Oryctolagus cuniculus

Common name: rabbit (English), lapin (French), kaninchen (German), Europäisches Wildkaninchen (German)

Synonym: Lepus cuniculus, Linnaeus, 1758

Similar species:

Summary: Native to southern Europe and North Africa, the rabbit (Oryctolagus cuniculus) has been introduced to all continents, except Antarctica and Asia. In many countries, rabbits cause serious erosion of soils by overgrazing and burrowing, impacting on native species that depend on undamaged ecosystems.

Species Description:
Grey-brown fur and white-grey belly. Adults 1000-2000 g. Two pairs of upper incisors; the second smaller incisors are behind the first, a feature that distinguishes leporids from rodents. They are smaller than adult hares.

Uses:
Valuable to humans as a domestic and game animal, rabbits were often released onto islands in the past as a food source for marooned sailors (Berman, 2002).

Habitat Description:
Desirable features of ideal rabbit habitat include an annual rainfall of <1000mm, a sunny aspect, light soil, and adequate cover close to feeding grounds kept closely grazed. Although rabbits can tolerate higher rainfall, they do so only on light soils and where other animals help to maintain a short sward. In wetter areas, rabbits favour dunelands, dry stony riverbeds, limestone hills with outcropping rocks, and sunny coastal slopes. They usually avoid cold and wet conditions, and are absent from alpine lands, unbroken scrub, and heavily built-up areas (Norbury and Reddiex, 2005). Although usually an animal of open country, in New Zealand rabbits have survived in low numbers on a few forested islands where the forest is low and not very dense (SPREP, 2000).
**Reproduction**
Placental. Sexual. Rabbits have an endogenous reproductive cycle mainly modulated by day length and nutrition. 
18-30 young per female adult per year. Females as young as 3 months can breed.

**Nutrition**
Rabbits eat grass and other herbaceous vegetation. They need a diet of less than 40% fibre, 10-20% protein for maintenance, and 14% protein for reproduction. They can be very selective in their choice of food, practise coprophagy, and ferment food in the hind gut.

**General Impacts**
Rabbits cause severe damage to the natural environment and agricultural areas. They compete with native wildlife for food and shelter, and contribute to a decline in the numbers of many native plants and animals. They can also enhance negative impacts on native species by supporting large populations of predators such as cats and foxes. They cause extensive erosion through browsing and loss of plant cover and often destroy the habitat of many small animals. Rabbits also compete with livestock for food (Courchamp *et al.* 2003; Norbury and Reddiex, 2005).
Management Info
Management options include fencing, warren ripping, baiting, fumigating and biological control with myxomatosis, rabbit haemorrhagic disease virus and fleas as vectors (Moseby et al. 2005; Richardson et al. 2007). Rabbits have been eradicated from a number of islands including Enderby Island (710 ha) in the Auckland Islands group (NZ), Phillip Island (190 ha) in the Norfolk Island group and Round Island (151 ha), Mauritius. Both the Enderby Island and Round Island campaigns used brodifacoum as Talon 20P® baits. Merton (1987) gives details of the Round Island operation including bait preference and acceptance trials, and tolerance of reptiles to the anti-coagulant poison used. Details of the successful operation on Enderby and Rose Islands are available in Torr (2002).

Preventative measures: Risk Assessment models for assessing the risk that exotic vertebrates could establish in Australia have been further explored by the Western Australia Department of Agriculture & Food (DAFWA) to confirm that they reasonably predict public safety, establishment and pest risks across a full range of exotic species and risk levels.

The Risk assessment for the European Rabbit (Oryctolagus cuniculus), has been assigned a VPC Threat Category of EXTREME.

Mammals and birds were assessed for the pest risk they pose if introduced to Australia, by calculating Vertebrate Pests Committee (VPC) Threat Categories. These categories incorporate risk of establishing populations in the wild, risk of causing public harm, and risk of becoming a pest (eg causing agricultural damage, competing with native fauna, etc). The 7-factor Australian Bird and Mammal Model was used for these assessments.

Physical: Shooting of rabbits is an inefficient method of control but unlike poisoning it does not kill predators of rabbits such as cats. Where rabbits are present with other grazing animals, removal of the latter will often result in the growth of rank vegetation unsuitable for rabbits; this can be used as a method of partial rabbit control.

