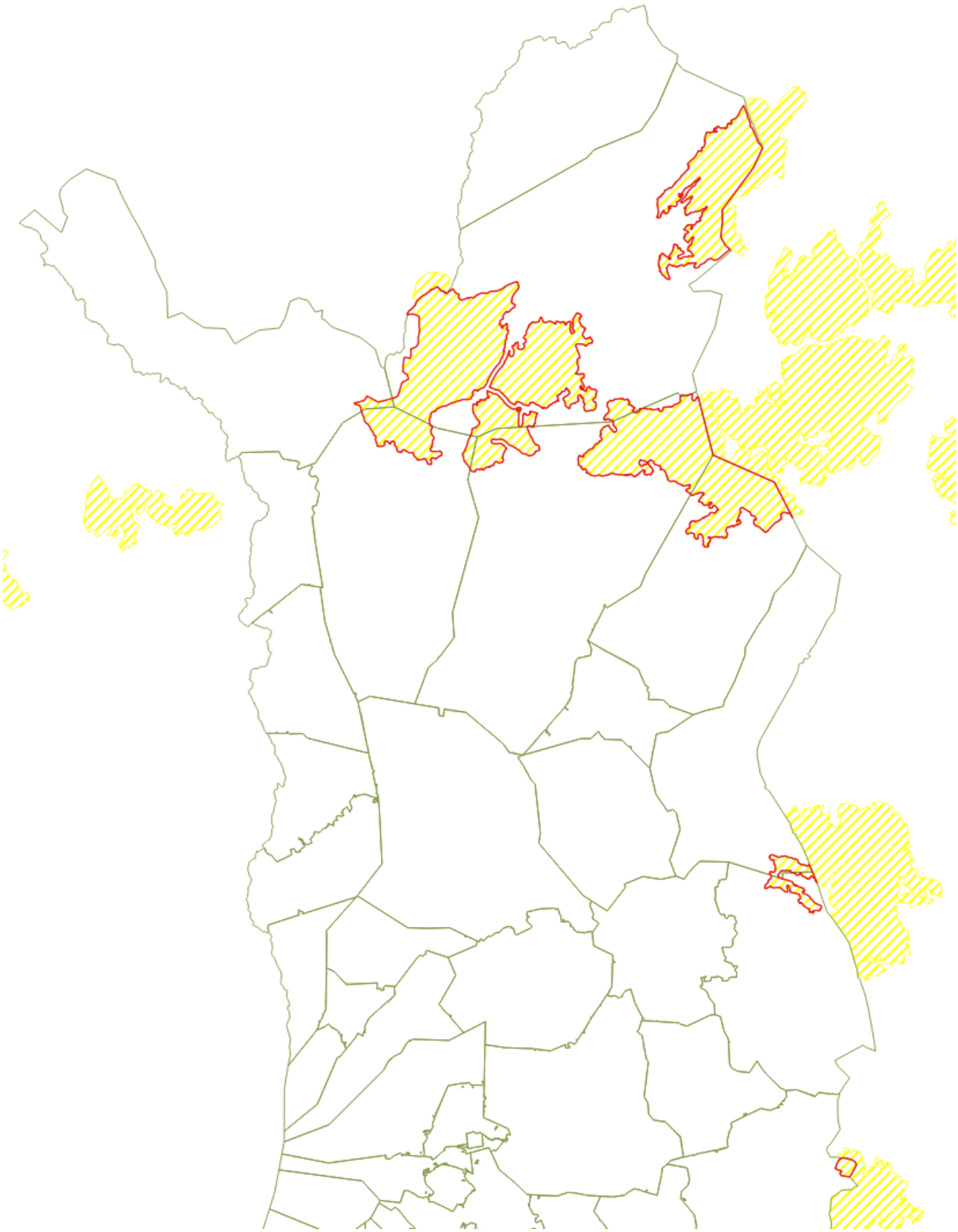
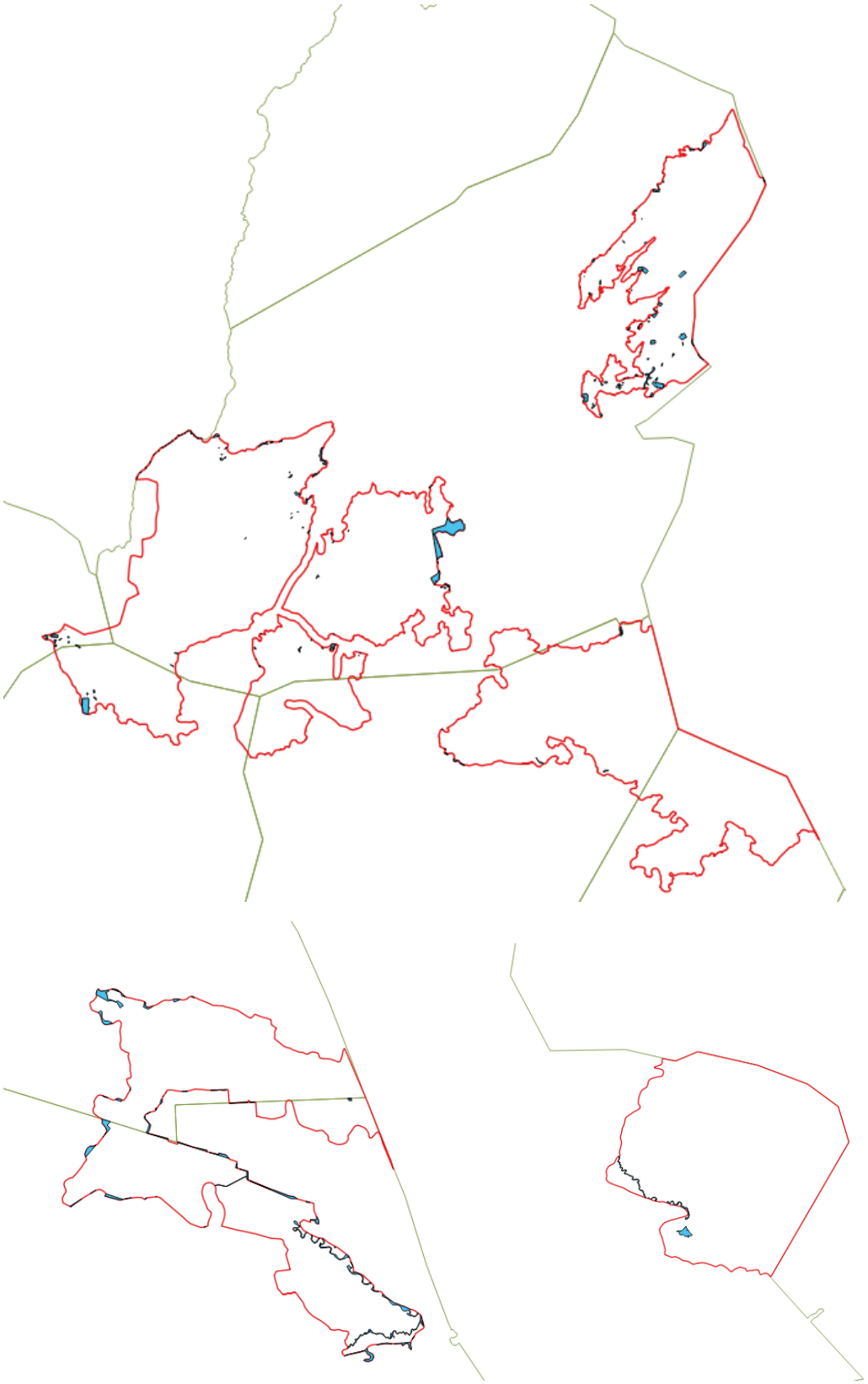
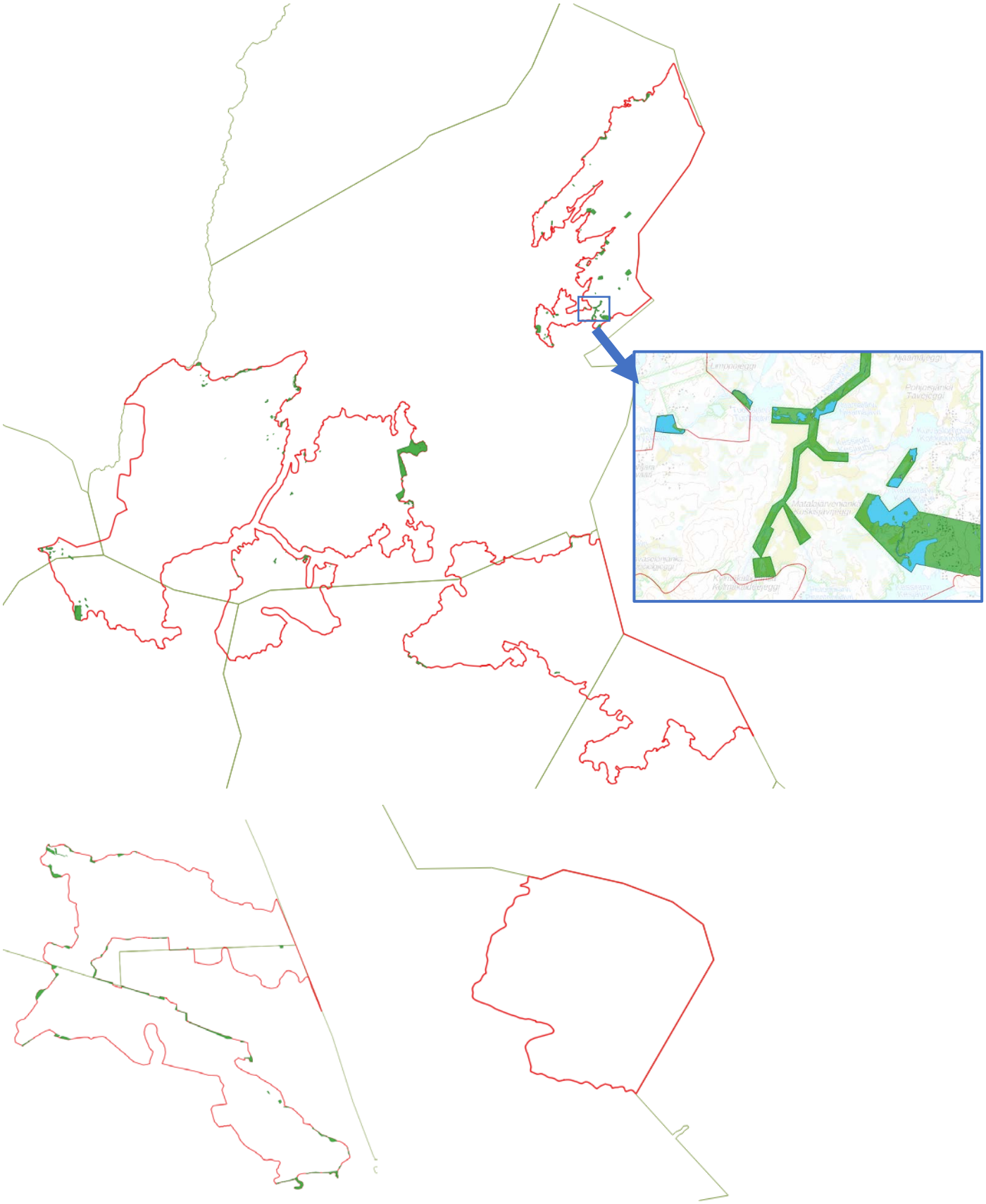


Picture 1. IFL 2013 areas in Finland.

