Broadland Flood Alleviation Project

Dan Hoare 2007

Flood defences along the River Yare, and throughout the rest of the Broads, are currently undergoing major long-term improvements and maintenance. This is part of a large-scale Public-Private Partnership initiative known as the Broadland Flood Alleviation Project (BFAP). The reserve at Wheatfen is not directly protected from the influence of extreme flood events, either from heavy rainfall or sea surges (or both together), so the risk of inundation is ever present. As Wheatfen lies within the tidal fen and woodlands that makes up a large proportion of the Yare valley between Norwich and Rockland, this condition is an annual fact of life. The frequently closed reserve paths in the winter months are testament to this.

The principle reasons behind the extensive engineering plans unfolding along the Broadland waterways are the settlement and erosion of existing banks. The combined threat of sea level rise, as a result of global warming, adds further incentive to make good those defences. Acres of grazing marsh lie behind the flood banks of the River Yare, especially in the valley downstream of Wheatfen, not to mention people's homes and property that they have come to expect to remain dry. So how great is the flood risk? And where does the future lie for unprotected areas, especially those lucky enough to share the wealth of natural historical interest that Wheatfen supports?

Official figures give sea-level rise to be 6 millimetres per year at Great Yarmouth. There are also indications that seasonal rainfall patterns may change, bringing about increased river heights, at different times of the year to those experienced presently. Increased water levels, from whatever cause, present a number of issues that impact upon habitats important for conservation. If high water levels persist for long periods, plant species that cannot tolerate their feet too wet will either have to make a slow march to higher ground or face a soggy end. Salty water penetrating further inland as sea levels rise is another scenario that has far reaching consequences for the flora and fauna currently in residence at Wheatfen.

But hasn't all this happened before? The presence of marine clays deep under the river silts and peat has shown that the Broadland Rivers once formed part of a great estuary in Roman times. The natural communities that existed then clearly adjusted as the sea levels progressively dropped to their present height. During the Roman period however, the impact of human activities upon natural flooding was minimal and there would have been time and space for plants to recolonise in areas close by as water levels changed. In today's situation, the mix of valuable land utilization along the valley floor requires that agricultural or domestic assets be protected from inundation, with far less space available for natural ecosystems. As such, any significant rise in water levels must result in flooding somewhere, as water is now restricted and cannot spread across the full extent of its historical floodplain.

With water levels now invariably rising, this could mean an undefended area such as Wheatfen becoming increasingly wet. However, the design of many parts of the BFAP scheme appears to accept the value of undefended areas. This is not just for their capacity to store floodwater, but also for conservation purposes and the potential to revert previously defended areas back to a more naturally functioning floodplain. By rolling banks further back from the river edge, having designated flood areas (often pasture land) and detailed modelling of where water will go, the aim is to ensure that overall water capacity is increased within the present floodplain, but without drowning important conservation areas. The works have created new habitats, with reeded ronds forming a valuable role in protecting banks from erosion.

The work programme aims to bring all 240km of Broadland's flood banks up to 1995 levels, thus areas flooded in 1995 will remain at periodic risk. What remains to be seen is how accurate the water level predictions are, as at some point in the future, the improved banks may again become insufficient. The issue of whether embanked flood defence within river flood plains is a sustainable option in the long term will continue to pose many economic questions. What cannot be denied is that wilder areas, like that at Wheatfen, have persisted over time through adaptation and acceptance of the water regime they are influenced by. Effective conservation of habitats and species, in the much-modified modern environment, therefore requires a similar responsiveness by us as guardians and opportunities to expand the natural floodplain area will help to maintain such a valuable remnant of the Yare's tidal swamp. Your continued support of the Trust and its work is a vital element in this process.