

MORAY FIRTH RENEWABLES ADVISORY GROUP (MFRAG) ORNITHOLOGY SUB-GROUP MEETING MINUTES

Meeting	MFRAG-Ornithology (MFRAG-O)	
Date	3 rd November 2020	
Location	Teams call	
Attendees	Marine Scotland Science (MSS)	Jared Wilson (JW), Tom Evans (TE), Julie Miller (JM)
	Nature Scot	Erica Knott (EK), Chris Eastham (CE), Alex Robbins (AR)
	Marine Scotland Licensing and Operations Team (MSLOT)	Gayle Holland (GH), Nikoleta Papanastasouli (NP)
	Joint Nature Conservation Committee (JNCC)	Orea Anderson (OA)
	Royal Society for the Protection of Birds (RSPB)	Aly McCluskie (AM)
	BOWL	Joseph Deimel (JD)
	Moray West	Sarah Edwards (SE)
	Moray East	Carlotta Gradissimo (CG), Catarina Rei (CR), Ross McGregor (RG) (Moray East ornithological advisor)
	MacArthur Green	Mark Trinder (MT)
	APEM	Stephanie McGovern (SG); Katie St John Glew (KSG)
Apologies	NatureScot	Kate Thompson (KT)
Action Number	Action	Completion Date
1	MFRAG secretariat to organise February update meeting.	Doodle poll to be set up week commencing 16 th November 2020
2	MT to explore option for writing a paper linking findings from BOWL post-construction monitoring with similar post construction monitoring (similar method) carried out for East Anglia One to determine if similar results.	TBC
3	NatureScot and MSS to agree caveats to be included with BOWL 2019 post-construction aerial survey report before report is made available on MSLOT - MFRAG website. Timeline for this to be agreed following issuing to MFRAG of final report version (incorporating comments).	TBC following final report
4	BOWL to contact Maarten Platteeuw - Rijkswaterstaat to request information on results from boat-based gull netting carried out in The Netherlands – to understand what worked / didn't work.	Prior to spring 2021

5	MSS to circulate LIDAR invitation-to-tender documents to MFRAG-O	Link for LIDAR invitation-to-tender documents issued to MFRAG-O on 5 th December 2020
6	MT and JD to revisit whether the majority of the turbines were rotating on the aerial survey days.	Before end of November 2020
7	JW to put MT in touch with a PhD student at UHI, who is looking for populations of GBBG where diet sampling work can be carried out.	TBC
8	MT to discuss BTO Special Methods licence requirement with appointed tagging sub-contractor.	TBC by BOWL
9	BOWL to have discussions with MSS about their BTO contract to train weak-link harness deployers.	TBC by BOWL
10	BOWL, Moray East and Moray West to set up 3-month lookahead survey updates – JD to coordinate set-up	1 st December 2020
11	Moray West to add a section on Covid contingency to aerial survey methodology, and will reissue methodology by 16th November 2020.	16 th November 2020
12	MFRAG to return comments to Moray West on aerial survey methodology by 30 th November 2020.	30 th November 2020
13	SE will discuss with APEM how transect design can be modified, to best enable future analysis.	16 th November 2020
14	Moray West to look into including a discussion on the power analysis for the survey design, in the aerial survey methodology.	16 th November 2020
15	MFRAG secretariat to add 'lessons learned from meeting' and 'strategic work/new initiatives' sections to agendas of future meetings.	For next meeting – early February 2021
Date of Next Meeting	Interim meeting early February 2021 (date TBC via Doodle poll)	

1a. Introductions and Purpose of Meeting
Introductions made.

1b. Review of Minutes of Meeting from previous meeting (9th July 2020)

Status of Actions from previous meeting:

