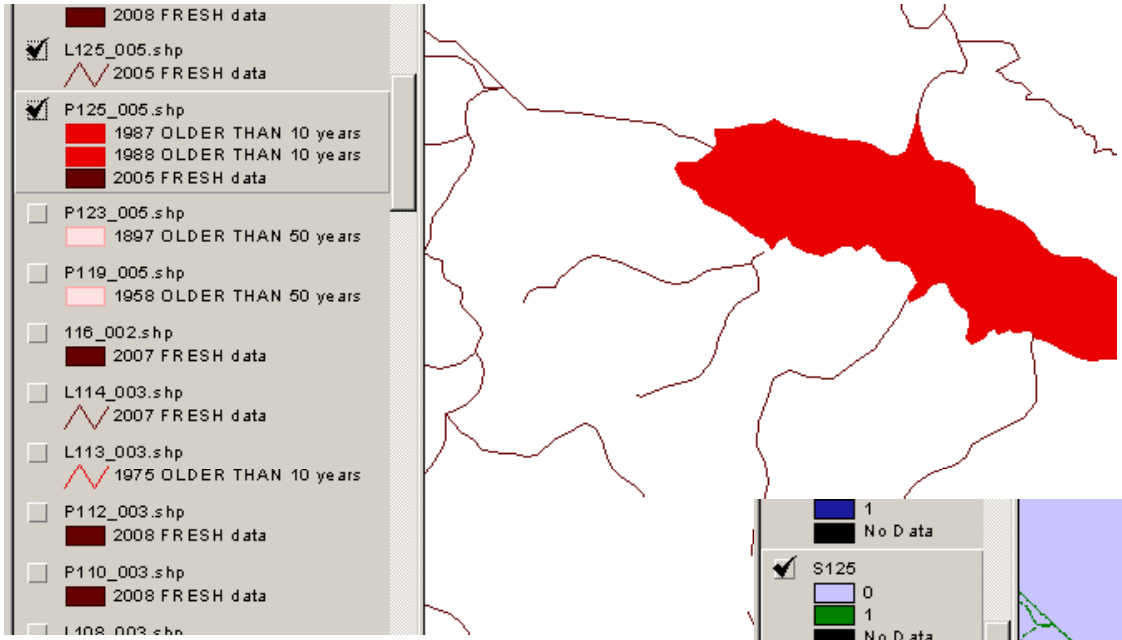
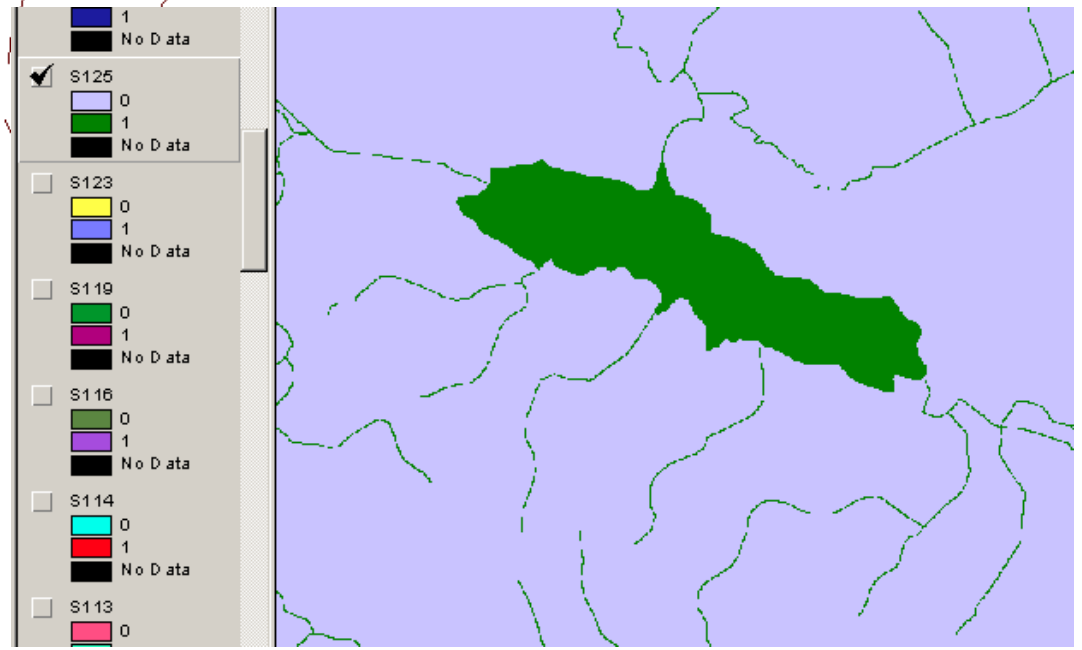
Data evaluation and sites selection

