

Fen, Marsh and Swamp Action Plan

Habitat Definition

This habitat includes areas of vegetation which are ground water fed and permanently, seasonally, or periodically waterlogged. In particular it includes:

- Fens

Peatlands that are fed by groundwater as well as rainfall, including basin fens, floodplain fens, valley mires, and other mires associated with springs, flushes and rills.

- Marshes

Vegetation occurring on mineral soils where the water table is close to the surface for most of the year, but not usually above ground level.

- Swamps

Swamps are characterised by water levels that are at or above the surface of the vegetation for most of the year.

- Flushes & springs

Areas of vegetation (not dominated by grass) that are permanently or periodically wet due to the presence of flowing water from flushes or springs.

Current Status

There are approximately 225 hectares (ha) of fen, marsh and swamp vegetation within the Falkirk area. Of this around 124 hectares is fen vegetation, 86 hectares is flush vegetation, and 15 hectares is swamp or marginal inundated vegetation.

Fens

The approximately 124ha of fen in the Falkirk area consists of 29 identified fen sites ranging in size from 1ha to over 25ha. Sixteen of these sites (c.65ha) appear to be lagg fen occurring as integral elements of the numerous raised and intermediate bogs in this area. Of the other sites two are valley mires (1ha and 5ha in size), one is a substantial area (>25ha) of floodplain mire on the River Avon, and the others are basic mires (ranging from 1ha

HABITAT PROFILE



Falkirk Council

Status:

Broad Habitat (Including fen, a UK priority habitat)

Protection:

Locally most lagg fen, associated with raised bog, is designated as part of a wildlife site or site of importance for nature conservation (SINC). Several other fen and wetland sites also have these non-statutory designations. Carron Dams is protected as an SSSI.

Key Sites:

Fen -
River Avon Floodplain
Wester Jawcraig
Darnrig moss
Carron Dams
Garbethill north
Castlecary wood south
Loch Green
South Castlecary High Wood
Marsh & Swamp -
Black Loch (margins)
Parkfoot Marsh
Flushes -
Denny Muir SSSI (also has blanket bog)

Associated Habitat and Species Action Plans

Habitats:

Rivers and streams, Standing open water, Raised and Intermediate Bogs

Species:

Brown long-eared bat *Plecotus auritus*
Common frog *Rana temporaria*
Common toad *Bufo bufo*
Curlew *Numenius arquata*
Freshwater Snail *Lymnaea glabra*
Grass of Parnassus *Parnassia palustris*
Great crested newt *Triturus cristatus*
Hen Harrier *Circus cyaneus*
Hoverfly *Parhelophilus consimilis*
Otter *Lutra lutra*
Palmate newt *Triturus vulgaris*
Pipistrelle bat *Pipistrellus pipistrellus*
Ragged Robin *Lychnis flos-cuculi*
Redshank *Tringa totanus*
Reed bunting *Emberiza schoeniclus*
Sedge Warbler *Acrocephalus schoenobaenus*
Short-eared owl *Asio flammeus*
Small Pearl-bordered fritillary *Boloria selene*
Smooth newt *Triturus helveticus*
Snipe *Gallinago gallinago*
Soldier-fly *Beris clavipes*
Teal *Anas crecca*
Water rail *Rallus aquaticus*
Water vole *Arvicola terrestris*
Whorled caraway *Carum verticillatum*
Woodcock *Scolopax rusticola*

to 6ha). Carron dams SSSI is particularly notable as the largest area of rich fen vegetation in the Falkirk area. The vast majority of these fens are found on the Slamannan Plateau to the south and west of the Falkirk area. However, several fens occur in the peaty upland fringes around Denny Muir.

The area and quality trends of fens in the Falkirk area are not fully known. Within the UK as a whole the area of fen vegetation has declined dramatically over the last 100 years. It is likely that Falkirk has experienced a similar decline in the area of fen and those that remain tend to be rather fragmented and isolated. It is also likely that relatively intact lagg fen is now quite scarce and this habitat is both important in its own right and a valuable element of the raised and intermediate bog habitats.

Marsh and Swamp

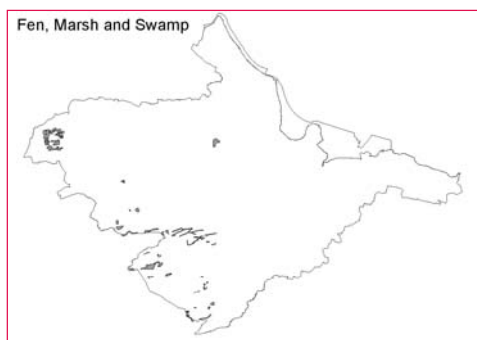
Of the swamp and marginal vegetation relatively little (c.5ha) is reedbed. The remainder occurs as small areas of marginal vegetation at the edge of lochs and pools, along river and canal edges and within wet ditches and pools.

