

Rapid Grassland Assessment Survey Report

Seven Fields Local Nature Reserve, Swindon

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1. Executive Summary

1.1 Site Location

Seven Fields Local Nature Reserve, situated between Penhill and Haydon Wick in North Swindon.

1.2 Survey Context

This report was commissioned by WWT to undertake rapid grassland assessment (RGA) surveys of seven neutral grasslands that are traditionally managed as hay meadows and were last surveyed approximately 20 years ago.

1.3 Survey Methodology

RGA surveys were undertaken between 29th June and 2nd July 2026 to determine the current condition of the following meadows:

- Furrow Field
- Half Moon Ground
- Long Meadow
- Spring Field
- Old Events Field
- Lark Meadow
- Cemetery Field

1.4 Key Findings

- All fields met between three and six of the seven target attributes set for favourable condition status.
- Frequency of positive indicator species was high except for Spring Field, and herb cover was high except for Long Meadow and Spring Field.
- Main management concerns include frequent to constant cover of negative indicator species and percentage cover of litter in most fields.
- Tor-grass and Upright brome were most dominant in Spring Field and Long Meadow, while tussocks of Tall fescue and Field bindweed were frequent on higher ground in Furrow Field.

1.5 Recommendations

An adapted cutting regime is needed in Spring Field, Long Meadow and on higher ground in Furrow Field. This will reduce litter cover and negative indicator species and improve frequency and diversity of positive indicator species and percentage cover of herbs.

2. Introduction

2.1 Background

This report was commissioned by WWT to undertake RGA surveys at Seven Fields Local Nature Reserve, North Swindon. Results will provide a baseline for future monitoring and will inform ongoing management decisions at the site.

2.2 Objectives

To use broad ecological indicators measured against habitat attribute targets relating to sward composition and structure to assess condition of each meadow and guide management decisions.

3. Site Description

3.1 Site Location Plan



Figure 1. Site location map

3.2 Habitat Description

Designated as a Local Nature Reserve in 1995, Seven Fields comprises a mosaic of habitats including traditionally managed hay meadows, ancient woodland, rare trees, and medieval agricultural features. Haydon Brook flows through the reserve eventually joining the River Ray and Thames, supporting a wide variety species.

4. Methodology

Surveys across seven meadows were undertaken using RGA methodology. A total of 20-30 1x1m quadrats were sampled in a 'W' or zig-zag shape across each field. At each stop data was collected for percentage cover of herbs, litter, bare ground and scrub cover. Presence and frequency of a list of specific positive, negative and waterlogging indicators were also recorded to help determine the condition of each grassland.

Percentage frequencies of indicator species were scored based on the following scale:

- Constant (C) >60%
- Frequent (F) 41-60%
- Occasional (O) 21-40%
- Rare (R) 1-20%

5. Results

5.1 Indicator Species

A total of 12 out of a list of 22 positive indicator species were present across all fields (Table 1). Four species of negative indicator (Table 2), and 2 species of water-logging indicator species were also recorded (Table 3).

Table 1. List of positive Indicators with those present highlighted in bold.

Common Name	Species Name
Meadowsweet	<i>Filipendula ulmaria</i>
Tormentil	<i>Potentilla erecta</i>
Great burnet	<i>Sanguisorba officinalis</i>
Pepper saxifrage	<i>Silaum silaus</i>
Devil's-bit scabious	<i>Succisa pratensis</i>
Meadow rue	<i>Thalictrum flavum</i>
Common Knapweed	<i>Centuria nigra</i>
Sneezewort	<i>Achillea ptarmica</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Common Bird's-foot trefoil	<i>Lotus corniculatus</i>
Cowslip	<i>Primula veris</i>
Yellow rattle	<i>Rhinanthus minor</i>
Saw wort	<i>Serratula tinctoria</i>
Quaking grass	<i>Briza media</i>
Crested dog's-tail	<i>Cynosaurus cristatus</i>
Betony	<i>Betonica officinalis</i>
Milkwort sp.	<i>Polygala sp.</i>
Adder's tongue	<i>Ophioglossum vulgatum</i>
Snakeshead fritillary	<i>Fritillaria meleagris</i>
Meadow thistle	<i>Cirsium dissectum</i>

Table 2. List of negative indicators with those present highlighted in bold.

Common Name	Species Name
Thistle sp.	<i>Cirsium sp.</i>
Dock sp.	<i>Rumex sp.</i>
Ragwort	<i>Jacobaea vulgaris</i>
Nettle	<i>Urtica dioica</i>
Hogweed	<i>Heracleum sphondylium</i>
Tor grass	<i>Brachypodium pinnatum</i>
Upright brome	<i>Bromus erectus</i>

Table 3. List of water-logging indicators with those present highlighted in bold.

Common Name	Species Name
Rush sp.	<i>Juncus sp.</i>
Tufted hairgrass	<i>Deschampsia cespitosa</i>
Marsh thistle	<i>Cirsium palustre</i>

Mean percentage frequency of each indicator species and mean percentage cover of herbs, litter, bare ground and scrub were calculated per field.