1. JM to provide BOWL with example Risk Assessments or Health and Safety Guidance relating to seabird netting work carried out in North Atlantic.
[Action superseded – example Risk Assessment provided to BOWL by Ewan Wakefield – further update on netting at sea provided under item 2c.](#)
2. Developers / all to develop contingency plan(s) for managing impact of Covid on delivery of aerial surveys. Target have initial plan in place by September / October 2020 for discussion at next MFRAG-O meeting (November 2020). This to include:
 - a. Identification of suitable mitigation that can be put in place to enable surveys to continue where there is potential risk of disruption from Covid;
 - b. Criteria for determining cut-off for making decisions on whether surveys can go ahead or have to be delayed into 2021 or 2022 e.g. deadline based on breeding season;
 - c. Scenario planning – agreement on strategy for completing surveys in 2022 if unable to survey in 2021. What these surveys need to include, how delay captured / dealt with the analysis of results etc.
[Due to continually changing restrictions and guidelines, it hasn't been possible to develop stand-alone contingency plans. Developers will seek to capture contingency planning within survey methodologies, with a goal of providing maximum flexibility/adaptability. An update MFRAG-O meeting will be held in February 2021, to discuss spring 2021 survey planning in light of the Covid situation at that time. Action – MFRAG secretariat to organise February update meeting.](#)
3. MT to revisit construction activity data provided by Moray East in relation to post-construction survey results for inclusion in BOWL 2019 post-construction aerial survey report.
[Action complete – further update provided under Item 2b.](#)
4. MT to explore option for writing a paper linking findings from BOWL post-construction monitoring with similar post construction monitoring (similar method) carried out for East Anglia One to determine if similar results.
[Action to be carried over to next meeting.](#)
5. MFRAG to provide comments on BOWL 2019 post-construction aerial survey report by 31st July 2020.
[Action complete.](#)
6. BOWL to address comments (including MT review of Moray East construction activities data) and prepare updated version of report and presentation for upload to MSLOT – MFRAG website.
[Action largely complete – further update provided under Item 2b.](#)
7. SNH (now NatureScot) and MSS to agree caveats to be included with BOWL 2019 post-construction aerial survey report before report is made available on MSLOT - MFRAG website. Timeline for this to be agreed following issuing to MFRAG of final report version (incorporating comments).
[Action to be carried over to next meeting – further update provided under Item 2b.](#)
8. BOWL to contact Maarten Platteeuw - Rijkswaterstaat to request information on results from boat based gull netting carried out in The Netherlands – to understand what worked / didn't work.

Action to be carried over to next meeting.

9. Moray West to advise MFRAG group of appointed aerial survey contractor ASAP.

Action completed during meeting – under Item 4b.

10. MSS to confirm with procurement whether there is an option for the LIDAR survey work to be linked to Moray West aerial surveys and whether the tender documents can be shared with the MFRAG.

Action - MSS will circulate LIDAR invitation-to-tender documents to MFRAG-O.

11. Moray West to acquire information on Moray East construction activities for 2021 to include in survey design for pre-construction surveys.

Action complete – Moray West have included some information in their aerial survey method statement.

12. Moray West to confirm with MFRAG cut off for approval of aerial survey design prior to commencement of aerial surveys.

Action completed during meeting – under Item 4b.

13. BOWL to organise next MFRAG meeting in early November 2020.

Action complete.

14. JW to speak to Paul Thompson and Aude Benhemma–Le Gall for information on scope of Aude’s PhD studentship.

Action complete – TE and JM had call with Aude Benhemma–Le Gall and Paul Thompson to discuss. Aude is looking at changes in abundance and distribution. MT noted that Aude is looking at bird distributions in relation to prey; parallel investigations to his analysis.

Actions	<ol style="list-style-type: none"> 1. MFRAG secretariat to organise February update meeting. 2. MT to explore option for writing a paper linking findings from BOWL post-construction monitoring with similar post construction monitoring (similar method) carried out for East Anglia One to determine if similar results. 3. NatureScot and MSS to agree caveats to be included with BOWL 2019 post-construction aerial survey report before report is made available on MSLOT - MFRAG website. Timeline for this to be agreed following issuing to MFRAG of final report version (incorporating comments). 4. BOWL to contact Maarten Platteeuw - Rijkswaterstaat to request information on results from boat-based gull netting carried out in The Netherlands – to understand what worked / didn’t work. 5. MSS to circulate LIDAR invitation-to-tender documents to MFRAG-O.
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2. BOWL Project

2a BOWL project update (overview)

JD provided project update - Operations & Maintenance work continuing successfully.

Actions	None
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2b BOWL 2019 post construction aerial surveys – report revisions update

MT ran through second draft of BOWL 2019 post construction aerial survey report:

Some additional outputs to address comments, including on spatial modelling and turbine avoidance. Aim is to recirculate by end of November for any follow-up comments.

Key questions and messages:

Nothing investigated for second draft has changed overall conclusions.

Gannet still show strong apparent avoidance of the wind farm.

