

Otter's back to Switzerland! How long for?

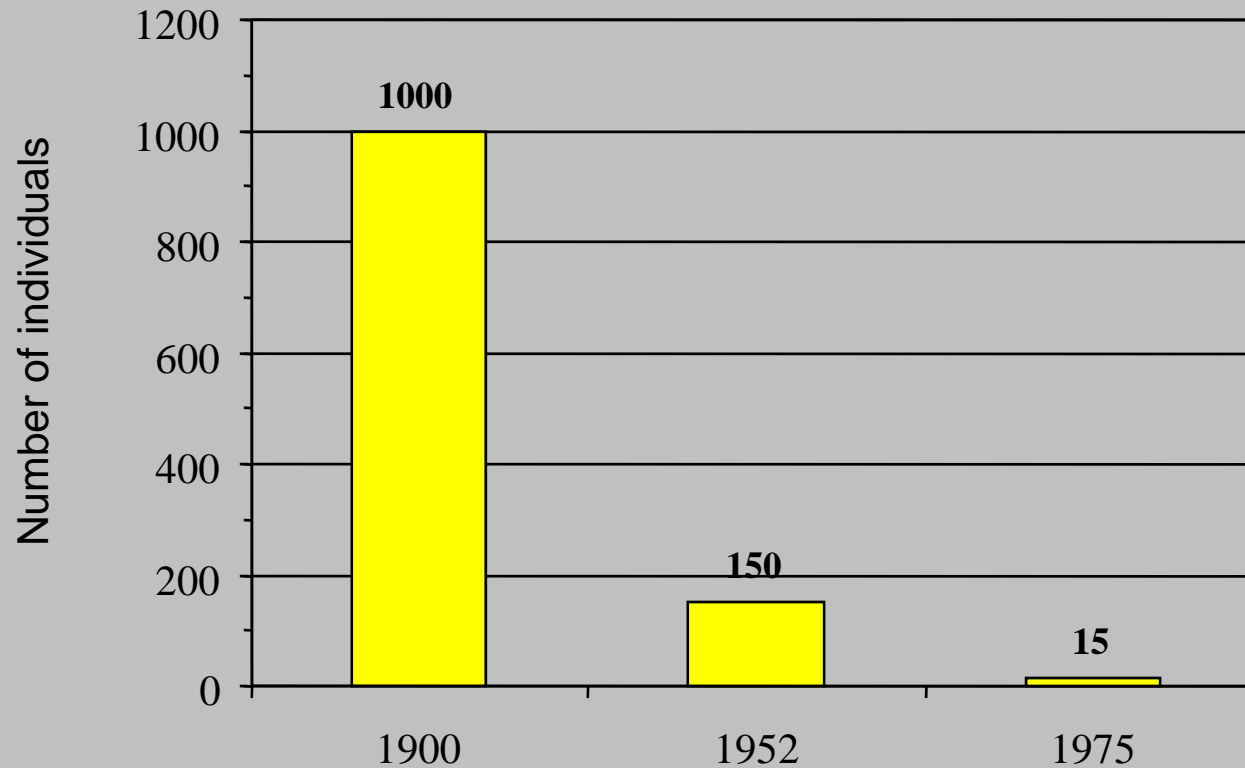


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&
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EOW-2008



