

## Study on the presence and perception of coypu (*Myocastor coypus* Molina, 1782) in three areas of Lazio region (Italy)

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### Abstract

The coypu (*Myocastor coypus*) is native of sub Patagonian region, the temperate areas of Chile and Argentina. In Italy the first animals were introduced in 1928 for farming for fur production. Released and escaped coypu have altered the ecosystems colonized and impacted on agriculture and they are now considered as an invasive species. Three study areas were chosen in the Lazio region. The first area was a protected natural reserve characterised by extensive agriculture and backyard farming, the second was characterised by intensive and specialised agriculture, and the third was characterised by intensive agriculture. In order to understand whether there are problems caused by coypu in these areas, a questionnaire was prepared and distributed to 574 farmers/peoples living/working close to the investigated areas, and 389 completed questionnaires were obtained. The results covered the legal status of the species, the problem of damage to crops, and the negative effect on native species, and highlighted that the removal of this invasive species should be accompanied by an information program involving farmers and people living close to areas suitable for coypu.

Keywords: eradication, introduction, invasive species, *Myocastor coypus*, public survey, rodents

### Introduction

The coypu (*Myocastor coypus*) is native of sub Patagonian region, the temperate areas of Chile and Argentina (Cocchi, 2002). The species was introduced to North America, England, Asia, Africa and Europe (Soccini and Ferri, 2001; Cocchi and Riga, 2001). In Italy the first animals were introduced in 1928 by the National Institute of Rabbit husbandry in Alessandria, for farming for fur production (Vicini et al., 2003). The project was successful for a few decades and then declined. Inadequate housing and voluntary release by the farmers (to avoid the disposal of animal carcasses) were the main causes of dispersal of coypu (Soccini and Ferri, 2001). Naturalised groups have occurred since the 1970s (Soccini and Ferri, 2001). At the end of the 20th century Lazio, Umbria, Tuscany, Lombardy, Emilia Romagna, Veneto and Piedmont were the Italian regions with the highest density of free living individuals (Santini, 1983). The high reproductive potential and adaptability of the coypu have allowed the rapid colonization of new territories (Scalera, 2001). At the national level there are two large distribution areas: the Po Valley and northern Adriatic coast, and the Tyrrhenian coast between the Arno and the Tiber (Cocchi and Riga, 2001). The presence of a rich network of waterways and ponds has facilitated the natural dispersion and settlement of the species (Cocchi and Riga, 2001; Soccini and Ferri, 2001; Vicini et al., 2003). Coypu (Perco and Lovari, 2002) have greatly altered the ecosystems colonized, impacted on agriculture and are now considered invasive. In many areas they are now controlled or eradicated (Bertolino et al., 2001, 2005; Panzacchi et al., 2007). Little is known about the perception of the species by the farmers and what activities can be adopted for species containment. To address this, during a study on the distribution a questionnaire on the species was given to farmers and stakeholders.

### Materials and methods

Three study areas were chosen on the basis of the first results on coypu distribution and on the basis of a deterministic model of habitat suitability of the species (unpublished results). The study area identified in the province of Rieti (hereinafter referred to as area A) coincides with a portion of river Aia of 3.6 km, a tributary of the Tiber, where hunting is allowed. The territory lies in the municipalities of Torri in Sabina, Selci and Tarano and is characterized by intensive agriculture. There is no coypu containment program and no information provided to stakeholders. The study area identified in the province of Viterbo (hereinafter referred to as area B) is a protected area (Natural Reserve of Tuscania) where a portion of 3.8 km of river Marta was studied. Information was available to stakeholders but there were no

containment programs. The study area identified in the province of Latina (hereafter referred to as C) lies in the Municipality of Latina, and is a hunting area of with 4.8 km. A containment program has been in place for three years.

In order to understand whether there are problems caused by coypu in these areas, a questionnaire was developed and given to 574 farmers/peoples living/working close to the investigated areas (207 in area A, 168 in B, 199 in C). The researchers helped the farmers to complete the questionnaires or asked them to return them within fifteen days. A first evaluation was the completeness and relevance of responses. The statistical analysis of responses was carried out only on questionnaires completed in full and relevant.

## Results

Of a total of 574 questionnaires 389 were returned (67.8%), 148 in A, 111 in B, and 130 in C. Of these 358 were complete (141 in A, 99 in B, 118 in C). The following results were considered relevant from a social and technical point of view:

1. the coypu is a protected species (62% in A, 12% B, 14% C);
2. the coypu causes damage to the agricultural crops (96% in A, 39% B, 48% C);
3. the coypu interferes with native species (35% in A, 74% B, 55% C);
4. Nutria is poached (91% in A, 12% B, 13% C);
5. Nutria carcasses are destroyed illegally and without veterinary supervision (67% in A, 0% B, 0% C);
6. Nutria meat is consumed (77% in A, 0% B, 0% C).

## Discussion

The farmers were unclear about legal status of coypu. Its classification as an invasive species depends on information and containment programs. The problem of damage to crops is spread across all three areas. The negative effect on native species is not known by most of the people, both in protected and non-protected areas. Poaching was thought to exist mainly because of ignorance of the legal status of the species. The research concluded that the removal of coypu should be accompanied by an information program directed at farmers and people living close to areas suitable for the species.

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