

Breydon Water and Water Ski Zone Designation
Report by Head of Safety Management

Summary: This report sets out recent draft risk assessments for waterskiing on Breydon Water and the outcome of the recent Water Ski Stakeholder Review Panel.

The Forum's views are sought on the draft risk assessments, the Water Ski Review Panel's recommendation to the Authority and the proposed management options detailed in the Habitats Regulations Assessment.

1 Background

- 1.1 There are no speed restrictions on Breydon Water and, while it does not seem particularly popular, it is an area where waterskiing has historically taken place. Following the transfer of responsibility for navigation to the Authority, the agreed process has been followed to consider the possible designation of a zone where waterskiing could take place.
- 1.2 The Authority has previously designated ten zones on the Rivers Yare and Waveney for waterskiing and the process and procedure are well developed.
- 1.3 This involved convening a meeting of the Water Ski Review Panel on the 31 July 2012 when the risk assessments and proposed management options were considered.

2 Risk Assessment and Management Options

- 2.1 Risk Assessments have been completed using the same format that has been previously applied to the assessments of water ski zones. The Assessments for the entire area of Breydon Water and a proposed water ski zone are set out in Appendices 1 and 2 and a summary table is set out in Appendix 3.
- 2.2 The risk assessment concluded on safety grounds that using the entirety of Breydon Water would be inappropriate for waterskiing. This is primarily because of the number of fixed hazards in the form of navigation marker posts used for defining the channel (see Appendix 4).
- 2.3 To mitigate these issues it is proposed to define a smaller zone in which waterskiing could safely take place. The proposed zone is set out in Appendix 5.
- 2.4 The proposed zone location deals with a number of safety issues:

- Removes any bends from the water ski area and therefore improves visibility.
 - Takes skiers away from the Dickey Works, an area where there are stakes just below the surface just outside of the marked channel. There was a concern that, if a skier drifted out of the channel in this area, there would be little chance of the tow boat gaining safe access for recovery.
 - Isolates the issue of fixed hazards as the zone is located 10m inside of the channel marker posts.
 - RNLI lifeboat station is close by in Great Yarmouth and emergency access to the site would be provided in this way.
- 2.5 The issue of potential conflict with other users has also been considered. The majority of boat traffic on Breydon is usually focussed around the states of the tide as users are encouraged to cross Breydon at low/slack water so that passage through Great Yarmouth can be as safe as possible due to the otherwise strong tidal currents in the area; also low water gives greater clearance when passing under the low bridges in Great Yarmouth.
- 2.6 Over the recent years the Authority has engaged with users to promote this safe passage time, a leaflet has been produced which is available to all and is placed in the hire boats skippers manuals for hirers information.
- 2.7 The Authority carries out a boat census every four years in August and one of the census points is near the Yacht Station in Great Yarmouth (GYYS). Appendix 6 shows the results of the census in 2006 and 2010, the data suggests that there seemed to be little regard to the state of the tide as boat movements were significantly less focussed around low water.
- 2.8 To help inform the Panel, an additional traffic survey was held over the week commencing 9 July 2012 the results of which are shown on the graph in Appendix 7. It can be seen from this survey that boats are now transiting Breydon at or just after low water in accordance with the advice of the Authority.
- 2.9 In August another traffic survey was completed to help inform members. The results of which are shown in Appendix 8. This survey suggests a slightly different story with boats transiting Breydon a little more randomly although the majority of boat traffic was generally focused around the low water event.

3 Water Ski Review Panel Recommendations

- 3.1 Following the review of risk assessments and the proposed management options, the Panel recommended that:
- (i) the Authority considers designating an area where waterskiing could take place on Breydon Water. The geographic limits of which are from the centre of the navigation channel at grid reference TG480063 to grid reference TG504075, the extents of the proposed zone from the east end of the water at TG504076, TG504075 to the western end of the

water at TG486064, TG480063. The proposed zone is graphically represented in Appendix 5.

