

# Why should we look after fens?

## Mike Harding argues that we all benefit from keeping fens in a wet and healthy state

The first of these articles described how East Anglia had one of the most important concentrations of valley fens in Western Europe. Chalky fen habitats are rare and so too are many of the plants and animals they support. Because of this, most of the best sites are protected by UK and international law.

These laws put a legal responsibility on the owners and managers of the sites to keep them in good condition.

Regardless of the law, we have a responsibility to society to maintain these amazing sites. With a history that is as old as the geology that made them, and a strong positive effect on our health and wellbeing, these are national treasures that we should be maintaining for the communities who host them, and for those who will come after us.

## Looking after soil and water

Valley fens have a delicate water regime. They depend on a finely balanced mix of water from the chalk aquifer and from the sandy valley margins. They also depend on rainfall, and there is often some input from surface sources such as streams and ditches which is not always welcome. All of these sources have very different chemistries. Any change in the balance of these water sources, or any reduction in clean water, can spell disaster for the ecology of the site.

Looking after the hydrology of the fen is the single most important conservation action. Preventing drainage by ditches or rivers, stopping removal of water by groundwater boreholes and preventing flooding if rivers are polluted by nutrients, are all important aspects of conserving fens.

Perhaps more surprising is that soils also need to be managed. Valley fens depend on certain soil conditions – most importantly, low fertility. Many of the plants that grow in fens cannot compete with vigorous grasses and sedges that grow in rich soils. Anything that raises peat fertility – drainage, flooding with nutrient rich water, leaving vegetation cuttings on the fen or leaving the fen unmanaged – will damage the habitats.

## Managing natural change

Although fens are wild, they are not unmanaged. Habitats that are left to themselves undergo a natural process called succession. Succession happens when natural changes allow one habitat to be replaced by another. If a pond is left, sediment accumulates and plants of boggy land colonise. The pond becomes fen-like. As the fen grows, plant material falls to the ground year after year, and raises the ground surface. Over time, the boggy areas dry out. As the surface dries, trees germinate and take hold. The habitat slowly turns to scrub, and then to woodland. As the habitat changes from pond to fen to woodland, the plants and animals associated with each phase change. New species colonise, but established species die out.



*Succession early stage - open water (Betty's Fen)*



*The next stage: short, open, species-rich fen (Blo' Norton Fen)*



*A later stage: tall, dense, species-poor fen (Betty's Fen)*



*A late stage: fen woodland (Blo' Norton Fen)*

So, if we want to maintain the most diverse sites for wildlife, they should contain all stages of succession, from open water to woodland. Most valley fens are rather small, and it can be difficult to accommodate all of the stages of succession in one site. A tiny area of wet woodland does not harbour the richness of a great tract of carr. Sometimes we have to choose: we have to retain decent-sized areas of the most valuable habitats and forego some stages of the succession to make enough room for them. In valley fens, the most valuable stages in succession are often the early ones, when the habitat is changing from fresh open water to 'young' fens still with wet hollows and open ground.

Habitats from the early part of the succession change most rapidly. Strong management by site owners is needed to maintain them. This means digging new ponds, mowing the fens and cutting out trees. This isn't gardening; it is using traditional techniques to manage the natural process of succession and to maintain as much wildlife in as small a space as possible.

### **Competition**

In a fen, there is an unending and ruthless competition for nutrients, light and water between species and between members of the same species. This competition for resources is deadly. Only the fittest survive. Plants which can grow taller, or more bulky, or have better root systems or more efficient leaves will squeeze out smaller or weaker plants. That is why rank and dense vegetation is so much poorer in species diversity than short, open and thin swards.

Left to itself, a habitat will tend towards density and species-poverty as the great competitors gain the upper hand. Management such as mowing aims to level out competition by reducing the vigour of the tall and bulky species, providing the opportunity for the smaller plants to survive. Often these small plants, because they are so uncompetitive, are rarer.

### **Succession and competition**

Succession and competition are intimately inter-twined.

Early successional habitats are generally open and provide space and light for the smaller species to thrive. Competition is minimal. As succession progresses, the tall vigorous plants bulk out and dominate the habitat, out-competing the small species, which are excluded. This is why early successional habitats can often be so much more diverse. As a result, management to reduce competition is often the same as management to hold back the natural succession.

### **Making management decisions**

There is often disagreement about what is the best management for a site, even among conservationists. There is much we do not know – such as how big a block of habitat needs to be to maximise diversity. Local people may have a very different view of what makes a nice landscape and do not like to see changes to familiar places. These might include clearing trees, making sites wetter or introducing grazing. The Management Plan is the place to resolve any concerns. The Management Plan is a document that explains how a site will be managed and why those management decisions have been taken. It should provide a clear explanation of the issues faced by a site, and how the managers are responding to those issues. Because it's a written document that everyone in the local community has access to, it allows everyone to understand what is being done in their local fen. All the LOHP's sites have a Management Plan, available in the website archive.



***Several LOHP sites have needed radical work to turn back the succession clock and regain their diverse wildlife communities (Bleyswycks Bank)***

### **Mike Harding**