GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Cortaderia selloana***

Cortaderia selloana 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Cyperales	Poaceae

Common name Uruguayan pampas grass (English), silver pampas grass (English), silwergras (Afrikaans), pampas grass (English), herbe de la pampa (French, France)

Synonym *Cortaderia dioica* , (Spreng.) Speg.
Arundo selloana , Schult. and Schult. f.
C. argentea , (Nees) Stapf
Gynerium argenteum , Nees

Similar species *Cortaderia jubata*

Summary Cortaderia selloana is a tall tussock grass that can reach heights of 4 metres. It is found in subtropical regions in habitats such as disturbed areas along roads and trails. It forms dense stands that can exlude other plants and quickly become a fire hazard, and its sharp leaves can cut skin and limit recreational use. It is often planted as an ornamental, and is also used as a wind barrier along highways and fodder for stock. A combination of physical and chemical control is required to manage this species.

view this species on IUCN Red List

Species Description

Cortaderia selloana is a robust, tussock grass that stands up to 3.5m in diameter, and has flowering stalks that can reach upwards of 4m in height. The leaves are gray or bluish-green with narrowly tapering tips. The leaves are also bristle-like with the blade often forming a v-shape when viewed as a cross section. The margins are rough and somewhat cutting, and the leaves are mostly basal to two-thirds of the height of the flowing stalks. The inflorescence can be described as a silver or white with heavy branching and a feathery appearance, and is 400-700mm long (PIER, 2002).

Lifecycle Stages

Cortaderia selloana is a perennial tussock. Flowering begins in late summer - early autumn and are capable of flowering in the first season from seed (Connor, 1974)

Uses

Cortaderia selloana is a vigorous ornamental grass widely used as a lawn specimen, but its quick growth rate and large size make it unsuitable for most home landscapes (Gilman, 1999). However, it is ideal for barrier or windbreak plantings and has a place in larger areas such as along highways or in commercial or industrial landscapes. *C. selloana* has been used to control erosion in serpentine soils (Danielsen *et al.* 2003). Selected strains were produced and used from the 1930's in New Zealand as a supplementary fodder for cattle (Lynch and Osborne, 1948)

Habitat Description
In its native range, in South America *Cortaderia selloana* grows in relatively damp soils and along river margins. *C. selloana* is found along streams and in the low wet areas of Argentina and southern Brazil. In its introduced range *C. selloana* can be found in sub-humid and semi-arid subtropical regions. Pampas is capable of becoming established on a wide variety of soil types. Deep soil with good drainage gives best growth results. It is often found in open sunny places which receive added moisture, becoming naturalised as a weed in damp places, depressions, along stream banks, the margins of mangrove swamps and, in particular, disturbed areas associated with roads, pipeline cuts and walking trails in forest areas and waste places. Knowles and Ecroyd (1985) state that pampas is sensitive to frost at the seedling stage but will become more frost tolerant with age.

Reproduction
Cortaderia selloana reproduces by seed. Seeds are primarily wind-dispersed and are capable of dispersal distances up to 20 miles (Starr *et al.* 2003). *C.selloana* is gynodioecius but behaves dioeciously in nature (Knowles and Ecroyd, 1985). Female seeds have long fine hairs on the lemma making it ideal for wind dispersal. Hermaphrodite seeds don't have these hairs (McGlone MSc thesis, 2003). Female plants are capable of producing up to 100 000 seeds per flowerhead (Ecroyd et al. 1984)

Nutrition
Cortaderia selloana succeeds in most soils, preferring a damp well-drained sandy or loamy soil. It is inclined to be intolerant of cold clay soils. It succeeds in dry soils. *C. selloana* prefers a sunny sheltered position, and is very tolerant of maritime exposure (Plants for a Future, 2000)