Turbine avoidance (focussing on guillemot); did individual surveys have a leveraging effect – question raised by MSS/NatureScot included: did differences in wind speed or position of guillemots in the wind farm between surveys effect results? For guillemots, despite differing numbers of birds between surveys, the same patterns of distribution in relation to turbines were observed. Doesn't seem to be strong effect that birds are concentrated around the outer perimeter. No relationship between wind speed (at Wick Airport) and bird distributions.

Did construction activity at Moray East influence results? No construction activity occurred on surveys days (or day before a survey) within the 4km buffer, therefore unlikely to have influenced results.

Remaining comments/questions also addressed with additional results provided, with exception of MSS proposed comparison of percentage of birds in wind farm from pre- and post- surveys. MT explained that this method has not been included as not considered to be a robust method and unnecessary given the more refined methods already applied. This is discussed in a comment response table to be provided to MFRAG-O.

Were the majority of the turbines rotating on the days of the surveys – MT and JD to revisit.

Actions	6. MT and JD to revisit whether the majority of the turbines were rotating on the aerial survey days.
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2c BOWL gull tagging feasibility studies 2021 proposals – onshore and offshore

MT – feasibility review fieldwork will look at whether GBBG can be safely and effectively captured at or near nest sites onshore, and whilst at sea. Onshore fieldwork preparations had progressed in 2019, will look to pick up again with intention to carry out site reconnaissance fieldwork in spring/summer 2021. For capture at sea feasibility, initial conversations held with Ewan Wakefield at Glasgow University – a Risk Assessment from Ewan is being used as part of a safety review by the SSE SHE team. A work-class vessel with potential to operate as a platform for netting at sea is being investigated.

JW – a PhD student at UHI is looking for populations of GBBG where they can carry out diet sampling work, as planned work at Isle of May could not go ahead in 2020. JW will pass details to MT.

<p>CE – queried if this work was scheduled for 2021-22; JD confirmed capture feasibility fieldwork scheduled for 2021, if successful would be followed by capture and tagging in 2022.</p> <p>TE - a BTO Special Methods licence would be required for tagging GBBG. MT will discuss with the appointed tagging sub-contractor.</p> <p>JM – suggested further discussion on a tagging licence.</p> <p>JW – BTO would only allow weak-link harnesses. MSS have ongoing contract with BTO to train people to deploy weak-link harnesses. BOWL to keep in touch with MSS on this.</p> <p>JW – suggested MFRAG-O look into setting up 3-month lookahead survey updates, as discussed in MFRAG-MM (30th October 2020). JD to coordinate set-up.</p>	
Actions	<ol style="list-style-type: none"> 7. JW to put MT in touch with a PhD student at UHI, who is looking for populations of GBBG where diet sampling work can be carried out. 8. MT to discuss BTO Special Methods licence requirement with appointed tagging sub-contractor. 9. BOWL to have discussions with MSS about their BTO contract to train weak-link harness deployers. 10. BOWL, Moray East and Moray West to set up 3-month lookahead survey updates to distribute to this group – JD to coordinate set-up.
2d BOWL Isle of May field trials of machine-learning technology for puffin monitoring	
<p>JD – confirmed that preparations are ongoing for a field trial on the Isle of May in 2021 puffin breeding season. Logistics, equipment and suitable trial plot locations are being investigated.</p>	
Actions	None
2e Discussion summary and confirmation of BOWL action timelines	
Covered in sections 2b, 2c and 2d.	
Actions	None
3. Moray East Project	
CG provided a Moray East project update presentation.	
Actions	None
4. Moray West Project	
4a Moray West project update	

