**Sus scrofa**  

<table>
<thead>
<tr>
<th>Kingdom</th>
<th>Phylum</th>
<th>Class</th>
<th>Order</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animalia</td>
<td>Chordata</td>
<td>Mammalia</td>
<td>Artiodactyla</td>
<td>Suidae</td>
</tr>
</tbody>
</table>

**Common name**  
pig (English), Wildschwein (German), razorback (English), te poaka (Maori), kuhukuhu (Maori), poretene (Maori), petapeta (Maori), kune-kune (Maori, New Zealand)

**Synonym**

**Similar species**

**Summary**  
*Sus scrofa* (feral pigs) are escaped or released domestic animals which have been introduced to many parts of the world. They damage crops, stock and property, and transmit many diseases such as Leptospirosis and Foot and Mouth disease. Rooting pigs dig up large areas of native vegetation and spread weeds, disrupting ecological processes such as succession and species composition. *Sus scrofa* are omnivorous and their diet can include juvenile land tortoises, sea turtles, sea birds, endemic reptiles and macro-invertebrates. Management of *Sus scrofa* is complicated by the fact that complete eradication is often not acceptable to communities that value feral pigs for hunting and food.

[view this species on IUCN Red List](http://iucngisd.org/gisd/species.php?sc=73)
Species Description
Pigs are large omnivorous mammals with powerful bodies and coarse hairy coats. Their thick
necks, wedge-shaped heads and mobile snouts are used in feeding to uproot the ground and find
prey or plant material. Feral pigs are easily distinguished from domestic pigs via a smaller leaner
and more muscular stature, shorter hind quarters, longer snouts and tusks. Older boars usually
develop a thick keratinous shield over their shoulders, which provides some protection during
fights with other boars. Feral pig hair is longer and coarser than a domestic pigs and sometimes
forms in a tuft along their back (hence, the name razorback). The tails of feral pigs are not curly as
in domestic pigs, they are instead long and straight with a bushy tip.

Ecological characteristics of feral pig activity, group size and home range size should be
considered in any management strategy aimed to control pig numbers or reduce their negative
impact. Feral pig activity varies between different habitats and climates. High activity has been
reported to occur in early morning and late afternoon in tropical climates (Diong 1982). However,
in India pigs have been reported to feed nocturnally to raid croplands (Sekhar 1998, in Wolf and
Conover 2003). On Santa Cruz Island (California) the milder weather of fall and late winter causes
pigs to be more active in the morning and evening, while the short cool and often rainy days of
winter causes midday activity. Pigs on the island were active at night mostly when conditions were

In terms of group structure, in North-western Australia mob sizes are generally about 12 or less,
although occasionally mobs of 30 pigs are seen. Adult boars are mostly solitary.. In South
Carolina the average home range of boars is 226 hectares, while the average for sows is 181
hectares (Wood and Brenneman 1980, in Wolf and Conover 2003).Whereas in Australia average
home range can vary from 140 hectares for a boar in Namagdi National park, Australian capital
territory (McIlroy and Saillard 1989), to 430 hectares for a boar in Western New South Wale (Giles
1980).

Feral pigs are polyoestrous, adult sows have a 21 day oestrous cycle and a gestation period of
112-114 days (Choquenot et al.1996). Estimated litter size is 4.5-6.3 viable young per sow (Twigg
et al. 2005, Choquenot et al. 1996) but in good conditions 10 piglets can be born to one sow.

Lifecycle Stages
Pigs are normally social animals but adult boars over 18 months old are invariably solitary
(McIlroy 1990).

Uses
Captain Cook used the pig in trading with the natives as early as 1777. "A small pig of 10 or 12
pounds! was traded for a spike but a "hog! was exchanged for a hatchet (Cook 1784, in Diong
1982).

In central Europe the false spruce webworm (Cephalcia abietis) causes defoliation of Norway
spruce trees; high densities of boars are able to cause high mortality to insect larvae by up to
70%, however they also cause damage to tree roots making the perceived benefit negligible

In many highland areas of New Guinea pigs are deliberately placed into gardens at the end of a
harvest sequence and prior to gardening to remove remaining sweet potato tubers and to assist in
turning and aerating the soil before replanting (Westermann 1968, Paglau 1982, Wood and
Habitat Description
The feral pig adapts to a variety of environments from Mediterranean oak woodland forests to the semi-arid rangelands of Eastern Australia, from the flood plains, billabongs and grassland savannas of tropical North-western Australia to the gray beech forests of the Smoky Mountains in America and from the wetland and lowland evergreen monsoon forests of Australia to the fresh water marshes and brackish water marshes of South Carolina (Wood and Brenneman 1980, in Wolf and Conover 2003). Wild pigs are rarely found over 1650m (Bulmer and Bulmer 1964, in hide 2003), but are known to be found at altitudes as high as 3000m in New Guinea (Flannery 1995, in Hide 2003).

