

Somerset Rivers Authority Board Paper

Title: Sowy/King's Sedgemoor Drain Enhancement Project

RECOMMENDATION

The SRA Board is asked to:

1. Note the progress of the project, the concerns raised and the associated responses
2. Endorse the Environment Agency continuing to work with Natural England to develop the Sowy/KSD Enhancement Project to the point it can be compliant with Habitats Regulations, and then to go out to tender as soon as possible.

Purpose of the item

To provide the Somerset Rivers Authority (SRA) Board with an update on the progress of, and SRA member and stakeholder concerns relating to, the Sowy/King's Sedgemoor Drain (KSD) Enhancement Project and to seek endorsement of the proposed next steps.

Background and context

At the October SRA Board meeting the Parrett Internal Drainage Board (IDB) Vice Chair and Natural England (NE) SRA Board members voiced concerns relating to the Sowy/KSD Enhancement Project. It was agreed that both organisations should put their concerns in writing and that these would be considered at a special meeting (scheduled for January 16th).

- Concerns have now been received from both Natural England and the Somerset Consortium of Drainage Boards, with the latter suggesting that by agreeing to additional pioneer dredging, amongst other measures, their concerns would be mitigated.
- The current scheme proposal satisfies neither IDB members with interests in the lower Sowy corridor, nor the environmental NGOs. Furthermore, without further assessment it is not is legally compliant with Habitats Regulations. Therefore further delay to the tender process (now likely to start in April, not in January), presuming outstanding issues can be resolved.
- Letters have also been received from the NFU (supporting the concerns of the IDB) and the RSPB/SWT (requesting additional modelling work and expressing concerns at the impact on the wetland across the Levels, particularly on King's Sedgemoor, Moorlinch and their reserves at West Sedgemoor & Greylake).

Project Status

Strategic Benefits: an enhanced Sowy scheme enables more flood water on farmland in the Levels to be safely evacuated via lower risk areas in the Sowy corridor (with very few properties), rather than via higher risk areas adjacent to the Parrett – including Bridgwater.

Socio-economic Benefits: The scheme can realise a modest decrease in depth and duration of flooding across a wide area (around 6500 Ha), benefiting households, farmers and infrastructure, with relatively low ongoing maintenance costs. It will lessen the inconvenience of flooding for around 140 properties.

Mature project proposal: a comprehensive outline design and tender pack have been drafted, which will be compliant under water framework directive and protected species legislation. Studies for key protected species and heritage throughout the Sowy corridor have been completed. The scope of the Habitats Regulation Assessment (HRA) and Environmental Impact Assessment have been agreed with NE. Much of the content of the HRA has been drafted.

Consultation: The project team has spent many hours consulting with key stakeholders including Somerset Drainage Board Consortium officers and rate payers, the RSPB, Somerset Wildlife Trust and the Farming and Wildlife Advisory Group. SRA approved additional time and budget for the project team and their consultants to work with stakeholders, to try and bring consensus.

Preparatory work delivered: Works to enable the Sowy enhancement project have been completed: Beer Wall, Chedzoy flap and removing the A38 'lump of concrete'. Early next year the Environment Agency will de-silt KSD bridges at Parchey and Dunball railway. These works address the public's priority concerns over operating the system with higher flows.

Key Considerations

Project Maturity and Benefits

- The Sowy scheme is a mature project proposal, particularly compared to the pioneer dredging. It is likely that the dredging proposal will take another 12 months to reach the same level of readiness. Furthermore, the pioneer dredge will need to assess concerns that it could add complication and cost to the Bridgwater Tidal Barrier due to extra water being held behind the barrier. (The Sowy project does not further complicate the barrier scheme).
- The flood risk reduction associated with the Sowy and proposed dredging benefit the same area (140 properties) in peak events, but based on current modelling the Sowy scheme provides a slightly greater reduction in depth of flood risk, albeit further work needs to be done to check comparability of results. The Sowy scheme also delivers benefits in lower order (1 in 2 years) events, but there is no information yet on the benefits or disbenefits of dredging in these events.
- The Sowy scheme provides operational flexibility and lower on-going maintenance requirements. In addition, the unknown environmental impacts of dredging mean there is a greater risk of the dredging proposals being non-compliant under environmental law, especially as it aims to take water out of the floodplain and designated wetland areas.
- It is reasonable to assume that it is very likely that the combined effect of further pioneer dredging (which will further remove water from the floodplain) and the Sowy scheme cannot be made legally compliant. This could mean that only one scheme could proceed.

