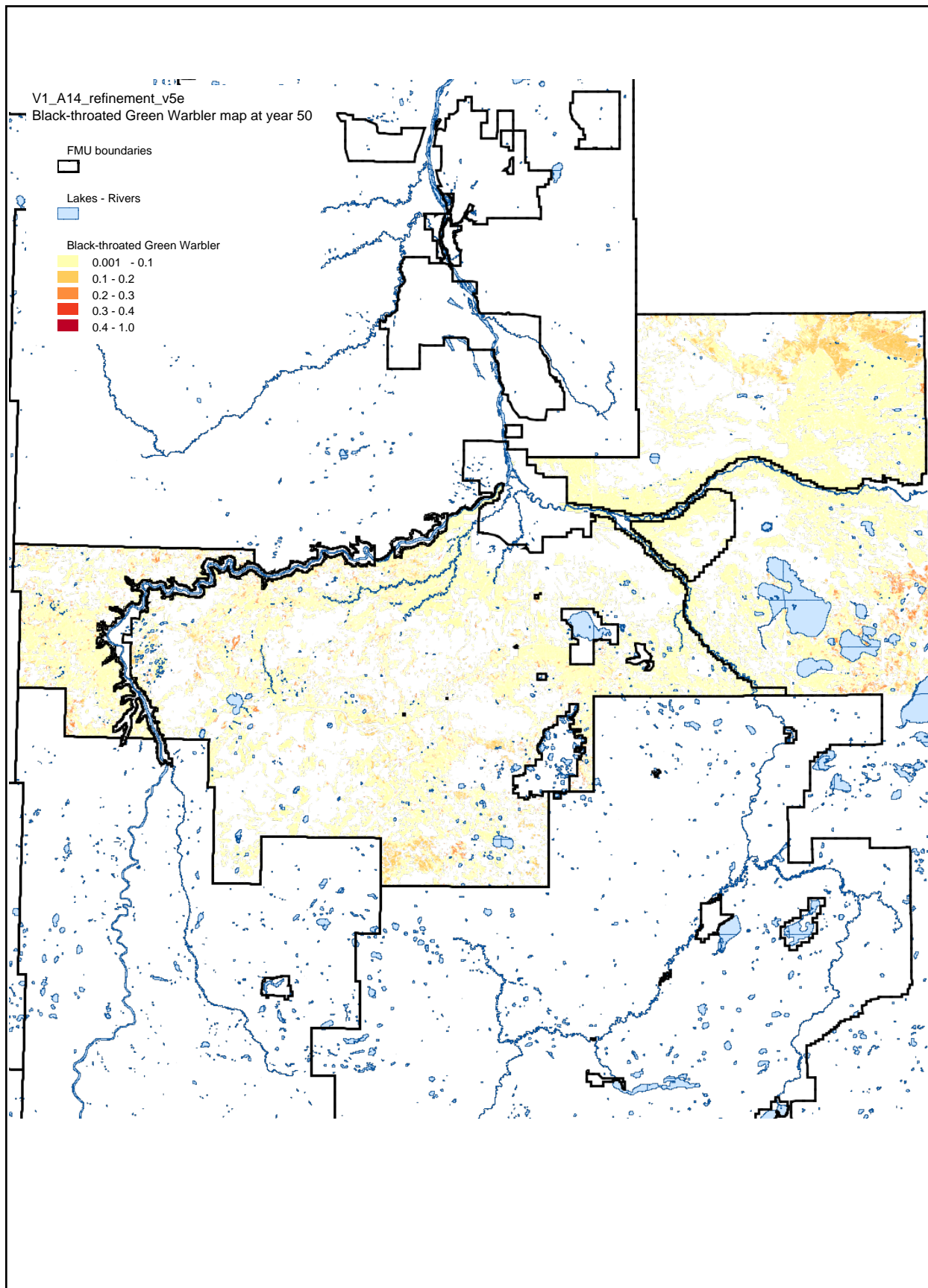
Black-throated Green Warbler HSI - period 1



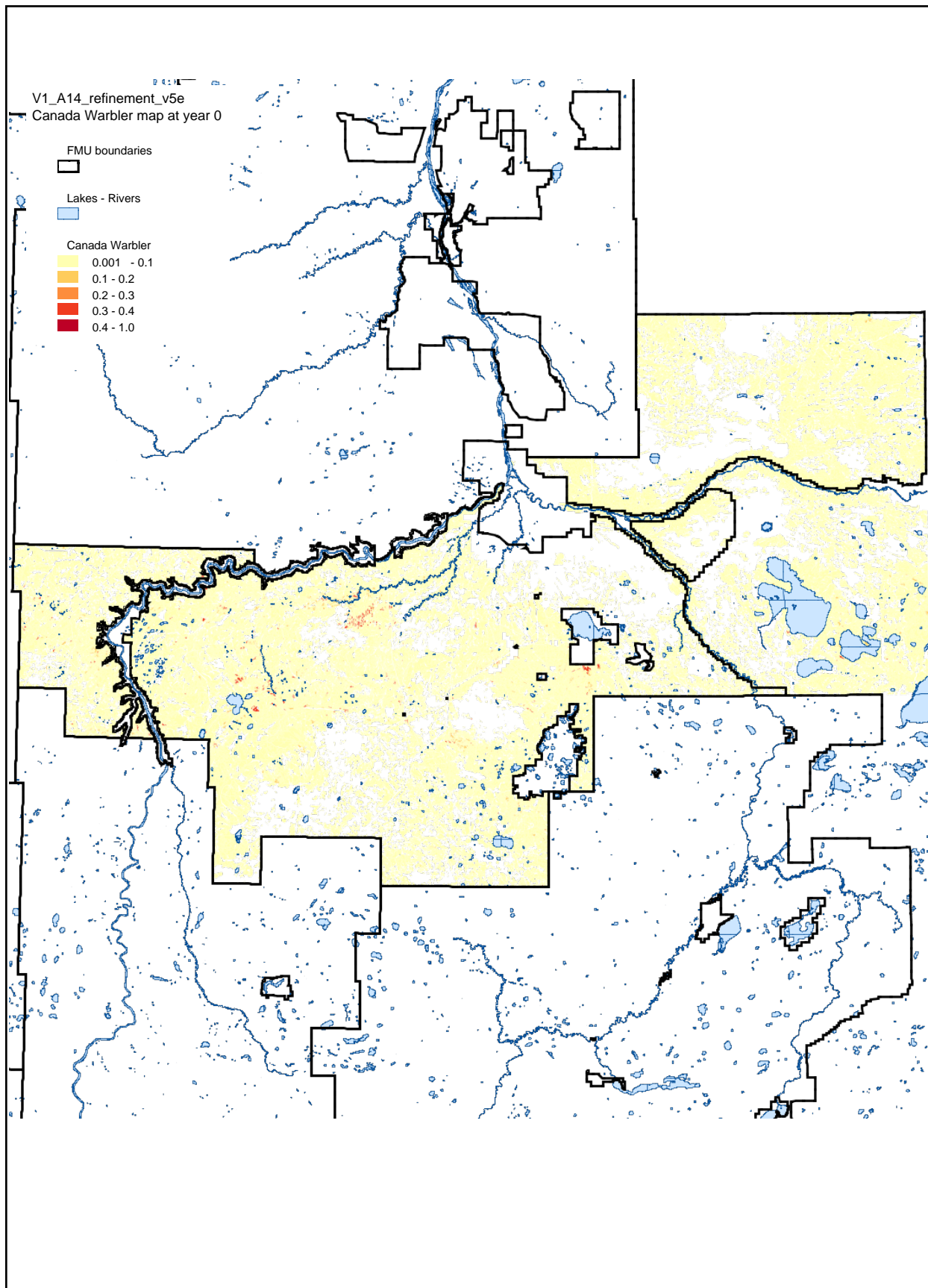
Black-throated Green Warbler HSI - period 2



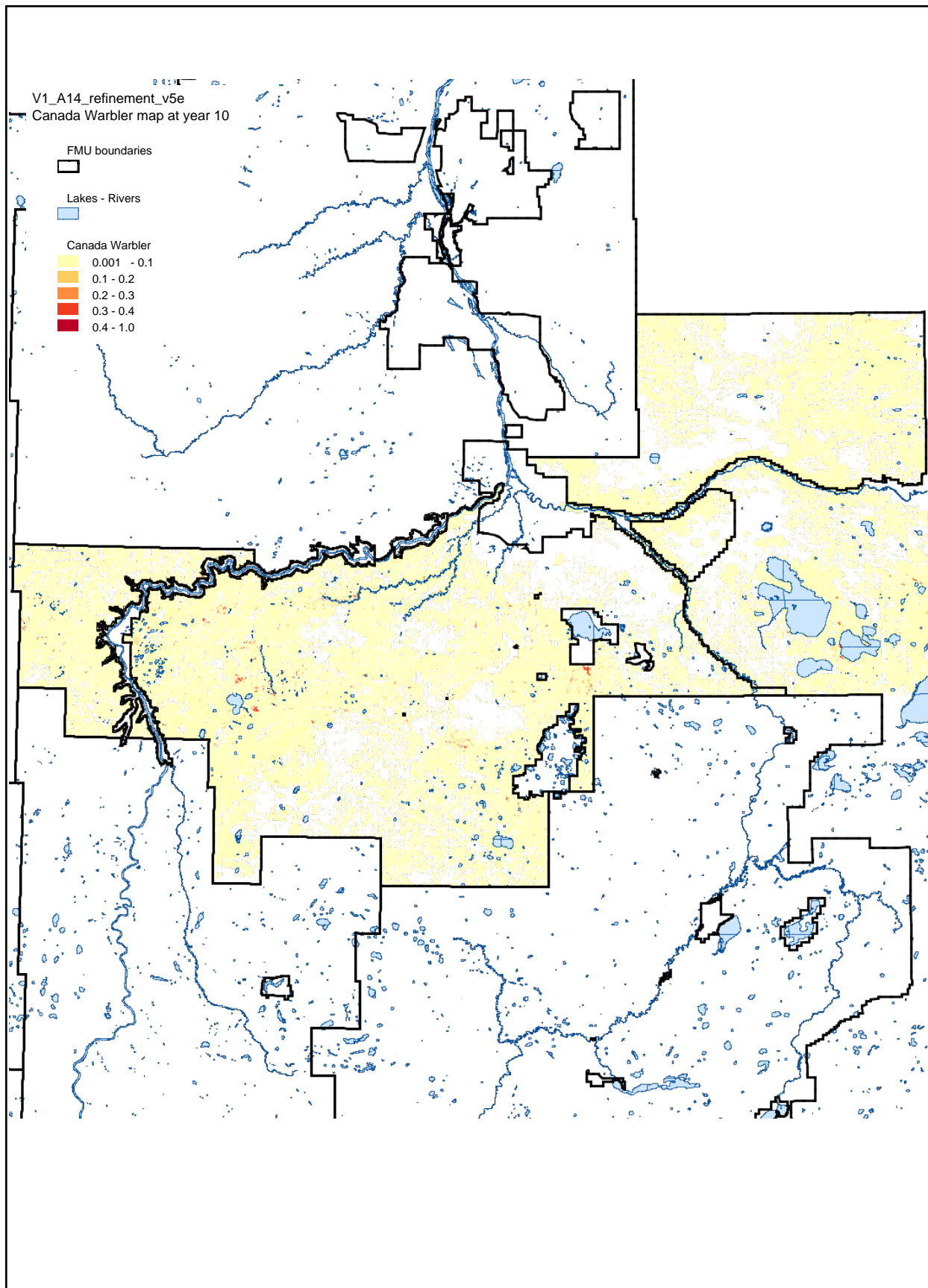
Black-throated Green Warbler HSI - period 5



