

Wildlife on the level?

Political and personal opportunists use the flooding of the Somerset Levels to advance their agendas – and the rational middle ground disappears amid the mists of a changing climate.

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According to the journalist Christopher Booker, writing in the *Sunday Telegraph*, 9 March 2014, the recent severe flooding of the Somerset Levels was down to a lack of dredging of the River Parrett, itself a consequence of the Environment Agency following EU directives that put wildlife above “peoples’ homes and farmers’ livelihoods” and has nothing to do with ‘climate change’ (aka global warming caused by carbon dioxide emissions). According to George Monbiot, writing for *The Guardian*, dredging will have no effect (informed by talking to EA specialists in the area) and the lack of dredging was a decision taken to protect the wildlife – and climate change (aka global warming) is to blame for the excessive winter rains.

A contested landscape

In the blue corner, we have an avowed anti-environmentalist and anti-EU writer who is also a global warming ‘denier’ (to use *The Guardian’s* terminology). In the red-green corner, we have an avowed environmentalist and defender of the UN and EU’s model-based assessment of climate risk. The referee in this public debate is an anti-environmentalist, slightly anti-EU, warming-skeptical environment minister and within a month of the flooding, he apparently backed the dredgers and added talk of a barrage and sluice gates on the hitherto freely draining River Parrett. Owen Patterson is promising £20m for the contractors and maybe a total of £100m if the barrage is approved.

It is not easy to disentangle fact from convenient fiction, and most people will not bother. They will go with their tribal loyalty or economic interest. I live in Somerset, on high land just above the flooded Parrett catchment. Homes are regularly flooded, and although this has been the worst in living memory, it is not unprecedented. A century ago, the Levels flooded every winter and the wetlands were internationally important for waterfowl. In the post-war years, agricultural interests and drainage boards created new rhines, pumping stations were installed, peat workings were extensive, and crops were grown on the peaty soil. The combination of draining and cropping shrank the peat-rich soil, bringing large areas beneath the winter water levels of the drainage canals – in the northern moors (Meare Heath, Ham Wall, Shapwick Heath), as much as two metres. The Levels rapidly lost their wealth of breeding bird species on the wet pastures and winter wildfowl flocks were diminished.

In the last few decades, the RSPB began purchasing the worked-out peatland, reshaping the pools and creating artificial reed-beds in the Avalon Marshes, adjacent to Shapwick NNR. The resultant mosaic of open water, reed and alder carr relies upon the pumped drainage systems and sluice controls on the Huntspill ‘River’ (a drainage

canal). On the southern moors, where drainage is more natural, and wet-meadows the main interest – with RSPB having extensive holdings, the Environment Agency has instigated ‘flood control’ with extensive engineering works to protect property and transport links. These moors have also dried out. The RSPB on its Sedgemoor reserve does its best to keep the ground wet enough for breeding waders – without a great deal of success, since there has been a long-term decline of wetland birds. Adjacent areas also have significant acreage under agri-environment schemes that target water levels and hay-cropping regimes, but maize-growing with its fertiliser use, pesticides, and soil loss has been increasing, and some voices claim that, particularly in the upper catchment, it has increased silt levels. The Environment Agency suggest that dredging a narrow river would not alleviate the damage from such a major flood and would devastate the wildlife of the river.

Politicians tend to make rash promises in knee-jerk reaction to public outrage – and this is a high-profile opportunity for opportunists on both sides. In the green corner, there is a chance to bang the drum for action on climate change, and efforts to enhance the established wildlife. In the blue corner, farmers press for money and engineering solutions which no doubt include local dredging contracts. The sight of long-suffering home-owners repeatedly hit by years of flooding creates a ‘something must be done’ alliance that hardly favours wildlife protection at the expense of homes. It is a stage set for political anti-environmentalists to take a swipe at the perceived metropolitan wildlife huggers as well as subservience to EU directives on habitat protection.

For now, it looks like the more fundamentalist farming camp has won the day and put back many years of conservation work on the Levels. But in my view, conservation arguments have played into the hands of its opponents. The focus has been on bad-farming practices, soil loss, silting, upland grazing, soil compaction and the potential of ‘ecosystem services’ for flood protection – all very rational, but it has not cut it with the public. None of these factors have been quantified for this region and I doubt the data exists. Voices raised for a back to nature, end-of-subsidies future do not communicate compassion and understanding nor represent the quieter long-term working together that has been the policy of RSPB and the Wildlife Trusts.