Costs and Funding

- The current cost estimates (taken over a 10 year period) suggest that the Sowy is slightly cheaper (NPV of -£6m versus -£6.5m for dredging). This gap is likely to widen beyond 10 years as the Sowy schemes requires minimal maintenance compared with the frequency of maintenance dredging.
- Further delays in LEP spend at a time when they are under Treasury pressure could risk reallocation of funds to other LEP projects.
- There is insufficient LEP funding for the Sowy based on current estimates –but there is a provisional plan in place, using underspend of this year's maintenance and pioneer

dredges, topped up by banking some shadow precept for 3 years prior to LEP run-out. This position will be reviewed once tenders have been returned.

Legal Implication: NE concerns

A significant challenge is gaining legal compliance under the Habitats Regulation Assessment, which has been worked on over the past 18 months:

- Recent modelling shows that the scheme is likely to result in a reduction in low level flooding both in the designated conservation sites of Moorlinch and King's Sedgmoor, and the remainder of the Sowy-KSD floodplain (nearly all of which is considered by NE to be supporting conservation habitat). NE believes this could adversely affect the Special Protected Area. As a result it would not be legally compliant and, as regulator, NE cannot therefore give consent to the scheme. NE have expressed a willingness to continue work with the EA to develop mitigating measures to enable the delivery of the scheme.
- The environmental impacts of the IDB proposed pioneer dredging of the Parrett are not yet understood. It should be noted that the proposed pioneer dredging would very likely face similar or greater challenges to HRA approval, as it will remove flood flows from the Sowy corridor.
- Before any additional pioneer dredging could be consented, the impact of combined effects of delivering both the Sowy and dredging projects would need to be understood. This implies that by tying the Sowy scheme to additional dredging there would be further delay to the Sowy, as the environmental impacts of the Sowy scheme plus additional dredging have not yet been modelled. (As the pioneer dredge has not been modelled and evaluated to the same extent as the Sowy scheme, this could add delays of at least 12 months).

Outstanding Stakeholder Concerns

The project team has addressed many stakeholder concerns with scheme design and proposed operation. But they have been unable to bridge the differing fundamental visions of how the Sowy corridor, and the Levels, should be managed: landowners and the IDB typically do not want land any wetter; whilst environmental organisations (RSPB & SWT) do not want land any drier.

SDBC: IDB members with interests in the Sowy corridor are concerned that Sowy/KSD scheme as envisaged will, in the worst case, increase flood risk for 5.6 hours on tidelock of similar magnitude to a January 2014 tidal surge, for some landowners (17) adjacent to the left bank of the KSD at Greylake and adjacent to the 18ft rhyme.

The IDB suggest mitigating measures, namely:

- pioneer dredging of two further reaches of the Parrett (between Oath Lock and Burrowbridge and from the downstream end of the recent pioneer dredge to the M5)
- operational measures (limiting the flow to current levels at high spring tides, amendment of trigger point level for deployment of pumps, pre lowering of water levels in the KSD and Sowy at onset of significant predicted rainfall)
- additional work on the heights of flood banks

The IDB's concerns are from members that farm in a particular section of the Sowy/King Sedgemoor Drain corridor. The IDB has not furnished EA with views of members in the wider Parrett Tone catchment. However the EA has had queries from members of the public in the lower Parrett area, asking why the Sowy has not been "run harder" in recent times of high flows.