Home ranges of pigs are smaller during the dry season than during the wet season. During the dry season on Santa Catalina pigs preferred cool moist canyon bottoms due to a physiological need for free water. Dense vegetation was more actively sought after than open areas such as grasslands (Baber and Coblentz 1986, in Wolf and Conover 2003).

The presence of crops in the near area (for example palm dates or oat hay cultivations) provide a food supplement and may greatly increase feral pig density; the close location of cereal crops in one study increased the density of feral pigs almost four-fold (Caley 1993, in Wolf and Conover 2003). Similarly the presence of adjacent palm cultivations in Malaysia was found to increase pigs density by 10 to 100 times (Ickes Paciorek and Thomas 2005).

High densities of pigs may also be attributed to water availability. The recent expansion in feral pig distribution in Australia has been attributed to the increase in suitable habitats, in particular, an increase in water availability from farm dams and developing forest industries (Spencer and Hampton 2005).

Reproduction
Feral pigs are polyoestrus: adult females have a 21-day oestrus cycle and a gestation period of about 112-114 days. In New Zealand they probably breed throughout the year, though mainly in spring and summer (Wodzicki 1950; J. McIlroy unpublished). Their litter size is usually between 6 and 10 piglets, but usually only half this number survives. They reach breeding age at between 10 and 12 months (Wodzicki 1950).

In one study females were found to have about 5 young every 0.86 years with some females having two litters per year. In this study fertility continued to increase with age until it peaked at two to three years of age. 58% of piglets died before weaning (Baber and Coblentz 1986, in Wolf and Conover 2003).
Nutrition

Pigs lack the multiple stomachs found in ruminants such as cattle and goats. Feral pigs are omnivores with an opportunistic diet, including high-fibre (> 25%) low-protein grasses, legumes, herbs and roots. They readily feed on crops, fallen fruits, seeds and small animals (McIlroy 1990). Pigs regularly root the ground in search of roots, fungus, nuts, seeds and grubs (Frederick 1998, Sicuro 2002, in Wolf and Conover 2003). In their native Mediterranean woodland the wild boar compensates for the reduced supply of acorns in the spring by raiding underground hoards of acorns collected and buried by small mammals (the availability of acorns is critical to female boars as they need the extra nutrition for lactation) (Focardi Capizzi and Monetti 2000, in Wolf and Conover 2003).

Pigs adapt their diet to best utilise local resources. In the semi-arid rangelands of eastern Australia and in New Guinea feral pigs will regularly hunt and devour lambs (particularly twin lambs which are weaker) (Choquenot, Lukins and Curran 1997, in Wolf and Conover 2003; Hide 2003). On Horn Island, Mississippi, hogs take advantage of high seasonal abundances of insects, crabs and dead fish (Baron 1982, in Wolf and Conover 2003). On Santa Cruz Island, California, acorns and new growth of grasses and forbs are major components of the feral pig's diet (Van Vuren 1984, in Wolf and Conover 2003). In South Carolina fruits, especially acorns are the most common food type consumed in fall and winter; herbage and foliage are most common in the spring; roots are most common in the summer. Invertebrates and vertebrates are also consumed, though they were not as important. The consumption of woody plants may be underestimated in stomach contents surveys as the starches and sap obtained from the roots of such plants go undetected (Wood and Roark 1980, in Wolf and Conover 2003).

In the western South Texas Plains (introduced range) feral pigs have a spring-summer diet that consists mainly of vegetation, while acorns are their winter food source. Their autumn diet consists of roots and corn. Animal matter consisting of deer, morning doves, reptiles and other birds represents a small portion of the hog's diet. Of these, reptiles were the most susceptible to predation (Taylor and Hellgren 1997, in Wolf and Conover 2003).

In one study conducted in Hawaii by Diong 1982, food habits were characterised by (1) an omnivorous diet consisting mainly of plant matter, (2) a staple of tree ferns, (3) a seasonal switch from tree ferns to strawberry guava, and (4) a strong reliance of earthworms as a source of animal protein. The dietary range covered 40 plant species (63% herbaceous species, 33% trees and woody vine). Tree ferns were the most concentrated source of sugar and starch.

