

Carnsew Sluicing Protocol As Agreed with the RSPB, Natural England and CC

1 The following protocol for the sluicing operations of Carnsew Pool has been agreed by Cornwall Council, Natural England, RSPB, the Environment Agency and HHAOL. Carnsew Pool is within the Hayle Estuary and Carrack Gladden SSSI.

2 The Hayle Harbour Act 1989 (HHA) gives Hayle Harbour Authority Limited (HHAOL – now HHAOL) powers to operate Hayle harbour. The general powers are set out in section 14 of the HHA. The limits within which HHAOL exercises jurisdiction as a harbour authority are set out in section 15. Section 17 provides for the protection of amenities.

Section 56 authorises the authority to operate the lock, water control sluices and gates.

3 This protocol sets out the agreed principles to be observed by the Company (HHAOL) in the use and operation of Carnsew Pool for sluicing operations.

4 There is a need to clarify the arrangements between HHAOL, NE, RSPB and EA to ensure stakeholders and interested parties have a clear understanding of their individual responsibilities.

5 HHAOL will be responsible for the management of sluicing operations from Carnsew Pool as empowered under the Hayle Harbour Act 1989.

HHAOL is a Section 28G body under the Wildlife and Countryside Act 1981 (as amended), it is therefore required under the Act to take reasonable steps, consistent with the proper exercise of its functions, to further the conservation and enhancement of the special interest features of an SSSI.

Where section 28G bodies propose to carry out an operation in the exercise of their functions that is likely to damage the special interest features of an SSSI, they must give Natural England written notice under section 28H of the Act. This applies equally to proposals being undertaken outside an SSSI but likely to affect it.

Natural England has advised HHAOL that the undertaking of sluicing activities falls within the scope of the list of 'operations likely to damage' the Hayle Estuary and Carrack Gladden SSSI and as such will require SSSI assent from Natural England.

5.1 HHAOL will produce a draft schedule that indicates potential sluicing days for the forthcoming year which will be forwarded to Natural England and the RSPB (as landowner at Carnsew Pool) also the Environment Agency (responsible for flood protection), annually by the 1st March. This will enable any unforeseen issues to be raised, discussed and agreed before finalising the Sluice schedule.

5.2 HHAOL will complete a method statement, appropriate risk assessments and a contingency plan for sluicing operations to ensure that any risks to employees or public are as low as is reasonably practicable (ALARP) which will be copied to all interested stakeholders. Warning signage will also be placed at public access points on the estuary foreshore.

- 5.3 HHAOL will modify or reduce sluicing if damage is being caused to the SSSI or surrounding privately owned land through sluicing. It is the responsibility of HHAOL to assess any damage (including to the ecology) and to restore any impacted locations in a timely manner. This information will be included in a contingency plan.
- 5.4 The sluicing 'window' will be from 15th April – 31st August as previously agreed with Buro Happold, the 'environmental consultees' and Cornwall Council *et al.*
- 5.5 There will be no sluicing outside the above period and no sluicing will take place on neap tides unless agreed by the RSPB, NE and the EA.
- 5.6 The penstock gates will remain in the open position during neap tides and also on Spring tides when sluicing operations are not being undertaken. This will ensure that bird feeding areas do not remain flooded for longer than is necessary.
- 6 As the effects of sluicing on the estuary are an unknown entity and to prevent risk of damage to the SSSI it was agreed that sluicing operations will initially only be undertaken **on one spring tide cycle = two per month** until it's likely effect on the SSSI features can be established. The available opportunities for sluicing are theoretically up to 20 impoundments per month at Carnsew for sluicing the navigable channel on the Spring tide cycle (this is because spring tide cycles last five days and occur twice a month giving an opportunity to sluice twice a day) but any change to the initial regime will need to be agreed by the environmental consultees through the annual review process.
- 7 HHAOL will take reasonable steps, consistent with the proper exercise of its functions under the Wildlife and Countryside Act 1981 (as amended), to further the conservation and enhancement of the special interest features of an SSSI and as such considers that the effects of its sluicing operations will require monitoring over the pilot five year period to encompass / identify:-
- 7.1 Whether the sluice operation is effectively transporting the sediment out of the Estuary and into St Ives Bay.
- 7.2 Geomorphological studies will be undertaken to identify changes in channel depth (and water depth in Carnsew Pool should scouring occur) and sediment transport. Depth measurements and deposition of sand following sluicing events should be compared with the charts produced by HR Wallingford's models. It is hoped the sand will be taken out into St Ives Bay – not simply deposited off Carnsew Spit where the risk of it returning on an incoming tide could carry it into Lelant Water. HHAOL considers that plough (maintenance) dredging might also need to be undertaken in combination to maintain the navigable channel. HHAOL will also continue to monitor the Navigational channel and sand banks with time line photography.

- 7.3 An annual review of the sluicing will be undertaken by the RSPB, NE, EA and HHAOL to ascertain progress and if no damage to the SSSI has occurred as a result of these operations consideration will be given to increasing the frequency of sluicing. It is the responsibility of HHAOL to provide the sediment and ecology information collected throughout the year to the environmental consultees to support the annual review of the condition of the SSSI and its features in relation to the sluicing and to inform the following years programme. The environmental consultees (NE, RSPB, EA) reserve the right to challenge submissions that are not fit for purpose or for proposals that we consider would damage the SSSI. The annual review will be completed at least one month prior to submitting further written notice under section 28H of the Wildlife and Countryside Act 1981 (as amended).
- 7.4 The relevant SSSI features potentially affected by the sluicing are 1) Aggregations of non-breeding birds - Variety of Wintering Species; 2) Estuary sand flats and mudflats; and 3) Saltmarsh. HHAOL have commissioned a company to undertake annual surveys and provide advice against baseline surveys to identify impacts of sluicing activity on SSSI features. Draft conservation objectives for the SSSI features are obtainable from Natural England and will be consulted as part of the monitoring programme.
- 7.5 Aquatonics Ltd have undertaken a number of studies covering all biota (including fish, invertebrates and mudflats) across the SSSI in recent years so there is now a good baseline to measure against.
- 7.6 HHAOL will as is necessary seek advice from Aquatonics Ltd or other such suitably qualified consultants regarding biological studies to identify if the important invertebrate assemblage in Carnsew Pool (upon which the 'wintering birds' – the SSSI *Feature* rely) and other notified habitat features are affected by the sluicing regime. This will be undertaken in consultation with Natural England.
- 7.7 HHAOL must monitor the mobilisation of heavy metals as a consequence of any sluicing and make an assessment of the impact on SSSI features. HHAOL has a testing programme in place with the Port Health authority to test for heavy metal contamination for three elements only: copper, tin (as TBT and other forms) and lead at the Carnsew mussel beds. Disturbance of other heavy metals due to sluicing operations such as arsenic and zinc which are known to be highly toxic to benthic invertebrates and also chromium, the cause of a recent pollution incident will be identified through additional sampling and fed into the annual review. This will be undertaken in consultation with NE, EA, RSPB.

Peter Haddock

Harbour Master

Hayle Harbour Authority Operations Ltd

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