General Impacts
Cortaderia selloana can form dense stands that exclude other plants. Its sharp leaves cut skin and can limit recreational use of areas, and it can form dense colonies that can become or increase fire hazards (May *et al.,* UNDATED). Once seedlings become established, it is a substantial threat to the ecological quality of preserves, particularly in coastal and grassland sites due to competition with native plants. Its rapid growth and accumulation of above ground and below ground biomass allow it to acquire light, moisture, and nutrients that would be used by other plants. It can be damaging even at low densities because of the amount of cover it can occupy (Starr *et al.* 2003). Studies comparing *C. selloana* with *Cortaderia jubata* a similar species found that *C. selloana* is genetically more diverse and could be one of the reasons of its success (Lambrinos, 2001).These results are consistent with the hypothesis that genetic variability enables better utilisation of heterogeneous habitats as well as promoting greater competitive abilities. In California, *C. selloana* inhabits a greater range of environmental conditions expanding into continental climatic zones.
The rapid spread of pampas into exotic forests in New Zealand is a particular problem due to it's competition with pine, fire hazard, reduced accessibility and cost of control (Gadgil *et al*., 1984). Also the great quantity of fluffy seed has caused problems for kiwifruit growers since it clings to the fruit and causes it to be rejected for exprot (Knowles and Tombleson, 1987).

Management Info
Preventative measures: A Risk assessment of *Cortaderia selloana* for Australia was prepared by Pacific Island Ecosystems at Risk (PIER) using the Australian risk assessment system (Pheloung, 1995). The result is a score of 24 and a recommendation of: reject the plant for import (Australia) or species likely to be a pest (Pacific).
Physical: Seedlings and small plants can be hand pulled or dug up especially in loose ashy soils. It is somewhat harder to pull or dig up in lava and compounded soils. Larger plants can be removed by heavy machinery. Care should be taken to contain any seeds or flowering stalks and these should be double bagged and disposed of in the garbage or left on site. Workers should take care to protect themselves when manually removing Cortaderia as it has sharp serrated leaves that can cut unprotected skin (Starr *et al.* 2003). Care should also be taken that all rhizomes are removed so there is no re-establishment.
\r\nChemical: Chemical control is resorted to when mechanical removal cannot be employed. Foliar applications of Roundup (4% solution) or Roundup Pro (2% solution) (any glyphosate product) are effective in controlling pampas grass (Starr *et al.* 2003). Plants should be sprayed until wet but not to the point of run off. In wild areas, aerial spray by helicopter is employed. Leaving plants in place after spraying will result in less disturbance and may help reduce subsequent seedling germination in the area. May *et al.* (UNDATED) suggest removing the foliage first through cutting or burning, and then treating the re-growth with a post-emergence herbicide.

Pathway
Cortaderia selloana has value as fodder (Gadgil *et al.,* 1984)*Cortaderia selloana* is ideal for barrier or windbreak plantings and has a place in larger areas such as along highways or in commercial or industrial landscapes (Gilman, 1999).*Cortaderia selloana* is a vigorous ornamental grass widely used as a lawn specimen (Gilman, 1999).

Principal source: *Cortaderia selloana* (PIER 2002).
Pampas Grass (May *et al.*, UNDATED).

Compiler: National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

Review: Mrs Heidi Pene (Msc), Pest Plant Contractor to Environment Waikato.

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ALIEN RANGE

[2] AUSTRALIA
[1] FRANCE
[1] ITALY
[8] NEW ZEALAND
[1] SWAZILAND
[1] COOK ISLANDS
[1] FRENCH POLYNESIA
[1] NEW CALEDONIA
[1] REUNION
[19] UNITED STATES

BIBLIOGRAPHY
33 references found for **Cortaderia selloana**

Managment information
AME, 2004 Agence M�diterran�enne de l Environnement. Plantes Envahissantes de la Region Mediterraneenne. *Cortaderia selloana*
Collins, J.N, May M, Grosso C. 2003. Pampas grass *Cortaderia jubata, Cortaderia selloana*. Practical Guidebook to the Control of Invasive Aquatic and Wetland Plants of the San Francisco Bay - Delta Region.
Summary: Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Available from: http://legacy.sfei.org/nis/pampasgrass.html [Accessed 22 May 2010].
The Guidebook is available from: http://legacy.sfei.org/nis/index.html
Environment Waikato. 2002. Pampas (*Cortaderia jubata*, *C. selloana*, including cultivars)
European and Mediterranean Plant Protection Organization (EPPO), 2006. Guidelines for the management of invasive alien plants or potentially invasive alien plants which are intended for import or have been intentionally imported. EPPO Bulletin 36 (3), 417-418.

