

Catfield Fen. Public abstraction consultation November 2014

Historically, some of the best Norfolk reed came from Unit 11 and unit 3 of Catfield Fen while [REDACTED] was the owner. He was also President of the National Reedcutters Association. See Colin Firman's notes for sites that he has cut reed on. Because we had been unable to gain access to conduct a topographical survey on Unit 11 in the past by the landowner, between 20th November and 23rd November Andrew Alston visited Catfield Fen (units 11 & 3). The aim was to compare maximum water levels in the ditches with marsh surface height. In addition, recent ph readings on Catfield Fen had indicated that there was a relationship between marsh height, in conjunction with water flowing over the marsh, and ph. There had been 25-30mm of rain leading up to these visits and the water levels in Catfield Fen were over the maximum and the water was over topping in the South East corner. Many of the marshes had been cut recently which has given the opportunity to estimate the height of the marsh above water level. Some of the later pictures are from previous visits to Catfield Fen at a time of maximum water level.

1. The water levels on the internal and external systems were about the same (5.7 on internal gauge just inside Rond entrance) and water was flowing over the low bund in the South East corner about 2-3 inches deep. The gauge near Mill marsh was over the maximum at 6.9.

The water flowing over the low bund was probably the most I have ever witnessed.



20th November. Gauge on internal system showing water level at 5.7.



20th November. Water flowing over low bund in S East corner of Catfield Fen at a rate of 4-5 cubic meters per minute.

2. Butterfly Sanctuary- inside Rond First marsh on Left hand side. Currently cut for sedge by Andy Hewitt. Ph 6.55-6.73 (Parmenter June report samples 18-20)





23rd November .Water is accessing the surface of the sedge bed. The main sluice is only 40 meters away where near neutral water from the external system can get past the sluice on occasions. The marsh has a long history of traditional sedge management and it's quite clear that the surface is below the ditch water level. However Parmenter took two other samples from this marsh (16 & 17) which had a ph of 6.42 & 6.22. This is a site which is not in commercial production now and is marginally higher, water has difficulties flushing the site hence the slightly lower ph.

3. New pond dug around 2012 on Mill Marsh West



Pond has water in it but the surrounding land is very high and dry. Mostly couch grass growing around it. Water cannot access land around pond.

4. Butterfly Sanctuary. Mill Marsh West (Western strip nearest pond)



Site of Fen Orchids. Very dry, in comparison to other marshes, lots of trash and tall plants. Around the edges are scrub and tall plants. Reed was historically cut on this marsh.



This had recently been cut quite high by RSPB. Note that the Sphagnum moss is growing on elevated tufts above the water level but low enough to escape the cutter. Traditionally this was a reed bed but there are very few reed plants in this marsh today. Scrub has built up since the previous mowing and the marsh has very little water on the surface. There are no pH comparisons from Parmenter for this marsh

despite the claim that ph is affecting Fen Orchids



Attempts have been made to burn trash. But trash has built up to be above ditch water level. Reed was historically cut on this marsh.

Butterfly Sanctuary. Mill Marsh West. Central section



A good attempt by RSPB to get management correct. Trash has not been burnt but at least some water is accessing marsh. Reed was historically cut on this marsh.

Butterfly Sanctuary. Mill Marsh West, nearest Mill



Recently cut marsh, trash has been burnt but water cannot access surface of marsh. Historically reed was cut on this marsh.

5.Middle marsh





Pictures are taken from the Mill looking towards Ballscroft. The newly cut stubble is very high, there is no water on the marsh and consequently no flushing of water, so it's not surprising that ph's are very low. It will be interesting to follow the management of this marsh to see what happens to the swaths of material. The ph samples are 4.66-5.05. Water quality samples from 2013 show that the ph of the water entering the system from Lodge road was 7.61. This is historically a marsh left for shooting interests. Without taking 30cms of the marsh surface away, it's difficult to see how to restore the marsh. Marsh has a grass track mown around the edges about 18 inches above water level. Pin rush has appeared now which shows marsh is not cut regularly.



ph is 5.92-6.21. Marsh is relatively dry as water has difficulties accessing marsh from ditches. Historic use seems to have changed from shooting to conservation but the management of the fen surface may not have altered much.

