Asker Meadows & New Zealand vegetation survey

October 2012



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This survey by Nick Gray of Dorset Wildlife Trust (DWT) was commissioned by Daryl Chambers, Town Surveyor, Bridport Town Council (BTC) in the autumn of 2012. It is hoped that the survey data will assist in planning and implementing the rejuvenation of Asker Meadows and the New Zealand site; capital works to improve access to Asker Meadows were already underway at the time of the survey.

Introduction

Asker Meadows (approx 9 Ha) lie on the River Asker floodplain in Bridport; they are flood meadows and have been inundated in recent months during the very wet summer of 2012. The meadows represent an extensive green area in the southeast 'quadrant' of Bridport separating the town from Bothenhampton. Asker Meadows was declared a Local Nature Reserve in 2004.

The much smaller New Zealand site (0.4 Ha) lies on the other side of the Asker, closer to town. West Dorset District Council sold the northern portion for development before BTC took ownership of the land, but the southern portion remains as green space if overgrown across at least half the area with scrub and bramble.

Method

This vegetation survey was carried out using a 'rapid NVC' technique which records every plant species encountered and gives an indication of abundance using the DAFOR scale (Dominant, <u>A</u>bundant, <u>Frequent</u>, <u>O</u>ccasional, <u>R</u>are). Asker Meadow was sub-divided into 5 compartments (existing fields) for this survey - see Figure 1 - in order to offer some detail; New Zealand was surveyed as one. Results are presented in Tables 1 & 2, below.

The hedgerows were also surveyed on Asker Meadows to inform future management (see Figure 2).

Overall site description

Asker Meadows: compartments A - C hold a relatively standard 'semi-improved' sward. Grasses like Yorkshire fog *Holcus lanatus*, Cocks-foot *Dactylis glomerata* and Perennial rye grass *Lolium perenne* dominate with buttercups *Ranunculus spp* and clovers *Trifolium spp*. A variety of other grasses and herbs show as frequent, occasional or rare. Compartments D and E have been neglected in recent years leading to a proliferation of undesirable species such as Creeping thistle *Cirsium arvense*, Nettle *Urtica dioica* and Ragwort *Senecio jacobaea* (Table I).

The New Zealand site has not been managed in recent years and scrub has encroached on more than half of the area. The eastern side, through which an old drainage ditch runs, is quite wet and particularly scrubby with a core of Willow *Salix caprea* and Blackthorn *Prunus spinosa* harbouring an infestation of Himalayan balsam *Impatiens glandulifera*. There is also an old Badger *Meles meles* sett within the scrub which does not appear to be currently active. The fringes of the scrub patch hold a wider variety of species including Dog rose *Rosa canina*, Buddleia *Buddleja sp*, fruit trees and Wayfaring tree *Viburnum lanata*. The grassland on the western side is unmanaged and tussocky with additional taller growing herbs like Burdock *Arctium minus* and Nettles. There are anthills in the more open areas of grass and a very small, more species-rich area at the north end.

Figure I: Aerial photograph of survey area, Asker Meadows and New Zealand site showing survey sub-compartments on Asker Meadows, A - E (see survey form, Tables I & 2)



Table I: Site survey, Asker Meadows, Bridport

Site: Asker Meadows	Area : 9.0 Ha
Management: summer cattle grazing; (D & E - none)	
Survey dates: 18 th Oct - 1 st Nov 2012	

	Compartment	Α	В	С	D	E
Vegetation	GRASSES					
Description	Yorkshire fog Holcus lanatus	Α	Α	Α	0	D
-	Cock's-foot Dactylis glomerata	F	0	Α	0	Α
	Perennial rye grass Lolium perenne	F	D	D	0	-
	Creeping bent Agrostis stolonifera	F	-	0	-	-
	Annual meadow grass Poa annua	R	F	0	-	-
	Sweet vernal grass Anthoxanthum oderatum	-	-	Ο	-	-
	Fescue sp Festuca sp	-	-	F	0	-
	Meadow foxtail Alopecurus pratensis	-	-	0	-	-
	Smooth meadow grass Poa pratensis	-	-	0	-	-
	False oat grass Arrhenatherum eliatus	-	-	R	D	Α
	Meadow barley Hordeum brachyantherum	-	-	R	-	-
	HERBS					
	Dandelion Taraxacum officinale	А	0	-	-	-
	Creeping buttercup Ranunculus repens	А	F	F	R	-
	Ribwort plantain Plantago lanceolata	F	Ο	-	-	-
	Broad-leaved plantain Plantago major	0	-	-	-	-
	Common sorrel Rumex acetosa	Ο	F	F	R	-
	Meadow buttercup Ranunculus acris	Ο	F	F	-	-
	White clover Trifolium repens	0	F	F	-	-
	Red Clover Trifolium pratense	R	-	Ο	-	-
	Common sedge Carex nigra	R	-	0	R	-
	Yarrow Achillea millefolium	R	Ο	-	-	-
	Silverweed Argentina ancerina	R	-	-	-	-
	Common Hogweed Heracleum sphondylium	R	-	0	O-F	0
	Common mouse-ear Cerastium fontanum	-	0	-	-	-
	Comfrey Symphytum officinale	R	-	-	R	Ο
	Rosebay willowherb Epilobium angustifolium	-	-	-	R	-
	Teasel Dipsacus fullonum	-	-	-	R	-
	Cleavers Galium aparine	-	-	-	R	-
	Broad-leaved dock Rumex obtusifolius	А	0	0	F	0
	Nettle Urtica dioica	-	R	-	А	A
	Creeping thistle Cirsium arvense	-	-	R	А	0
	Spear thistle Cirsium vulgare	-	-	R	-	-
	Ragwort Senecio iacobaea	-	-	R	0	-
	· · · · · · · · · · · · ·			-	(LD)	