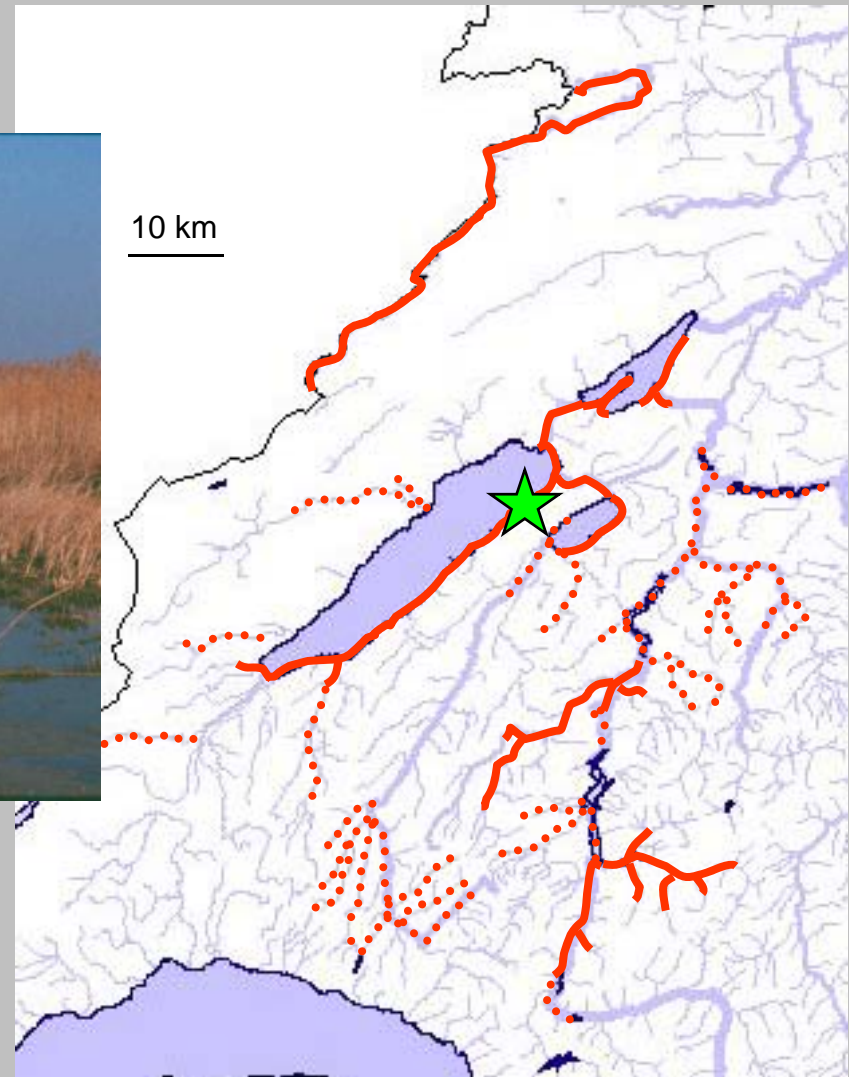
Evolution of otter numbers in Switzerland (20th century)






Protection



Otter habitats in western Switzerland (1988)

