

## Navigation Committee

### AGENDA

**Thursday 4 June 2015**

**1.00pm**

	Page	Time
1. <b>To receive apologies for absence</b>		1.00
2. <b>To note whether any items have been proposed as matters of urgent business</b>		
3. <b>To receive Declarations of Interest</b>		
4. <b>Public Question Time</b> To note whether any questions have been raised by members of the public		
5. <b>To receive and confirm the minutes of the Navigation Committee meeting held on 23 April 2015 (herewith)</b>	3 – 12	
6. <b>Summary of Actions and Outstanding Issues following Discussions at Previous Meetings</b> Report by Administrative Officer (herewith)	13	
7. <b>Update on Mutford Lock</b> Report by Rivers Engineer and Asset Officer (herewith)	14 – 18	
8. <b>Status of Broads Condition and Use</b> Report by Director of Operations (herewith)	19 – 24	
9. <b>Riverbank Stabilisation Guide and Mooring Guide</b> Report by Planning Policy Officer (herewith)	25 – 38	
10. <b>Broads Plan 2011: Review of Progress</b> Report by Director of Planning and Resources (herewith)	39 – 63	
11. <b>Construction, Maintenance and Environment Work Programme Progress Update</b> Report by Head of Construction, Maintenance and Environment (herewith)	64 – 71	

	Page	Time
12. <b>Chief Executive's Report</b> Report herewith. For information only and to include <i>Tolls in Adjacent Waters</i>	72 – 84	
13. <b>Current Issues</b> Open forum		
14. <b>Items for Future Discussion</b>		
15. <b>To note the date of the next meeting – Thursday 3 September 2015 at Yare House, 62-64 Thorpe Road, Norwich commencing at 1.00pm</b>		
16. <b>Exclusion of the Public</b> The Committee is asked to consider excluding the public from the meeting under section 100A of the Local Government Act 1972 for consideration of the item below on the grounds that it involves the likely disclosure of exempt information as defined by Paragraph 3 of Part 1 of Schedule 12A to the Act as amended, and that the public interest in maintaining the exemption outweighs the public benefit in disclosing the information		
17. <b>To receive and confirm the exempt minutes of the Navigation Committee meeting held on 23 April 2015</b>		
18. <b>Marine Management Organisation and The Crown Estate Licensing of Works in the Broad</b> Report by Environment and Design Supervisor and Asset Officer (herewith)		

## **Navigation Committee**

Minutes of the meeting held on 23 April 2015

### **Present:**

Mr M Whitaker (Chairman)

Mr K Allen	Sir P Dixon	Mr J Knight
Ms L Aspland	Mr P Durrant	Mrs N Talbot
Miss S Blane	Mrs L Hemsall	Mr B Wilkins
Mr W Dickson	Mr M Heron	

### **In Attendance:**

Mr S Birtles – Head of Safety Management  
Ms E Guds – Administrative Officer (Governance)  
Mr P Ionta – Solicitor and Monitoring Officer (for Items 5/1-5/14)  
Ms E Krelle – Head of Finance  
Ms A Leeper – Asset Officer  
Ms A Long – Director of Planning and Resources  
Ms A Macnab – Planning Officer  
Dr J Packman – Chief Executive  
Mr R Rogers – Head of Construction, Maintenance and Environment  
Mr A Vernon – Head of Ranger Services  
Mrs T Wakelin – Director of Operations

### **Also Present:**

Prof J Burgess –Chairman of the Authority

### **5/1 To receive apologies for absence**

Apologies for absence were received from Alan Goodchild.

### **5/2 Appointment of Chairman**

The Chief Executive invited nominations for the appointment of the Chairman to the Committee.

Kelvin Allen proposed, seconded by Sholeh Blane that Michael Whitaker be appointed as Chairman until 13 May 2016. No other nominations were forthcoming.

RESOLVED

that Michael Whitaker be appointed as Chairman of the Navigation Committee until 13 May 2016.

**Michael Whitaker in the Chair**

The Chair invited nominations for the appointment of the Vice Chairman to the Committee.

Max Heron proposed, seconded by Brian Dickson that James Knight be appointed as Vice Chairman until the 13 of May 2016. No other nominations were forthcoming.

RESOLVED

that James Knight be appointed as Vice Chairman of the Navigation Committee until 13 May 2016.

**5/3 To note whether any items have been proposed as matters of urgent business/ Variation in order of items on the agenda**

No items had been proposed as matters of urgent business

**5/4 To receive Declarations of Interest**

Members expressed their declarations of interest as set out in Appendix 1 of these minutes.

**5/5 Public Question Time**

There were no public questions.

**5/6 To Receive and Confirm the Minutes of the Meetings Held on 26 February 2015**

The minutes of the meeting held on 26 February 2015 were confirmed as a correct record and signed by the Chairman.

**5/7 Summary of Actions and Outstanding Issues Following Discussions at Previous Meetings**

Members received a report summarising the progress of issues that had recently been presented to the Committee.

The Chief Executive fed back to the members that their recommendations on the 26 February 2015 were considered, however the Broads Authority (BA) decided that the best way forward for the disposal of Geldeston Woodland would be selling the land to Waveney Trust for the reasons sets out in their minutes.

Members noted the report.

#### **5/8 Appointment of Co-Opted Members to the Broads Authority**

In accordance with the provisions in the Norfolk and Suffolk Broads Act 1988 (as amended) and the decision of the full Authority dated 23 March 2015, the Committee was invited to recommend two Co-opted members to be appointed to the Authority until 13 May 2016.

The Committee noted that due to commitments Mr Alan Goodchild would seek to stand down as nominated appointed co-opted member to the Broads Authority.

Members highlighted that the term of appointment of the two co-opted members to the Broads Authority post 15 May 2015 should be an annual term in order to give more members the chance to take on his role.

The Chairman of the Committee is required to be a member of the Broads Authority and therefore Michael Whittaker was recommended for appointment to the Authority.

RESOLVED

that Mr Michael Whitaker and Mr James Knight, proposed by Lana Hempsall and second by Kelvin Allen be appointed co-opted members to the Broads Authority until 13 May 2016.

#### **5/9 Broads Plan Review & Stakeholders Action Plan**

Members received a report outlining the key stages in the Broads Plan Review and were requested to offer suggestions on topics that could be the subject of specific engagement/discussion as part of that review.

The Director of Planning and Resources highlighted that engaging with hire boat operators was one of the priorities of the Stakeholder Action Plan and that a meeting with hire boat operators was scheduled for 25<sup>th</sup> of June 2015.

It was noted that another priority of the Stakeholder Action Plan was the engagement with Parish Councils and that their involvement in workshops should be encouraged.

Members acknowledged that action plans were being carried out and believed it was important this remained the situation so feedback would filter through and become apparent in the next survey.

It was mentioned that more could be done to promote The Broads, not only to attract visitors but also to ensure they would return. Furthermore Members noted that the Broads Authority should do more to promote itself and make the public aware of the positive work they do and the service they provide.

Members noted the report.

## **5/10 Hire Boat Statistics for 2014/15**

Members received a report which presented two items of evidence: boat hire statistics provided by the Broads Hire Boat Federation and the Authority's own record of boat registrations for 2014.

Members acknowledged that the statistics in the report didn't reflect a full picture and that there was a lot more detail behind the figures like weather conditions and boats which pay toll to other organisations than the BA.

Another concern was that the BA would rely largely on the income of the hire boat industry to which the Chief Executive responded that over the years their reliance had gone down considerably so that the Authority was less vulnerable to changes in the hire boat industry.

It was also mentioned that the BA should get more involved with the infrastructure like moorings, pubs and waste collection and it was agreed that a long term strategy was needed.

Members noted the report.

## **5/11 Breydon Water: Water Skiing and Wakeboarding Trial Findings**

Members received a report which set out the findings of the trial of recreational water skiing and wakeboarding on Breydon Water and their views were sought for the future management of these activities on Breydon Water considering the following options:

- Accept the recommendation from the Water Ski Review Panel and formally designate the existing zone for water skiing and wakeboarding without any additional controls;
- Accept the recommendation from the Water Ski Review Panel and formally designate the zone for Water skiing and Wakeboarding but with additional controls, (i) not permit water skiing and wakeboarding from 1 November until 1 March, and (ii) further reduce the total amount of skiing occasions in any one year from 78 currently agreed to account for the winter ban;
- Reject the recommendation and embark on an additional trial period to enable data to be gathered for future consideration by the Authority;
- Reject the recommendation and revoke the designated water ski zone.

The general opinion was that as water skiing on Breydon Water never used to be an issue in the past there was no reason to change the formal arrangements. Taking into consideration the view of the Waterski Review panel, which included a wide range of stakeholders who had considered all aspects of water ski activity, members

RECOMMENDED by 6 for, 3 against and 1 abstention

to accept the recommendation from the Water Ski Review Panel and formally designate the existing zone for water skiing and wakeboarding without any additional controls.

#### **5/12 Integrated Safety Management System Including Hazard Review**

Members received the updated Safety Management System, and noted the integrated approach adopted, and recommendations identified. It was noted that the Boating Safety Management Group and Local Access Forum had both been involved in the hazard review.

It was suggested that a more practical access to the Safety Management System (SMS) would be made available, either online or for example in the Broadcaster. Head of Safety Management acknowledged although the SMS is not intended to be a public document, a more accessible form of the document was also necessary and that they were working on this but explained it was a slow and difficult process.

Members noted the report.

#### **5/13 Annual Incident Reporting Statistics**

Members received a report which provided details of the marine incidents from April 2014 to March 2015, including an analysis of deaths and personal injury since 1993. There had been two fatalities, and one fire caused by a gas flashback. Members were reminded that considering the large number of visitors to the Broads, the statistics demonstrated that the Broads continued to be a safe place for boating and boating related activities.

Members were informed that the most efficient way of reaching emergency services on board and in the Broads would be calling 999, to which a member responded that in that case efficient mobile network coverage in the entire Broads would need to be made a priority.

Members noted the report.

#### **5/14 Planning Application with Navigation Implications: Proposed Residential Development at the Former Ferry Boat Inn**

Members received a report setting out a planning application which had been submitted to the Broads Authority in respect of the erection of a riverside walkway/staithe on the western bank of the River Wensum and the construction of cantilevered balconies over the River Wensum. The walkway/staithe is proposed to be situated adjacent to the northern side of the Novi Sad footbridge and along the river frontage of the former Ferry Boat Inn site.

The walkway/staithe would be part of the wider proposals for the redevelopment of the Ferry Boat Inn site for residential use, which is being

considered and determined by Norwich City Council and which the Broads Authority had been consulted on.

Members were reminded of the anticipated navigation issues which would be restriction of river width, the use of the staithe and the projecting balconies.

The committee made some suggestions to be fed back to the developers and Norwich City Council in relation to the placement of the pathway and the height of the proposed redevelopment of a six storey building to try to encourage the developers to alter their plans.

A further concern was the strength of the quay heading and members were conscious that the overhanging balconies might cause vessels to run into.

Therefore after careful deliberation members

#### RECOMMENDED

that the planning application should be rejected due to the proposed restrictions in the width of navigation and the potential impact on the safety of existing and proposed boat users.

#### **5/15 Navigation Income and Expenditure: 1 April to 28 February 2015 Actual and 2014/15 Forecast Outturn**

Members received a report which provided the Committee with details of the actual navigation income and expenditure for the eleven month period to 28 February 2015, and provided a forecast of the projected expenditure at the end of the financial year (31 March 2015).

Members were informed that overall income was in line with the original budget though there had been a difference between hire boat and private income, the former down by nearly £45,000 and the later up by over £41,000. It was noted that expenditure was forecasted to be £8,717 below the latest available budget, nonetheless within this operational expenditure it had been above budget and Planning and Resources was below the latest available budget.

It was demonstrated that there had been some significant movements in the forecast outturn position for the year which suggested a small surplus of approximately £16,166 within the navigation budget for the year. With the latest amendments to forecast outturn, this would result in a navigation reserve balance of approximately £306,000 at the end of 2014/15 (before any year-end adjustments), which equates to 10.3% of net expenditure and would be in line with the recommended level of 10%.

Head of Finance informed members that brackets had been removed from the reserve figures but that actual income figures needed to remain between brackets as this is the format the Finance Department has to follow as set out in the CIPFA code and in the Authority's Statement of Accounts. She further highlighted that a minus would project negative and a plus would demonstrate we are ahead.



Members noted the report.

#### **5/16 Construction, Maintenance and Environment Work Programme Progress Update**

The Head of Construction, Maintenance & Environment updated members on the issues the Authority was currently experiencing with Mutford Lock. Currently divers were working on the alignment of the lock and by the end of April they would be able to see if the repairs have been successful or if further work was needed.

The Director of Operations said that a full report on the Mutford Lock with forward projections, would be brought forward to the next meeting in June 2015 so that a strategy could be planned and additionally a costed programme for the Hickling enhancement project would be brought to the meeting in September 2015.

In relation to dredging material piled up at Ludham Bridge, the Head of Construction, Maintenance and Environment explained that the Authority was working together with BESL on reinstatement of the set-back areas. Each set-back is filled under its own management plan, as agreed between BESL & the Broads Authority and sometimes material is left slightly higher than the folding level to allow for the material to dry out. The dry material is then used to crest raise or re-shape the flood wall.

The Broads Authority is a statutory consultee to the Marine Management Organisation (MMO) and has recently commented on an application to push dredged material from a mooring basin on the Lower River Waveney at Burgh Castle. It was explained to the members that the Broads Authority had raised objections to the discharge of sediments into the Waveney on a number of grounds, ranging from volume to a lack of chemical analysis.

In response to a question raised about a vessel being damaged at Irstead, Director of Operations said that the vessel was damaged because it hit a submerged tree stump. She informed the members that as the dredging crew were near to this location at the time, they located and removed the offending object. She then explained that the river (Ant) naturally shallows at this location and dredging to deepen it was not in accordance with the Sediment Management Strategy and that the Navigation Notes had been amended to reflect this.

Members welcomed and noted the report.

#### **5/17 Broads Safety Management Group: Update**

The Director of Operations provided the members with a short update of the Broads Safety Management Group meeting held 10 March 2015 where the main topics discussed were:

- PMSC External Safety Audit
- Hazard Review 2014/15 Process Update

- Report on Incidents
- Safety Alerts – potential installation of Carbon Monoxide alarms
- Hire Boat Code Update
- Water-ski Review progress update

#### **5/18 Chief Executive's Report**

The Committee received a report which summarised the current position in respect of a number of projects and events, including decisions taken during the recent cycle of committee meetings.

Members noted the report.

#### **5/19 Current Issues**

In general members were concerned about the fish kill in the Upper Thurne and although the brief which was sent out by the Chief Executive was welcomed, one member in particular was disappointed there was no mention of why or what could be done about the current fish kill situation. He deliberated if specific monitoring of temperature, salinity and oxygen in the rivers was necessary to be carried out on a daily basis.

Director of Operations responded that to date nothing had been confirmed as yet and that the Broads Authority was still waiting for reports to come back to confirm that they were dealing with a toxic *Prymnesium* outbreak. She further informed members that the Authority had gathered a lot of information thanks to previous experiences, was in close contact with the John Innes Centre (JIC) and that a meeting with Natural England (NE) and the Environment Agency (EA) had been set up. It was explained that NE, EA and BA are all sampling for different elements but that all samples are sent to JIC to be researched and collated.

Members were assured that work is still due to start in October 2015 as scheduled, subject to consent, while working towards the long term project.

#### **5/20 Items for future discussion**

Members would like to see a programme being set for more future workshops.

#### **5/21 To note the date of the next meeting**

Due to meetings regularly over running, it was decided to remain at the regular starting time of 1 pm with an attempt to finish earlier.

The next meeting of the Committee would be held on Thursday 4 June 2015 at Yare House, 62-64 Thorpe Road, Norwich commencing at 1pm.

## **5/22 Exclusion of the Public**

The Committee was asked to consider excluding the public from the meeting under section 100A of the Local Government Act 1972 for consideration of the items below on the grounds that they involve the likely disclosure of exempt information as defined by Paragraph 3 of Part 1 of Schedule 12A to the Act as amended, and that the public interest in maintaining the exemption outweighs the public benefit in disclosing the information

### **Members of the public left the meeting**

The Asset Officer introduced an urgent item of business as member's views were sought on the potential purchase of a much sought after piece of land.

### **RECOMMENDED**

that the Navigation Committee would support the Broads Authority in delegating powers to the Chief Executive to submit an offer of the guide price plus an agreed additional percentage for a required piece of land.

## **5/23 To receive and confirm the exempt minutes of the Navigation Committee meeting held on 26 February 2015**

The exempt minute of the meeting held on 26 February 2015 was confirmed as correct and signed by the Chairman.

The meeting concluded at 4.50 pm

Chairman

## Code of Conduct for Members

**Declaration of Interests**

Committee: Navigation Committee

Date of Meeting: 23 April 2015

<b>Name Please Print</b>	<b>Agenda/ Minute No(s)</b>	<b>Nature of Interest (Please describe the nature of the interest)</b>
Mr K Allen		Member of the Broads Angling Strategy Group
Ms L Aspland		Member of NBYC, Toll Payer, Hunter Fleet
Mr B Dickson		Toll Payer
Mr P Dixon	4/7 – 4/16	As previous
Mr J Knight		Hire Boat Operator, Toll Payer, Member of NSBA, NBYC, WOBYC
Mr M Heron	6-20	Toll Payer, Landowner, Member of British Rowing, Norwich RC, NSBA, RCC, Chair Whitlingham Boathouses
Ms N Talbot		Toll Payer, NSBA Member and Member of NBYC
Mr M Whitaker	6-23	Toll payer, Hire Boat Operator, BHBF Chairman
Mr B Wilkins		Toll Payer, HBSC, NSBA, RCC

**Navigation Committee**

4 June 2015

Agenda Item No 6

**Summary of Actions and Outstanding Issues Following Discussions at Previous Meetings**

Report by Administrative Officer

<b>Date of Meeting and Minute No</b>	<b>Discussion</b>	<b>Responsible Person</b>	<b>Summary of Actions and Outstanding Issues</b>
26 February 2015 Minute 4/6 <b>Summary of Actions and Outstanding Issues Following Discussions at Previous Meetings</b>	Update in relation to negotiations over 24hr moorings at Thurne Mouth and Boundary Farm	Head of Development Management	Following decision at Broads Authority meeting on 20 March 2015, paperwork has been formalised and is with landowner for agreement. Authorisation for footpath diversion to allow piling works to proceed agreed by Planning Committee on 1 May 2015.
23 April 20-15 Minute 5/14 <b>Planning Application with Navigation Implications: Proposed Residential Development at the Former Ferry Boat Inn</b>	Recommendation: that the application be rejected due to the proposed restrictions in the width of navigation and potential impact on the safety of existing and proposed boat users.	Planning Officer	Application Withdrawn

**Update on Mutford Lock**  
Report by Rivers Engineer and Asset Officer

**Summary:** This report sets out the background to the Broads Authority's involvement with Mutford Lock, its current condition and proposed future management. Members' views are welcome.

**1 Background**

- 1.1 Mutford Lock is the Broads second access to the sea, connecting Oulton Broad with Lake Lothing, and as such is an important link for vessels seeking to visit the Broads area
- 1.2 Due to different tides in Lake Lothing and Oulton Broad, the lock structure has an unusual bi-directional design. It has two pairs of opposing gates at each end to allow for high water levels on either side of the lock.
- 1.3 Its walls were originally constructed from masonry in the 1800s, however, following various repairs throughout its life, it is now a mix of masonry, reinforced concrete, steel piling and patch repairs. A brief overview of recent work at the lock is shown in the table below.

Year	Work carried out
1960s	Following a collapse of the masonry lock chamber, sections of the lock walls were reconstructed using reinforced concrete
1993	Localised masonry repairs and replacement of the lock gates. Like for like timber hardwood gates, but limited expenditure on cills and pintle bearings
2001	Hydraulic gate control system installed to negate hand winding
2007	Cill timbers removed between gates 3 & 4 and new concrete cill cast to address leakage problems
2014	Hydraulic control system and cable duct replaced following storm surge damage
2015	Two of the eight penstocks found damaged and leaking. Temporarily blanked to prevent leakage.
2015	Gate 2 South bearing failure. Works ongoing.

- 1.4 It is currently owned by Associated British Ports (ABP), although the Authority agreed with ABP and Suffolk County Council (SCC) in the late 1990's to

transfer the freehold of the lock and adjoining land owned by SCC to the Authority.

