

The breeding ponds become unsuitable due to:

- overgrowth
- fish introduction or colonization
- drainage
- infilling



Since 2004 more than 200 old cattle ponds, flax ponds and natural depressions have been restored and some new ones created in Estonia and 10 in Denmark.

Restoring of ponds as landscape elements and habitat for amphibians

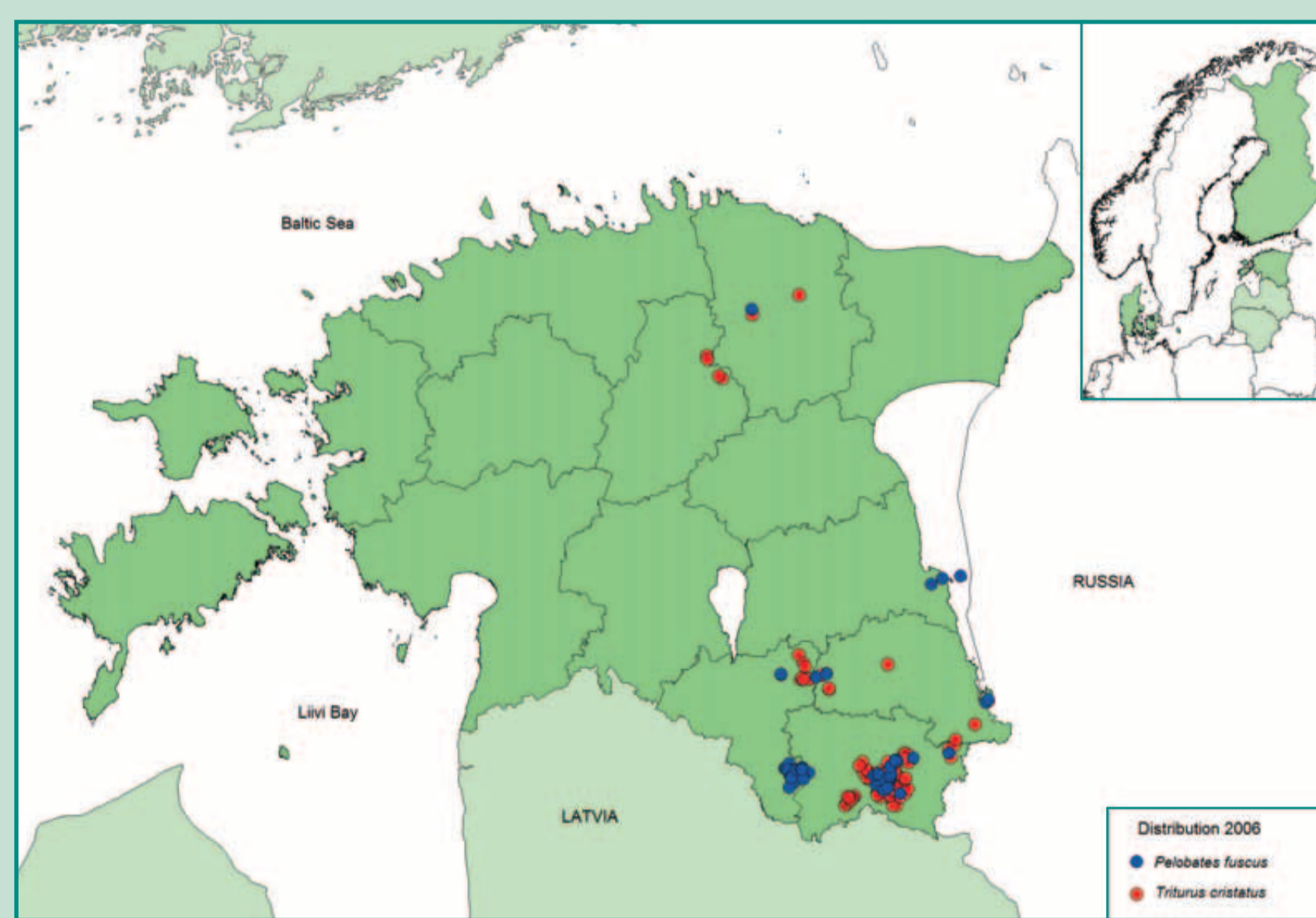
– an Estonian experience from LIFE-Nature project

Introduction

The great crested newt (*Triturus cristatus*) is found mainly in Northern and Central Europe. In the north the distribution area stretches up to Finland. Therefore Finland and Estonia make up the northeastern region of the distribution range of this newt species inside European Union. Despite a widespread distribution, the great crested newt has declined considerably during the latter part of the 20th century in all of Europe, primarily due to the loss of suitable habitats. Therefore the species has been listed in Annex II and IV of the Habitats Directive.