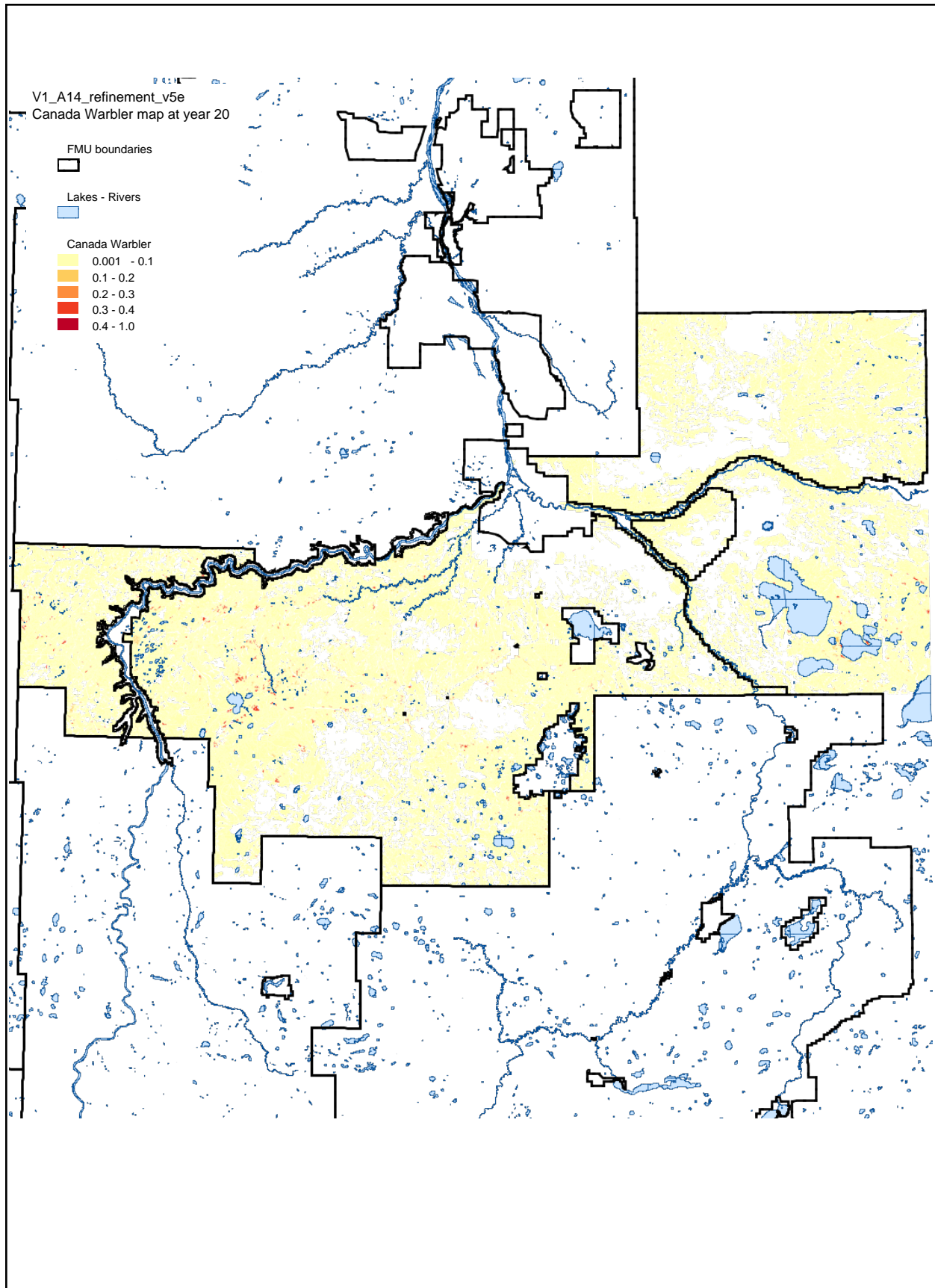
Canada Warbler HSI - period 0



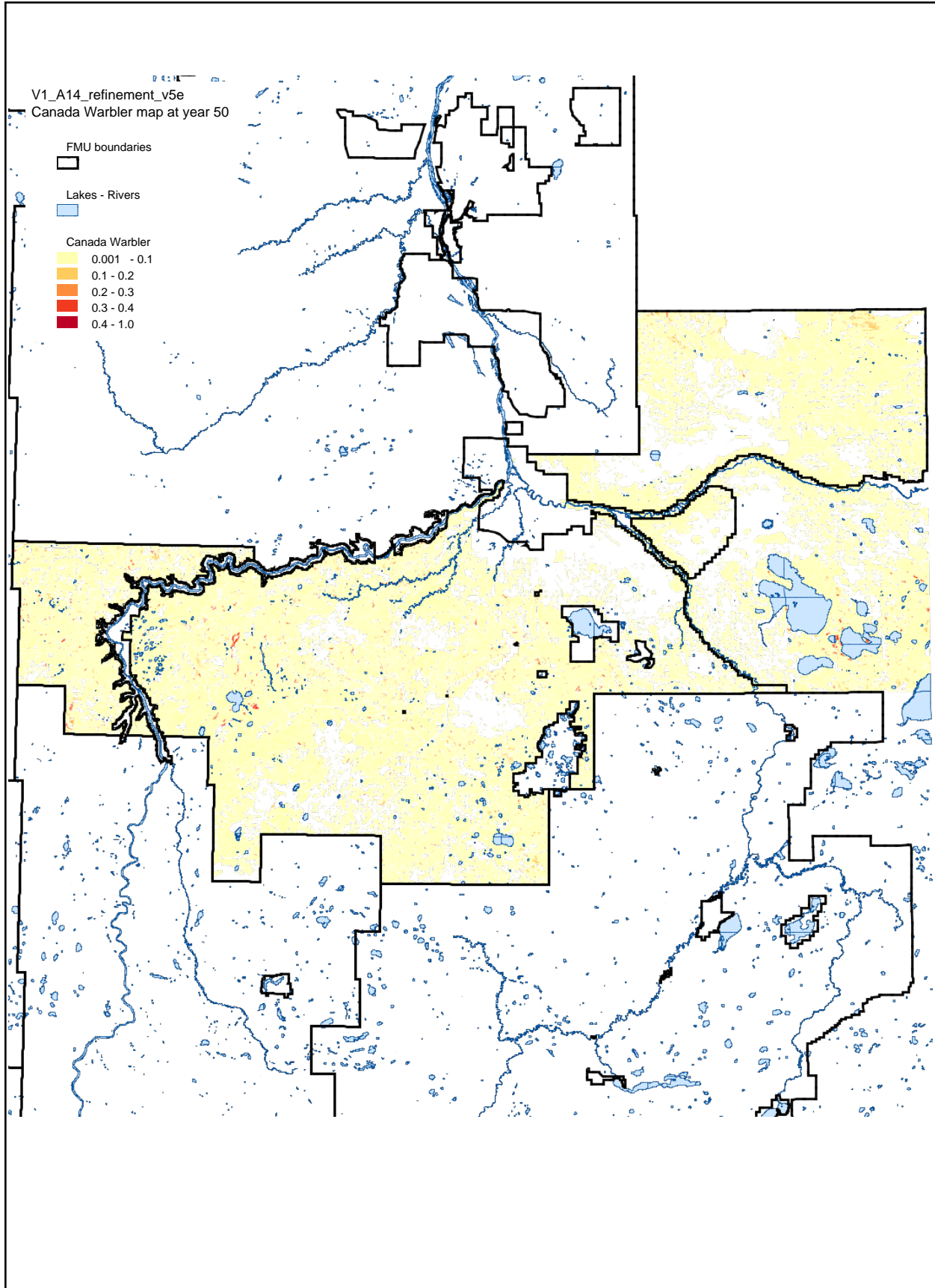
Canada Warbler HSI - period 1



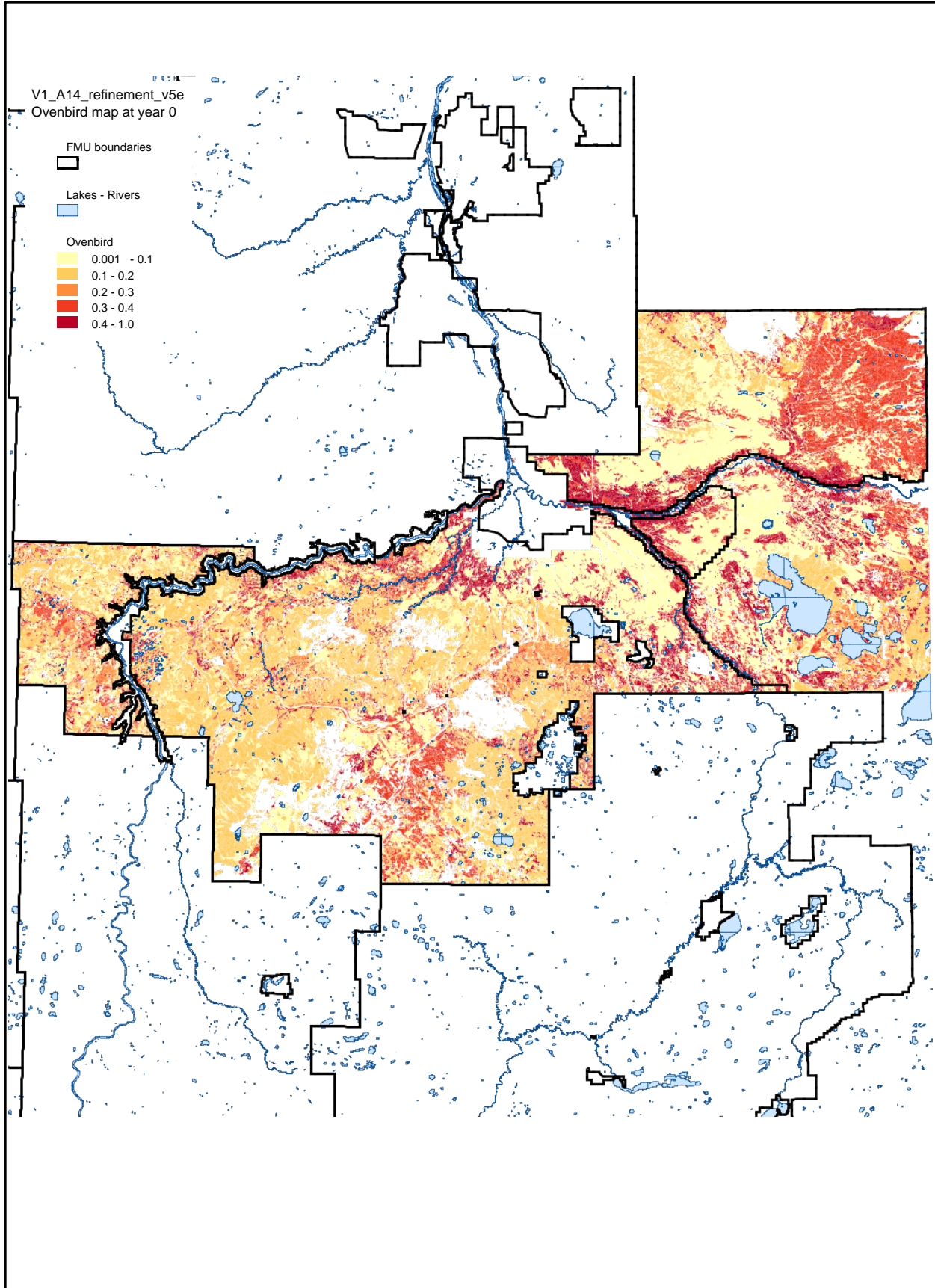
Canada Warbler HSI - period 2



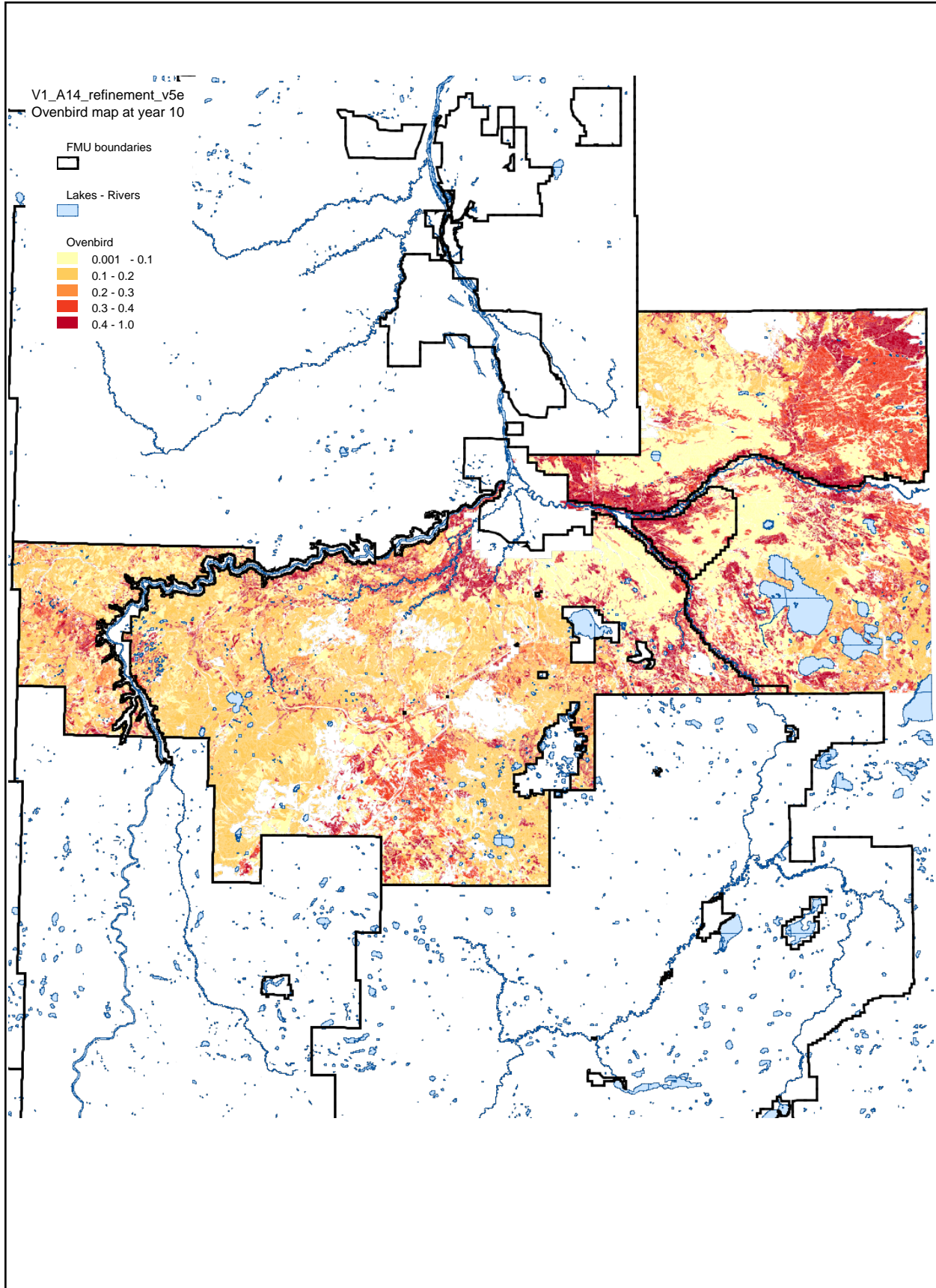
Canada Warbler HSI - period 5



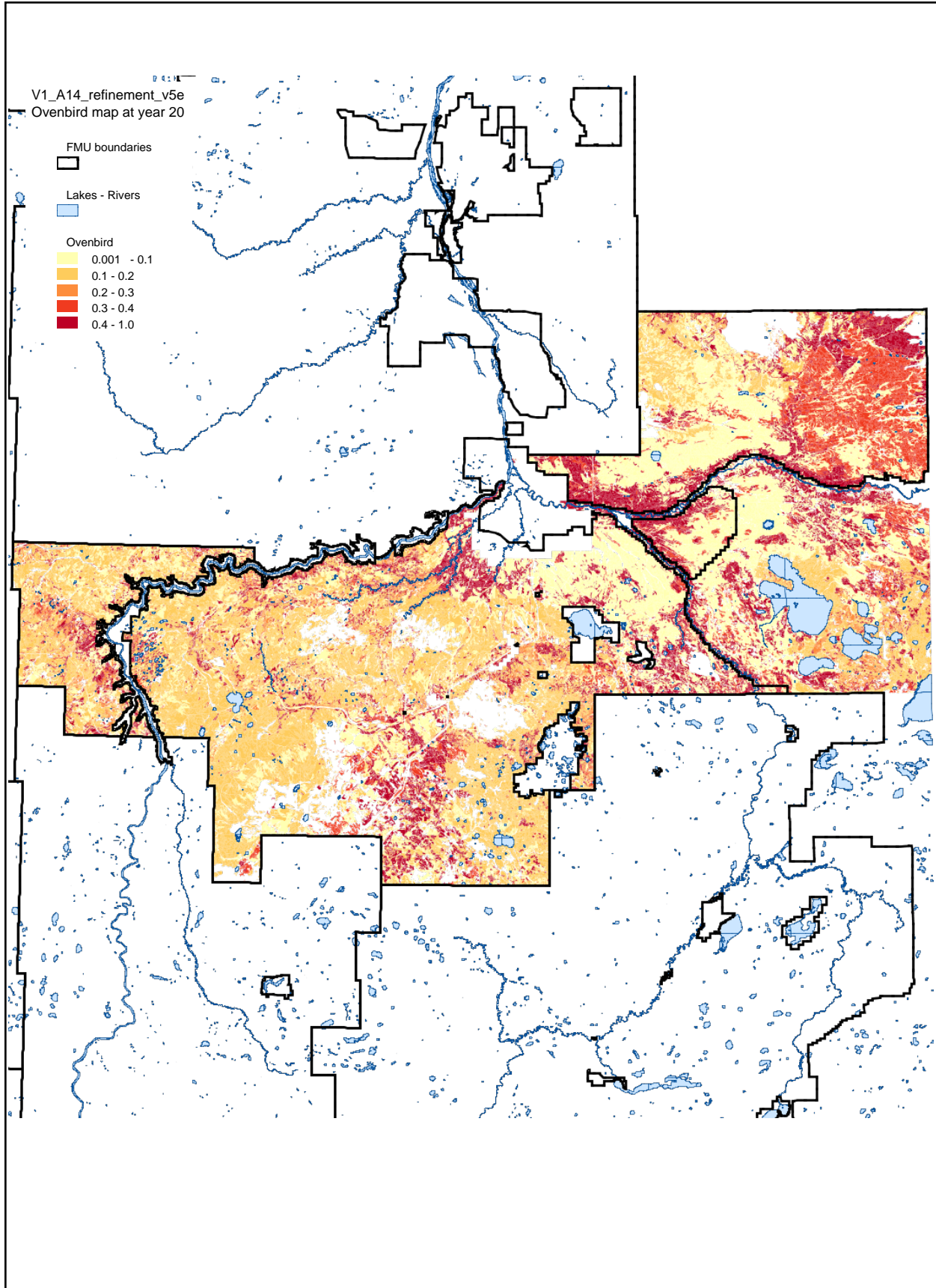
Ovenbird HSI - period 0



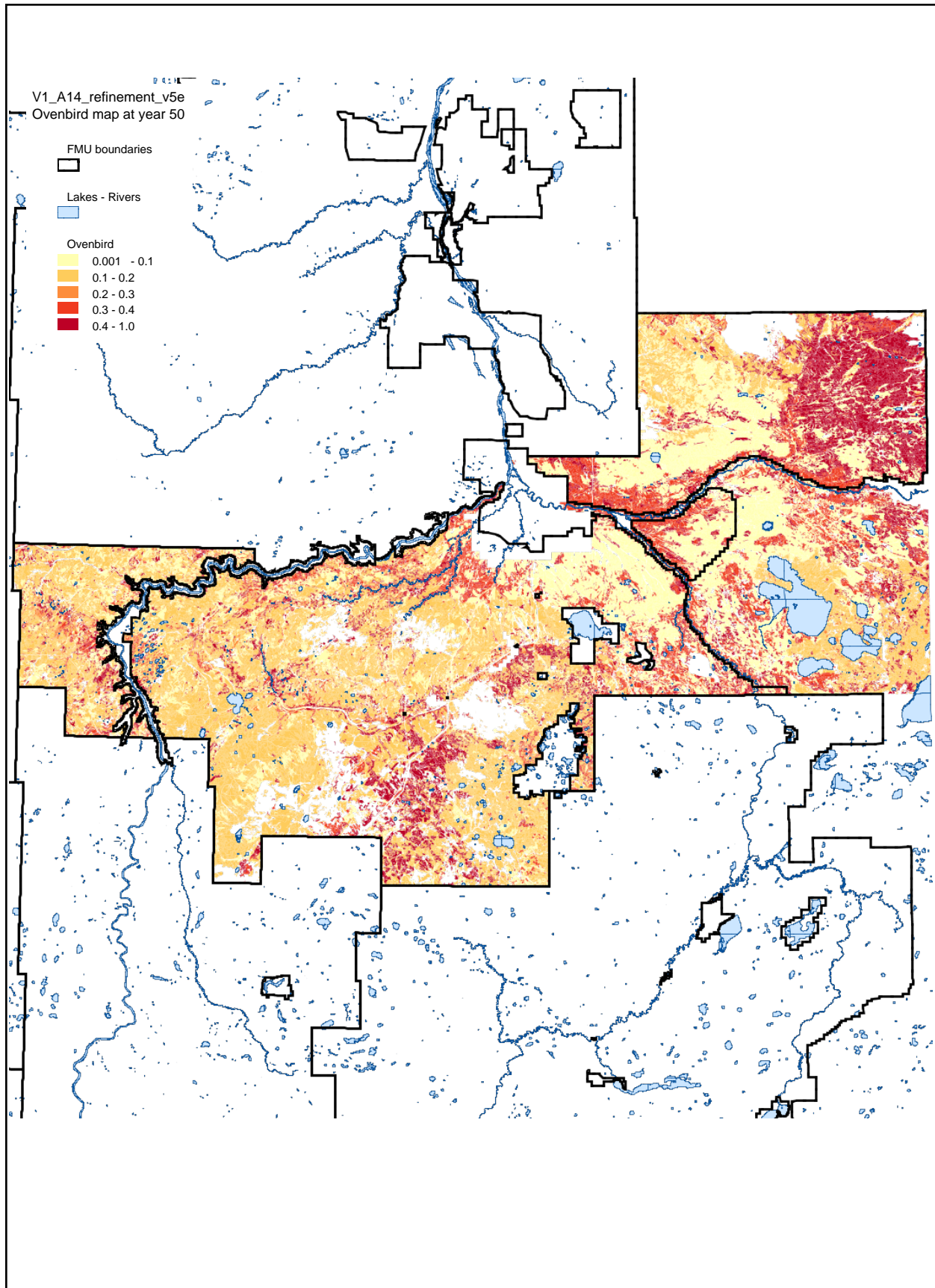
Ovenbird HSI - period 1



Ovenbird HSI - period 2



Ovenbird HSI - period 5

