

**Forth & Tay Regional Advisory Group
Ornithology Subgroup
Wednesday 23 March 2016, 10:30 – 15:30
SNH Battleby, Perth**

Minutes – issued as Final.

Present:

- Ian Davies (Chair) *ID* (MSS)
- Jared Wilson *JW* (MSS)
- Helen Wade *HW* (HW)
- Catriona Gall *CG* (SNH)
- Erica Knott *EK* (SNH)
- Nick Brockie *NB* (SSE – Seagreen)
- Sue King *SK* (King Consulting- Seagreen)
- Sarah Arthur *SA* (ICOL – Inch Cape)
- Esther Villoria *EV* (ICOL – Inch Cape)
- Murray Grant *MG* (Royal Haskoning – Inch Cape)
- Ross McGregor *RMcG* (Natural Power – Inch Cape)
- Ewan Walker *EW* (Mainstream – NnG)
- Colin Barton *CB* (Cork Ecology – NnG)
- Phil Bloor *PB* (Pelagica - NnG)

Phone:

Sue O'Brien *SO* (JNCC)
Aly McCluskie *AM* (RSPB)
Glen Tyler *GT* (SNH)

Apologies: - Alex Robbins (SNH), Robert Main (MS)

Introductions and Aims

ID (Chair) welcomed everyone to the fifth Forth & Tay Regional Advisory Group – Ornithology Subgroup (FTRAG-O) meeting held at SNH offices, Battleby, Perth on 23 March 2016.

An Agenda for the meeting had been circulated to the group on 10 March 2016. The main agenda item to be discussed was the NnG *Pre-construction Ornithology Monitoring Proposal* document that had also been circulated to the group on 10 March.

Minutes from previous meeting

The final draft Minutes from the previous meeting had been issued to the FTRAG-O group on 22 March 2016.

Although there were no corrections or amendments tabled at the meeting, due to the very late submission of the Minutes, it was agreed that they would not be finalised until 30 March, allowing for any final comments to be received and addressed. They would then be issued as final Minutes.

Actions from previous meeting

The progress on the Actions from the previous meeting were reviewed.

Actions carried over from 17/11/15	Response
9) <i>CB</i> – To prepare short report on existing collision detection technologies based on SOSS 2012 paper and responses from industry.	On Hold
15) <i>JW</i> – To add text to the <i>Seabird Monitoring for Forth and Tay Offshore Wind Farms – Discussion Document</i> to explain why the dSPA is not being considered at this stage.	<i>JW</i> circulated a note with revised text on 23/3/16. Completed
16) <i>AM</i> - to advise when colony count data from Fowlsheugh will be made available.	<i>AM</i> advised that he had received the colony count data and would extract the Fowlsheugh data and circulate them in due course. On-going
19) <i>EW</i> – To send RM previously finalised meeting documents in order for them to be placed on the website.	Completed / On-going
26) <i>ID</i> – To talk to Simon Greenstreet and Peter Wright regarding factors controlling sandeel distribution and report back for next meeting.	On-going

Actions from 26/01/16	
30) <i>CB</i> - To liaise with <i>JW</i> to agree on suitable revisions to Q 14 - 16.	Completed
31) <i>CB</i> - To update Table 1 of the <i>Seabird Monitoring for Forth and Tay Offshore Wind Farms – Discussion Document</i> based on discussions and views expressed at the meeting.	Completed
32) <i>JW</i> – To circulate presentations from the morning session.	Presentations were circulated Completed

NnG Pre-Construction Ornithology Monitoring Proposal

EW introduced the draft *Pre-Construction Ornithology Monitoring Proposal* that had been circulated to the FTRAG-O group on 10 March 2016.

EW emphasised that the aim of the current document was to present the monitoring proposed for the pre-construction phase of NnG, focussing on potential displacement and barrier effects. It was noted that if the proposed methods were agreed with FTRAG-O, this would provide the basis for future pre-construction monitoring and would therefore be included within the ornithology section of the NnG PEMP.