Historical distribution of the species is not well known in Estonia, because great crested newt has often been confused with another species - the smooth newt (*Triturus vulgaris*). However, the great crested newt has probably been distributed all over Estonia (except the islands) and has been the prevalent amphibian species in South and Southeast Estonia. The southern part of Estonia has a hilly landscape with small farms and field and a great number of different water bodies: small lakes, cattle-watering ponds, garden ponds, sauna ponds, deeper ponds for flax soaking etc. These ponds formed clusters affording excellent conditions for the newts. During the second half of the 20th century the cattle keeping decreased, many small ponds grew over, were introduced with fish or filled into. Several amphibian species went to rapid decline: the green toad, the great crested newt and the common spadefoot.

The great crested newt is currently found in South Estonia, but the populations are small and isolated. A few populations are also known in the northern part of the country. The great crested newt is often found in the same habitats with another rare and threatened amphibian species — the common spadefoot.



Distribution map *T. cristatus*/P. fuscus + map of Estonia in Europe

Habitat destruction

The great crested newt needs both aquatic and terrestrial habitat during its life cycle. It requires suitable (with clear water, presence of egg-laying plants, shallow zones with high water temperature for development of tadpoles), densely situated and fishless water bodies that are surrounded by terrestrial habitats of good quality, such as unfertilized grasslands and deciduous woodlands.

Lack of suitable habitat, especially small water bodies, constitutes one of the main reasons for the diminishing numbers of the great crested newt in Estonia.

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LIFE-Nature project "Protection of *Triturus cristatus* in the Eastern Baltic Region"

To save the small and isolated populations of the great crested newt from extinction in the extreme northeastern part of its distribution range in Estonia and Finland and to secure the species' favorable conservation status in Denmark, a LIFE-Nature project was launched in 2004.



Triturus cristatus

The aim of the project is to preserve and further increase the populations of the great crested newt in 12 areas, which cover 97% of the total population size in Estonia. To that end, 80 breeding ponds will be restored and 160 new ones created. Moreover, as the great crested newt occurs often together with the common spadefoot, the creation of the ponds allows improve also the breeding conditions of this threatened species.

