



Grouped Species Action Plan

'Arable associated plants'



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Grouped Species Action Plan

ARABLE PLANTS

Species profile

UK B/D status

No plants included in this plan are listed in the National Biodiversity Action Plan

UK lead partners

Not relevant

Shetland status

Scarce and rare

Relevant HAP's

AgriBAP, Wading Birds (Grouped Action Plan), Freshwater Habitat plan, Roadside plan, Roadside Action Plan, Community Biodiversity Action Plans (Bigton, Bressay, Fetlar, Sandwick, Yell)

Statutory Protection

Current Status

UK status

Not relevant

Local Status

A total of 5 species that are primarily dependent on arable or disturbed ground are now considered to be rare in Shetland, with another 7 species listed as scarce and declining (Scott *et al* 2002). In addition, species formerly considered to be widespread, such as corn spurrey, shepherd's purse and charlock now have a much more restricted range and, along with several other species e.g. northern knotgrass, fumitory and bugloss, are largely dependent upon arable agriculture for their future in Shetland.

Species considered by Scott *et al* to be rare in Shetland.

- Knotgrass (*Polygonum aviculare*): restricted to Fair Isle
- Lesser trefoil (*Trifolium dubium*): always restricted to southernmost south Mainland where it was once well established, but not seen since 1982
- Henbit dead-nettle (*Lamium amplexicaule*): occurred occasionally in south Mainland, but last recorded in 1987.
- Common cornsalad (*Valerianella locusta*): formerly found in two sandy arable areas, the north of Unst and southernmost south Mainland, but not seen since 1966.
- Wood burdock (*Arctium nemorosum*): always restricted to southernmost South Mainland, with just 20 plants counted in 2000.

Species considered by Scott *et al* to be scarce and declining in Shetland.

- Long-headed poppy (*Papaver dubium*): formerly a widespread but scarce weed of arable ground, now restricted to a handful of locations, the majority of which are in the south Mainland.
- Field pansy (*Viola arvensis*): formerly a regular arable weed in north Unst, north Yell and southern south Mainland, but only occasional sightings in south Mainland since 1997.
- Slender parsley-piert (*Aphanes australis*): although always having a localised distribution it has been reported from 11 tetrads (2km squares) but was last seen in 1982.
- Sun spurge (*Euphorbia helioscopia*): formerly found on arable ground on Unst, Fetlar, Yell and the limestone of central Mainland, but since 1990 almost confined to the southern South Mainland.
- Dove's-foot crane's-bill (*Geranium molle*): always a localised distribution but in recent years rarely seen and now restricted to North Yell, South Mainland and a holm off Vementry.
- Red bartsia (*Odontites vernus*): formerly used to grow along the edges of cornfields but now restricted to sandy pastures at four sites in Shetland.
- Corn marigold (*Chrysanthemum segetum*): once scattered amongst oats or potatoes in various parts of Shetland, but only seen twice since 1987.

Culture & Folklore

Many of these plants have a place in folklore, although not necessarily with Shetland. It was said that the inventor of Velcro first got his idea from the burs (seed heads) of wood burdock. Field pansy has an attractive flower that is supposedly reminiscent of three faces under a hood and is sometimes known as cat's face on mainland Britain. Slender parsley-piert was known for its qualities of pushing its way up through stony ground and hence was believed to be capable of breaking up kidney and bladder stones. Today, where it is still common it is used in salads. Sun spurge exudes an intensely irritant milky sap from its stems and this has been used to treat warts. Many folk in Shetland would once have been familiar with the seedpods of Shepherd's purse, which give the plant its name.

Ecology & management

The area of arable hectareage (defined here as cereals, root crops and potatoes) in Shetland has declined massively in recent years due to the widespread shift away from traditional mixed agriculture to a sheep monoculture. In 1971 there were 1,320 hectares of arable but in 1999 there was a total of just 192 hectares, over the same period the number of sheep increased from 265,000 to 420,000 (SIC 2001). As a consequence a whole suite of plants dependent on disturbance of the ground (often known as arable weeds) has undergone a decline in both number and range in Shetland. As well as being of value in their own right, many of these plants are important as they support invertebrates and provide food for birds. Many of these plants have seeds that are adapted to remain in the seed bank for many years awaiting the correct conditions to germinate.

Current Factors causing loss or decline

Conversion of arable to pasture. This is without doubt the single most important factor in the decline of the so-called arable weeds. Many Shetland crofters also have full time jobs and are able to devote less time to tending to stock and the croft. In parallel with this, European agricultural policy has favoured the production of sheep through subsidy payments. These factors have combined to reduce the amount of land given over to arable, which previously was required for subsistence and to produce winter feed for animals.

Use of herbicides. Although farming in Shetland is still relatively extensive compared to the British mainland, the amount of herbicides used on arable crops has increased. These herbicides will restrict the amount of arable weeds able to take advantage of the disturbance of the ground that results from the cultivation of arable crops.

Opportunities & Current Action

Agri-environment schemes: Unfortunately, neither the Environmentally Sensitive Area (ESA) Scheme nor the Rural Stewardship Scheme (RSS) have resulted in a significant increase in the amount of arable land in Shetland. It would appear that greater financial incentives are required if future agri-environment schemes are to have a more positive impact in this area of farming/crofting.

RSPB "neeps for linties" scheme: While not increasing the amount of hectareage under arable this scheme has certainly had a positive impact in terms of the level of arable weeds found in targeted fields. Under this scheme, participants are restricted to one pre-emergence spray of herbicides and this allows a larger number and diversity of plants to grow and set seed.

Objectives & Targets

To increase the amount of arable land in Shetland to 250 hectares by 2010, and to ensure that 20% of this is managed in a sympathetic way (i.e. low herbicide input).

Agri-environment schemes. An incentive led scheme is required to persuade farmers/crofters to produce areas of arable cropping. Enhanced incentives should be offered for sacrificial arable – that planted to allow arable weeds to prosper and to be left over-winter to encourage wintering birds that depend on the seeds of

the arable weeds for food. Such strips could be of any size – a series of small strips are likely to be more beneficial than fewer large areas. (SCFWAG, SEERAD, SAC)

Transplanting. Some high profile and attractive species e.g. wood burdock could be subject to restocking programmes. Seed could be taken from Shetland plants, germinated in the SAT nursery and then transplanted to suitable donor sites in the wild. Some arable weeds would be available from seedsmen and could be purchased and sowed in Shetland, but such action requires careful consideration and control over implementation. It will always be preferable to encourage the existing seedbank in the soil. (Shetland Amenity Trust)

Awareness. Recognition of the value of arable, and its associated plants, invertebrates and birds needs to be raised. Consideration needs to be given on how best to achieve this.
(Living Shetland, SNH, SBRC)

References box

- Shetland Island's Council (2001). *Shetland in Statistics*
- Scott, W., Harvey, P. V., Riddington, R., & Fisher, M. A. (2002). *Rare plants of Shetland*.

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