- 1.5 Whilst this agreement has still not been finalised, a commuted sum was passed to the Authority for the upkeep and repair of the lock, and the Broads Authority assumed responsibility for Mutford Lock in 1994 following a programme of refurbishment by Associated British Ports, which included some stitching repairs to the lock masonry and replacement gates

## **2 Current Condition**

- 2.1 In late March 2015 lock operators reported that during a locking it was not possible to achieve a good seal on gate 2 and therefore the saltwater gates could not be opened as the water level in the chamber could not be equalised with Lake Lothing. Vessels in the lock had to be returned to Oulton Broad. Subsequent attempts were made, however the issue persisted with a clear visible misalignment of the gates at the gate mitre (where the pair of gates meet).
- 2.2 Above and below water inspections were undertaken and repeated in various tidal conditions. The underwater survey showed that although there was a large build-up of mussels and mixed debris on the gates and bed, this did not appear to interfere with the gate swing or sealing faces at the cill. The above water survey found that Gate 2 South was not moving smoothly and was sticking unpredictably during operation even under hydraulic load. This suggested an issue with the pintle bearing (steel ball and socket type bearing upon which the gate pivots), either the position of the gate on the bearing or damage to the bearing. Two other gates were found not to be running smoothly but not to the same degree as Gate 2 South.
- 2.3 With the issue not fully clear the decision was made to use divers again to clear the area around the pintle bearing on several gates and undertake a detailed survey. Also in the absence of any detailed plans, advice was sought from Wheeler Trevitt Consulting Engineers who had experience of the gates at Mutford Lock when installed in the 1990s.
- 2.4 Following cleaning, the pintle on Gate 2 South was partly visible and it appeared to be out of position; the bearing cup in the gate also appeared not to be positioned centrally on the pintle. This had caused the gate to shift and the heel post to press into the quoin (wall) causing pressure, wear and misalignment. Deep soft material between the old timber cills of gates 1 and 2 also suggested the possibility of voids which would allow upwelling of water and add to the leakage problems. It was also noted that no other pintle bearings were exposed enough to allow observation.
- 2.5 A further concern raised by the consulting engineers was the hydraulic operation of the gates, which is much less sensitive than hand winding which the gates had been designed for. The gates require a degree of freedom in the closed position to allow them to settle and seal. The type of hydraulic system used since 2001 drives the gates with a much higher load than hand

operation and applies a constant load. This reduces the freedom of the gate to settle and potentially exerts high stress into the pintle when the gate is pushed against the cill.

### 3 Planned Work and Costs

- 3.1 Given the results of the dive surveys and consultation with the specialist engineers the following immediate actions are to be taken with costs and timescales shown:

Action	Cost	Result
Underwater clearance of debris/marine growth and investigative surveys	£5000 (Dive team)	Completed, damaged pintle found
Consult specialist engineers	£5000	Ongoing
Removal of Gate 2 South and repair the pintle in the cill and cup in the gate	£15,000 (Crane hire, dive team, fabricators)	Gate lifted 14 May. Repairs ongoing
Assess the gate heel post for excessive wear and add timber to the mitre face to compensate if necessary	£1000	Week commencing 18 May
Clear material from the between the old timber cills and infill with concrete if voids found	£5000 (Dive team)	Week commencing 25 May

- 3.2 Once the immediate actions are completed the lock should be returned to normal operation. It is then suggested that changes are made to the hydraulic control system to mimic hand winding operation and reduce the likelihood of similar issues. This may be achieved by incorporating pressure release valves and reducing the operating pressure (given smoother operation after pintle repairs).
- 3.3 If the removal and repairs to Gate 2 South are successful, but reducing the hydraulic pressure highlights issues with other gates then at the end of the season it is suggested that some of the other gates be lifted out to check the pintles and repair as necessary.
- 3.4 If the removal and repairs to Gate 2 South are not successful then it may be necessary to investigate the dewatering of the lock to allow more extensive cleaning, inspection and repair. This would however require careful consideration of the stability of the chamber walls and require the installation of a cofferdam or retro-fit dam boards. The cost of dewatering could easily exceed £200,000.



## **4 Legal Position**

- 4.1 The Authority is in the process of resolving the outstanding freehold transfer, and a formal Harbour Revision Order will also be required with ABP. These agreements have been significantly delayed from the date of the original agreement with the Authority.
- 4.2 At the members request a briefing note regarding Mutford Lock was prepared and presented to committee in June 2013. NPLaw confirmed that the Harbour Revision Order (HRO) has been agreed between the two parties and submitted in draft to the Marine Management Organisation (MMO) who confirmed that they were happy with the draft HRO and that both the agreement and plan attached seemed clear and acceptable.
- 4.3 However since that time a number of issues are still being raised by both Suffolk County Council and ABP in regards to both the tripartite agreement and the associated deeds and these are unfortunately still ongoing despite constant chasing from Broads Authority officers. A meeting has been arranged for the 28 May to seek to finally resolve all outstanding legal points, and a verbal update will be given at the Committee.
- 4.4 The next step is to lodge a notice of intention to submit an HRO. This will produce a formal response from the MMO setting out whether or not an Environmental Impact Assessment is required, which the Authority has been advised is unlikely, what the statutory fee will be; and the next steps.

## **5 Operating Agreement**

- 5.1 The Authority originally set up an operating agreement with Waveney District Council (WDC) who managed the Oulton Broad Yacht Station and operated the road and pedestrian bridges. In accordance with the agreement WDC provided a dedicated lock operator and undertook the routine maintenance of the lock.
- 5.2 The agreement was later revised with a reduction in the operating cost as WDC took the decision to disband the dedicated lock operator and operate the lock as a shared duty operation of the Yacht Station. The strategy for the agreed operating cost was that this would be approximately equal to the passage fees, which is transferred to the Broads Authority.
- 5.3 In recent years WDC have outsourced much of their operations to private enterprises. Therefore the lock operating agreement is currently between the Broads Authority and Sentinel Leisure Trust (who manage Oulton Broad Yacht Station) and Waveney Norse (who provide maintenance services).
- 5.4 The agreed annual cost for maintenance provided by Waveney Norse is £660. The level of service provided by Waveney Norse has declined and it is suggested the current agreement be terminated and that other potential service providers considered are invited to quote.

- 5.5 The agreed annual cost for operation provided by Sentinel Leisure Trust (SLT) is £6,678. SLT have provided this service as per the agreement for the last five years. However SLT have recently requested that the agreement be revised with a proposed annual operating cost of £20,000. This sum is based on their assessment of the operational cost, which is £9.83 per lock and at least two members of staff required for each lock. £20,000 equates to one full time member of staff and SLT propose this could be someone dedicated to the lock.
- 5.6 The current lock passage fee is £11. Based on this the income from passage fees over the last 3 years is summarised below:

Year	No. vessel passages	Total fee income
2012/13	749	£8239
2013/14	800	£8800
2014/15	882	£9702*

*\*actual income to date £6,523, remainder to be invoiced as completed fee books returned*

Currently the income to the Authority exceeds the annual operating cost paid to SLT. If the annual operating cost increased to £20,000, then this would need to be either subsidised by navigation budgets or the lock fee would need to be doubled.

- 5.7 Sentinel Leisure Trust do however receive an additional income from Suffolk County Council for the operation of the road and pedestrian bridges as required for lock passages.

## 6 Financial Position

- 6.1 Mutford Lock is the Authority's largest single liability and some significant sums of money will be needed to repair it, potentially in the order of £1 million. An endowment fund was established in the late 1990's with the commuted sum which was transferred to the Authority. A further annual contribution of £25,000 was agreed when the Asset Management Strategy was presented to the Broads Authority in January 2013.
- 6.2 The reserves for Mutford Lock as at 31 March 2015 stands at £320,218 but this does not include the annual interest which has not yet been calculated.

Background papers: None

Author: Tom Hunter, Angie Leeper,  
Date of report: 11 May 2015

Broads Plan Objectives: None

Appendices: None

**Status of Broads Condition and Use**  
Report by Director of Operations

**Summary:** This report updates the current position in relation to status of Broads water bodies as previously requested for members information.

Members' views are sought in respect of any further action to be taken.

**1 Background**

- 1.1 Further to previous discussion in respect of the rights of navigation in Broads waterways, it was agreed that a report be prepared for the Navigation Committee to provide background information. This information was reported to the Committee in Oct 2014, and further information was requested in terms of water quality, area of waterbody and previous investment.

**2 Schedule of Broads**

- 2.1 The Schedule of broads has therefore been updated to include the additional information, and is included at Appendix 1.
- 2.2 This schedule also highlights the use and presumed legal status of the waterbody for navigation by use of colour coding, those highlighted blue are within the navigation area and have public rights of navigation, those highlighted orange are presumed private but have navigation permitted. Those shown grey are unconnected to the navigation, and those in white are presumed private, closed Broads.
- 2.3 As previously advised generally speaking, there is a public right of navigation over all rivers which are tidal (i.e. subject to the ebb and flow of ordinary or mean tides and including those waters not only where there is a horizontal ebb and flow but also where there is a vertical rise and fall caused by the ordinary sea tide).
- 2.4 However, the public right of navigation does not extend automatically to waterways which are not tidal or (it seems) to artificially created inland waters such as the Broads, even though they may be tidal.
- 2.5 This distinction rests on ownership and in particular on the fact that the bed of the tidal rivers belongs, or used to belong, to the Crown. This is not the case with non-tidal rivers or artificially created water areas such as Broads, where a public right of navigation can be established only by a) long usage, b) Act of Parliament or c) express dedication by the owner of the soil of the waterway.

### **3 Strategic Review of Broads**

- 3.1 Members' views were previously sought as to whether any further action should be taken. The Schedule demonstrates that there are nine private broad's identified where no navigation access is permitted, and the land ownership has been identified for information.
- (i) Nortons Broad – feasible for small craft only
  - (ii) Belaugh Broad – feasible for small craft only
  - (iii) Hoveton Great Broad – subject to HLF bid, due to be temporarily isolated, land based access
  - (iv) Salhouse Little (Lilly) Broad
  - (v) Decoy Broad
  - (vi) Ranworth Inner Broad – land based access/ access via trip boat
  - (vii) Martham North and South Broads – navigation channel open through centre, land based access
  - (viii) Wheatfen Broad – feasible for small craft only, land based access
- 3.2 It was previously suggested by the Committee that the Authority may wish to open discussions with landowners in the first instance, to determine whether any negotiated access may be discussed, and that priority sites could be identified once the additional information was supplied.

### **4 Next Steps**

- 4.1 The Broads Authority has statutory purposes for conserving and enhancing the natural environment, promoting the understanding and enjoyment of the special qualities of the area as well as protecting the interests of navigation. The original reason for Broads Authority investment in the private and unconnected sites was clearly a wetland biodiversity driver, rather than for recreation or access, although the principle of integrated management is very much promoted.
- 4.2 Multiple interests already exist at a number of these sites including land based access provision and conservation designations. In light of the responses identified in the stakeholder surveys calling for more/better access opportunities, it is suggested that a comprehensive audit/review should be carried out of where all access including land based, privately managed etc. currently exists. Such a review could also identify where negotiated permissive canoe or small boat access would be possible and this would be a good piece of work to do. The only other identified access proposal relating to the Broads currently is for a permissive path in the area of Swim Coots at Hickling which is identified in the Integrated Access Strategy (IAS) Action Plan. The action plan is due for review this year and it is also felt that the subject of access to the Broads should be something that is included in the forthcoming review of the Broads Plan. This could include the remit for discussing the potential for public access to private sites and indeed what 'opening up' means (virtual, views, guided etc.) and what the benefits and risks of this might be particularly over the long term.

#### 4.3 Members' views are sought.

Background papers:	Nil
Author:	Trudi Wakelin
Date of report:	11 May 2015
Broads Plan Objectives:	TR1.5/ TR1.6
Appendices:	APPENDIX 1 – Schedule of Broads

# Schedule of Broad

# APPENDIX 1

River	Broad	Status	Ownership	BA investment mud pumping/ fish removal etc. NPG, or Navigation	Water quality (WFD status, EA website)	Staithe Register 1986	Area (ha)
Bure	Nortons	Private, agreement for limited number guided canoe trails	Trafford Estate	Mud pumping £11,000 NPG 2008	-	No	0.7
	Belaugh	as above	Trafford Estate	Mud pumping 1990's NPG	-	No	1.9
	Bridge	Private, Leased by BA to allow access	Trafford Estate	Yes – NPG floating island	-	No	1.8
	Daisy	Private, access to private properties	Unregistered	No	-	No	-
	Wroxham	Private, access permitted 364 days	Trafford Estate	No	Moderate	No	34.3
	Hoveton Great/ Hudsons Bay	Private	Blofeld Estate	NE funded bio manipulation/ scrub removal	Moderate Moderate	No	36.6
	Salhouse Little (Lily)	Private	H.Cator	No	-	No	2.3
	Salhouse	Public	H.Cator	Yes –Navigation	-	Yes	8.5
	Decoy	Private	A. Cator	No	Poor	No	9.0
	Hoveton Little (Blackhorse) Pound End	Private, access permitted summer only Private	Blofeld Estate	Mud pumping 1989  NPG mud pumping/ bio manipulation	-	No	15.2
	Burnt fen	Unconnected	Private. Mr J. Nickerson, Neatishead	£34,500 NPG Mud pumped 2009	-	No	4.6
	Cockshoot	Unconnected, Dammed off in 1982	Norfolk Wildlife Trust	Yes – NPG mud pumping and bio manipulation	Moderate	No	5.4
	Ranworth Inner	Private	Norfolk Wildlife Trust	£10,000 NPG on bio manipulation in 2011	Poor	No	29.2
	Malthouse	Public	C. Cator	Yes - Navigation	-	Yes	10.1
	Sotshole	Unconnected	Private, Mr D. Pooley, South Walsham	No	-	No	0.8

	South Walsham Inner	Private, access permitted but no mooring/mud weighting	Fairhaven Trust	No	-	No	11.8
Bure	South Walsham Outer	Public	Unregistered	Yes - Navigation	-	Yes	9.4
	Upton Great	Unconnected	Norfolk Wildlife Trust	No	Poor	No	5.3
	Upton Little	Unconnected	Norfolk Wildlife Trust	£29,000 NPG/ PRISMA mud pumping 2011	Poor	No	1.4
	Mautby Decoy	Unconnected	Private. Mr G. Gay, Mautby	£16,000 NPG Mud pumped 2008	-	No	2.5
Ant	Sutton	Public, channel only	RSPB	Yes - Navigation	-	Yes	
	Barton	Public	Norfolk Wildlife Trust	Yes – NPG/Nav/HLF mud pumping and bio manipulation	Poor	Yes	74.3
	Catfield	Unconnected	Mr T. Harris	No	-	No	1.3
	Cromes	Unconnected	Broads Authority	Yes – NPG sediment removal, sediment capping	-	No	4.2
	Alderfen	Unconnected	Norfolk Wildlife Trust	Yes – NPG bio manipulation	-	No	5.2
Thurne	Calthorpe	Unconnected	Natural England	£10,500 NPG Mud pumped 2009	-	No	1.1
	Horsey Mere	Public	National Trust	Yes - Navigation	Moderate	Yes	33.2
	Blackfleet	Unconnected	Mr R. Buxton	No	-	No	1.6
	Hickling/ Heigham Sound	Public	Norfolk Wildlife Trust/ Mills Estate	Yes – Navigation/PRISMA, goose protection NE	Poor	Yes	164
	Martham North and South	Private, navigation channel between Broads	Norfolk Wildlife Trust	Yes - reed islands NPG, goose protection	Moderate	No	17.3
	Womack Water	Public	Crown Estate	Yes erosion protection NPG	-	Yes	4.2
Trinities	Ormesby/ Rollesby/ Ormesby Little /Filby /Little	Unconnected	Essex and Suffolk Water	Yes – mud pumping/ bio manipulation etc.	Poor Moderate Poor Poor -	Yes	172

Yare	Surlingham	Public, small craft only	RSPB – leased to Norfolk Wildlife Trust	No	-	Yes	5.2
	Brundall Inner/ Outer	Unconnected/ private	Private	Sediment removal 1975	-	No	2.2
	Bargate	Public	RSPB – leased to Norfolk Wildlife Trust	No	-	No	7.8
	Strumpshaw	Unconnected, dammed off in 1978	RSPB	Sediment removal 1983	-	No	3.7
	Wheatfen	Private	Ted Ellis Trust	Mud pumping 1995 2002 NPG	-	No	4.2
	Rockland	Public	Rockland Parish Council	Yes – Nav & NPG island protection	Moderate	Yes	21.7
	Buckenham and Hassingham	Unconnected	Mr M. Savoury	Sediment removal 1980 and Mud pumping NPG £5,000 2008	-	Yes	3.4
Chet	Hardley Flood	Unconnected	Mr Tabor	No	Bad	No	26.7
Waveney	Barnby	Unconnected	Mr M. George	£10,000 Mud pumping 2007	-	No	2.5
	Oulton	Public	Waveney District Council	Yes - Navigation	-	Yes	34.7
	Flixton Decoy	Unconnected	Private, Mr K. Skeelee	No	Poor	No	6.9
	Fritton Decoy	Unconnected	Lord Somerleyton	No	Bad	No	
Total Broads area							788.69ha
Total public navigation area							373.3ha, <b>47%</b>
Negotiated/ permitted access							63.1 ha
Total area accessible to navigation							436.4ha, <b>55%</b>
Key:		Public navigation		Navigation Access allowed		Unconnected waterbodies	Private waters



**Riverbank Stabilisation and Mooring Guides  
Consultation Version**

Report by Planning Policy Officer

**Summary:** This report presents revised guidance on riverbank stabilisation and the design of moorings and will form background evidence and steer the implementation of policies in the reviewed Local Plan. The views of the Committee are sought prior to them being subject to a six week period of public consultation.

## **1 Introduction**

- 1.1 The Authority has an existing guide for Riverbank Protection Works<sup>1</sup> which is over ten years old. As part of the Local Plan review process, officers have reviewed the guide with the intention of making the content more up to date to reflect current practice and lessons learned. The guides are intended to give would-be designers/ developers of riverbank stabilisation and moorings high level information to help inform the way forward with their design and highlight some of the common issues which such development needs to consider.

## **2 Draft New Guides**

- 2.1 The original guide has been split into two guides to provide clarity between the issue of riverbank stabilisation and mooring and also to enable more information to be provided for the different structures to reflect their purpose. The draft guides are at Appendix A and B.
- 2.2 The information presented to members is the draft content of the guide. It is intended that it be produced in a more user friendly format, including sketches and photos and that the guides will be hosted on the Broads Authority website and produced in paper format only on request.
- 2.3 In order to give the guides more weight in determining planning applications and potentially at any subsequent appeals, the intention is that the guides are subject to 6 weeks consultation with the public in a similar approach to that of the Local Plan. The guides will then be presented to a future Full Authority meeting for adoption.

Background papers: None  
Author: Natalie Beal  
Date of report: 5 May 2015

Appendices: APPENDIX A: Draft Riverbank Stabilisation Guidance  
APPENDIX B: Draft Broads Authority Mooring Guide

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<sup>1</sup> [http://www.broads-authority.gov.uk/\\_data/assets/pdf\\_file/0020/412832/Riverbank\\_Protection\\_Works.pdf](http://www.broads-authority.gov.uk/_data/assets/pdf_file/0020/412832/Riverbank_Protection_Works.pdf)

## Riverbank stabilisation guidance

### Introduction

The careful design of bank stabilisation and protection is crucial to maintain the special landscape character of the Broads.

Riverbanks have on occasion been protected using timber or steel piling driven into the riverbed at the bank edge. However, this damages habitats and can create a very urban feel to an otherwise rural area. It may also encourage boat mooring in inappropriate areas. It is also expensive.

More natural bank edges provide protection from erosion, as well as a host of benefits for wildlife and the landscape:

- Native water voles rely on naturally vegetated edges for feeding and protection from predators. Burrows in the banks are used for breeding, overwintering and protection.
- Reeded margins provide important nesting areas for water birds including coot, moorhen and mallard.
- Sheltered bankside edges provide spawning and feeding areas for many types of fish in the Broads.

The Broads Authority is keen to see the use of more subtle forms of bank protection in appropriate areas. The restoration of a natural bank through encouraging the re-establishment of appropriate vegetation is our main objective, to help protect the special Broads landscape and its biodiversity. This leaflet is intended to give landowners guidance on the most appropriate method to use. This is the standard that the Broads Authority uses for its own works and therefore is what we expect others to use as well.

### What is the purpose of your proposal?

With the wide range of methods available to stabilise river banks, and a wide variation in cost, it is important to decide why bank protection is required at all.

