

SEABIRD POST-CONSENT MONITORING

Meeting held Friday 14 November 2014

Attendees

MSS Ian Davies (chair), Jared Wilson.

BOWL Johnny Wilson, Lis Royle & consultants David MacArthur, Mark Trinder of MacArthur Green.

MORL Catarina Rei, Sarah Pirie & consultant Ross McGregor of Natural Power.

RSPB Aly McCluskie.

JNCC Sue O'Brien, Karen Hall.

SNH Alex Robbins, Glen Tyler, Erica Knott, Catriona Gall (notes).

Purpose and scope of meeting

ID set out that this was an initial meeting to gather people's thoughts on seabird post-consent monitoring and to focus on what needs done for BOWL & MORL wind farms in the Moray Firth. It wasn't to be a decision meeting but hopefully we could agree on the key issues needing to be addressed and the 'next steps' to progress discussion.

Key actions / next steps

1. AR to co-ordinate a meeting in early 2015 to discuss seabird colony monitoring and to feed back following this.
2. AM to check what covariate data has been collected as part of FAME and other RSPB tracking studies- *by Jan 2015*.
3. We agreed there needs to be a meeting between developers, MSS, SNCBs and RSPB to discuss the findings from the MORL & BOWL gull tagging project once the final report is available. This could include discussion on any flight height data available from the GPS tags, as well as whether there is any indication of gull attraction to boats.
4. MT to ask Bob Furness to make contact with the gull ringer working locally in Caithness – in order to find out about the scope of his ringing work- *by Jan 2015*.
5. AR to make contact with Ruedi Nager at Glasgow University to discuss studies to differentiate between gull feeding behaviour (marine or terrestrial feeders)- *by Jan 2015*.
6. SO'B to circulate the final report from the JNCC demographic data review, once available- *late Jan 2015*.
7. We agreed to meet again to discuss seabird post-consent monitoring on the morning of **16 December**, and MORL have offered to host at their offices in Edinburgh.

Priority species, SPAs and mechanism for effect

For offshore wind, we discussed that collision risk and displacement operate as the key mechanisms for direct effects on seabirds. For BOWL & MORL, we agreed that the following SPA qualifiers are the priorities (higher/ lower) to consider in respect of post-consent monitoring:

- **Great black-backed gull** (tier 1) & **herring gull** (tier 2) of East Caithness Cliffs SPA in respect of collision risk.
- **Puffin** (tier 1) of East Caithness Cliffs SPA and North Caithness Cliffs SPA in respect of displacement.
- **Razorbill & guillemot** (both tier 2) of East Caithness Cliffs SPA in respect of displacement.

JaW noted that monitoring undertaken for these priority species could help provide 'incidental' data on other seabirds potentially affected by the wind farms including gannet at Troup Head SSSI and kittiwake at East Caithness Cliffs and North Caithness Cliffs.

Key questions/ hypotheses to be addressed

The first key question is "how do seabirds respond to offshore wind turbines over time?"

However, this is a very broad question which we agreed will need to be broken down into a series of more focused hypotheses for the priority SPA seabirds listed above. We noted that this question provides the rationale for any 'at sea' monitoring.

MT hoped that any 'at sea' monitoring could help inform the measurement of displacement distances from individual wind turbines within an array. This may improve our understanding of how displacement operates and therefore assessment methods.

The second follow up question is "does any alteration in seabird behaviour, due to offshore wind turbines, have population consequences?" We noted that this is the critical area, but can be very complex to address. Individual seabird collisions with turbines can be translated as changes to mortality / survival rates for the relevant population. However, the effect of displacement on the fitness of individuals is currently unknown and much harder to measure. It's important to understand this in order to know if any long-term population changes are due to displacement impacts.

AM highlighted that the recent MS research projects (seabird population modelling, displacement modelling, avoidance rates) may help identify some of the questions needing to be addressed.

Project, region & wider scales to address questions

JaW raised that we would need to consider whether it would (ever) be possible to differentiate between levels of impact occurring at the BOWL & MORL wind farm sites. We agreed that it was critical to understand what power there would be to detect change. We also had some discussion about seabird impacts that could arise during wind farm construction and operation, noting it was unlikely that we'd be able to differentiate between these impacts.