The IDB letter considers a worst case scenario (the January 2014 tidal surge was the highest in 30 years), unrepresentative of the conditions most likely to be experienced most years. EA therefore considers the IDB's proposed mitigation measures as disproportionate to the level of risk presented.

- EA support limiting the flow at high spring tides and bank repair measures suggested by the IDBs and consider these would significantly reduce impact on landowners without the need for additional dredging or the other measures suggested (which would exacerbate the environmental disbenefits).
- EA consider the remaining impact on farmland in the Greylake/18 ft rhyne area to be minimal (1 or 2 landowners and around 9Ha) with operational mitigation in place – as they have discussed with IDB officers. However if damages could be demonstrated, the scheme (ie the SRA) would be liable for compensation.

RSPB and Somerset Wildlife Trust

RSPB is guarded against any change that: could impact on the wetland value of the Levels, their vision for greater floodplain water storage and are vigilant in ensuring due process under the HRA. Somerset Wildlife Trust are similarly minded. The EA welcomes their scrutiny and experience. Their letter to the EA of 21st December 2016 covers numerous points, including the scope of the HRA, effects on habitat value of moors beyond the Sowey corridor and proposals of alternatives to the Sowey scheme. The points below provide a summary:

- **Cost of the scheme:** RSPB question whether the flood risk benefits of the scheme justify the costs.
- **HRA Scope and evidence:** RSPB have requested more data to determine impacts of the scheme, and that in-combination effects should be considered for work already delivered by the SRA. The EA recognise that further work must be done under the HRA assessment. As expressed previously to RSPB, there is a finite budget to deliver the assessment and given the limitations of modelling, ultimately a pragmatic and proportionate approach will be required, using expert judgement. NE and the EA have committed to work together to progress the HRA.
- **Alternatives to channel enhancement:** RSPB continue to advocate greater use of floodplain storage as an alternative to the proposed scheme, despite public opinion from the Sowey feedback survey in 2015 and the survey by Richard Bradford (RSPB) in 2016 (funded by SRA) revealing little appetite from landowners and farmers on the Levels to receive more water.
- As landowners, RSPB have expressed concerns at the potential for their Greylake reserve to infrequently receive marginally more water under the proposed Sowey scheme.
- The Sowey scheme will not contain all flow in channel; there will still be regular flooding and floodplain storage, as has been demonstrated by modelling previously shared with RSPB. Although around 100 million m³ of water were stored on the moors in the 2013-14 event, this only represented around 20% of the total water entering the system: 80% was evacuated via river channels and pumping. Storage is important, but has a limited value to flood management during extended periods of rain, once the moors are full.
- The scheme will utilise 'soft engineering'. If, in the future, landowners would be willing to accept more water, more often, it would be relatively simple to lower sections of bank to allow increased flooding.
- **Impact on West Sedgemoor:** Regarding concerns over drying of West Sedgemoor, this area does not flood due to over-topping of the Parrett, but rather from rainfall within West

Sedgemoor's catchment. Therefore flooding occurrence is not directly affected by the Sowy scheme or pioneer dredging proposals.

- Evacuation of flood water from that area is controlled by pumping, as discussed during an EA hosted site visit with RSPB and SWT to West Sedgemoor pump station on 1st December 2015. This provides operational flexibility to leave water on the reserve if so desired, provided roads, houses and infrastructure are not at risk. The Sowy scheme will provide a benefit to West Sedgemoor in the summer, as flood water could be evacuated more quickly, if presenting a risk to breeding birds.
- The worst case example RSPB quote in their letter assumes that pumps would have been run as at the end of the 2013-14 flood, after water had been standing on West Sedgemoor for many weeks, and Stathe Road was submerged. In lower duration and depth events, there would be far less impetus to draw down water so aggressively.

The EA will continue to adhere to Water Level Management Plans at West Sedgemoor and elsewhere.

Recommendation:

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Date: 9th December, 2016

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