- If the purpose is to provide boat mooring please refer to leaflet [<<hyperlink to mooring guidance>>](#) on boat mooring facilities.
- If the purpose is to protect an eroding riverbank from the natural effects of wave or other action then please read on.

### Things to consider

When deciding which method of bank protection to use, the following factors need to be taken into account:

- Why is the bank vulnerable?  
Sources of erosion including wind, boat wash, livestock and geese can all have an impact on river banks and vegetation. Design should therefore take account of the cause of erosion.

- Navigation

The design should also take account of the navigation use. Any development should not cause hazards to navigation and should be adequately marked. You may need a [Works Licence \(link\)](#) from the Broads Authority for the timing of installation and the size of any work vessels used.

- Each site is different

Sometimes the solutions have to be tailored to suit. Different methods should reflect the local character of different areas, such as rural areas, urban areas, near heritage assets or conservation sites. You may wish to seek professional advice to help you choose the most appropriate design and you should check with planning officers at the Broads Authority to see if the stabilisation method proposed is suitable for that location.

- Tidal range and strength of current

If the site has a high tidal range or is exposed to strong wave action or current, such as on the lower reaches of the main rivers, then the range of bank protection options becomes more limited. However, more sheltered areas and dykes running off the main channel will be subject to lower wave action and a broader range of green engineering methods may be used. The map broadly shows the tidal range throughout the Broads.

*<<insert map, same as original >>*

- Existing piling

If the site has been piled in the recent past consider the end use and if there is a need for such a hard and vertical edge.

- Trees

Trees are a complex issue. On the one hand they can cause problems by shading and preventing the growth of natural vegetation such as reeds, which would otherwise help stabilise the bank. They could also be overhanging the bank or even falling into the water. At the same time tree-lined waterways are part of the landscape character in some areas. Tree roots can also act as erosion protection and are valuable habitats in their own right. Some trees will also have protected status (Tree Preservation Orders) or be in a Conservation Area which protects them. All these factors have to be considered and balanced in each case so it is best to contact our Landscape Officer and Tree Officer on 01603 610734 who can help with advice tailored to your situation.

- Do I need consents?

- Planning: waterside development, including new and replacement works, usually requires planning permission. Please call the Broads Authority on 01603 610734.
- Works: a Works Licence may be required for any work which affects a publicly navigable stretch of river. The Broads Authority is responsible for issuing this permission. Please call the navigation team on 01603 756066.
- Environment Agency: prior written consent of the Environment Agency is required for any proposed work or structure on, over, under or near a main river, flood or seas defence. Please call the agency on 01473 706047 for advice.

- You should contact the landowner of the bed of the river that you are intending to moor over for permission.
- **Wildlife**
  - Protected species: protected species under Schedules 1 and 5 of the Wildlife and Countryside Act 1981 (amended) may occupy the proposed site. These species include otter, water vole, breeding birds and reptiles. If you find a protected species you must stop work immediately and contact Natural England on 0300 060 3789 or at Dragonfly House, 2 Gilders Way, Norwich, NR3 1UB.
  - Designated Sites: prior written consent from Natural England is required for any proposed works that are in designated sites or may impact on those nearby such as sites of special scientific interest (SSSIs).
  - Provisions for wildlife: where bank protection options can enhance or create increased space for wildlife, they should be explored. Provision of a bank edge with native wetland plant species is one of the best ways to encourage wildlife at the water's edge. If you would like advice contact the Broads Authority Ecologist on 01603 610734.
- **Archaeology:**  
The entire Broads is a site of exceptional waterlogged archaeology. What this means is that there is potential for important discoveries during the course of works such as riverbank stabilisation. You should be aware that archaeology may be uncovered. If planning permission is required it may be subject to an archaeological condition. If you find anything that appears to be of interest, you should contact the Historic Environment Officer at the Broads Authority on 01603 610734.
- **Timber**  
Timber should be from a sustainable source. For example any treated timber should have FSC certification. If sawn softwood is to be used, it should be pressure treated. Alder, which is available locally, has a natural resilience to rot in a wet environment.

### **Riverbank stabilisation options**

The following methods of bank stabilisation are commonly used in the Broads. All drawings are intended for guidance only. Precise specifications will depend on site conditions and the agreement of the Environment Agency and the Broads Authority.

- **Do the minimum**

The erosion may be caused by livestock action on the bank, in which case simple fencing might solve the problem. Planting appropriate species (see later in the guide) is another simple way of stabilising the bank. Simple signage could deter the activity that could be causing the erosion. Providing a suitable alternative for a particular activity that is causing the erosion is another option.

- **Re-profiling the riverbank**

This involves reshaping the bank to provide a more stable slope which will be less prone to erosion. Natural vegetation can establish or the bank can be planted.

- Requires the use of an excavator to profile the bank and subsequent planting.
- Need to ensure planting establishes. May require goose guard or replanting.
- Potential for trampling by livestock but could be combined with suitable fencing.
- Suitable for most locations in the Broads.
- Beneficial to wildlife once vegetation is established.
- Can help enhance the local landscape character.
- Low material cost, but moderate on site costs from machinery hire and operator time.

- Using 'bundles' to protect the riverbank

Bundles provide a protective toe to the bank so natural vegetation can establish behind. There are four types considered in this guide: faggots, coir rolls, rock rolls and stone filled gabions.

- Faggots and coir rolls can be installed manually. Rock rolls and gabions are likely to require machinery. All tend to require staking to secure in place.
- It is important to ensure planting establishes behind.
- Faggots and coir roll have a shorter life than rock rolls and gabions.
- The life of rock rolls and gabions depends on the quality of the mesh.
- Rock rolls and gabions are not suitable in brackish waters as the mesh can corrode quickly and only last a few years.
- Faggots and coir rolls are suitable for areas of low tidal range.
- Faggots and coir rolls are beneficial to wildlife once vegetation is established.
- Gabions and rock rolls are more of an engineering solution but do allow vegetation to establish behind them.
- The landscape character impact of bundles is minimal if vegetation establishes well. But gabions could have a high impact as the metal mesh and rocks can be seen.
- Faggots and coir rolls are biodegradable and designed to degrade leaving established vegetation to protect the bank. Stakes may need removal in future.
- In terms of cost, faggots are low, coir rolls are medium and rock rolls and gabions are high.

- Vertical stabilisation methods.

These methods provide a vertical edge to the bank and retain soil behind them while enabling vegetation to establish. There are three types considered in this guide: alder pole piling, dead willow or hazel spiling and pocketed geotextile.

- All types require back filling and therefore may require heavy posts and ties. All may require work from within the water.
- Fairly low maintenance if installed well.
- Suitable for low or medium tidal range only.
- Will result in a modified bank. Likely to be beneficial to wildlife once vegetation is established especially if finished close to average water levels.
- Landscape character impact will depend on height of the finish. The nearer it is to the water, the lower the impact.
- Medium cost as they do require skills and equipment but cost will depend on availability or proximity of site to suitable materials.

- Matting

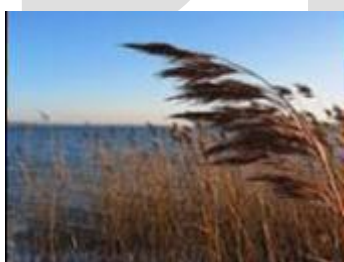
Jute matting and asphaltic matting provide a protective surface to a fairly flat slope.

- Jute matting can be installed by hand but asphaltic matting will require machinery due to its weight. Any matting requires robust pinning to secure in place.
- It is important to ensure planting establishes through the material. Matting is low maintenance if planting establishes. If planting does not establish then relaying and repinning of matting is likely to be required.
- Failed fixings must be replaced promptly to prevent navigation hazards.
- Jute is suitable for low to medium tidal ranges. Asphaltic is suitable for most locations although as it is the most robust type of matting, it may be overkill in low tidal range but more appropriate in areas of wave action.
- Vegetation grows through the matting which is beneficial to wildlife once it is established.
- There is minimal landscape character impact if vegetation establishes well and it could help improve the character of the area.
- Jute matting is biodegradable and designed to degrade leaving established vegetation to protect the bank. Stakes may need removal in future.
- Cost will depend on scale although jute is a medium cost and asphaltic is a high cost.

### Planting

Encouraging wetland plants that create a natural edge to the waterway helps prevent erosion, provides a wildlife habitat and enhances the Broads landscape. Recommended species include Common Reed (*Phragmites australis*), Bur-reeds (*Sparganium emersum* or *Sparganium erectum*), Pond Sedges (*Carex riparia* or *Carex acutiformis*) and Purple Loosetrife (*Lythrum salicaria*). Active planting of such species helps bind the bank edge soils together and naturally buffer wave action.

*Pictures courtesy of Verdant Solutions.*



Common Reed



Bur-reeds  
(*Sparganium emersum* or  
*Sparganium erectum*)



Purple Loosetrife  
(*Lythrum salicaria*).



Pond Sedges (*Carex riparia* or *Carex acutiformis*)

**Checklist for design.** *(add page references to the detail)*

Please complete this checklist and submit with your planning application.

Why does the bank need stabilising?

What is causing the issue? How have you addressed this?

What is the location? What are the characteristics of the location (taking into account archaeology, heritage, wildlife, landscape, navigation, tidal range and water depth)?

What bank stabilisation is there already? Is this appropriate for the location?

How have you considered and addressed the landscape impact of the stabilisation method?

How have you considered providing for wildlife?

How have you considered long term maintenance?

Have you spoken to the Broads Authority for their advice?

Please call xxxxxx to speak to the Landscape Officer, Tree Officer, Rivers Engineer or planning officers.

### Broads Authority mooring design guide

#### Introduction

Moorings are part of the everyday landscape in the Broads for residents, visitors and those who work on the river. As the interface between water and land, it is important that moorings are well considered and designed properly. The Broads Authority is keen to see the right type of safe mooring design in the right place. This guide provides important information on how to achieve this.

#### Mooring provision or bank stabilisation?

- If you wish to protect an eroding riverbank from the natural effects of wave or other action then please refer to leaflet [<<hyperlink to mooring guidance>>](#)
- If the purpose is to provide boat mooring please read on.

#### Things to consider...

- Each site is different

Sometimes the solutions have to be tailored to suit. You should check with planning officers at the Broads Authority who can give you free advice on whether any mooring is acceptable in principle. You may wish to seek professional advice to help you choose the appropriate design.

- How much mooring do you need?

Does the whole length or frontage need to be designed for moorings? Could part of the frontage be left natural with some other form of bank stabilisation? Natural frontage can save you money as well as benefiting the local landscape and wildlife in your area. It would also enable boat users to appreciate the scenery of the Broads. Retaining the natural bank edge helps to protect local wildlife such as water voles, nesting birds and fish.

Of course this approach is not going to be suitable for every project so please contact us for advice about whether natural frontage is appropriate as part of your mooring.

- Consider the impact beyond your project

Introducing hard piled bank edges could lead to the erosion of natural edges in some areas. Any length of piled mooring will need to be returned to the bank, meaning the ends are slanted inwards to the bank to stop water getting behind the piling and causing pockets of erosion..

- Other existing uses

An early consideration in any mooring project of any scale is that of the existing uses. Some examples include:

- Angling – The Broads is popular for anglers. Do they use the proposed site? Can you take angling into account in your project design, for example by providing a location for anglers?
- Existing rights of access – such as public rights of way and public staithe rights
- Existing drainage pipes and water outfalls - check permissions, easements and other issues



- Canoes and row boats – if the site is intended for the launching of canoes consider low freeboard pontoons. Launching platforms that may submerge should be adequately signed or marked to avoid boat collisions.
- Protected species such as water vole and nesting birds should be considered, as should fish spawning areas.

- Impact on channel width

Any refurbishment must maintain the existing piling line. Encroachment beyond this is unlikely to be acceptable as it will narrow the width of the channel. Any new mooring will need to ensure there is no impact on the navigation channel. Please remember that it is not necessarily about the mooring itself, but the impact on channel width by the vessel that is to be moored.

- Do you need to access the bank from the water?

Some mooring types discussed in this guide may require the use of a dinghy to access land. Others, such as staging, enable people to get onto land directly from the vessel. Others may need a ramp and in this case there will be a need for some bank work to provide a secure point on a plinth or piling.

- Signage

You may wish to put up signage to deter others using your mooring. But signage, if it is required, should always be in keeping with its location and local character. You should always seek advice on signage from the Broads Authority.

If you need signage:

- Lettering should be 50mm in height
- Text should be white on a black background.

- Maintenance

If you travel around the Broads there are areas of old, rotten, abandoned moorings which detract from the special qualities of the area. Anyone installing a new structure must also make provision for the maintenance of the structure during its life and replacement in the future. This could include cleaning, replacing timber work and also dredging to maintain adequate mooring depth.

- Aesthetics

- Different methods should reflect the local character of different areas such as rural areas, urban areas, near heritage assets or conservation. You can get free advice from the Broads Authority.
- A typical materials choice is softwood timber, which should be pressure treated in accordance with BS8417 for Use Class 4 for suitable durability. Timber is a natural and renewable product and is in keeping with the Broads.
- Of the alternative materials available, plastic products are often proposed as a substitute to timber. There are many different products on the market and their appearance varies widely so you will need to consider the impact of plastic on the local character. The use of plastic for moorings is a relatively new technology in the Broads, so you should ensure that the material is durable for the life time of your project and there

are no ecological impacts. For example, will the plastic decay and what will the impact of this be on the wildlife and water quality of the Broads?

- If materials other than timber are used for piling a double whaling board could be used. This is a timber board to disguise the less natural material.
- Surfacing behind moorings should be kept as natural as possible. A grass surface with a reinforcement mesh is ideal. If a different surface is required, a local product such as gravel, hoggin or bark is also acceptable.

- General design considerations

- Location: The conditions of the site such as tidal range, water depth, channel width and proximity to flood defences may influence choice of design, materials and layout. If the mooring is near livestock, you may wish to consider appropriate fencing to prevent the animals from accessing or damaging the moorings and equipment.
- Moorings need to be designed for the purpose in mind, whether it is public, private or commercial. For most Broads moorings, light steel or timber piling is adequate where a piled mooring is required. However, in some circumstances loading on piling may be more significant due to vehicle access, tidal conditions or banked material. A piling contractor or engineer will be able to advise you.
- Access to moorings: If the mooring is intended for commercial or public use consideration should be given to access by disabled people or wheelchair users under the requirements of the Equalities Act 2010.
- Lighting and electric hook ups: While these amenities are often welcomed by users the Broads Authority is keen to minimise light pollution. Please talk to planning officers about the design of lighting at moorings. You should also seek professional advice as there will be health and safety concerns regarding electricity being so close to water.
- Tie rods can impact the root system of trees which could lead to trees dying. You should contact us for advice if you intend to provide moorings near trees.

- Health and Safety

For any commercial or public mooring we recommend you provided a means of getting out of the water like a safety ladder no more than 50m apart, spread out along the length of the mooring. Between this there should be a chain, rail or similar structure that can be reached and held by someone in the water at any state of tide. There should also be lifebuoys or unlocked throw lines no more than 50m apart spread out along the length of the mooring.

If land access is not required or is provided at specific points only, the mooring will need to be designed to discourage people from jumping onto the bank from their vessel, which can cause injury.

If the proposal is a private mooring, we strongly recommend that you consider these standards. There is a Health and Safety Executive approved code of practice (link to [www.hse.gov.uk/pubns/books/l148.htm](http://www.hse.gov.uk/pubns/books/l148.htm)) relating to docks and moorings. There is also a guide (link to [www.tyha.co.uk/codepractice.asp](http://www.tyha.co.uk/codepractice.asp)) published by the British Marine Federation's Yacht Harbour Association which you can buy that sets out best practice guidance for marinas and yacht harbours.

While this is not specifically for private moorings and the guidance is costly, it may be relevant and you may wish to consider it.

- How will vessels be moored?

In some locations double mooring or mooring stern on are more efficient ways of using space as long as there is adequate channel width. Regardless of how the mooring is configured adequate mooring posts or cleats should be installed.

- Navigation Byelaws...

There are some Byelaws in the Broads that relate to moorings. Go to page 26 of this document for more information: [http://www.broads-authority.gov.uk/data/assets/pdf\\_file/0008/399230/Navigation\\_Byelaws\\_1995-1.pdf](http://www.broads-authority.gov.uk/data/assets/pdf_file/0008/399230/Navigation_Byelaws_1995-1.pdf)

- Do I need consents?

- Planning: waterside development, including new and replacement works, usually requires planning permission. The Broads Authority is the local planning authority for the Broads. We have policies specifically relating to moorings which can be found on the [Broads Authority's website](#) or you can call a planning officer for advice on 01603 610734.
- Works: a Works Licence may be required for any works, which affect a publicly navigable stretch of river. The Broads Authority is responsible for issuing this permission.. Please call the navigation team on 01603 756 066.
- Environment Agency: prior written consent of the Environment Agency is required for any proposed work or structure on, over, under or near a main river, flood or seas defence. Please call the agency on 01473 706047 for advice.
- You should contact the landowner of the bed of the river that you are intending to moor over for permission.
- Marine Management Organisation (MMO): you may need a marine licence from the MMO for constructing, altering or improving any works in relation to your mooring dredging or depositing. There are certain exempted activities and more information on types of activities and on how to apply for a license can be found at <https://www.gov.uk/do-i-need-a-marine-licence>.

- Insurance

You may need insurance for your mooring. Your insurance provider may have some requirements related to the mooring design.

- Ancillary

Parking, lockers and other associated infrastructure should be sensitively located to take account of the local character of the site.

- Wildlife

- Protected species: protected species under Schedules 1 and 5 of the Wildlife and Countryside Act 1981 (amended) may occupy the proposed site. These species include otter, water vole, breeding birds and reptiles. If you find a protected species, you must

stop work immediately and contact the Natural England on 0300 060 3789 or at Dragonfly House, 2 Gilders Way, Norwich, NR3 1UB.

- Designated sites: prior written consent of Natural England is required for any proposed works that may impact nearby designated sites.
- Where bank protection options can enhance or create increased space for wildlife, they should be explored. Provision of a bank edge with native wetland plant species is one of the best ways to encourage wildlife at the water's edge. If you would like advice contact the Broads Authority ecologist on 01603 610734.
- Any impacts to fish spawning areas will also need to be considered as part of the proposal. Contact the Broads Authority ecologist for advice.

- **Archaeology:**

The entire Broads is a site of exceptional waterlogged archaeology. What this means is that there is potential for important discoveries during the course of work like riverbank stabilisation. You should be aware that archaeology may be uncovered. If planning permission is required it may be subject to an archaeological condition. If you find anything that appears to be of interest, you should contact the Historic Environment Officer at the Broads Authority on 01603 610734.

- **Timber**

Timber should be from a sustainable source. For example any treated timber should have FSC certification. If sawn softwood is to be used, it should be pressure treated. Alder, which is available locally, has a natural resilience to rot in a wet environment.

### **Mooring design**

When reading the information about the designs of the various types of moorings, please note:

- The cost will depend on the size or quantity of moorings. Low, medium or high gives an indication relative to the different designs in this guide.
- Maintenance requirements will reflect the quality of the initial work.

#### **Timber staging**

- This type of mooring consists of piling and decking. Piling would need to be undertaken by a contractor.
- It still allows wildlife such as water voles to access the bank and, provided there are spaces left in the decking for light to penetrate, bankside vegetation will continue to grow.
- It is suitable for a river or broad where there is not a large tidal range.
- Staging should be kept as narrow as possible and preferably use timber. Consider that timber can become slippery when wet.
- The decking will need regular cleaning and it is likely that the piling will need to be replaced every 10 years, so maintenance is high.
- The impact on landscape character does depend on how the staging is integrated and depends on the size and its context.
- Compared to other mooring designs in this guide, the cost is medium.

#### **Quay heading and piling**

- This would result in a continuous line of piles. As this is a more complicated mooring structure, there is a need for a more robust anchoring system of the piles.
- Steel is the most expensive material, followed by plastic then timber.

- Timber has a typical life of up to 10 years. Plastic and steel have a typical lifetime of around 40 years or more.
- The design is suitable for most tidal ranges.
- It creates a less natural modified vertical edge to the river bank.
- Any piling has a high impact at low tide. Capping and whaling of steel or plastic piles can help the mooring to be more in keeping with the Broads.
- Surfacing and capping must be topped up and level.
- 
- Cost of installation is high as contractors will be on site for longer.

