

Holland G (Gayle)

From: Erica Knott <Erica.Knott@snh.gov.uk>
Sent: 12 January 2017 16:20
To: Holland G (Gayle)
Cc: Glen Tyler; Aires C (Catarina); Queiros J (Joao); McCollin T (Tracy) (MARLAB); Bova D (David) (MARLAB); George Lees; Tracey Begg
Subject: RE: Kincardine Kittiwake at Fowlsheugh

Hi Gayle

Happy New Year.

Thank you for your emails of 21st December and 5th January. We have considered the contents of each of the emails and the approach being taken within the appropriate assessment and offer the following advice:

Kittiwake – Fowlsheugh SPA

In the consideration of impacts to kittiwake at Fowlsheugh SPA, we advise the following:

- There is precaution built into a number of the assessment methodologies which help to inform the final impact on kittiwakes from each of the East Coast wind farms both individually and in combination with each other.
- The impacts from KOWL is predicted to be small and is proportionately smaller in comparison to the larger Forth and Tay consented schemes.
- We would caution against the threshold value of 1.3% being used as an absolute or precise number, due to the levels of uncertainty and precaution built into several of the methods used in the impact assessment methodologies.
- The revised calculations result in a total 1.27% of kittiwake predicted mortality across all of the East coast wind farms.
- We are content with the consideration now being given to displacement and winter mortality and also to the mortality rate due to displacement being applied i.e. 10%. We will continue to review and advise for individual projects on appropriate displacement and mortality rates due to displacement and the joint SNCB guidance should be published soon.
- We support the conclusion as previously advised that there will be no adverse effect on site integrity for kittiwake at Fowlsheugh SPA from KOWL alone or in combination with the other East coast wind farms.

Puffin – Forth Islands SPA

We have previously advised that we cannot conclude that there will be no adverse effect on site integrity to the Forth Islands SPA and puffin.

- We recognise that KOWL is at the edge of agreed foraging distances from Forth Islands.
- The impacts from KOWL will be proportionately far smaller than those predicted from the Forth and Tay developments due to the distance from the SPA and scale of development.
- We advise that further work is required on puffin impact assessment methodology and supporting modelling work on displacement to advise on future developments.

I hope this is of assistance in your final preparations of the appropriate assessment.

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Please note the email address for all marine energy correspondence is [**marineenergy@snh.gov.uk**](mailto:marineenergy@snh.gov.uk)

From: Gayle.Holland@gov.scot [mailto:Gayle.Holland@gov.scot]
Sent: 05 January 2017 11:39
To: George Lees; Erica Knott
Cc: Glen Tyler; Catarina.Aires@gov.scot; Joao.Queiros@gov.scot; Tracy.McCollin@gov.scot; David.Bova@gov.scot
Subject: RE: Kincardine Kittiwake at Fowlsheugh
Importance: High

Hi Erica

In addition to my email sent just before Christmas, I have noted in the original advice provided by SNH on the 18th May it was advised at paras 60 - 62 that:

60. Precautionary figures are provided for displacement, which given the size of the development, results in relatively high impacts to displaced birds. Displacement rates of 30% (kittiwake), 75% (gannet) and 50% (auks including guillemot) are used. Productivity losses are likely to be of less consequence than adult mortality, and the precautionary levels of adult mortality used are sufficient to be able to assess the likely impacts. The calculation presented indicates that 66 kittiwakes, 25 gannets and 158 guillemots are displaced from the development area. There are 5 adult puffins predicted to be displaced.

61. The assumption in the treatment of displacement is that 50% of birds displaced will die. Modelling conducted by CEH for the Forth and Tay wind farms indicates mortality rates are considered much more likely to be within single percentage figures and therefore these values should be treated as highly precautionary.

62. The resulting displacement calculations apportion 3 puffin deaths to Forth Islands SPA and 65 guillemot deaths apportioned to Fowlsheugh SPA. 10 Kittiwakes displaced from Fowlsheugh SPA are predicted to die as a result of the proposal. For all other species displacement impacts are not significant. The predicted displacement impacts are added to any predicted collision impacts to determine the full impact to relevant SPAs.