We structured our discussion on a species-by-species basis, as follows:

- **Puffin**

We agreed that in respect of puffin demographics it made sense to focus effort to the Isle of May population in Forth & Tay, where good quality, long-term baseline data are available. However, there may be some merit in colony or plot counts at East Caithness Cliffs and North Caithness Cliffs SPAs. AR will be co-ordinating a meeting in early 2015 to discuss seabird colony monitoring and will feed back. This meeting will be held between relevant experts to discuss existing colony monitoring (i.e. SMP) and identify whether there is any additional monitoring that would be valuable for key species going forward.

We agreed that 'at sea' survey of puffin in the Moray Firth could be helpful, however, SO'B highlighted that we need to undertake power analysis in order to inform decisions on the appropriateness of surveys, including how best to target survey effort, decide on survey methods and determine the level of survey effort required.

We had some discussion over the use of covariate data to add to the power to detect change. MT indicated that if covariate data could be collected and it added precision to models then it

would be used. AM took an action to check what covariate data has been collected as part of FAME and other RSPB tracking studies.

- **Razorbill & guillemot**

AR indicated that colony and plot counts for these two auk species will be discussed at the meeting to be held in early 2015. She also mentioned the SNH project proposal to look at auk wintering attendance, this will include testing the reliability of photographic monitoring.

We discussed whether tagging could be helpful to establish any connectivity between razorbill / guillemot and the wind farm sites. Tagging of these species has been conducted in the southern part of the SPA, but nothing has been done in the north at latitudes which correspond to the wind farms. The conclusion of the discussion was that the cost / effort to tag these species (in order to establish connectivity) was not worth it, and it would be better to focus attention on other methods. A good candidate for this could be aerial surveys extending from the coast to the wind farms.

- **Great black-backed gull & herring gull**

CR gave us an update on MORL & BOWL's gull tagging project, running through 2014. Eleven GBBG were tagged and 6 herring gull. This work has focused on the southern section of the SPA, there are access issues to the north (but are there actually gulls in the north?). CEH have just started to do the data analysis and modelling and the final report is due by mid-February. We agreed that following receipt of this work it would be useful to meet to discuss it.

There is a ringer who is working on gull species in Caithness, including at least part of East Caithness Cliffs SPA. MT suggested that Bob Furness could make contact with him to find out more about this work.

AR indicated that it could be helpful to determine what proportion of each gull species are marine feeders and what proportion are terrestrial (this could be informed by tagging work, diet analysis and / or other methods). AR to make contact with Ruedi Nager at Glasgow University to discuss this further.

SO'B let us know about the current JNCC contract to review available demographic data for seabird species, including the identification of any unanalysed data that could help to fill knowledge gaps. SO'B to circulate the final report once issued.

AM noted that flight height and flight speed are the two most important variables to which offshore collision risk modelling is sensitive (based on the analysis that Liz Masden has been undertaking in her knowledge exchange project). We agreed that gull tagging would be undertaken primarily to establish connectivity between the SPA population and wind farms, and therefore potential for any population level effects, it may also be possible to gather data on gull flight height from the tagging work.

MT noted that the BOWL & MORL tagging project may also provide some information on possible gull attraction to boats. RM noted that any GBBG recorded at distance offshore are more likely to be sabbaticals than breeding adults from the SPA.

- **Gannet & kittiwake**

We had brief discussion of these two species. As noted above, we do not consider that BOWL & MORL should specifically focus monitoring effort on gannet and kittiwake, however, if 'at sea' surveys are undertaken for the priority species then these may provide some data. Gannet & kittiwake are of greater concern for the Forth & Tay wind farms and we are yet to discuss post-consent monitoring requirements in this regard.

Appropriate data collection methods to address questions

As noted above, we discussed a range of data collection methods for each species.

In respect of potential 'at sea' survey work, SO'B suggested it may be helpful to consider primary and secondary methods – potentially to use digital aerial survey as the primary method, supplemented by boat-based survey. This is because, at the current time, there are concerns about auk species identification in digital aerial survey work (stills or video). Nor is it fully established whether flight heights can be accurately estimated from these aerial methods. Until such time that these problems are resolved, secondary boat-based surveys can allow auk identification and may give us better information on flight heights for a range of species.

The need for collaboration between developers to maximise the ability of the post-consent monitoring to provide meaningful results was discussed briefly.

Next steps

CG queried whether either developer had undertaken a power analysis of their pre-app survey work. Neither had, although MT has done one for wind farms in the Wash.

JoW noted BOWL's pressing timescales, as they will need a handle on monitoring requirements in early 2015 (Jan / Feb) in order to allow procurement / financing of any pre-construction (baseline) monitoring in 2015.

We agreed to meet again the morning of **16 December**, MORL have offered to host at their offices in Edinburgh.