Calluna vulgaris **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Ericales	Ericaceae

Common name biercol (English), Scots heather (English), Scotch heather (English), red-heath (English), ling (English), heather (English)

Synonym *Erica vulgaris* , L

Similar species

Summary Heather, *Calluna vulgaris* native to Africa, temperate Asia and Europe is an invasive weed in its introduced range in Australia, the United States, Canada and New Zealand. It has also been reported in the sub-Antarctic islands of Falklands and the Crozet Archipelago. Impacts include displacement of native species both plants and insects, and disruption of natural processes of plant regeneration and succession in tussock and shrub lands. Its seeds are known to remain viable in the soil for over 33 years.

view this species on IUCN Red List

Uses
Calluna vulgaris is used as a bee plant, as an ornamental, for erosion control and as a medicinal plant (USDA-ARS, 2010).

General Impacts
Calluna invades native tussock grasslands where it outcompetes native species. It colonises rapidly and forms dense stands up to one metre thick and persistent leaf litter which prevent establishment of native grasses and shrubs (Rogers & Leathwick). Mature stand of *Calluna* can be almost devoid of other species (CRC, 2003). It represents a major threat to native and rare plants in areas it infests, such as in New Zealand where it is the most widespread region in Tongariro National Park. It also threatens Moawhango Ecological District, a centre of endemism for plants and invertebrates.
By preventing native plants from establishing *Calluna* can also disrupt natural processes of plant regeneration and succession (Rogers & Leathwick, 1996). Phytophagous insect diversity and abundance has also been negatively affected by the invasion of *Calluna* in New Zealand due to changing habitat, loss or reduction of normal food plants or increased arachnid predation (Keesing, 1993). It can also alter pH and nutrient levels of soil around plants (Rogers, 1995a).
It has also invaded pasture lands in some areas of New Zealand, and causes management problems in recreational and army training lands in New Zealand (Syrett *et al*., 2000).

Management Info
Early detection and intervention are the most cost effective forms of weed control. Small infestations can be eradicated before it becomes established, if they are detected quickly. Follow up of control measures are important to ensure eradication has been successful; particularly as *Calluna* has a long-lived seedbank (CRC, 2003).
Preventative:In areas such as Australia where *Calluna* is not yet widespread, prevention and education are important to reduce spread. People are encouraged to plant and replace the weed with suitable alternatives. While it is still a permitted import, importation is discouraged. Additionally, care should be taken when buying seeds online or through mail order to check with quarantine that they are free of *Calluna* and other weeds (CRC, 2003).
Chemical: In New Zealand herbicides may be effective against *Calluna*. Herbicide trials conducted from 1991 onwards determined that Tordon Brushkiller and Roundup were the most effective herbicides, but that Hi Ester 2,4-D is the most cost effective herbicide for helicopter application over large stands. Helicopter application is the only feasible method for treating large stands of heather, even though it is less effective than hand methods. Herbicides must be applied at intervals of less than two years until the soil seed bank is exhausted (Rogers, 1995a). In Australia there are currently no herbicides registered for use against *Calluna* (CRC, 2003).
Biological Control: In New Zealand a biological control programme of heather using the heather beetle (*Lochmaea suturalis*) was implemented in 1990. This beetle is host specific to heather, and can cause substantial damage to plants through defoliation. Beetles were released at Tongariro National Park and surrounding areas, and at Rotorua sites from 1996 onwards. While success was initially poor at high altitude sites, by 2009 beetle populations were high and substantial damage was occurring at all release sites. Researchers expect beetle populations will continue to grow and disperse in subsequent years (Landcare Research, 2007; 2008; 2009).
Hand weeding: Ongoing hand weeding of may be an effective method of eliminating individual plants (Rogers, 1995b).
Grazing:Intense sheep grazing pressure, especially in spring will suppress new growth and flowering, and may eventually eliminate *Calluna* after a number of years. Large mature plants may need to be slashed first to give sheep access to new shoots. Light grazing is not effective (CRC, 2003).
Fire: Fire is not recommended as a control method. High temperature is required for seed germination in *Calluna* and thus may help spread the plant (CRC, 2003).