There was some discussion around the process for approving proposed methods. ID noted that FTRAG-O has delegated authority from FTRAG and advised that if proposed methods were agreed at the meeting, they could be considered approved, although formal approval would be sought in writing to MS-LOT.

EW talked through the main points within the proposal:

Monitoring Displacement and Barrier Effects

NnG proposes to use digital aerial surveys to monitor potential displacement effects. The final survey design will be determined once a contractor has been determined, but will aim to cover a larger area than previously undertaken during baseline surveys. Baseline surveys covered the NnG wind farm site with an 8 km buffer.

Surveys will be undertaken during the breeding and post-breeding seasons, i.e. between March and October.

One season of pre-construction data will be collected and no data collected during construction. Post-construction surveys will be undertaken for a minimum of two years. Power analysis will be undertaken to determine the value of additional future surveys.

Data from digital aerial surveys may also be used to measure flight heights and macro-avoidance behaviour of gannets.

The focus of displacement monitoring will be on previously identified species of concern i.e. puffin, razorbill, guillemot and kittiwake. However, all species would be recorded and included in any monitoring reports.

Queries were raised over whether power analysis should be undertaken prior to construction. There was a view that early power analysis would help determine whether one survey per month would be adequate. It was advised that any survey design should be able to identify the displacement rates assumed in the Appropriate Assessment (auks - 60%, kittiwake – 40%), with statistical significance of $p < 0.05$ and a power to detect change of 0.8.

There was a discussion on the ability of digital aerial surveys to accurately identify Auks and also measure flight heights of seabirds. There was general agreement that the ability to separate guillemots from razorbills was probably no better or worse than many boat based surveys and although it was recognised that there were concerns over the accuracy that flight heights could be measured at, it would be possible to collect flight height data from aerial surveys.

JW advised that a new BTO report on seabird flight heights had recently been published and he would circulate a link for it.

It was asked whether it would be possible to measure flight speed, which is an important input for collision risk modelling. It was recognised that it might be possible to collect flight speed from digital aerial surveys but it was currently unknown how accurate the flight speeds collected were. Although it was not a licence condition to

collect flight speed data, other methods such as tagging or radar might be more appropriate methods for measuring flight speed.

Barrier Effects

In addition to using aerial surveys NnG propose the use of tags on a selection of seabirds including: puffin, razorbill and kittiwake. The aim of the tagging would be to assess whether barrier effects occur on breeding seabirds.

The productivity and survival of tagged birds would be obtained to help determine whether any observed barrier effects have a measurable detrimental effect on breeding adults and consequently could have a population level impact. However, there is considerable uncertainty as to whether impacts, if any, from barrier effects will be detectable.

In addition to recording possible barrier effects, it is also hoped that the data might be useful for measuring the possible effects from displacement. However, there is uncertainty over whether enough data could be obtained from tagging to provide robust conclusions on the possible population level impacts arising from displacement.

The Group recognised that the historical use of tags on puffins had caused concerns over the sensitivity of puffins from being handled during the breeding period. If the behaviour of adult puffins was affected by the tags or by handling during the tagging process then this could cause inaccurate results. The tags used have reduced in size in recent years and this could reduce the potential impact on puffins. It was suggested that a trial be considered using dummy tags to see if the puffin's behaviour was affected. ID agreed to follow up the possible use of tags on puffins and report back before the next meeting.

Collision and avoidance behaviour

NnG advised the group that it is committed to monitoring potential collision and/or avoidance behaviour but that methods have not yet been proposed as the wind farm will not be operational for some years and there is no need to collect preconstruction data. It was noted that NnG is considering the potential use of turbine mounted camera systems to detect collisions and/or micro avoidance behaviour.

The use of turbine mounted radar is also being considered as a potential alternative to camera systems. Radar could provide accurate information of the avoidance and barrier effects on gannets and a lot of data could be obtained over a relatively short period of time. The use of radar might be limited as, aside from gannet, it is not possible to separate to species most of the tracks recorded and visual observations would be required to verify the species.