SE provided a Moray West project update presentation.	
Actions	None
4b Review of proposed pre-construction aerial survey methodology prepared by APEM	
<p>KSG provided a briefing on the proposed methodology (which was circulated in advance of the meeting):</p> <p>Key species of interest are kittiwake, GBBG, HG, razorbill and guillemot.</p> <p>Surveys will be carried out March - October in 2021 and 2022, of the Moray West site and 4km buffer. Survey design based on Moray East post-construction survey.</p> <p>If birds are flying, survey data will enable flight height and flight orientation to be derived.</p> <p>EK – when are written comments from MFRAG-O expected?</p> <p>SE – as methodology was only issued day before (2nd November 2020), suggested adding a section on Covid contingency, plus addressing any other comments raised during this meeting, for reissue to MFRAG, for comments to be returned within two weeks after reissue.</p> <p>JW – could flight height methodology be added as an appendix?</p> <p>JW – would analysis benefit from looking at proximity to individual turbines?</p> <p>SE – turbine positions not yet confirmed.</p> <p>MT – for BOWL pre-construction surveys, turbine locations were largely known (allowing for micro-siting). Turbine avoidance is more a post-construction analysis; for this, it’s useful to have a mix of transects that cross turbines, and some that don’t, to collect data points across the full range of possible within wind farm distances to turbines.</p> <p>MT – will check if Beatrice analysis is using as-built turbine coordinates.</p> <p>SE – Moray West have a general grid layout. Will discuss with APEM to see how transect design can be modified, to best enable future analysis.</p> <p>SG – confirmed that each bird is individually assessed for suitability for flight height measurement.</p> <p>AM – in reporting the results, be explicit in which birds were excluded from analysis, and potential biases.</p> <p>SG – confirmed that this information is recorded for each individual bird.</p> <p>AM – what is the thinking around LIDAR for Moray West flight height measurements?</p> <p>SE – of interest to Ocean Winds. Not required to discharge the PEMP condition however, Moray West is keen to explore if there is potential opportunity to incorporate LIDAR into surveys, as an additional survey element.</p>	

AM - for height estimation using cameras, would a direct comparison of height estimates using image analysis, and LIDAR, be helpful?

SG – Confirmed that LIDAR requires the use of a different camera system which due to weight can't be deployed at the same time of the digital camera used for the main survey. Consequently LIDAR surveys would need to be carried out in addition to the main surveys – on different days. Additional planning will be required to achieve this. Further detail on this requirements and potential approach provided in the Method Statement.

GH – given Beatrice gannet results, would a 10 km buffer zone be helpful?

AR – understands that Kate Thompson (couldn't attend meeting) would support a 10 km zone.

MT – numbers of gannets picked up during Beatrice surveys (including pre-construction) were small, a couple of hundred in the whole survey area including to the coast. So is this the best location to carry out detailed gannet analysis?

TE – gannet population is increasing at Troup Head (breeding colony where gannets in this area originate). Is there potential for Moray West survey area to be extended to south-east (i.e. towards Troup Head), to fill in gaps not covered by Beatrice and Moray East?

JW – increase survey area to give increased sample size?

AR – increased buffer zone would give further gannet data. But as this may not be the best location for gannet studies, is it worth passing this to ScotMER for consideration?

CR – financial implications from a 10 km buffer zone are quite significant, worth thinking about in relation to additional value gained.

SE – understands Forth & Tay projects are monitoring larger buffers. Is that in relation to gannets? Which projects (or RAG group) might be best placed for focussing on different strategic work?

TE – Forth & Tay buffers are based on gannets being a key species. In Moray Firth, if gannet numbers are relatively small and if results won't be statistically meaningful, might be less worthwhile.

JW – which species informed the power analysis for the survey design?

SG – it was puffin.

Actions	<p>11. Moray West to add a section on Covid contingency to aerial survey methodology, and will reissue methodology by 16th November 2020.</p> <p>12. MFRAG to return comments to Moray West on aerial survey methodology by 30th November 2020.</p> <p>13. SE will discuss with APEM how transect design can be modified, to best enable future analysis.</p>
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	<p>14. Moray West to look into including a discussion on the power analysis for the survey design, in the aerial survey methodology.</p>
<p>8. AOB and close</p>	
<p>JW/EK – suggested adding a ‘lessons learned from meeting’ and a ‘strategic work/new initiatives’ section to the agenda for all future meetings.</p> <p>JW – the meeting discussions indicated gannet monitoring might be better looked at strategically.</p> <p>SE – LIDAR discussion may have fallen under strategic work.</p> <p>SE – checked that 2-week turnaround for group comments on aerial survey methodology was acceptable?</p> <p>EK – confirmed that should be ok.</p> <p>Next full meeting likely to June 2021, with an interim (half-hour) meeting in early February 2021 to discuss BOWL method statements for gull capture feasibility studies, and all-developers status of surveys in relation to any Covid restrictions at the time.</p>	
<p>Actions</p>	<p>15. MFrag secretariat to add ‘lessons learned from meeting’ and ‘strategic work/new initiatives’ sections to agendas of future meetings.</p>