Principal source:

Compiler: IUCN SSC Invasive Species Specialist Group (ISSG) 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: 2010-06-08

ALIEN RANGE

[1] AUSTRALIA
[1] FALKLAND ISLANDS (MALVINAS)
[1] NEW ZEALAND
[1] UNITED STATES
[1] CANADA
[1] FRENCH SOUTHERN TERRITORIES
[1] SAINT PIERRE AND MIQUELON

BIBLIOGRAPHY
19 references found for **Calluna vulgaris**

Managment information
CRC, 2003. Weed Management Guide: Heather *Calluna vulgaris*
Summary: Available from: http://www.weeds.gov.au/publications/guidelines/alert/pubs/c-vulgaris.pdf [Accessed 26 July 2010]

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.
Keys, J.R. & P. Syrett, 1995. Importation of Heather Beetle *Lochmaea suturalis* into New Zealand for biological control of Heather *Calluna vulgaris*. Manaaki Whenua Landcare Research Ltd.
Summary: Available from: [Accessed 26 July 2010]
Landcare Research, 2007. The Biological Control of Weeds Book: Heather beetle *Lochmaea suturalis*
Summary: Available from: http://www.landcareresearch.co.nz/research/biocons/weeds/book/documents/Heather_Beetle.pdf [Accessed 26 July 2010]
Landcare Research, 2008. Big Is Sometimes Best. What s new in the biological control of weeds? Issue 43 February 2008.
Summary: Available from: http://www.landcareresearch.co.nz/publications/newsletters/weeds/wtsnew43.pdf [Accessed 26 July 2010]
Landcare Research, 2009. Army Recruits One Million. What s new in the biological control of weeds? Issue 49 August 2009.
Summary: Available from: http://www.landcareresearch.co.nz/publications/newsletters/weeds/wtsnew49.pdf [Accessed 26 July 2010]
Rogers, G., 1995b. *Calluna vulgaris* - Pouakai Range, Egmont National Park. Conservation Advisory Science Notes No. 109, Department of Conservation, Wellington. 4p
Summary: Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/casn109.pdf [Accessed 26 July 2010]
Rogers, G.M., 1995a. Control, demography, and post-control response of heather in the central North Island. Science for Conservation no.9
Summary: Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/sfc009.pdf [Accessed 26 July 2010]
Rogers, G.M., 1996. Control, demography, and post-control response of heather in the central North Island: Part 2. Science for Conservation no.29
Summary: Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/sfc029.pdf [Accessed 26 July 2010]
Syrett, P., L.A. Smith, T.C. Bourner, S.V. Fowler and A. Wilcox, 2000. A European pest to control a New Zealand weed: investigating the safety of heather beetle, *Lochmaea suturalis* (Coleoptera: Chrysomelidae) for biological control of heather, *Calluna vulgaris*. Bulletin of Entomological Research (2000) 90, 169–178
Williams, K. & Keys, J.R. 1994. Proceedings of the second heather control workshop, Turangi, 19–21 August 1993. Tongairiro/Taupo Conservancy Technical Series No.1. 101 pp. New Zealand, Department of Conservation.

General information

Broughton, D. A. & McAdam, J. H. 2002. The non-native vascular flora of the Falkland Islands. Botanical Journal of Scotland, 1359-4869, Volume 54, Issue 2, 2002, Pages 153 – 190
Frenot et al 2005. online
Integrated Taxonomic Information System (ITIS), 2010. *Calluna vulgaris* (L.) Hull
Summary: Available from: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=23634 [Accessed 26 July 2010]
Keesing, V.F., 1993. Nitrogen content of soils, *Calluna vulgaris* , and some native plants in Tongariro National Park, (1992-1993). Conservation Advisory Science Notes No. 46, Department of Conservation, Wellington. 18p.
Summary: Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/casn46.pdf [Accessed 26 July 2010]
Moore, D. M., & J. L. Sladen, 1965. Some recent records of native and alien flowering plants from the Falkland Is. British Antarctic Survey Bulletin 7: 29–35.
Summary: Available from: http://www.antarctica.ac.uk/documents/bas_bulletins/bulletin07_04.pdf [Accessed 26 July 2010]
USDA, ARS, 2010. Taxon: *Calluna vulgaris* (L.) Hull. National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland.
Summary: Available from: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?8605 [Accessed 26 July 2010]
USDA, NRCS, 2010. *Calluna vulgaris* (L.) Hull heather. The PLANTS Database (http://plants.usda.gov, 4 September 2010). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
Summary: Available from: http://plants.usda.gov/java/profile?symbol=CAVU [Accessed 26 July 2010]
Webb, C.J., Sykes, W.R. & Garnock-Jones, P.J. 1988. Flora of New Zealand vol. IV. 1365 pp. Christchurch, New Zealand, Department of Scientific and Industrial Research Botany Division.