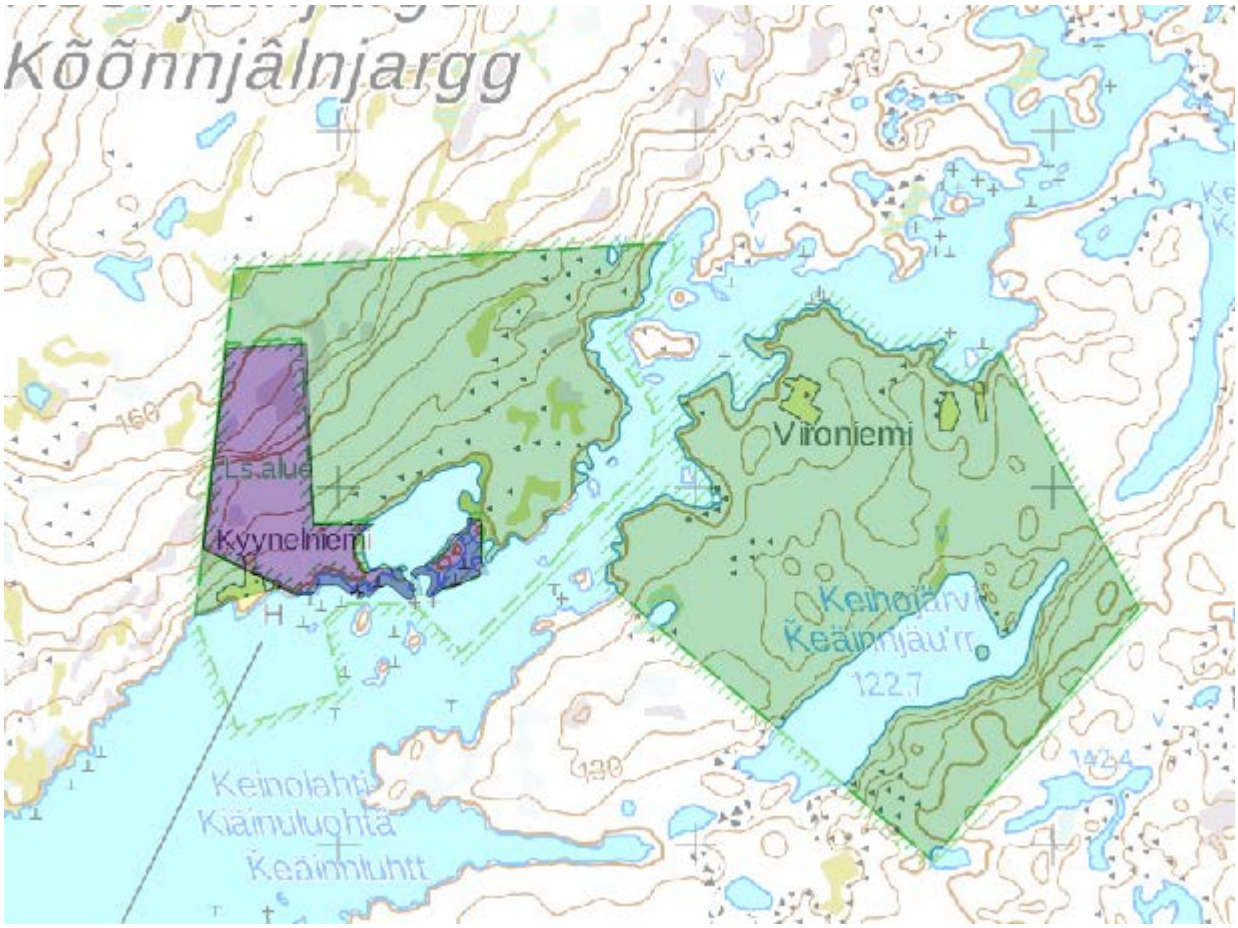


Picture 2. Private IFL 2013 areas in Finland (blue areas).

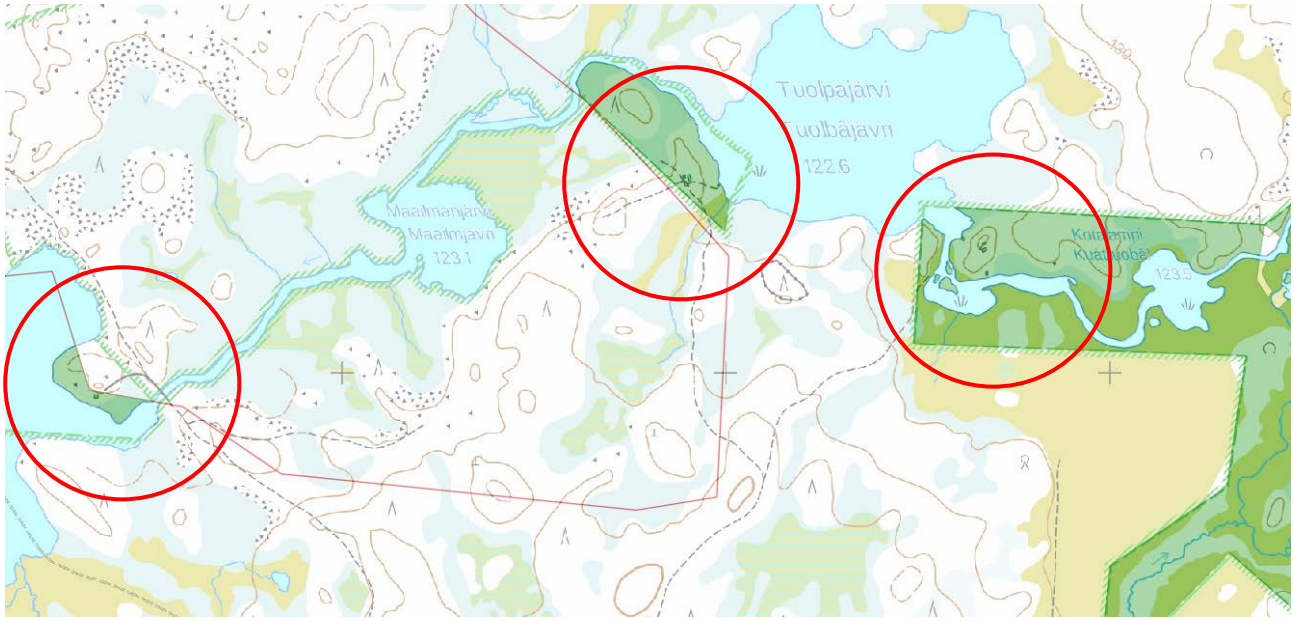


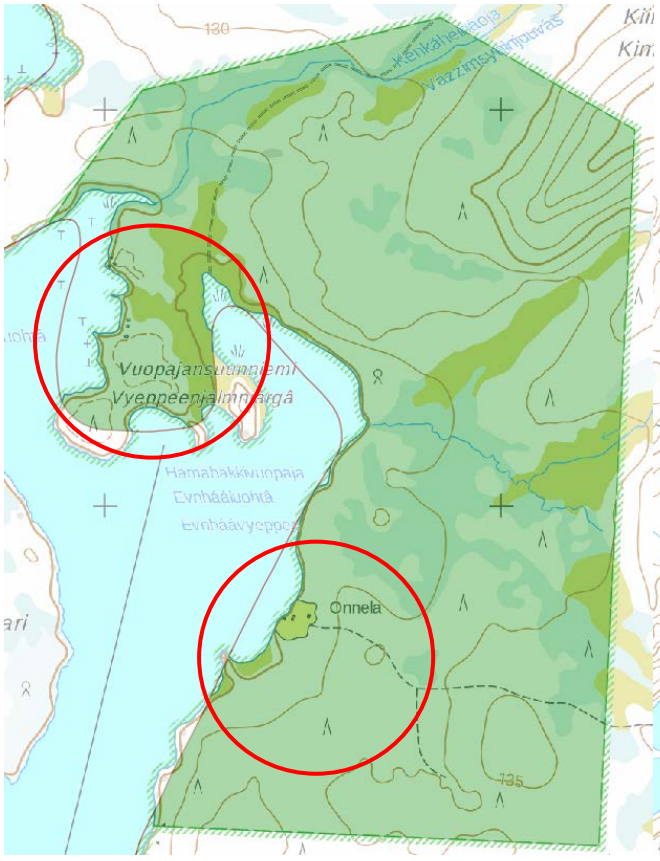
Picture 3. Private 2013 land areas (green areas, lakes and rivers clipped). No private land areas in Suomussalmi.

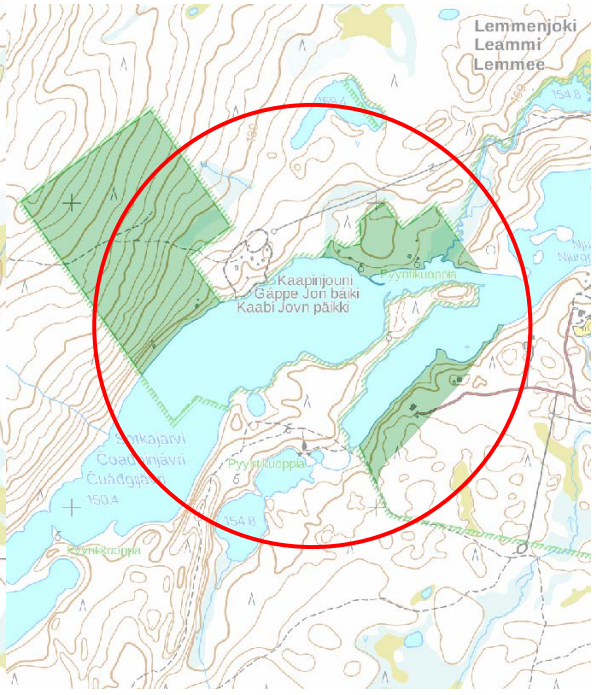
Picture 4. Some of the private owned areas are already strictly protected (purple areas)



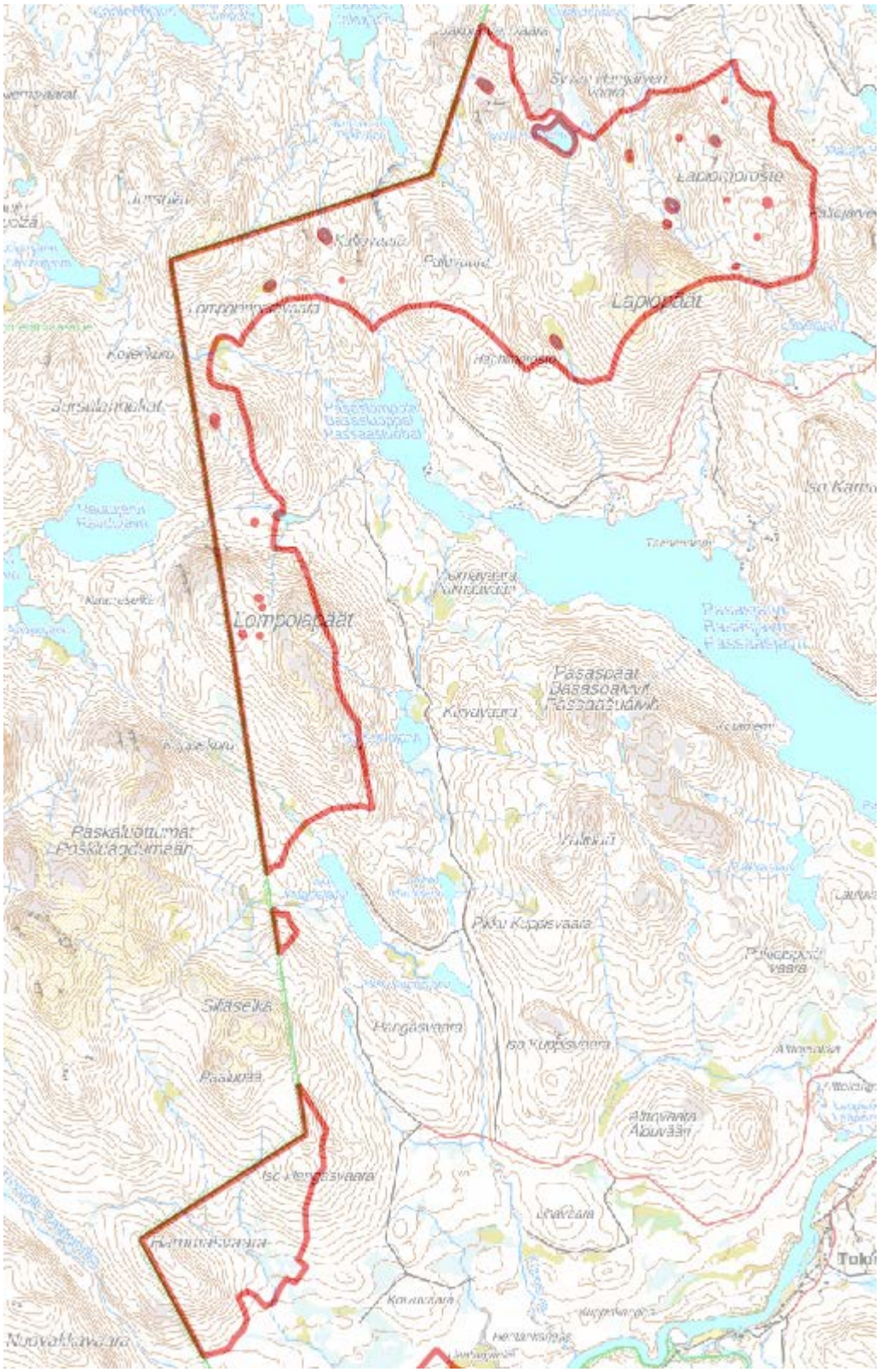
Picture 5. In northern IFL areas (included Sami home land) the privately-owned areas are long time owned by the local people and the lots are for livelyhood of local communities (settlements, fishing infrastructure and areas where hay and grass were collected for animals). Therefore, they shouldn't be classified as IFL at all. Furthermore, forestry does not cause any risk for those areas and IFL values.





