



MIRDINEC - Management of the invasive Raccoon Dog (*Nyctereutes procyonoides*) in the north-European countries

LIFE09 NAT/SE/000344



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Project description:

Background

The raccoon dog (*Nyctereutes procyonoides*) is an invasive species, native to eastern Asia, introduced as a fur game species to the western parts of the Soviet Union in the 1930s-1950s. It was listed in the top 100 most damaging invasive species by the DAISIE project (<http://www.europe-aliens.org/speciesTheWorst.do>). The species has been found to cause substantial ecological damage to native fauna in the 1.4 million km<sup>2</sup> it has colonised by secondary expansion so far in Europe. The raccoon dog is also the single most important vector of rabies in Europe and an important vector of the fox tapeworm (*Echinococcus multilocularis*), sarcoptic mange, and trichinellosis. Urgent action is considered necessary to prevent a population explosion of raccoon dogs in Scandinavia.

Objectives

The objectives of this LIFE+ Biodiversity project focused on halting the loss of EU biodiversity, particularly in wetland areas, from raccoon dogs. The project aimed to establish an early warning system (EWS) to track immigration of raccoon dogs and to apply innovative culling/management methods to control the species. Project findings were expected to be transferable to many other invasive species.

## Results

The MIRDINEC project achieved all its main objectives. It successfully instigated international cooperation to manage a highly mobile IAS. This resulted in a slowing down of the dispersal of raccoon dogs from Finland to Sweden and Norway and a reduction in the existing population in Sweden and Norway. It also slowed down population dispersal in Denmark and prevented a rapid population increase. In so doing, the project contributed to the objectives of the Rio Convention on Biological Diversity, the Bern and Ramsar conventions and the Commission Communication: “Halting the loss of Biodiversity by 2010 – and beyond”.

As planned, the project established an EWS in Sweden, Denmark and Finland. This has provided early warnings of the presence of raccoon dogs along the major immigration routes into Sweden and Denmark. The project's awareness-raising initiatives amongst the hunting community and the general public contributed greatly to the success of the EWS. These included developing citizen science systems in Sweden and Denmark that allow hunters and the wider public to report sightings of raccoon dogs. More than half the raccoon dogs eradicated have been culled thanks to these reports.

The project improved methods of raccoon dog capture and demonstrated the potential transfer of innovative methods to other invasive species with similar behaviour, such as raccoons (*Procyon lotor*). Captured males and females in Sweden and Denmark were sterilised, tagged and tracked (using GPS/VHF transmitters). Raccoon dogs are strictly monogamous, forming 'life partnerships' with their mate. This trait allowed the project to track the so-called 'Judas' animal and thus capture its partner (and any offspring) – the first time that the Judas animal technique had been used on an invasive alien predator.

To encourage transfer of its innovative methods, the project hosted a LIFE Platform Meeting on Invasive Alien Predators, which disseminated MIRDINEC's results to an international audience of species management specialists, scientists and policy-makers.

In total, the project received 3 234 reported observations of raccoon dogs in Denmark and Sweden, of which 852 were confirmed by the project team. Over the three years of the project, a total of 1 401 raccoon dogs were captured and/or killed in Finland, Sweden and Denmark (this includes those culled by the project, by hunters, those killed by traffic and those found dead). Some 170 of the captured animals were used as Judas animals.

The project developed population models which show that without its efforts, raccoon dog populations would be significantly larger than at present. Without the continuous management of the species, the number of racoon dogs in Sweden and Denmark would reach critical levels for native biodiversity in the next 10-20 years.

This shows that although costs associated with management of invasive alien species are substantial, the cost of management (predator control) of valuable wetlands (bird recruitment areas) when invasive alien predator species have established themselves are even higher. Recognising this, as a result of the LIFE project, authorities in Sweden, Norway and Denmark have allocated short-term

financing for the joint continued management of the raccoon dog, whilst Finland is in the process of doing so.

Suggested indicators for monitoring the long-term impact of the project include:

- The extent and effectiveness of the early warning system in Sweden and Denmark;
- The continued commitment from the state authorities on financing further prevention/eradication of the racoon dog in the four participating countries (Sweden, Denmark, Finland, Norway);
- The extent of involvement of the public (hunters) in eradication of the racoon dog; and
- Whether or not the Judas animal technique has been applied in other countries and/or for other species.

Further information on the project can be found in the project's layman report and After-LIFE Communication Plan/After-LIFE Conservation Plan (see "Read more" section).

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Environmental issues addressed:

Themes

Biodiversity issues - Invasive species

Keywords

hunting, biodiversity

Target EU Legislation

- Nature protection and Biodiversity
- COM(2011) 244 final “Our life insurance, our natural capital: an EU biodiversity strategy to 2020 ...
- COM(2013) 620 final “Proposal for a regulation of the European Parliament and of the Council on t ...

Target Habitat types

- 02 - Specific (i.e. for technical reasons or specific issue)

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Swedish Association for Hunting and Wildlife Management
Type of organisation	NGO-Foundation
Description	The Swedish Association for Hunting and Wildlife has been active since 1830 and has a remit that includes wildlife conservation.
Partners	Finnish Wildlife Agency Danish Nature Agency Swedish University of Agricultural Sciences Swedish Environmental Protection Agency

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Administrative data:

Project reference	LIFE09 NAT/SE/000344
Duration	01-SEP-2010 to 31-AUG -2013
Total budget	5,318,278.00 €
EU contribution	2,659,139.00 €
Project location	København Og Frederiksberg Kommuner(Danmark),Lappi(Finland Suomi),Stockholm(Sverige),Norra Mellansverige(Sverige)

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Read more:

Brochure	Title: "Supikoira valtaa Pohjois-Suomen ja Ruotsin - auta leviämisen estämisessä!" Year: 2013 No of pages: 8
Project web site	<a href="#">Project's website</a>
Publication: After-LIFE Communication Plan	Title: After-LIFE Communication Plan Year: 2013 Editor: Swedish Association for Hunting and Wildlife Manag No of pages: 15
Publication: After-LIFE Communication Plan	Title: After-LIFE Kommunikationsplan Year: 2013 Editor: Swedish Association for Hunting and Wildlife Manag No of pages: 14

Publication: After-LIFE Conservation Plan	Title: After-LIFE Conservation Plan Year: 2013 Editor: Swedish Association for Hunting and Wildlife Manag No of pages: 11
Publication: Layman report	Title: Layman report (Swedish version) Author: Fredrik Dahl <i>et al</i> Year: 2013 Editor: Swedish Association for Hunting and Wildlife Manag No of pages: 24
Publication: Layman report	Title: Lægmandsrapport Author: Fredrik Dahl <i>et al</i> Year: 2013 Editor: Swedish Association for Hunting and Wildlife Manag No of pages: 24
Publication: Layman report	Title: Layman report Author: Fredrik Dahl <i>et al</i> Year: 2013 Editor: Swedish Association for Hunting and Wildlife Manag No of pages: 24
Publication: Layman report	Title: Hankeraportti Author: Fredrik Dahl <i>et al</i> Year: 2013 Editor: Swedish Association for Hunting and Wildlife Manag No of pages: 24
Publication: Technical report	Title: Project's Final technical report Year: 2013 No of pages: 33

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