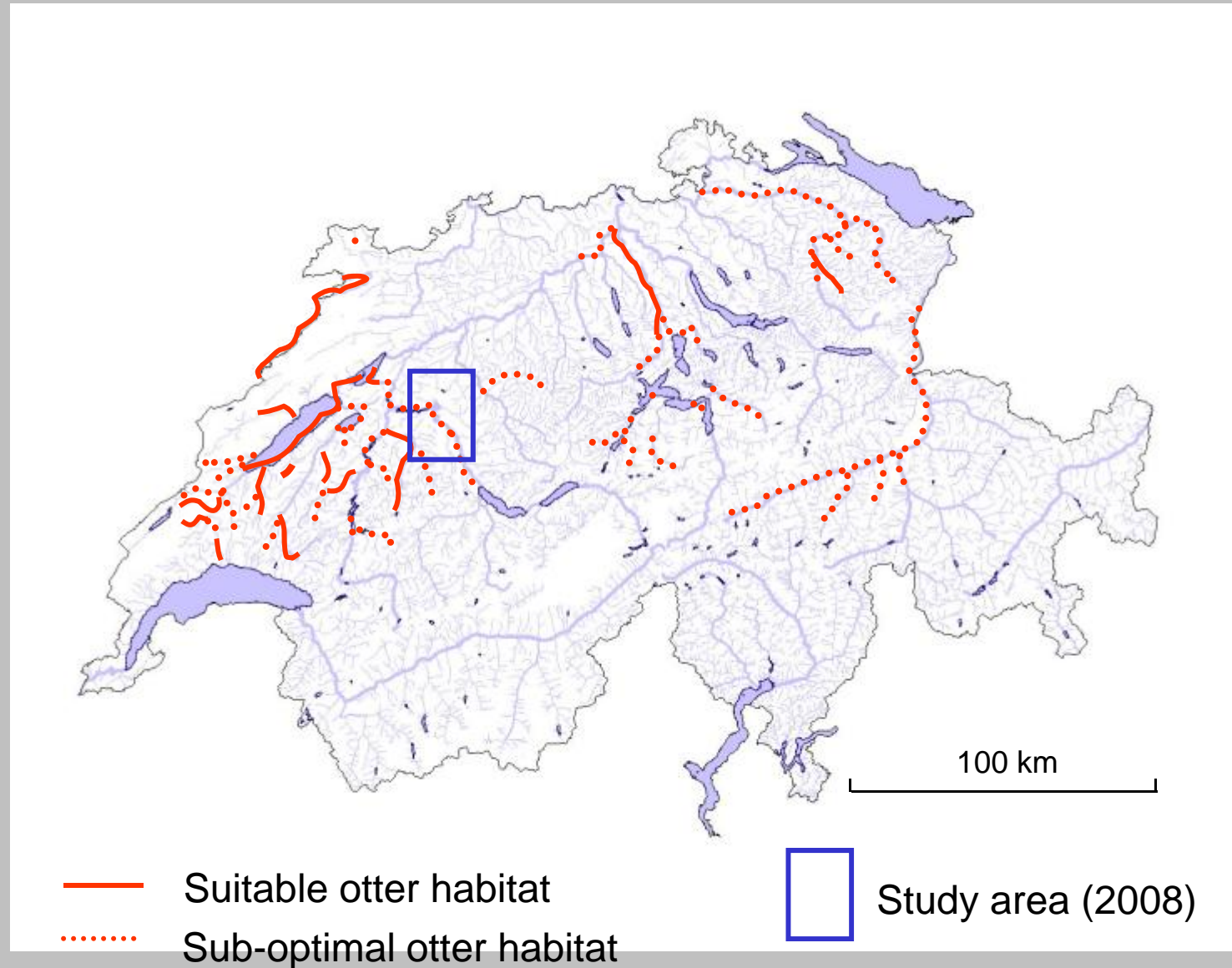


(from Weber 1990)

-  Suitable otter habitat (315 km)
-  Sub-optimal otter habitat (512 km)
-  Location of the last signs of otter presence (1989)



Otter habitats in Switzerland (1997)



(from Weber 1997)



The « Great Escape » (2005)



A male and a female otters escaped from the Zoological Garden of Bern
end of August 2005



Management implications

- The otter is strictly protected by the Federal law on hunting, and bird and mammal protection

