

Habitats Regulations Assessment for Planning Application References 15/03053/FULEIA and P/97/15/PL.

Introduction

Pagham Parish Council have submitted an application for the managed breach of the shingle spit and blocking of the adjacent tidal inlet channel with a shingle barrier within Pagham Harbour (the Project). The application site is a Special Protection Area (SPA) and Ramsar site. This means that the site is of international importance for certain wild bird species and has a high level of protection in the UK planning system. The application is subject to assessment under the Habitats Regulations 2010. The project straddles the boundary of Arun and Chichester Districts and so requires planning permission from both District Councils.

The first two stages of the process are to determine if the project is likely to have a significant effect on the SPA and then for the planning authorities (known as the 'competent authorities' in the regulations) to assess if an adverse effect on the integrity of the site. This second stage is known as 'Appropriate Assessment'. In carrying out these assessments under the regulations the competent authorities have to have regard to the advice of Natural England (NE) as the statutory Nature Conservation Body.

This report has been prepared by Chichester DC on behalf of all the competent authorities. It makes recommendations to the planning authorities, but the decision on granting planning permission will be made through the usual planning decision-making processes of the authorities. In drawing up this report, use has been made of information submitted by the applicants, specifically two reports prepared by ABPmer: the Environmental Statement (ref. R.2446) and the 'Further Information' report from May 2016 (ref. R.2614). However, the assessments and recommendations are the competent authorities' own. Use has also been made of the DEFRA 'Core guidance for developers, regulators and land/marine managers' document (December 2012) and also Natural England's draft conservation advice package for Pagham Harbour SPA (April 2016).

The 'likely significant effect' stage is usually used to screen out projects that have a minor or indirect or peripheral impact that can easily be mitigated. The projected breach is a major intervention in the Harbour and the competent authorities have already determined that it is likely to have a significant effect and have advised the applicant of this. This decision accords with advice from Natural England, in their letter of 26 January 2016, that "the proposal, as submitted, is likely to have a significant effect on both the Pagham Harbour Special Protection Area and Ramsar site". As Likely Significant Effect cannot be ruled out at this stage the application progresses onto the Appropriate Assessment stage.

Part I – Appropriate Assessment

The purpose of Appropriate Assessment is to enable the competent authorities (Chichester DC, Arun DC and the Marine Management Organisation) to ascertain whether the Project will have an adverse effect on the integrity of the SPA. In doing so, following the 'Briels' judgement of the European Court, the effect of the proposed compensatory measures has not been taken into account at this stage of the assessment process. Specifically the construction of new habitat for little terns is proposed elsewhere in the SPA as part of the project. As such, the measure in question does not

mitigate or reduce the impact of carrying out the project but instead compensates for the impact after it has occurred. Such a compensation measure can only be considered in the final, derogation stage of the decision-making process.

In order to assess if the project will have an Adverse Effect on Integrity (AEol) the competent authorities must have regard to the SPA qualifying features and the Conservation Objectives for the site.

Qualifying SPA Features

A046a *Branta bernicla bernicla*; Dark-bellied brent goose (Non-breeding)

A151 *Philomachus pugnax*; Ruff (Non-breeding)

A193 *Sterna hirundo*; Common tern (Breeding)

A195 *Sterna albifrons*; Little tern (Breeding)

In addition, the Dark-bellied brent goose population is a Ramsar qualifying species

European Site Conservation Objectives for Pagham Harbour SPA

With regard to the SPA and the individual species and /or assemblage of species for which the site has been classified and subject to natural change:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying species, and,
- The distribution of the qualifying features within the site

Identification of Potential Effects

In their advice letter of the 26th January 2016 Natural England advised on the following potential effects on the designated features:

1. The direct loss of breeding habitat for little terns.
2. The potential increase in disturbance and predation [for little terns].
3. The potential for the harbour to close as a result of the breach, thus removing the harbour from tidal influence, impacting on habitats that occur within the harbour.
4. Construction impacts that may reduce foraging habitat for, and disturb, overwintering birds.

For each of these a more detailed analysis of the potential effects is carried out below:

1. The direct loss of breeding habitat for little terns.

Aspect of the project with the potential to cause this effect: This effect is due to the loss of area from Church Norton spit as the distal end to the north-east of the breach rolls back over time onto Pagham Beach. spit provides the main area where the little terns nest. Since January 2016, a breach has occurred naturally to the north-east of the project breach site. It is now highly likely that there will be loss of habitat due to natural change as this part of the spit rolls back. Carrying out the project will cause the loss, over time, of the habitat between the project breach and the natural breach. This in turn reduces the direct loss of habitat due to the project breach compared with the initial assessment provided in the Environmental Statement.