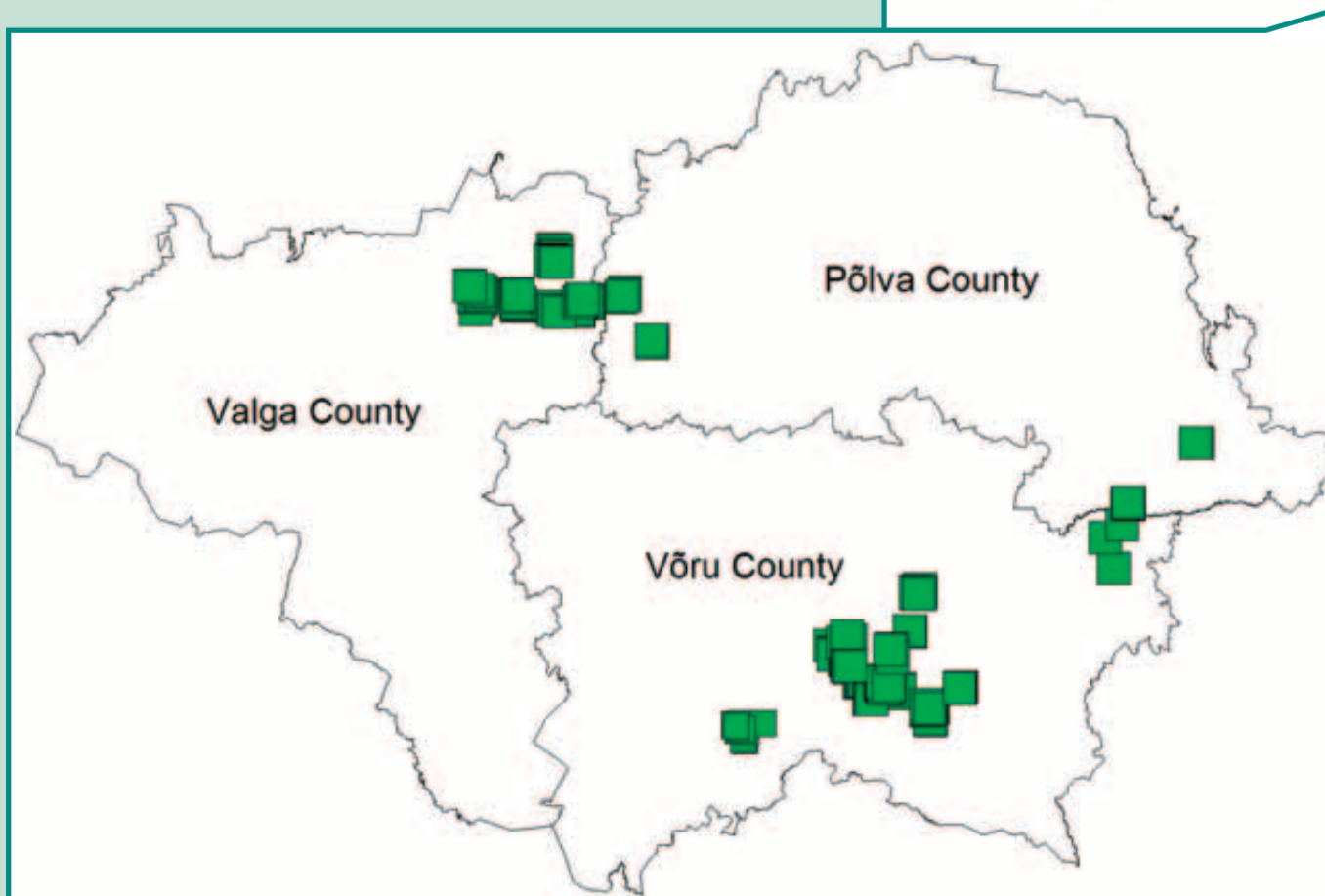
In Finland, natural forest and mire ponds with the great crested newt's populations will be preserved at five project sites. This should guarantee the survival of 95% of the total size of the known Finnish population.

In Denmark, the habitats of great crested newt will be maintained and restored at four demonstration sites representing three main habitat types: semi-natural habitats, forests and mosaic landscapes with extensive agriculture. 12 ponds will be restored or dug at those sites.

The implementation of these activities relies on the co-operation and complete involvement of local people. Using the environmental education techniques (workshops, work camps, guided tours, folders, web page etc.) ensures a long-term understanding of the species' survival among landowners, farmers, nature conservation specialists and the general public.