However

- Despite this protection status, should an – or more – otter(s) be released inadvertently or intentionnaly, i. e. not in the frame of a reintroduction programm, this – or these – individual(s) should be removed from the wild

Therefore

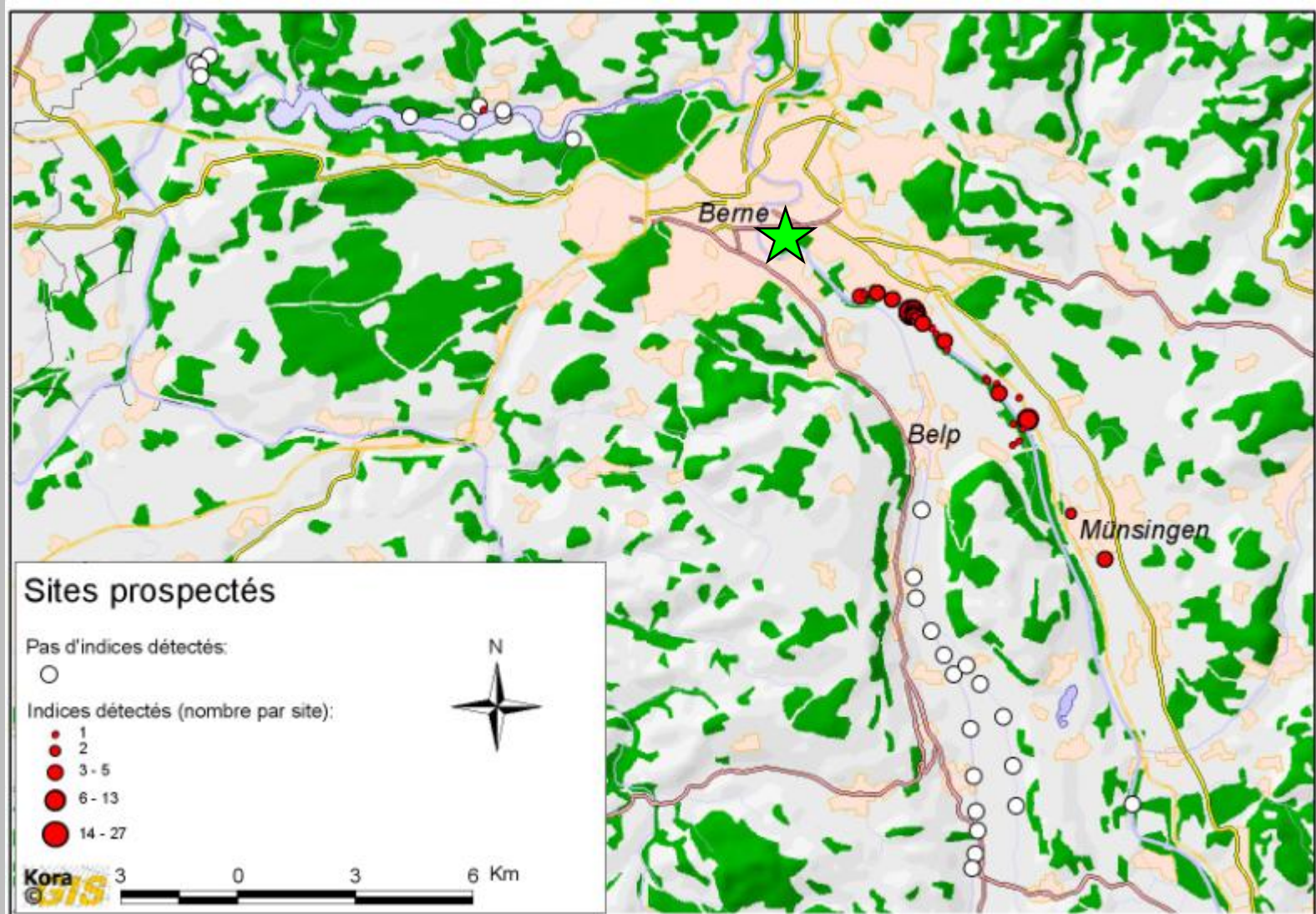
- A six-month project was launched by the Swiss federal office of environment in autumn 2007 in order to examine the feasibility of removing the otters

