



Coypu

(*Myocastor coypus*)

Controlling populations of harmful aquatic rodents (coypu and muskrats) in the Loire-Atlantique department

Loire-Atlantique departmental federation of pest-control groups (FDGDON 44)

- FDGDON 44 is a professional farming group that is supervised by the Regional food service (SRAL).
- The executive board comprises 13 members elected by the 60 intermunicipal and municipal groups during the annual meeting.
- The federation has a permanent workforce of 11.
- The objectives are contained in the Rural code, with more precise goals stipulated in ministerial decrees and, where applicable, prefectural and/or municipal orders. They include the organisation of collective projects against pests attacking crops, plants and plant products in the department.
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Intervention site

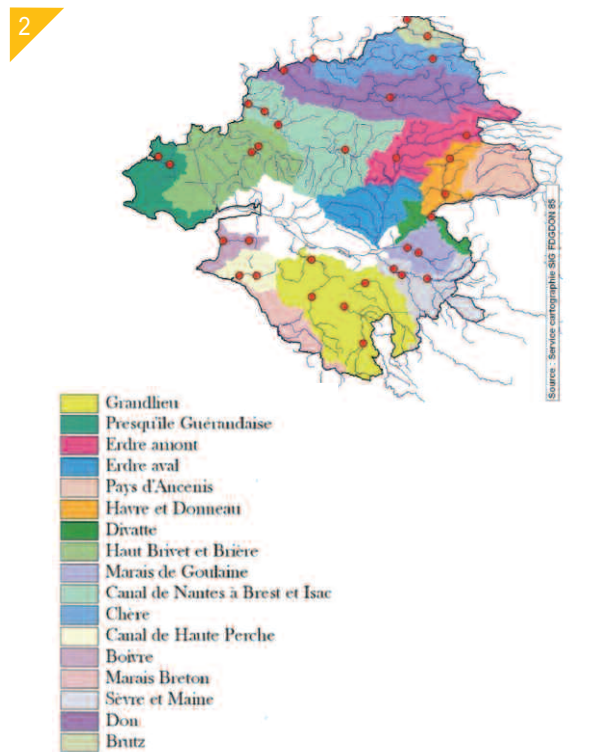
- The Loire-Atlantique department covers a total surface area of 6 815 square kilometres.
- The hydrographic network is very dense.
- There are two main river basins:
 - the Loire, comprising the Loire itself, its tributaries and the many wetlands and littoral areas in contact with its estuary;
 - the Vilaine, comprising the basins of the Chère, Don, Aron and Isac Rivers, as well as a part of the canal from Nantes to Brest.
- There are a number of coastal rivers.
- The department is made up of highly diverse environments, including large and small rivers, streams and canals, estuarine salt meadows, marshes (fresh, brackish and salt waters), ponds and lakes, littoral areas.
- Certain areas are emblematic, due to both their hydrographic functioning and their outstanding heritage value, namely the Loire estuary, the Brière area, Grand-Lieu Lake, the Mazerolles marsh and the Marais Breton marsh.

Disturbances and issues involved

- **Impacts on the environment**
 - Coypus dig burrows that can lead to the collapse of river banks and to sedimentation modifying the morphology of the environment.
 - They can also reduce plant cover.



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1. Map of the Loire-Atlantique department.
2. Sites of population-density monitoring in the river basins.

■ Impacts on agriculture

- The animals eat crops.
- The damage to river banks creates risks for farm vehicles.

■ Impacts on hydraulic structures

- The damage to river banks can weaken structures (dikes, bridges).

■ Impacts sanitaires

- Contamination des eaux douces par l'urine et les excréments.
- Possible transmission de maladies au bétail et à l'homme (leptospirose, grande douve du foie).



3. Damage to a maize field caused by coypus.

Interventions

■ Monitoring the populations

- Prior to control work and in compliance with the ministerial order dated 8 July 2003, FDGDON conducts checks, twice per year in the spring and fall, on the densities of rodent populations in the river basins.
- This monitoring is carried out in different parts of the department according to a strict protocol (cage traps every 50 metres).
- The animals captured in the traps are counted, weighed and their sex determined.
- The resulting data can be plotted graphically and indicates whether the populations in a given river basin are increasing or decreasing. This information is used to organise the control work.
- Monitoring is a necessary and mandatory component, according to the prefectural order organising the management efforts against coypus and muskrats.