- (ii) After considering the information relating to traffic movements on Breydon, the Panel also recommended that waterskiing should not take place between 0.5 hours before and 2 hours after predicted low water at Great Yarmouth Yacht Station. No other time restrictions were suggested.
- (iii) The Panel also concluded that the existing permit requirements and permit conditions should be applied in full to the proposed Breydon Water Ski Zone.

4 Habitat Regulations Assessment

- 4.1 Alongside consideration of the safety implications for any of these activities, and as part of making any decisions about the management of the area, the Broads Authority must also have regard to the protection given to Breydon Water as a protected wildlife site and its designated as such under both UK and International legislation (as a Site of Special Scientific Interest, Special Protection Area and Ramsar site) and be supported by the necessary environmental information such as required Habitat Regulations Assessment under the EU Habitats Directive. Natural England's remit is to advise on these designations and the implications for activities on this site.
- 4.2 The SPA, SSSI and Ramsar citations all list breeding common tern and wintering waterfowl as the interest features. Many of these species are of conservation concern listed on Annex I of the Birds Directive (BTG Annex II) and Schedule 1 of the Wildlife and Countryside Act.
- 4.3 Existing activities which have historically taken place on Breydon need not be considered during this process but any new activity such as the designation of an area for waterskiing must be assessed to determine if a full Appropriate Assessment is required.
- 4.4 Officers have concluded that, because of the special features associated with the site namely over wintering birds, that the Authority should carry out an Appropriate Assessment and submit this to Natural England for consideration.
- 4.5 In preparing the Habitat Regulations Assessment officers have undertaken an initial scoping assessment followed by an appropriate assessment. These have taken into consideration advice from Natural England set out in its document "Breydon Water European marine site, English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats & c.) Regulations 1994" published in 2001, as well as consulting with the following since July to gain evidence on bird numbers and likely and observed disturbance (Natural England, RSPB, British Trust for Ornithology, local naturalists and expert researchers) and specific advice on any proposed waterskiing management options.

- 4.6 In the document above Natural England state in relation to waterskiing the *“further investigation is needed to assess the impact of these activities on the birds at the site. However, it is recognised that such activities as waterskiing reach their peak during the summer months and are therefore unlikely to be an issue in relation to the wintering wildfowl and wader assemblages. However, at this time there may be some impact on the population of common tern, either in terms of disturbance while feeding or disturbance at breeding sites.”*
- 4.7 The Habitats Directive states that consenting bodies, the Broads Authority in this case for Breydon Water, must take a precautionary approach to ensure that there is no adverse effect on integrity of the site and the wildlife it is designated for.
- 4.8 Monitoring bird disturbance from waterskiing and informing the Habitat Regulations Assessment with specific data may be a preferred method, however, a monitoring and modelling scheme would be extremely costly and due to the many influences which may have affect on bird disturbance, such data may not deliver definitive findings that would be able to prove no adverse effect of the activity of waterskiing on the SPA features (bird populations) for which Breydon is internationally important for.
- 4.9 Officers propose that taking a pragmatic and precautionary approach would be preferable and the Habitat Regulations Assessment have proposed that waterskiing can only take place between March and October. Natural England agree that this approach is acceptable as there should not be any adverse impacts to the interest features of Breydon Water SSSI, SPA and Ramsar sites.
- 4.10 The options available to the Authority are therefore:
- (a) to commission a two phase water use and bird monitoring survey and modelling to then inform a revised Appropriate Assessment. This will include assessment of:
- Phase 1
- current patterns of water use and activities;
 - how will this be changed by mitigation;
 - how do birds respond to human activities; and
 - the link between behavioural responses and population consequences.
- Phase 2
- the use of modelling to predict whether current and future water use are likely to be reducing the overwinter survival and body condition of birds.
- (b) To approve the approach of limiting the activity of waterskiing to between March to October as set out in the current Habitat Regulations Assessment which is supported by Natural England.