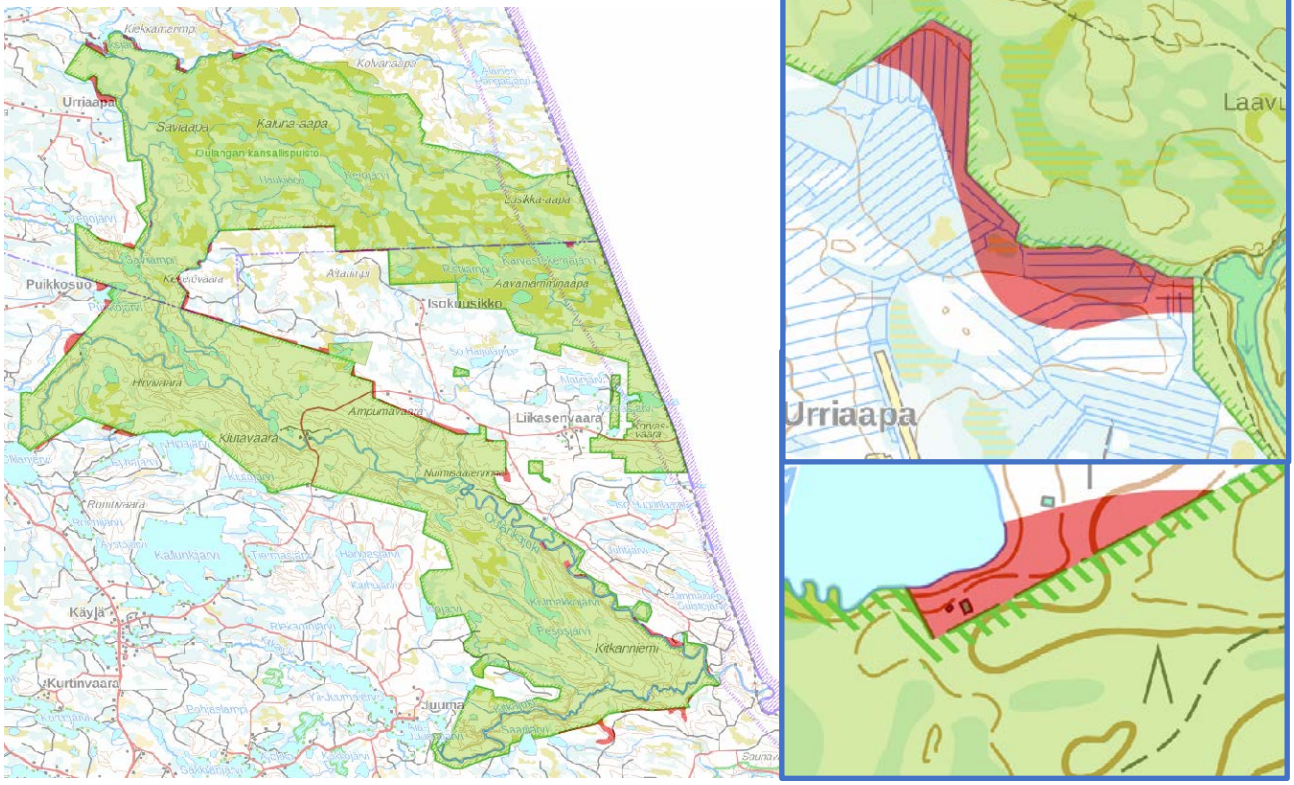


Picture 6. There is only one rather big privately-owned forest area inside the IFL 2013 data in Inari. The area is common forest owned by the local landowners living in the community and that is important area for their livelihood. The size of these areas is about 2 800 ha.

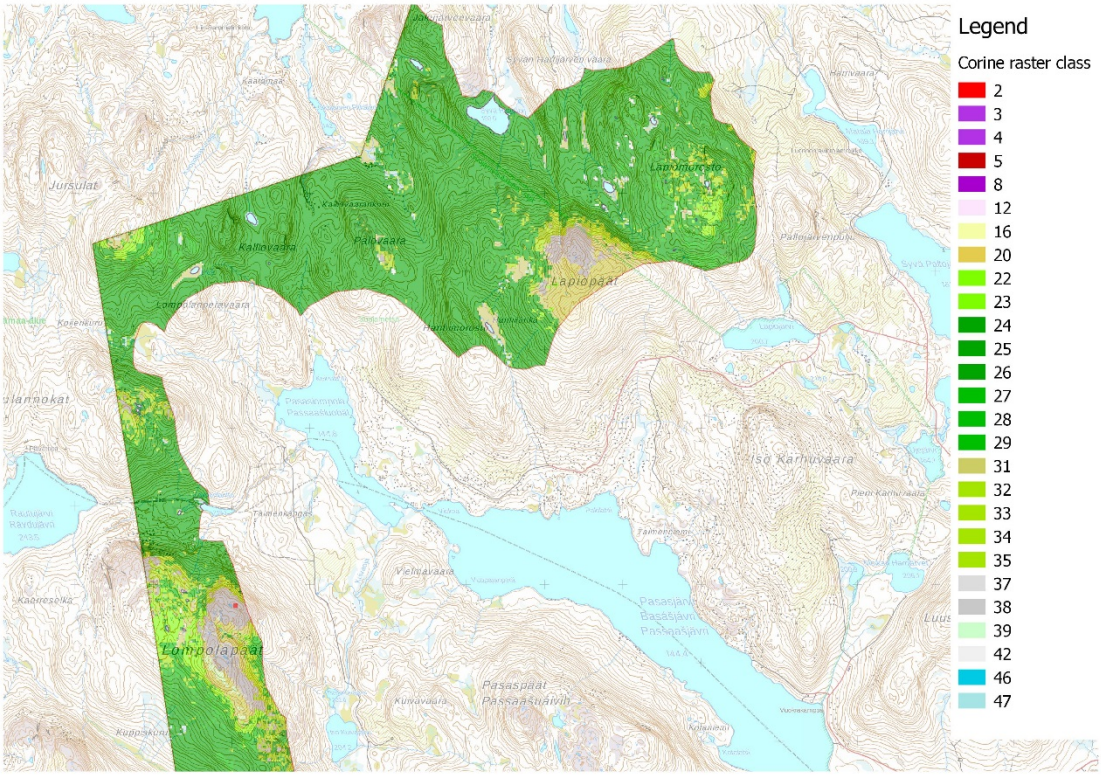


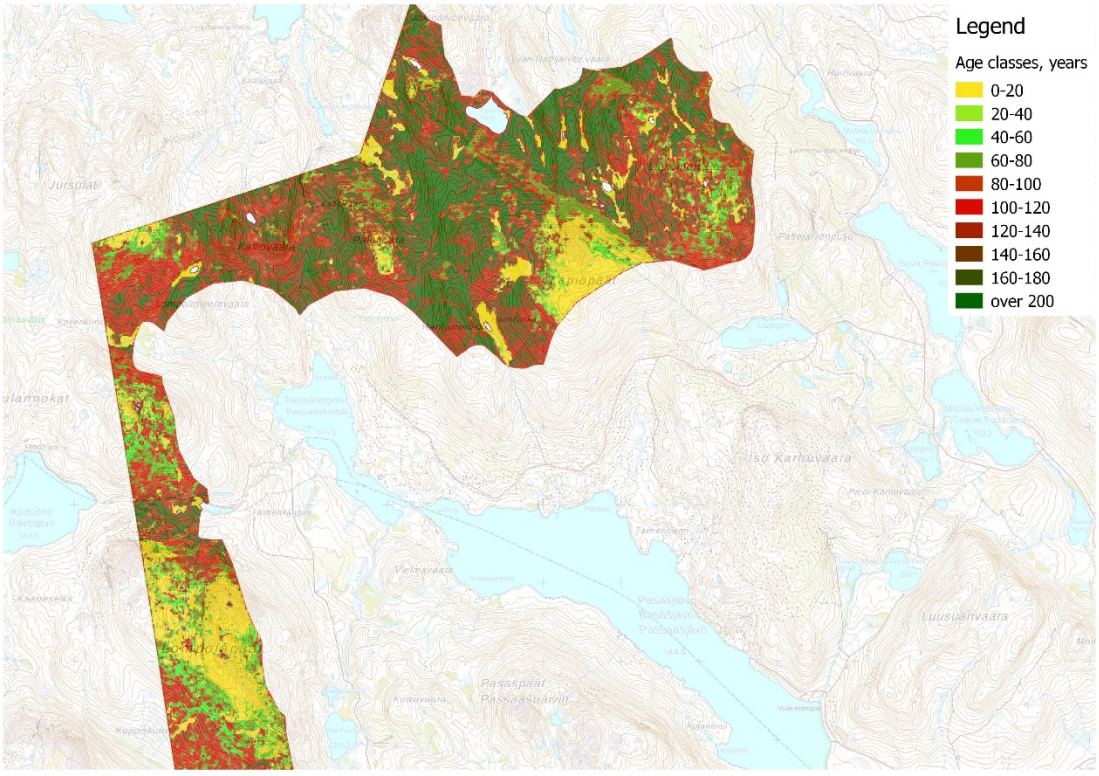
Picture 7. In Kuusamo and Salla region the privately-owned IFL areas are mostly located at the border of Oulanka National park, and they include forestry areas with management since long time. However, they are inside the IFL 2013-maps because of the scale and nature of IFL-material. These areas may be drained peatland and logged areas that have been regenerated. The forestry doesn't threat the HCV2 values of Oulanka National park (green areas).

Some areas are settlement or free time house lots etc.



Picture 8. Syke (Finnish Environment Institute) and Luke (Natural resources Institute Finland) have also open data available and we can calculate landuse classes (Corine) areas and the age classes on private forests areas from these data.





In Northers parts of Finland, the normal regeneration age is 120 – 150 years.

	Area	
IFL 2013 areas in Finland	966 000 ha	100 %
IFL areas in private owned areas	7 670 ha	0,8 %
- State owned areas excluded		
IFL private landarea (no lakes, rivers)	6 734 ha	0,7 %
- Lakes and rives excluded		
IFL private non protected landarea	**6 710 ha**	0,7 %
- so called YSA-areas excluded (privately owned statytory protected areas)		

Landuse analysis based on Corine 2012 20 m data

- source of original data for analysis: http://www.syke.fi/en-US/Open_information/Spatial_datasets

Corine category	**Area**	
2 Discontinuous urban fabric	4 ha	0,0 %
3 Industrial or commercial units	0 ha	0,0 %
4 Industrial or commercial units	1 ha	0,0 %
5 Road and rail networks and associated land	0 ha	0,0 %
8 Mineral extraction sites	0 ha	0,0 %
12 Sport and leisure facilities	22 ha	0,0 %
16 Non-irrigated arable land	0 ha	0,0 %
20 Land principally occupied by agriculture, with significant areas of natural vegetation	9 ha	0,0 %
22 Broad-leaved forest mineral soils	108 ha	0,0 %
23 Broad-leaved forest peatlands	3 ha	0,0 %
24 Coniferous forest mineral soils	3 866 ha	0,4 %
25 Coniferous forest peatlands	266 ha	0,0 %
26 Coniferous forest rocky soils	104 ha	0,0 %
27 Mixed forest mineral soils	474 ha	0,0 %
28 Mixed forest peatlands	46 ha	0,0 %
29 Mixed forest rocky soils	4 ha	0,0 %
31 Moors and heathland	99 ha	0,0 %
32 Transitional woodland/shrub cc < 10%	43 ha	0,0 %
33 Transitional woodland/shrub cc 10 - 30% mineral soils	137 ha	0,0 %
34 Transitional woodland/shrub cc 10 - 30% peatlands	108 ha	0,0 %
35 Transitional woodland/shrub cc 10 - 30% rocky soils	33 ha	0,0 %
37 Beaches, dunes, and sand plains	3 ha	0,0 %
38 Bare rock	93 ha	0,0 %
39 Sparsely vegetated areas	5 ha	0,0 %
42 Peatbogs	1 176 ha	0,1 %
46 Water bodies	20 ha	0,0 %
47 Water bodies	17 ha	0,0 %
Total	**6 643 ha**	**0,7 %**

Corine		
Forest areas	5 202 ha	0,5 %
Unproductive forest areas	1 377 ha	0,1 %
Other landuse	73 ha	

NFI 2015 data, 16 m pixel size (classification differs a bit with Corine)
- source of original data for analysis:
http://kartta.luke.fi/index-en.html

Productive forest land	4 325 ha	0,4 %
Poorly productive forest land	890 ha	0,1 %
	5 215 ha	0,5 %
Unproductive forest land	1 435 ha	0,1 %
No data / other landuse: roads, settlements, fields, sport sites	60 ha	

