



# The management of aquatic invasive alien rodents in western France

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## BACKGROUND

Wetlands are threatened by many stressors, such as water extraction, flow modification, pollution, and climate change<sup>1</sup>. They are also affected by invasive alien species (IAS)<sup>2</sup> including aquatic invasive alien rodents (AIAR). In France, coypu (*Myocastor coypus*) and muskrat (*Ondatra zibethicus*) are two common AIAR and trigger widespread damage with important economic<sup>3</sup>, human health<sup>4</sup> and environmental impacts<sup>5</sup>. The coypu is responsible for one of the highest estimated costs of IAS worldwide, with US\$19 billion of damage<sup>6</sup>, and its economic costs have exponentially increased during the last decades<sup>7</sup>.



The Brière marsh © Pays



Coypu © Pays

## THE PERMANENT CONTROL PROGRAMME OF AQUATIC INVASIVE ALIEN RODENTS (AIAR)

Since AIAR populations are significantly abundant and widespread in many areas of France, eradication of these two species at a regional or national level is unlikely<sup>8</sup>. AIAR control activities mainly based on trapping have been set to reduce the impacts of AIAR on ecosystems and human activities. The AIAR control programme involves many local and regional entities which co-ordinate the control activities of AIAR by (i) training and recruiting new volunteer trappers, (ii) rewarding captures, (iii) providing technical and legal support, and (iv) managing AIAR carcasses. Professional trappers and hunters can also be locally involved in control activities.

## OUR INPUT IN THE PERMANENT CONTROL PROGRAMME

BiodivAG is interesting in analysing data of control activities of the permanent control programme. We try to understand drivers of captures and the strategy used by stakeholders in setting control activities. We have also set a scientific programme to investigate the impacts of coypus and muskrats on ecosystems.