Objectives of the project and Methods

- Identify the areas of regular otter presence
 - Systematic search of otter signs along the River Aar
 - Punctual search of otter signs along the tributaries (e.g. under bridges)
- Determine the number of otters present in the wild
 - Genotyping of biological samples collected in the wild (i.e. spraints)
- Evaluate the habitat quality
 - Dietary analyses
 - Comparison of fish biomasses (1996/2006)

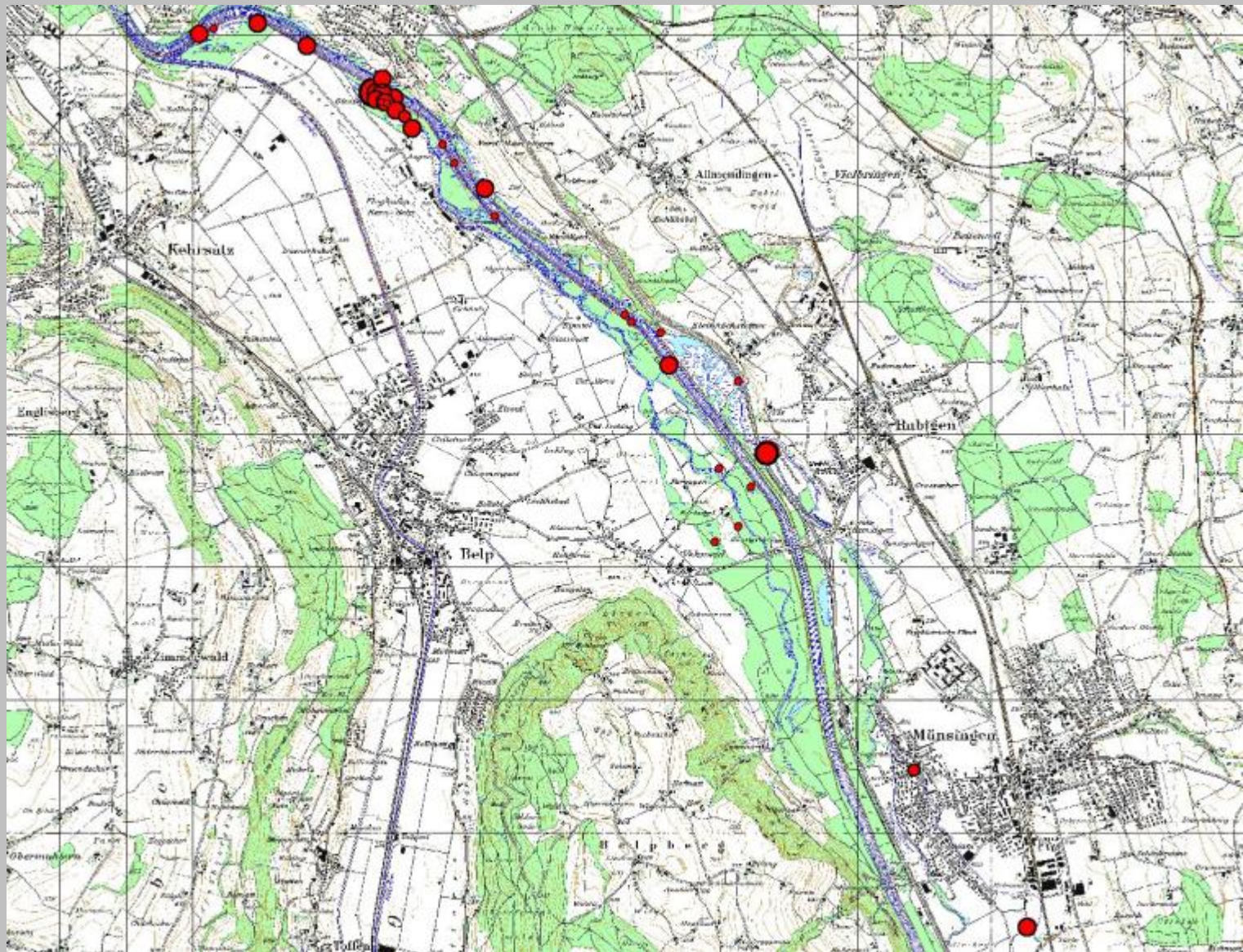


Prospected sites

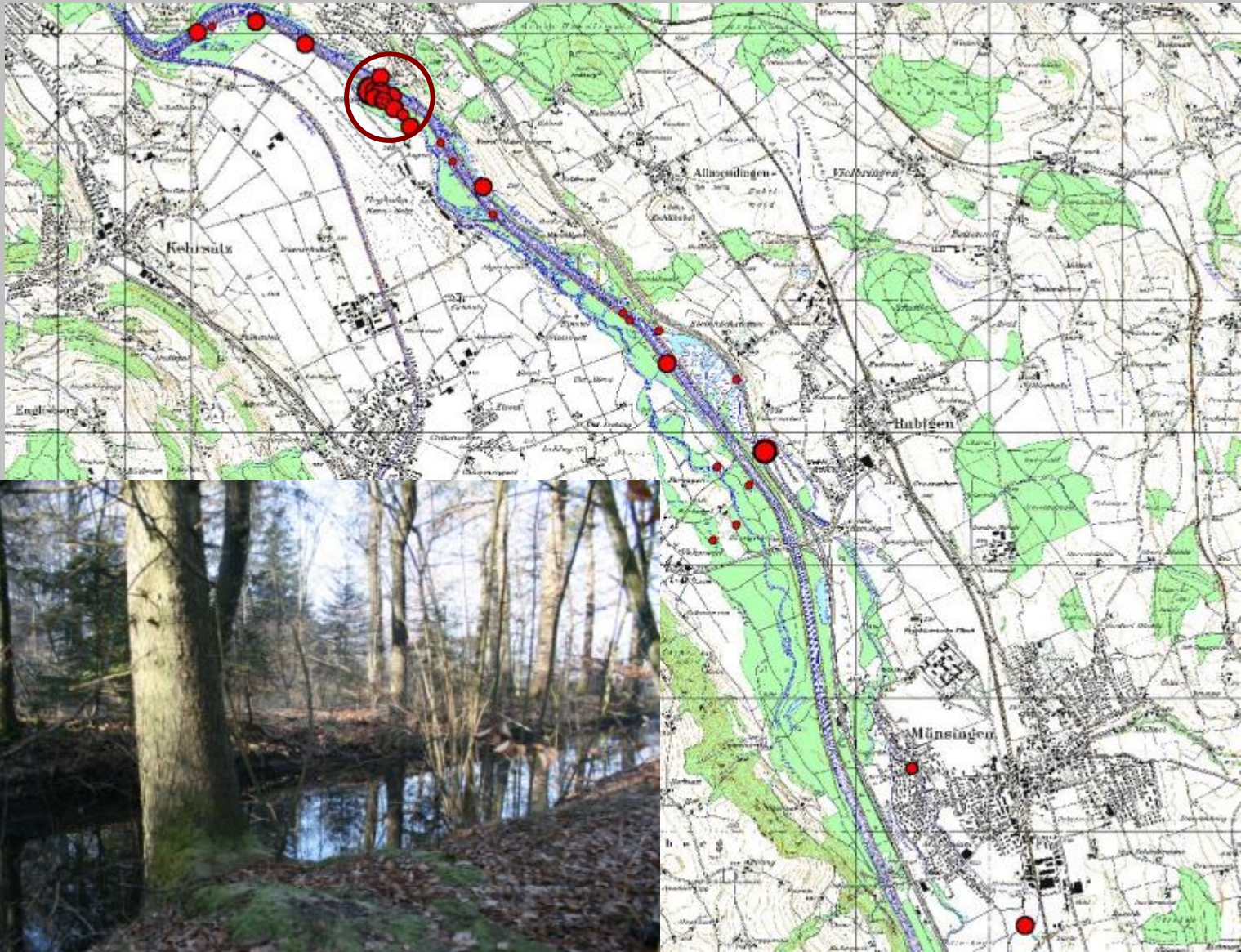


★ Zoological garden

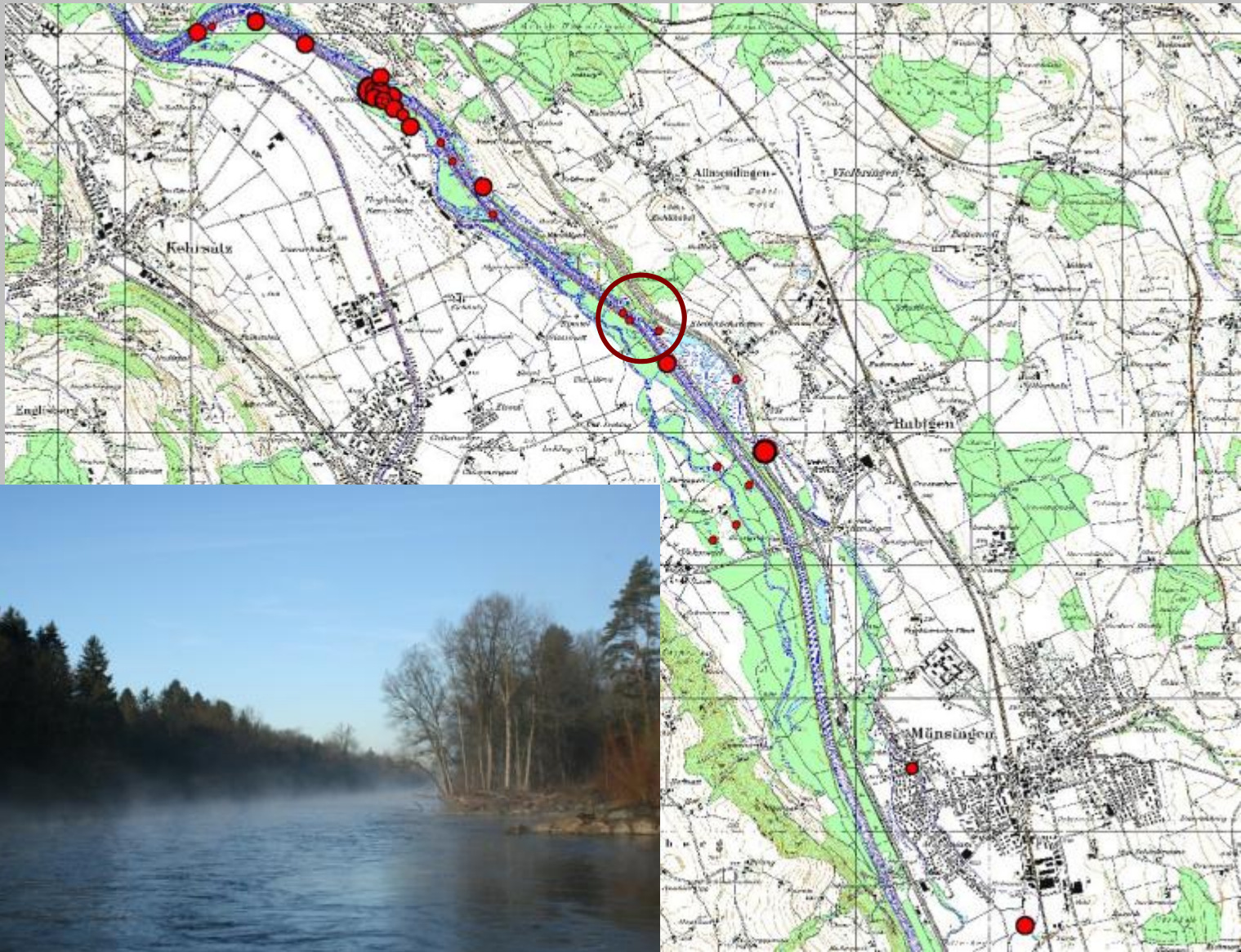
Distribution of otter signs



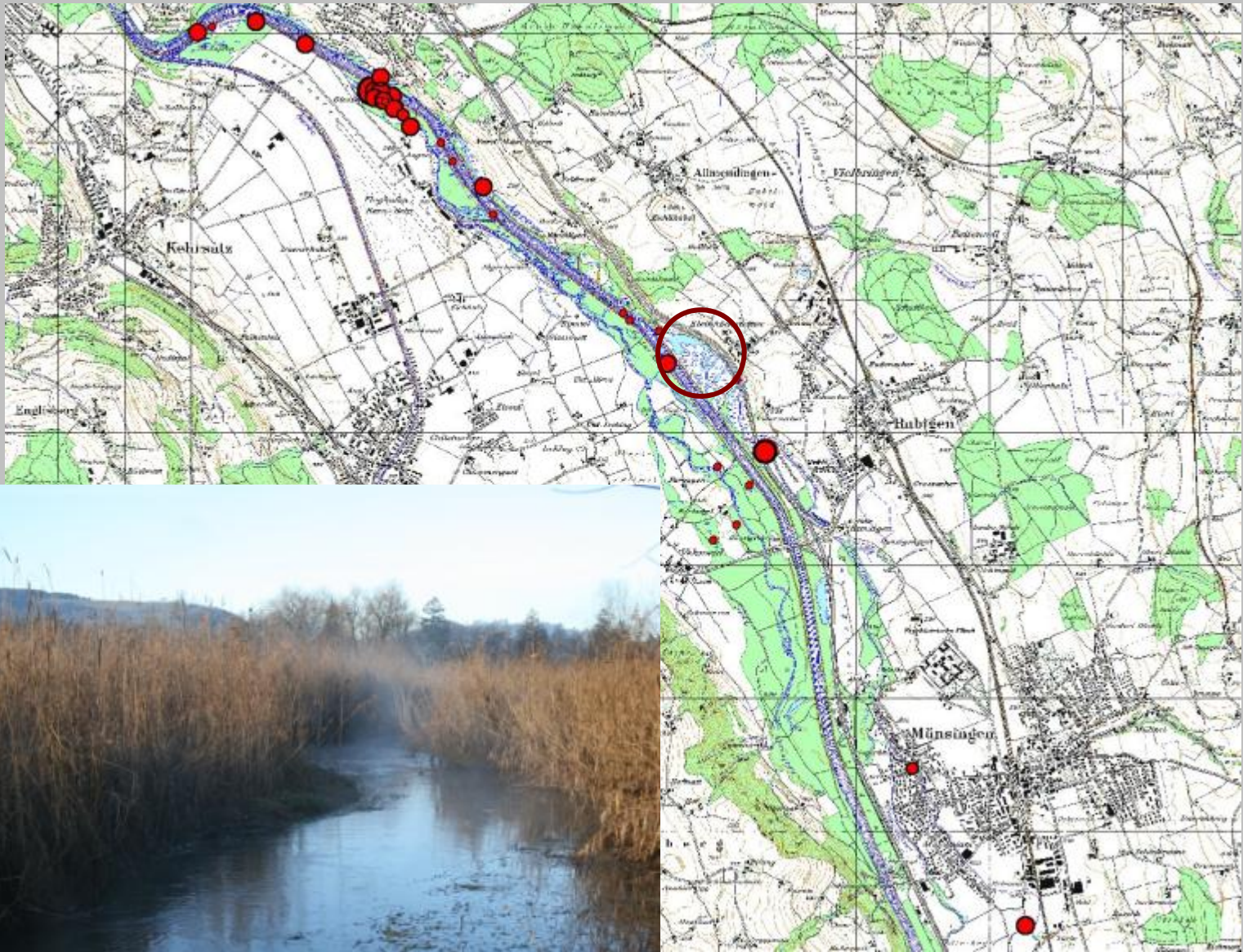
Habitats used by otters



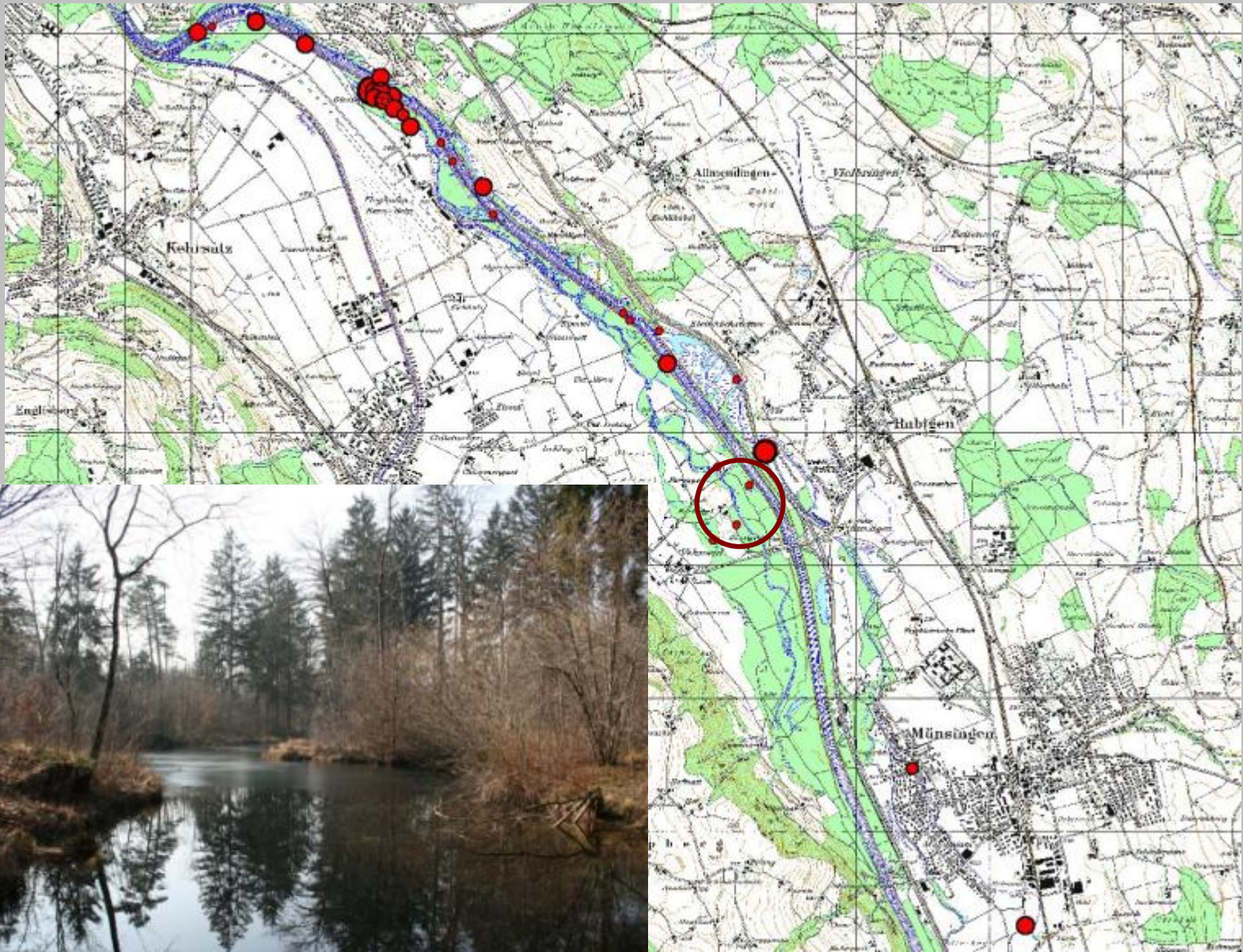
Habitats used by otters



Habitats used by otters