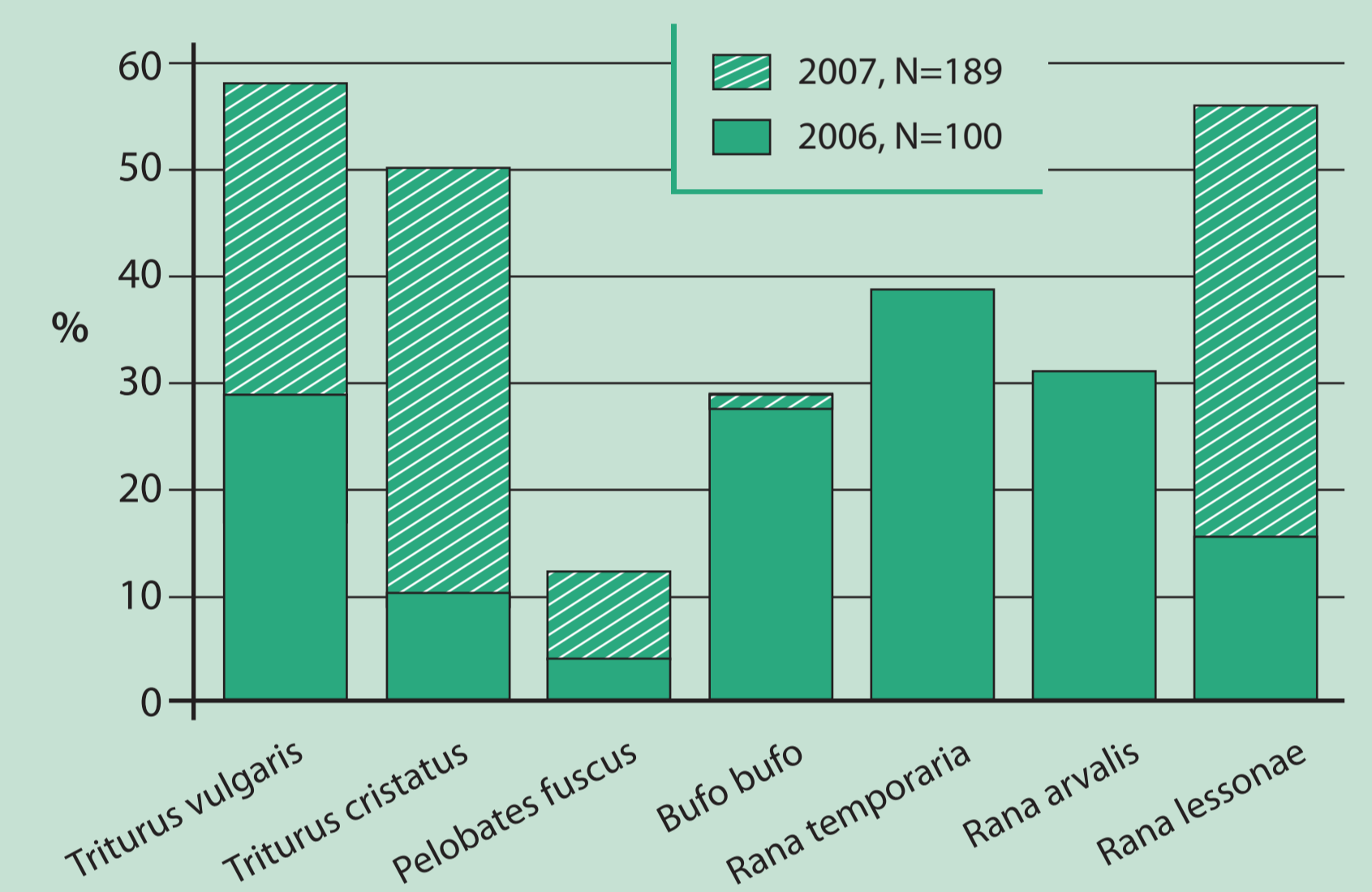
Results

- Since 2004 more than 200 old cattle ponds, flax ponds and natural depressions have been restored and some new ones created in Estonia and 10 in Denmark.



New breeding ponds in South-Estonia

Riinu Rannap, Piret Pappel



Colonization of ponds (restored or created in 2004-2006) in summer 2006 (green columns), in summer 2007 (striped columns).

In addition:

- 523 ha of terrestrial habitats of the great crested newt, especially semi-natural communities, have been maintained in Estonia. In Finland the trees and bushes have been cut around the breeding ponds in total on 124 ha.
- Inventories of new dug and restored ponds have been carried out to determine the key characteristics of the great crested newt's aquatic and terrestrial habitats.
- Common monitoring methodology for the great crested newt have been elaborated.
- Leaflets on the great crested newt, its habitat demands and treats have been printed in English, Estonian, Danish and Finnish.
- Leaflet on pond management have been printed in Estonian.
- International seminar with 53 participants from 9 countries has been carried out in June 2005.
- Study tours for amphibian experts to Denmark and Finland have taken place in 2004-2006.



Pelobates fuscus

- Several guided tours for schoolchildren and landowners have been made.
- Estonian and Danish action plans for great crested newt have been compiled.

Conclusions

Newts have low mobility and high demands for water quality. Restoration of ponds is a powerful measure helping the populations of the great crested newt and other threatened amphibians, such as the common spadefoot. This activity can only be successful if ponds are designed according to the species habitat demands. International cooperation brings expert advice and LIFE is a powerful tool to achieve this. All the activities, started in LIFE project, will be continuing after the project has been ended. By restoring of small water bodies to stop the decline of the target species and re-establish the structure of meta-populations, we create also the esthetical value of the landscapes.