NfFI 2015 data, ageclasses in productive forest areas

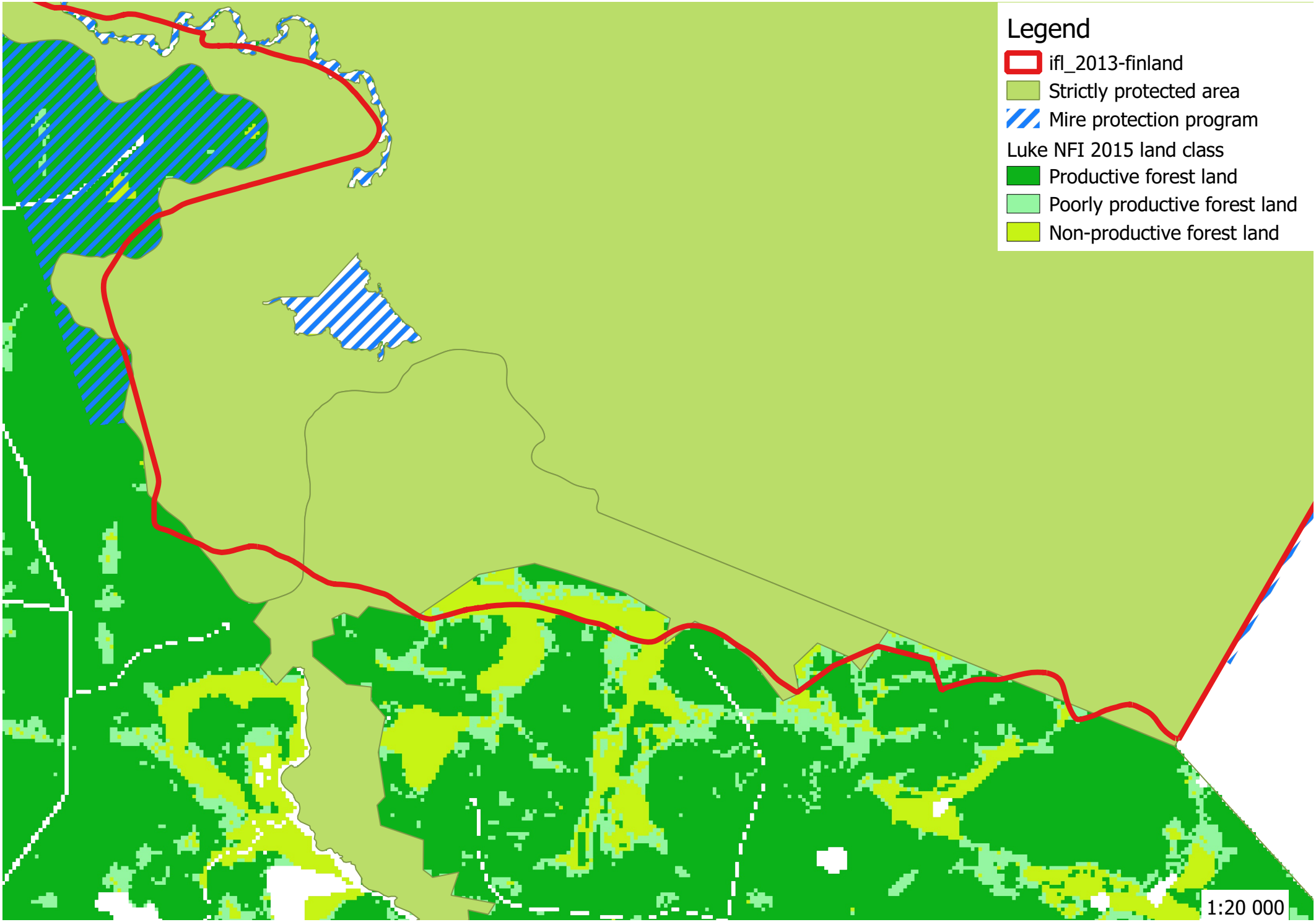
Age class	**Productive forest, ha**	
0 - 20	47 ha	0,0 %
20 - 40	39 ha	0,0 %
40 - 60	78 ha	0,0 %
60 - 80	172 ha	0,0 %
80 - 100	291 ha	0,0 %
100 - 120	384 ha	0,0 %
120 - 140	483 ha	0,0 %
140 - 160	575 ha	0,1 %
160 - 180	549 ha	0,1 %
180 - 200	552 ha	0,1 %
200 - 220	440 ha	0,0 %
220 - 240	408 ha	0,0 %
240 - 260	253 ha	0,0 %
260 - 280	51 ha	0,0 %
280 - 300	3 ha	0,0 %
300 - 320	0 ha	0,0 %
Total	**4 325 ha**	**0,4 %**

Annex 2 - Suomussalmi IFL area

“The non-protected area in Suomussalmi region is only 24 ha. Part of it (about 2 ha) is located on mire-protection program area (see the attached pdf-file)

The main part of the non-protected area is either non-productive or poorly-productive areas (peatbogs) where forestry isn’t threatening HCV2 values.”

From email correspondence with Janne Soimasuo, FSC Controlled Wood Working group, Environmental Chamber. Referring to IFL analysis for Suomussalmi IFL area, 26.3.2018. GIS analysis conducted by Janne Soimasuo.


Legend
ifl_2013-finland
Strictly protected area
Mire protection program
Luke NFI 2015 land class
Productive forest land
Poorly productive forest land
Non-productive forest land
1:20 000

Metsähallitus
Forestry
Lauri Karvonen/Kirsi-Marja Korhonen

18.12.2017/13.3.2018

ANALYSIS OF THE IFL AREAS

The IFL areas in Finland were published by Greenpeace in 2006 based on satellite remote sensing data. After this Metsähallitus and ENGOs negotiated in the Forest Lapland process a mutually accepted solution of new protection areas considered as Intact Forest Landscapes. These areas are permanently set aside from forestry by Metsähallitus. The solution has been confirmed in Metsähallitus Natural Resource Plans in 2011. The plans with maps have been published and they are also available in www.retkikartta.fi.

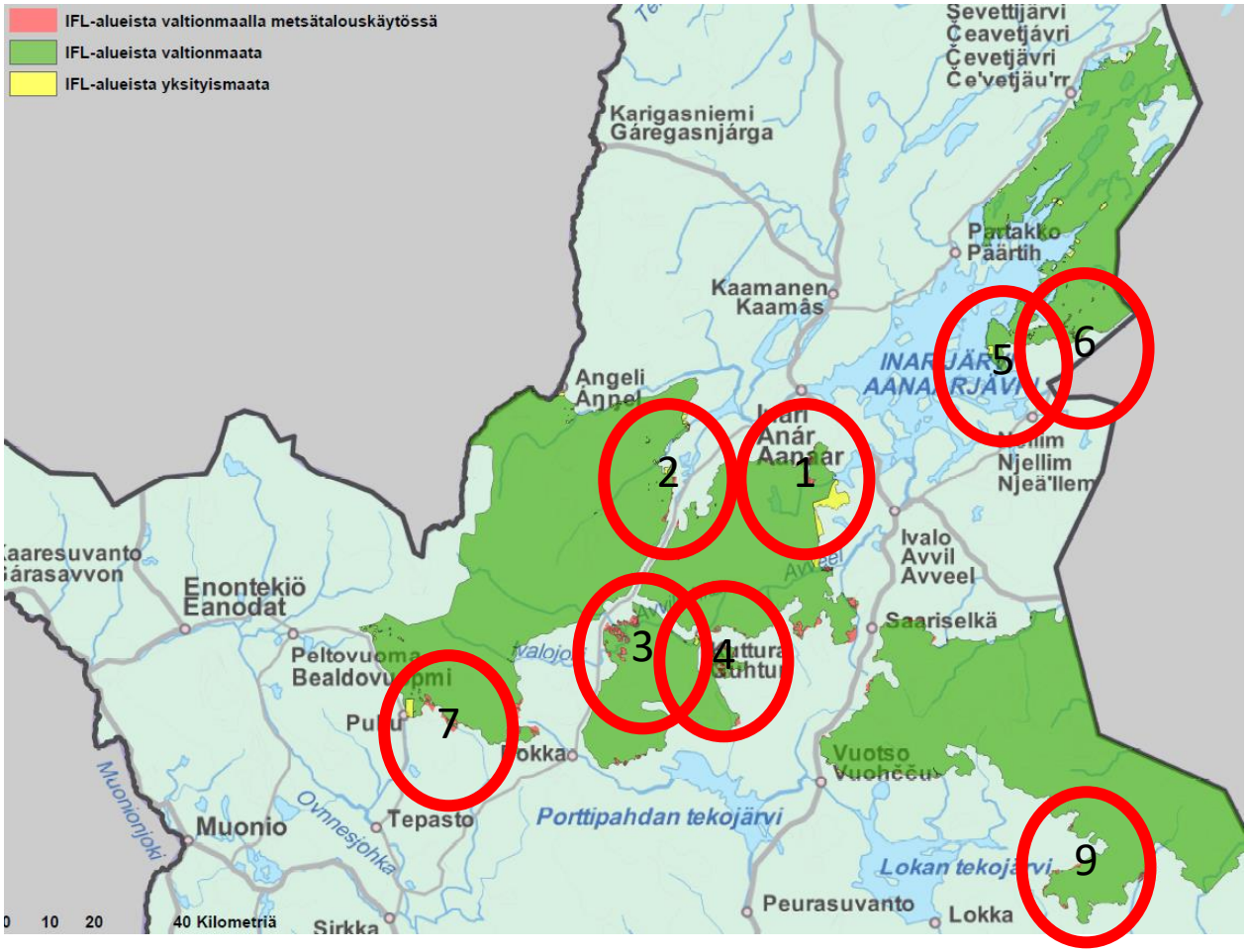
Original IFL delineations included areas which do not fulfill any criteria of Intact Forest Landscapes.

Less than 1 % of IFLs are situated in the areas where forestry is still allowed. Metsähallitus specialists have inventoried the structural features and HCV indicators and logging history of all these areas which were not included in Metsä-Lappi or any other protection areas. Only areas with no HCVs are accepted in forestry use based on these inventories.

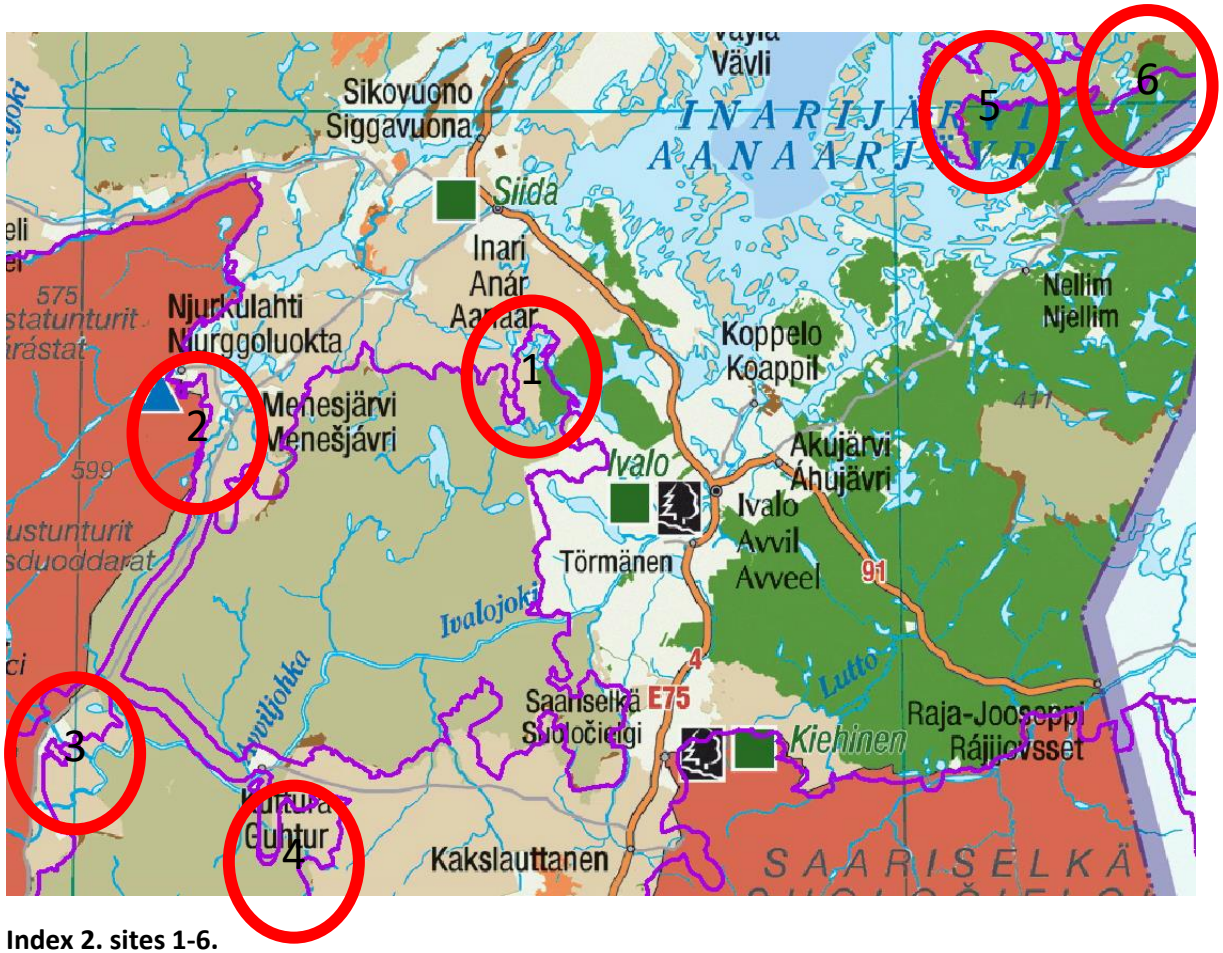
This report includes all loggings made in the original IFL delineations and the reasoning for them. No harm to HCV values of IFLs have been made in loggings made after 2006. There is no risk that future loggings would harm HCVs of IFLs which fulfill the criteria. This analysis covers all loggings of original IFLs during 2000-2013 in state lands. As the IFL delineations were published in 2006, it was not possible to take into account the delineations in loggings planned and fulfilled during 2000-2006.