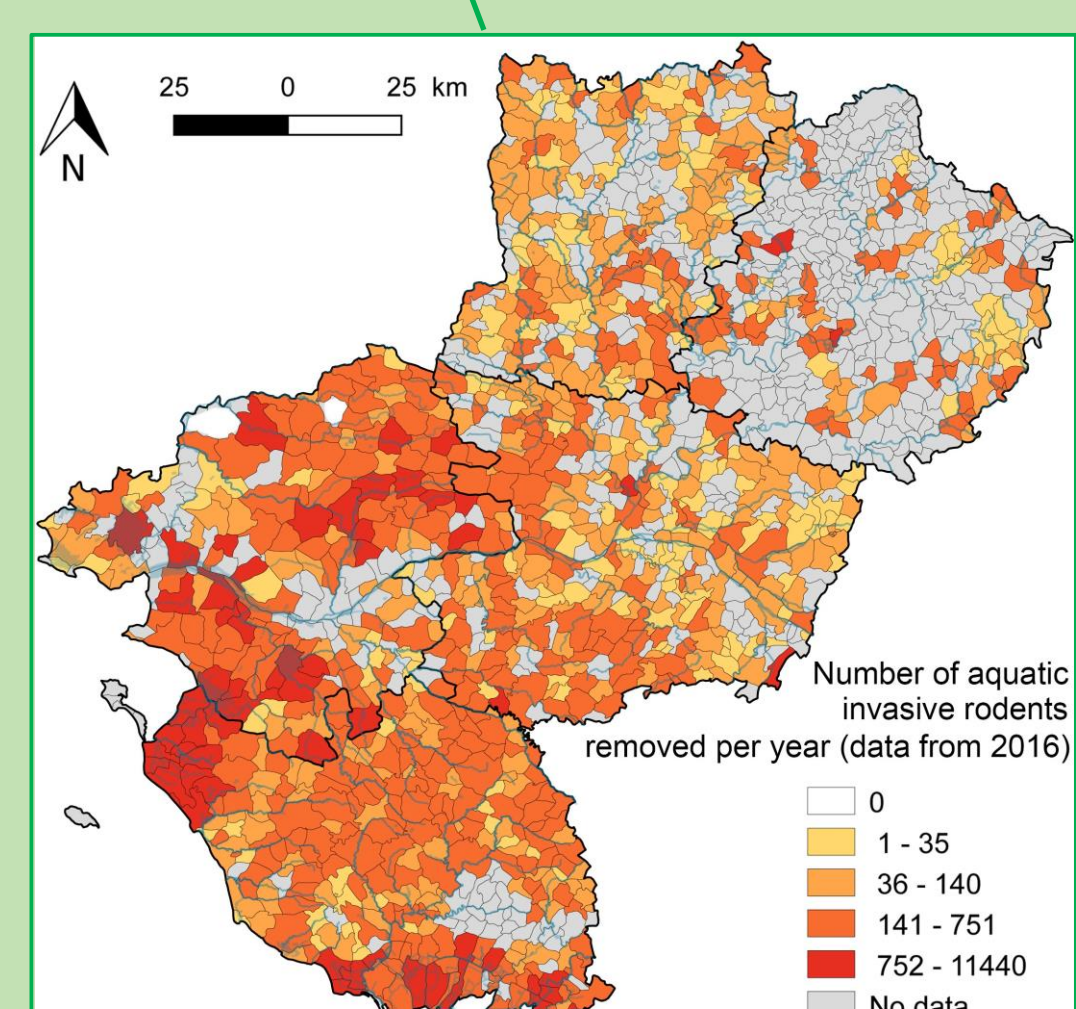
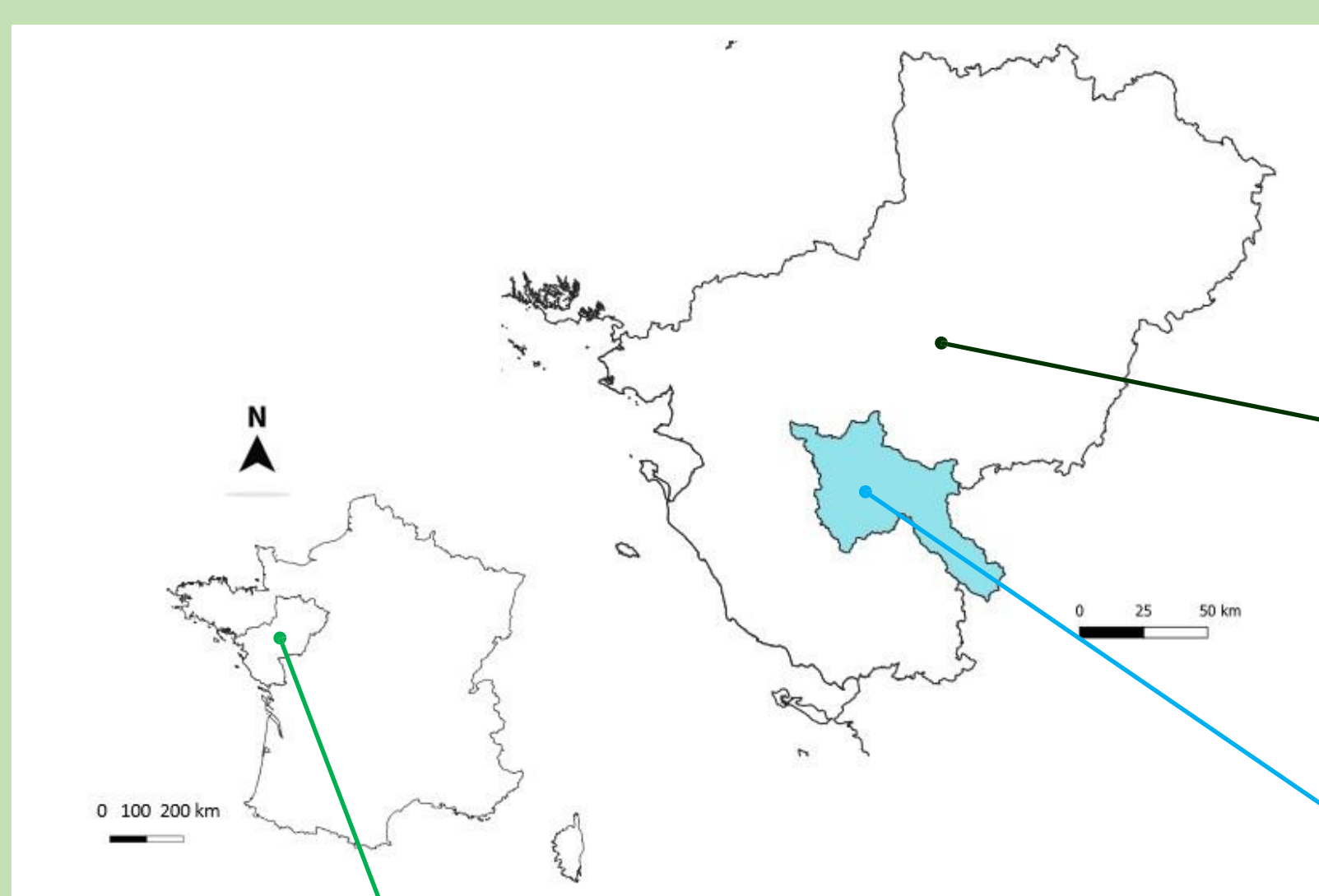