If we were to assume 10% mortality from displacement (the upper end of suggestion in para 61 above, and still considered by MSS to be precautionary), this would result in a displacement effect of 2 kittiwake from Fowlsheugh predicted to die and a total cumulative effect (including EOWDC, Hywind and F&T) of -1.27% reduction in adult survival against a threshold of -1.3%. Please could you consider this in addition to the kittiwake assessment I sent through on the 22nd (attached again for ease) and provide a view on site integrity for Fowlsheugh SPA.

If the same approach was applied to puffin this would result in less than 1 puffin from Forth Islands estimated to die due to displacement from Kincardine, although I understand that the SNH advice of not being able to conclude no adverse effect on site integrity for Forth Islands with respect to puffin would not change as nothing in the puffin assessment methodology has changed since this advice was provided in relation to the Forth and Tay projects.

As per email of 22nd Dec a response asap would be appreciated but I understand that you are on leave until the 11th. Please give me a call if you would like to discuss

Kind Regards

Gayle

From: George Lees [mailto:George.Lees@snh.gov.uk]
Sent: 23 December 2016 11:05
To: Holland G (Gayle)
Cc: Erica Knott; Glen Tyler
Subject: RE: Kincardine Kittiwake at Fowlsheugh

Hi Gayle. Just picked up on this. Erica won't be back until the 11th, though Glen a couple of days before, so afraid it's unlikely we'll be able to get back to you much before the 12th, if at all. However we'll make it a priority of course, when folk are in. Have a good break yourself.

George

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From: Gayle.Holland@gov.scot [<mailto:Gayle.Holland@gov.scot>]

Sent: 22 December 2016 15:38

To: Erica Knott

Cc: David.Bova@gov.scot; Catarina.Aires@gov.scot; Joao.Queiros@gov.scot; Nicola.Bain@gov.scot; Tracey Begg; Glen Tyler; George Lees; Tracy.McCollin@gov.scot; Jim.McKie@gov.scot

Subject: RE: Kincardine Kittiwake at Fowlsheugh

Importance: High

Hi Erica,

Prior to sending you the draft Kincardine AA for review I thought it would be useful to send through our consideration of the kittiwake assessment. Your email below advised no adverse effect on site integrity for Fowlsheugh SPA in relation to kittiwake where the predicted effect was 1.24% reduction in adult survival against a threshold of 1.3%. Following this it was realised that displacement effects had not been included in the predicted effects. Kincardine in their HRA report estimate that 19 kittiwake from Fowlsheugh SPA will be displaced, they assume 50% of displaced birds will die, resulting in 10 additional mortalities to the Fowlsheugh SPA. This results in a predicted effect of 1.29% reduction in adult survival. In addition EOWDC also apportioned 6 kittiwake mortalities to Fowlsheugh bringing the effect to 1.31% which is now over the threshold identified.

The % adult mortality due to displacement of 50% is the same as the figure used for puffin in the Forth and Tay assessment, obviously for much larger developments. MSS consider that this value is high. I would appreciate your views on whether you consider that it would be appropriate to use a reduced mortality rate from displacement for Kincardine due to the small size of the project, and if so what value would you consider to be appropriate?

I have attached the text from the kittiwake section of the draft AA for information. I realise that staff are now on leave for the Christmas period, Please could you provide a response by Thursday 12th January (or sooner if staff are available)

Kind Regards
Gayle

From: Erica Knott [<mailto:Erica.Knott@snh.gov.uk>]

Sent: 15 December 2016 15:58

To: Holland G (Gayle)

Cc: Bova D (David) (MARLAB); Aires C (Catarina); Queiros J (Joao); Bain N (Nicola) (MARLAB); Tracey Begg; Glen Tyler; George Lees

Subject: RE: Kincardine Kittiwake at Fowlsheugh

Hi Gayle

As discussed we have now considered your email below further and advise the following:

Impact on kittiwake at Fowlsheugh SPA

Marine Scotland's prediction of kittiwake mortality is below the threshold (1.3%) applied in the determination of the Forth and Tay and HyWind wind farm consents. We advise that the Kincardine project on its own will have no adverse effect on site integrity.

