



**a million  
voices for  
nature**

## **RSPB COMMENTS ON THE OUTPUTS OF THE SEVERN TIDAL POWER FEASIBILITY STUDY**

The RSPB welcomes the opportunity to share its views on the outputs of the Severn Tidal Power Feasibility Study. We think that there is much to be learnt from the process that should inform future discussions about the deployment of low Carbon infrastructure. Here we include a commentary on the process, the geomorphological impacts and the interpretation of the regulations.

### **Scope of study**

While it was understandable, from a political perspective, why the UK Government chose to put a spotlight on the Severn and determine how best to harness the power of the estuary, the case for need was not clear and as a result, the debate became divisive. The process would have been helped by establishing the contribution that tidal power needed to make to help move towards a low C economy. This would have provided the right context and justification for exploring the potential contribution from the Severn, compared to other estuaries.

### **SEA Environmental Report and the Severn Embryonic Technologies Scheme**

The RSPB welcomed DECC's decision to conduct a Strategic Environmental Assessment of options for harnessing tidal power in the Severn, and is grateful for the opportunities to provide input through participation in the Steering Group.

The SEA process made a thorough analysis of the five options selected, generating a wealth of valuable information to inform any future proposals to harness the Severn's tidal energy resource. Unfortunately, however, the process for selecting those options was defective in our view, undermining the prospects for finding an acceptable scheme to take forward. The short-listing process over-emphasised technical and economic considerations, thereby favouring established technologies such as large barrages to the exclusion of schemes that seek to minimise environmental impacts from the outset.

While we wholeheartedly welcomed DECC's decision to provide some financial support to the Severn Embryonic Technologies Scheme for technical development, we believe that the decision to exclude these schemes from the full SEA process was a mistake and that it unfairly disadvantaged the SETS developers.

Looking forward, and notwithstanding current financial constraints, we urge Government to provide further funding for research and development on environmentally benign tidal energy technology, and to send a clear signal to the engineering community that, when the debate about harnessing tidal power from the Severn reopens, it would expect all designs to take environmental considerations into account from the outset.

**The RSPB**, The Lodge, Sandy, Bedfordshire, SG19 2DL, Tel: 01767 680551

**Patron** Her Majesty the Queen **President** Kate Humble **Chairman of Council** Mr Ian Darling FRICS **Chief Executive** Dr Mike Clarke

The Royal Society for the Protection of Birds (RSPB) is a registered charity: England and Wales no. 207076

## **Reports to inform Stage 1 and Stage 2 Habitat Regulations Assessments**

These reports serve to confirm the scale of damage that all of the short-listed options would entail, with each having an adverse effect on the integrity of multiple features on multiple Natura 2000 and Ramsar sites.

We note that analysis for both the screening and Appropriate Assessment Reports has been limited to the consideration of Natura 2000 sites and Ramsar sites within the UK, on the basis that the Habitats Regulations, and the jurisdiction of the UK Government and its agencies apply only to Great Britain and Northern Ireland. However, the same cannot of course be said of the Habitats Directive, which applies across Europe. Therefore, any future Habitats Regulations assessment(s) of any option(s) for tidal power generation in the Severn (or elsewhere) must consider effects on all Natura 2000 sites, regardless of their location. This would be in line with the approach adopted by other Member States (e.g. the Appropriate Assessment of offshore wind proposals in the Dutch North Sea which considered effects on biogeographic seabird populations, including UK breeding colony sites).

## **Hydraulics, Geomorphology, Flood Risk and Land Drainage**

It is clear that a significant amount of work has been done to investigate the likely impacts of the short-listed options on hydraulics, geomorphology, flood risk and land drainage. However, the value of this is clearly compromised by the high levels of uncertainty around some predictions and limitations associated with the age and paucity of baseline data (an issue which we have raised throughout the STPFS process).