Fig. 2: Control activities managed to remove up to 286 000 AIAR in 2016 over the 32 000 km<sup>2</sup> of the region Pays de la Loire<sup>9</sup>



Fig. 1: Enclosures (100m<sup>2</sup>) have been set to investigate the direct and indirect effects of RAE exclusion on ecosystems. Communities of plants, insects, earthworms and amphibians are compared between enclosures and control plots in two habitats, ponds and rivers.



Coypu © Bonnet

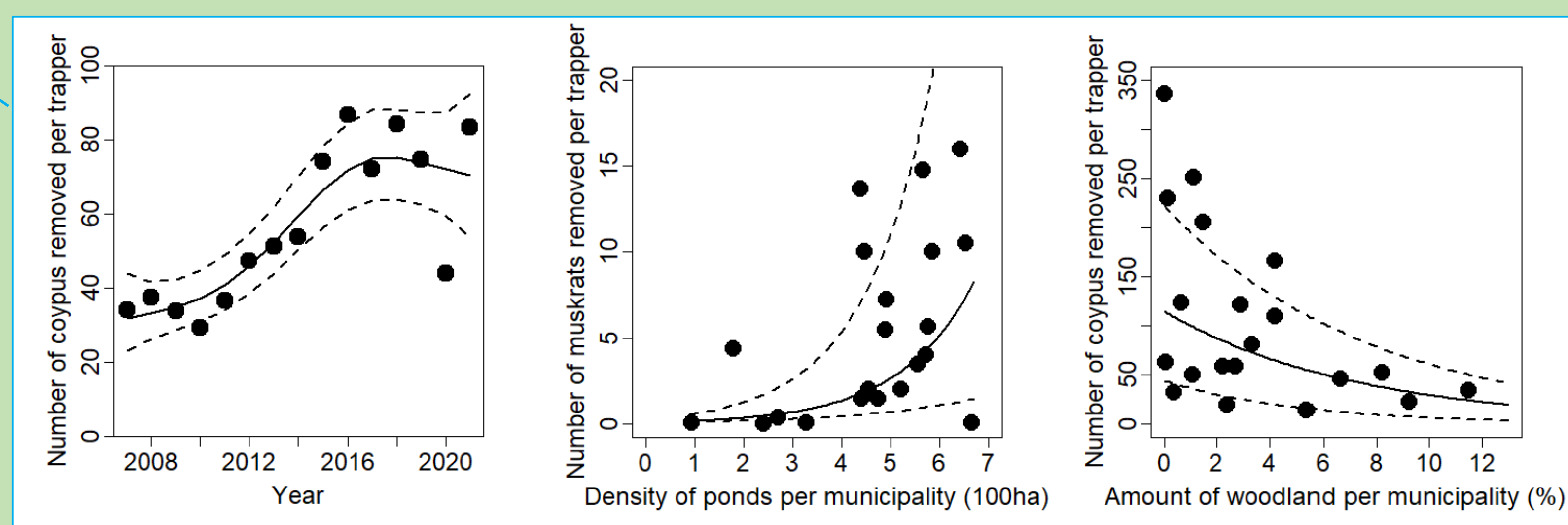


Fig. 3: The number of coypus removed per trapper per year increased during the last decade in the Sèvre Nantaise watershed<sup>10</sup>

Fig. 3: The number of muskrats removed per year increased with the density of ponds per municipality (left) whereas the number of coypus decreased when the amount of woodland per municipality decreased (right)<sup>10</sup>.