GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Erinaceus europaeus***

Erinaceus europaeus 正體中文 **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Lipotyphla	Erinaceidae

Common name European hedgehog (English), western European hedgehog (English), brown-breasted hedgehog (English), igel (German), igelkott (Swedish), herisson (French), riccio (Italian), erizo (Spanish), Europäischer Igel (German)

Synonym

Similar species

Summary Erinaceus europaeus (hedgehogs) threaten native invertebrates, reptiles, amphibians and ground-nesting bird nests through predation. In areas where hedgehogs have been introduced, they also compete with native insectivores. Hedgehogs are native to Western Europe and have been introduced to New Zealand and to island groups within their native range where they did not naturally occur.

view this species on IUCN Red List

Species Description
Small brownish nocturnal mammal (adults 600-1500g) with a distinctive coat of spines covering the back and crown of the head. The front paws are powerful and adapted for digging while the hid paws are long and narrow. *Erinaceus europaeus* (hedgehogs) typically roll into a ball when disturbed, this is enabled by a powerful dorsal muscle called the musculus orbicularis. Overall they are darker in appearance than *E. concolor* which usually has a white patch of fur over its chest. Droppings are cylindrical in shape, about 30-50mm long and often contain insect exoskeleton fragments. They are stained dark green by bile and are pointed at one end (Jones and Sanders 2005).

Lifecycle Stages
Gestation period of 35 +/- 4 days. At 3-4 weeks old the young first explore outside the nest. At 5-6 weeks old they become fully weaned and independent. Average life expectancy in the wild is about 3-4 years (6-8 years max.) (Jones and Sanders, 2005).

Habitat Description
Prefer dry well drained sites for nests. Hibernates during extended cold weather (e.g. winter, or when mean ground temperatures reach 10-11 degrees C). Males emerge from, and enter hibernation earlier than females. New Zealand lacks natural predators such as large owls, badgers and foxes and has milder winters than Europe, which contributes to a longer breeding season and better yearly survival.

Reproduction
Placental. Sexual. Completely promiscuous, one female may mate with five or more males. Female hedgehogs have a succession of oestrus cycles throughout the breeding season. No postpartum oestrus (Jones and Sanders, 2005).

Nutrition
Invertebrates dominate the hedgehogs diet, especially beetles and caterpillars which appear to contribute most to dietary energy. It has been estimated that hedgehogs can eat around 160g of invertebrates per day. Otherwise, hedgehog diet is varied, and can depend on local conditions and prey availablity, indicating an opportunistic feeding behaviour (Jones and Sanders, 2005). This doesn't mean they are unselective in their diet as certain prey species are prefered over other equally abundant species. For example, one hedgehog stomach examined in New Zealand contained over 283 weta (*Hemiandrus*) legs (Jones *et al*. 2005). They also are known to eat bird eggs and chicks, carrion, and small reptiles and frogs (Jones and Sanders, 2005).

General Impacts
Erinaceus europaeus (hedgehogs) prey on invertebrates and small vertebrates such as lizards and bird eggs and chicks. Hedgehogs are known to eat large amounts of individual prey types meaning they can have significant impacts on small localised populations of prey items (Jones *et al*. 2005). Female hedgehogs were three times more likely to have eaten lizards than males in a New Zealand study (Jones *et al*. 2005). In the Uist group shorebird numbers declined by 39% in areas where hedgehogs are present between 1983 and 2000 (Jackson *et al*. 2004). Up to 60% of nests of some wader species on South Uist were destroyed by hedgehogs in the 1996 and 1997 breeding seasons (Jackson and Green, 2000). Hedgehogs may act as vectors for some human and stock diseases. However, they are unable to maintain a reservoir for bovine Tb and most diseases and parasites are host specific (Jones and Sanders, 2005). Hedgehogs are known to compete with native insectivores, such as the kiwi in New Zealand (where competition for nest sites is also an issue) and two shrew species in Germany (Jones and Sanders, 2005; Guntram G. Meier, pers.comm 2006).

Management Info
Erinaceus europaeus (hedgehogs) are often caught as by-catch in many predator control programmes throughout New Zealand without apparently reducing long term population numbers. May be less susceptible to poisoning than other mammals. Cameron *et al*. (2002) investigated which trapping variables led to increased hedgehog catch success in New Zealand braided river ecosystems. They found that most hedgehogs were caught on pathways and on river terraces. Highest success rates were recorded whan the trap plate was hazed with vegetation rather than left bare or covered with substrate. Please follow this link to view details of the Doc trapping system setting guidelines for Doc 150 and Doc 250. Doc 150 and Doc 250 have passed ‘draft’ NAWAC (National Animal Welfare Advisory Committee) guidelines as humane kill traps for stoats, rats and hedgehogs. In the Uist group in Scotland hedgehogs are live captured using a variety of methods (spot-lamping, live-trapping and searcing with dogs) and then released on the mainland (SNH, 2008). Animal rights activists in the UK have prevented lethal control methods being used to remove hedgehogs from these important areas for breeding wading birds.