All data in maps of this report are based on Metsähallitus Geographic Information system. Logging methods (colors) are not explained, but sites and logging years are the key. The original IFL delineation is marked in purple. Loggings are marked in index maps with red circles are shown in detailed maps with purple delineation.

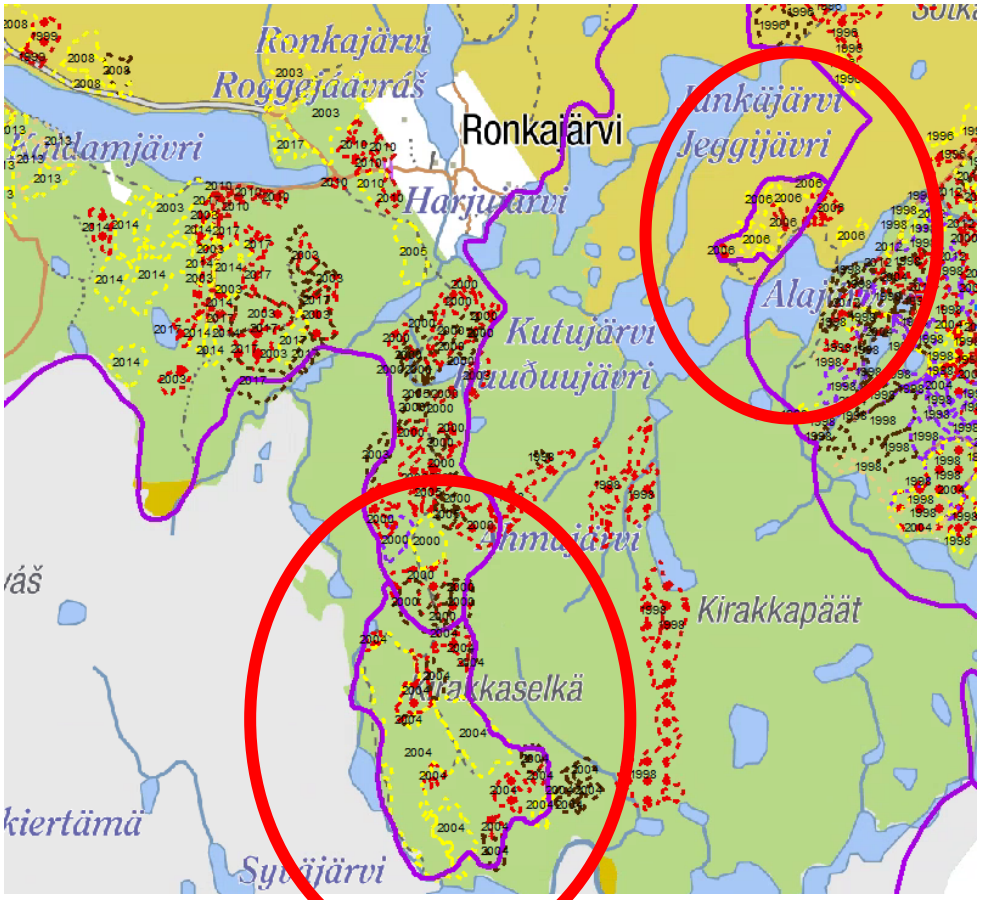
Index map 1 shows the locations of loggings in www.metsa.fi/ifl maps. All these loggings are situated in state lands which due to earlier logging history or other evident reason do not fulfill IFL HCV criteria. They should have been delineated outside the IFLs. Most of the loggings have been made in 2000-2006 before the delineations have been published. Parts of the differences are based on technical mistakes in original IFLs.



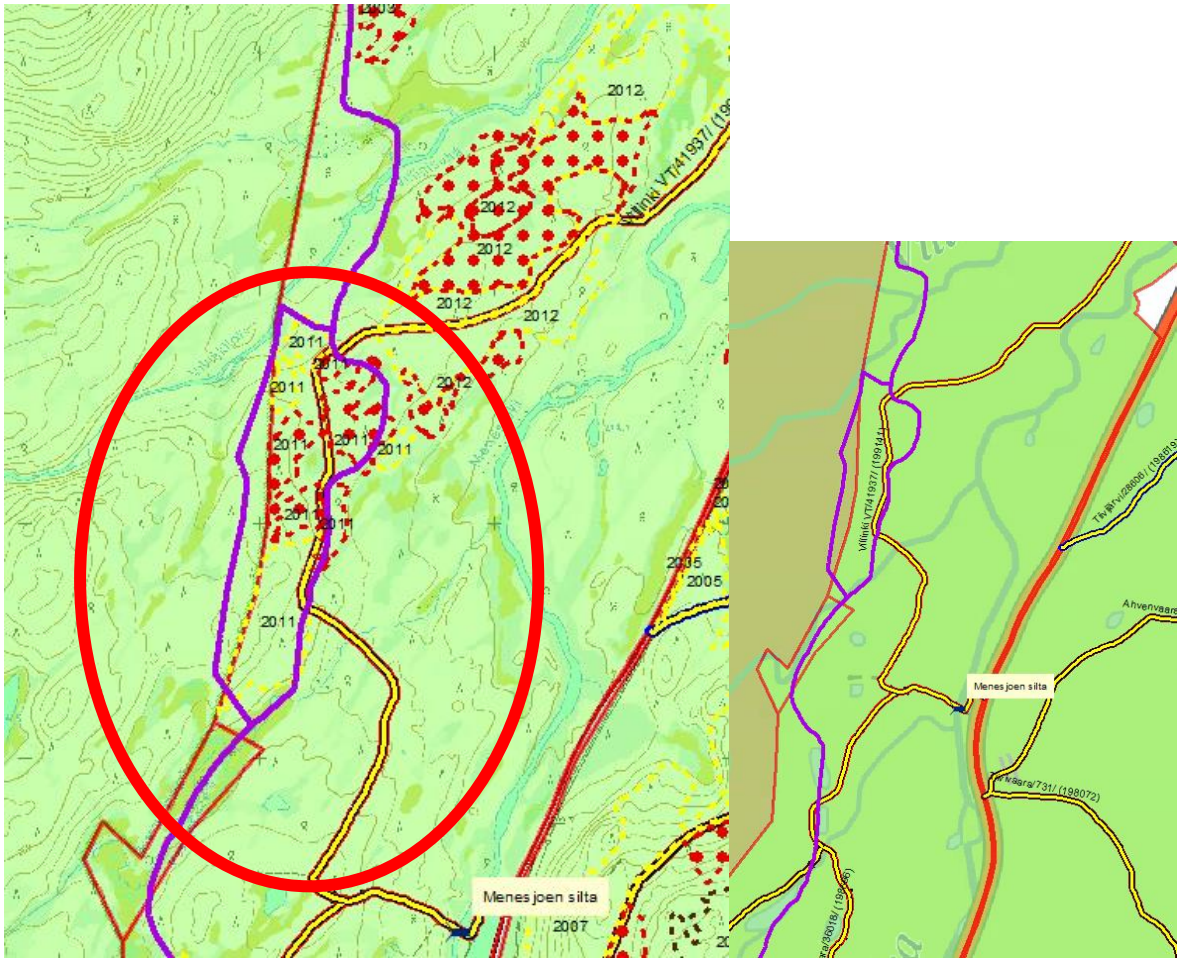
Index 1. Locations of loggings related to the IFL maps in www.metsa.fi.



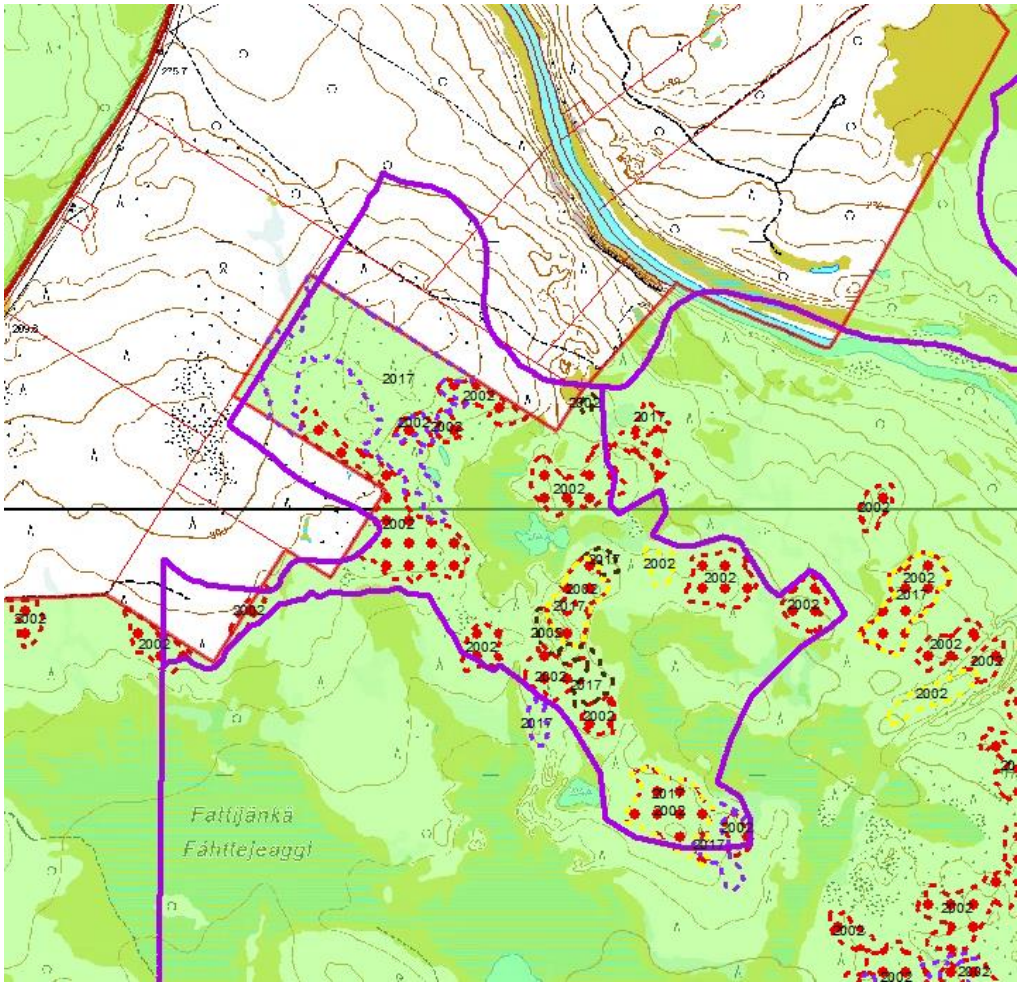
Index 2. sites 1-6.



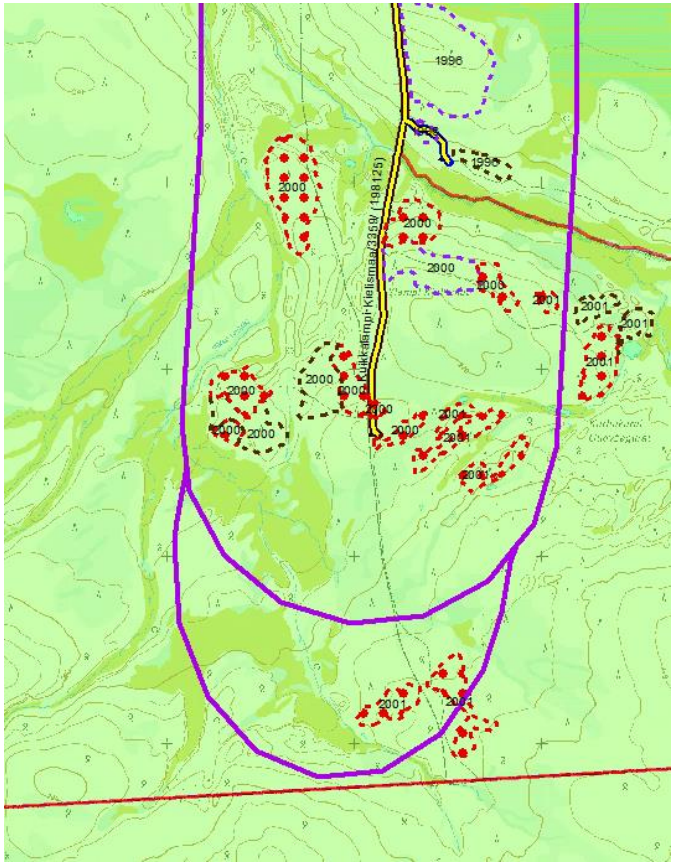
1. Regeneration loggings and seed tree removals have been made in these areas in 2004 and 2006 before the release of IFL maps.