	ALL	HABITATS	SPECIES
Number of features based on annexes	168	65	103
Number of GIS layers for GRID creation:	104	18	90

1. Conversion of layers of distribution of different shape types (lines and polygons) into grid with cell size 25x25 m





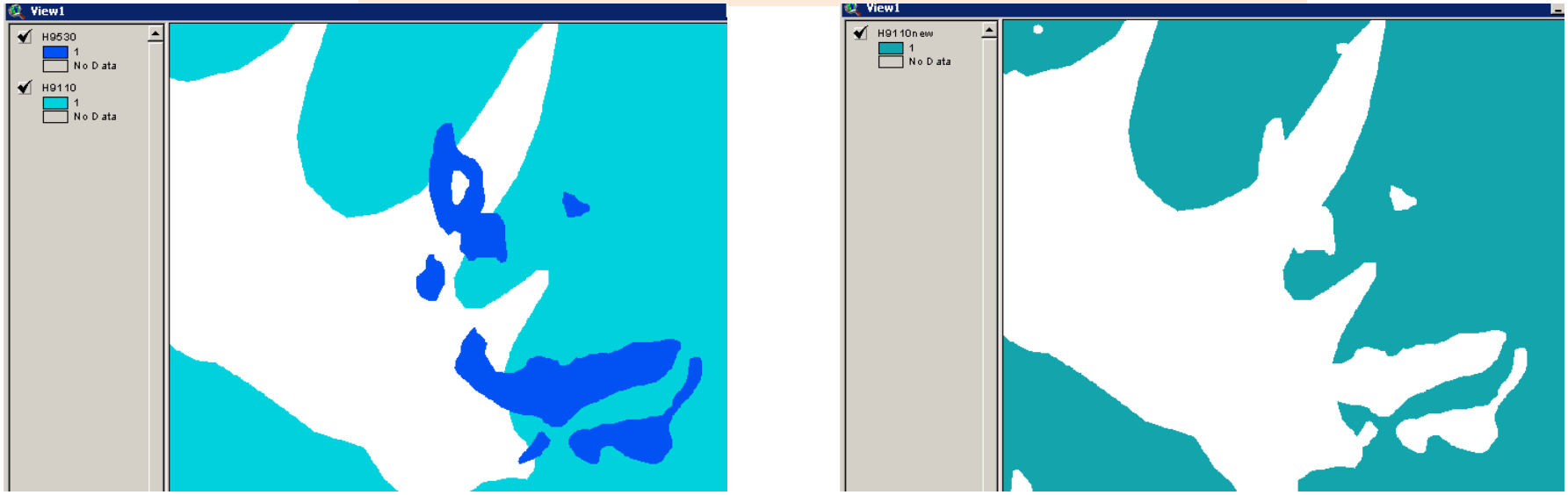
Example of conversion of polygon and line layers of species Austropotamobium torrentium into GRID layer of two values (1=presence, 0=absence)

2. “Normalization” of habitat grid layers - Only one habitat type per 25x25 m pixel is allowed

- All habitat grid layers were ranked according to data quality and total area of their distribution in BiH
- Habitats from the beginning of the rank are clipped out from those which follows

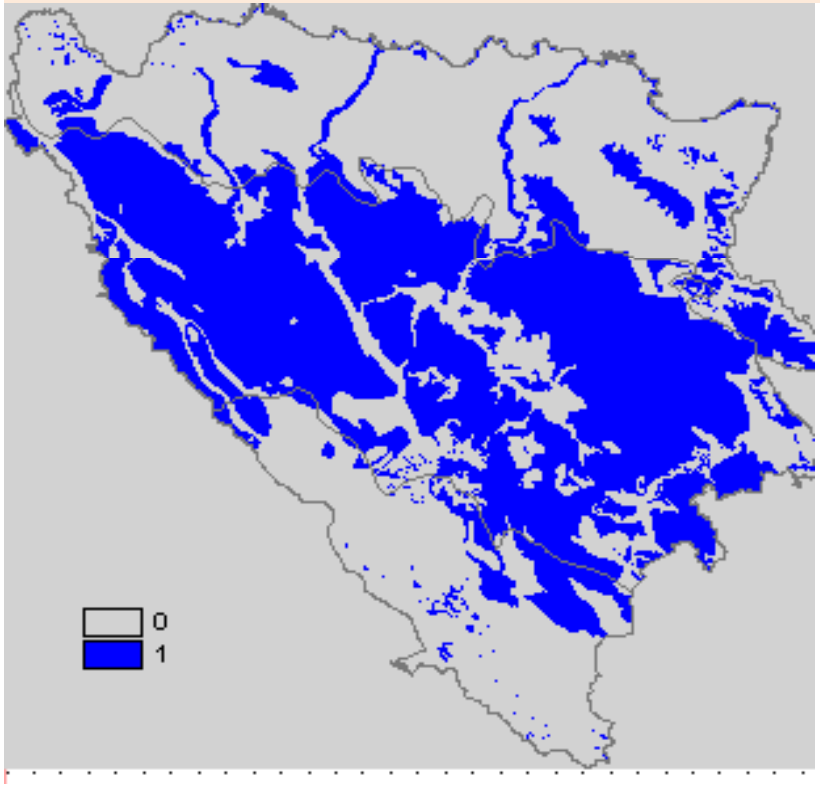
Rank of habitat types: h8310 < h3220 < h91D0 < h6230 < H9180 < h4070new < h9260 < h95A0 < h9250 < h5130new < h3270 < h91R0 < h9530new < h6210 < h9280 < 91E0new < h9410new < h9110new