2. The potential increase in disturbance and predation [for little terns].

Aspect of the project with the potential to cause this effect: The creation of a new shingle bar across the existing tidal passage will link that part of the spit which is north-east of the breach to Pagham beach. At present, access is a much longer route from Church Norton, a much less densely populated area. An increase in access without mitigation increases the potential for visitor disturbance and predation. Once this part of the spit rolls back onto the beach the habitat is lost (as above) and this potential effect ceases.

3. The potential for the harbour to close as a result of the breach, thus removing the harbour from tidal influence, impacting on habitats that occur within the harbour.

Aspect of the project with the potential to cause this effect: Natural movement of shingle, wave action and /or a large storm event could push sufficient shingle into the project breach to reduce its depth significantly or even close it. The probability of this occurring is assessed to be small but uncertain. The initial proposal as described in the Environmental Statement proposed making allowance for one post-construction re-opening. In the 'Further Information' document submitted in May 2016, a stakeholder group is proposed to "advise on whether there is a need for any post-construction shingle excavation / recycling work to maintain the beach open." This would allow for repeated work to be undertaken mitigating this potential effect, subject to funding provision.

4. Construction impacts that may reduce foraging habitat for, and disturb, overwintering birds

Aspect of the project with the potential to cause this effect: Two aspects of the construction phase have the potential to cause this effect: first, disturbance of overwintering birds by people and machinery; and secondly, a temporary change in water level within the Harbour during construction leading to the temporary loss of 4.5ha of intertidal foraging habitat (4.5% of the supporting habitat within the site).

Identification of how each potential effect could impact on the Conservation Objectives

Table 1 – The Site Conservation objectives, the targets (and supporting notes) are taken from Natural England’s draft conservation advice package for Pagham Harbour SPA (April 2016). * Please note that the additional habitat at the new “Tern Island” is a compensation measure and so cannot be included at this stage under ‘relevant mitigation measures’.

Potential Effect	Site Conservation Objective (s)	Qualifying Feature	Relevant Target	Potential Impact (direct / indirect / cumulative)	Relevant Mitigation Measures
The direct loss of breeding habitat for little terns	Maintain or restore the extent and distribution of the habitats of the qualifying features; Maintain or restore the distribution of the qualifying feature within the site	Little tern	Maintain the extent , distribution and availability of suitable breeding habitat which supports the feature for all necessary stages of its breeding cycle at: Annual vegetation of the driftline / shingle: 44.8ha	Yes Direct negative impact on extent and distribution of habitat and hence on distribution of the feature	None*
			Maintain the availability of shallow sloping nesting sites grading to <30cm above water, so as to minimise the probability of them being flooded	Yes Direct negative impact on availability of suitable nesting sites and hence on the distribution of the feature	None*

Potential Effect	Site Conservation Objective (s)	Qualifying Feature	Relevant Target	Potential Impact (direct / indirect / cumulative)	Relevant Mitigation Measures
	Maintain or restore the structure or function of the habitats of the qualifying features; Maintain or restore the supporting processes on which the habitats of the qualifying features rely	Little tern	Maintain the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures	Yes Direct negative impact on structure and function of habitat	None*
	Maintain or restore the population of each of the qualifying features	Little tern	Maintain the size of the breeding population at a level to be agreed, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent (latest five year mean peak count is 12 breeding pairs	Potential for Impact. Loss of habitat may lead to decline in numbers if other sites in the SPA are not suitable	None
Increase in disturbance and predation [for little terns]	Maintain or restore the extent and distribution of the habitats of the qualifying features; Maintain or restore the structure or	Little tern	Maintain the extent , distribution and availability of suitable breeding habitat which supports the feature for all necessary stages of its breeding cycle at: Annual vegetation of the driftline / shingle: 44.8ha	Yes, but mitigatable Potential impact from disturbance during construction, reduced to non-significant impact following implementation of mitigation measures.	This will be mitigated by construction being timed outside of the breeding season

Potential Effect	Site Conservation Objective (s)	Qualifying Feature	Relevant Target	Potential Impact (direct / indirect / cumulative)	Relevant Mitigation Measures
	function of the habitats of the qualifying features; Maintain or restore the supporting processes on which the habitats of the qualifying features rely		Maintain the availability of shallow sloping nesting sites grading to <30cm above water, so as to minimise the probability of them being flooded	Yes, but mitigatable Potential for impacts during construction	Ensuring machinery only works within designated paths or within the active intertidal zone to ensure minimum impact on shingle ridges where little terns nest.
			Maintain the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures	No No impact from disturbance or predation on structure or function of the habitats	N/a