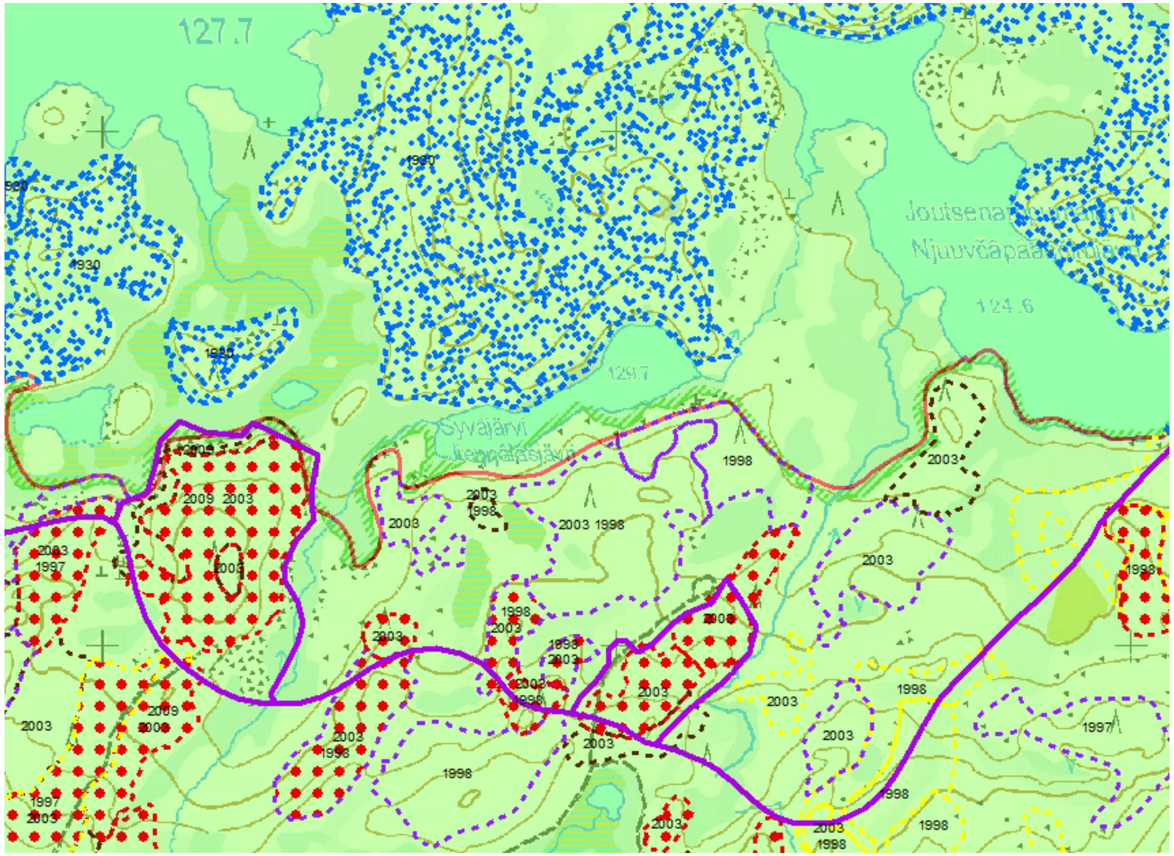
2. Loggings in IFL delineation in 2011. Roads have been constructed in the area in early 1980s and loggings in the area started then. In 2010 this road was repaired. To include this area in IFLs is against the criteria of IFLs as there is evidence of loggings in 1980s and road buffer of 1 km has not been taken into account in original IFL.



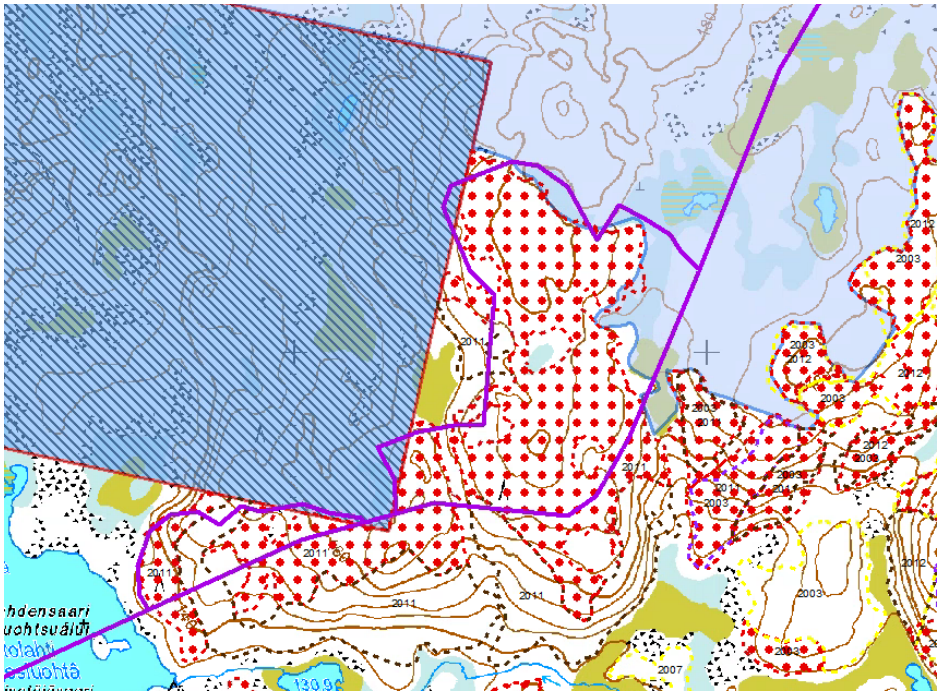
3. Earlier loggings in 2002 before the release of IFL maps. Loggings continued in 2017 in areas defined non-HCVs by Metsähallitus specialists.



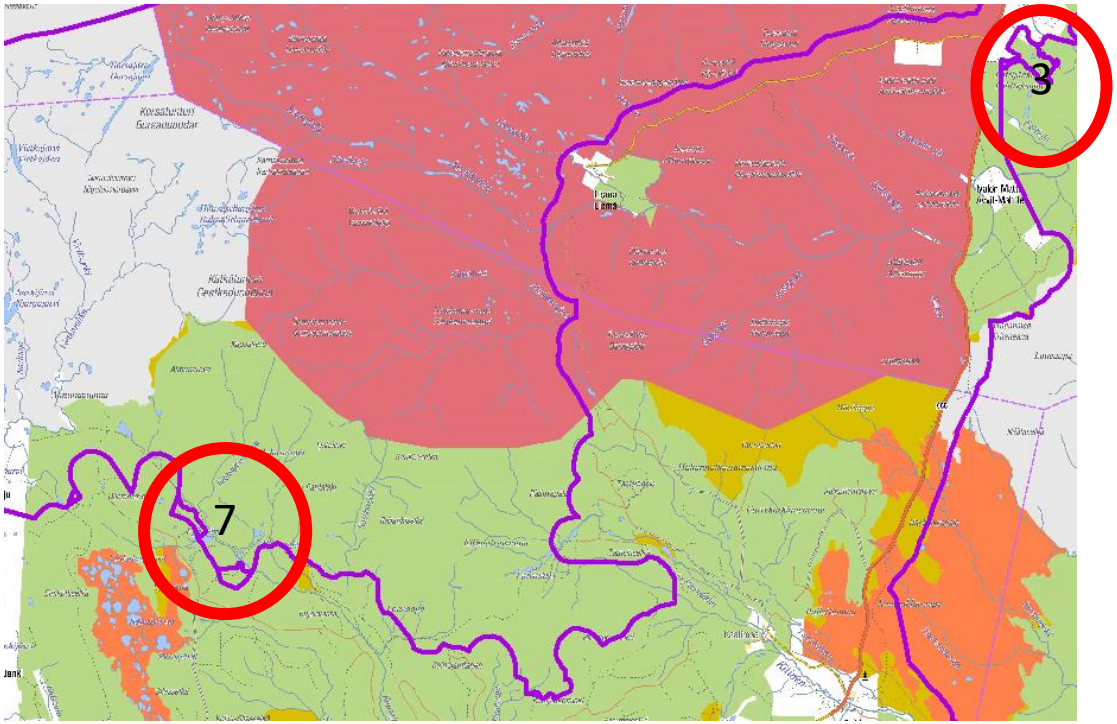
4. Small scale clear cuts in 2001 inside the original delineation. These loggings have been made at the same time as the loggings along the road which have been excluded from the original delineation (2000). Original delineation needs to be corrected. All loggings have been made before publishing of IFLs in 2006.



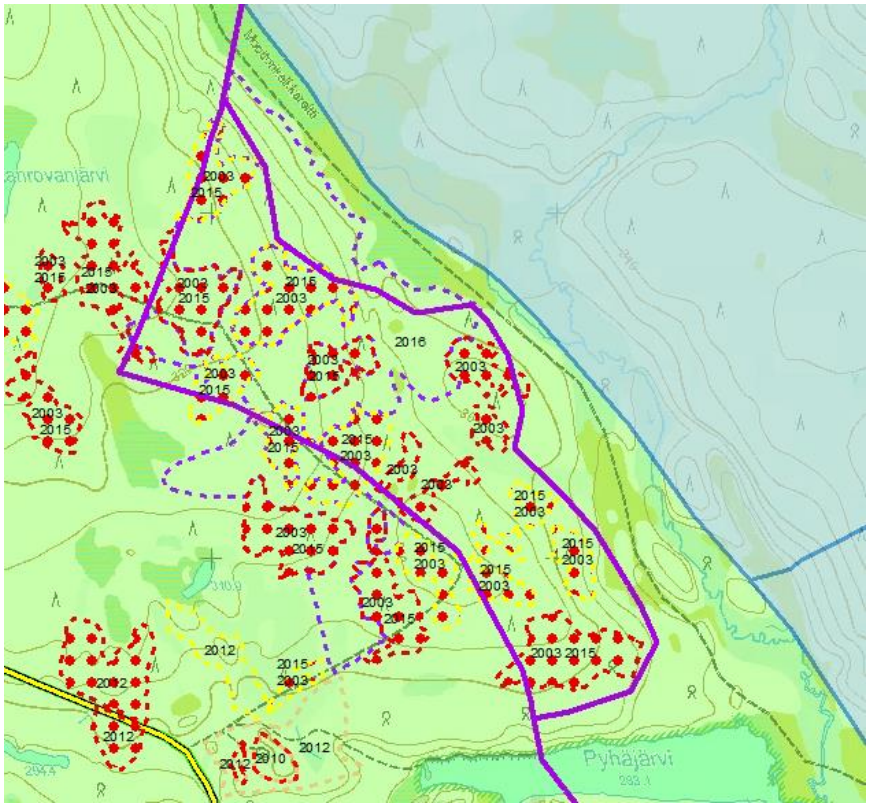
5. This is an area with large scale loggings already in 1930s. Loggings have also been made in 1998. Thinnings and seed-tree regeneration loggings marked on the map are made in 2003 before the release of the IFL-maps. The delineation of the IFL should be corrected at least conserning the areas with loggings in 1990-2003.



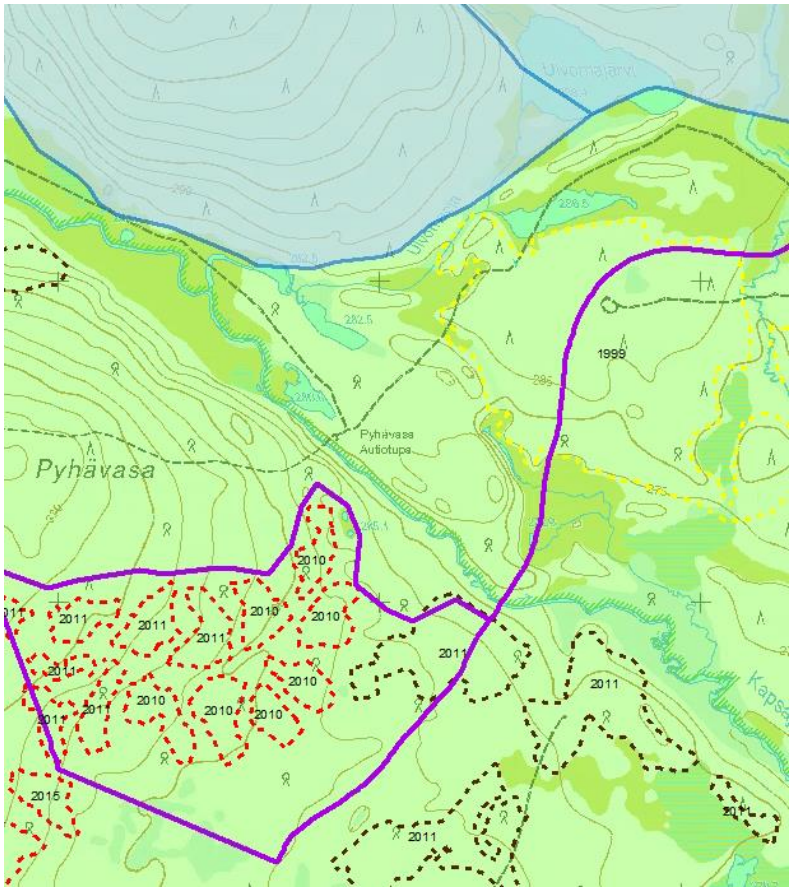
6. Loggings in the area have started in 1930s. In 2010, the negotiations between Metsähallitus and the reindeer herders' cooperative (with Greenpeace Jarmo Pyykkö involvement) these areas were **defined as forestry areas** in the process were "Important pasturelands of reindeer" were set aside for 20 years by mutual agreement (light blue colour in the map). Loggings in 2011. This area should not be included in IFL.