Gilman, E. F. 1999. *Cortaderia selloana*. University of Florida, Cooperative Extension Service, Institute of Food and Agricultural Sciences: Fact Sheet FPS-145.
Summary: Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Available from: http://hort.ifas.ufl.edu/shrubs/corsela.pdf [Accessed 02 December 2003].
Gosling, D.S., W.B. Shaw and S.M. Beadel., 2000. Review of control methods for pampas grasses in New Zealand. SCIENCE FOR CONSERVATION 165
Summary: Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/Sfc165.pdf [Accessed 7 March 2008]
Lambrinos, J. G. 2001. *The expansion history of a sexual and asexual species of Cortaderia in California, USA*. Journal of Ecology 89: 88-89.
Summary: A historical research paper that tracks the evolution and expanding distribution of species. Also provides some management suggestions and distribution information.
National Pest Plant Accord, 2001. Biosecurity New Zealand.
Summary: The National Pest Plant Accord is a cooperative agreement between regional councils and government departments with biosecurity responsibilities. Under the accord, regional councils will undertake surveillance to prevent the commercial sale and/or distribution of an agreed list of pest plants.
Available from: http://www.biosecurity.govt.nz/pests-diseases/plants/accord.htm [Accessed 11 August 2005]
New Zealand Plant Conservation Network, 2005. Unwanted Organisms. Factsheet *Cortaderia selloana*
PIER (Pacific Island Ecosystems at Risk), 2002. *Cortaderia selloana*
Summary: Ecology, synonyms, common names, distributions (Pacific as well as global), management and impact information.
Available from: http://www.hear.org/pier/species/cortaderia_selloana.htm [Accessed 02 December 2003].
Plants For A Future, 2000. *Cortaderia selloana*
Summary: A searchable database and resource and information centre for edible and other useful plants.
Available from: http://www.ibiblio.org/pfaf/cgi-bin/arr_html?Cortaderia+selloana [Accessed 02 December 2003].
Royal New Zealand Institute of Horticulture (RNZIH), 2005. Pampas grass *Cortaderia selloana*
Summary: Available from: http://www.rnzih.org.nz/pages/nppa_067.pdf [Accessed 1 October 2005]
Starr, F., K. Starr, & L. Loope. 2003. *Cortaderia* spp.. United States Geological Survey: Biological Resources Division, Haleakala Field Station, Maui, Hawai i.
Summary: Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Available from: http://www.hear.org/pier/pdf/pohreports/cortaderia_spp.pdf [Accessed 02 December 2003].
Swaziland s Alien Plants Database., Undated. *Cortaderia selloana*
Summary: A database of Swaziland s alien plant species.
Taranaki Regional Council. 2003. Common pampas/Purple pampas (*Cortaderia sellona* / *Cortaderia jubata*). The Pest Plant Management Section.
Timmins, S. M. and H. Braithwaite, 2002. Early detection of invasive weeds on islands. In *Turning the tide: the eradication of invasive species*: 311-318. Veitch, C.R. and Clout, M.N.(eds). IUCN SSC Invasive Species Specialist Group. IUCN. Gland. Switzerland and Cambridge. UK.
Summary: Eradication case study in Turning the tide: the eradication of invasive species.
West., C. J., 2002. Eradication of alien plants on Raoul Island, Kermadec Islands, New Zealand. In *Turning the tide: the eradication of invasive species*: 381-388. Veitch, C.R. and Clout, M.N.(eds). IUCN SSC Invasive Species Specialist Group. IUCN. Gland.
Summary: Eradication case study in Turning the tide: the eradication of invasive species.

General information

Chambers, L. K., and C. R. Dickman. 2002. *Habitat selection of the long-nosed bandicoot, Perameles nasuta (Mammalia, Peramelidae), in a patchy urban environment*. Austral Ecology 27: 334-342.
Summary: A habitat study in Australia. This document was used for distribution information.
[Accessed 01 July 2004]
CONABIO. 2008. Sistema de informaci&#65533;n sobre especies invasoras en M&#65533;xico. Especies invasoras - Plantas. Comisi&#65533;n Nacional para el Conocimiento y Uso de la Biodiversidad. Fecha de acceso.
Summary: English:
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.
Invasive species - Plants is available from: http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Plantas [Accessed 30 July 2008]
Spanish:
La lista de especies del Sistema de informaci&#65533;n sobre especies invasoras de m&#65533;xico cuenta actualmente con informaci&#65533;n aceca de nombre cient&#65533;fico, familia, grupo y nombre com&#65533;n, as&#65533; como h&#65533;bitat, estado de la invasi&#65533;n en M&#65533;xico, rutas de introducci&#65533;n y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la p&#65533;gina de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualizaci&#65533;n, por favor consulte la portada (http://www.conabio.gob.mx/invasoras/index.php/Portada), en la secci&#65533;n novedades, para conocer los cambios.
Especies invasoras - Plantas is available from: http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Plantas [Accessed 30 July 2008]
Connor, H.E. 1974: Breeding systems in Cortaderia (Gramineae). Evolution 27:663-678.
Summary: Detailed study on the breeding mechanisms of Cortaderia species

