

Invasive predators on islands



Evaluation of the American mink (*Mustela vison*) as a new species on Navarino island, Southern Chile - from an ecological and social perspective

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Introduction

The Cape Horn Region is one of the world's most pristine regions and harbours a high diversity of birds. First sighted in 2001, the American mink (*Mustela vison*) represents a new phenomenon on Navarino island. Here, minks lack natural enemies and thus might cause serious negative effects on especially ground-nesting birds.

Navarino Island

The **overall objective** is to provide recommendations for the management of the American mink supporting the recently started local control program. This integrated approach* combines ecological data with interviews of local people about their acceptance of invasive species. Thus, new management options might emerge.

Research questions

- 1 What is the impact of mink on ground-nesting waterfowl?
- 2 What are population size and habitat preferences of mink?
- 3 How do people perceive and value invasive species?

*as claimed in the Ecosystem Approach of the Convention on Biological Diversity

Methods



Upland Goose (*Chloephaga picta*), right

1 Monitoring of waterfowl nests and artificial nests

- Nest search and check every 10 days for predation
- 100 artificial nests (clay and chicken egg)



American mink (*Mustela vison*)

2 Live-trapping and sign surveys

- 20 traps set for 4-5 trap nights along 3 rivers (once) and 3 coastal sites (repeated)
- scat search along coastal and riverine sites, lakes and lagoons (n=24)



Fisherman on Navarino Island

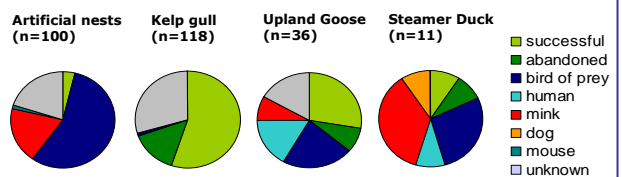
3 Qualitative interviews

30 interviews conducted with different social groups asking questions about knowledge and valuation of mink and beaver, and acceptance of control

Results

1 Predation on waterfowl and artificial nests

- No mink predation in Kelp gull colonies
- Mink predation in 21% of 43 single nesting waterfowl nests and 19% of 100 artificial nests



2 Relative population densities (Autumn 2005)

Rivers: 0-0.25 mink/km

Coast: 0.5-1.25 mink/km, but this result could not be repeated

Habitat preferences (Summer 2006)

Minks are equally using coast, rivers, lakes and lagoons and within these different habitats (Fig. 1)

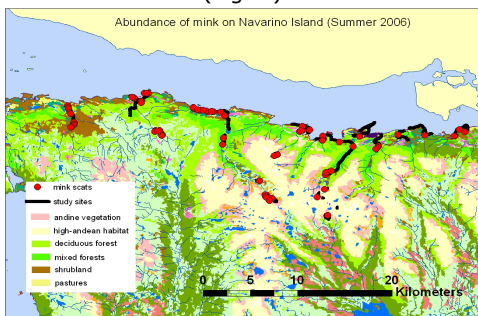


Fig. 1: Mink scats found in 22 of 24 visited sites.

3 Essentials from the interviews...

"An exotic animal is like an elephant in a china shop."

"To kill a species because it is introduced doesn't seem very ethical to me."

Animal perception

- **Mink** is a hidden animal and predator, therefore unknown or unpopular
- **Beaver** is a typical and admired animal despite damage caused in forest (conflict of values)

Management acceptance

- Majority supports control program, especially farmers or forestry agency
- Mild solutions are proposed (no eradication, no suffering of animals)

Conclusion

- Mink has a negative impact on waterfowl depending on their nesting strategies
- However, long-term effects with this data are not yet predictable
- Mink is a generalist in its habitat choice
- Mink is perceived as harmful by the majority of people
- Thus, management of mink is mostly accepted



Photos: André Künzelmann (UFZ), Tomás Ibarra