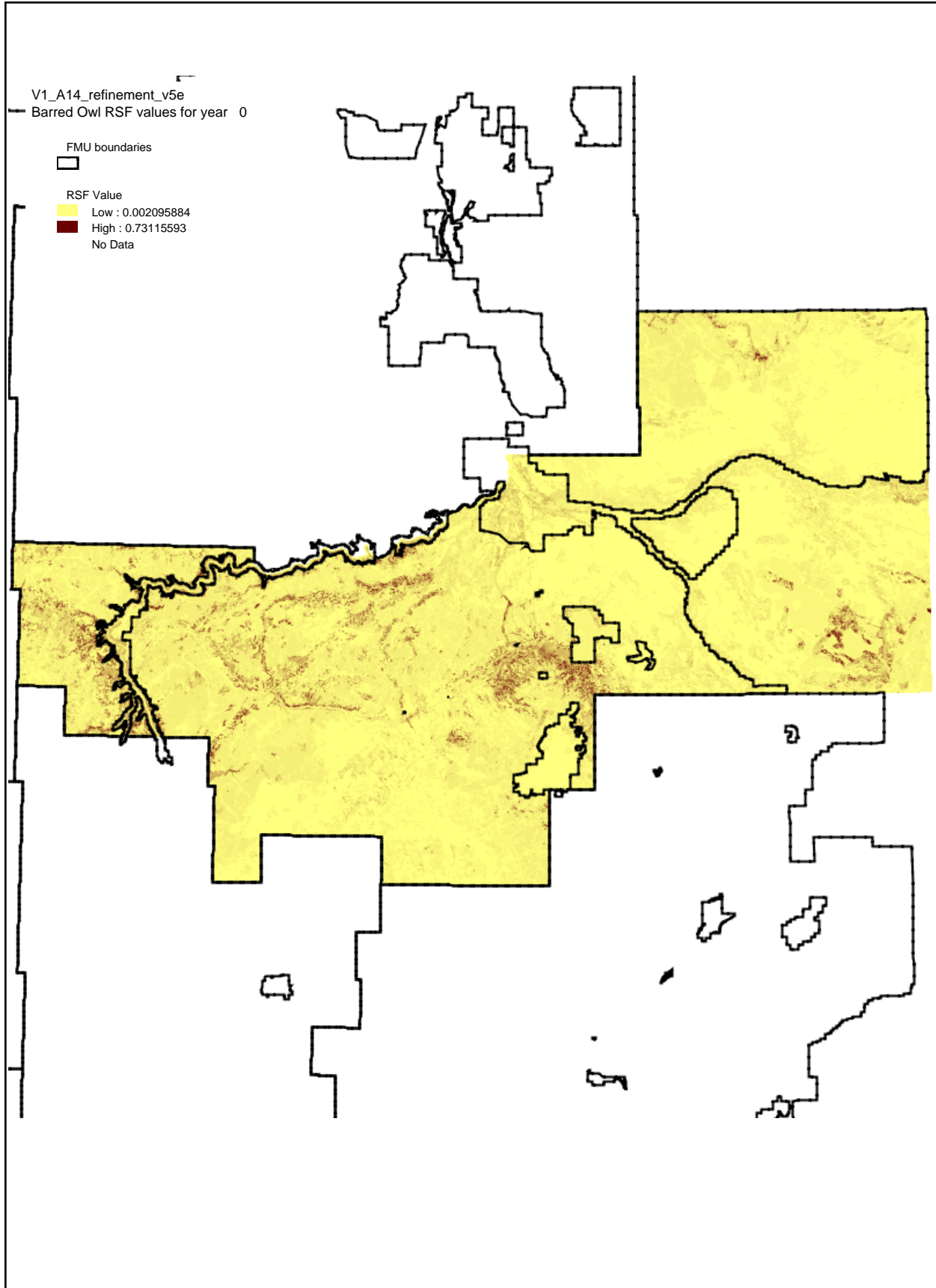


Barred Owl Model Summary

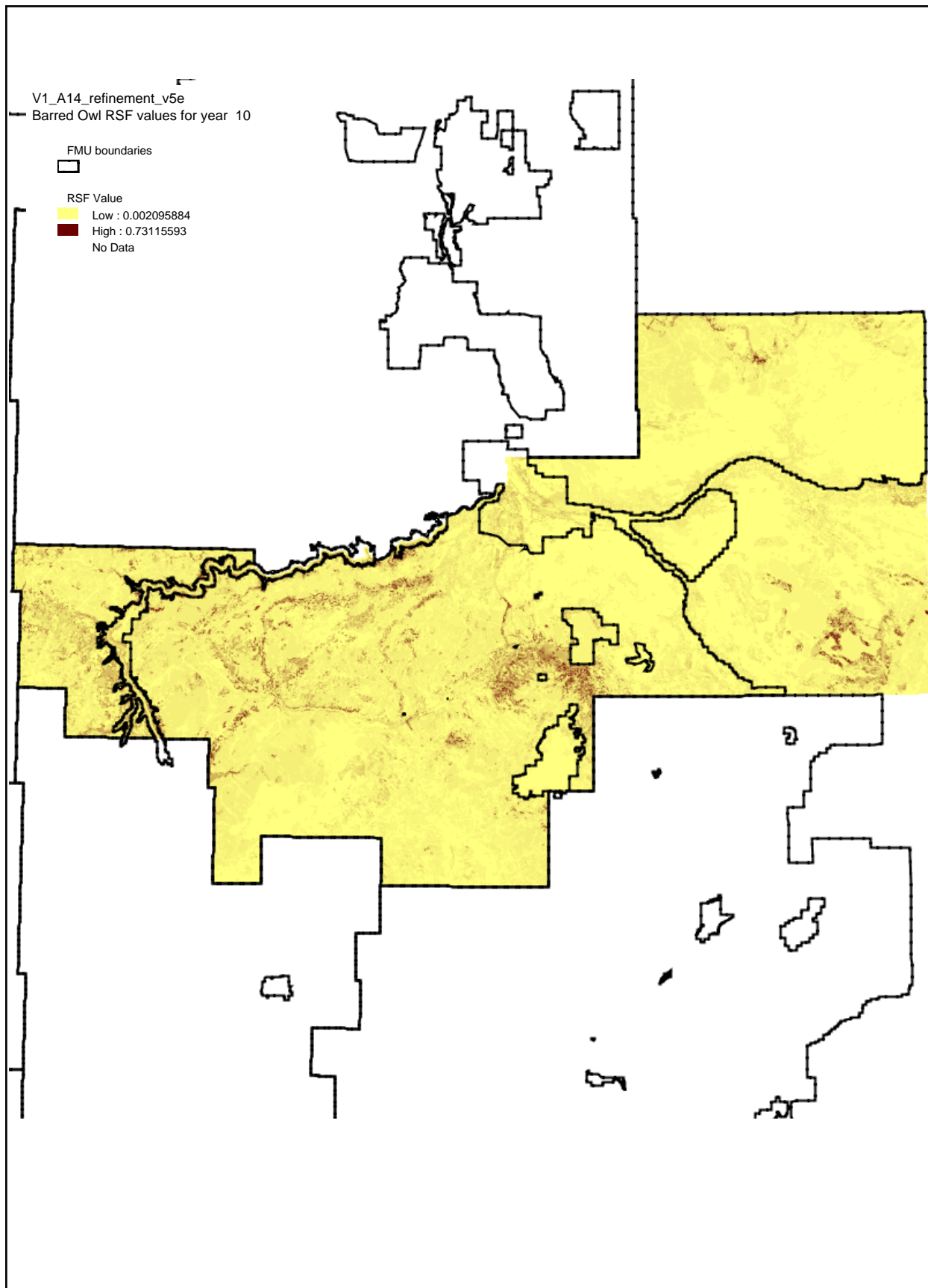
This table shows the results of the Barred Owl model. The breedpair value is a sum of the pixels from the breepair layers. The Resource Selection Function (RSF) values are the mean and standard deviation of the values from the RSF model layers.

		Breedpair	RSF	
		Sum	Mean	StDev
Year	0	2,284,904	0.05434	0.07141
	10	1,570,717	0.05327	0.06712
	20	1,090,272	0.05161	0.06206
	50	1,361,099	0.05966	0.06356