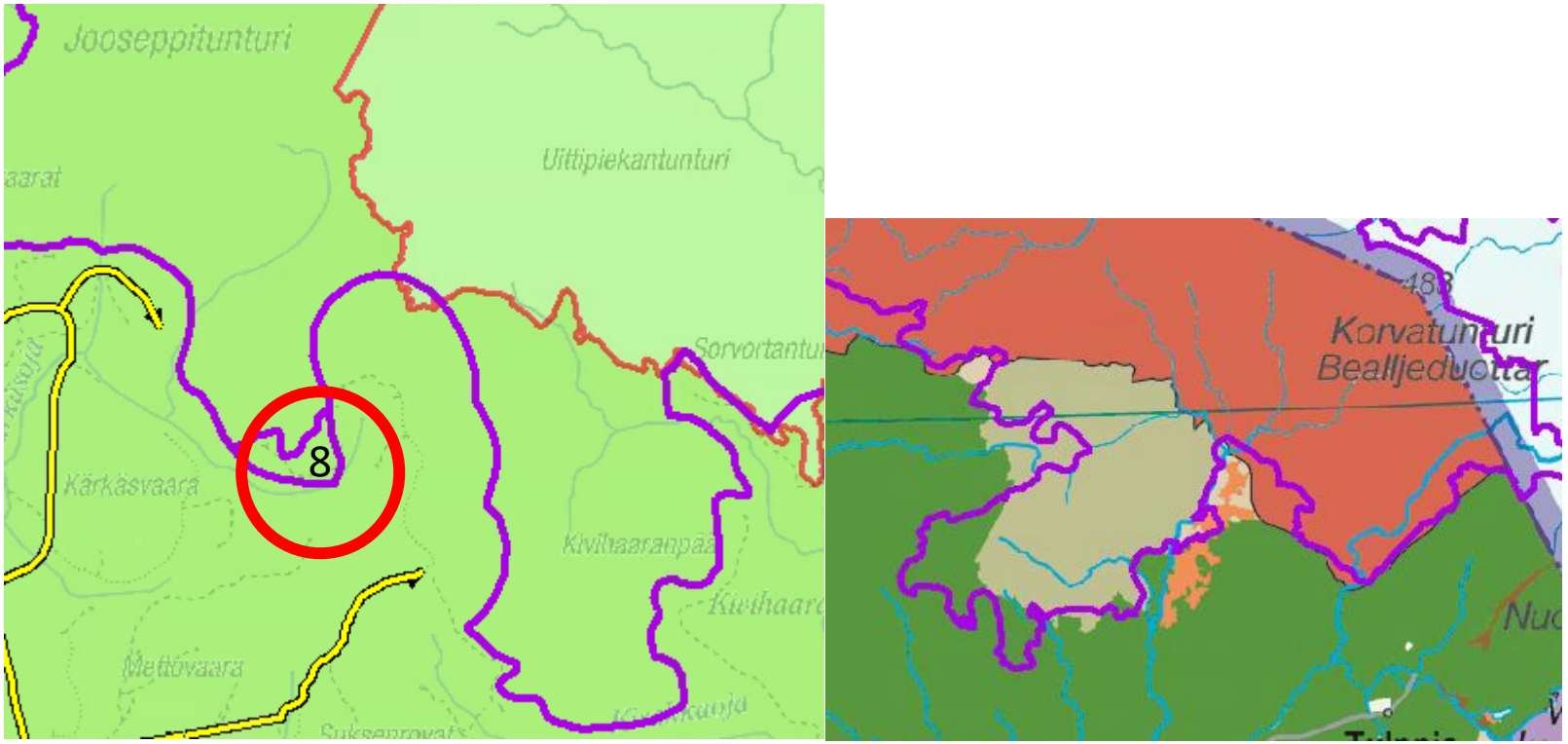
Index 3. site 7. Two mapping mistakes in original IFLs. Also other mistakes in this area, but they are considered as technical mistakes of IFL maps.



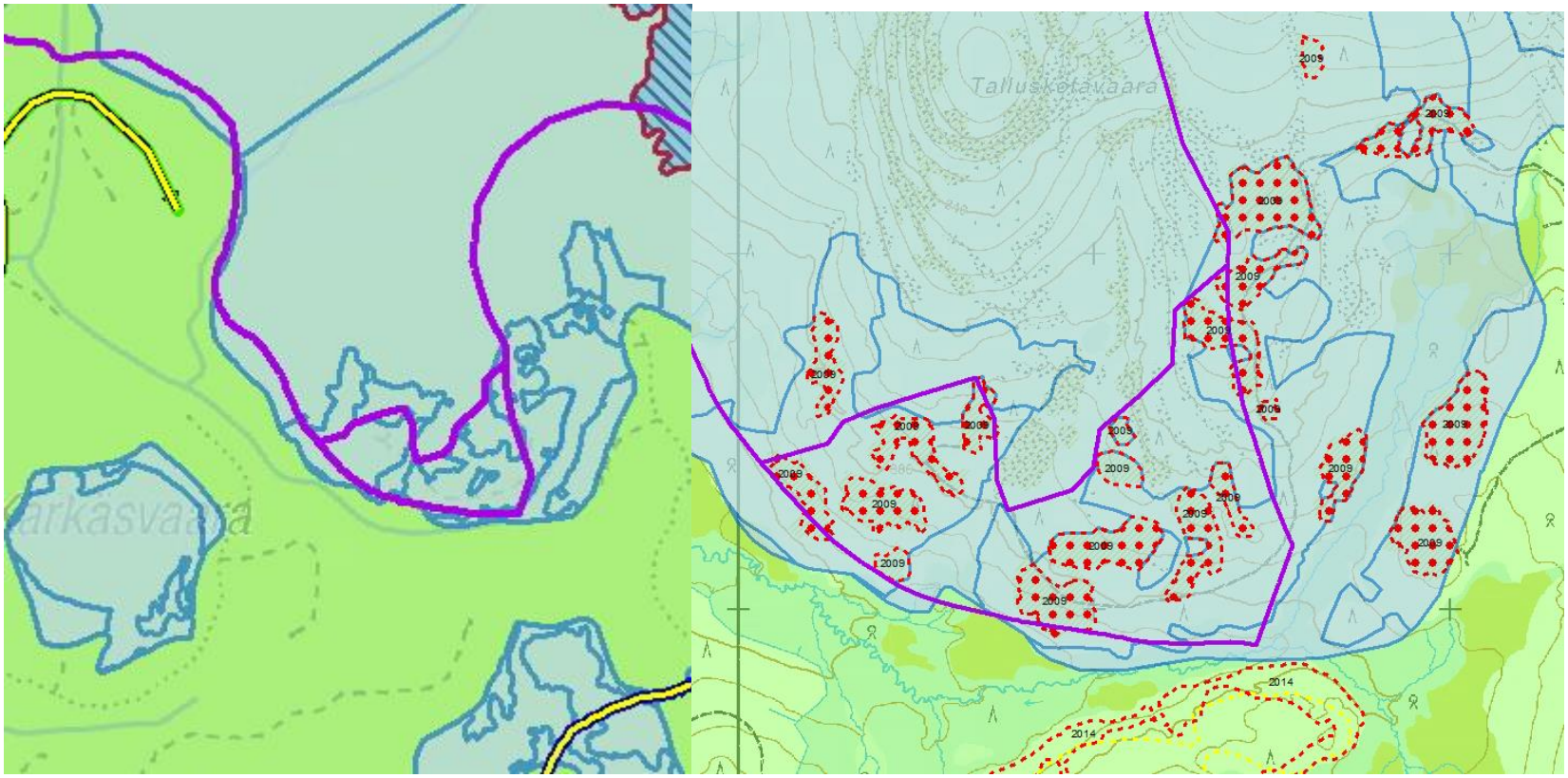
Site 7.1. First loggings in the area were seed tree regeneration loggings in 2003 before the release of the IFL-maps. Removing the seed trees in the same sites and thinnings have been made in 2015. In the Metsä-Lappi process with Greenpeace (Sini Harkki), reindeer herders and Metsähallitus in 2010, this area was excluded from the Intact forest protection area (light blue colour in the map). Due to this and old loggings this area should not be included in the IFLs.



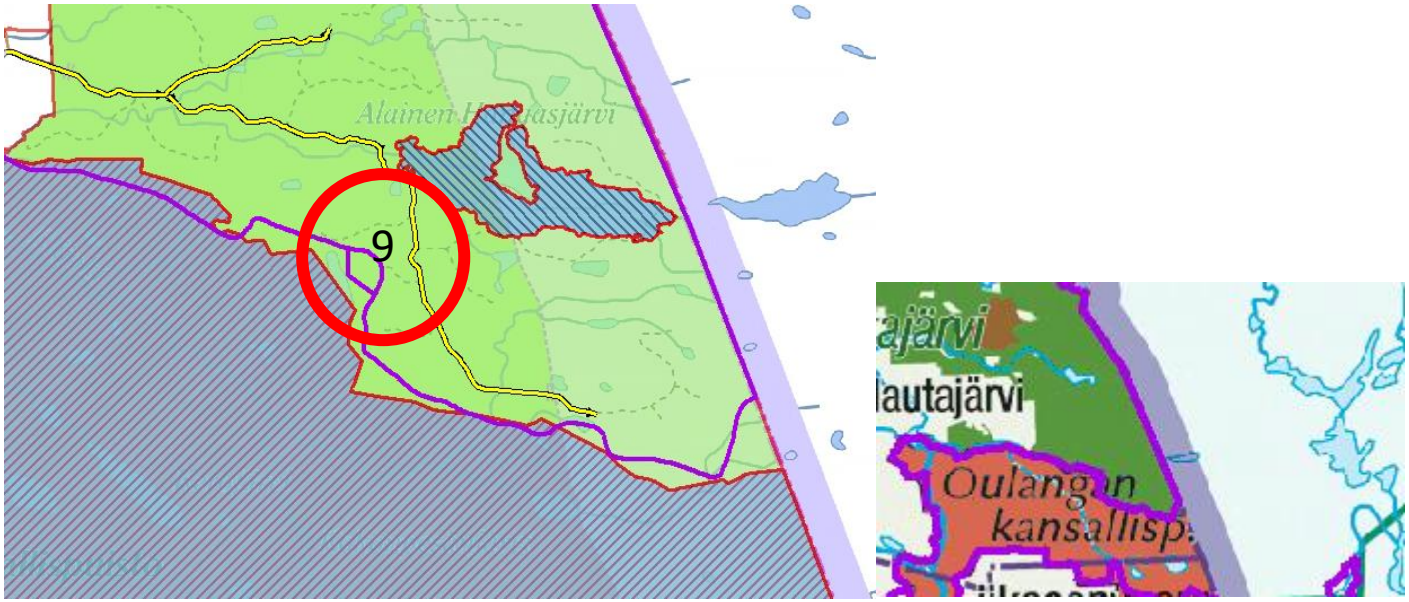
Kohde 7.2. Prominent mistake in the IFL delineation. Loggings in the area has been made in 1999 (yellow marking). In the Metsä-Lappi process with Greenpeace (Sini Harkki), reindeer herders and Metsähallitus in 2010, this area was excluded from the Intact forest protection area (light blue colour in the map).