5.2 Results Summary per Field

Table 4. Comparison of RGA Results by Field. Results below threshold and management concerns are highlighted in red

Field	% Cover Herbs	% Freq Pos Indicators	% Freq Neg Indicators	% Freq Water-log Indicators	% Cover Scrub	% Cover Litter	% Cover Bare Ground
Furrow Field	62	C = 3 F = 1 O = 3 R = 3	O = 1 R = 2 (Note: Tall fescue tussocks and Field bindweed frequently observed on higher ground)	Neg	0	39	0.5
Half Moon Ground	58	C = 3 F = 1 O = 2 R = 3	C = 1 (Upright brome) F = 2 (Tor grass; Ragwort) R = 1	Neg	0.7	44	0.2
Long Meadow	25	C = 3 O = 3 R = 1	C = 2 (Upright brome; Tor grass)	R = 1	0.2	53	1.2
Spring Field	21	C = 3 F = 1 R = 3	C = 2 (Upright brome; Tor grass) R = 1	R = 1	0.2	52	4.8
Old Events Field	62	C = 5 F = 1 O = 1 R = 1	C = 1 (Upright brome) O = 2	Neg	0	52	0.1
Lark Meadow	53	C = 1 F = 3 O = 2 R = 2	C = 1 (Upright brome) O = 1 R = 1	R = 1	1.8	61	1.2
Cemetery Field	70	C = 5 F = 1 O = 2	F = 1 (Upright brome) R = 2	Neg	0	28	0.1

Note: Percentage frequency of yellow rattle was frequent to constant throughout all meadows.

5.3 Other Species

Field names are specified where species were not common throughout.

Notable Herbs and grasses:

- Goat's-beard
- Sweet vernal grass
- Greater knapweed (Long Meadow)
- Fairy flax
- Glaucous sedge
- Common restharrow (Long Meadow)
- Common agrimony
- Field scabious
- Pyramidal orchid (Long Meadow; Spring Field (group x20))

Other Herb species:

- | | |
|-----------------------------|----------------------------------|
| • Selfheal | Rough hawkbit |
| • Red Clover | Wild carrot |
| • Meadow buttercup | Hawksbeard sp. |
| • Common catsear | Yarrow (Old Events Field) |
| • Tufted vetch | Common sorrel (Old Events Field) |
| • Red bartsia (Lark Meadow) | Meadow foxtail |
| • Creeping cinquefoil | Ribwort Plantain |
| • Black medick | |

Potentially Problematic Species:

- Field bindweed (C on higher ground of Furrow Field)
- Field horsetail (R) – Spring Field, Half Moon Ground, Lark Meadow
- White Clover (R) - Lark Meadow
- Lesser hop trefoil (R) – Spring Field

Incidental Invertebrate Sightings:

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|------------------------|-------------------------|
| • Hummingbird hawkmoth | Red-tailed bumblebee |
| • Skipper sp. | Common carder bumblebee |
| • Marbled white | Buff-tailed bumblebee |
| • Meadow brown | |
| • Meadow grasshopper | |

6. Analysis

Results were compared against targets recommended by Robertson and Jefferson (2000). To meet 'favourable' condition status, all seven attribute targets must be met. Therefore, all fields are currently classed as 'unfavourable recovering'. Results and are shown in Table 5.

Table 5. Summary of pass/fail status per field for each 'favourable' condition attribute target

Attribute and Target	Furrow Field	Half Moon Field	Long Meadow	Spring Field	Old Events Field	Lark Meadow	Cemetery Field
% cover herbs (40-90%)	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS
% frequency pos indicators (at least 2F and 3O throughout)	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
% frequency neg indicators (no species more than O throughout)	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
% frequency of water-logging indicators (no more than O throughout)	PASS	PASS	PASS	PASS	PASS	PASS	PASS
% cover scrub (average no more than 4%)	PASS	PASS	PASS	PASS	PASS	PASS	PASS
% cover litter (average no more than 25%)	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
% cover bare ground (average no more than 5%)	PASS	PASS	PASS	PASS	PASS	PASS	PASS

- Notes: Percentage litter cover was more than 25% in each field, however, dense patches of thatch occurred rarely.

7. Management Recommendations

7.1 Site-wide Recommendations

- Implement the traditional hay cut in late summer across all fields.
- Continue monitoring all meadows at least every 3 years, maintaining the same number of indicator species as a realistic target to achieve favourable condition.

7.2 Field-specific Recommendations

The following targeted strategy is recommended:

- **Spring Field, Long Meadow and Higher ground in Furrow Field:** Take an additional late Autumn cut in October / November as each field is showing signs that herb cover is being suppressed by the high frequency of negative indicator species and litter cover. Thereafter, resume the traditional late summer hay cutting regime.
- **Half Moon Ground:** Monitor the frequency of Ragwort, however, some is beneficial in providing an essential food resource for the Cinnabar moth and many pollinating species.

8. Conclusion

Currently, all meadows are classed as 'unfavourable recovering'. With targeted management there is potential to:

- Reduce negative indicator species
- Reduce litter cover
- Increase herb cover and frequency and diversity of positive indicators
- Move towards 'favourable' condition status
- Provide improved habitat for birds, mammals and insects