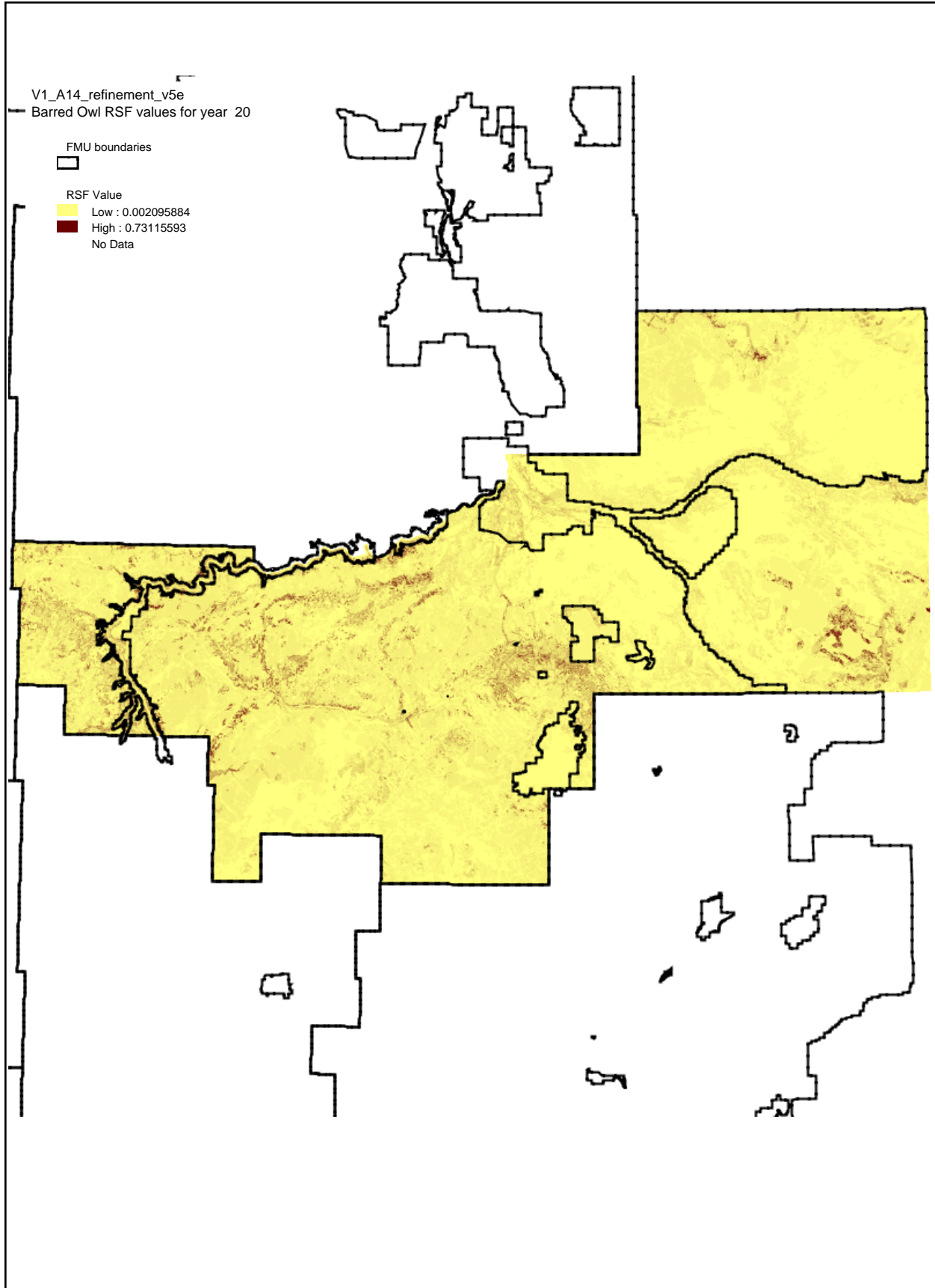
Barred Owl RSF - period 0



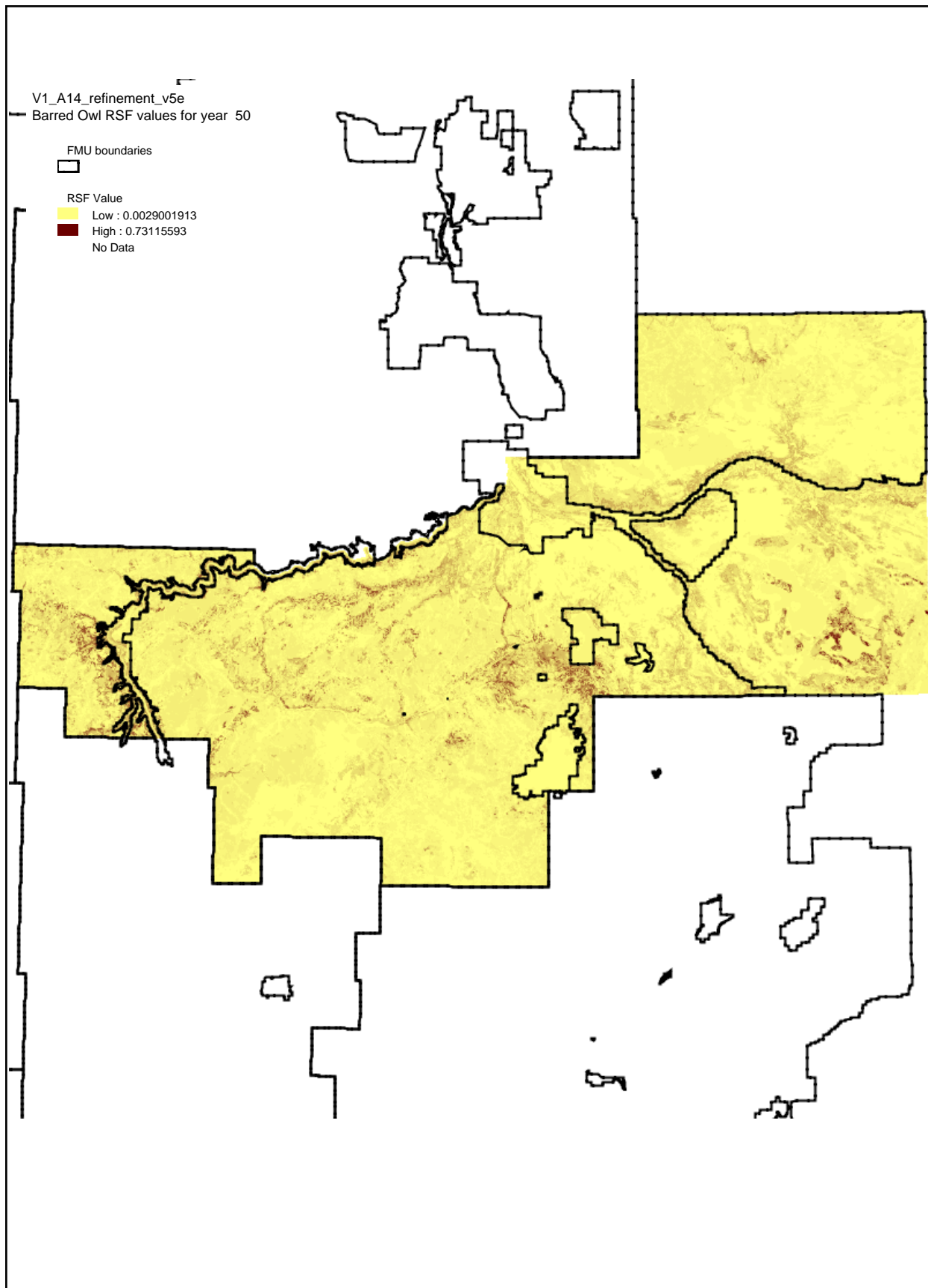
Barred Owl RSF - period 1



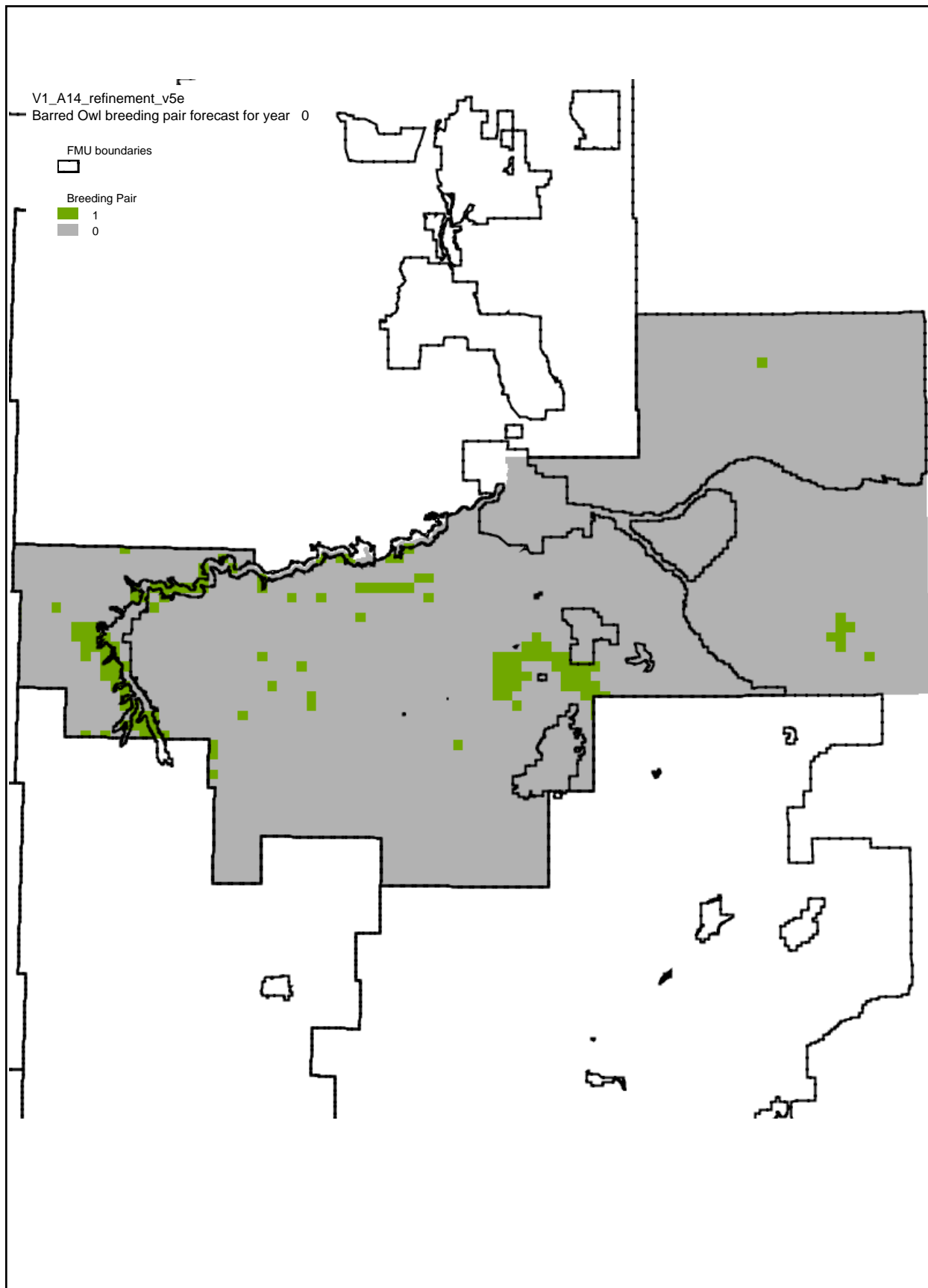
Barred Owl RSF - period 2



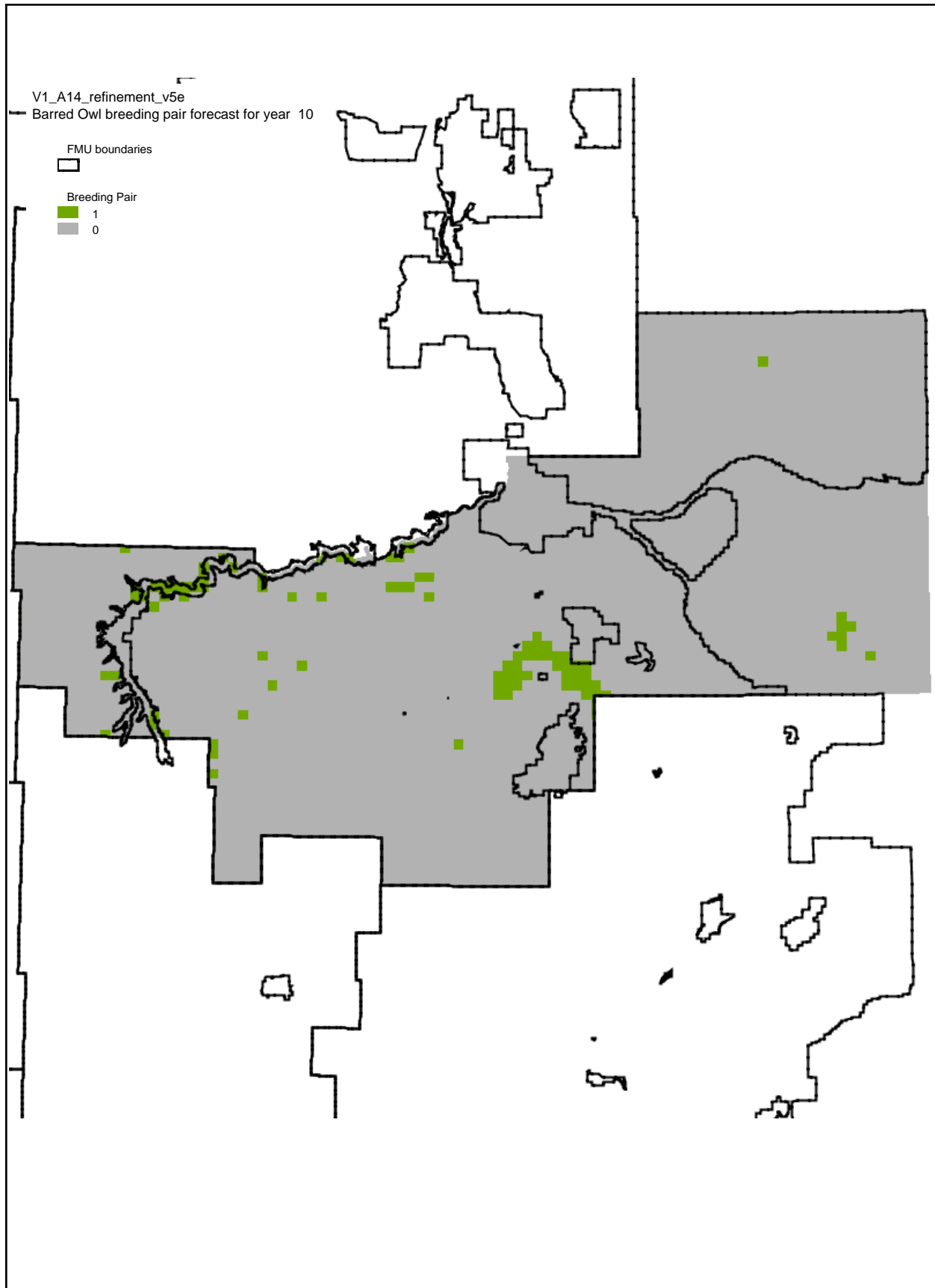
Barred Owl RSF - period 5



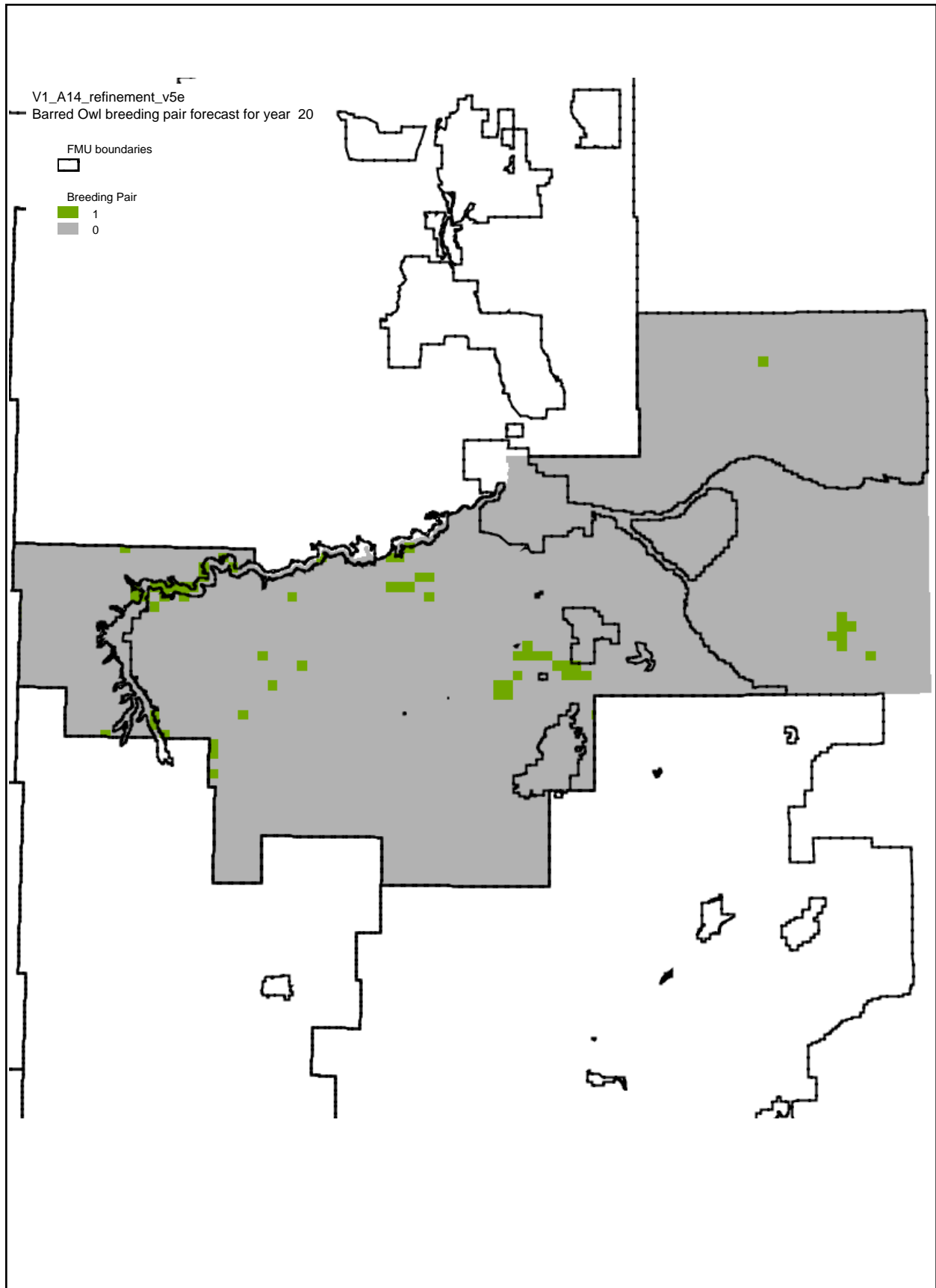
Barred Owl Breed Pair - period 0



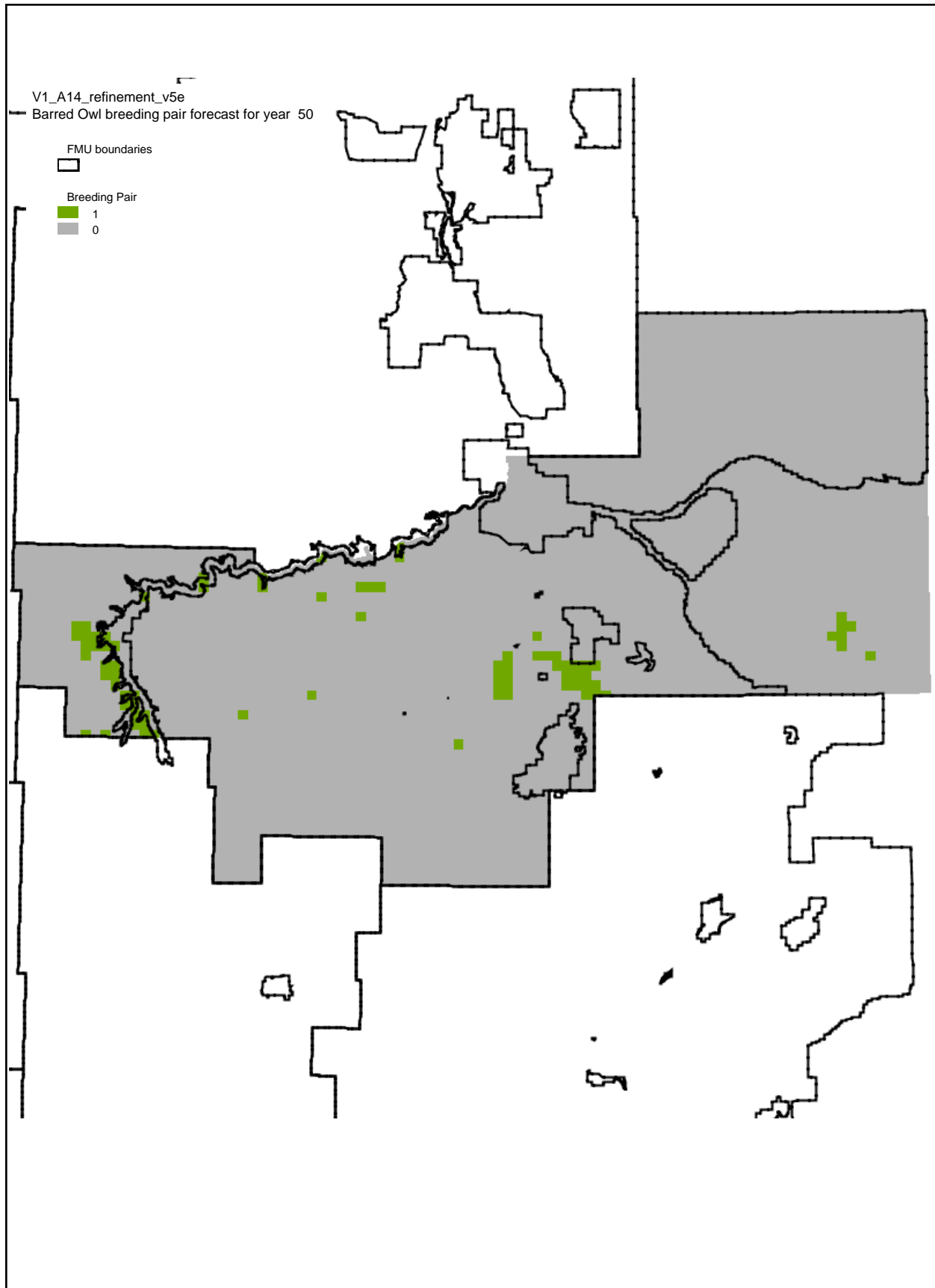
Barred Owl Breed Pair - period 1