We must also reiterate our comments made in response to both the Phase 1 consultation, and to the SEA 2 H&G Technical Workshop, that the effects of sea level rise and climate change cannot be used to discount the effects of a barrage or other tidal power construction, as there is a separate obligation (under Article 6(2) of the Habitats Directive) to address those. In addition, there is broad agreement amongst the scientific community that protecting, buffering and extending the best sites for wildlife is essential to buy species time to adapt to climate change. Any attempt to discount damage done now against that which may later occur as a result of climate change is therefore logically – as well as legally – flawed.

The results of the hydraulics, geomorphology and flood risk analyses confirm that the hydraulic and geomorphological impacts of all of the short-listed options – and of the Cardiff to Weston barrage in particular – are as severe, if not more so, than previously suggested. For example, the results are broadly consistent with the predictions made by Pethick, Morris and Evans (2009)<sup>1</sup> before the detailed STPFS work had been undertaken.

In particular the results highlight the extent to which technologies often promoted as beneficial to reducing flood risk could in fact exacerbate it, with the Cardiff-Weston barrage predicted to increase flood risk over an area of 372km<sup>2</sup> containing 45,436 residential properties, 5,037 non residential properties and 28 critical infrastructure assets<sup>2</sup>. They also highlight the extent to which barrage development could exacerbate the erosion of existing flood defences, with the cost of revetment works to address this for the Cardiff-Weston barrage option being estimated at between £672 million and £2, 015 million.

---

<sup>1</sup> Pethick, J.S., et al. Nature conservation implications of a Severn tidal barrage – A preliminary assessment of geomorphological change. *Journal for Nature Conservation*, (2009), doi:10.1016/j.jnc.2009.04.001

<sup>2</sup> These figures are taken from the Flood Risk and Land Drainage Topic Paper – it is noted that these do not match those presented in the STPFS summary report

Both prior to, and during the life of the STPFS, the RSPB has criticised the inappropriate focus on La Rance as a comparator for the Severn, and we note that the results of the STPFS reinforce the value of the Oosterschelde storm surge barrier as an analogue – in particular in relation to flood risk issues. We therefore warmly welcome inclusion of the Analogues report at Appendix 2 of the Hydraulics and Geomorphology Topic Paper and broadly endorse its assessment of levels of confidence in, and the relevance of, the analogues identified to the Severn case.

### **Compensatory Measures and Equal Value**

The RSPB broadly agrees with the main findings of the assessment of the nature and magnitude of the main compensatory measure requirements identified by the strategic level study, and which of those is, or is not, likely to prove possible to supply on a "like for like" basis. In general, the assessment confirms the RSPB's view that the ecological impacts of the short-listed schemes would be severe. This is manifest in the efforts to consider so-called 'equal value' compensation due to the inability to identify suitable measures to compensate for key impacts: this strains the limits of what could be considered "sustainable".

The RSPB considers the approach to "equal value" compensation outlined in the SDC paper and the underlying report to be flawed, both legally and from a conservation perspective. It argues for a system of species or habitat "substitution" but fails to justify this in legal or conservation terms. It essentially accepts that network coherence cannot be protected for the impacted species and habitats, thus undermining the purposes of the Habitats Directive. We are disappointed that the SDC report fails to acknowledge legal advice received from WWF and others.

At the other end of the spectrum, the RSPB would suggest that the approach adopted to the definition of "like for like" compensation is sometimes too narrow and unduly constrained. A key reason for this is that it frequently fails to adopt a functional and purposive approach to the compensatory requirement or understand its relationship with the delivery of favourable conservation status (FCS), especially at site level. As a consequence, options that could support FCS at site or network level are unnecessarily ruled out e.g. the role of saltmarsh in supporting waterbird populations as an alternative to intertidal mudflat provision in locations where roost availability is known to be a limiting factor on foraging.

In this context, we do not agree with the blanket branding of any managed realignment compensation for birds at a distance from the Severn Estuary as "non like-for-like" compensation. The situation is more complex and requires more detailed, and case-specific consideration. This is recognised in relation to recommendations for future work, but that complexity is generally downplayed elsewhere in the report.

