

Navigation Committee

03 April 2025

Agenda item number 13

Construction, Maintenance and Ecology work programme progress update

Report by Head of Construction, Maintenance & Ecology, and Ecology & Design
Manager

Purpose

To provide the Committee with an update on the Authority's management activities to maintain public navigation, develop mooring facilities for public use and demonstrate the effective use of available resources in managing the Broads waterways.

Broads Plan context

C1: Maintain navigation water depths to defined specifications, reduce sediment input, and dispose of dredged material in sustainable and beneficial ways.

C2: Maintain existing navigation water space and develop appropriate opportunities to extend access for various types of craft.

C3: Manage water plants, riverside trees and scrub, and seek resources to increase operational targets.

C4: Maintain and improve safety and security standards and user behaviour on the waterways.

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1. Introduction

- 1.1. The detailed breakdown in Appendix 1 gives progress and volumes for the dredging programme for 2024/25 (April 2024 to end January 2025). A total of 21,910 m³ of dredged sediment was removed from the prioritised sites. This figure represents 60% of the programmed target of 36,630 m³ for the year.
- 1.2. Stalham Staithe dredging was completed. Phase 2 of dredging at Rockland Broad in the marked channel and Fleet Dyke connecting to the River Yare has also been resumed. Following this, dykes connecting Bargate Broad to the main river, and the nominal channel between the two dykes across the southern edge of the broad will be dredged. Once dredging has been completed and prior to the first water plant cut of the year, marker buoys will be placed to mark the maintained channel.

2. Maintaining safe public mooring facilities

- 2.1. North Cove 24 hour mooring has had a complete timber refurbishment and is open to the public. Work is currently on-going for a complete timber refurbishment at Cantley 24 hour mooring, which is partially closed to boats during the works. See Boating News page for more information [Update - Temporary Partial Closure of Cantley 24h Mooring](#)
- 2.2. Work has started to replace the timber piling at Ranworth Staithe, on the section at the western end where the trip boats depart from.
- 2.3. Aggregate topping up is a regular feature of the Maintenance team work in the lead up to the start of the Easter holidays. Ensuring that the surfacing at each mooring is durable, safe and complying with our standard specifications is an important aspect of the start of each season. As happens each year, but particularly so in the past few years, many of the moorings which sit closer to the water surface have been prone to repeat over-topping and washout of the path material. A recent review of mooring locations and surfacing material has concluded that we need to move to compacted crushed aggregate at the downstream Wroxham Island and Irstead Staithe 24 hour moorings. The continual wash out and collapse of the mooring surface means the less durable woodchip needs to be replaced with the harder wearing aggregate finish, to ensure on-going user safety and efficiency of maintenance.
- 2.4. For the more detailed reports on the minor mooring maintenance work completed, these are included in the Chief Executive's regular public [Broads Briefings](#).

3. Riverside Tree Management

- 3.1. A total of 1913 metres of riverbank has completed this winter. The breakdown was 418m on the River Ant, 503m on the River Bure, and 992m on the River Yare. See the maps here for where this work was planned and took place [Riverside tree & scrub management Plan](#). The initial target was 2421m for autumn/winter 2024/25, however one of the stretches on the Ant was removed from the programme due to the discovery of a natal otter holt. The single stretch on the River Waveney, was deferred to 2025/26

due to staff and contractor capacity issues. Given that just over 400m of additional tree management work was carried out in the previous year (2023/24), progress for the full five year programme is on track. For the full five year programme, see maps here [Riverside tree & scrub management five-year plan](#).

4. Channel markers

- 4.1. In 2015 new steel sheet piles were installed along the functionally required portion of Turntide Jetty, located at the confluence of the rivers Yare and Waveney at the top end of Breydon Water. This repiling was carried out following a review of the structure and what works were needed to secure the river training function in the long-term. The older timber portion of the structure was retained at the time, despite the decision not to replace that end portion in the future. Its structural condition has been regularly monitored since then and the potential hazard to navigation has been marked accordingly.
- 4.2. The most recent structural inspections have shown continued deterioration of the timber structure, to the point where individual timbers of significant size have become very loose. The risk of large timbers breaking off is now unacceptable, so work is planned for the Construction Team to mobilise in April 2025 and remove all of the remaining timber structure from the end of Turntide Jetty.
- 4.3. Once the timber structure has been removed a review of the channel makers leading up to and around the remaining piled part of Turntide Jetty will be carried out.