#### Pontoons

- Relatively quick to install. Will need secure anchorage or piling. You will need to consider access to the bank.
- Not a solution for narrow channels as can impede navigation
- Will require regular deck cleaning. Could have a life time of up to 30 years.
- Suitable for wider navigations or broads and areas of low tidal range.
- Provides protection to the natural bank behind
- Pontoons can provide a safe refuge for fish
- Likely to have a high landscape impact due to the bulk of the structure.
- Medium cost.

#### Swing or trot

- This is a buoy which is permanently fixed to the bed to provide stationary mooring. One buoy is called a swing mooring and the vessel will move with the wind or current.
- A row of buoys, linked as shown in the diagram, is a trot mooring and enables vessels to be secured so they do not drift with the wind or current.
- Requires a means to get ashore, such as a dinghy.
- Maintenance is generally low, but regular inspections of the chain and replacements will be required.
- Swing would not be suitable for rivers but ideal for broads in areas where there are not strong currents.
- Trot could be suitable for rivers, if buoys are securely positioned.
- At the time of writing, trot moorings are a new concept to the Broads, so please contact us for advice on 01603 610734.
- Low impact on wildlife and minimal landscape character impact.
- Relatively easy to install and low cost.

#### Dolphin

- Can be attached or detached from the bank.
- Will require piling which would need to be undertaken by a contractor.
- As the timber piling is likely to be bulky, the lifetime will be around 20 years.
- Suitable for rivers and broads in most tidal ranges.
- Low wildlife and landscape character impact.
- Medium cost.

#### King post

- This can comprise one post or, if the vessel is to be moored fore and aft, two.
- If there is one post, the boat will move with the wind or current.
- Will require piling which would need to be undertaken by a contractor.
- As the timber piling is likely to be bulky, the lifetime will be around 20 years.

- Suitable for rivers if the vessel will be moored fore and aft using two posts
- A single post is not suitable for rivers but ideal for broads in areas where there are not strong currents.
- Low wildlife and landscape character impact.
- Medium cost.

**Checklist for moorings.** *(add page references to the detail)*

Please complete this checklist and submit with your planning application.

- Have you checked with the Broads Authority if moorings are acceptable in principle in the proposed location?
- Do you need moorings for an entire length, or can you have a smaller area of mooring?
- In your design, have you returned the mooring to the bank so that the ends are slanted inwardsto address erosion further along?
- Have you considered and addressed other users and uses in the area in your design? For example anglers, water pipes, existing rights of way and canoes or row boats?
- What effect will your proposal have on the width of the publicly navigable channel?
- Do you need to have access to the river bank? If so, how are you going to do this?
- Have you considered and can you commit to and afford continuing costs of maintenance, cleaning, insurance and dredging?
- Does your proposal reflect the local character? Is your mooring going to be out of place?
- Does the design take into account the local tide, depth and channel width?
- Have you considered the type of vessel to be moored and does the detailed design, such as fixings, reflect the weight of the vessel?
- Is there likely to be an impact on protected species or fish spawning areas as part of the proposed works?
- What safety features have you included and why?
- Have you considered different types of mooring configurations? Why is the chosen format most appropriate?
- Are you aware of the byelaws in the area?
- Have you investigated and do you have the required consents?
- Have you met the policy requirements in your proposal?

**Broads Plan 2011: Progress Update**  
Report by Director of Planning and Resources

**Summary:** The Broads Plan is the strategic management plan for the Broads. The current Plan was adopted in May 2011 and the review of the Plan has been identified as a Strategic Priority for 2015/16. It is anticipated that the revised Plan will be adopted in March 2017.

This report sets out a summary of progress made against the objectives identified in the current Broads Plan.

**1 Introduction**

- 1.1 This report sets out current progress made against the objectives in the Broads Plan 2011. Members will be aware that the Plan will be reviewed over the next two years and it is anticipated a revised Plan will be adopted in March 2017.
- 1.2 As may be seen from the appended report, a wide range of actions were delivered by the Broads Authority and its many partners across all areas of the Plan. It should be recognised that the Plan was produced at the start of the last Comprehensive Spending Review period, and as such it was necessary to balance aspiration and ambition against the likelihood that future finances would be uncertain but diminishing. As predicted, the squeeze on finances has affected public sector bodies, charitable trusts and the private sector, and the scope of key agencies working within the Broads (e.g. Natural England, Environment Agency, RSPB and the Wildlife Trusts) to deliver all that was originally aspired to has been a significant challenge.
- 1.3 There have also been considerable changes nationally in a number of key areas since the Plan was adopted. The introduction of new legislation in the form of the Localism Act 2011 and the raft of revisions to the planning system have been influencing factors, as has the introduction of Local Enterprise Partnerships and Local Nature Partnerships as new funding and delivery bodies at a local level.
- 1.4 The report provides a summary of achievements to date against the Plan's objectives (Appendix A). More information is published on the dedicated e-Plan website at [www.broads-plan.co.uk](http://www.broads-plan.co.uk). A full schedule of progress to date is also available on the Authority's website at [www.broads-authority.gov.uk](http://www.broads-authority.gov.uk).

## **2 Summary of progress**

2.1 Mirroring the structure of the Broads Plan, the report is set out under three overarching themes.

- Planning for the long-term future of the Broads in response to climate change and sea level rise
- Working in partnership on the sustainable management of the Broads
- Sustainable use of the Broads

## **3 Next steps**

3.1 It is recognised that following the recent election, as the Government considers its priorities for the next Comprehensive Spending Review period, the squeeze on public finances will continue. Delivering the remaining actions in the current Broads Plan and determining the objectives for the next Plan will depend substantially upon making the most of external funding opportunities, continued partnership working and a flexible approach to future priorities.

3.2 In reviewing the progress made against individual Broads Plan objectives it can be seen that some progress has been made against almost every objective. However it is also clear that some objectives, whilst valid when set, have either been overtaken by events, changes in legislation or funding priorities, suffered due to a lack of funding or loss of a partner organisation or have proved significantly more complex or more time consuming to achieve than originally thought. Some examples are:

- Whilst good progress has been made on the implementation of the Broadland Flood Alleviation Project, it is still unclear what the Environment Agency's approach towards future flood management in the area is likely to be. This is an issue that is likely to feature in the next Broads Plan.
- The emergence of the Broadland Catchment partnership and the broad scale of its work and influence mean that a number of the biodiversity objectives are now reported under a single objective.
- Considerable progress has been made in improving visitor facilities and electronic information as part of the European funded Sustainable Tourism in Estuarine Parks (STEP) project. However, this funding stream is now complete and future improvements on the same scale may prove difficult to achieve - this is also true of Promoting Integrated Sediment Management (PRISMA) and therefore sediment control.
- Making the issue of sea level rise and climate change adaptation accessible and interesting to local communities and businesses has been challenging, despite some innovative drama and social media projects.



- 3.3 It is not proposed to invite Members to review progress against each objective in detail – as noted, the information in the Appendix is only a small summary of the progress and more detailed information is on the e-Plan website as outlined above. However, it would be helpful if Members could indicate if there are particular objectives that they consider would definitely merit further attention in the next Plan.

Background papers: None

Authors: Andrea Long  
Date of report: 12 May 2015

Broads Plan Objectives: None

Appendix: APPENDIX A - Broads Plan 2011: Progress Update

## APPENDIX A

Strategic Objective	Means to achieve	Lead Partners	Progress	Priority Project
<b>CC1:</b> Support central government aspirations towards a low carbon economy.	<b>CC1.1:</b> Promote sustainability requirements, reduction of greenhouse gas emissions and adoption of real targets for GHG emission reductions by organisations and communities	Broads Authority (BA)/ Natural England (NE) / Environment Agency (EA) /Local Authorities (LAs)	<ul style="list-style-type: none"> <li>Climate Change Adaptation Plan produced in 2015.</li> <li>BA procurement of timber and aggregates reviewed.</li> <li>New Anglia LEP produced; Green Economy Pathfinder promoting sustainable businesses in Norfolk and Suffolk.</li> <li>STEP project (Sustainable Tourism in Estuary Parks) encouraged businesses to join the Green Tourism Business Scheme and boatyards to register for the Green Boat Mark.</li> <li>The BA received a Bronze Green Apple Award for the Salhouse Broad Project from the UK Green Earth Appeal, which recognises organisations for green production processes and carbon emission reduction.</li> </ul>	
	<b>CC1.2:</b> Record, monitor and publicly report progress towards low carbon economy	BA/NE/EA/LAs	<ul style="list-style-type: none"> <li><a href="#">Carbon reduction targets</a> adopted by the BA on 24 June 2011.</li> <li>Broads Authority recorded reduction of 22% in its CO<sup>2</sup> emissions for 2012/13 compared to the previous year. It recorded an increase in 2013/14 and is promoting energy efficiency measures to staff, with a focus on reducing electricity usage and transport emissions.</li> </ul>	
<b>CC2:</b> Develop Broads climate change adaptation plan to identify policy direction and 'no regret' actions	<b>CC2.1:</b> Establish programme of community engagement to explain vulnerability of the Broads to climate change and identify local concerns and aspirations to inform adaptation planning	LAs/BA	<ul style="list-style-type: none"> <li>The revised draft Climate Adaptation Plan (inc. summary version) has been prepared for consultation. The Plan is designed to help raise public awareness and help people be 'climate smart' in project planning and decision making and includes an initial assessment of options for flood risk management.</li> </ul>	√
	<b>CC2.2</b> Conduct risk-based assessments of current and future local vulnerabilities for people, nature and historic environment (linked to non-climate related risks) and publish results	BA/NE/EA/LAs	<ul style="list-style-type: none"> <li>A report on <a href="#">The Potential Impacts of Climate Change on the Norfolk Broads</a> has been produced by the Tyndall Centre for Climate Change for the Broads Authority.</li> <li>A report on the <a href="#">impacts on the Broads and adjoining coast from the storm and tidal surge in December 2013</a> stated that the system coped well, though attention was drawn to the flooding at</li> </ul>	√

			Haddiscoe Island and minor damage to defences to see what lessons could be learned.	
<b>CC3:</b> Ensure flood risk management evolves to provide solutions that protect and retain the special assets of the Broads in meeting society's needs	<b>CC3.1:</b> Progress 20-year Broadland Flood Alleviation Project (BFAP) to schedule, realising opportunities for enhancements for biodiversity, recreation and navigation	EA	<ul style="list-style-type: none"> <li>All major improvement works have been completed. Crest raising and bank repair works have been undertaken at Buckenham Marshes, Cantley Marshes, and between Beccles and Burgh St Peter. Further works to maintain defences at Cantley and Strumpshaw are programmed for 2015. A new bank has been constructed at Carleton Marshes and piling removal carried out at Coldharbour Farm and upstream of Acle. Ongoing works will continue over the remaining years of the project to raise any lengths of bank that settle excessively.</li> </ul>	√
	<b>CC3.2:</b> Develop flood risk management strategy to follow on from BFAP (i.e. after 2021), assessing advantages and disadvantages of various engineering options	EA	<ul style="list-style-type: none"> <li>Very limited progress on this objective to date.</li> <li>Public consultation held on the draft Anglian River Basin District Draft Flood Risk Management Plan for 2015 to 2021 and beyond.</li> </ul>	√ Issue for next plan?
	<b>CC3.3:</b> Continue to maintain existing sea defences along Eccles to Winterton frontage and develop options for progressive Medium Term Implementation Plan	EA	<ul style="list-style-type: none"> <li>Investment along the coast, in terms of maintaining the defences and feeding the beach with sand to protect them has continued by the Environment Agency. However, very limited progress has been made to identify what will follow the Broadland Flood Alleviation Project. (BFAP)</li> <li>Public consultation has been held on the draft Anglian River Basin District Draft Flood Risk Management Plan for 2015 to 2021 and beyond.</li> </ul>	√
<b>CC.4:</b> Promote practices and incentives that encourage sustainable management approaches in land and water use, recreation, business and development.	<b>CC4.1:</b> Establish planning and design approach that enables appropriate sustainable development within Broads flood plain, including use of experimental and innovative techniques (e.g. floating buildings)	BA/LAs	<ul style="list-style-type: none"> <li>The Broads Development Management Policies were adopted in 2011 and The Broads Site Specific Policies Local Plan was adopted in July 2014. The Plans include policies encourage innovative and modern high quality design, promote local distinctiveness and local materials and allocate land in areas of the Broads for certain uses and sets specific policy criteria to be met.</li> <li>The review of the policies in to the Broads Local Plan will further develop these ideas.</li> </ul>	√

	<b>CC4.2:</b> Promote sustainable planning and management of water resources at catchment and regional scale	BA/EA/LAS /Anglian Water (AW)/ Essex and Suffolk Water	<ul style="list-style-type: none"> <li>The <a href="#">Broadland Rivers Catchment Plan</a> was adopted in May 2014. Project opportunity mapping is being coordinated through the Broadland Catchment Partnership, using local knowledge to prioritise areas of the catchment down to field level and assess opportunities for funding allocation and collaboration between organisations and farmers.</li> <li>The Partnership has secured funding from Defra for a 'Slow the Flow' project to construct and demonstrate rural sustainable drainage schemes (SuDS) in less productive marginal areas of agricultural fields.</li> <li>Additional funding for river habitat improvement schemes on the Bure, Waveney and Wensum has also been secured</li> </ul>	
	<b>CC4.3:</b> Work with land managers to aid understanding of climate change impacts on their businesses and promote best practice for carbon emission reduction	NE/BA/ Country Landowners Association (CLA) National Farmers Union (NFU)	<ul style="list-style-type: none"> <li>New arrangements are being finalised between Natural England and protected landscapes to share data related to the Broads boundary with landowners, in order to help understanding and management of the carbon storage in peat and other soils. The Catchment Approach for the Broadland Rivers will also promote the value of retaining sediment on the land to help carbon management (see <a href="#">action BD3.1</a>).</li> <li>Updates now reported under <a href="#">CC2</a>, <a href="#">AL1</a> and <a href="#">AL2</a>.</li> </ul>	
	<b>CC4.4:</b> Develop best options for expanding production of renewable energy within Broads environment	BA/LAS	<ul style="list-style-type: none"> <li>A Landscape Sensitivity Study for Renewables and Infrastructure was completed in 2012. The study provides an assessment of the sensitivity of the Broads landscape to renewable energy projects such as solar PV and wind turbines. It also provides a baseline for evaluating infrastructure projects to support offshore windfarm developments.</li> <li>The Broads Sustainable Development Fund supported research by 4NRg into renewable energy solutions for remote areas in the Broads. The SDF also funded 4NRg's research into a <a href="#">tidal energy concept</a>.</li> </ul>	
	<b>CC4.5:</b> Promote low carbon initiatives in Broads tourism and recreation provision	BA/ Broads Tourism Partners	<ul style="list-style-type: none"> <li>The STEP project (Sustainable Tourism in Estuary Parks), which ended in June 2013, supported a range of green initiatives including the Green Tourism Business Scheme, the Green Boat Mark scheme and the provision of eight new electric charging</li> </ul>	

			points. Eco-projects have also been funded through the Broads Sustainable Development Fund, including conversion of boats to electric motors, an electric boat charging point, energy saving building measures and an rainwater boat wash-down system. Sustainable tourism initiatives are promoted in the <a href="#">Greentraveller Guide to the Broads</a> , published in Spring 2013.	
	<b>CC4.6:</b> Seek sustainable uses for recycling and reusing by-products from land and water management	Conservation Partnership/ NGOs	<ul style="list-style-type: none"> <li>Report produced on '<a href="#">New Opportunities For The Sustainable Management Of Fens: Reed Pelleting, Composting And The Productive Use Of Fen Harvests</a>'.</li> <li>The development of rush (<i>Schoenoplectus lacustris</i>) along the River Waveney mapped and the Authority has investigated sustainable rush harvesting, working with local artists and crafts people, Waveney Rush Ltd, the River Waveney Trust and the Environment Agency. A trial commercial harvest of rush in the River Waveney - the first harvest in 30 years - is being carried out</li> </ul>	
<b>LC1:</b> Identify and promote distinctive landscape character areas and deliver integrated project management in liaison with local communities.	<b>LC1.1:</b> Complete European Landscape Action Plan	BA	<ul style="list-style-type: none"> <li>The Broads European Landscape Convention (ELC) action plan has been updated. Actions within the plan are part of the Heritage Lottery Fund Landscape Partnership Scheme funding bid currently in preparation (see action LC1.2).</li> </ul>	√
	<b>LC1.2:</b> Work with partners and local communities to develop opportunities to promote landscape management at a local valley scale	BA, Partners Community Groups	<ul style="list-style-type: none"> <li>Upper Thurne Enhancement budget supporting a community fund to which local interest groups and parish councils can apply for support towards local enhancement schemes. The Hickling Staithe enhancement project has been a successful pilot project, with the BA working with the parish to maintain access to the slipway.</li> <li>Other projects delivered include a partnership with the Buxton Estate and the National Trust to undertake bank erosion protection measures at Horsey Mere, incorporating a viewing/fishing area and an extension to the easy access path and signage and staithe enhancements at Somerton in partnership with the Staithe Trust.</li> </ul>	

	<b>LC1.3:</b> Develop comprehensive evidence base of cultural and historic landscape characterisation and assets to inform interpretation and management guidance	BA/NCC	<ul style="list-style-type: none"> <li>The Placemaking Project is developing, with conceptual work on project content and web design. An animated video, '<a href="#">The Great Estuary Story</a>', has been produced. A Placemaking page on the Authority's website will illustrate and describe the key landscape features of the Broads. The findings of a <a href="#">review of the archaeology of the Broads</a> was published in October 2014.</li> </ul>	
	<b>LC1.4:</b> Complete survey of sites and features of geodiversity significance in the Broads	NGP	<ul style="list-style-type: none"> <li>The Norfolk Geodiversity Partnership (NGP) to develop project ideas in the Broads. A 'geological story' has been completed for the Broads, together with two pilot areas in the Thurne and the 'great estuary'. This information will be part of a pilot interpretation project and incorporated in the Broads place-making guides (see <a href="#">action LC1.2</a>).</li> <li>Further work curtailed due to a lack of funding.</li> </ul>	
<b>LC2:</b> Protect heritage assets identified as being 'at risk' and those identified as being 'locally important'	<b>LC2.1:</b> Develop action plan for listed and locally significant buildings and scheduled monuments, informed by condition survey, and adopt strategy for their future	BA/ Parish Councils/ Norfolk Windmills Trust	<ul style="list-style-type: none"> <li>58 riverside chalets have been proposed for inclusion on the Local List. Up to 12 structures will be studied more closely with a view to putting a thematic group forward to Historic England for formal inclusion on the National List.</li> <li>Around 20 mill action plans from the first Local List are included within the HLF Landscape Partnership bid (action LC1.2).</li> </ul>	√
	<b>LC2.2:</b> Undertake survey to identify vulnerability of heritage assets to climate change and publish advice to owners	BA/ NCC	<ul style="list-style-type: none"> <li>Ongoing survey and research work to inform the Local List and Mills Strategy (see action LC2.1) includes an assessment of the vulnerability of heritage assets in the Broads to the impacts of climate change and sea level rise.</li> </ul>	√
	<b>LC2.3:</b> Undertake two Conservation Area Appraisals (or reappraisals) per annum	BA	<ul style="list-style-type: none"> <li>Conservation Area Appraisals for Somerleyton, Neatishead and Barton Turf were adopted in 2011.</li> <li>Ditchingham Dam, Ellingham and Geldeston Conservation Area reappraisals were adopted in 2012 and Langley in 2013.</li> <li>Appraisals consulted on in 2013/14 included Salhouse and South Walsham.</li> <li>Langley Abbey and Halvergate were adopted in 2014</li> <li>Oulton Broad is due to be adopted in Summer 2015 and survey work has begun on Stalham Staithe and Somerton</li> </ul>	
	<b>LC2.4:</b> Promote preservation, restoration and use of craft historically used on the	Local Interest Groups/	<ul style="list-style-type: none"> <li>Norfolk Wherry Trust has been awarded a BA Sustainable</li> </ul>	