Example of habitat type 9410 clipped out from 9110

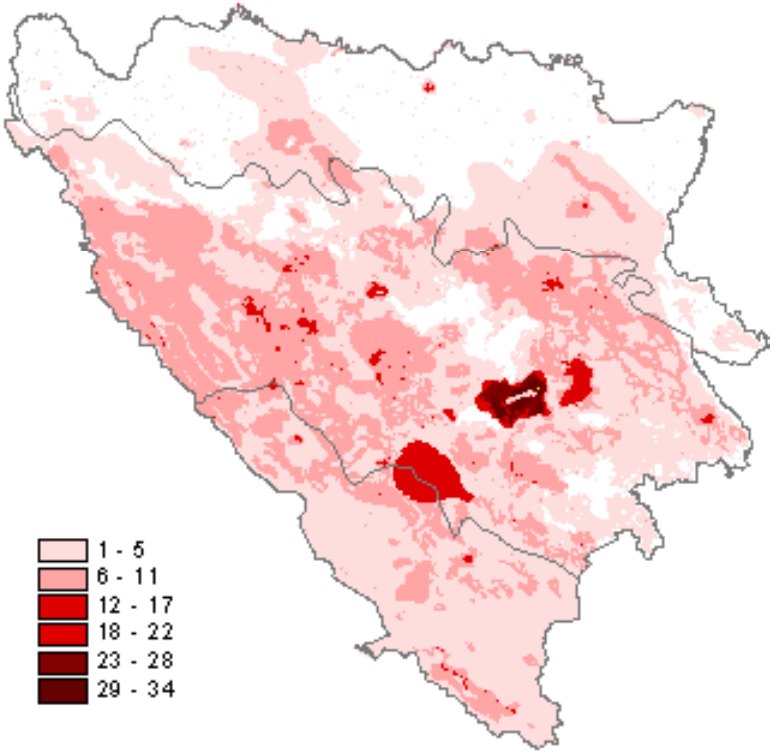


3. Summation of all overlapped habitat grids and species grids

Grid of overlapped 18 layers of habitats



Grid of overlapped 90 layers of species

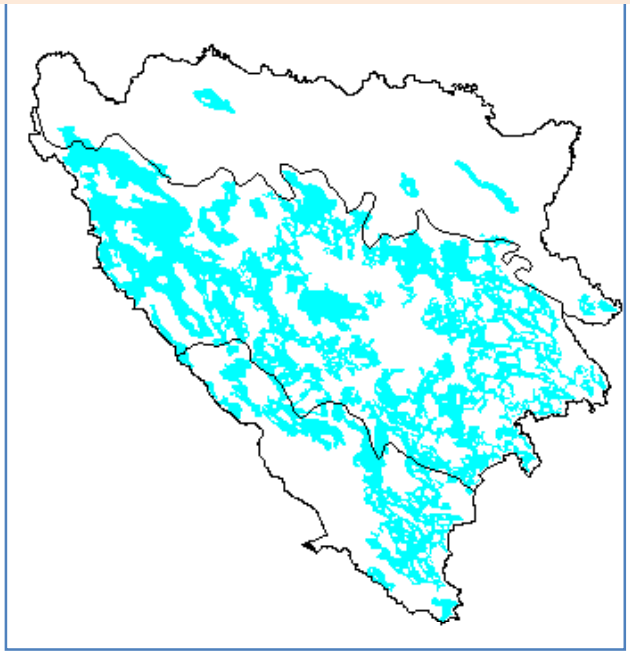


4. Selection of appropriate percentage from total area of distribution for each species and habitat and for each biogeographical region– minimal percentage for all features is 20% and for priority features 60%