We disagree with an approach that considers there is greater flexibility in the compensation options for SAC features that are not a "primary reason for selection" compared with those that are a "primary reason for selection". The EU Habitats Directive draws no such distinction in terms of compensation provision.

The RSPB is concerned that socio-economic impacts were included as a criteria for evaluating compensatory measures, although we note that no options were excluded on this basis. While we would accept their listing as a factor to be aware of for future planning purposes, they should not have been included as a weighting factor in considering the viability of possible compensatory measures.

### **Regional Economics Impacts**

Much local and regional interest in a Severn tidal energy project has been focussed on the prospect of a Severnside economic windfall. The feasibility study reports a set of economic impact estimates<sup>3</sup>.

The Cardiff-Weston barrage (by far the largest scheme and associated impacts) with a cost of £20.5bn and construction taking 9 years is expected to generate a net regional benefit (as a central estimate) in terms of GVA of £2.4bn. In terms of employment, the estimate is for 840 net additional jobs per year during construction and 120 during operation, with this latter figure being based on a range from +800 to -2000, in recognition of the fact that potential negative impacts on the ports industry could actually result in a net loss in employment – not much of a legacy from a £20 billion project. These figures include estimates of leakage and a local multiplier. Impacts of the other barrage and lagoon options are much smaller.

### **Letters to the EU Energy and Environment Commissioners**

The RSPB welcome the confirmation provided here that environmental legislation was not the reason for the Government's recommendation not to proceed with a tidal power scheme in the Severn at present, and the clear statement of the Government's support for the Habitats Directives tests. That said, we were somewhat surprised to see the Cardiff-Weston Barrage described as offering 'the greatest value for money' of the short-listed options considered by the STPFS, given that the decision not to proceed was attributed in large part to excessive costs and risks for tax payers and energy consumers.

However, the RSPB does not accept the fundamental premise of Ms Spelman and Mr Huhne's enquiry to the Commissioners – i.e. that large scale renewables projects cannot be delivered without impacts so severe that they cannot be compensated for within the current regime.

The RSPB has repeatedly criticised the folly of an approach which focuses on economic and technical considerations, without due regard to environmental impacts. It is unsurprising that such an approach has led to the identification of schemes which – when their environmental implications are eventually considered – have impacts so severe that they are impossible to compensate for on a like for like basis, and thus impossible to deliver without causing serious and irreparable harm to the environment in general, and Natura 2000 in particular. Instead, we would urge the Government to prioritise action towards finding less damaging schemes which bring impacts within the realms of the compensateable.

The RSPB supports the need for large scale renewables deployment, and recognises that this will not be possible to achieve without causing some environmental harm. However, all possible steps should be taken to avoid and to minimise damage. This is important not just to avoid needless harm but also to help secure public acceptability for these schemes – crucial to the success of the much needed low carbon energy revolution. We would argue that a process akin to the STPFS, if focussed on environmental sensitivities and impacts as a matter of primary concern from the outset, should be able to come up with the least damaging alternative means to harness large scale renewable energy – something that the STPFS has manifestly failed to do.

---

<sup>3</sup> Severn Tidal Power Feasibility Study Phase 2: Regional Economic Impacts Study Produced by the Welsh Assembly Government on behalf of Severn Tidal Power Feasibility Study Regional Workstream April 2010.

We acknowledge that even the least damaging alternative may, none-the-less, have significant – and potentially adverse - effects on the integrity of one of more Natura 2000 sites. However, we would argue it should be possible to achieve this within the realms of the compensatable – and would argue that any scheme which fails to comply with the Directives would not be sustainable – a point that was very clearly made by the SDC in their Turning the Tide Report in 2007, prior to the establishment of the STPFS (as presented on Page 15 of the STPFS summary report).

**RSPB**  
**January 2011**