	Broads	Charities/ BA	<p>Development Fund award for a digital archive database and register of artefacts.</p> <ul style="list-style-type: none"> <li>Heritage skills training is being included as part of the HLF bid (see action LC1.2). The aims include partnership working to promote and provide training in traditional heritage skills, including boatbuilding.</li> <li>The Broads has been identified as a site of Exceptional Waterlogged Archaeology by English Heritage, much of which will relate to wrecked craft</li> </ul>	
	<b>LC2.5:</b> Support heritage and cultural skills training and employment in traditional Broads industries	BA/ BRASCA	<ul style="list-style-type: none"> <li>A Reed and Sedge Cutting Industry Action Plan was produced by the BA in liaison with the industry and other stakeholders. The Plan supports the multiple benefits the reed and sedge cutting industry in the Broads provides for biodiversity, landscape character, land management and protection, cultural heritage, local economy and employment, and low carbon management of wetlands, and sets the focus for achieving the necessary conditions for ongoing sustainability of the industry.</li> <li>The BA is continuing to support reed and sedge cutters through health and safety training, funding for pooled equipment and contracting cutters for conservation works</li> </ul>	
<b>LC3:</b> Promote affordable housing to meet identified local needs and encourage sustainable communities	<b>LC3.1:</b> Improve understanding of local housing needs within the Broads Authority executive area	BA/LAs/ RSLs/ Rural Enablers	<ul style="list-style-type: none"> <li>Work began on the Greater Norwich Strategic Housing Market Assessment (SHMA) in November 2013. The SHMA was broadened from its original brief to cover the Central Norfolk Housing Market area (Breckland, North Norfolk, Broadland, South Norfolk and Norwich City Councils and part of the Broads).</li> <li>Report due to be finalised in Spring/Summer 2015.</li> </ul>	√
<b>LC4:</b> Work with bodies responsible for highways and utilities to minimise the impacts of infrastructure and noise and light	<b>LC4.1:</b> Work with steering group comprising designated areas in South and East to promote schemes to progress undergrounding of overhead electricity distribution cables in Broads area	BA/ Utilities companies	<ul style="list-style-type: none"> <li>The £1.7m Barsham marshes project was completed in Winter 2014.</li> <li>The £60K project at St James Hospital, Horning Hall was completed in early 2015</li> </ul>	√

pollution in the Broads				
	<b>LC4.2:</b> Seek to influence impacts of development growth beyond the Broads Authority executive boundary, recognising positive benefits to Broads and surrounding areas	GNDP BA LAs	<ul style="list-style-type: none"> <li>The Broads Authority and adjoining Norfolk Local Planning Authorities have established a formal duty to co-operate strategic framework which will co-ordinate joint evidence base for future Local Plans, public inquiries and public examinations. (See also LC3.1 above)</li> <li>A less formal approach is being established with the Suffolk Authorities</li> </ul>	
<b>BD1:</b> Deliver biodiversity planning in the Broads at strategic and site specific levels	<b>BD1.1:</b> Agree co-ordinated approach to influence use of resource mechanisms (e.g. agri-environment schemes) to meet biodiversity objectives	CP/ BA/Norfolk Biodiversity Partnership/ Suffolk Biodiversity Partnership	<ul style="list-style-type: none"> <li>Progress on this objective has been slow.</li> <li>The National Park Authorities lobbied for the New Environment Land Management Scheme (NELMS), replacing environmental stewardship biodiversity and resource protection scheme. The scheme will take an 'ecosystems services' approach and set priorities around value for money.</li> <li>The BA has provided land owner advice on Higher Level Stewardship applications, including ecology and water management across the Broads.</li> <li>A report on agri-environment schemes and the value of grass marsh in Broadland was taken to the Authority's meeting in September 2013.</li> </ul>	
	<b>BD1.2:</b> Review annual Biodiversity Action Plan and implement 5-year rolling programme that enhances ecosystems services	CP/BA NBP/ SBP	<ul style="list-style-type: none"> <li>Reporting against this action now incorporates actions BD3.1, BD3.2 and BD4.1 following the adoption of the <a href="#">Biodiversity and Water Strategy 2013-18</a>.</li> <li>The strategy sets out the partnership working, resource prioritisation and target setting required for biodiversity and water management work in the Broads.</li> <li>New river edge reed swamp habitat has been created at Salhouse (River Bure) and Heigham Sound (River Thurne through sediment reuse. Phoslock has been used in Cromes Broad at How Hill Nature Reserve to lock away phosphates and help reduce algal growth and improve water quality. UCL is undertaking a wetland ecosystems assessment to compare the Broads and the Upper Lough Erne. The Authority has been working the BTO on tagging</li> </ul>	✓



			<p>and tracking <a href="#">cuckoo migration</a> from the Broads and wider UK. Seminars have been held on 'Hydrology on the Broads' looking at tools and processes to assess site hydrology and water abstraction, turf pond creation, monitoring, and best practice.</p> <ul style="list-style-type: none"> <li>• A scientific review of the past status, current condition and future recommendations for all lake habitats in the Broads was completed in April 2015.</li> </ul>	
	<b>BD1.3:</b> Complete and maintain species recording, reporting, auditing, mapping and species assemblage assessment approach	BA/NE Norfolk Biodiversity Information Service (NBIS)/ Suffolk Biological Records Centre (SBRC)	<ul style="list-style-type: none"> <li>• Updates relating to this action are now reported under <a href="#">action BD4.3</a>.</li> </ul>	
	<b>BD1.4:</b> Complete mapping and raise awareness of peat resource with local farming community	BA/NE	<ul style="list-style-type: none"> <li>• Some limited progress on this objective.</li> <li>• The BA undertook 3-D mapping of selected peat cores for the Broads. The results of this exercise are available for use as an educational resource "For Peat's Sake".</li> </ul>	
<b>BD2:</b> Co-ordinate actions to achieve management objectives for all designated sites, including local wildlife sites	<b>BD2.1:</b> Continue to coordinate delivery of remedies relating to SSSIs in the Broads	CP	<ul style="list-style-type: none"> <li>• The programme of Water Framework Directive projects continues, with progress reported at Water Quality Partnership meetings.</li> <li>• A suite of Water Framework Directive projects have been completed including an assessment of nutrient budgets to some SSSI lakes and sediment 'fingerprinting' in the Bure, Ant and Muckfleet catchments to assess the major sources of sediment inputs, providing evidence to support the need to tackle diffuse pollution through initiatives such as Catchment Sensitive Farming. It also identifies other catchment-specific sources of sediment, such as highways and septic tanks, which can then be targeted.</li> </ul>	
	<b>BD2.2:</b> Complete survey and designation of Local Wildlife Sites including County Wildlife Sites, and consider evidence for SSSI designation	NWT/SWT BA/NE/NBP	<ul style="list-style-type: none"> <li>• Grazing marsh, grassland and woodland sites have surveyed and additional sites for survey have been identified.</li> <li>• Since 2009, 19 County Wildlife Sites (with a total area of 156.31ha) have been designated, bringing the total to 41 sites (total area 416.3ha). Further reedbed sites are being assessed for County Wildlife Site designation.</li> </ul>	

<b>BD3:</b> Continue the improvement of the water quality and water resource in the Broads by addressing priority issues of diffuse pollution from nutrients and managing saline intrusion	<b>BD3.1:</b> Develop understanding of status of water bodies and wetlands and how current actions will achieve targets under Water Framework Directive and Habitats Directive	Water Quality Partnership /CP	<ul style="list-style-type: none"> <li>Updates relating to this action are now reported under <a href="#">action BD1.2</a>.</li> </ul>	
	<b>BD3.2:</b> Deliver partnership projects to improve chemical and biological quality of water bodies, including restoration of wetlands	WQP/CP	<ul style="list-style-type: none"> <li>Updates relating to this action are now reported under <a href="#">action BD1.2</a>.</li> <li>A one-year EA rural sewerage project ran between March 2012 and 2013 focused on identifying high risk areas for diffuse rural pollution and providing advice packages for home owners.</li> <li>The Trinity Broads Partnership (Broads Authority, Essex and Suffolk Water, Natural England and Environment Agency) worked with Anglian Water to identify risky waste water assets and sensitive receptor sites in the Trinities and wider Broads area.</li> </ul>	
	<b>BD3.3:</b> Continue Trinity and Lound Partnership and Brograve Partnership approach to developing integrated conservation and catchment management and protecting water supply	WQP/CP/ Water Management Alliance	<ul style="list-style-type: none"> <li>Limited progress has been made on this objective.</li> <li>The Brograve Partnership undertook trials of water management to reduce salt and ochre input.</li> <li>The <a href="#">Trinity Broads Management Plan 2012-17</a> was finalised in April 2012 following consultation and consent from Natural England. The action plan is now being implemented by project partners. Hydrology work is ongoing within the Brograve levels towards designing new, shallowing ditching to avoid saline contamination while still retaining agricultural values</li> </ul>	
<b>BD4:</b> Implement current plans and strategies across all major Broads	<b>BD4.1:</b> Deliver agreed strategic management approach for Broads lake restoration	WQP	<ul style="list-style-type: none"> <li>Updates relating to this action are now reported under <a href="#">action BD1.2</a>.</li> </ul>	√

habitats and identify further research, planning and funding needs				
	<b>BD4.2:</b> Manage and increase area of fen and drained marsh in accordance with agreed strategies and research base (incorporating climate change adaptation planning)	CP Landowners	<ul style="list-style-type: none"> <li>Some limited progress on this objective.</li> <li>Creation of new reedbed habitat at Salhouse (River Bure) and Heigham Sound (River Thurne has been completed.</li> <li>Work is ongoing at South Fen to ensure that the water management is working correctly to restore fen plants.</li> <li>A <a href="#">report on conservation management practical work and monitoring</a> was taken to the BA in March 2014.</li> </ul>	√
	<b>BD4.3:</b> Research and monitor habitats to ensure restoration works are effective and to support BAP recording schemes	CP Landowners	<ul style="list-style-type: none"> <li>Register compiled providing a complete <a href="#">list of all conservation research</a> undertaken over the past three years by the BA.</li> <li>Other research includes an RSPB MSc project looking into sediment input and movement around Sutton Fen, and BA water vole research to establish the most effective mitigation techniques.</li> <li>A fen invertebrate survey to monitor species 'cold spots' has been completed, showing that the diversity of some of the newly created fen sites is very rich for rare invertebrates. Sites with new data include Buttle Marsh, South Fen, Mown Fen Decoy Carr, Kings Fen and Whitlingham Marsh and plants.</li> </ul>	
<b>BD5:</b> Develop landscape-scale initiatives that connect and integrate land management, support critical ecological function and build resilience to climate change impacts	<b>BD5.1:</b> Identify, survey, map and promote potential opportunities to extend, relocate, buffer and connect habitats and strengthen ecological networks	CP	<ul style="list-style-type: none"> <li>Very limited progress made against this objective.</li> <li>Barn Own projects in the Norfolk and Suffolk Broads are increasing coverage of nesting boxes and providing advice to landowners on extending and managing habitats for this species.</li> <li>Habitat and ecosystem services mapping for Norfolk has been coordinated by Norfolk Biodiversity Information Service (NBIS)</li> <li>Further ecosystem services mapping is being coordinated by the Broadland Catchment Partnership.</li> </ul>	√

	<b>BD5.2:</b> Monitor impacts of climate change on vulnerable species and habitats, including Breydon	CP	<ul style="list-style-type: none"> <li>Limited progress made on this objective.</li> <li>Updates relating to this action are now reported under <a href="#">action BD4.3</a>.</li> </ul>	
<b>BD6:</b> Monitor status of invasive non-native species and develop and implement eradication plans as required	<b>BD6.1:</b> Produce and implement strategic eradication plans for priority invasive species and undertake monitoring and research to understand threats to native species and habitats	NNNSI	<ul style="list-style-type: none"> <li>The original Norfolk Non-Native Species Initiative (NNNSI) action plan has been delivered and funding secured for a comprehensive and up-to-date Norfolk Biosecurity Plan.</li> <li>Ongoing projects include Floating pennywort eradication on the river Waveney mink trapping, control of Himalayan Balsam, parrots feather, knotweed and giant hogweed, tracking of feral geese, and the launch of a garden centre accreditation scheme.</li> <li>The one-year <a href="#">Wetland Biosecurity partnership project</a> promoted the 'Check, Clean, Dry' campaign to prevent the spread of the 'killer shrimp' showed a 14% increase in high risk user compliance with biosecurity measures.</li> </ul>	√
	<b>BD6.2:</b> Support Norfolk Non-Native Species Initiative and local community 'days of action'	BA/EA/NE/WMA/NCC	<ul style="list-style-type: none"> <li>Updates relating to this action are now reported under <a href="#">action BD6.1</a>.</li> </ul>	
<b>AL1:</b> Retain a viable and profitable agricultural industry that operates within environmental limits relevant to the UK's largest protected wetland	<b>AL1.1:</b> Develop integrated policy base that recognises contribution of farming to economy, environment and quality of life	CP/NFU/CLA Landowners	<ul style="list-style-type: none"> <li>The Broadland Catchment Partnership project is engaging with farmers and landowners on integrated approaches to water catchment activities and support. Diffuse pollution risk modelling has been mapped, showing potential high risk areas and how they align to current activity and grant aid.</li> <li>Additional modelling and mapping of ecosystem services (such as carbon storage and sustainable food production) has been commissioned.</li> </ul>	√
	<b>AL1.2:</b> Work with farming industry to investigate options for adaptation to climate change, including sustainable water and carbon management and appropriate cropping types	CP/UEA Landowners	<ul style="list-style-type: none"> <li>Progress against this objective has been limited.</li> <li>Discussions are ongoing regarding abstraction licences and water in the farmed environment to identify ways to support important farming choices alongside environmental protection.</li> <li>NFU are represented on the steering group of the Broadland</li> </ul>	

			Rivers Catchment Partnership.	
<b>AL2:</b> Manage the land so as to conserve, and where possible enhance, vital resources needed for society to live sustainably	<b>AL2.1:</b> Develop and implement Catchment Sensitive Farming (CSF) approach to meet water quality targets required now and in a changing climate	NE/EA/BA/ESW/AW	<ul style="list-style-type: none"> <li>The Catchment Sensitive Farming (CSF) scheme provided funding targeted at delivering benefits for EU-designated nature conservation sites.</li> <li>Joint CSF and EA work is resulting in action to tackle sediment coming from road crossing points.</li> <li>Wensum Demonstration Test Catchment carried out research to improve prediction and control of diffuse pollution from agriculture.</li> <li>The annual Capital Grant Scheme administered by Natural England provides grant aid to farmers to improve and install facilities to benefit water quality through reducing diffuse pollution. £12.was available in 2014/15 to farmers in the 63 CSF priority catchments and 9 Catchment Partnerships.</li> </ul>	
	<b>AL2.2:</b> Assess and promote best practice soil management to prevent irreversible loss of high grade agricultural land and retain carbon dioxide sequestration	NE/BA/EA UEA	<ul style="list-style-type: none"> <li>Updates relating to this action are now reported under <a href="#">action AL2.2.</a></li> </ul>	
	<b>AL2.3:</b> Develop farm based projects with additional benefits for biodiversity, flood and carbon management that could be used for offsetting and investment opportunities	EA/BA/NE NFU/CLA Land managers	<ul style="list-style-type: none"> <li>Progress against this objective has focused on The Barn Owl Project working with landowners to identify opportunities to enhance barn owl populations in the Broads.</li> <li>Natural England's Connecting Nature Fund, co-ordinated by Norfolk County Council, is providing 70% grants for projects that improve habitats for wildlife in growth areas around Norwich, with priority given to projects that enhance the ecological network by creating green corridors or 'stepping stones' between existing wildlife areas.</li> </ul>	
<b>AL3:</b> Integrate food production with land management to retain local landscape character rich in wildlife, heritage and	<b>AL3.1:</b> Target agri-environmental support and resource protection options to meet landscape, biodiversity and historic environment objectives, integrating enhancement of business targets and food production	BA/BRASCA/CP/Land Managers	<ul style="list-style-type: none"> <li>Limited progress against this objective.</li> <li>'<a href="#">Agri-Environment Scheme and the Value of Grass Marsh in Broadland</a>' report produced in Sept 2013. The plan of action includes engagement with landowners through the NFU and Country Land and Business Association.</li> </ul>	√

cultural features				
	<b>AL3.2:</b> Develop plan to boost reed and sedge cutting industry and develop new partnership for local sustainable products from the land	NFU/ CLA/ Partners	<ul style="list-style-type: none"> <li>Current discussions taking place with BRASCA on a potential funding bid.</li> <li>The BA provided skills training to three reed and sedge cutters in 2013/14 and has funded restoration of commercial reed at several sites.</li> <li>Broads Sustainable Development Fund helped fund refurbishment of the BRASCA Argocat, used for moving reed from reedbeds.</li> </ul>	√
<b>AL4:</b> Improve public understanding of agriculture and foster ways to enable a closer appreciation of how it can contribute to the quality of life	<b>AL4.1:</b> Promote value of local food for sustainable and healthy lifestyles	NFU/CLA/ Partners	<ul style="list-style-type: none"> <li>The 2015 Eating Out guide was produced and widely promoted. Discussions have been held with the organiser of the North Norfolk Food Festival and a date set for May 2016 to launch the Broads Food Festival.</li> <li>A new section is being developed for the Enjoy the Broads website called 'Made in the Broads' and focusing on local produce and crafts.</li> <li>Partnership work with the tourism industry has led to a substantial increase in business sponsorship for the Broads Quality Charter, with a doubling of the numbers of quality-assessed eating places for the coming season.</li> </ul>	
	<b>AL4.2:</b> Develop more opportunities for the public to visit farms and understand farming	NFU/CLA/ Partners	<ul style="list-style-type: none"> <li>The NFU's involvement in local public-facing activities includes the Back British Farming Campaign, the Royal Norfolk Show, the Food and Farming Roadshow and Demonstration Farms. Spring Fling, held at the Royal Norfolk Showground in March, regularly attracts over 5,000 school children.</li> <li>The NFU also funds Farming and Countryside Education (FACE), which links farmers and schools across the county, and is involved in a number of Open Farm Sunday events in Norfolk</li> </ul>	
<b>NA1:</b> Deliver a strategic catchment approach to sustainable sediment management to achieve a balance	<b>NA1.1:</b> Review and deliver strategic sediment management in accordance with waterways specifications	BA	<ul style="list-style-type: none"> <li>Using the new waterways specification methodology and post dredge hydrographic survey data, priority sites for future dredging operations and a proposed dredging programme for 2015/16 have been determined. 46,320m3 of sediment was removed from rivers and broads in the 2014/15 programme. This is slightly under target due to delays with mud pumping on the upper Bure and the deferral of a bank restoration project at March 2015.</li> </ul>	√

of inputs with outputs, securing defined waterways specifications for the navigation area				
	<b>NA1.2:</b> Seek to influence legislation/policy for sustainable sediment management on catchment scale and raise public awareness of challenges faced	BA/EA/NE NFU	<ul style="list-style-type: none"> <li>The sector-wide Wet Dredgings Group has an agreed Code of Practice for the use of D1 exemptions (deposit of waste from dredging of inland waters) is with regulators for approval and will be published shortly.</li> </ul>	
	<b>NA1.3:</b> Seek additional Government funding and identify external funding opportunities to develop sustainable dredging and disposal processes and accelerate removal of backlog from system, recognising wider socio-economic benefits	BA	<ul style="list-style-type: none"> <li>An <a href="#">overview of the 3-year PRISMA project</a>, which closed on 30 June 2014, was reported to the Navigation Committee. The Authority received funding of € 876,360 (over £700,000) from the European Regional Development Fund to carry out projects for the sustainable management and reuse of sediment. PRISMA legacy projects include use of learned techniques for innovative reuse of dredged material on the Bure at Wroxham and Coltishall.</li> <li>The BA has identified Hickling as a priority project for 2015.</li> </ul>	√
	<b>NA1.4:</b> Seek to establish network of appropriately licensed disposal sites to ensure viability of future dredging programmes	BA	<ul style="list-style-type: none"> <li>BA currently finalising negotiations for two dredging disposal sites – Acle/Halvergate and Potter Heigham</li> <li>Land purchase has not always been possible due to the lack of suitable sites for sale, but good use has being made of BESL setback areas.</li> </ul>	√
	<b>NA1.5:</b> Minimise impacts of bank erosion and provide advice and guidance to landowners on erosion protection design and best practice	BA	<ul style="list-style-type: none"> <li>Erosion protection scheme on the River Ant at Irstead has successfully established in terms of planted vegetation.</li> <li>3 schemes have planning permission in the Upper Bure between Wroxham and Coltishall. Eroded banks will be re-established using dredged sediment as backfill material behind “Nicospan” geotextile retention.</li> <li>Planning application guidance on bankside protection for riverside developments is being updated. (See Agenda )</li> <li>Erosion protection groundworks and planting at the viewpoint at Horsey Mere was completed in November 2013.</li> <li>Partnership project to install erosion protection and re-establish reed growth in eroded bays on western shore of Hickling Broad.</li> </ul>	