Conservatoire Botanique National De Mascarin (BOULLET V. coord.) 2007. - *Cortaderia selloana* Index de la flore vasculaire de la R&#65533;union (Trach&#65533;ophytes) : statuts, menaces et protections. - Version 2007.1
Summary: Base de donn&#65533;es sur la flore de la R&#65533;union. De nombreuses informations tr&#65533;s utiles.
Available from: http://flore.cbnm.org/index2.php?page=taxon&num=f08b7ac8aa30a2a9ab34394e200e1a71 [Accessed 26 March 2008]
Ecroyd, CE; Knowles, B; Kershaw, DJ. 1984: Pampas - recognition of a new forest weed. What s-New-in-Forest-Research. 1984, No. 128, 6 pp.
Summary: Pamphlet type publication on the impact of pampas on pine plantations
Florence J., Chevillotte H., Ollier C. & Meyer J.-Y. 2007. *Cortaderia selloana* Base de donn&#65533;es botaniques Nadeaud de l Herbier de la Polyn&#65533;sie fran&#65533;aise (PAP).
Summary: Available from: http://www.herbier-tahiti.pf/Selection_Taxonomie.php?id_tax=2517 [Accessed 26 March 2008]
Gadgil, RL; Knowles, AL; Zabkiewicz, JA. 1984: Pampas - a new forest weed problem. Proceedings, New Zealand weed and pest control conference. 1984, 187-190
Summary: History and background of pampas in New Zealand and implications to plantation forestry.
ITIS (Integrated Taxonomic Information System), 2004. Online Database *Cortaderia selloana*
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=Cortaderia+selloana&p_format=&p_ifx=plglt&p_lang= [Accessed December 31 2004]
Jacques, W.A. 1957: Pampas grass (*Cortaderia selloana*) in New Zealand. Its value and lace as a fodder plant. Keeling and Mundy Ltd, Palmerston North, New Zealand. 47p
Summary: Early paper on the benefits of pampas as a supplement fodder and it s distribution in New Zealand.
Knowles, B; Ecroyd, C. 1985: Species of Cortaderia (pampas grasses and toetoe) in New Zealand. FRI Bulletin No. 105. New Zealand.
Summary: Introduction and history of Pampas in New Zealand.
Knowles, B; Tombleson, J.D. 1987: Replacing pampas grass &#65533; alternative species for low shelter and amenity plantings. What&#65533;s New In Forest Research, No. 150. Forest Research Institute, New Zealand.
Summary: Pamphlet type publication on background and suitable replacement plantings for pampas.
Lynch, P.B; Osborn, W.L. 1948: Pampas grass in New Zealand. New Zealand Journal of Agriculture Vol 77: 4-10.
Summary: Establishment of pampas for use as a fodder crop.
McGlone. 2004: Quantifying the Threat Posed by Pampas (*C.selloana* and *C. jubata*) to the Waikato Region. Masters Thesis at the University of Waikato, New Zealand
Summary: Literature review and experiments on seed dispersal, cultivars, distribution, growth cycle and management recommendations for the Waikato Region of New Zealand.
Meyer, Jean-Yves & Loope, Lloyd & Sheppard, A. & Munzinger, Jérôme & Jaffré, Tanguy. (2006). Les plantes envahissantes et potentiellement envahissantes dans l'archipel néo-calédonien : première évaluation et recommandantions de gestion.
USDA-GRIN (Germplasm Resources Information Network). 2003. *Cortaderia selloana*. National Genetic Resources Program [Online Database] National Germplasm Resources Laboratory, Beltsville, Maryland.
Summary: Information on common names, synonyms, and the distributional range of species.
Available from: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?11618 [Accessed 02 December 2003].
USDA-NRCS (Natural Resource Conservation Service). 2002. *Cortaderia selloana*. The PLANTS Database Version 3.5 [Online Database] National Plant Data Center, Baton Rouge, LA
Summary: Available from: http://plants.usda.gov/java/nameSearch?keywordquery=Cortaderia+selloana&mode=sciname [Accessed 02 December 2005].