General Impacts

Please follow this link for details on the general impacts of _Sus scrofa_ compiled by the ISSG.
Management Info
Poisoning with sodium monofluoracetate (1080) is the most popular method used to control feral pigs. Most pigs vomit within four hours of ingestion. This may be potentially hazardous to nontarget organisms and may result in the survival of the pig. The use of anti-emetics such as metoclopramide, thiethylperazine and prochlorperazine may prevent vomiting at high doses (O’Brien et al. 1986, in Wolf and Conover 2003). A vaccine for pseudorabies and swine brucellosis in fish meal bait may be used in late summer (when natural food supplies are low) to control these diseases (Fletcher et al. 1990, in Wolf and Conover 2003).

In the mid 1900s New Zealand conservation practitioners applied mainland hunting techniques to eradicate feral pig populations from small islands (<200 ha, Veitch and Bell, 1990, in Cruz et al. 2005). More recently poisoning techniques have been developed to control or eradicate feral pig populations (Choquenot et al., 1990; O’Brien and Lukins, 1990, in Cruz et al. 2005). Hunting and poisoning techniques used in combination, now facilitate pig eradication efforts on larger islands (Lombardo and Faulkner, 2000, Schuyler et al., 2002, Veitch and Bell, 1990, in Cruz et al. 2005).

In Hawaii, snaring has been used to control pigs within 600–800 km2 fenced enclosures located in remote areas of rain forest in the Haleakala National Park (Maui) (Anderson and Stone 1993). Many people place a high cultural value on pigs (ie: using them as a food convenient food source) so that removing them from designated areas may not be acceptable without a clear idea of the benefits. Snaring would is not always be an acceptable method of control. In addition, the fact that pigs are highly mobile means it is uneconomic for an individual landowners or controlling agency to control them (as pigs as they quickly move in from adjacent properties to replace the removed ones).

Much wisdom and insight can be gained from the case study of pig removal from Santiago Island in the Galapagos Archipelago (off the coast of Ecuador). Factors that proved critical to the successful eradication of the feral pig on the island were: (1) a sustained effort, (2) an effective poisoning campaign, (3) a hunting program, (4) access to animals by cutting more trails and, (5) an intensive monitoring program. Throughout the 1970s and 1980s, hunting effort was low (<500 hunter-days/year), while in the early 1990s effort increased but fluctuated. In contrast, the revised campaign in the mid-1990s resulted in a continuous, minimum annual effort of 1500 hunter-days/year. Hunter access to pigs was critical. Extra trails were cut and goats were not hunted in order to keep vegetation suppressed (allowing hunters and dogs access to all areas of the island). Motivating hunters was a continual challenge, especially when pigs were at low densities. However, social, moral boosting events and financial incentives maintained hunter motivation. While the poisoning campaign killed relatively few pigs compared to hunting, the low cost of the poisoning made such efforts especially cost-effective. The compounds used were toxic to most species, and thus the pros of using them for eradication had to be balanced with the potential impact on non-target species (Donlan et al., 2003a, in Cruz et al. 2005). In 2000, six months after the last pig was shot, the last pig was poisoned following an intensive monitoring effort. A sustained monitoring effort was critical to successful eradication. The lack of such an effort is responsible for many eradication failures (Campbell et al., 2004, in Cruz et al. 2005).
Pathway
Expansion into new areas can result from transport for hunting, escape from confined facilities, dispersal of wild populations and escape of domestic swine from free ranging commercial ranches (Gipson Hlavachick And Berger 1998, in Wolf and Conover 2003). Released as 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:

Publication date: 2010-05-18

ALIEN RANGE

[22] UNITED STATES  [1] VIRGIN ISLANDS, U.S.
[1] WALLIS AND FUTUNA

Red List assessed species 281: EX = 7; EW = 5; CR = 109; EN = 81; VU = 54; NT = 14; LR/nt = 1; DD = 1; LC = 9;

Abutilon sandwicense  CR  Acacia koaia  VU
Alectryon macrococcus CR  Alphitonia ponderosa VU
Alsinidendron lychnoides CR  Alsinidendron obovatum CR
FULL ACCOUNT FOR: Sus scrofa