'Vegetation Description' is a relatively subjective judgment of abundance of species across the whole field: <u>Dominant, Abundant, Frequent, Occasional, Rare;</u> (LF, e.g. = locally Frequent)

Herbs in **bold** are recognized as having particular wildlife value but all flowering plants - including grasses - provide pollen and nectar for foraging insects and offer crucial structural diversity in the sward.

Table 2: Site survey, New Zealand site, Bridport

Site: New Zealand	Area : 0.4 Ha
Management: None	
Survey date: 18 th Oct 2012	

	Compartment	I
Vegetation	GRASSES	
Description	Yorkshire fog	А
	Cock's-foot	А
	Perennial rye grass	F
	Fescue sp	F
	Creeping bent	0
	Annual meadow grass	0
	False oat grass	0
	Common couch Elymus repens	0
	HERBS	
	Dandelion	F
	Creeping buttercup	F
	Ribwort plantain	F
	Broad-leaved plantain	Ō
	White clover	Ō
	Red Clover	Ō
	Hop trefoil Trifolium campestre	R
	Common sedge	R
	Yarrow	0
	Common Hogweed	õ
	Common mouse-ear	Õ
	Burdock	F
	Cow parsley Anthriscus sylvestris	Ô
	Elephane Pulicaria dysenterica	Ő
	Hawkweed sp Hieracium sp	R
	Cut-leaved crapeshill Geranium dissectum	R
	Broad loaved dock*	F
	Nottle*	F
	Crooping thistle*	- -
	Pagwort*	0
	Himalayan balsam* Impatiens glandulifera	
	Timalayan baisant imputens gionounjero	
	TREES & SHRUBS	
	Ash Fraxinus excelsior	
	Hawthorn Crataegus monogyna	
	Blackthorn Prunus spinosa	
	Elder Sambucus canadensis	
	Alder Alnus glutinosa	
	Sycamore Acer pseudoplatanus	
	Wayfaring tree Viburnum lantana	
	Sallows Salix caprea	
	Fruit trees (plum, apple)	
	Buddleia Buddleja sp	
	Dog rose Rosa canina	
	Bramble Rubus fruticosa	

'Vegetation Description' is a relatively subjective judgment of abundance of species across the whole field: <u>Dominant, Abundant, Frequent, Occasional, Rare;</u> (LF, e.g. = locally Frequent). Invasive / dominating spp marked with *

Compartment descriptions

A. The sward in this southernmost field is lush and dominated by coarse grasses, though the fields does hold a good variety of herbs including Ribwort plantain *Plantago lanceolata*, Common sorrel *Rumex acetosa* and Red clover *Trifolium pratense*. This is a popular, unfenced dog-walking area. The grassland does not hold much wildlife value and in fact some areas of this field were planted with broadleaf trees in November 2012 as part of the current site enhancement.

B. Compartment B also holds an agriculturally improved sward dominated by Yorkshire fog and rye grass and a few herbs, though one of these was, encouragingly, yarrow *Achillea millefolium* which is popular with invertebrates.

The dry stone wall along the north side of this field offers valuable wildlife habitat in its nooks and crannies. A copse at the end of the wall, in the NE corner of the field, holds a modest diversity of mature broadleaves.

C. This field holds by far the greatest diversity of grasses including Sweet vernal grass *Anthoxanthum odoratum* and Annual meadow grass *Poa annua*, offering valuable feeding and sheltering habitat for a variety of invertebrates. The sward is still dominated by the 'big three' coarse grasses (Yorkshire fog, cocks-foot and rye grass) but the aforementioned diversity makes this field the most likely area for attempting botanical enhancement. While undesirable species are present, they are rare so if the grasses can be suppressed wild flowers may be able to compete. Soil tests to establish underlying fertility would be an important prerequisite.