Potential Effect	Site Conservation Objective (s)	Qualifying Feature	Relevant Target	Potential Impact (direct / indirect / cumulative)	Relevant Mitigation Measures
	Maintain or restore the population of each of the qualifying features; Maintain or restore the distribution of the qualifying feature within the site	Little tern	Restrict the frequency, duration and/or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.	Yes Indirect impact. Population would be reduced and/or re-distributed by increased access for visitors leading to increased disturbance	Fencing, wardening, and signage. See section 1.5.3 of the 'Further information' report for details
			Restrict predation and disturbance caused by native and non-native predators	Yes Indirect impact. Population would be reduced and/or re-distributed by increased access for predators	Yes Fencing. See section 1.5.3 of the 'Further information' report for details
The potential for the harbour to close as a result of the breach, thus removing the harbour from tidal influence,	Maintain or restore the structure or function of the habitats of the qualifying features; Maintain or restore the supporting processes on	Dark-bellied brent goose	Maintain a high cover / abundance of preferred food plants (e.g. <i>Zostera</i> , <i>Entromorpha</i> , <i>Ulva lactuca</i>)	Uncertain The species composition of the food plants in seagrass beds is likely to change should the breach close up.	Yes Ongoing monitoring of the breach by the stakeholder group and re-opening of the breach if required

Potential Effect	Site Conservation Objective (s)	Qualifying Feature	Relevant Target	Potential Impact (direct / indirect / cumulative)	Relevant Mitigation Measures
impacting on habitats that occur within the harbour	which the habitats of the qualifying features rely		Maintain a high cover / abundance of preferred food plants (e.g. <i>Spergularia</i> , <i>Puccinellia</i> , <i>Triglochin</i> , <i>Aster trifolium</i> , <i>Plantago</i> , <i>Salicornia spp.</i>)	Yes In the supporting notes for this target Natural England note that saltmarsh plants are important as an alternative food source for brent geese.	Yes Ongoing monitoring of the breach by the stakeholder group and re-opening of the breach if required
	Maintain or restore the extent and distribution of the habitats of the qualifying features	Ruff	Maintain the extent and distribution of suitable habitat which supports the feature for all necessary stages of the non-breeding / wintering period at ... saltmarsh 98.6ha, intertidal mud 116.76ha	Yes Direct impact through alterations in the intertidal habitats could affect Ruff habitats however these impacts may not be adverse overall.	Yes Ongoing monitoring of the breach by the stakeholder group and re-opening of the breach if required

Potential Effect	Site Conservation Objective (s)	Qualifying Feature	Relevant Target	Potential Impact (direct / indirect / cumulative)	Relevant Mitigation Measures
Construction impacts that may reduce foraging habitat for, and disturb, overwintering birds	Maintain or restore the population of each of the qualifying features; Maintain or restore the distribution of the qualifying feature within the site	Dark-bellied brent goose; Ruff	Restrict the frequency, duration and / or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed	Yes Indirect impact on population and distribution of the features through disturbance from people and machinery during construction.	Yes Access routes, Timing of works, Cold weather working restrictions. See section 1.5.2 of the 'Further Information' report for details.

Assessment of the scale and seriousness of the potential effects

Those effects that are identified in the table above as having a potential impact on the site's conservation objectives are taken forward to a second stage of assessment. This stage assesses the scale and seriousness of the potential effects, including their:

- magnitude
- duration
- reversibility
- likelihood of occurrence
- how the impact may change over time

These assessment criteria are taken from the DEFRA 'Core guidance' document (2012). This stage includes consideration of the mitigation measures that form part of the revised application and also an assessment of the degree of uncertainty in the assessment findings.

Table 2

Effect	Magnitude	Duration	Reversibility	Likelihood of Occurrence	Changes over time
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Effect	Magnitude	Duration	Reversibility	Likelihood of Occurrence	Changes over time
The direct loss of breeding habitat for little terns (all conservation objectives)	The project breach site is some 350 meters from the natural breach. This section of habitat, plus that of the project breach, as well, will eventually be lost as a tern habitat as the shingle rolls back to Pagham beach. The area of habitat loss is not stated in the further information provided by the applicant. Natural England advises (letter of 7 January 2016) that “the shingle spit at Pagham Harbour provides the main area where the little terns nest”. The shingle once on the beach would not form suitable habitat . The magnitude is therefore assessed as Major Adverse	Loss of habitat to occur over 8-12 years. Net loss of habitat due to the project occurs over 10-25 years following implementation (without compensation) The net loss of habitat cannot be considered permanent due to long term unpredictability of spit formation and morphology	Short-medium term: the project would not be easily reversed due to mitigation measures to keep the breach open. In the long term Church Norton spit may again extend but this is uncertain	High likelihood of habitat loss over the 8-25 year time horizon	Only the area of the project breach site will be lost upon implementation. The majority of the loss will occur over an estimated period of 8-12 years. If the project were not implemented it should be noted that the section of spit between the two breach sites would remain as it is now but could extend or retreat. Beyond a 15-25 year timescale when the roll back of the cut spit is complete, the Church Norton spit may start to accrete and extend once again creating new habitat.