Alsinidendron trinerve CR
Anas aucklandica VU
Aphelocoma insularis NT
Araucaria hunsteinii LR/nt
Argyroxyphium sandwicense VU
Bidentis conjuncta VU
Bidentis populifolia VU
Bonamia menziesii CR
Bulimus darwini VU
Calamagrostis expansa VU
Callerya neocaledonica CR
Canavalia molokaiensis CR
Casuarius bennetti NT
Chamaesyce deppeana CR
Chamaesyce remyi CR
Chamaesyce sparsiflora VU
Cheirodendron dominii EN
Christella boydiae EN
Clermontia drepanomorpha EN
Clermontia lindseyana EN
Clermontia pyrularia CR
Clermontia waiamea EN
Coenocorypha aucklandica NT
Ctenitis squamigera CR
Cyanea asarifolia CR
Cyanea crispa CR
Cyanea eleeleensis CR
Cyanea horrida CR
Cyanea st-johnii CR
Cyanea truncata EW
Cyclura cornuta VU
Cyrtandra giffardii EN
Cyrtandra polyantha CR
Dasyornis brachypterus EN
Diomedea antipodensis VU
Diomedea epomophora VU
Ducula galeata EN
Engaeus martigener EN
Engaewa similis LC
Epirates monensis EN
Erythura gouldiae EN
Euastacus australasiensis LC
Euastacus bidawalis EN
Euastacus brachythorax EN
Euastacus claytoni EN
Euastacus dalagarbe CR
Euastacus diversus EN

Alsinidendron viscosum CR
Anas wyvilliana EN
Apteryx haastii VU
Argyroxyphium kauense CR
Astelia waialealae CR
Bidentis cosmoides EN
Boea sandwicensis VU
Branta sandvicensis VU
Buteo solitarius NT
Calamagrostis hillebrandii EN
Camarhynchus pauper CR
Caretta caretta EN
Cenchrus agrimonoides CR
Chamaesyce halemanui CR
Chamaesyce rockii CR
Charpentiera densiflora CR
Chelonia mydas EN
Clermontia calophylla EN
Clermontia hawaiensis VU
Clermontia peleana EW
Clermontia tuberculata EN
Colubrina oppositifolia CR
Cyanea acuminata CR
Cyanea asplenifolia CR
Cyanea dunbariae CR
Cyanea glabra CR
Cyanea pinnatifida EW
Cyanea superba EW
Cyclura collei CR
Cyclura stejnegeri EN
Cyrtandra kaulantha CR
Cyrtandra waiolanii EW
Dermochelys coriacea CR
Diomedea dabbenea CR
Diploglossus montisserrati CR
Emoia adspera EN
Engaeus urostrictus VU
Engaewa walpolea EN
Eretmochelys imbricata CR
Euastacus armatus DD
Euastacus balanesis EN
Euastacus bindal CR
Euastacus clerkiae CR
Euastacus crassus EN
Euastacus dharawalensis CR
Euastacus eungella CR
Numenius tahitiensis  VU
Oreomystis bairdi  CR
Palmeria dolei  CR
Pelagodoxa henryan ii  CR
Phalacrocorax colensoi  VU
Phalacrocorax onslowi  CR
Phlegmariurus nutans  CR
Phyllostegia kaalaensis  CR
Pinaroloxias inornata  VU
Potorous longipes  EN
Pritchardia glabrata  EN
Pritchardia lanaeiensis  EN
Pritchardia limahulliensis  CR
Pritchardia perlimani  EN
Procellaria conspicillata  VU
Psephotus chrysopterygius  EN
Pseudonestor xanthophrys  CR
Psittacula aeques  EN
Pteranxius kauiensis  EN
Pterodroma axillaris  EN
Pterodroma caribbaea  CR
Pterodroma leucoptera  VU
Pterodroma phaeopygia  CR
Pterodroma solandri  VU
Puffinus australis  CR
Puffinus australis  CR
Rhacodactylus auriculatus  LC
Rhionaeschna galapagoensis  EN
Rhynochetos jubatus  EN
Setonix brachyurus  VU
Sus cebifrons  CR
Sus philippensis  VU
Tachecampylaea cyniaca  EN
Tachecampylaea romagnoli  CR
Taudactylus diurnus  EX
Taudactylus rufipennis  CR
Thalassarche steadi  NT
Tinostoma smaragditer  EN
Todiramphus godeffroyi  CR
Trigonostemon cherieri  CR
Typhlops biminiensis  NT
Urosaurus clarionensis  VU
Vini ultramarina  EN
Xylosma crenatum  CR

BIBLIOGRAPHY
90 references found for Sus scrofa
**Managment 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.


