GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Vallisneria nana***

Vallisneria nana 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Hydrocharitales	Hydrocharitaceae

Common name eel grass (English), ribbonweed (English, Australia), freshwater eelgrass (English, New Zealand)

Synonym *Vallisneria gigantea* , Graebn.

Similar species

Summary Vallisneria spp. commonly known as eelgrass are popular aquarium plants. They are submerged aquatic plants that can grow up to five metres. They grow in still or flowing water and form a dense monoculture that dominates from the bed of the water-body to the surface. Dense infestations may restrict recreational activities, cause flooding and silting and reduce the aesthetic appeal of a body of water.

view this species on IUCN Red List

Species Description
Eelgrasses are submerged rhizomatous (but not tuberous) aquatic plants, producing rosettes of long strap-like leaves which can vary in length from a few centimetres to 5.5 metres in deep water. Rooted or anchored in sediment they have no leafy stem; leaves all arise from a basal rosette at the sediment surface. Leaves have many small longitudinal veinlets and cross-septa, from 0.4-1cm wide. Plants form stout rhizomes that extend from the sediments. Numerous roots, up to 40cm long, sprout at each leaf-bearing node on the rhizomes (Greater Wellington Regional Council 2004b). The sexes are on different plants, the male flowers released and free-floating and the female with a spiral peduncle.
Juvenile or sterile specimens may be difficult to distinguish (Warrington 1994).

Notes
Vallisneria spiralis and *Vallisneria nana* are both known as “eelgrass” (S. Jacobs, pers.comm., 2006).
V. nana is referred to by its synonym *Vallisneria gigantea* in literature.

Lifecycle Stages
Vallisneria nana has been reported to flower abundantly in Auckland, New Zealand from November to March (Coffey and Clayton 1987). However, please note that in New Zealand there is no evidence of viable seed being produced (Greater Wellington Regional Council 2004b).

Uses
Vallisneria is a popular aquarium plant in New Zealand (Coffey and Clayton 1987).

Habitat Description
Coastal and inland wetlands, lakes, and rivers.

General Impacts
Eelgrasses are submerged aquatic plants that can grow up to five metres. They grow in still or flowing water and form a dense monoculture that dominates from the bed of the water-body to the surface. Dense infestations may restrict recreational activities, cause flooding and silting and reduce the aesthetic appeal of a body of water.

Management Info
Options for control of *Vallisneria* spp. include mechanical removal, (with weed harvesters or suction dredges), chemical control with herbicide, manipulation of the habitat by drainage or weed mats and biological control with agents such as grass carp (Environment B.O.P. Undated). However, biological control should be carefully considered in respect to all situation-specific biotic variables. Taking biological control out of context, especially when there is a lack of robust scientific data, might cause more damage to an ecosystem than it prevents. Froude (2002) notes that while some generalist herbivorous fish promoted as biocontrol agents will reduce the biomass of plants in an area, their browsing is not host-specific as they reduce both undesirable and favoured plants. As an example she mentions grass carp used to reduce aquatic plant biomass.

Principal source:

Compiler: IUCN/SSC Invasive Species Specialist Group (ISSG) with support from the Terrestrial and Freshwater Biodiversity Information System (TFBIS) Programme (Copyright statement)

Review: Dr. Surrey Jacobs Principal Research Scientist Royal Botanic Gardens Sydney NSW, Australia