<b>NA2:</b> Manage trees and scrub along the river corridor in line with agreed management guidance and criteria	<b>NA2.1:</b> Deliver annual programmes for tree and scrub management	BA/EA	<ul style="list-style-type: none"> <li>The Winter 2014/15 works programme for river bank tree and scrub clearance took place on the River Ant and River Bure.</li> <li>The BA supported Broadsword's clearance work at Ranworth Dam.</li> </ul>	✓
<b>NA3:</b> Manage and monitor aquatic plants in navigation channels in accordance with agreed guidelines and site specific prescriptions	<b>NA3.1:</b> Implement and raise awareness of environmental standard operating procedures for aquatic plant management	BA	<ul style="list-style-type: none"> <li>All the updated <a href="#">Environmental Standard Operating Procedures</a> have been published on the Broads Authority website</li> </ul>	
	<b>NA3.2:</b> Maintain and extend annual programme of aquatic plant monitoring to understand impacts of management to biodiversity, recreation and navigation	BA/Water Quality Partnership	<ul style="list-style-type: none"> <li>25 broads were surveyed for the annual water plant survey in 2013. Hydroacoustic surveys were completed for the Trinity Broad to inform management of aquatic plants. The sampling methodology used by the Authority has been reviewed and a new point sampling method implemented to increase data robustness.</li> <li>Further work was carried out by the BA in 2014 sampling water plant growth in main river areas not sampled by the EA.</li> </ul>	
<b>NA4:</b> Implement, manage and promote safety management measures for the navigation and boats, to minimise risk and reduce environmental impacts	<b>NA4.1:</b> Transfer responsibility of Breydon Water and Lower Bure into navigation jurisdiction of Broads Authority	BA	<ul style="list-style-type: none"> <li>The transfer of responsibility for the navigation of Breydon Water and the Lower Bure from the Great Yarmouth Port Authority to the Broads Authority was completed on 1 June 2012.</li> </ul>	✓



	<b>NA4.2:</b> Implement Safety Management System and Hazard Review/Action Plan	BA	<ul style="list-style-type: none"> <li>All hazards are now 'As Low as Reasonably Practicable' (ALARP).</li> <li>A report on the Safety management System and the Marine Annual Incident Statistics reported to Navigation Committee on 23.04.15</li> </ul>	
	<b>NA4.3:</b> Maintain and enhance navigation patrolling function, supplemented through volunteer programmes and working in accordance with Enforcement Policy	BA	<ul style="list-style-type: none"> <li><i>See Enforcement item on this Agenda</i></li> <li>During the 6 months to end October 2014 BA rangers issued 5,787 verbal warnings and 234 written warnings for speeding and other navigating offences. 14 people were reported for prosecution</li> </ul>	
	<b>NA4.4:</b> Promote navigation byelaws, Better Boating and Waterways Code information and 'super safety days' to improve responsible boating behaviour	BA	<ul style="list-style-type: none"> <li>An update on the Safety Management System and the Marine Annual Incident Statistics reported to Navigation Committee on 23.04.15</li> </ul>	
	<b>NA4.5:</b> Implement and monitor water ski review recommendations	BA	<ul style="list-style-type: none"> <li>A report on the Breydon Water-ski Trial Zone was considered by the Navigation Committee on 23.04.15</li> </ul>	
<b>NA5:</b> Ensure bridge developments are designed to minimise impact on navigation access, incorporating mitigations as necessary	<b>NA5.1:</b> Monitor implementation of legal agreement with Network Rail to ensure access for navigation at railway bridges	BA/ Network Rail	<ul style="list-style-type: none"> <li>Navigation Committee receives regular updates on the Network Rail "Whole Life Strategy" for bridges.</li> </ul>	√ Issue for next plan?
	<b>NA5.2:</b> Deliver enhanced de-masting mooring provision in accordance with strategic priorities for mooring	BA	<ul style="list-style-type: none"> <li>The BA Mooring Strategy has been reviewed and a new 10-year action plan for the repiling of BA moorings implemented, with an allocated annual budget of £150K. Further work will be carried out on the prioritisation of sites and on raising additional capital for moorings and access. Pontoon safety/demasting moorings have been installed at Runham on the lower Bure. Pontoon demasting moorings are now proposed for Acle due to difficulties with negotiations regarding the proposed sites at St. Olave's.</li> </ul>	√
	<b>NA5.3:</b> Promote replacement of low bridges with opening/raised alternatives	BA/ Highways	<ul style="list-style-type: none"> <li>Planning permission was given in June 2013 for a low opening bridge at the Deal Ground, Norwich crossing to Whitlingham</li> </ul>	

	where opportunities exist in capital works projects	Agency	Country Park. (See also <a href="#">action NA5.1</a> )	
<b>PE1:</b> Promote a clear and consistent Broads 'brand' that defines the special qualities and status of the area as a resource for all	<b>PE1.1:</b> Promote messages that define the Broads 'brand' and assist businesses, organisations and local people to play a part in representing it	BT/BA LAs/ Tourism bodies	<ul style="list-style-type: none"> <li>The Generation Park Norwich development, currently at pre-application stage, is anticipated to require a new vehicular bridge.</li> <li>Consultation on National Park branding was completed in December 2014 with 79% of consultees in favour, including unanimous support from the National Park family and the Campaign for National Parks. Members passed the resolution to use the National Park name on 23 January 2015. A logo has been developed and guidelines are being produced for internal and external use of the brand. The functions and responsibilities of the Broads Authority are unchanged.</li> <li>Key messages, imagery and brand guidelines for the 'Britain's magical waterland' branding were refreshed in 2014.</li> </ul>	√ Issue for next plan?
	<b>PE1.2:</b> Further develop 'EnjoytheBroads.com' tourism website and Broads Authority website	BT/ BA	<ul style="list-style-type: none"> <li>The new BA website was launched in March 2014.</li> <li>Plans to update the 'Enjoy the Broads' website include adding new functionality and new pages and there are over 3,000 Twitter followers.</li> </ul>	√
<b>PE2:</b> Develop the network of information provision to enable people to better understand the special qualities of the Broads and enjoy them in a sustainable way	<b>PE2.1:</b> Maintain effective network of visitor information centres serving the Broads and revise provision of on-site BA visitor information points	BA /Partners	<ul style="list-style-type: none"> <li>Visitor information centres and boat trips had a very successful 2014 season. A new sales strategy selling ice cream and confectionary was introduced, leading to a considerable increase in income. The new café franchise at Whitlingham Barn is progressing well.</li> <li>Interactive touchscreens for wildlife interpretation have been installed at How Hill.</li> <li>Refurbishment of Great Yarmouth Yacht Station, Toad Hole Cottage and Hoveton took place in 2012-13.</li> </ul>	√
	<b>PE2.2:</b> Increase use and range of electronic media for information and interpretation, embracing innovative technology	BA	<ul style="list-style-type: none"> <li>See also PE2.1</li> <li>The Broads visitor phone app is being upgraded. A drone (aerial view) video of Halvergate Marshes has been produced and four more videos are commissioned for 2015/16. They will be hosted on YouTube, Enjoythebroads and BA websites.</li> <li>The Broads visitor touchscreen is part of the Time and Tide Museum's Water Ways art exhibition.</li> </ul>	

			<ul style="list-style-type: none"> <li>The Green Destination Initiative (see <a href="#">action PE1.1</a>) has been launched through a range of media, including <a href="#">Green Traveller</a> webpage guides, a smartphone app and videos of tourism activities and businesses.</li> </ul>	
	<b>PE2.3:</b> Increase range of audio-visual material that illustrates the cultural history and special qualities of the Broads and its communities	BA/ Site Interpreters	<ul style="list-style-type: none"> <li>An online landscape interpretation project is close to completion and will be hosted on the BA website shortly.</li> <li>The publication 'Know the Broads in 100 ways' has been produced for tourism businesses to better inform their customers.</li> <li>The <a href="#">Great Estuary story video</a> has been incorporated on Enjoy the Broads web site. A new video called 'Water of Life' was added to the website, together with a number of Green Traveller videos produced in 2013.</li> </ul>	
<b>PE3:</b> Enable a wider range of people, particularly those from 'hard to reach groups', to understand, experience and actively benefit from the resource of the Broads	<b>PE3.1:</b> Meet and improve particular information requirements of visitors with special needs or who are hard to reach	BA/ Partners	<ul style="list-style-type: none"> <li>£3K of Airwick National Parks sponsorship money has been allocated for a sensory garden at How Hill to be installed by Summer 2015.</li> <li>The BA website has achieved AAA compliance rating in 2014, the highest accessibility level.</li> <li>Trips on the wheelchair-friendly Ra boat are being promoted to Norfolk carers.</li> <li>BA publications continue to be made available in large print on request, but the podcast project is on hold due to lack of resources.</li> </ul>	
	<b>PE3.2:</b> Provide opportunities for disadvantaged young people to experience the Broads environment as an essential part of learning and personal development	BEEN/ BA	<ul style="list-style-type: none"> <li>The 'Forest School' style programme at Whitlingham provided visits for primary school students out of mainstream education, local schoolchildren, YMCA, students from the Foundation studies course at Norwich City College, and self-led Forest School groups. Through the Country Trust, 18 primary schools from disadvantaged urban areas visit the Broads each year.</li> <li>The Eco-challenge project, developed with the Norfolk Education Action for Development, has brought 13 groups (about 220 students) from local and international youth groups to the Broads since 2012, with a further 15 group visits planned for 2014-15. BA rangers have worked with the Princes Trust to deliver practical conservation work.</li> </ul>	

			<ul style="list-style-type: none"> <li>17 John Muir awards were awarded to young people in July 2014 in recognition for their work in the Broads. The BA provides up to 12 work experience placements a year for students of 14/15 yrs.</li> </ul>	
	<b>PE3.3:</b> Improve co-ordination and delivery of high quality educational experiences in the natural environment of the Broads	BA/ BEEN/ Education Providers	<ul style="list-style-type: none"> <li>The Broads Environmental Education Network (BEEN) and teacher champions are reviewing the Broads Curriculum and compiling educational resource material.</li> <li>BA hosted a joint meeting of the Norwich and Great Yarmouth Alternative Education Providers' Forum.</li> <li>BA is involved with the Cambridge University led project 'Pathways to Understanding Climate Change'. 3 training courses were run in 2014 for volunteers and rangers.</li> <li>BA's education provision has again achieved quality assurance with the Short Stay Schools Network, with the Education Officer involved with the direct delivery of 2,100 pupil days in 2014.</li> </ul>	
	<b>PE3.4:</b> Deliver and increase opportunities for active engagement through volunteering	BA / Partners	<ul style="list-style-type: none"> <li>After a comprehensive review and update of the BA volunteer service, 150 very active volunteers are now registered in a variety of roles. New roles include Potter Heigham Site Volunteers from April 2015. Community engagement is continuing through developing Education and Events Volunteer roles and expansion of the Volunteer Leader roles at weekends.</li> </ul>	
<b>TR1:</b> Provide visitors with a wide range of opportunities to experience, enjoy and understand the special natural environment and heritage of the Broads	<b>TR1.1:</b> Strengthen opportunities for visitors to enjoy land and water based interests including boating, angling, natural and cultural heritage, walking and cycling	BA /BT/ LAs/ Tourism and Interest Groups	<ul style="list-style-type: none"> <li>The final completed STEP Programme was taken to the Broads Authority in March 2014. Key achievements include: Development of the 'Enjoy the Broads' tourism website, 'Britain's Magical Waterland' branding, revision of the Broads Tourism Strategy, renewal of the European Charter for Sustainable Tourism in Protected Areas, establishment of the 'Love the Broads' visitor giving initiative, creation of the Broads Outdoors Festival and website, Guide to the Broads on 'Greentraveller' and 'Cool Places' websites, promotion of the Green Tourism Business Scheme and Green Boat Mark, production of 'Broads by Bike' booklet, new canoe trail maps, 'A Green Traveller's Guide to the Broads', giant touchscreens running Broads Wildlife Explorer programme, Buttle Marsh interpretation, 'Enjoy the Broads' smartphone app, augmented reality smartphone interpretation for How Hill,</li> </ul>	√

			<p>pontoon moorings at Dutch Tea Gardens, eight new electric charging points, Hoveton &amp; Wroxham station 'Welcome to the Broads' refurbishment/ interpretation, promotional videos of Broads businesses, and reviews of Broads businesses by national journalists.</p> <ul style="list-style-type: none"> <li>• BA Sustainable Development Fund grants were awarded to the 'Paddle for a Pound' project to engage young people in canoeing and sailing taster sessions at Whitlingham, and to Norwich Rowing Club for a coaching and safety catamaran.</li> <li>• Integrated Access Strategy actions - see <a href="#">action TR3.1</a>)</li> </ul>	
	<b>TR1.2:</b> Support restoration, interpretation, linking and promotion of range of heritage themes and sites	BA/LAS Heritage groups Charities	<ul style="list-style-type: none"> <li>• Norfolk Windmills Trust is progressing the HLF development phase for the Stracey Arms Mill project, which will include restoration of the mill to working condition, skills training and interpretation.</li> <li>• The HLF Landscape Partnership bid includes significant interpretation and promotion of a wide variety of built and archaeological heritage themes and sites (action LC1.2).</li> <li>• The 1905 Norfolk Wherry Hathor has been substantially restored by Wherry Yacht Charter, which has also added the 1927 Wherry Ardea to its fleet.</li> </ul>	
	<b>TR1.3:</b> Maintain and promote year round programme of events	BA/ Tourism Interest groups	<ul style="list-style-type: none"> <li>• The Broads Outdoors Festival programme was held in the first two weeks in May with a record number of events and promotional events held.</li> <li>• Broads food festival is being planned for May 2016.</li> <li>• The Broads has been represented at national events in 2014/2015 including the London Boat Show and the Outdoors Show in London. Whitlingham is a key visitor hub with special events held at Halloween, Christmas and Easter, Whitlingham Wednesdays and the annual Picnic in the Park</li> </ul>	
	<b>TR1.4:</b> Establish initiative for visitor support for conservation	BA/BT Interest groups and charities	<ul style="list-style-type: none"> <li>• The 'Love the Broads' visitor giving initiative was established in 2012 and involved seven local tourism businesses.</li> <li>• <a href="#">The Broads Trust</a> has taken ownership of the scheme, a suite of</li> </ul>	

			promotional material has been produced and incorporates the 'Enjoy, Give, Protect' branding and 80 businesses are now participating.	
	<b>TR1.5:</b> Monitor and maintain appropriate zoning and management of water space and wetlands for different forms of access and recreation	BA/BT/ Interest Groups	<ul style="list-style-type: none"> <li>Following a trial period, wakeboarding including “getting air” is permitted alongside water skiing on the River Yare Zones 2 and 4 and the River Waveney Zone 3, 4 and 5 from 1 April 2014.</li> <li>Following scoping consultation with a wide range of stakeholders, it was agreed that a dedicated water space management plan for Breydon Water was not required.</li> </ul>	
	<b>TR1.6:</b> Examine opportunities to extend or expand navigable water space for recreation, consistent with conservation interests and flood risk management	BA/ Partners/ Interest groups	<ul style="list-style-type: none"> <li>A formal canoe access agreement now exists between Geldeston Locks and Ellingham Mill.</li> <li>An aspiration remains regarding the possibility of extending access to the North Walsham and Dilham canal.</li> </ul>	
<b>TR2:</b> Continue to improve the quality of the visitor experience, providing a consistent standard of facilities, services and welcome	<b>TR2.1:</b> Encourage upgrading, investment and diversification in hire fleet and land-based visitor facilities and services, and associated skills training	BT/ Tourism Bodies/ BA/ BHBF	<ul style="list-style-type: none"> <li>Under the 'Green Boat Mark', the first eco-accreditation scheme for motor cruisers in the UK, a number of Broads Hire Boat Operators were graded.</li> <li>Increased private sector sponsorship has enabled better promotion of the Broads at regional and national events including the Outdoor Adventure and Travel Show, bird fairs and Norfolk Show.</li> <li>The Regional Growth Fund supported the BA's participation in Visit England's English Countryside campaign 2014.</li> <li>'Know the Broads' training courses are ongoing, aimed principally at tourism business staff but also at owners of small lifestyle enterprises.</li> </ul>	
	<b>TR2.2:</b> Maintain programme of expansion and improvement of moorings, slipways and yacht stations, including developing provision of electric/solar shore power points, water and refuse facilities	BA/LAs PCs/ BHBF	<ul style="list-style-type: none"> <li>4 electric charging posts are being upgraded at Hoveton, Reedham and Stokesby.</li> <li>4 new charging points installed at Norwich Yacht Station</li> <li>A new 24hr mooring has been installed at Hardley Cross.</li> <li>New slipways have been completed at Belaugh and Cary's Meadow.</li> </ul>	√
<b>TR3:</b> Develop a strategic approach to sustainable	<b>TR3.1:</b> Develop integrated access strategy for the Broads, incorporating route networks linked to destination	BA	<ul style="list-style-type: none"> <li>Broads Integrated Access Strategy adopted in March 2013</li> <li>A new canoe access launching and mooring facility has been installed at Cary's Meadow (River Yare) as part of a programme</li> </ul>	√

access in the Broads	points and public transport		<p>of improvements to the site. Hickling Parish Staithe enhancements have been completed.</p> <ul style="list-style-type: none"> <li>• The BA and NCC have been successful in a bid to the Department for Transport's Cycling Ambition in National Parks fund, obtaining £712K for the first section of the 3 Rivers Way cycle route between Hoveton and Horning.</li> <li>• Works on a canoe launch at Ellingham and a permissive path at Ludham are scheduled to take place following a tender process for the works.</li> </ul>	
	<b>TR3.2:</b> Deliver revised County/Broads Rights of Way Improvement Plan and Rights of Way maintenance programmes	NCC/ SCC/ BA	<ul style="list-style-type: none"> <li>• The Broads Rights of Way Improvement and Open Access Plan reviewed through consultation with the Broads Local Access Forum, taking into account the reduction in Norfolk County Council's cutting regime. The Broads Authority's Rights of Way maintenance programme is continuing to focus on permissive paths and promoted routes.</li> </ul>	
	<b>TR3.3:</b> Collate information and further audit work on access to the Broads for people with disabilities to inform access and rights of way improvement plans	Broads Local Access Forum	<ul style="list-style-type: none"> <li>• Updates relating to this action are now reported under <a href="#">action TR3.1</a>.</li> <li>• Ongoing refinement of GIS mapping for the Integrated Access Strategy (see action TR3.1) is providing up-to-date information on existing and potential easy access routes and points. The BA is liaising with the EA to identify opportunities for easy access facilities for anglers through the updated Broads Angling Strategy published in June 2013.</li> </ul>	

**Construction, Maintenance and Environment Work Programme  
Progress Update**

Report by Head of Construction, Maintenance and Environment

**Summary:** This report sets out the progress made in the delivery of the 2015/16 Construction, Maintenance and Environment Section work programme.

Member's views are sought in relation to item 5 of this report with regards to the proposed changes being suggested to the Waterways Specification.

**1 Construction Programme Update 2015/16**

- 1.1 The progress of the Construction and Maintenance work programme is described in this report. As previously reported verbally to members, a further detailed breakdown shows that up to the end of April 2015, 3,630m<sup>3</sup> of sediment has been removed from the Rivers and Broads, and the details of quantities and costs achieved so far are set out in Appendix 1. This represents 7.3% of the programmed target of at least 50,000m<sup>3</sup>.
- 1.2 The dredging on the River Ant has been completed and the dredging crew have re-located to the river Bure. Dredging is taking place, upstream of Ant mouth, adjacent to the true right bank. Disposal for this section is into set-back at Horning Hall where the material may be re-used for crest raising once it dries out. Any surplus material will be left insitu and used to form a reeded rond.
- 1.3 Grab 10, our large dredging barge with an installed crane, has been moved from Berney Arms to Oulton Broad in preparation for the dredging campaign due to start week commencing 25 May. Disposal for the removed sediment will be in the lagoon area at the Dutch Tea Gardens.
- 1.4 The RB22 crane, mounted on nine linkflotes has completed the dredging in the River Chet and is being moved back to the Griffin Lane Dockyard as the linkflotes need some maintenance. The last of the sediment removed from the Chet close to Loddon basin has been levelled and fenced off. This is required to stop livestock and pedestrians straying into the wet areas.
- 1.5 The Broads Authority small mud pump is continuing to work on the Upper Bure at Horstead. The wires which anchor the pump into position have been moved to enable the final section of this reach to be dredged. We anticipate to have completed this project by the end of May. Sediment pumped from this location are being placed on an agricultural field, and once dry will be



ploughed in to aid nutrients and water retention within the soils. The mud pump will then be dismantled and returned to Griffin Lane Dockyard for a full overhaul following its earlier submersion in the river.