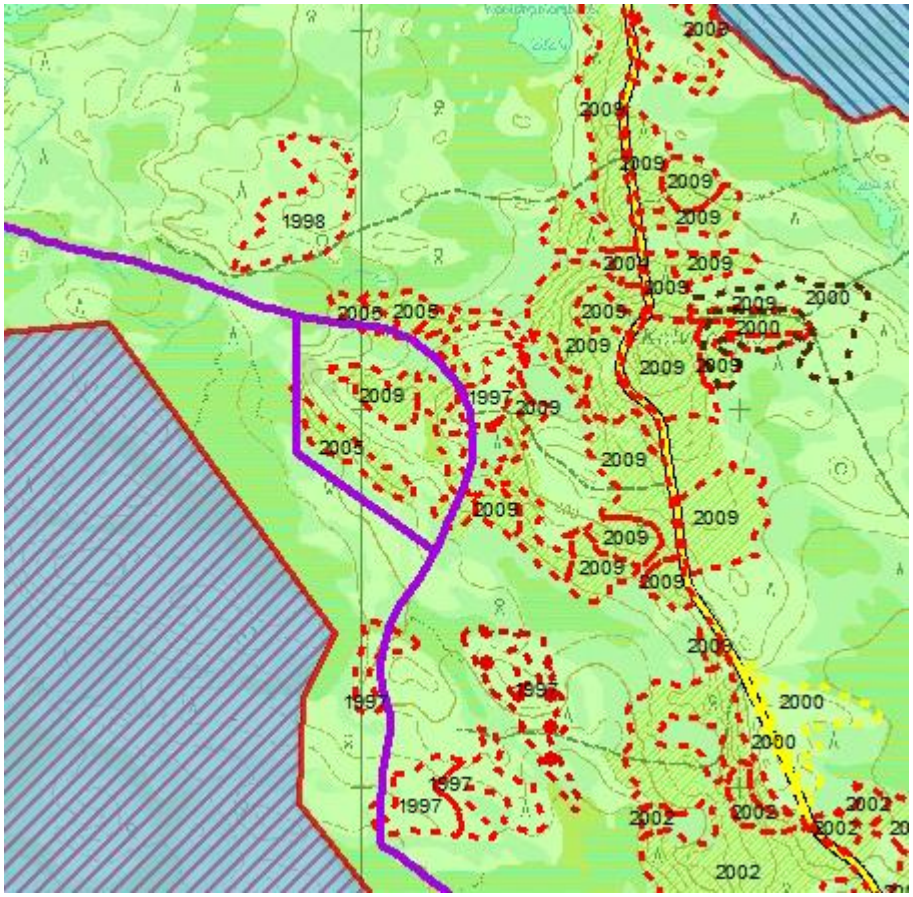
Index 4. site 8.



Site 8. In the Metsä-Lappi process with Greenpeace (Sini Harkki), reindeer herders and Metsähallitus in 2010, this area was excluded from the Intact forest protection area (light blue colour in the map) and it was defined as an area where loggings are allowed. Due to this agreement Greenpeace has approved loggings in this site. IFL delineation should be corrected to more detailed delineation which has been mutually accepted by Greenpeace, reindeer herders and Metsähallitus.



Index 5. Site 9.



Site 9. Part of the loggings along a road constructed in 1981. Road less than 1 km away from the logging site. This should not be included in IFLs if the road buffer criteria are followed.

Annex 4: Growing stock in IFL area

Metsähallitus (state forests) has reported the area of unprotected IFL 2000 areas (http://metsa.fi/ifl) is 9112 ha. There are some differences between IFL 2000 and 2013 version. Some areas from IFL 2000 areas were not classified as IFL in 2013 (red areas) → Metsähallitus IFL 2013 area is 8302 ha (See Annex 1).

The area of unprotected private owned IFL 2013 areas is 6 710 ha.

Volumes were calculated from NFI data (growing stock) (source: http://kartta.luke.fi/index-en.html) and the raster data was clipped with the vector data of unprotected IFL areas. The total growing stock on wood production land of each municipality was calculated by Luke (Table 6b, source: https://www.luke.fi/wp-content/uploads/2018/03/mvmi2015.zip).

The share of growing stock volume on un-protected IFL areas

	The total growing stock	IFL area volumes (non-protected) IFL-mapped volumes		Metsähallitus		Private	
County / region	**All tree species, 1000 m³**	**1000 m³**	**%**	**1000 m³**	**%**	**1000 m³**	**%**
Northern Ostrobothnia	235392	14	0.01 %	2	0.00 %	12	0.01 %
Lapland	409260	791	0.19 %	470	0.11 %	322	0.08 %

See Annex B and Annex C, more detailed information

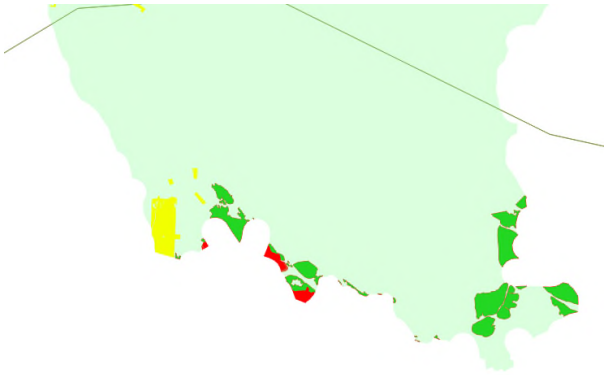
Annex A, Differences in Metsähallitus IFL 2000 and IFL 2013 areas

Green = Metsähallitus un-protected IFL 2000 and 2013 areas

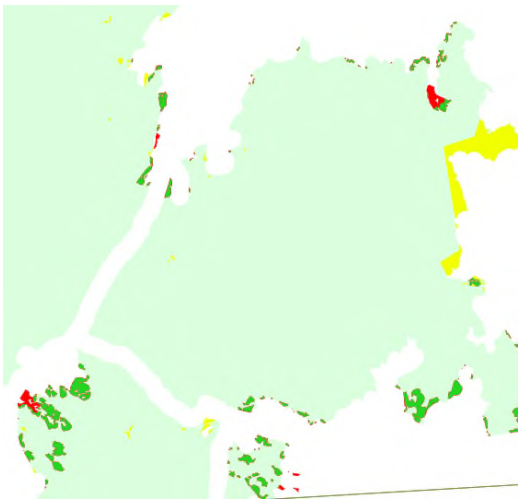
Red= Metsähallitus un-protected IFL 2000 only areas

Yellow= Private owned un-protected IFL 2013 areas

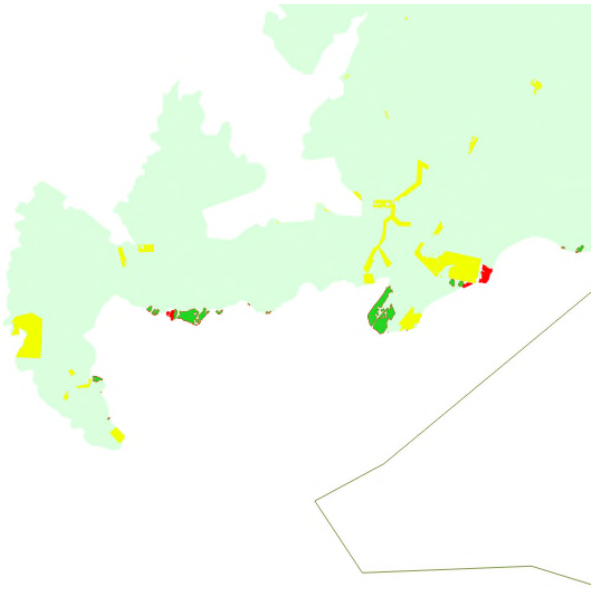
Northern Kittilä region



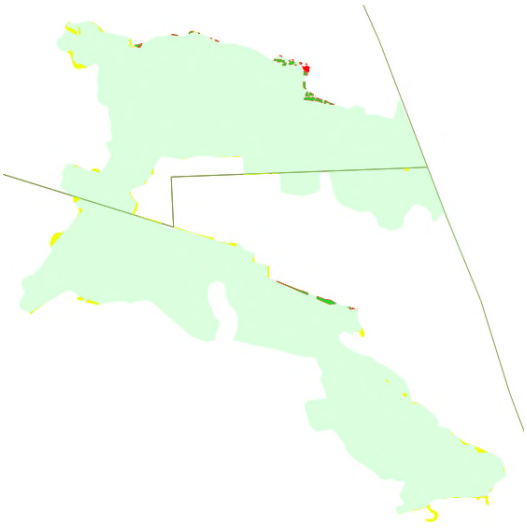
Southern Inari region



Eastern Inari region



Salla-Kuusamo region (Oulanka)



Annex B Lapland

			IFL area volumes (non-protected) IFL-mapped volumes		Metsähallitus		Private	
	Municipality	**All tree species**	**1000 m³**	**%**	**1000 m³**	**%**	**1000 m³**	**%**
		1000 m³						
47	**Enontekiö**	11743	0.83	0.01 %		0.00 %	0.83	0.01 %
148	**Inari**	58120	557.54	0.96 %	261.99	0.45 %	295.55	0.51 %
240	**Kemi**	610						
241	**Keminmaa**	4549						
261	**Kittilä**	36842	132.52	0.36 %	121.07	0.33 %	11.45	0.03 %
273	**Kolari**	15146						
320	**Kemijärvi**	21160						
498	**Muonio**	10678						
583	**Pelkosenniemi**	9020						
614	**Posio**	18103						
683	**Ranua**	18011						
698	**Rovaniemi**	46874						
732	**Salla**	28008	6.74	0.02 %	2.77	0.01 %	3.97	0.01 %
742	**Savukoski**	28813	34.48	0.12 %	34.48	0.12 %		0.00 %
751	**Simo**	8106						
758	**Sodankylä**	49121	59.01	0.12 %	49.26	0.10 %	9.75	0.02 %
845	**Tervola**	10651						
851	**Tornio**	7746						
854	**Pello**	11549						
890	**Utsjoki**	1995						
976	**Ylitornio**	12415						
	Lapland	409260	791	0.19 %	470	0.11 %	322	0.08 %

Annex C Northern Ostrobothnia

			IFL area volumes (non-protected) IFL-mapped volumes		Metsähallitus		Private	
	Municipality	**All tree species, 1000 m³**	**1000 m³**	**%**	**1000 m³**	**%**	**1000 m³**	**%**
9	**Alavieska**	2052						
69	**Haapajärvi**	7417						
71	**Haapavesi**	8110						
72	**Hailuoto**	1423						
139	**Ii**	10201						
208	**Kalajoki**	7697						
244	**Kempele**	541						
305	**Kuusamo**	32864	13.63	0.04 %	1.63	0.00 %	12.00	0.04 %
317	**Kärsämäki**	6023						
425	**Liminka**	3419						
436	**Lumijoki**	1289						
483	**Merijärvi**	2149						
494	**Muhos**	4660						
535	**Nivala**	3859						
563	**Oulainen**	5181						
564	**Oulu**	20241						
615	**Pudasjärvi**	31530						
625	**Pyhäjoki**	5009						
630	**Pyhäntä**	5881						
678	**Raahe**	8327						
691	**Reisjärvi**	4215						
746	**Sievi**	5955						
748	**Siikajoki**	7247						
791	**Siikalatva**	15709						
832	**Taivalkoski**	16418						
859	**Tyrnävä**	2632						
889	**Utajärvi**	10289						
977	**Ylivieska**	5054						
	Northern Ostrobothnia	235392	14	0.01 %	2	0.00 %	12	0.01 %

Inaccurate delineation of Intact Forest Landscapes

The Economic Chamber of the Finnish Controlled Wood Working Group and Metsähallitus, have noted that the IFL maps are not accurately applied according to the methodology provided by Intactforests.org and the report by Potapov *et al.* 2008 (71). Examples have been provided to show that the requirement to apply a 1 km buffer zone around roads and settlements has not been consistently applied (Annex 3). However, it was mentioned by the Environmental Chamber of the Working Group that – at the time of creating the IFL map for Finland – different sets of criteria were used, and more emphasis on field data was used. For example, roads going through an otherwise untouched IFL area were not excluded. It was noted by Metsähallitus that some logging that has taken place within the IFL areas, took place prior to making public (from 2003) the IFL map (Annex 3). However, even though the IFL map was not publicly available, logging has taken place after year 2000, and therefore contributed to degradation of the IFL areas. There is still ongoing logging in the areas delineated as IFL areas (comments from CW working group, pers. comm. 4). The current ongoing logging seems mainly to take place in areas that have previously been logged (Annex 3). According to the IFL definitions, logging shall not have taken place within IFL areas within the previous 30–70 years. Thus, even though there are still signs of prior logging, an area can still be included as an IFL area under the IFL methodology if the logging took place 70 years ago or earlier (71).

It is outside the scope of this assessment to renew the original IFL assessment. The methodology behind the Finnish IFL areas is not clear. The authors of this report reached out to the IFL team to clarify these questions (email: 12 January 2018), but to date no response has been provided. It is therefore unclear whether the maps are accurately applied or whether the maps might to some extent be inaccurate. However, even though some of the logging has potentially taken place in areas that should not have been included as IFL, there is still reason to assume that there is a proportion of valuable area under the IFL mapping that can be logged.

Annex 6 – Sami Homeland

Map of the Sami Homeland delineated by the red line in the south. Blue line marks the Skolt area. Black lines are municipal borders. Source: The Sami Parliament website at: http://www.samediggi.fi/index.php?option=com_content&task=blogcategory&id=78&lang=finnish *(99).*

Map: Sámi Homeland