5. Our resources

- 5.1. At Mutford Lock one of the gates (comprised of two leaves) on the freshwater side of the lock have been lifted out completely for inspection and repair. A penstock sluice on one of the leaves had failed completely and the other was in very poor condition, so both needed replacing prior to the start of the coming season. As this work could not take place in-situ, it has required a closure of the lock, as detailed in the [Notice to Mariners](#). The work was planned to avoid the busiest parts of the season and also avoid the planned maintenance period on the bridges in Great Yarmouth, which would have effectively closed the Broads to larger vessels coming from or heading out to sea.
- 5.2. The crane lift of the gates was supported by a dive team who secured the lifting strops underwater. The dive team were also able to inspect the lock wall and fixing points in the areas normally covered by the wooden gates. Guidance and training from a team of lock specialists from the Canal & Rivers Trust (CRT) has supported this work. Application of the CRT standard lock gate inspection and condition assessment has been carried out and shared. Detailed analysis of the gate timber condition using a resistograph was carried out. This is a device that measures the resistance of wood to detect decay, cracks, voids, and cavities. Accurate measurement and drawing of the gates dimensions and construction have also been carried out and recorded for future use, as none were transferred when the Authority took on the site ownership.

- 5.3. The required repairs have all been completed. These have included: fitting brand new penstock sluice valves (which control water flow to equalise the water levels either side of the gates); recasting a new iron shoe to retain the base of the front post of one of the gate leaves; attach a protective GRP panel at the wind/water line on the two leaves, where some decay of the tropical hardwood has just started to occur; and remove, blast and recoat the handrails on the two gates.
- 5.4. The gates were reinstalled on March 14. After that, a few days were used to reconnect the hydraulics and electrics, run tests, and make sure everything was working properly. The lock is now operational, and the work was finished earlier than planned.
- 5.5. Through this process, the expertise, confidence and knowledge gained by the Authority team and our local contractors has increased immensely. As these repairs are to just one set of four gates, we are well set for the on-going inspection and carrying out any additional or larger maintenance works in the future.

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[Broads Plan](#) strategic objectives: C1, C2, C3, C4

Appendix 1 – Annual dredging progress 2024/25 (to end January 2024)

Appendix 1 – Planned percentage of operational staff time to be spent on all work types (year April 2025 – March 2026)

Appendix 1 – Annual dredging progress 2024/25 (to end January 2024)

| Project title Dredge site and sediment re-use location | Active Broads Authority dredging weeks completed/ planned | Planned volume removed m³ | Actual volume removed m³ | Planned annual project cost¹ | Actual project cost |
|---|--|---|--|--|------------------------------------|
| River Bure (continuation from 2023/24) Juby's Farm to Hoveton Viaduct | 28/27 | 17,900 | 12,810 | £190,710 | £198,850 |
| <i>Lagoon re-use site NB: Planned volume includes Bridge Broad (2,870m³) which is no longer part of the work programme</i> | | | | | |
| River Yare Rockland Broad (channels & dykes) | 17/26 | 13,500 | 8,850 | £190,020 | £101,480 |
| <i>Rockland Short Dyke & Postwick Marshes re-use sites & Postwick Tip. Running December to March</i> | | | | | |
| River Ant Stalham Dyke | 1/3 | 830 | 250 | £37,140 | £11,360 |
| <i>Hunsett Mill re-use site; work completed December 2024</i> | | | | | |
| River Yare Bargate Broad | 0/4 | 2,400 | 0 | £45,150 | £2,820 |
| <i>Postwick Marshes re-use & Postwick Tip. Running in February 2025 concurrently with Rockland dredging</i> | | | | | |
| River Thurne Catfield Dyke | 0/4 | 2,000 | 0 | £27,350 | £1,030 |
| <i>Deferred to 2025/26 due to delays in completing the Upper Bure project</i> | | | | | |
| Site restoration | - | - | - | - | £3,750 |
| Future site preparation Survey, mitigation & set-up | - | - | - | - | £3,640 |
| Dredging support activities | - | - | - | - | £5,500 |
| Total | 46/64 | 36,630 | 21,910 | 490,370 | 328,430 |

Appendix 2 – Planned percentage of operational staff time to be spent on all work types (year April 2025 – March 2026)

| Work type | Staff days planned - Days | Staff days planned - % of annual total |
|---|---------------------------------|--|
| Navigation | 2433 | 51 |
| <i>Dredging</i> | <i>1124</i> | <i>46</i> |
| <i>Mooring maintenance & repairs</i> | <i>849</i> | <i>35</i> |
| <i>Riverside tree management</i> | <i>43</i> | <i>2</i> |
| <i>Water plant cutting</i> | <i>225</i> | <i>9</i> |
| <i>Other navigation works¹</i> | <i>192</i> | <i>8</i> |
| Recreation² | 399 | 8 |
| Conservation³ | 1213 | 25 |
| Corporate⁴ | 751 | 16 |
| Total | 4796 | 100 |

1 – includes raising & disposal of wrecks, channel markers & buoys, gaugeboards & signage

2 - National Park funded work to facilitate public access and visitor services.

3 – National Park funded work to carry out priority fen management and other biodiversity restoration projects

4 – Corporate and other activities supporting work across all Authority duties, such as training and premises maintenance (60:40 split Navigation:National Park)