Pubblication date: 2006-11-01

ALIEN RANGE

[1] NEW ZEALAND

BIBLIOGRAPHY

22 references found for **Vallisneria nana**

Managment information
Champion, P. Clayton, J. and Rowe, D. 2002. Alien Invaders Lake Managers Handbook. Ministry for the Environment.
Summary: Available from: http://www.mfe.govt.nz/publications/water/lm-alien-invaders-jun02.pdf [Accessed 3 February 2005]
Champion, P.D.; Clayton, J.S. 2000. Border control for potential aquatic weeds. Stage 1. Weed risk model. Science for Conservation 141. .
Summary: This report is the first stage in a three-stage development of a Border Control Programme for aquatic plants that have the potential to become ecological weeds in New Zealand.
Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/sfc141.pdf [Accessed 13 June 2007]
Champion, P.D.; Clayton, J.S. 2001. Border control for potential aquatic weeds. Stage 2. Weed risk assessment. Science for Conservation 185. 30 p.
Summary: This report is the second stage in the development of a Border Control Programme for aquatic plants that have the potential to become ecological weeds in New Zealand. Importers and traders in aquatic plants were surveyed to identify the plant species known or likely to be present in New Zealand. The Aquatic Plant Weed Risk Assessment Model was used to help assess the level of risk posed by these species. The report presents evidence of the various entry pathways and considers the impact that new invasive aquatic weed species may have on vulnerable native aquatic species and communities.
Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/SFC185.pdf [Accessed 13 June 2007]
Coffey, B.T. and Clayton, J.S. Submerged Macrophytes of Lake Pupuke, Takapuna, New Zealand New Zealand Journal of Marine and Freshwater Research 21 (21): 193 198.
Department of Conservation (DOC), New Zealand and Marlborough District Council, undated. Weed Alert: Eel Grass (*Vallisneria gigantea*)
Summary: Available from: http://www.marlborough.govt.nz/regulatory/plants.cfm [Accessed 3 February 2005]
Environment Bay of Plenty. Undated. Part 2: Plant Pest Management Programmes. Environment B.O.P. (Bay of Plenty Regional Council): Bay of Plenty.
Environment Protection Authority, 2003. Frog Ponds for Gardens. Government of South Australia: South Australia.
Summary: Available from: http://www.environment.sa.gov.au/epa/pdfs/frog_ponds.pdf [Accessed 3 February 2005],
Environment Waikato. 2002. Waikato Regional Pest Management Strategy 2002-2007: Appendix 2: National Pest Plant Accord. Environment Waikato (Waikato Regional Council): Waikato.
Environment Waikato. Undated. Waikato's Unwanted Weeds: Plants Banned From Propagation Or Sale. Environment Waikato (Waikato Regional Council): Waikato.

Froude, V.A. 2002. Biological Control Options for Invasive Weeds of New Zealand Protected Areas, Science for Conservation 199. Department of Conservation: Wellington.,
Summary: Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/sfc199.pdf [Accessed 23 October 2009]
Greater Wellington Regional Council. 2004a. Eradication Pest Plants.
Greater Wellington Regional Council. 2004b. Eelgrass.
Greater Wellington Regional Council. 2004c. Help Stop Aquatic Alien Invasion.
Hawkes Bay Regional Council 1995. Plant Pest Control, Aquatic Plant Pests, Eel Grass (ribbonweed or tapeweed): *Vallisneria gigantea*.
Huss, A.A. and Wehr, J. D. 2004. Strong Indirect Effects of a Submersed Aquatic Macrophyte, *Vallisneria americana*, on Bacterioplankton Densities in a Mesotrophic Lake [abstract], Microbial Ecology 47 (4): 305 - 515.
MAF (Ministry of Agriculture and Forestry)/Biosecurity New Zealand. Undated. Appendix A: Plants Listed as Noxious or as Pest Plants in 1973, 1993 and 2000.
Summary: Available from: http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/land-management/emerging-weeds/appendices/appendix-a.htm [Accessed 3 February 2005]
Marlborough District Council (MDC), 2001. Regional Pest Management Strategy for Marlborough.
Marlborough District Council. Undated. Plant Pests.
Summary: Available from: http://www.marlborough.govt.nz/regulatory/plants.cfm [Accessed 3 February 2005]
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]
Royal New Zealand Institute of Horticulture (RNZIH), 2005. Eelgrass *Vallisneria gigantea*
Summary: Available from: http://www.rnzih.org.nz/pages/nppa_034.pdf [Accessed 1 October 2005]

General information

FloraBase, 2006. Hydrochartaceae, *Vallisneria*, *Vallisneria nana*
Summary: FloraBase, a state-wide electronic database, integrates all Western Australian Herbarium datasets into a single easy-to-use web site. A FloraBase query can provide a list of plants growing in a particular bio-region, the most up to date name for a native plant or weed, or a short description with a range map and a representative image. Since 1998, FloraBase has become the primary method for the community to access this crucial botanical information.
Florabase is available from: http://florabase.calm.wa.gov.au/
This page is available from: http://florabase.calm.wa.gov.au/browse/map?f=029&level=s&id=17868 [Accessed 1 November 2006]
Freshwater Biodata Information System New Zealand (FBIS), 2005
Summary: The Freshwater Biodata Information System (FBIS) contains fish, algae, aquatic plant and invertebrate data and metadata gathered from New Zealand s freshwater streams, rivers and lakes. FBIS provides different ways to search for biodata: choose a predefined search from a list of common searches; use the map view to draw a box on a map and search for biodata; or create your own search for maximum search flexibility. FBIS is offered as a nationally available resource for the New Zealand public, institutions and companies who need access to a well-maintained long-term data repository.
Available from: https://secure.niwa.co.nz/fbis/validate.do?search=common [Accessed 5 August 2005]