The predicted in-combination breeding season effect of all the wind farms including KOWL (1.24%) is still below the threshold, but very close to it. In comparison with the consented projects, Kincardine's contribution to in-combination impacts on kittiwakes at Fowlsheugh SPA is very small (<5% of overall impact). The levels of uncertainty in various aspects of the calculation of the threshold and individual project contributions are varied and often substantial. We therefore advise that precautionary assumptions underpinning the calculations made for the Forth and Tay consented projects are likely to swamp any effect of the KOWL's contribution to in-combination effects. In effect, KOWL's contribution may be deemed to be trivial.

These three findings – that the threshold is not breached, that KOWL's additional effects are very small both absolutely and in the context of the uncertainty attached to predictions of impact – allow us to advise no adverse effect on site integrity in combination with KOWL, whether this is based on a full deployment of the 8 turbines or a phased deployment.

Our advice of 2nd December - that a qualitative assessment was suitable to use for assessing the non-breeding season impacts on kittiwake – still stands. This is due to the lack of an agreed quantitative method to assess non breeding season impacts.

I trust this is of assistance, please note as of tomorrow night, staff working on this project are on AL through until January.

Erica

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Please note the email address for all marine energy correspondence is marineenergy@snh.gov.uk

From: Gayle.Holland@gov.scot [<mailto:Gayle.Holland@gov.scot>]

Sent: 06 December 2016 15:05

To: Erica Knott

Cc: David.Bova@gov.scot; Catarina.Aires@gov.scot; Joao.Queiros@gov.scot; Nicola.Bain@gov.scot

Subject: Kincardine Kittiwake at Fowlsheugh

Hi Erica,

Following our discussion yesterday, please see below a table from Jared on the predicted effects on Kittiwake from Fowlsheugh SPA from the Kincardine proposal for different numbers of turbines. From the Hywind AA the in-combination effect with the Forth and Tay and Hywind was 1.16% reduction in adult survival (using the SNCB advised avoidance rate of 98.9%). The threshold was 1.3%. For 8 turbines at Kincardine this would bring the total effect to 1.24% reduction in adult survival, for a single turbine the total effect would be 1.17%. The estimated effects are based on 16 individuals being attributed to Fowlsheugh as per your advice of 18th May.

Fowlsheugh : Kittiwake	
SPA population (Inds):	19310

	Kincardine		1		2		4		6	
	% SPA	Inds	% SPA	Inds	% SPA	Inds	% SPA	Inds	% SPA	Inds
Displacement effects										
Adult survival	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Chick survival	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Collision Effects (Band CRM)										
Option 3 95% (as in F&T Assessment)										
Option 2 98.9% (SNCB advice)	-0.08	-16	-0.01	-2	-0.02	-4	-0.04	-8	-0.06	-12
Option 2 99.2% (BTO recommendation)	-0.06	-12	-0.01	-1	-0.02	-3	-0.03	-6	-0.05	-9
Total Effects										
Adult Survival (F&T AA, Extended CRM, 95%)										
Adult Survival (SNCB advised Basic CRM, 98.9%)	-0.08	-16	-0.01	-2	-0.02	-4	-0.04	-8	-0.06	-12
Adult Survival (BTO recommended Basic CRM, 99.2%)	-0.06	-12	-0.01	-1	-0.02	-3	-0.03	-6	-0.05	-9
Productivity effect assumed (including reduction due to collision of adults)	-0.06	-12	-0.01	-1	-0.02	-3	-0.03	-6	-0.05	-9

I understand that the SNH advice is that predicted effects should not come too close to a threshold due to the potential for additional unknown mortality out with the breeding season. In your advice note dated 2nd December it was advised that a qualitative approach to non-breeding season effects was appropriate and that “*Wintering bird populations at the KOWL development are generally smaller, less constrained in foraging locations and comprise birds from a much wider pool of populations when compared with the breeding season.*”

I would appreciate your consideration of effects on site integrity for kittiwake at Fowlsheugh in light of the table above.

Kind Regards
Gayle

Gayle Holland

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