Barred Owl Breed Pair - period 2



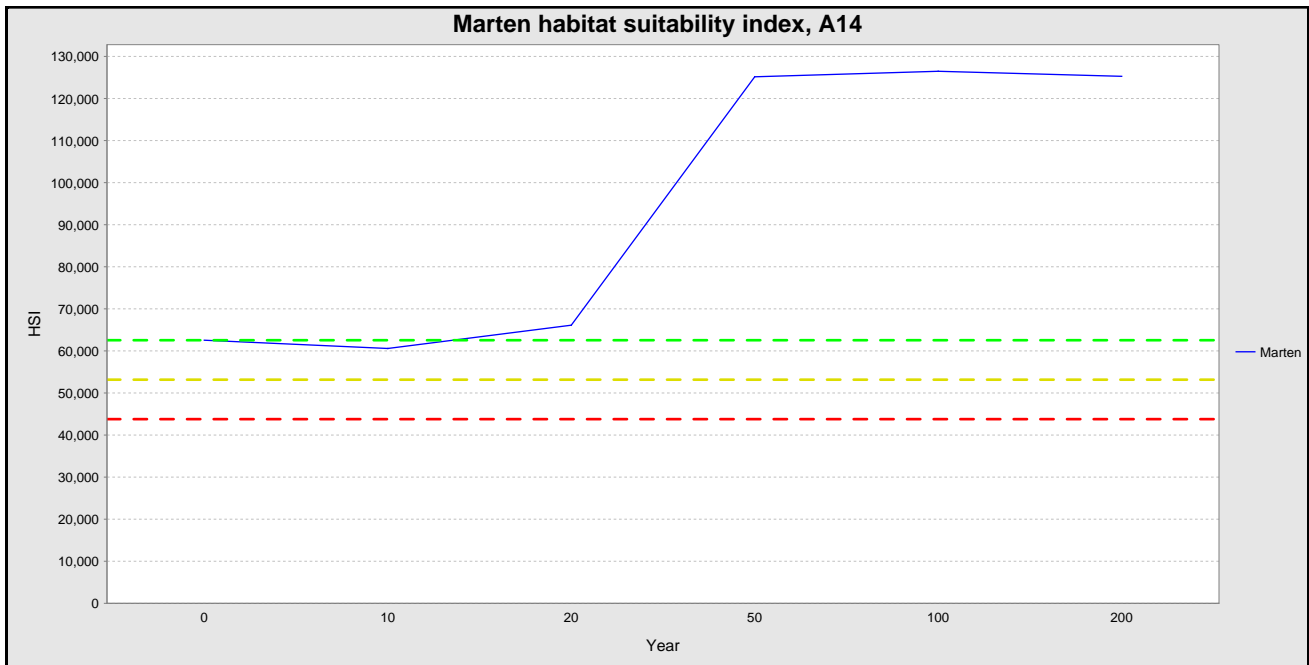
Barred Owl Breed Pair - period 5



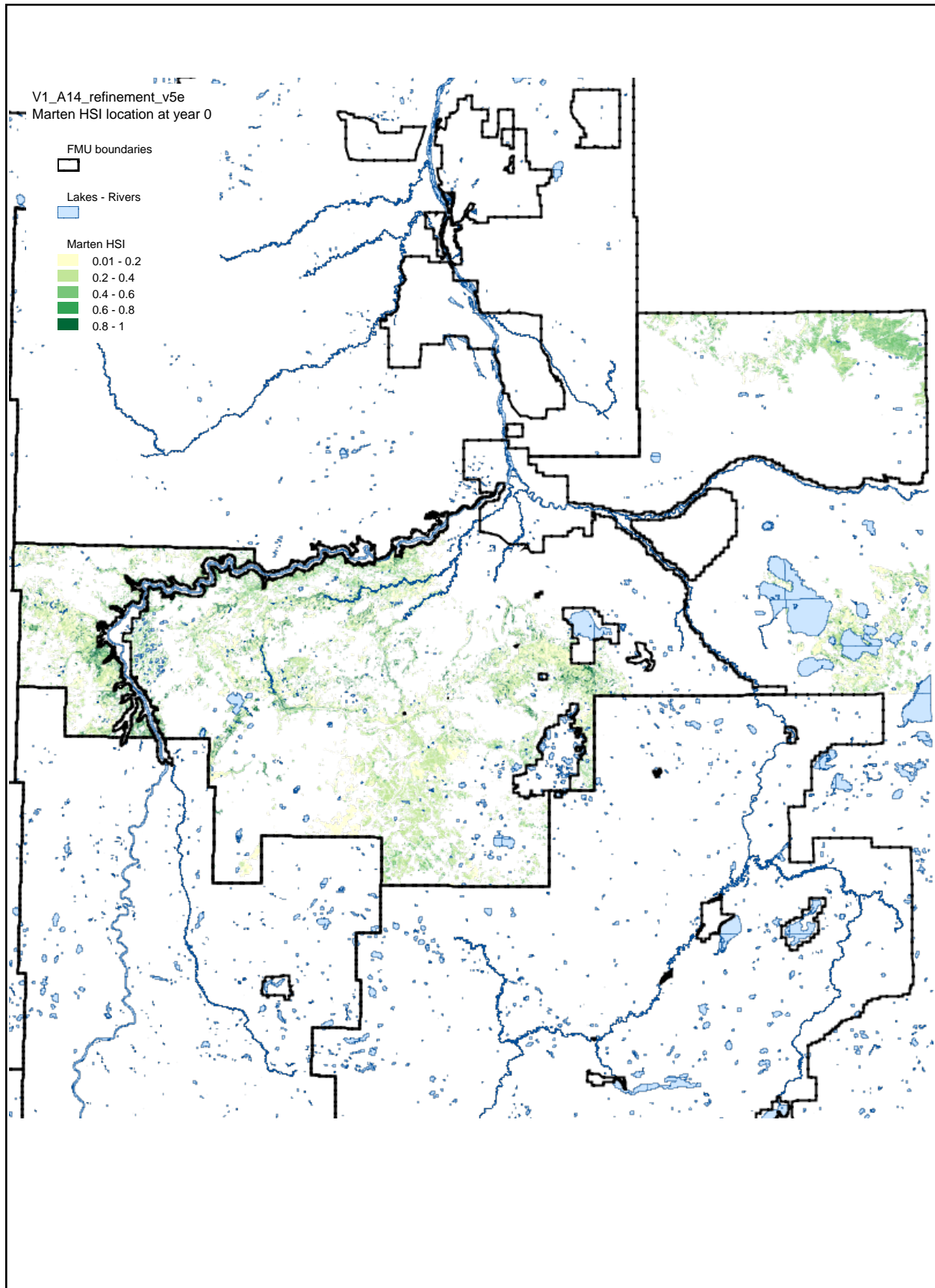
Marten Habitat Suitability Index values

This table shows the summed Habitat Suitability Index (HSI) values from the Marten model by period. The line chart shows the change in summed HSI values relative to the time zero values. The dashed yellow reference