It would appear that Falkirk supports at least 10 wetland sites (totalling about 5ha) which are dominated by *Phragmites australis*. All are less than 1ha in size and occur along drainage ditches, around the edge of

small pools, along rivers and burns, or along the estuary. The condition of the identified reedbeds is unknown.

Flushes

The main areas of flush vegetation occur in the northwest of the area, almost all of it within the Denny Muir SSSI, in a mosaic with blanket bog and upland acid grassland. However, it is likely that many smaller areas of flush vegetation occur within habitats such as woodlands and grasslands and have not been included in these figures.



Within Falkirk wet vegetation communities appear to be relatively scarce and represent an important habitat of considerable conservation value. There are no clear local area and quality trends for these wetland habitats. However, wetlands generally are sensitive to natural succession to scrub, pollution and drainage and it is likely that the total area of wetland habitats has declined and that many of the remaining wetlands will have become fragmented or reduced in size.

Ecology

Wetland habitats can support a vast range of species, including many plants and invertebrates, which favour damp conditions, as well as numerous wetland birds and mammals such as water vole and otter.

Fens

Fens support a diverse range of plants and animals. Some can contain up to a third of all the UK's native plant species and more than half the UK's dragonfly species. This habitat can support several thousand insect species and is important for a range of aquatic beetles.

Marsh & Swamp

Marshes and swamps often represent an important transition between open water and drier habitats, and support a range of plants and animals that require the characteristic wet conditions.

Reedbeds can support a distinctive breeding bird assemblage and provide roosting and feeding sites for migratory species. They also support a variety of threatened invertebrate species. Even small areas of reedbed are of considerable value.

Flushes

Springs and flushes are particularly important for the wide range of invertebrate species that they support, including soldier flies, crane-flies, and water beetles, as well as the flowering plants and mosses associated with them. Floodplain wetlands can also be of great value for invertebrates, particularly beetles, flies and snails.

Current Factors Affecting the Habitat

A range of factors contribute to the degradation or loss of these wetland habitats. These are likely to include:

- Pollution from sources such as agricultural and urban runoff.
- Siltation of watercourses feeding into wetlands and causing a build up of deposited silt.
- Lack of appropriate management/inappropriate management of wetlands.
- Succession to scrub, resulting in the habitat becoming drier.
- Drainage of wetland areas, often for agricultural purposes.
- Alteration to the water table as a result of development and/or drainage.
- Fragmentation and isolation of wetland sites.
- Afforestation.
- Water extraction resulting in lowered water tables and loss of marginal vegetation.

Current Action and Opportunities

Some surveys of open waters in the Falkirk area have also identified areas of marginal vegetation forming marsh or swamp habitats. In addition phase II surveys exist for most of this area's lagg fen and associated raised bogs and some other key fen sites. However there is very limited survey data for most of the local fen, marsh and swamp habitat.

Carron Dams SSSI, designated for its comparatively large area of rich fen vegetation, is currently managed by SWT.

Agri-environment schemes offer some incentive to preserve and protect areas of wetland on farmland. In more urban areas there is potential to create new wetlands through the promotion and good design of Sustainable Urban Drainage Systems.

This habitat is closely associated with raised bogs, standing open water, rivers and streams and saline lagoons, for which separate habitat action plans have been produced.

Objectives and Targets

Objective 1

Maintain the current extent of fen, marsh and swamp habitat within the Falkirk area.

Target 1.1

- Determine the approximate extent of different elements of this habitat within the Falkirk area and identify key fen, marsh and swamp sites. By 2004.

Target 1.2

- Prevent loss of or serious damage to fen, marsh and swamp sites as a result of damaging development. (Ongoing).

Target 1.3

- Encourage the retention of fen, marsh and swamp sites by raising awareness of their value and sources of funds to maintain and manage them. By 2005 and then ongoing.

Objective 2

Maintain, and where possible improve, the ecological quality of existing fen, marsh and swamp habitats in the Falkirk area.

Target 2.1

- Promote appropriate management of fen, marsh and swamp sites. (Ongoing).

Target 2.2

- Identify key sites for enhancement and investigate potential enhancement projects by 2005 with a view to undertaking at least one wetland enhancement project by 2010.

Objective 3

Create new areas of wetland habitat.

Target 3.1

- Encourage creation of quality wetland areas through SUDs developments (Ongoing).

Target 3.2

- Promote development of new wetland areas on farmland. (Ongoing).