■ A collective effort

- FDGDON intervenes on the primary hydrographic network and volunteers on the secondary and tertiary networks.
- FDGDON uses a number of control techniques, primarily trapping, but also shooting during collective operations and protection systems for river banks (occasionally, during maintenance work). Poison has not been used since 2003.
- Trapping campaigns are organised by zone and an operation in a zone lasts three weeks.
- Cages are set up every 50 metres and remain in place for the duration of the operation. They are checked daily.
- No particular type of cage or certification is required:
 - cages may be of different lengths;
 - treadles may be made of sheet metal, horizontal bars or wire mesh, and installed more or less deeply in the cage;
 - the cages are attached to a raft made of resin-coated cellular polycarbonate and anchored to trees or vegetation on the banks.
- FDGDON 44 owns between 250 and 300 traps with a service life of approximately ten years:
 - if vandalism and losses due to flooding are excluded, frequent causes of damage to cages are their transport and shooting the animals;
 - renewal rates therefore vary significantly.

- The type of cage used and their installation on the rafts makes them highly selective. Very few non-targeted species are captured. Any animals accidentally captured can be released without harm.
- The captured animals are killed immediately, in the cage, using a .22 long rifle:
 - technically speaking, this is the best solution because the regulations require that the animals be killed rapidly and without suffering;
 - this technique is not advised for volunteers for safety reasons and due to regulations (difficulties in applying both the trapping and firearms regulations);
 - alternate methods are drowning (authorised in the Loire-Atlantique department) and clubbing.
- Technical personnel may not take action against animals on the river banks:
 - different regulations apply and a hunting license is required;
 - the person must have hunting rights and/or be a certified game warden for the area in question;
 - in addition, .22 long rifles are not authorised for hunting.
- The work takes place primarily during the fall and winter and in two-man teams (driver and shooter) when access to the traps requires a boat.
- The dead animals are placed in containers in the boat and then transported to the federation.
- The rendering service picks them up free of cost if the total weight exceeds 40 kilograms (approximately a dozen coypus). It follows that the rendering service comes fairly often.



4. A baited cage trap with a trapped coypu.

© Emile Mazeubert

Results and costs

■ Results

- In terms of the density monitoring, the unit of comparison is the average number of animals per kilometre of river.
- A drop in the average number of animals captured per kilometre is an indication of the effectiveness of the management work.
- A drop in the average weight of the captured animals highlights the value of maintaining the trapping pressure in that the animals do not have the time to age.
- Collective shooting operations organised in certain areas (Brière and Grand-Lieu Lake) produced divergent results:
 - due to variable environmental factors (water levels, temperature);
 - due to the high cost of ammunition, a demotivating factor for volunteers.
- The work nonetheless reduced the population of rodents and limited the level of infestation that would have increased if not measures had been taken.

Number of animals eliminated during the collective operations against harmful aquatic rodents from 2004 to 2010.

	2004	2005	2006	2007	2008	2009	2010
Shooting	6 931	4 818	4 282	3 493	2 395	4 426	3 791
Volunteer trapping: elimination	35 624	43 073	33 584	41 160	43 160	46 174	41 418
Volunteer trapping: surveys	962	1 946	1 250	1 354	2 031	1 333	980
FDGDON 44 technicians	2 492	2 612	2 175	2 125	2 851	2 322	2 192
TOTAL	46 009	52 449	41 291	48 132	50 437	54 255	48 381

FDGDON 44: Table drawn from the general meeting held on 1 April 2011

■ Intervention costs

- Costs varied depending on tariffs and environmental conditions:
 - in areas accessible by boat, costs were approximately 900 euros per kilometre;
 - in areas not accessible by boat, costs were higher due to the time required to access difficult spots and the more expensive equipment required;
 - costs for density monitoring were lower because FDGDON 44 paid for some expenses.
- Management costs were lower than the potential restoration costs of the avoided impacts.
- The participation of volunteers reduced the costs while producing good results.

Information on the project

- Of the 220 towns in the Loire-Atlantique department, over 190 are members of FDGDON for the management work against coypus and muskrats. The other towns have hydrographic networks that do not require work against these species (e.g. no ponds or rivers).
- FDGDON prepares the volunteer networks in conjunction with the towns and manages them:
 - organisation, training;
 - dissemination of information (regulations, etc.);
 - organisation of an annual meeting to discuss results, new regulations, map sites and trapped areas;
 - meet all the trappers in the field to monitor captures and collect the tails for the bounty.
- FDGDON regularly informs the managers of natural areas and newly formed river boards about the obligations concerning species that must be controlled.

Note on applicable regulations

- According to the interministerial decree dated 6 April 2007, coypus and muskrats are pests that must be controlled in the framework of plant-protection regulations.

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For more information

■ <http://www.fdgdon44.fr>