- 1.6 Our new long reach Doosan DX225LC has been demonstrating its versatility by installing new channel markers in Barton Broad. It was mobilized from dredging duties on the River Ant into Barton Broad to erect 12 new steel channel markers, before moving on to the River Bure to carry on dredging.

## **2 Maintenance Programme Update 2015/16**

- 2.1 The maintenance reports below give a few highlights of the work that has been carried out since the last navigation report.
- 2.2 Using money received from the Airwick air freshener campaign work has started on a 'sensory garden' at How Hill. The scheme will include plants that incorporate colour, smell and noise planted in raised beds to allow all to enjoy. The area around the garden will have a wheelchair and pushchair friendly surface with new benches to allow visitors to sit and enjoy the planting. The construction phase will be completed by mid-June with planting to follow.
- 2.3 Mooring refurbishment has been ongoing with Bramerton, Wayford Bridge and Womack Dyke 24 hour mooring all receiving new timber waling and capping ready for the summer season.
- 2.5 The recent weather, a combination of rain and sunny days has seen the growing season start with gusto; this has seen our mowing programme start with many of the moorings already having had a number of cuts.
- 2.6 Hoveton Riverside Park has also been receiving some much needed maintenance works with timbers being replaced on the boardwalk (under the viaduct) and to the decking area.

## **3 Environment Team Programme Update 2015/16**

- 3.1 Preparation works for the monitoring and mitigations works required at Hickling are ongoing with surface sediments being sampled to investigate the levels of copper concentrations across the broad. Broads Authority Environmental Officers were joined by Steve Lambert (Ph.D. author of original Hickling data, one of the sources of data used by Natural England when determining permitting of works on Hickling).
- 3.2 Prior to sediment disposal at Oulton (Dutch Tea Garden Lagoon) the Environment Officers have been carrying out pre-dredge survey's checking for water vole, nesting birds and reptile habit within the site. Following their recommendations mitigation works to cut back reed growth has taken place.
- 3.3 In order to allow for tree works to take place pre surveying for bats is a requirement under the habit regulations and this work has been undertaken by

Environment Officers and Rangers on the river Bure. This survey works allows tree works to be programmed and prevents bats from being disturbed.

- 3.4 The bio-manipulation barriers at Barton Broad have been inspected to ensure that holes, tears or other gaps do not allow fish to enter the enclosed area.

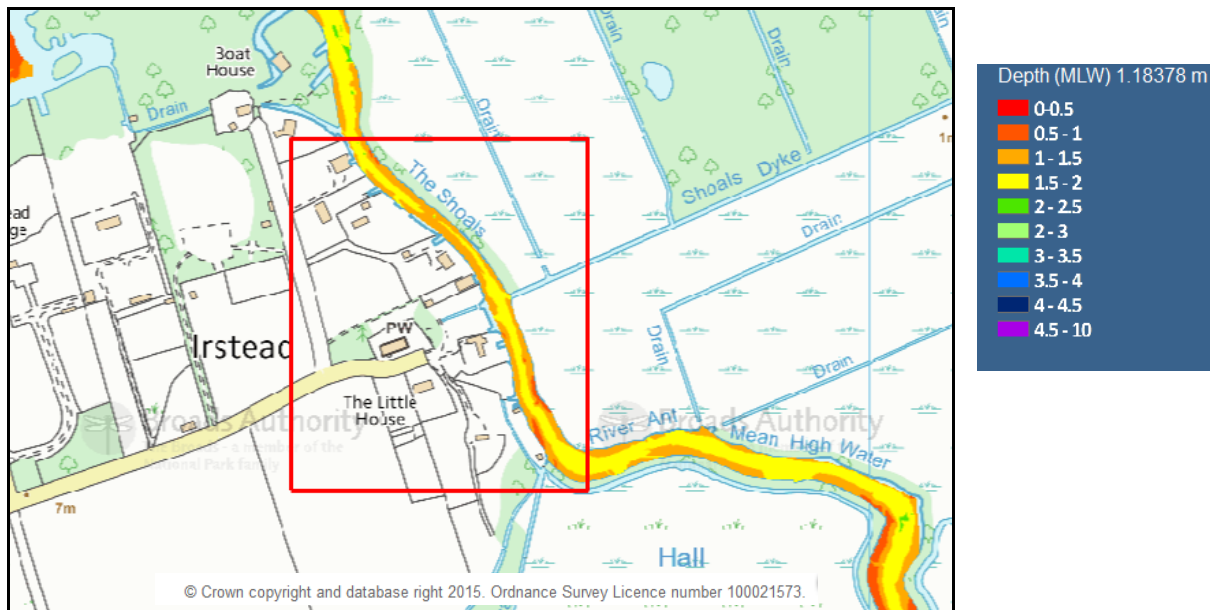
#### **4 Fitters**

- 4.1 The hydraulic drive issue we were having with work boat Shoveller has been rectified with both drive systems being replaced and the seals being realigned. This work will mean the vessel can enter back into service.
- 4.2 The refit of the two large wherries, John Fox and Tony Hewett, has now been completed. Both wherries have had new steel floors installed, a needed addition to these vessels as unloading with 360 excavators puts a higher stress on the holds and the old timber floors were not standing up to the task. Whilst at the Dockyard for this work the holds have been shot blasted and repainted to give longevity to the steel plating. Once the engines have been serviced they will both be back into service, forecast to be mid-June.
- 4.3 A delay in receiving a 'triple bank pump' has affected the refit of the Berky weed cutter. The parts are expected this week with installation and river trials being made a high priority. The older weed cutter is in the workshop and the refit and engine servicing is nearly complete. Both cutters are expected in service by the start of June ready to begin weed cutting.
- 4.4 All the motor launches are in service, following their refitting, and only a few minor maintenance issues have been experienced. Motor Launch Charles Collier has been performing well following the fitting of a new engine in April 2015.

#### **5 Suggested Changes to Waterways Specifications**

- 5.1 Due to recent dredging work and investigation on the bed material it has become apparent that achieving the original waterways specification is not possible in some localised areas within the scope of the Sediment Management Strategy. The Sediment Management Strategy is based the Authority undertaking maintenance dredging; the removal of accumulated riverine sediments. The extraction of natural bed material is considered to be capital dredging and takes us outside of the main scope of the sediment management strategy.
- 5.2 The Sediment Management Strategy includes the navigable envelope cross sections, showing ideal specification depths. This gives a good broad overview, however some localised conditions require further consideration. A revision is therefore proposed to the waterways specification depth for three localised sites in the Broads navigation, as outlined below. Each of these sites is historically known to be shallow areas and the proposed revised specification depths better reflect the reality of the depths in these areas.

### 5.3 River Ant: Irstead Shoals

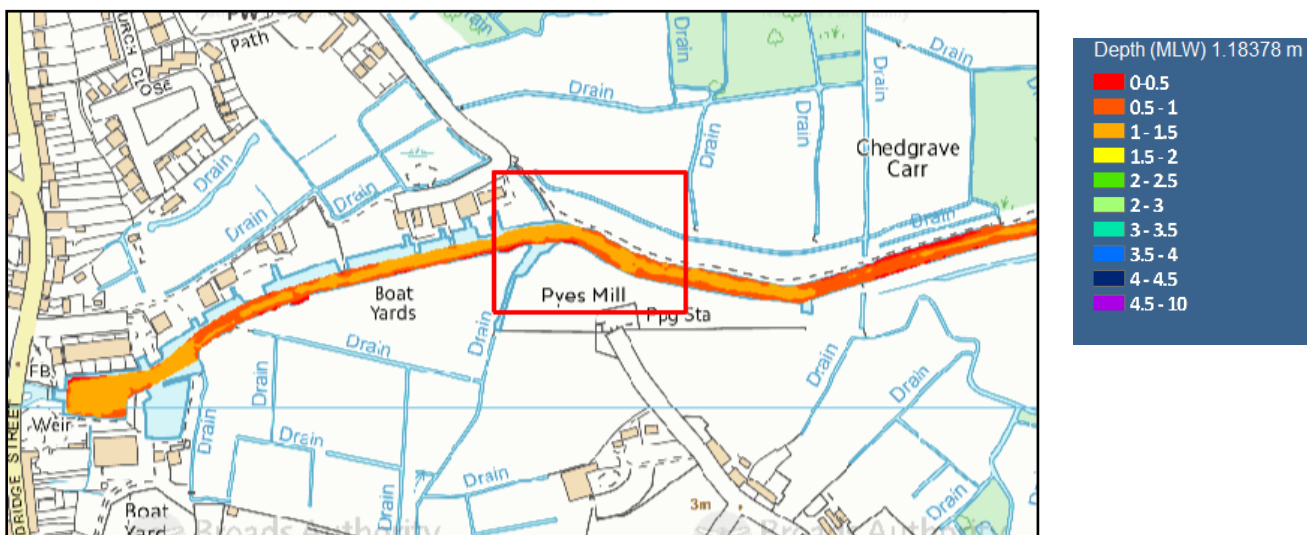


Current specification: 1.8m below mean low water

Proposed revision: Averaging 1.5m below mean low water. If this reduction is acceptable we will core the area to fully understand the shallow areas and sign the area accordingly

Rational to revision: Hard sand and gravel bed including running sands. Significant excavations are not sustainable and quay headings of adjacent properties would be vulnerable to subsidence upon any significant removal in the Shoals.

### 5.4 River Chet: Pyes Mill

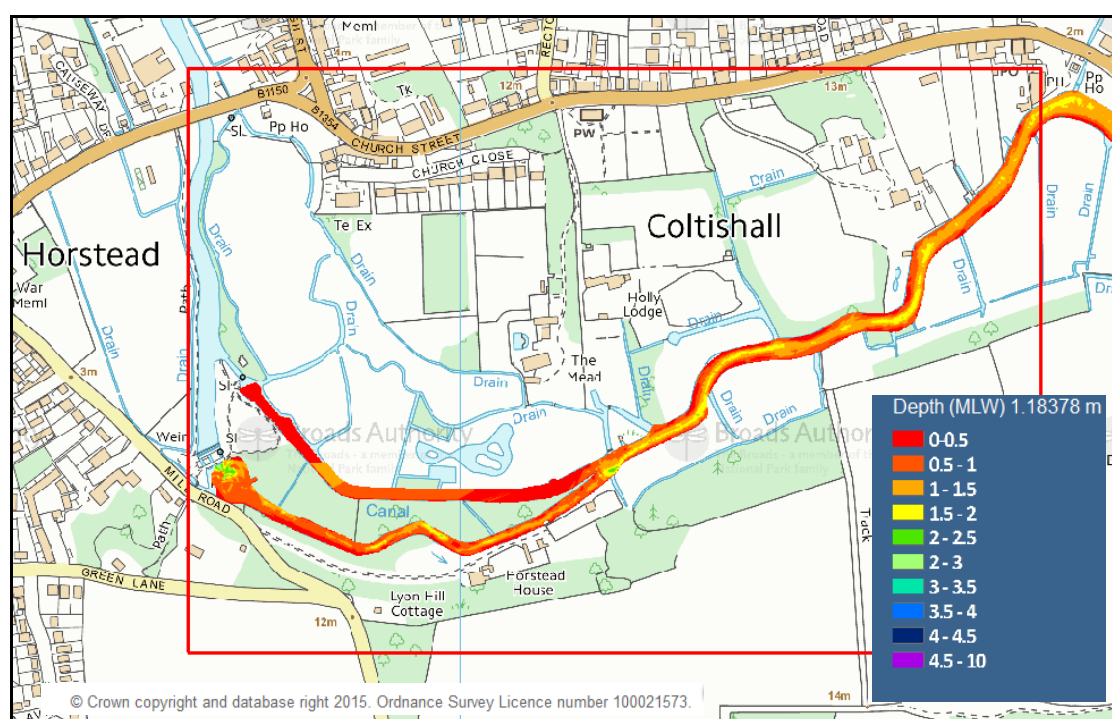


Current specification: 1.5m below mean low water

Proposed revision: Averaging 1.3m below mean low water. If this proposal is acceptable the area will be cored to fully ascertain the extent of the shallowing and signing erect as appropriate.

Rational to revision: Hard gravel seam crosses the river at the upstream end of Pyes Mill which is also an old historic causeway across the water course.

## 5.5 River Bure: Coltishall to Horstead Lock



Current specification: 1.5m below mean low water

Proposed revision: Averaging 1.2m below mean low water. If this proposal is acceptable then this area will be cored to fully determine the historic bed and the area will be signed appropriately

Rational to revision: Hard sand and gravel bed with restricted width along the canal section up to the lock. Also Wroxham Bridge provides a vessel restriction along this stretch.

Background papers: Nil

Author: Rob Rogers  
Date of report: 18 May 2015

Broads Plan ref: NA1.1

Appendices: APPENDIX 1 –Dredging Progress Table 2015/16

## Dredging Progress 2015/16 (to end April 2015)

## APPENDIX 1

Project Title	Project Element	Active dredging weeks Completed (to end Apr/Planned	Volume Removed m <sup>3</sup>		Annual project cost <sup>1</sup>	Actual project cost (Apr-Mar)
			Planned	Actual	Planned	Actual
<b>River Ant</b>	Irstead to Barton Broad	3/4	1,500	1,030	£24,340	£20,110
<i>Final section of dredging - work started in 2014/15 completed mid May 2015</i>						
<b>River Chet</b>	Pye's Mill to Loddon Basin	4/4	1,000	1,800	£10,810	£14,690
<i>Final section of dredging - work started in 2014/15 completed mid May 2015. Additional volume near Loddon Basin removed</i>						
<b>Upper Bure</b>	Coltishall Lock	4/8	2,000	800	£29,570	£8,950
<i>Mud pump started last week of February 2015, continuing to end May 2015.</i>						
<b>Upton Dyke</b>	Restoration work on setback filled in 2014/15	NA	NA	NA	£7,000	£0
<i>Excavator work to achieve final levels</i>						
<b>Mid Bure</b>	Thurne Mouth to Horning Hall	0/12	8,000	0	£80,070	£1,550
<i>Dredging started mid May 2015, filling setback area upstream of Ant Mouth</i>						
<b>Mid Bure</b>	Thurne bank rond restoration	NA	NA	NA	£10,550	£0
<i>Re-profiling rond upstream of Thurne White Mill</i>						
<b>Oulton Broad</b>	Oulton Broad	0/14	10,000	0	£73,090	£0
<i>Mobilisation started mid May 2015</i>						
<b>Mid Bure</b>	Acle to Stokesby	0/10	7,000	0	£56,150	£0
<i>Use of setbacks near Acle Bridge</i>						
<b>Upper Yare</b>	Whitlingham bends	0/8	4,500	0	£53,500	£0
<i>Arisings to Postwick Tip</i>						
<b>Lower Yare</b>	Seven Mile House to Berney Arms	0/10	5,000	0	£50,330	£0
<i>Use of setbacks downstream of Reedham</i>						

<b>Upper Bure</b>	Belaugh to Coltishall	Contractors	3,000	0	£28,000	£0
<i>Sediment re-use in bank stabilisation schemes</i>						
<b>Lower Bure</b>	Marina Quay to Three Mile House	0/12	8,000	-	£95,000	£0
<i>Subject to further project planning and planning to use local land</i>						
<b>Hickling Broad</b>	<i>Navigation channel in NW corner and approaches to Catfield Dyke</i>	<i>0/12</i>	<i>6,000</i>	<i>-</i>	<i>~£50,000</i>	<i>£530</i>
<i>Subject to further project planning and gaining all required consents</i>						
<b>TOTAL</b>		<b>11/82</b>	<b>50,000</b>	<b>3,630</b>	<b>£518,410</b>	<b>£45,830</b>

1 – Costs for staff and BA plant will be updated following production of year-end figures

**Chief Executive's Report**

**Summary:** This report summarises the current position in respect of a number of important projects and events, including any decisions taken during the recent cycle of committee meetings.

**1 Navigation Committee Membership and Co-opted members to the Authority**  
Contact Officer/Broads Plan Objective: Piero Ionta/None

- 1.1 At its meeting on 15 May 2015 the Authority agreed to appoint Mr Michael Whitaker and Mr James Knight as the co-opted members from the Navigation Committee until 13 May 2016.

**2 Strategic Priorities 2015/16**  
Contact Officer/ Broads Plan Objective: Maria Conti /Multiple

- 2.1 At its meeting on 15 May 2015, the Authority received an update on the Strategic Priorities for 2015/16. This included progress on the Landscape Partnership Project prior to a bid being submitted to the Heritage Lottery Fund before the deadline of 1 June 2015 for £2.6 million towards the total £4.3 million value of the scheme. A decision by HLF is anticipated in October 2015. If successful this will allow the Authority to enter the development phase by the end of the year and a stage 2 submission about 18 months later.
- 2.2 Members also received progress on the Lake Review Research – see below.

**3 Lake Review Research**  
Contact officer/Broads Plan Objective: Andrea Kelly/Simon Hooton/Trudi Wakelin/NA1

- 3.1 A successful member and partner workshop on the Broads Lake Review was chaired by Jacquie Burgess on 17 April. Presentations from Nigel Wilby (Stirling University), Andrea Kelly (BA) and Geoff Phillips (Honorary Stirling University) were well received and a panel discussion and question and answer sessions explored the report findings. A full workshop report is in preparation.
- 3.2 The strategic context for the lake review, set out in the Broads Plan and the Broads Biodiversity and Water Strategy, aims to use scientific data to 'improve our knowledge to enable a stronger evidence-based approach to habitats and species management'. The strategy contains an action to review lake restoration practices

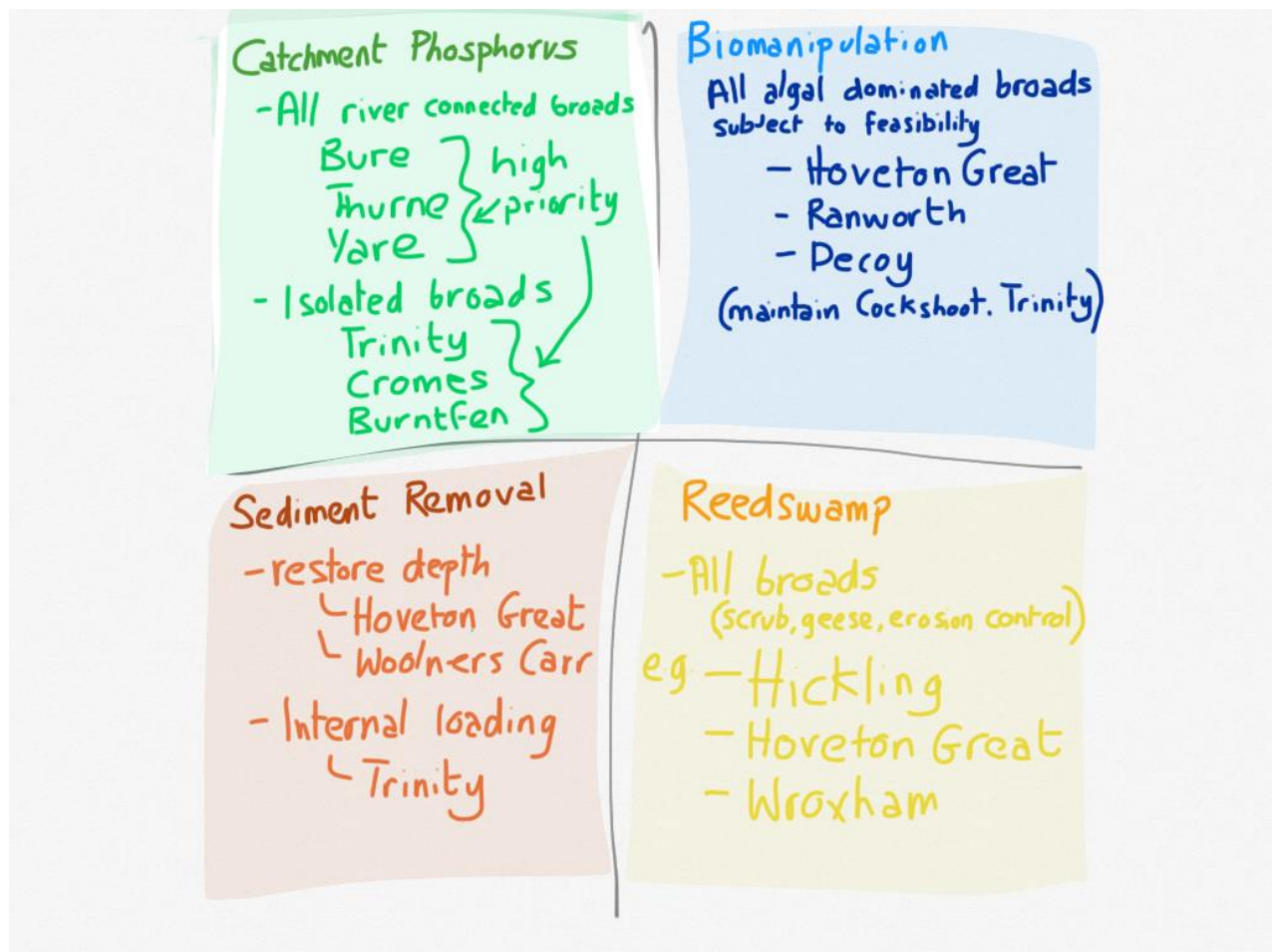


and their performance, providing an assessment of much of the monitoring data and scientific evidence of lake ecology in the Broads to date.