Habitats used by otters



Habitats used by otters



Number of otters

- End of August 2005: one male (Lumpi) and one female (Orava)
- Mai 2006: first observation recording and adult otter with 2-3 cubs
- February 2007: capture of a young male (Timi)
Genetic analyses confirmed that Lumpi was Timi's father
- October 2007: capture of Lumpi
- October 2007: capture of Orava. She was found injured, and died from her injuries. The necropsy revealed she was lactating at that time
- Winter/spring 2007/8: At least two otters, a male and a female, were still present in the area. Genotyping confirmed they were Lumpi's and Orava's offsprings
- The presence of other individuals cannot be excluded



Winter and spring diet of otters (2007/08; n = 95 spraints)

Items	N	RFO (%)
Salmonids	51	38.1
Pike (<i>Esox lucius</i>)	23	17.2
Bullhead (<i>Cottus gobio</i>)	16	11.9
Cyprinids	15	11.2
Minnow (<i>Phoxinus phoxinus</i>)	6	4.5
Perch (<i>Perca fluviatilis</i>)	1	0.7
Undetermined	4	2.9
Fish (total)	116	86.5
Insects	1	0.7
Crayfish	1	0.7
Amphibians	10	7.5
Reptiles	3	2.2
Birds	1	0.7
Mammals	1	0.7
Undetermined	1	0.7



Fish catches (Kg) made by anglers in 1996 and 2006

Fish	Aar (in the study area)	Gürbe (main tributary)
Salmonids 1996	1569	462
Non salmonids 1996	249	48
Total 1996	1818	510
Salmonids 2006	609	129
Non salmonids 2006	532	61
Total 2006	1141	190



Evaluation of habitat quality

- In 1997, with fish biomasses comprised between 50 and 100 kg/ha for both salmonid and non-salmonid fish, the area was considered a suitable habitat for the otter
- A drastic decrease in salmonid stocks was observed during the last ten years (Aar: - 37.8 %; Gürbe: - 62.7 %). This trend is not only local, but also nationwide
- So far, despite the worrying situation regarding fish populations and as suggested by a three-year permanent presence and at least one breeding success, otters seem to have found a suitable stretch on the River Aar. However, if fish decline carries on, it will certainly be highly problematic for otters to survive in the area



Next steps

- No decision regarding the capture of these otters has been taken so far. A meeting of all concerned authorities will be held very soon
- It was, however, decided to carry on an extensive monitoring of these otters:
 - Search for signs of otter presence in the study and adjacent areas
 - Genetic analyses
 - Dietary analyses