The Group generally agreed with the proposed approaches but recognised that there were uncertainties over whether aerial surveys could accurately measure flight heights and whether it would be possible to measure any potential population level impacts.

Seabird Tagging Studies

Following on from the presentations made at the last meeting on the seabird tagging and ringing studies being undertaken within the FTRAG area, there was a general discussion on their appropriateness for monitoring potential wind farm impacts.

There were concerns expressed over the proposed colour ringing of gannets and the ability to link any future changes in adult survival with wind farm impacts. Any changes could be due to other factors, e.g. the possibility that the Bass Rock colony

is near capacity compared to other sites and therefore potential intra-specific competition could be causing increases in adult mortality. However, at the same time there was recognition that this was the species for which it was most likely to be feasible to design monitoring that had a reasonable chance of detecting population-level impacts. There was also discussion over the extent to which monitoring at control colonies was required, as opposed to simply monitoring at the Bass Rock colony and there were contrasting views on this

The Group was uncertain over the level of existing data that could be used. Colour ringing of gannets is already being undertaken at the Bass Rock and maybe that data could be used. Also, it was unclear how long a study would be required to be undertaken for, to obtain adult survival rates and to detect possible future changes.

It was agreed that a number of questions were needed to be answered before the colour ringing of gannets could be considered further. JNCC and SNH agreed to take as a discussion point for the forthcoming Mig bird work meeting being held in April. ID agreed to discuss the potential costs of such a study with Bob Furness.

SO flagged to the group that a group in Germany are undertaking colour ringing of gannets at Heligoland. She volunteered to try and contact the group to establish what ringing they are doing, with a view to coordinating any ringing undertaken at the Bass Rock.

There were general concerns raised over the use of tags to detect effects from displacement on Auks and kittiwakes. It was felt that there was a high risk that it would not be possible to obtain enough data to detect possible effects from displacement.

The discussion widened onto population monitoring and what monitoring is currently being undertaken. Would it be possible to detect population level effects if the populations were not being adequately monitored? There has to be an understanding of the population trends observed. Was this an issue for developers or something that is already being done? It appeared that some species at some colonies were monitored annually whereas others were less well monitored. Puffins, in particular, were difficult to monitor. SNH agreed to find out what conditions were linked with the grants issued to those undertaking seabird monitoring at Fowlsheugh and St Abb's Head. Whether it would ever be possible to detect population level changes for species with fluctuating populations and for which suitable control colonies appear to be lacking, was questioned and is something that Group needs to consider further.

There was a short discussion on the study of gannet flight heights but the Group was aware of the further work being undertaken by Keith Hamer. In response to the paper published in 2015 the developers have prepared a joint letter to be sent to Keith Hamer concerning the gannet flight height study. It was agreed that the letter should be circulated to the Group.

Future FTRAG-O meetings

There was a question as to whether future meetings needed to be held as frequently as they had been to date. There was general agreement that the meetings had been of value but if there was little in the way of Agenda items then there was no requirement to hold them as frequently as they had been. EW was tasked to identify a suitable date for the next meeting.

Actions carried over

- 16) AM - to advise when colony count data from Fowlsheugh will be made available.

Actions

- 33) JW to circulate link to BTO flight height report.
- 34) ID to follow up the use of tags for tracking puffins.
- 35) JNCC & SNH to discuss gannet tagging studies at forthcoming workshop in April and report back to Group.
- 36) ID to discuss the probable costs of an adult gannet tagging study with Bob Furness.
- 37) SO to try and contact the group working on gannets at Heligoland and to feed back to FTRAG a summary of work they are currently undertaking on colour-ringing of gannets, with a view to coordinating any colour-ringing of gannets at the Bass Rock

(Note – subsequent to meeting HW circulated email (3 May 2016) with links to gannet tracking studies for Helgoland.)
- 38) EV to circulate developers letter to be sent to Keith Hamer.
- 39) SNH to find out what conditions are attached to grants provided for monitoring seabird at Fowlsheugh and St Abb's Head.
- 40) EW – To circulate Doodle Poll for next meeting.