line is 15% below the time zero value. The dashed red reference line is 30% below the time zero value.

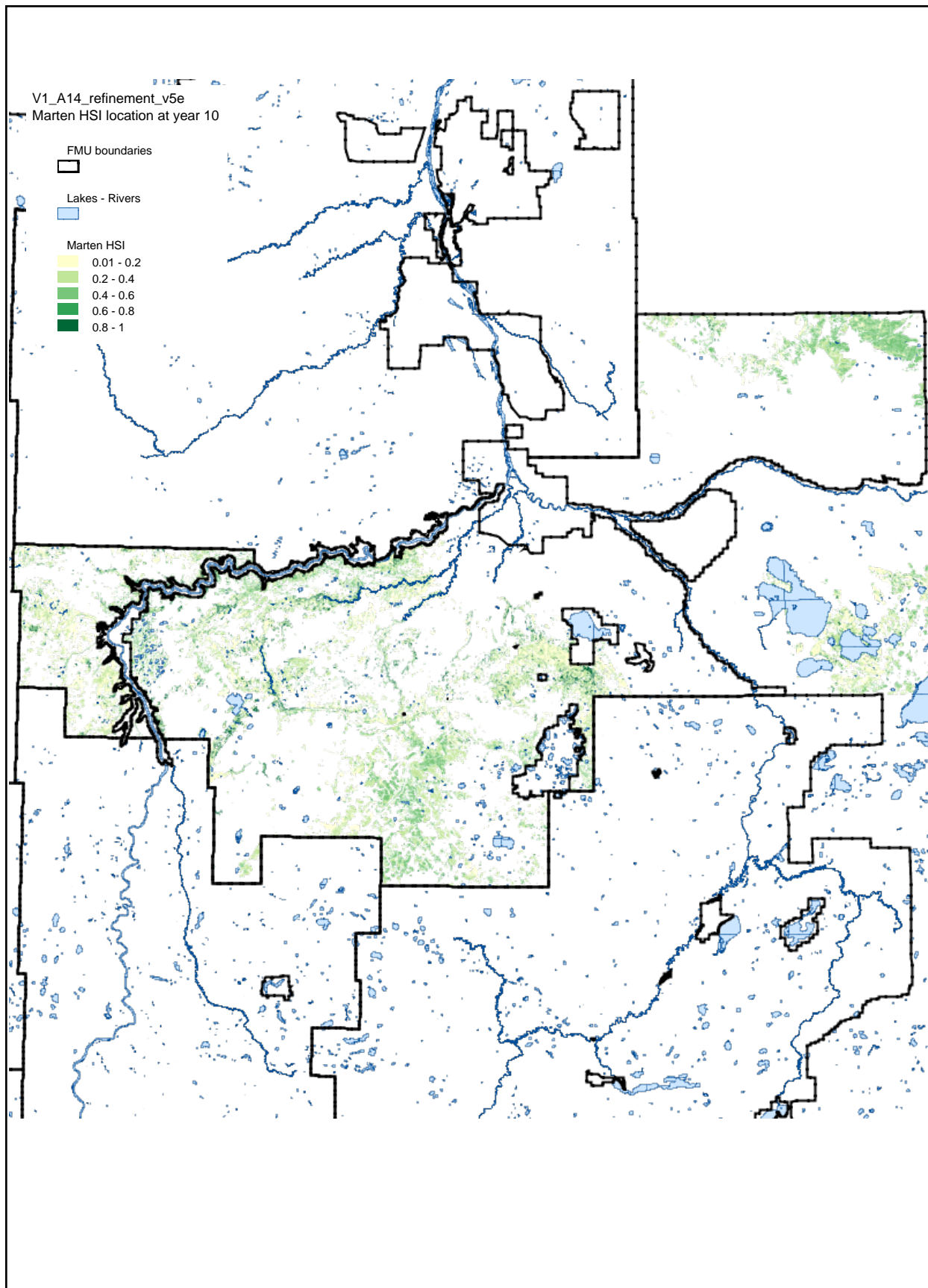
		Statistic		
		Mean	Stdev	Sum
Year	0	0.6126	2.5241	62,559
	10	0.5933	4.1209	60,592
	20	0.6476	5.0171	66,133
	50	1.2258	5.9759	125,181
	100	1.2387	4.3931	126,497
	200	1.2269	4.4286	125,297



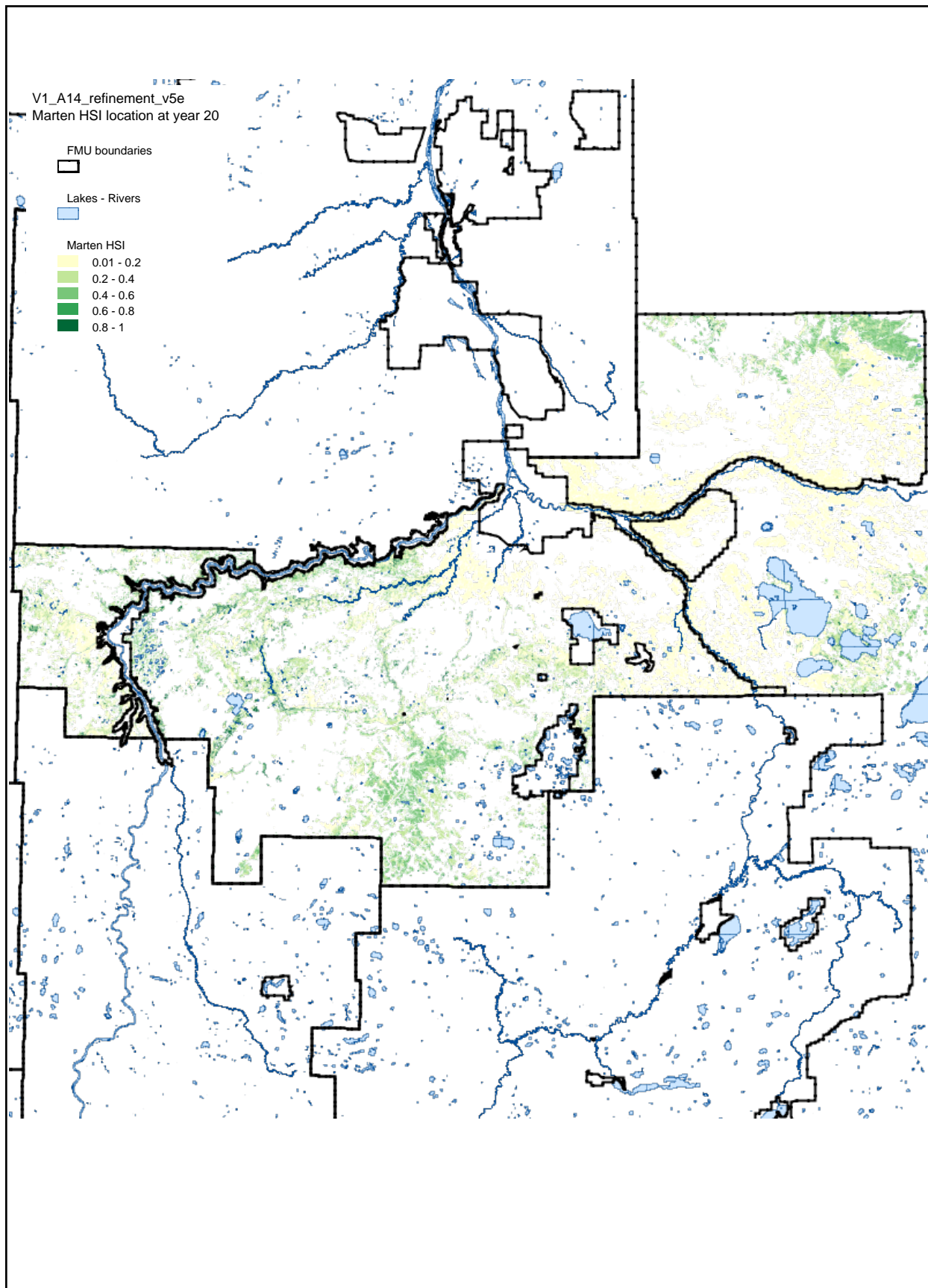
Marten Habitat Suitability Index - period 0