Each grid layer of distribution was combined with grid layer of overlapped species and habitats and layer of biogeographical regions

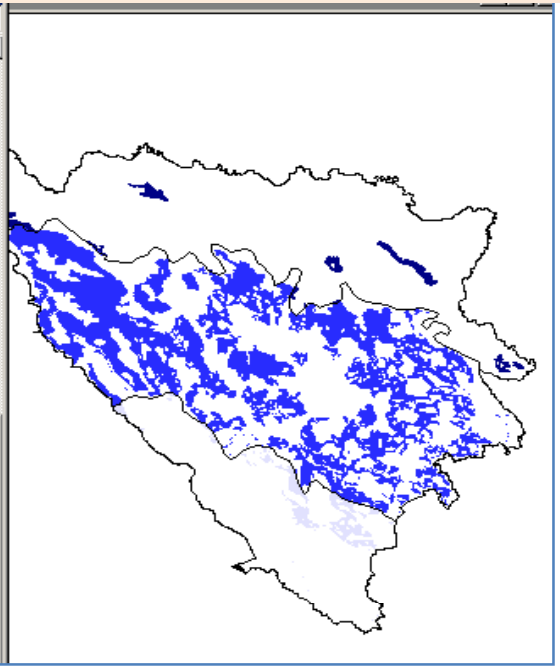
Cumulative percentage of each biogeographical region from the most overlapped pixels to less overlapped pixels of combined grid layer was calculated – it was used for selecting “most overlapped” parts of the distribution layers

1. Distribution grid layer of Canis lupus

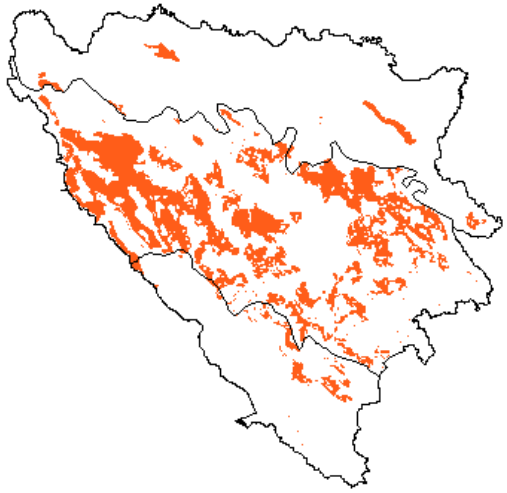


2. Cumulative percentage for each biogeographical region

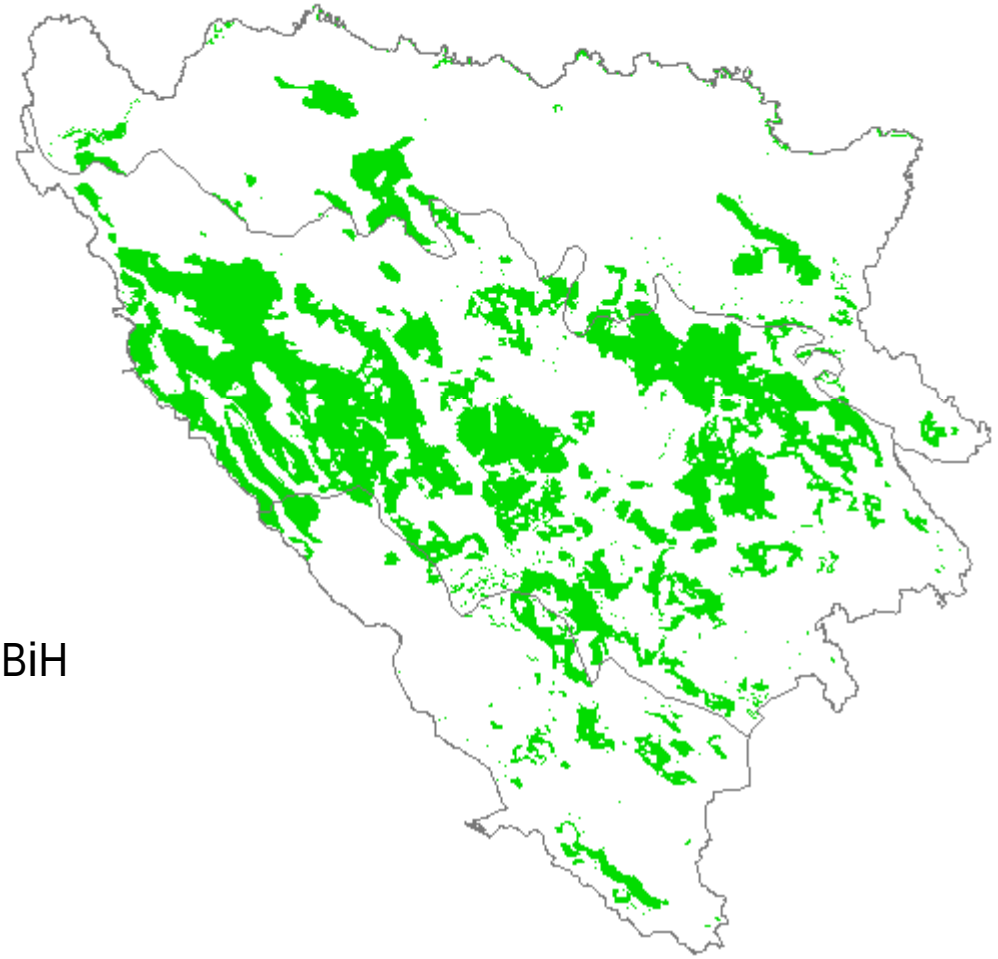
Value	Count	cumulperc
2020	10133	0.45
2021	12249	0.39
2022	909	0.32
2023	9313	0.32
2024	18728	0.26
2025	3357	0.16
2026	4430	0.14
2027	1380	0.11
2028	559	0.10
2029	2265	0.10
2030	15544	0.09
2031	5	0.00
2032	14	0.00
3000	26454072	33.33
3002	48877	100.00
3003	103863	94.13
3004	224749	81.67
3005	151190	54.70
3006	190318	36.55
3007	90209	13.72
3008	6303	2.89
3009	6714	2.13
3010	6482	1.33
3011	750	0.55
3012	3423	0.46
3013	297	0.05