Compartment A







(West end of dry stone wall, Comp B)

Compartment C



Compartment descriptions cont.

D. This neglected field is now dominated by nettles, creeping thistle, docks and (locally) ragwort. BTC have fenced compartment D (along with B, C and E) paving the way for positive intervention. Grazing will be a crucial part of any management forthwith though combating the current weed load will take some very concerted mechanical and / or chemical action.

E. Major scrub clearance was necessary in this small field leaving the vegetation somewhat denuded. As with Compartment D, the weed load was previously substantial meaning the seed bank, full of undesirable invasive species poses a threat. Management should concentrate on re-establishing a grassy sward in this relatively shaded field.

NZ. While a good scrubby thicket undoubtedly has wildlife value, the sallow and blackthorn on the east side of the New Zealand site is harbouring the very invasive Himalayan balsam which will eventually adversely affect not only this site but other areas downstream.

Additionally, the open area on this site is rapidly reverting to scrub. The grassland has remnants of herb-richness in the form of yarrow, trefoils and plantain. A new management regime on at least some of the grassland could encourage these and other wild flowers - valuable sources of pollen and nectar - back into the sward and contain the taller herbs and undesirable species currently encroaching. Compartment D



Compartment E



New Zealand site



Asker Meadows Hedgerows

Hedgerows of various widths and states of repair (and a dry stone wall of similarly varying quality) divide the compartments on Asker Meadows, see Figure 2 below. Hedge I is relatively young and in good condition for management (laying) in the near future, whereas hedges 2 and 3 are very wide with substantial bramble fringes, presenting valuable wildlife habitat and food.



Figure 2: Map of Asker Meadows with hedgerows labelled

Hedgerow I (Figure 2) appears to have been planted approx 10 years ago and is composed of ash, field maple, wayfaring tree, hawthorn, blackthorn and fruit trees and patches of bramble. Its age is the main factor influencing its readiness for laying with plenty of potential pleachers and a couple of specimens ripe for leaving to grow into hedgerow trees. The more-or-less intact fence running along the north side of the hedge might slightly complicate the hedge-laying task but will minimise post-management stock-proofing work.

Hedge I showing stems suitable for laying; (preparatory 'ridding out' of bramble, etc also required)



Management of **hedgerows 2 and 3** would be a major undertaking and, being such good features for wildlife as they stand, priority for management of these boundaries is low. Additionally, having been neglected the availability of good laying material is also low. However, once management of the grassland in compartments D and E gets underway, scrub encroaching outwards from the north side of Hedge 2 might well need to be controlled, possibly necessitating additional fencing.

Hedge 2 showing semi-mature sycamore and ash, hawthorn and elder 'heart' and blackthorn / bramble fringe



Recommendations

Asker Meadows, while supporting grassland of limited biodiversity overall, holds much habitat of wildlife value and even more potential for botanical (and faunal) enhancement:

- Trees have already been planted on the least bio-diverse sward in compartment A
- Hedgerow I is ripe for management to preserve its integrity, thicken the boundary for nesting birds and boost blossom and fruit / berry production for invertebrates and birds.
- Compartment C appears to offer potential for botanical enhancement of the sward (according to analysis of the current species list). This could take the form of oversowing with wild flower seed of local provenance (including yellow rattle to suppress aggressive grasses) or perhaps green hay from a local species-rich site. Soil tests are an important prerequisite for sward enhancement to assess fertility and the associated ability of wild flowers to compete against established grasses. A well managed grazing livestock regime will also be crucial in any enhancement project and this could fit well with restoration of the neglected compartments D and E which require spring and summer grazing.

The New Zealand site also holds much valuable wildlife habitat but invasive and aggressive species are gradually coming to dominate the open areas as well as the scrub thicket:

- Control / eradicate Himalayan balsam in the sallow scrub area
- Manage the scrub in rotation to prevent encroachment on remaining grassland and maximise structural and species diversity within the scrub woodland. (This should include establishing whether the badger sett is active or not.)
- In consultation with local residents, propose that a grassland management regime be instigated in the open areas to maintain more species-rich patches and restore sections where creeping thistle, nettles and other invasive species have come to dominate. With herbs such as red clover, hop trefoil and yarrow (see Table 2) this need not mean leaving the grass to grow long during the growing season. Along with the three species above, bird's-foot trefoil *Lotus corniculatus* and selfheal *Prunella vulgaris* are valuable pollen and nectar sources that can thrive in a relatively short sward cut more regularly.
- DWT can help with interpretation boards for both sites to keep the numerous interested users informed about current rejuvenation plans and their value for wildlife.