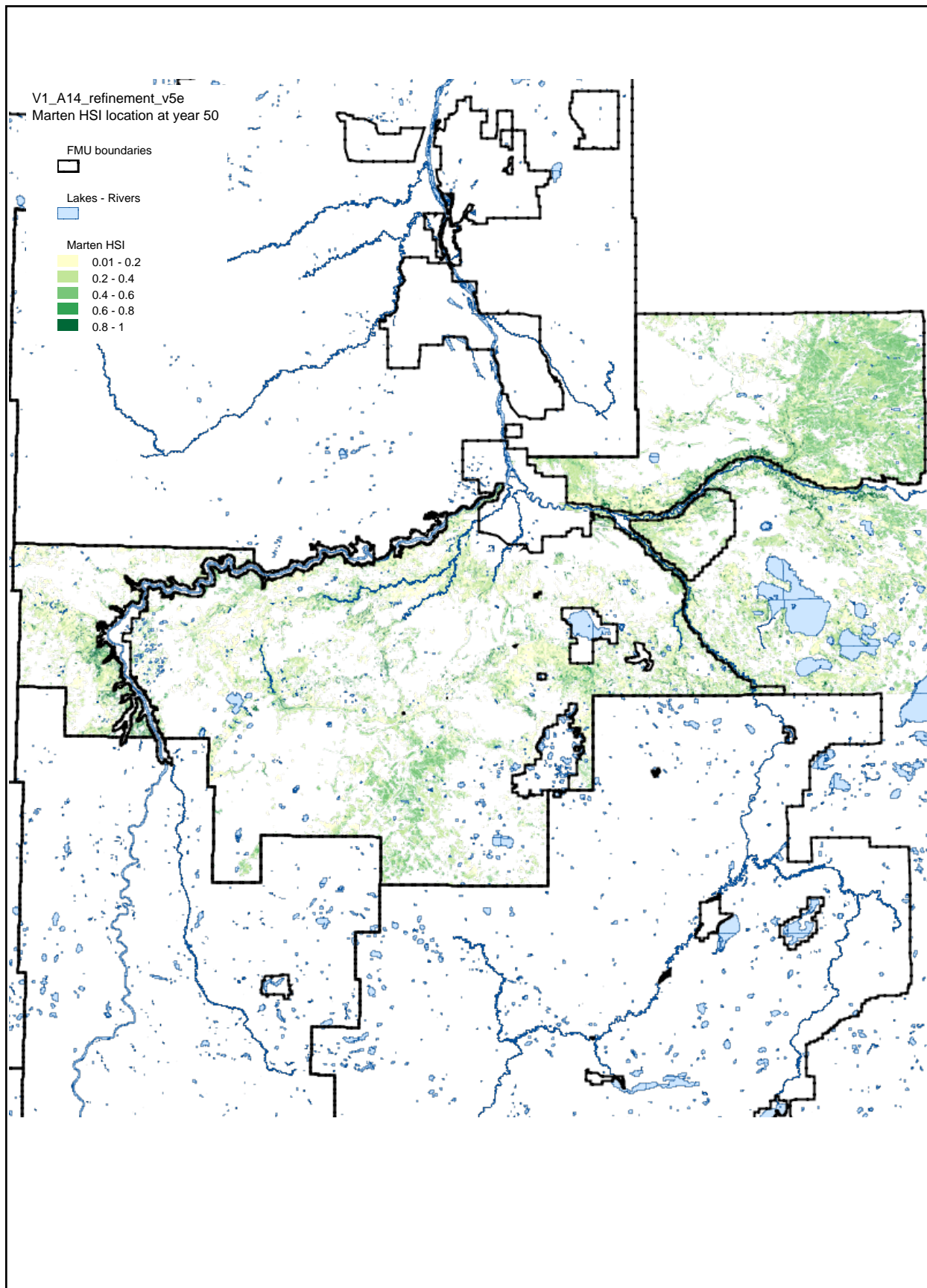
Marten Habitat Suitability Index - period 1



Marten Habitat Suitability Index - period 2



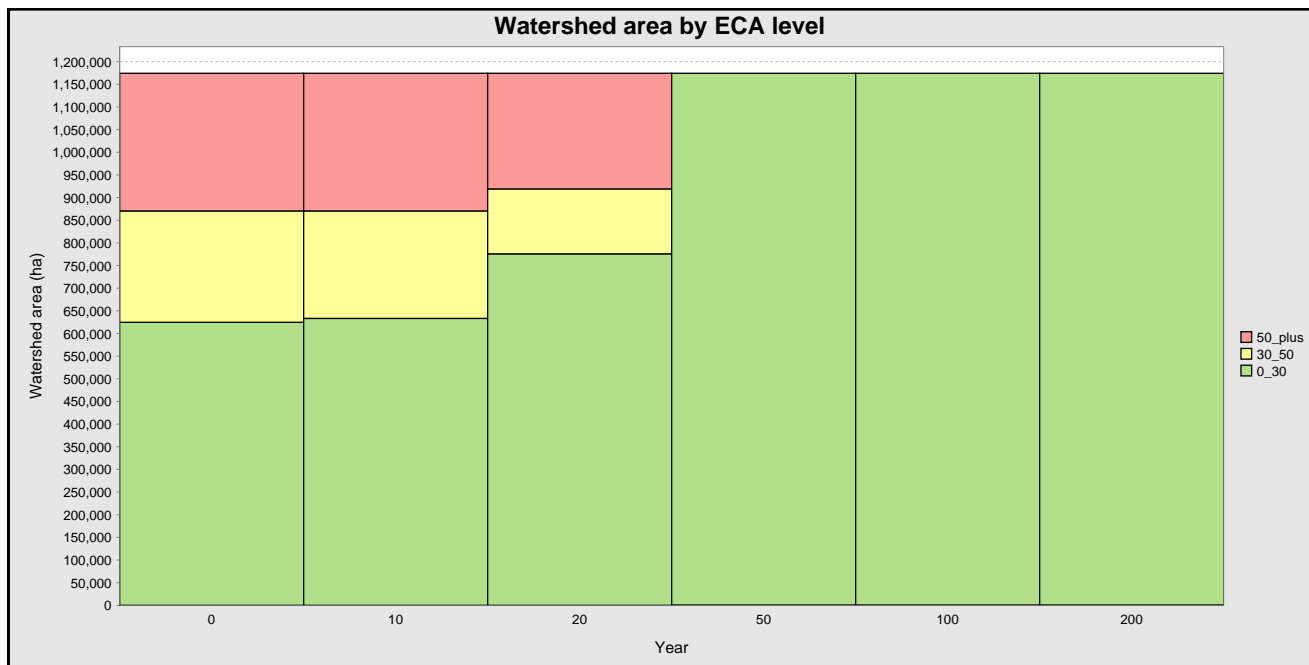
Marten Habitat Suitability Index - period 5



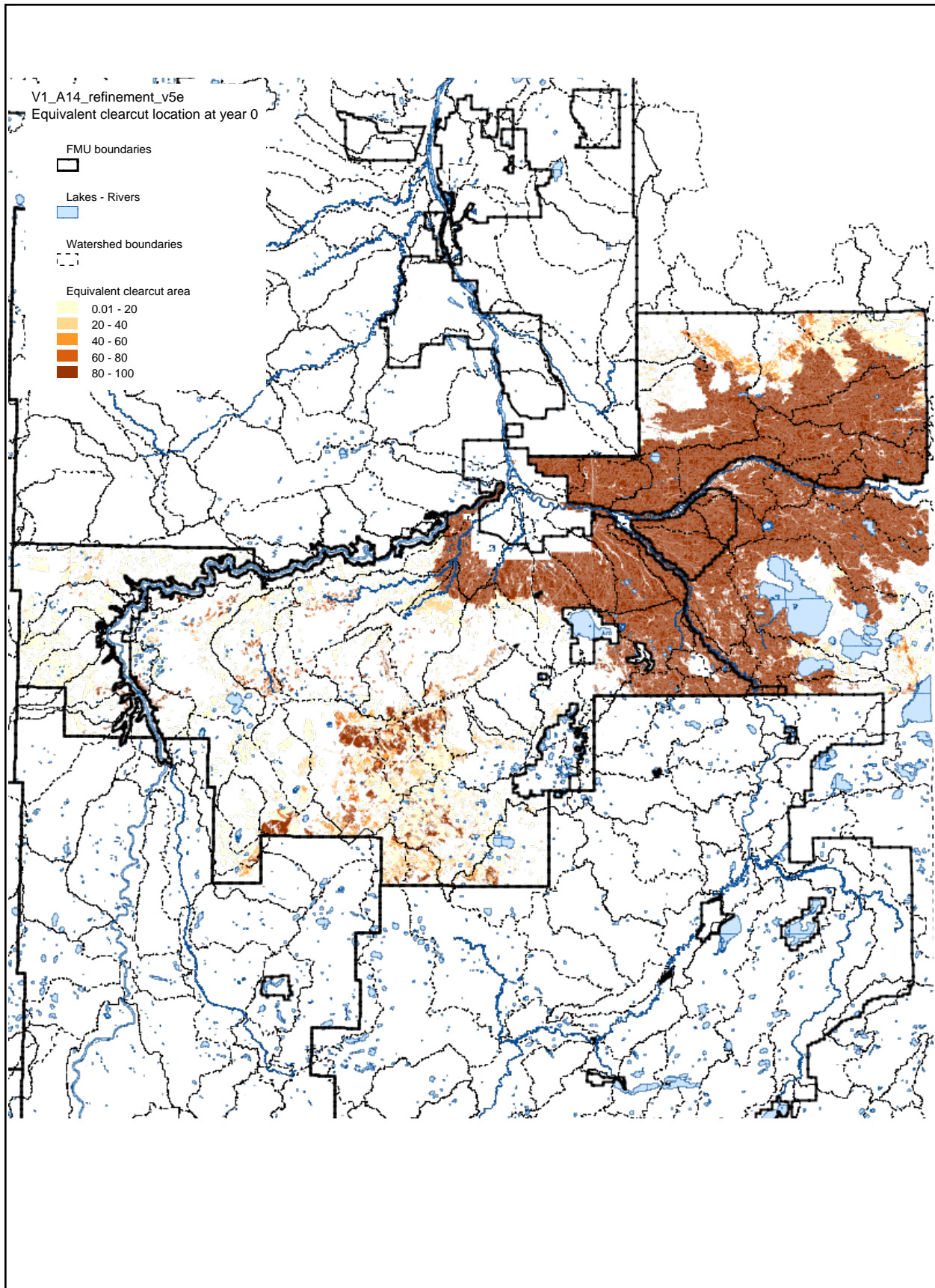
ECA Assessment Values

This table shows the summed values from the Equivalent Clearcut Area (ECA) model. The values are calculated by classifying the percent disturbance in each watershed, and then summing the watershed area by the percent disturbance classes. The target is to have less than 30% disturbance in each watershed. This target is sometimes not possible due to the occurrence of large natural disturbances, or not practical when small slivers of watersheds overlap the FMU boundary.