6. Mill Marsh or Mill Dyke marsh

Use has changed from Sedge to conservation. The ph samples are 5.92-6.43 with the lowest ph on the highest area of the marsh. Water does seem to have difficulties accessing marsh

7. Long marsh



Ph of this marsh was 6.28 & 6.92. The higher figure was closest to the low bund in South East corner where external water which is close to neutral can access site. The lower figure of 6.28 was from the higher part of the marsh where water has difficulties accessing the marsh. It's clear from this picture that the marsh has been cut fairly long and no burning has been carried out. The reed seems to have been cut on this marsh for many years which may explain why ph are generally OK .

8. South Marsh

No pictures available as access is not available. The ph samples are 6.42-6.7. The position of the 6.7 reading is close to the drain that feeds Catfield Fen from Church wood direction and access of water to the marsh is not restricted. The ph of water from the drain near Church wood was picking up liming products from nearby arable land via surface later water movement above clay layer. The marsh was used for sedge, now conservation. Water quality sample shows that the ph of the water at Church wood was 7.18.

9. Rose marsh

No access to site. The ph sample was 6.91 indicating good flow of water across marsh. The marsh was a sedge bed and is now a wet reed bed.

10. Sluice management

The "default" position (RSPB management plan of Butterfly Sanctuary) is to keep main sluice just inside the Rond closed. There is a one way rubber flap in the sluice but this is above water level and useless. Water in external is some of the best in

Broadland. The old sluice in the middle of the marsh has not been opened for years and is probably rusted up. The site therefore relies totally on rainfall and surface water to access marsh surface from ditches that feed the fen. Traditionally the sluice was used to raise water levels before young growth grew and opened in the summer time if internal water levels fell. (see scan 1061 Colin Firman notes and BRASCA response)

About 15 years ago an extra board was put into the sluice to further raise internal water levels as terrestrialisation increased marsh height. This made surrounding arable land wetter than it had been and forced water onto the Fenside road.

11. Ditch management

Ditches now are much wider and deeper than historically. Flat bottomed boats were used as opposed to boats with hulls that RSPB use today. Historically ditch maintenance was carried out by hand and so depth of the ditch was difficult to achieve, hence flat bottomed boats were used.

Ditches are kept open and free of weed on Unit 3 but Unit 11 requires attention to allow water to access around the site. Water can only access Unit 11 from Church wood ditch which is currently choked by weeds and from Lodge road. The main source of water is through the sluices but as one is rusted up and the other rarely used, it's easy to see why summer levels fall when plants begin to use water. The spoil recently has been placed on the ditch shoulder to dry out. This is preventing water from accessing the marshes.





Conclusion

Catfield Fen is probably the only internal floodplain fully closed off from the floodplain in Broadland.

Terrestrialisation has been an issue for a number of decades and the recent management has been to raise water levels rather than deal with the problem of raised reedbeds. We have now reached a point (and we may have reached that point a few decades ago) where some of the marshes are too high above the water for water to flush the marshes. The pH readings by Parmenter show lower readings by around 0.5 than laboratory tested water but still show a range of values. The higher the marsh is above the water level, the more difficult it is to flush the marsh and the lower the pH seems to be. There also appears to be some neutral or marginally alkaline water entering through the main sluice, from Lodge Road and from Church wood.

There has been a change from traditional reed and sedge cutting as the main income, to the main income being RDPE stewardship payments plus a small sedge income. There has been a change in water level management at the main sluice. There has also been a change to only accepting water of a certain quality to be allowed into the site but the water in Barton Broad is some of the best in Broadland. This has changed the focus of the land managers to the point that the ecology is changing away from the designations in 1989 and the views of that time as to how the SSSI should be managed.

Sphagnum moss appears to be expanding on Mill marsh West but these photographs show that current management techniques are doing little to stop its spread. Fen Orchids do not like competition from tall plants. The current management of extended cutting rotation cannot be helping the Fen Orchid population. In addition Sphagnum can give off Hydrogen ions which can turn water acidic, so managing the Sphagnum problem becomes essential if Fen Orchids are the priority. This can be achieved by better preventing terrestrialisation, lower cutting of plants, burning and better water flow across marsh surfaces. None of which are related to abstraction.