Effect	Magnitude	Duration	Reversibility	Likelihood of Occurrence	Changes over time
Increase in disturbance and predation [for little terns]	The area of infill will create a new access to the portion of the spit between the two breach sites. Fencing, signage and wardening of nest sites will continue as mitigation measures for as long as viable little tern nesting habitat exists on this portion of the spit. Nevertheless the risk of human and dog disturbance is increased by the shorter access distance from a car park and the greater population living close to Pagham beach compared to Church Norton. Providing mitigation measures are secured, the magnitude is assessed as Minor Adverse	This effect occurs up to 12 years from the project implementation, after which time the habitat is lost (see above) and so this effect becomes no longer relevant	The mitigation measures counter the effect but the infill is an integral part of the project. Once the bar rolls back onto the beach with the rest of the spit then the effect ceases and mitigation measures will no longer be required	High likelihood of occurrence. The mitigation measures proposed are site-specific, deliverable and of proved effectiveness, so there is also a high likelihood of their success for the duration of the effect	As the area of shingle moves onto the beach the access will increase and fencing and wardening will become more difficult. Eventually the tern habitat will be lost as above and by this time that effect takes over as being the more significant.

Effect	Magnitude	Duration	Reversibility	Likelihood of Occurrence	Changes over time
The potential for the harbour to close as a result of the breach, thus removing the harbour from tidal influence, impacting on habitats that occur within the harbour	A long-term closure would have a variety of impacts on the over-wintering SPA features, not all of them negative. There would be more negative outcomes for several SSSI species of birds but that does not form part of this assessment. Combined with the low likelihood of occurrence and provided that the funding for mitigation can be secured over a reasonable time period then the magnitude is assessed to be negligible .	Once a closure is deemed to have occurred by the stakeholder group (red-light situation), re-opening should occur within as short a time frame as possible so the effect of closure is as short in duration as possible. Works may have to be delayed until the nesting season has finished.	A closure is easily reversible provided funding is available. Construction phase mitigation measures will need to be re-implemented.	This effect has a low likelihood of occurrence in any one year.	If the closure were not reversed, the habitats of the harbour would change substantially over time. The potential for a closure is continual. It is usual for mitigation measures to be implemented whilst the impact is still present. However a judgement will have to be made as regards the point in time at which the harbour entrance has moved naturally far enough from the managed breach position that the project applicants are no longer legally or financially liable for implementing re-opening in the event of a closure

Effect	Magnitude	Duration	Reversibility	Likelihood of Occurrence	Changes over time
Construction impacts that may reduce foraging habitat for, and disturb, overwintering birds	With mitigation measures as outlined in section 1.5.2 of the 'Further information report May 2016' the impact on SPA features is considered to be negligible .	Late August to November 2016 only. A re-opening of the breach if required would result in a repetition of the effect and be subject to the same mitigation.	A temporary effect only, so not applicable	Without mitigation there is a high likelihood of disturbance of over-wintering birds, however these are unlikely to be SPA feature species	The risk of disturbance increases the longer the works go on into November as numbers of over-wintering birds increase and as the colder weather means that the impact of disturbance becomes more severe.

Overall assessment of Adverse Effect on Integrity (AEol)

The Appropriate Assessment above indicates in Table 2 that the scale and seriousness of the habitat loss for nesting little terns will have a major adverse impact on the Conservation Objectives for the site and that this is not mitigatable. The effects of compensation measures do not form part of this assessment.

For this reason, this assessment concludes that there would be an Adverse Effect on the Integrity of the site due to the loss of nesting sites for little terns. This will substantially reduce the area of the site which supports this key species on the site.

The competent authorities must consult Natural England on this assessment and have regard to their advice. As well as consulting NE, the competent authorities may also consult the public. The competent authorities must then come to a final decision whether the project gives rise to an Adverse Effect on Integrity of the site (AEol).

This assessment recommends to the competent authorities that they conclude that the project, including mitigation measures but excluding compensation measures, does have an Adverse Effect on the Integrity of Pagham Harbour Special Protection Area.

If, as recommended, a decision is made that AEol would occur then permission for the project could only be granted lawfully by means of a derogation under Article 6(4) of the Habitats Directive.

Before permission on the basis of a derogation can be granted there are three further tests that must be met. In order to expedite the determination of the application this assessment report now goes on to consider these derogation tests in advance of a formal decision being made on AEol.

It should also be noted that ABPmer's report "Managed Breach of Shingle Spit at Pagham – Further Information" (May 2016, Ref R.2614) concludes (Section 2.1, page 21) that "it was not possible to demonstrate with the required certainty that the proposed project will not have an adverse effect on the integrity of the Pagham Harbour SPA and Ramsar site".