The Levels’ legal status

It is odd that no one seems to have adequately communicated the special wildlife value of the Levels. It is a Special Protection Area (for birds) – and thus has legal protection under an EU directive. The subject for protection is actually the winter residential and migratory wildfowl – ducks and swans, rather than the meagre summer breeders. *These* depend upon the Levels flooding every winter. So one thing is clear – the EA were acting correctly by allowing the river to silt up and the Levels to flood. Booker does not mention the SPA nor the legal obligation to protect migratory birds. The EA were simply caught out by the amount of rain – but had themselves to blame for the engineering of the Parrett embankments that protected low-lying farmland and homes that perhaps should not be there – much building has been allowed on the assumption that big floods were a thing of the past.



Flood impacts on the Somerset Levels in Winter 2014. How can farming stay resilient to extreme events?

The amount of rain was exceptional – but only at a regional level in an otherwise wet and mild winter everywhere in Britain. The watershed was overloaded and already primed for this ‘disaster’ by policies of trying to confine the river. As the EA reportedly said, deepening the narrow river channel will not contain another such flood.

So here we have it: overly engineered rivers, poor floodplain management, bare catchments, soil loss, and the potential to withdraw management, rewild the river flow and create wildlife habitat in marginal agricultural land. It is a classic case for the argument of ecosystem services and integrated landscape-scale management. But we have polarised politics with both sides guilty of opportunism, and it looks like wildlife will come second to ‘homes’ and ‘livelihoods’. Unless, of course, someone stands up for the *law* – meaning not some nameless EU bureaucratic directive, but our international obligation to protect migratory species. In this the law is clear – neither farming nor housing in an otherwise marginal agricultural region should compromise those obligations.

If there really were a budget of £100m, I would like to see a study of strategic purchase and rewilding of marginal farmland, re-meandering the river, and protecting only residential areas and roads. It would likely be money better spent than more engineering on the river that ultimately may not solve the problem.

And that problem *may* be climate change, but perhaps not in the way many people assume. The proximal cause of the rains this winter has been a 'stuck' Jetstream. The Met Office press team issued its customary 'may be linked to global warming' statement by the head of science, Julia Slingo, only to be contradicted by their advisor who works on the Jetstream (Professor Collins, Exeter University), who reportedly said he did not know where she got that idea from – since all of the 'warming' models predict an opposite shift of the Jetstream. In fact, there is a burgeoning science literature on the southern shift of the jets being linked to the magnetic status of the Sun. The solar magnetic fields are lower than ever recorded and this has given rise to suggestions of a Maunder Minimum (which would result in several decades of cooling) for the northern hemisphere, as I predicted in 2009 in *Chill: a reassessment of global warming theory*.

But of perhaps greater importance than who is right in interpreting the climate data, is the fact that the left-liberal-green press will not cover this inconvenient science nor report Professor Collins contradicting his boss (it was reported in the *Daily Mail*). Nor will they tell their readers that the decade 2003-2013 was *cooler* than 1993-2003, or that North Atlantic sea surface temperatures are also in decline. The Jetstream shift southward from 2007 onwards has nothing to do with global warming because there is no warming in the last ten years – at least not on the surface, where it matters. If the defenders of the models are right and 'missing heat' has been dragged down to the deep ocean, even though no models predicted it, then it is not going to come back to haunt anyone for several hundred years.

So what caused the winter monsoon?

The solar far-UV flux normally heats the stratosphere but it declines rapidly at solar minima as we have at present. When the flux is high the polar vortex is tightly confined by the jets thus keeping cold Arctic air well to the north, when the flux is low, the jets weaken and the polar vortex spreads out southward. The weather can also get 'stuck' for months with one particular loop of the Jetstream dominating a region. The UK got a stuck loop of cloud and rain from the south – hence the mild winter. The eastern and southern USA got the opposite, a down-loop and the polar vortex sitting over central North America, bringing record cold and snowfall. That geography could easily reverse.

In conclusion, I would say to government: expect more episodes of heavy rain, at least until the Jetstream shifts further south, and then expect much drier and colder conditions. To the farmers of the levels I would say: the future is bleak in such marginal conditions, so why not seek a partnership with the wildlife interests and completely shift the focus. And to the RSPB and sundry environmental pundits who have nailed their colours to the carbon mast, I would say you have done wildlife a great dis-service, by playing into the hands of the anti-environment lobby. Better to have stuck to areas of real expertise and years of steady cooperation with the farming community.

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