Action	Potential Deliverers		Year to be completed or in place						Meets objective
	Lead	Partners	2003	2004	2005	2006	2007	2012	
A. Policy and Legislation									
1. Ensure that this habitat is afforded adequate consideration and, where possible, protected from damaging development through the planning process by: a) Developing appropriate policies within local and structure plans and other strategies as they are written and reviewed. (Ongoing).	Falk C (DS)	WWAG	✓	✓	✓	✓	✓	✓	1,2,3
2. Ensure that this habitat is afforded adequate consideration and, where possible, protected from damaging development and enhanced through the planning process by: b) Production of supplementary planning guidance.	Falk C (DS)	WWAG	✓						1,2,3
3. Promote the inclusion of prescriptions to maintain, manage and enhance fen, marsh and swamp habitats within agri-environment schemes/policies.	SEERAD	FWAG SAC	✓	✓	✓	✓	✓	✓	1,2,3
4. Promote the adoption of SUDS in new developments and the application of SEPA good practice to ensure they are designed to enhance biodiversity. (Also see standing open water action plan).	SEPA		✓	✓	✓	✓	✓	✓	3
5. Encourage the adoption and good design of SUDS (Sustainable Urban Drainage Systems) as part of developments and public schemes via the planning process. (Also see standing open water action plan).	Falk C (DS)	SEPA	✓	✓	✓	✓	✓	✓	3
B. Site Safeguard and Management									
1. Ensure that any currently undesignated important fen, marsh or swamp sites are assessed and designated as Wildlife Sites or SINCs if they meet the relevant criteria.	Falk C (DS)	WWAG SWT		✓					1,2
2. Encourage the inclusion of lagg fen habitat within actions to conserve associated raised bog habitat. (See raised bog action plan).	HBAG		✓	✓	✓	✓	✓	✓	1,2
3. Promote the maintenance, management and creation of fen, marsh and swamp habitats on farmland through agri-environment schemes.	FWAG, SAC		✓	✓	✓	✓	✓	✓	1,2,3
4. Manage Carron Dams SSSI to ensure the retention of its rich fen habitat and other marsh or swamp habitats.	SWT	SNH	✓	✓	✓	✓	✓	✓	1,2
5. Undertake at least one fen, marsh and swamp habitat enhancement project. (From opportunities identified in D3). By 2010.	WWAG							✓	2

Action	Potential Deliverers		Year to be completed or in place						Meets objective
	Lead	Partners	2003	2004	2005	2006	2007	2012	
C. Advisory									
1. Provide advice regarding the appropriate management of fen, marsh and swamp habitats and sources of funds and/or support.	FWAG SAC		✓	✓	✓	✓	✓	✓	1,2
2. Promote good practice advice regarding the application and design of SUDS and their value for wildlife (in particular the Ponds, Pools and Lochans handbook and SUDS manual).	SEPA		✓	✓	✓	✓	✓	✓	3
3. Distribute copies of the LBAP and relevant action plans and any additional advisory material to owners of key fen, marsh and swamp sites (as identified in D2).	WWAG				✓				1,2,3
D. Research and Monitoring									
1. Determine the approximate extent of fen, marsh and swamp habitats within the Falkirk area, and where possible their current condition.	WWAG			✓					1,2
2. Identify key fen, marsh and swamp sites i.e. those that are ecologically most important.	WWAG				✓				1,2
3. Identify opportunities for enhancement of fen, marsh and swamp sites, particularly at any sites identified in D2.	WWAG				✓				2
E. Communication and Publicity									
1. Organise an event for landowners, land managers and other relevant groups to promote good practice in the protection, enhancement and management of fen, marsh and swamp habitats and available support and funding for such activities. (Combined with action E3 in the standing open water action plan).	WWAG	FWAG, Falk C (DS), FABP			✓				1,2,3
2. Include this habitat in the local biodiversity awareness raising and education strategy.	EARAG		✓	✓	✓	✓	✓	✓	1,2,3
F. Plan Monitoring and Review									
1. Monitor the implementation of actions in this plan annually.	WWAG	All partners	✓	✓	✓	✓	✓	✓	1,2,3
2. Monitor completion of actions in detail and review this plan every five years to ensure continued effectiveness, starting in 2007.	WWAG	All partners					✓	✓	1,2,3

Abbreviations

EARAG	- Education and Awareness Raising Action Group	SEERAD	- Scottish Executive Environment & Rural Affairs Department
FABP	- Falkirk Area Biodiversity Partnership	SEPA	- Scottish Environment Protection Agency
Falk C (DS)	- Falkirk Council Development Services	SNH	- Scottish Natural Heritage
FWAG	- Farming & Wildlife Advisory Group	SWT	- Scottish Wildlife Trust
HBAG	- Heath & Bog Action Group	WWAG	- Water and Wetlands Action Group
SAC	- Scottish Agricultural College		

Key contacts

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