Chemical: In New Zealand, poisoning has most often been carried out with compound 1080 added to carrots or oats and spread from the air. On small islands, acute poisons such as phosphorus, cyanide, strychnine and compound 1080 are all likely to kill non-target species. Second-generation anti-coagulant poisons such as brodifacoum have been used successfully against rabbits although precautions are often necessary to protect non-target species (Flux 1993).

Biological: In 1998, a virus, rabbit haemorrhagic disease (RHD, formerly called RCD), was introduced to New Zealand illegally. In some areas it has killed many rabbits, but whether it will continue to be effective in the long-term is doubtful. Myxomatosis, a contagious and often lethal disease specific to rabbits is sometimes suggested for rabbit control. This not only requires flea or mosquito vectors but causes considerable suffering to the animals affected. Furthermore, eradication by such means is unlikely. Atkinson (SPREP 2000) does not recommend use of either RHD or myxomatosis on Pacific islands. Flux (1993) examined the relative effectiveness of various methods of rabbit control using a sample of 607 islands distributed throughout the world. The main finding was that competition from hares was twice as effective at clearing rabbits off islands as predation by cats or from myxomatosis.
Pathway
In the 19th and early 20th century, Acclimatisation Societies in Australia and New Zealand brought rabbits from Great Britain in an attempt to transplant the mother country to the new colonial frontier. If put ashore for shipwrecked people they usually died out, but they persisted on some islands. Sailing ships in the 18th and 19th century sometimes carried live rabbits for food.

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: David Berman, Department of Natural Resources, Toowoomba, Queensland, Australia.

Publication date: 2010-05-26

ALIEN RANGE

[10] AUSTRALIA
[1] CHILE
[1] FRENCH POLYNESIA
[1] KIRIBATI
[6] MEXICO
[1] REUNION
[1] SEYCHELLES
[1] UNITED STATES

Red List assessed species 73: EX = 6; CR = 27; EN = 12; VU = 15; NT = 7; LC = 6;

- Acrocephalus familiaris CR
- Anagroomba ascensionis CR
- Asparagus arborescens VU
- Beta patula CR
- Cabalus modestus EX
- Chaeropus ecaudatus EX
- Cicer canariense EN
- Diomedea epomophora VU
- Euphorbia organoides CR
- Genista benehoavensis VU
- Isoplexis isabeliana EN
- Kunkeliella subsucculenta CR
- Lasiorhinus latifrons LC
- Leporillus conditor VU
- Limonium fruticans EN
- Lotus eremiticus CR
- Lotus pyranthus CR
- Anas laysanensis CR
- Aptenodytes patagonicus LC
- Bencokia exstipulata VU
- Bowdleria rufescens EX
- Calyptorhynchus latirostris EN
- Charadrius sanctaeelenae CR
- Dasyornis broadbenti LC
- Echium handiense CR
- Gallirallus australis VU
- Isoplexis chalcantha CR
- Kunkeliella psilotochilada CR
- Lactuca palmensis LC
- Leporillus apicatus CR
- Lepus corsicanus VU
- Limonium sventenii CR
- Lotus maculatus CR
- Macrotis leucura EX
Marattia purpurascens  NT
Masticophis anthonyi  CR
Mellisia begonifolia  CR
Myrmecobius fasciatus  EN
Onychogalea fraenata  EN
Perameles gunnii  NT
Pezoporus occidentalis  CR
Phloria frosti  CR
Polytelis alexandrae  NT
Porzana palmeri  EX
Pterodroma cervicalis  VU
Pterodroma leucotera  VU
Puffinus creatopus  VU
Salvia herbanica  CR
Sideritis cystosiphon  CR
Silene holzmannii  EN
Sinapidendron sempervivifolium  EN
Teline rosmarinifolia  EN
Troglodytes tanneri  VU
Xantusia riversiana  LC

Mastacomys fuscus  NT
Medicago citrina  CR
Micromeria glomerata  CR
Oligosoma otagense  EN
Onychogalea lunata  EX
Petaurus norfolcensis  LC
Phalacrocorax colensoi  VU
Pittosporum taniame  EN
Polytelis swainsonii  VU
Procellaria cinerea  NT
Pterodroma feae  NT
Puffinus auricularius  CR
Puffinus opisthomelas  EN
Sephanoides fernandensis  CR
Silene hicesiae  VU
Silene nocteolens  CR
Stemmaphina cynaroides  EN
Thalassarche melanophrys  EN
Urosaurus clarionensis  VU

BIBLIOGRAPHY
60 references found for Oryctolagus cuniculus

Management information
Summary: This report reviews available information on the adverse effects of 14 alien vertebrates considered to be significant invasive species on islands of the South Pacific and Hawaii, supplementing the authors' experience with that of other workers.

