Cardamine flexuosa **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Capparales	Brassicaceae

Common name wavy bittercress (English), wavy-leaved bittercress (English), woodland bittercress (English), wood bittercress (English)

Synonym *Cardamine hirsuta* , ssp. *flexuosa* (With.)
Cardamine konaensis , (St. John)

Similar species *Cardamine fallax, Cardamine hirsuta*

Summary Woodland bittercress, *Cardamine flexuosa* is a highly variable perrenial herb which flowers vigourously and forms dense root mats that can exclude other species. Seeds possibly remain viable in the seed bank for up to seven years requiring intensive management for control/eradication.

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Species Description
A low but upright herbaceous plant, normally shorter than 30 cm but can grow taller in marshland. Stem arises from basal rosette of leaves that have about 5 roundish stalked leaflets on each side and a larger one at the end. Stem leaves are similar but smaller and often with narrower leaflets. Flowers are always white, and normally have 6 stamens (Framer, 2002). Ripe side pods are about 12 - 25 mm long and explode when ripe, dispersing seeds up to 500 m (Varnham, 2006). Usually perrenial but can be annual or biannual depending on environmental conditions.

Notes
Cardamine flexuosa is sometimes regarded as a subspecies of *Cardamine hirsuta* (ITIS, 1998). Morphological resemblances are very strong and the two species are known to hybridise in the wild in Austria (Ellis & Jones, 1969).

Uses
The leaves and roots of *Cardamine flexuosa* can be eaten raw or cooked (Plants for a Future, 2008).

Habitat Description
Cardamine flexuosa is capable of growing in a variety of environments over a wide range of light and disturbance conditions (Kudoh *et al.*, 1993). Capable of growing in a variety of soil types and acidities but requires it to be moist or wet. In Japan, *Cardamine flexuosa* is often found as an agricultural weed in paddy fields, crop fields and orchards (Kudoh *et al.*, 1993).

Reproduction
Cardamine flexuosa is a hemaphrodite capable of self-pollination (Plants for a Future, 2008). Hundreds of small seeds are produced in small pods which explode when disturbed (Shanklin, 2006; Varnham, 2006) and can remain viable in the ground for up to 7 years (South Georgia Newsletter, 2005a).

General Impacts
Cardamine flexuosa flowers vigourously and forms dense understory root mats (South Georgia Newsletter, 2004). These could potentially alter successional processes and displace native plant species. *C. flexuosa* is also known as a common agricultural weed in paddy fields, crop gardens and orchards (Kudoh *et al.*, 1993).

Management Info
Physical control: Digging out of *Cardamine flexuosa* appears to be the most effective form of control at present for the removal of plants and prevention or seeding (South Georgia Newsletter, 2008). Disposal of seed contaminated soils in the sea and weed matting have also been attempted, with a combination of spraying and weed matting reccomended for control on South Georgia at present (Varnham, 2006).

Chemical control: *Cardamine flexuosa* is resistant to many types of herbicide. A recent study indicates that Weedol2 provides the best initial results while glyphosate gives longer lasting control (Varnham, 2006). As seeds may remain viable in the seed bank for up to seven years, continued spraying may be required for long periods of time (South Georgia Newsletter, 2005a).

Pathway
Cardamine flexuosa was possibly transported in stores or footwear from the Falkland Islands where it grows abundantly. Seeds are sticky when wet and can be easily spread on clothing or animals.*Cardamine flexuosa* was possibly introduced to King Edward Point on vehicles brought in for rebuilding in 2000.*Cardamine flexuosa* was possibly transported in stores or footwear from the Falkland Islands where it grows abundantly. Seeds are sticky when wet and can be easily spread on clothing or animals.

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

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[1] VIET NAM

[1] ZIMBABWE

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Managment information

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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.

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