3. Partial (60%) area of distribution of Canis lupus



5. Combining of all partial grid layers to produce the first layer of sites – base of the network



393 sites
22,5 % of area of BiH
11538 km²

6. For each feature (species and habitat) and for each biogeographical region the percentage of it's covering by the network was calculated

	Gridname	Iter1med	Iter1alp	Iter1con	I
0	S173	22.33	-1.00	-1.00	
282	S172	-1.00	-1.00	29.45	
0	S171	-1.00	100.00	-1.00	
0	S170	8.08	23.78	-1.00	
0	S169	-1.00	96.72	-1.00	
0	S168	-1.00	100.00	-1.00	
0	S165	25.52	54.09	-1.00	
0	S164	76.43	-1.00	-1.00	
0	S162	7.03	22.64	-1.00	
0	S160	63.06	20.84	-1.00	
0	S159	-1.00	58.98	-1.00	
794	S158	-1.00	19.87	44.54	
0	S157	51.88	28.32	-1.00	
0	S156	-1.00	23.39	-1.00	
1	S155	-1.00	0.08	100.00	
962	S153	-1.00	-1.00	74.64	
0	S152	-1.00	100.00	-1.00	
259	S151	-1.00	23.74	27.09	
0	S149	-1.00	44.26	-1.00	
480	S144	-1.00	32.84	64.34	
851	S140	-1.00	-1.00	70.58	
124	S139	13.70	27.92	11.61	
091	S138	13.79	16.69	21.47	
0	S137	-1.00	21.69	-1.00	
543	S136	-1.00	50.84	19.33	
296	S135	15.69	47.52	20.87	
754	S134	-1.00	37.46	-1.00	
885	S133	27.21	21.10	24.11	
752	S132	24.18	26.93	20.61	

7. Borders of selected sites have to be corrected (added, deleted, reshaped) manually on the base of physical maps and local knowledge. Also “big” polygons could be divided into smaller (manageable) parts. Then calculation of percentage from step 6 has to be done to check if all layers are covered according to threshold. This iterative process is running untill appropriate result is achieved.

8. For each site a percentage of area of each feature was calculated - this is important for identifying importance of the site for feature conservation

H91e0new	H9260	H9280	H9410new	H9530new	H95a0	S001	S002	
0.073009	0.003660							
0.054983								
0.023594								
0.027700								
16.905854							1.650021	
3.335584								
0.017052								
0.011414								
0.475567								
6.288723								
			0.300266					
0.010509								
0.011762								
1.066947								
		0.030829						
						.644471		
							0.001490	

9. Each species/habitat feature should be checked if new created network is appropriate for it.

- If the network covers all its top localities
- If the network is coherent for feature, it means it representatively covers all its area of distribution
- If the network covers appropriate percentage of its area of distribution

This is very important part of site selection process, which all available experts should consider