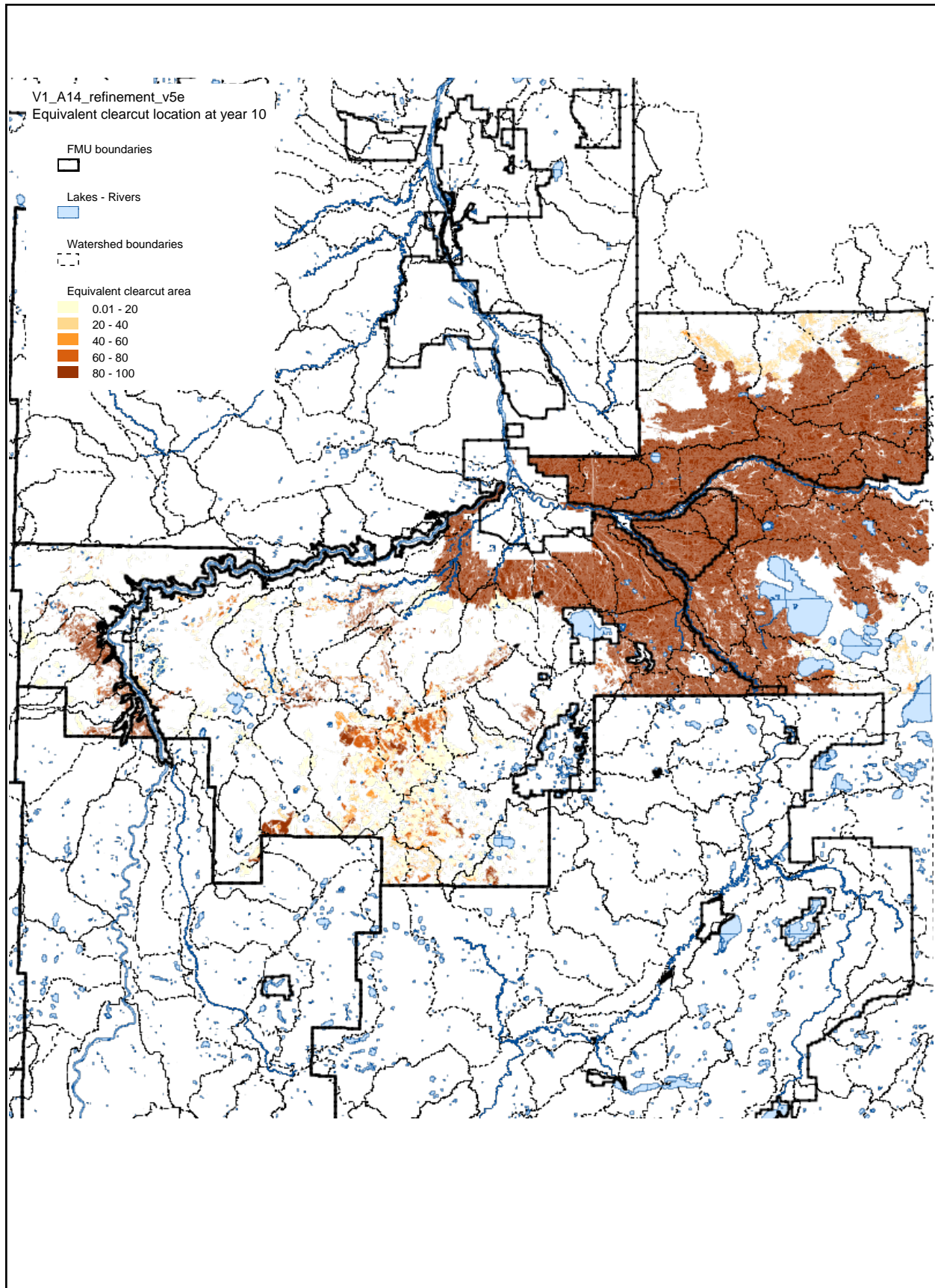
Period	Year	0_30	30_50	50_plus	Total
0	0	624,717	245,829	303,832	1,174,378
1	10	633,336	237,210	303,832	1,174,378
2	20	775,862	143,267	255,249	1,174,378
5	50	1,174,378	0	0	1,174,378
10	100	1,174,378	0	0	1,174,378
20	200	1,174,378	0	0	1,174,378



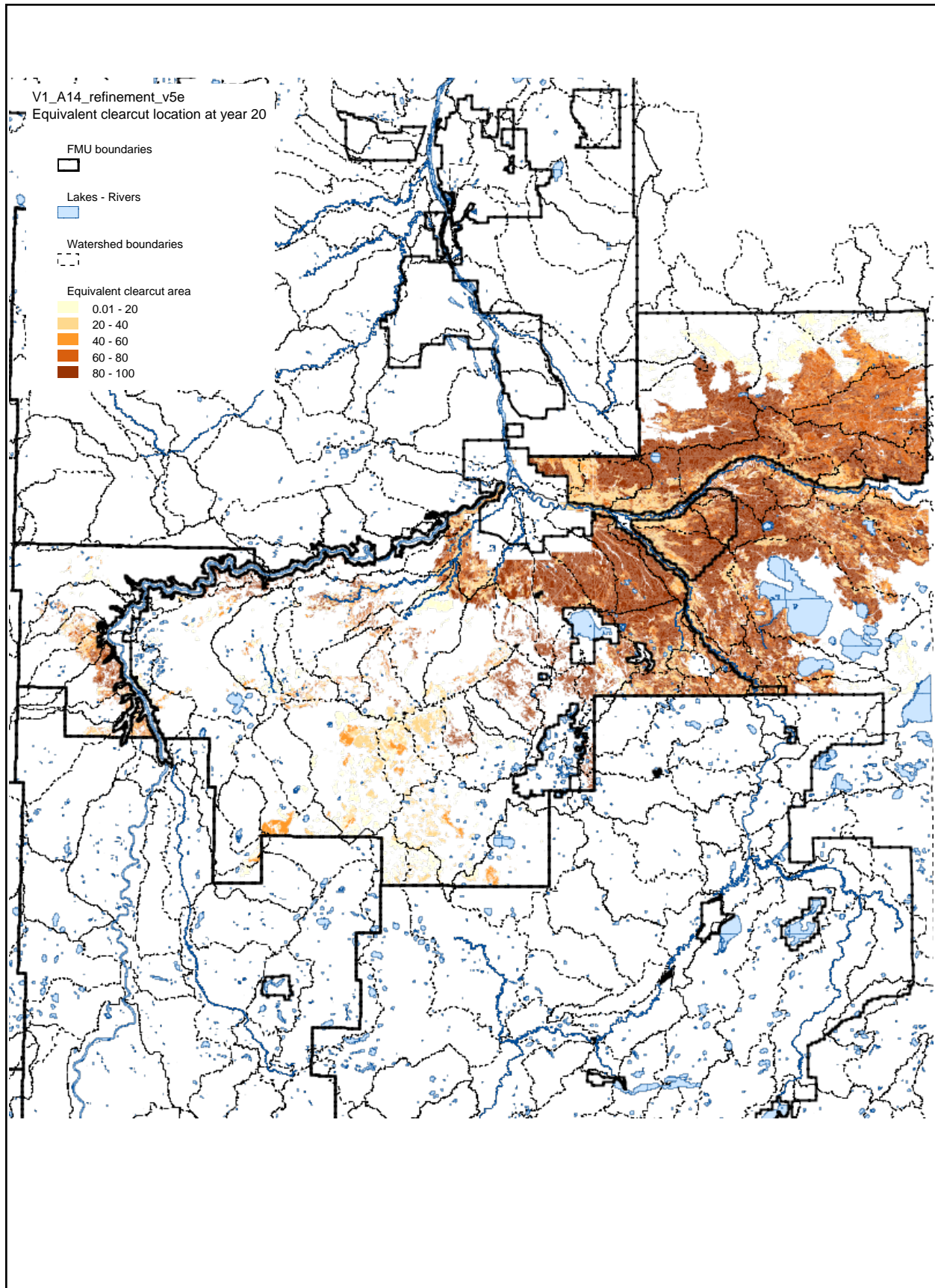
Voit 3.2.1.1 Equivalent clearcut area - period 0



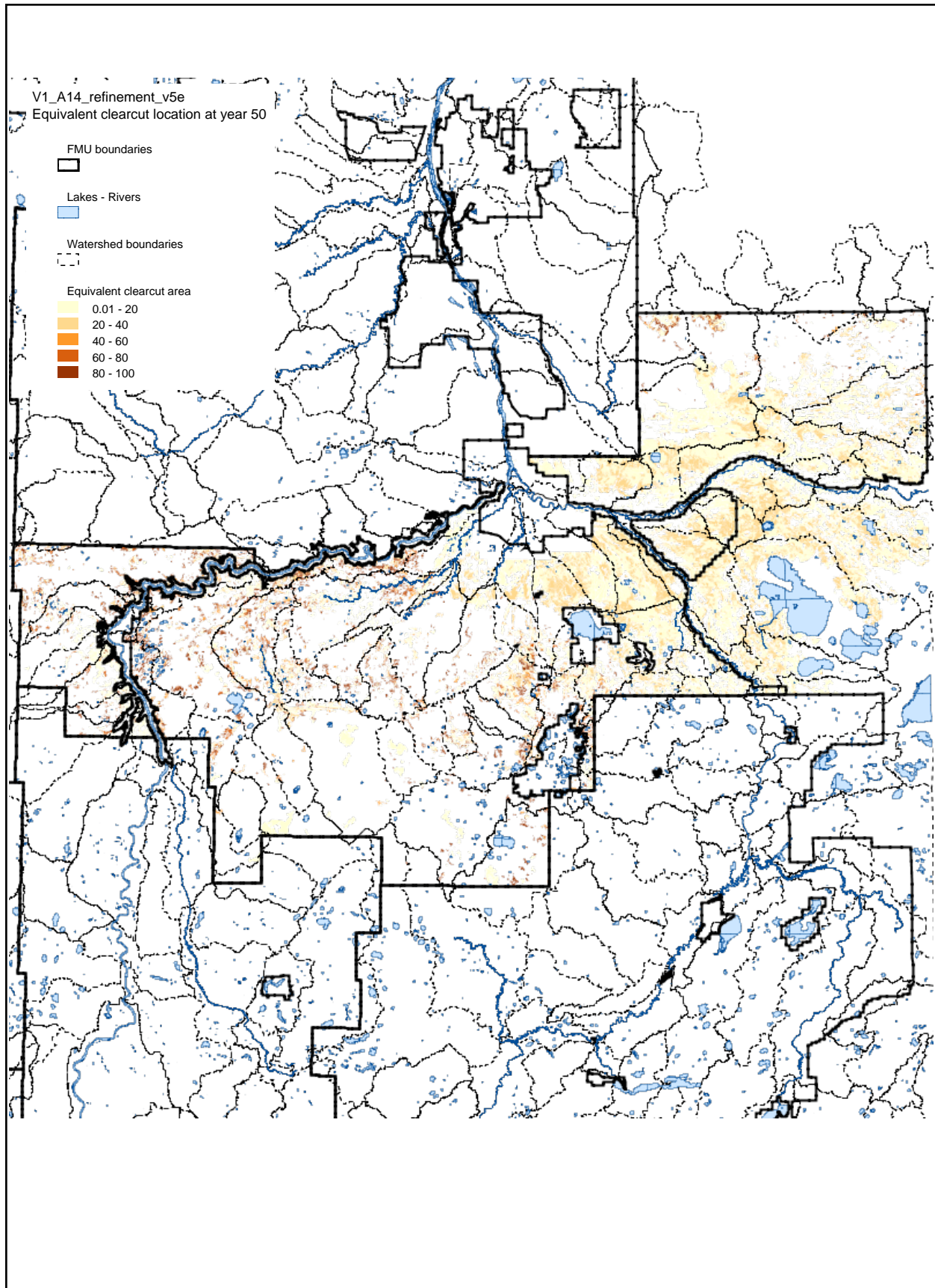
Voit 3.2.1.1 Equivalent clearcut area - period 1



Voit 3.2.1.1 Equivalent clearcut area - period 2



Voit 3.2.1.1 Equivalent clearcut area - period 5



Scenario parameters

The indicators in this appendix represent the Preferred Forest Management Scenario (PFMS) that was simulated with the Patchworks™ forest management planning model using the following set of parameter and objectives:

SHS Refinement Scenario - V5e. Schedule operationally refined SHS for Period 1 and Period 2 (no model allocations within first 20 years). Apply all base model objectives, caribou and NRV patches to determine long term sustainability impacts of SHS. Add NTA (Marten and Songbird) minimum objectives. 200 year even-flow primary volume.

This scenario has the following characteristics:

- Primary harvest for conifer and deciduous by FMU.
- Primary even flow harvest
- Primary non-declining managed GS by FMU for the last 50 years.
- Using the Adjust50 volume type
- Using the ORIG_AREA no succn tracks
- Using SHS version 5
- Silviculture transition ratios for AwU set to 70/15/15.
- Limit SbFM harvest
 - Limit to 63.33% of available area in A14 (9459 ha out of 14936 ha total). This will be applied as a limit of 0.6333% of the initial SbFM available area harvested per year.
- Cover/Seral targets at SRNV quartile levels with weight=10.0
- Initial planned harvest locked for 20 years.
- Pre-defined block schedule
 - Using ../fmus/A14/blocks/schedule_V5.csv
 - No MPB in Caribou zone
- Transportation budget set to limit road access footprint with least impact on wood supply
- Road construction budget places a maximum upper bound on captial construction
- Harvest patches follow NRV distribution for first 40 years
- Marten HSI target to retain habitat
- Songbird HSI target to retain habitat