Summary: Eradication case study in Turning the tide: the eradication of invasive species.

Comprehensive review of impacts of mammals on islands using rabbits as a case study


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.

Kirkpatrick, Win; Amanda Page and Marion Massam, August 2008. European Rabbit (Oryctolagus cuniculus) risk assessment for Australia. Department of Agriculture and Food, Western Australia.

Summary: Models for assessing the risk that exotic vertebrates could establish in Australia have been developed for mammals, birds (Bomford 2003; Bomford 2006, 2008), reptiles and amphibians (Bomford 2006, 2008; Bomford et al. 2005). These Risk Assessment models have been further explored by Western Australia Department of Agriculture & Food (DAFWA) to confirm that they reasonably predict public safety, establishment and pest risks across a full range of exotic species and risk levels. Mammals and birds were assessed for the pest risk they pose if introduced to Australia, by calculating Vertebrate Pest Committees (VPC) Threat Categories. These categories incorporate risk of establishing populations in the wild, risk of causing public harm, and risk of becoming a pest (e.g. causing agricultural damage, competing with native fauna, etc). The 7-factor Australian Bird and Mammal Model was used for these assessments.


Summary: This report documents work contributing to a project commissioned by the Invasive Animals Cooperative Research Centre to validate and refine risk assessment models used in decisions to import and manage introduced vertebrate species. The intent of the project was to: a) increase predictive accuracy, scientific validation and adoption of risk assessment models for the import and keeping of exotic vertebrates, and b) reduce the risk of new vertebrate pests establishing introduced populations in Australia.


Summary: In addition to investigating home range and habitat use the authors also investigated how many radio-collared rabbits were killed using different control methods at their home warren.


Summary: Case study in Turning the tide: the eradication of invasive species.


Summary: Eradication case study in Turning the tide: the eradication of invasive species.


Summary: Eradication case study in Turning the tide: the eradication of invasive species.


Summary: Eradication case study in Turning the tide: the eradication of invasive species.


Summary: This database compiles information on alien species from British Overseas Territories. Available from: http://www.jncc.gov.uk/page-3660 [Accessed 10 November 2009]


Summary: Eradication case study in Turning the tide: the eradication of invasive species.


Summary: Eradication case study in Turning the tide: the eradication of invasive species.


Summary: A management handbook for rabbits in Australia.


Summary: Eradication case study in Turning the tide: the eradication of invasive species.


Summary: The SPREP review contains taxa-classified chapters on invasive and potentially invasive species from leading practitioners in the Pacific. It provides a sound baseline of knowledge on Invasive Alien Species, concentrating primarily on their distributions in the Pacific.


Summary: Available from: http://www.iucnredlist.org/apps/redlist/details/144798/0 [Accessed 01 March 2021]


This article presents the threats to sclerophyll forests (land clearance, grazing by cattle or deer, and fire) and the urgency to remain biodiversity of the forests.


Summary: The species list sheet for the Mexican information system on invasive species currently provides information related to scientific names, family, group and common names, as well as habitat, status of invasion in Mexico, pathways of introduction and links to other specialised websites. Some of the higher risk species already have a direct link to the alert page. It is important to notice that these lists are constantly being updated, please refer to the main page (http://www.conabio.gob.mx/invasoras/index.php/Portada), under the section Novedades for information on updates.


Spanish:
La lista de especies del Sistema de informaci?n sobre especies invasoras de M?xico cuenta actualmente con informaci?n de algunas especies de mayor riesgo ya tienen una ?l?gica directa a la p?gina de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualizaci?n, por favor consulte la portada (http://www.conabio.gob.mx/invasoras/index.php/Portada), en la secci?n novedades, para conocer los cambios.


Summary: Article de synth?se sur les invasions biologiques (plantes, invert?br?s et vert?br?s) en Antarctique.


Summary: Consequences to the biodiversity of New Caledonia of the introduction of plant and animal species.


ITIS (Integrated Taxonomic Information System). 2005. Online Database Oryctolagus cuniculus

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.