5 Consultation and Timescale

- 5.1 The Boating Safety Management Group and the Navigation Committee were consulted on the proposed water ski zone and the restriction of activity around the timing low water event and were content with the proposals.
- 5.2 The Forum's views are therefore sought on the proposal to designate a waterskiing zone on Breydon Water as detailed above and the proposed management options in relation to the outputs from the Appropriate Assessment.
- 5.3 As set out in the Broads Authority Act 2009 and legal agreement with waterskiing bodies, consultation required includes:

Navigation Committee	11 October 2012
Broads Forum	22 November 2012
Broads Authority – to determine to go to public consultation	23 November 2012
Consultation with Natural England, any residential occupiers and other affected bodies together with a public notice in the local press (minimum of 28 days)	
Determination by the Broads Authority	18 January 2012
Start of new zone (if agreed)	April 2013

6 Water Ski and Wakeboard Trial Review

- 6.1 At the March 2012 Broads Authority meeting following consultation process, the Authority agreed to extend the trial of wakeboarding for a further year, and also to include zone 1 on the River Waveney (W1) with a review to be conducted in November 2012.
- 6.2 The Water Ski Review Panel is meeting on 22 November 2012 and will receive feedback from Rangers, a report of level of activity and any complaints. The outcome of the discussions will be reported verbally to the Broads Forum.
- 6.3 The agenda for the Review meeting also includes proposals for variation of times on the River Waveney.
- 6.4 The views of the Forum will be sought on any proposals, and there will also be a further opportunity to respond to any public consultation should variations to zones/times be suggested.

Background papers: Broads Authority Report on Transfer of Breydon Water 13 July 2012

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Date of report: 30 October 2012

Broads Plan Objectives: NA4.1, NA5

Appendices:
APPENDIX 1 - Risk Assessment of Waterskiing on the Breydon Water entire area
APPENDIX 2 - Risk Assessment of Waterskiing on proposed zone
APPENDIX 3 - Summary Table of Risk Assessments
APPENDIX 4 - Map of Breydon Water
APPENDIX 5 - Map of Proposed Water Ski Area
APPENDIX 6 - Graph of Boat Census results
APPENDIX 7 - Graph of traffic survey July 2012
APPENDIX 8 - Graph of Traffic Survey Aug 2012

Risk Assessment for Waterskiing

Area Breydon Water (from Breydon Bridge to Turn Tide Jetty)

Width of Channel

Minimum width of Channel	Maximum width of Channel	Average width over run
65m	125m	81m

Nature of Bank

Reed	Engineering	Incline
No	Mixture of natural salt flats and engineered flood defence	Gradual
Evidence of erosion	Make up of bank	Height of bank
No	Extensive mud flats before bank	<2m

Shelter (Percentage)

Trees	Hills	Structures
0	0	Lay by Jetty near Bridge

Bends

Number of bends	Visibility on Bends	Visibility on Bends
4	Good <input type="checkbox"/> Y <input type="checkbox"/>	<input type="checkbox"/>

Hazards

FIXED Hazards	MOVABLE Hazards
Nature of hazard __Navigation Marker Posts_ __ Meterage _____Entire Length of Area on both sides of the channel Nature of hazard_____ Meterage _____ Nature of hazard _____	Nature of hazard: Nature of hazard_____ Meterage _____ Nature of hazard_____ Meterage _____

APPENDIX 1

Safe Areas for Skiers bank access	Access areas for emergency assistance
Number <input type="text" value="0"/>	Number <input type="text" value="0"/>

Proximity to Dykes (navigable) joining river	
Number <input type="text" value="0"/>	Potential Traffic Density <input type="text" value="40%"/>

Car Parking/Trailer Facilities

Car Parking		Slipway facilities
<input checked="" type="radio"/> Yes No	Number <input type="text" value="0"/>	<input checked="" type="radio"/> Yes No <input type="text" value="1"/>

Signage

Obstructions	Number in ski run	Clarity
No Signage		

Other comments

Area unsuitable for waterskiing due to the number of fixed hazards (Navigation Marker Posts) and possible potential for conflict with other boat users which may be focussed around Low Water as boats are recommended to transit Breydon at this time.