- 3.3 The full range of lake management and restoration measures in the Broads was last evaluated in the mid-1990s. The 2015 review evaluates the research, monitoring and management since then, to understand management success over a longer time scale, take account of more recent management measures and, for the first time, consider the impacts of climate change.
- 3.4 The review builds on interim results from the 1990s and recent reviews on the effectiveness of restoration approaches applied to shallow lakes in the Netherlands and Denmark, to offer new insights into shallow lake restoration. The review was undertaken by leading freshwater scientists from the Centre of Hydrology and Ecology, ECON Ecological Consultancy, Stirling University and University College London.
- 3.5 The report considers management actions targeted at lake restoration, supported by an analysis of climatic changes. It then analyses water chemistry and plant data across the Broads network before grouping the broads into isolated, riverine and near brackish. It then identifies key thresholds, such as phosphorus, that restoration should aim to achieve in order to promote recovery. The report then explores the effects of the three major restoration methods: External load reduction, sediment removal and biomanipulation. The final section of the report sets out current achievements and challenges and some questions for future research and monitoring. Dossiers on individual broads, covering the larger or more significant water bodies, are annexed.
- 3.6 The summary and reports for the Broads Lake Review are available on the Broads Authority website, under 'Lake Restoration' <http://www.broads-authority.gov.uk/news-and-publications/publications-and-reports/conservation-publications-and-reports/water-conservation-reports>.
- 3.7 The key rules for lake restoration, highlighted by the review, will be used to assign to each broad restoration methods to restore water quality and biodiversity value (such as external load reduction, sediment removal, biomanipulation, reedswamp restoration and other techniques such as sediment capping).
- 3.8 Key actions for individual broads will then be incorporated into conservation partners' own plans, such as Natural England's remedies database, land owner site management plans and business investment plans. Actions will need to be appropriate for the other uses of the sites. The outcomes of the Lake Review will be incorporated into the next Broads Plan, to be published in 2017. Table 1 summarises the mechanisms and timescales for disseminating the findings of the research and Figure 1 are initial thoughts on matching broads with actions.

**Table 1. Communication and Action Plan**

<b>Work area</b>	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Press release												
Presentation - Aquatic Plant International Conference Edinburgh												
Presentation - Wetland Futures National Conference												
Link to UK & Ireland Lakes Network website (and 2016 conference?)												
Inform and link to Aquatic Restoration Partnership website												
Presentations to partners, officers and members												
Workshop with Norfolk Wildlife Trust												
Presentation to Upper Thurne Working Group												
Presentation to Broads Angling Strategy Group												
Work with partners to assign restoration actions to each broad												
Incorporate restoration actions into conservation partners plans												
Complete site dossiers and make available to site managers/owners												
Develop Hickling enhancement												
Develop actions into Broads Plan review process												



**Figure 1 Initial Thoughts on assigning the main actions to broads**

#### **4 Hickling Broad Project**

Contact Officer/Broads Plan Objective: Trudi Wakelin/ NA1

- 4.1 Since the strategic objectives were confirmed officers have been working on the process for developing and agreeing a refreshed vision for Hickling. Additional survey work has been undertaken to fill data gaps, further copper sampling has been undertaken and is currently being analysed, a meeting has been held with statutory partners to discuss the consenting regime, and a workshop is planned with the Upper Thurne Working Group for their next meeting on 9 June. Once the outputs of the workshop have been written up and agreed, a round of consultation with Broads Forum, Navigation Committee and the Broads Authority is planned for the next committee cycle, to finalise and sign off the vision in accordance with the agreed timetable.
- 4.2 A meeting was arranged by the Environment Agency on 30 April to discuss the recent prymnesium outbreak which had resulted in the Environment Agency and partners needing to take measures to protect the distressed fish in the area. An

update of work being carried out by the John Innes Centre was presented, and it is clear that a number of factors are involved, of which one is strongly felt to be low water levels. This may mean that localised dredging in some shallow areas where mechanical disturbance of the bed is happening regularly will be beneficial. A task and finish group is being set up by the EA to consider further management options and contingency plans.

## **5 Network Rail Update**

Contact Officers/Broads Plan Objective: Angie Leeper/ NA5.1

- 5.1 Officers attended a high level liaison meeting with Network Rail representatives on 5 May to push for progress on the Whole Life Study in respect of Reedham and Somerleyton and the Anglia Route Study in respect of Trowse.
- 5.2 Reedham and Somerleyton Bridges - The Structures Renewals team are currently writing a remit to instruct a multi-criteria analysis for the two bridges in order to understand the social and political issues surrounding the requirements for the assets. This will further be used as evidence to build the business case to justify the large costs involved with their remediation. However, Network Rail has confirmed that there are no plans for major work within the current spending round.
- 5.3 Trowse - The Broads Authority was previously informed that Network Rail was looking to secure a contractor to fix the issues with the computer software. Following discussions, Network Rail has agreed that further information will be provided to the Broads Authority relating to the current status of the above proposal and the costs associated with the rectification of the computer system/bridge components to allow the bridge to swing.
- 5.4 Network Rail has also agreed to look again at the provision of additional manual opening times whilst Trowse is unable to operate electronically.
- 5.5 Network Rail's Senior Strategic Planner is currently leading on developing options for remediation of Trowse swing bridge within 'Norwich in 90'. The Final Anglia Route study is being released in Aug 2015, with the consultation responses due to be published at the end of May.

## **6 Breydon Water: Water Skiing and Wakeboarding Trial Findings**

Contact officer/Broads Plan Objective: Steve Birtles/NA4

- 6.1 At its meeting on 15 May 2015, the Authority reviewed the options relating to the Breydon Water Ski Zone and considered the recommendations from the Navigation Committee based on the evidence from the Water Ski Review Panel and the Boat Safety Management Group. Members agreed to accept the preferred option to formally designate the existing zone for waterskiing and wakeboarding without any additional controls and, in accordance with the provisions of the

Broads Authority Act 2009 to carry out the necessary consultations. As part of this process the Navigation Committee will be formally consulted again on the preferred option.

## **7 Health and Safety**

Contact Officer/Broads Plan Objective: Steve Birtles/NA4

- 7.1 At its meeting on 15 May 2015, the Authority received and noted the issues relating to health and safety matters and adopted the Integrated Safety Management System as well as supported the ongoing development of detailed supporting operational procedures. They also noted the Annual Marine Incident Statistics.

## **8. Supporting and Developing the Role of Members**

Contact Officer/Broads Plan Objective: John Packman/none

- 8.1 At its meeting on 15 May 2015, the Authority considered a discussion paper on Supporting and Developing the Role of members based on the feedback from members in their Annual Development Interview and the Stakeholder Survey results concerning engagement with local people. The ambition is to increase the quality of the Authority's communication with our stakeholders through a more active ambassadorial role for all Members of the Authority, to enable members to gain a deeper collective understanding and engagement in the key issues for the Broads and the work of the Authority, to consider how the important work of the Local Access Forum could be brought more into the mainstream of the Broads Authority's discussion and debate and to reassess the areas of responsibility for Lead members so that they match issues of strategic relevance to the Authority.

Following a lengthy and lively debate Members agreed that:

- Broads Authority Members be asked to volunteer for one of four Parish Forum Teams (reflecting the areas covered by the Rangers) and asked to participate in the development of the programme for 2015
- The Annual Member Development Reviews be extended to the Co-opted Members of the Navigation Committee and these be used to seek ideas for workshops and identify training needs as well as to gain a comprehensive understanding of the skills of all members
- A Workshop Programme be developed in consultation with Members to improve understanding of strategic issues facing the Authority
- The appointment of Lead Members and Members on outside bodies will be aligned with priorities for the new Broads Plan and the skills and experience
- The constitution, including membership, period of office, and selection of members for the Broads Local Access Forum (BLAF) be reviewed with the current members of the BLAF.

## **9 Hire Boat Licensing**

Contact Officer/Broads Plan Objective: Steve Birtles/NA4

- 9.1 The Authority proposes to review its licensing conditions for powered hire vessels following the completion of the amended Hire Boat Code and the outputs of the recent Hirer Safety Review. There will be a period of public consultation on the proposed new issue of the hire boat code which will be run nationally.
- 9.2 Subsequently the proposed amended conditions to the Broads Authority Scheme will be developed over the next few months and a period of local consultation will be entered into before implementation. The local consultation will include the Broads Hire Boat Federation, Boat Safety Management Group and the Navigation Committee at its September meeting. Consultation responses will be considered by the Authority before implementation in April 2016.
- 9.3 National bodies are in the process of scoping a code applicable to unpowered hire vessels. As progress is made in the development of a code further updates will be given. In the interim the Authority proposes start a conversation with those operators who are unfamiliar with the current licensing scheme due to the nature of their operations.

## **10 Navigation Patrolling and Performance Targets**

Contact Officer/Broads Plan Objective: Adrian Vernon/NA4.3

- 10.1 The report of the significant use of powers by the rangers is displayed in Appendix 1. The slightly disappointing figures reflect that one member of staff was not available for half of April and that two new members of staff were under training. The average navigation/countryside split for April is 69%/31%. This figure reflects the Easter period and increased patrolling effort. The mooring inspection target compliance figure for April is 83%.

## **11 Sunken and Abandoned Vessel Update**

Contact Officer/Broads Plan Objective: Adrian Vernon/NA4

- 11.1 The table in Appendix 2 shows the current sunken vessel status. A sunken and abandoned vessel notice has been issued on one new vessel.

## **12 Planning Enforcement Update**

Contact Officer/Broads Plan Objective: Adrian Vernon and Cally Smith/None

- 12.1 Following queries raised by a member, it was agreed to provide regular updates on the position regarding relevant planning enforcement actions. These details are included at Appendix 3.

## **13 Tolls in Adjacent Waters**

Contact Officer/Broads Plan Objective: Trudi Wakelin and Bill Housden/None

- 13.1 The Authority has and continues to take appropriate enforcement action to ensure that all tolls levied on behalf of the Authority are paid.
- 13.2 On Friday 15 May, The Authority sought to defend an appeal brought by an owner of a vessel in adjacent waters against their recent conviction/sentence (before Lowestoft Magistrates Court) on the grounds that its successful prosecution for payment of the “appropriate toll” demanded for the vessel was unlawful on the grounds that no services were provided to the owner of the vessel. Although it was accepted that the Authority has statutory authority to levy tolls in adjacent waters, regrettably, HHJ Holt allowed the appeal on the grounds that where no services are provided that the demand would be unlawful.
- 13.3 Officers have instructed Counsel to review the judgement in full so as to provide urgent advice so that it may be determined how best to proceed.

Background papers: None

Author: Sandra Becket / Esmeralda Guds

Date of report: May 2015

Broads Plan Objectives: Multiple

Appendices: APPENDIX 1 –Report on the Significant Exercise of Powers by the Rangers during February – March 2015  
APPENDIX 2 – Report of Sunken and Abandoned Vessels  
APPENDIX 3 – Planning Enforcement Update

Rangers Exercise of Powers Analysis (Bracketed figures are running totals, April 2015 to March 2016)							Date: <b>APRIL 2015</b>	
	Wroxham Launch	Irstead Launch	Ludham Launch	Ludham 2 Launch	Norwich Launch	Hardley Launch	B.St.Peter Launch	Breydon Launch
Launch Patrol Areas	Wroxham and Upper Bure	Ant	Hickling, P.Heigham, Upper Thurne & Womack	Lower Thurne, Lower Bure & South Walsham	Norwich and Upper Yare	Reedham, Chet & Middle Yare	Oulton Broad and Upper/Middle Waveney	Breydon Water, Lower Waveney and Yare
<b>Verbal Warnings</b>								
Care & Caution		3 ( 3 )		26 ( 26 )				1 ( 1 )
Speed	382 ( 382 )	129 ( 129 )	55 ( 55 )	89 ( 89 )	12 ( 12 )	1 ( 1 )		29 ( 29 )
Tolls offences	4 ( 4 )	21 ( 21 )		27 ( 27 )	3 ( 3 )	2 ( 2 )		
Other	1 ( 1 )	7 ( 7 )	4 ( 4 )	8 ( 8 )		3 ( 3 )		
<b>Blue Book Warnings</b>								
Care & Caution	3 ( 3 )						1 ( 1 )	1 ( 1 )
Speed	15 ( 15 )	2 ( 2 )		3 ( 3 )				
Other	1 ( 1 )	2 ( 2 )		1 ( 1 )		1 ( 1 )	4 ( 4 )	2 ( 2 )
Reports for Prosecutions		1 ( 1 )						
Special Directions								
<b>Toll Compliance Reports</b>								
Non Payment	2 ( 2 )	9 ( 9 )	1 ( 1 )		1 ( 1 )	2 ( 2 )		
Non Display			1 ( 1 )					
28 Day request for information								
BSS Hazardous Boat Inspections								
Enter Vessels Under BSS								
Launch Staffed (by Ranger)	24 ( 24 )	10 ( 10 )	16 ( 16 )	17 ( 17 )	14 ( 14 )	12 ( 12 )	22 ( 22 )	29 ( 29 )
Country Site Inspection Reports Percentage Compliance	92% ( 92% )	71% ( 71% )	(Combined figure)	88% ( 88% )	(Combined figure)	25% ( 25% )	50% ( 50% )	
Best Value Patrol Targets Percentage Compliance	144% ( 144% )	65% ( 65% )	106% ( 106% )	142% ( 142% )	85% ( 85% )	187% ( 187% )	115% ( 115% )	86% ( 86% )
Volunteer Patrols	#REF! #REF!	#REF! #REF!	#REF! #REF!	#REF! #REF!	#REF! #REF!	#REF! #REF!	#REF! #REF!	#REF! #REF!
IRIS Reports	18 ( 18 )	4 ( 4 )	8 ( 8 )	5 ( 5 )	7 ( 7 )	3 ( 3 )	10 ( 10 )	10 ( 10 )
Broads Control Total Calls	TOTAL 3,653 ( 3,653 )			Telephone 2,928 ( 2,928 )			VHF 725 ( 725 )	



## RANGER TEAM ACTIVITY

	Navigation Activity								Countryside Activity							
April 2015	Nav Patrol Launch	Nav Patrol Foot/Road	Incident Working	Admin - Navigation	Training (Navigation)	Escort	Moorings Maintenance	Bank/river work	Country Patrol	Country Maintenance	Admin - Country	Training (Countryside)	Equipment Maintenance	Tree/Ground work	Group Activities	Education/School Visit
Percentage Total	26.5%	1.9%	0.6%	0.5%	3.4%	0.2%	0.7%	0.5%	1.7%	4.7%	0.5%	0.1%	5.2%	1.4%	0.5%	
(Management)	9%			6%	17%				19%	8%		34%	9%	14%		
Wroxham team	17%	44%	26%	5%	38%	46%	29%	20%	40%	26%	16%	34%	30%	16%		
Thurne team	20%	4%	3%	68%	40%	54%	13%	15%	9%	36%			13%			
Yare team	8%	3%	30%	5%			25%	20%	31%	27%	84%		25%	43%	100%	
Waveney team	18%	19%	16%	5%			12%	38%		0%			9%	28%		
Breydon team	29%	29%	25%	9%			21%	8%		3%			15%			
Control Officer																
	35%								9%							

Month Percentages	
Navigation	68%
Country	32%
Total	100%
Time Off not included	

	General Support												Time Off			
	Broads Control	Travel Time	Activity Unknown	Training - Split	Meeting - Staff	Meeting - Public	Admin - Split	Admin - Volunteer	Training - (Volunteers)	Public Relations Event	Site Visit third party	Other Task	Time off in Lieu (not accurate)	Breaks (not including un-notified breaks)	Annual Leave	Sick
Percentage Total	7.2%	5.1%	4.2%	9.3%	4.8%	0.6%	6.8%	0.0%	0.1%	0.4%	0.6%	3.5%	0.7%	1.2%	2.6%	3.5%
(Management)		10%	8%	28%	28%	70%	33%				23%	13%		8%	17%	13%
Wroxham team		19%	25%	35%	31%	9%	16%			23%	13%	21%		13%	25%	
Thurne team		8%	41%	32%	13%	14%	13%			46%	15%	32%		1%	8%	6%
Yare team		12%	4%	0%	13%	3%	22%	100%	29%		21%	8%	66%	19%	33%	75%
Waveney team		12%	10%		6%		11%			30%	18%	11%	33%	1%	8%	
Breydon team	1%	39%	14%	0%	9%	4%	6%		71%		18%	18%	1%	2%	8%	6%
Control Officer	70%													43%		
	5%	5%	38%										7%			

Percentage with apportioned split	
<i>Year to date (Apr - Mar)</i>	
Navigation	68%
Country	32%
Total	100%
Time Off not included	

**APPENDIX 2****Sunken and abandoned vessels**

<b>Description</b>	<b>Location found</b>	<b>Action</b>	<b>Abandoned /Sunken Notice Affixed</b>	<b>Result</b>
Wooden sailing cruiser	River Yare. Trowse	No known owner.	Yes	Vessel not raised by owner. Deadline expired and BA team will raise and remove when the programme allows
Fibreglass cruiser hull	River Ant. Dilham	Investigation undertaken no known owner found.	Yes	Notice expires at the end of May. Contractor found to dispose of vessel.

### Enforcement Update

This table shows the updates on enforcement matters relating to Navigation matters currently under consideration since the last Navigation Committee on 23 April 2015

Committee Date	Location	Infringement	Action taken and current situation
5 December 2008  5 March 2010  16 July 2010	"Thorpe Island Marina" West Side of Thorpe Island Norwich  (Former Jenner's Basin)	Unauthorised development	<ul style="list-style-type: none"> <li>• Enforcement Notices served on 7 November 2011 on landowner, third party with legal interest and all occupiers. Various compliance dates from 12 December 2011</li> <li>• Appeal lodged on 6 December 2011</li> <li>• Public Inquiry took place on 1 and 2 May 2012</li> <li>• Decision received on 15 June 2012. Inspector varied and upheld the Enforcement Notice in respect of removal of pontoons, storage container and engines but allowed the mooring of up to 12 boats only, subject to provision and implementation of landscaping and other schemes, strict compliance with conditions and no residential moorings.</li> <li>• Challenge to decision filed in High Court 12 July 2012</li> <li>• High Court date set for 26 June 2013</li> <li>• Planning Inspectorate reviewed appeal decision and agreed it was flawed and therefore to be quashed</li> <li>• "Consent Order" has been lodged with the Courts by Inspectorate</li> <li>• Appeal being reconsidered –Planning Inspector Site Visit 28 January 2014</li> <li>• Hearing took place on 8 July 2014</li> <li>• <b>Appeal allowed in part and dismissed in part on 20 October 2014.</b> Inspector determined that the original planning permission had been abandoned, but granted planning permission for 25 vessels, subject to conditions (Similar to previous decision above except in terms of vessel numbers).</li> <li>• Planning Contravention Notices issued to investigate</li> </ul>

Committee Date	Location	Infringement	Action taken and current situation
			<p>outstanding breaches on site.</p> <ul style="list-style-type: none"> <li>• Challenge to the Inspector's Decision filed in the High Courts on 28 November 2014</li> <li>• Acknowledgement of Service filed 16 December 2014.</li> <li>• Section 73 application submitted to the Authority to amend 19 of 20 conditions on the permission granted by the Inspectorate. Application not validated.</li> <li>• <b>Appeal against non-determination submitted to PINS in respect of Section 73 application. Not accepted.</b></li> <li>• <b>Section 288 challenge submitted in February 2015.</b></li> <li>• <b>Court date of 19 May 2015.</b></li> </ul>