Pathway
Erinaceus europaeus (hedgehogs) were introduced to Western Isles in Scotland, UK to control slugs and snails in gardensIntroduced by acclimatisation societies.

Principal source:

Compiler: IUCN SSC Invasive Species Specialist Group
Updates with support from the Overseas Territories Environmental Programme (OTEP) project XOT603, a joint project with the Cayman Islands Government - Department of Environment

Review:

Pubblication date: 2010-09-15

ALIEN RANGE

[1] GERMANY
[6] NEW ZEALAND
[3] UNITED KINGDOM

[1] ISLE OF MAN
[1] REUNION

Red List assessed species 18: CR = 2; EN = 4; VU = 2; NT = 3; LC = 7;

Apteryx australis **VU**
Charadrius alexandrinus **LC**
Crocidura leucodon **LC**
Himantopus novaezelandiae **CR**
Limosa limosa **NT**
Oligosoma otagense **EN**
Somateria mollissima **LC**
Sterna albifrons **LC**
Sterna hirundo **LC**

Apteryx owenii **NT**
Charadrius obscurus **EN**
Gallirallus australis **VU**
Larus bulleri **EN**
Oligosoma acrinasum **NT**
Prodontria lewisi **CR**
Sorex minutus **LC**
Sterna albostriata **EN**
Sterna paradisaea **LC**

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Summary: Biology of hedgehogs, with a New Zealand focus.

Cameron, B.G., van Heezik, Y., Maloney, R.F., Seddon, P.J. and Harraway, J.A. 2005. Improving predator capture rates: analysis of river margin trap site data in the Waitaki Basin, New Zeaand. New Zealand Journal of Ecology 29: 117-128.
Summary: Study investigating the influence of different trap setting factors on trap success for a number of different predator species

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Summary: Available from: http://www.doc.govt.nz/upload/405/Doc150-Predator-Trap.pdf [Accessed 18 February 2008]

Department of Conservation (DOC), undated. Predator traps. Doc trapping systems Doc 250
Summary: Available from: http://www.doc.govt.nz/upload/documents/conservation/threats-and-impacts/animal-pests/doc250-predator-trap.pdf [Accessed 18 February 2008]

IUCN/SSC Invasive Species Specialist Group (ISSG)., 2010. A Compilation of Information Sources for Conservation Managers.
Summary: This compilation of information sources can be sorted on keywords for example: Baits & Lures, Non Target Species, Eradication, Monitoring, Risk Assessment, Weeds, Herbicides etc. This compilation is at present in Excel format, this will be web-enabled as a searchable database shortly. This version of the database has been developed by the IUCN SSC ISSG as part of an Overseas Territories Environmental Programme funded project XOT603 in partnership with the Cayman Islands Government - Department of Environment. The compilation is a work under progress, the ISSG will manage, maintain and enhance the database with current and newly published information, reports, journal articles etc.

Jackson, D. B. 2001. Experimental removal of introduced hedgehogs improves wader nest success in the Western Isles, Scotland. Journal of Applied Ecology 38: 802-812.
Summary: Experiment looking at removal of hedgehogs from bird nesting areas - examining the effectiveness of fences, and the effect on bird breeding success.

Jackson, D.B. 2006. The breeding biology of introduced hedgehogs (*Erinaceus europaeus*) on a Scottish Island: lessons for population control and bird conservation. Journal of Zoology, 268: 303-314.
Summary: This article contains information about the breeding biology of hedgehogs on an island they have been introduced to close to their native range. It also contains advice on when to trap hedgehogs and animal welfare implications that should be considered before trapping hedgehogs.

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Summary: Detailed information about hedgehog diet in an area of high importance for rare endemic New Zealand birds

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ITIS (Integrated Taxonomic Information System), 2005. Online Database *Erinaceus europaeus*
Summary: An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
Available from:
http://www.cbif.gc.ca/pls/itisca/taxastep?king=every&p_action=containing&taxa=Erinaceus+europaeus&p_format=&p_ifx=plglt&p_lang= [Accessed March 2005]
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