Date 21 June 2012 Completed by S Birtles / Julian Barnwell ERSC

Risk Assessment for Waterskiing

Area Breydon Water (proposed Water Ski Zone) **Length** 2592m

Width of Channel

Minimum width of Channel	Maximum width of Channel	Average width over run
50m	103m	83m

Nature of Bank

Reed	Engineering	Incline
No	Mixture of natural salt flats and engineered flood defence	Gradual
Evidence of erosion	Make up of bank	Height of bank
No	Extensive mud flats before bank	<2m

Shelter (Percentage)

Trees	Hills	Structures
0	0	0

Bends

Number of bends	Visibility on Bends	Visibility on Bends
1	Good <input type="checkbox"/> Y	<input type="checkbox"/>

Hazards

FIXED Hazards	MOVABLE Hazards
Nature of hazard ___ _ _0	Nature of hazard:
Meterage _____	Nature of hazard _____
Nature of hazard _____	Meterage _____
Meterage _____	Nature of hazard _____
Nature of hazard _____	Meterage _____

APPENDIX 2

Safe Areas for Skiers bank access	Access areas for emergency assistance
Number <input type="text" value="0"/>	Number <input type="text" value="0"/>

Proximity to Dykes (navigable) joining river	
Number <input type="text" value="0"/>	Potential Traffic Density <input type="text" value="20%"/>

Car Parking/Trailer Facilities

Car Parking		Slipway facilities
<input checked="" type="radio"/> Yes No	Number <input type="text" value="0"/>	<input checked="" type="radio"/> Yes No <input type="text" value="1"/>

Signage

Obstructions	Number in ski run	Clarity
No Signage		

Other comments

Area suitable for waterskiing, with control measures set out below
 Zone to be 10m inside navigation posts
 Signage to be erected
 Water skiers subject to permit conditions
 Restrict usage of the zone around low water to reduce potential conflict with other river users

Boats Checked for Wash and sound, annual steering checks

All Ski Boat Drivers to have SBDA award etc

Date 21 June 2012 Completed by S Birtles / Julian Barnwell ERSC

Summary Table following Risk Assessments carried out in 2012

	BREYDON Water	BREYDON Water Ski Area with proposed mitigation measures in place
NATURE OF BANK	5	1
SHELTER	2	2
BENDS	2	0.5
FIXED HAZARDS	5	0
POTENTIAL FOR CONFLICT	2	1
MINIMUM WIDTH OF RUN	1	2
ROAD ACCESS FOR EMERGENCY SERVICES	3	3
TOTALS	21	9.5

Maximum Score before Ski Run/Area becomes unsafe is 15.

Proposed Mitigation measures:

- a) Geographic limits of a zone
- b) Waterskiing not allowed at 0.5 hours before and 2 hours after predicted low water at Gt Yarmouth Yacht Station to reduce potential for conflict
- c) Use of Zone subject to permit conditions.

Criteria Used for Risk Factors

Width of River:	> 70m =	1
	< 60m =	2
	< 40m =	3
	< 30m =	4
	< 20m =	5
Bank Engineering:	Just Reeds	1
	Reeds + Engineering < 50m	2
	Reeds + Engineering > 50m	3
	Reeds + Engineering > 100m	4
	Reeds + Engineering > 300m	5
Shelter:	50-100% Trees	1
	<50% Trees	2
Fixed Hazards	1-10	1
	11-20	2
	21-40	3
	41-60	4
	61+	5
No. of Bends	1	1
	2	2
	3	3
	4	4
	5	5

Note: If visibility is good on bends risk factor to be reduced by 50%

Potential Conflict with other users	<20%	1
	<40%	2
	<60%	3
	<80%	4
	>81%	5
Access for emergency vehicles	Yes	0
	No	3

Weighting of Risk Factor**Potential Risk To Human Health**

1. Negligible – Insignificant
2. Slight – Minor cuts and scratches
3. Moderate – Lacerations, broken small bones, short term illness
4. Severe – Major Injuries, limb loss, long term ill health
5. Extreme – Possibility of Death, no recovery.