Center for Aquatic and Invasive Plants, University of Florida (IFAS). 2010. Chinese privet: Ligustrum sinense


Department of Primary Industries, Victoria, 2009. Invasiveness Assessment - Small-leaf Privet (Ligustrum sinense) in Victoria


Department of Primary Industries, Victoria, 2009. Invasiveness Assessment - Small-leaf Privet (Ligustrum sinense) in Victoria


Ding, Jianqing; Reardon, Richard; Wu, Yun; Zheng, Hao; Fu, Weidong, 2006. Biological control of invasive plants through collaboration between China and the United States of America: a perspective. Biological Invasions. 8(7). OCT 2006. 1439-1450


**Summary:** Available from: http://www.eddmaps.org/distribution/state.cfm?sub=3035&id=us_tx [Accessed 10 March 2010]


Greene, Brian T. and Bernd Blossey, August 5, 2009. COS 58-1: Patterns of privet: Why is the invasive plant Ligustrum sinense Lour associated with urban watersheds in the southeastern United States. Wednesday, August 5, 2009 - 8:00 AM.


Summary: The IUCN Red List of Threatened Species provides taxonomic, conservation status and distribution information on taxa that have been globally evaluated using the IUCN Red List Categories and Criteria. This system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those taxa that are facing a higher risk of global extinction (i.e. those listed as Critically Endangered, Endangered and Vulnerable). The IUCN Red List also includes information on taxa that are categorized as Extinct or Extinct in the Wild; on taxa that cannot be evaluated because of insufficient information (i.e. are Data Deficient); and on taxa that are either close to meeting the threatened thresholds or that would be threatened were it not for an ongoing taxon-specific conservation programme (i.e. are Near Threatened).


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 X01603 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.


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.


Pacific Island Ecosystems at Risk (PIER). 2010. Ligustrum sinense Lour., Oleaceae


Summary: Describes the eradication project for pigs on Santiago Island, Galapagos. Covers the entire project from pre-1997 to May 2001.


Summary: The feral pig management strategy outlines the best practises for the management of feral pigs to minimise their impact on the environment, economy and health of Queensland.


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.


**Williams, Rick & Patrick Minogue, 2008.** Biology and Management of Chinese Privet. FR189, one of a series of the School of Forest Resources and Conservation Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida

**Summary:**


**Zavaleta, E. S., 2002.** It s often better to eradicate, but can we eradicate better? In Turning the tide: the eradication of invasive species: 381-388. Vetitch, C.R. and Clout, M.N.(eds). IUCN SSC Invasive Species Specialist Group. IUCN. Gland, Switzerland and Cambridge, UK


**General information**


Barthelat, pers. comm., 2007

**Summary:**
Personal communication with Fabien Barthelat, an expert of flora of Mayotte.


Butaud and Meyer, pers. comm. 2007

**Summary:**
Personal communication with Jean Fran?ois Butaud and Jean Yves Meyer, two experts on flora and fauna of French Polynesia


Summary: English

The species list sheet for the Mexican information system on invasive species currently provides information related to scientific names, family, and common names, as well as habitat, status of invasion in Mexico, pathways of introduction, and links to other specialized 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.

Invasive species - mammals is available from:
http://www.conabio.gob.mx/invasoras/index.php/Species_invasoras_-_Mam%C3%ADferos [Accessed 30 July 2008]

Spanish:
La lista de especies del Sistema de información sobre especies invasoras en México incluye información acerca de nombre científico, familia, y nombre común, así como cómo悲伤, estado de la invasión en México, rutas de introducción, y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una ruta directa a la página de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualización, por favor consulte la portada (http://www.conabio.gob.mx/invasoras/index.php/Portada), en la sección de novedades, para conocer los cambios.

Especies invasoras - Mamíferos is available from:
http://www.conabio.gob.mx/invasoras/index.php/Species_invasoras_-_Mam%C3%ADferos [Accessed 30 July 2008]


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


[Accessed 23 February, 2006 from Agricultural Research Service (ARS) (online database)]


ITIS (Integrated Taxonomic Information System), 2005. Online Database Sus scrofa

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:


Summary: Syn?these g?n?rale sur la faune terrestre de Mayotte


Taylor, Constance E. S.; Magrath, Lawrence K.; Folley, Patricia; Buck, Paul; Carpenter, Sydney, 1996. Oklahoma vascular plants: Additions and distributional comments. *Proceedings of the Oklahoma Academy of Science.* 76(0). 1996. 31-34.


