

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

<b>Meeting</b>	MFRAG-Ornithology (MFRAG-O)	
<b>Date</b>	9 <sup>th</sup> February 2021	
<b>Location</b>	Teams call	
<b>Attendees</b>	Marine Scotland Science (MSS)	Jared Wilson (JW), Tom Evans (TE), Julie Miller (JM)
	NatureScot	Erica Knott (EK), Kate Thompson (KT)
	Marine Scotland Licensing and Operations Team (MS-LOT)	Gayle Holland (GH), Rebecca Bamlett (RB)
	Marine Scotland Policy	Janelle Braithwaite (JB)
	Joint Nature Conservation Committee (JNCC)	Julie Black (JB)
	Royal Society for the Protection of Birds (RSPB)	Aly McCluskie (AM)
	BOWL	Joseph Deimel (JD), Heather Shaw (HS)
	Moray East	Catarina Rei (CR)
	Moray West	Nuria Abad Oliva (NA)
	MacArthur Green (Moray West Ornithology Advisor)	Ross McGregor (RM)
	APEM (Moray West Ornithology Contractor)	Stephanie McGoven (SM); Beth Goddard (BG)
	MacArthur Green (BOWL Ornithology Advisor)	Mark Trinder (MT)
<b>Action Number</b>	<b>Action</b>	<b>Completion Date</b>
<b>1</b>	MT to explore option for writing a paper linking findings from BOWL postconstruction monitoring with similar post construction monitoring (similar method) carried out for East Anglia One to determine if similar results.	Aug-21 (TBC)
<b>2</b>	NatureScot and MSS to agree caveats to be included with BOWL 2019 post-construction aerial survey report before report is made available on MS-LOT - MFRAG website. Timeline for this to be agreed following issuing to MFRAG of final report version (incorporating comments).	TBC
<b>3</b>	BOWL to contact Maarten Platteeuw - Rijkswaterstaat to request information on results from boat-based gull catching carried out in The Netherlands – to understand what worked / didn't work.	TBC
<b>4</b>	MT to discuss BTO Special Methods licence requirement with appointed tagging sub-contractor.	TBC

5	BOWL to have discussions with MSS about their BTO contract to train weak-link harness deployers.	
6	Moray West to look into including a discussion on the power analysis for the survey design, in the aerial survey methodology.	
7	BOWL (MT) to share the report Responses Log with NatureScot.	
8	MT to ensure the changes made to the report are clearly explained in the comments log.	
9	JD to contact JM and MT about the possibility of joining a meeting with BOWL management to explain the WTG operational data requirement for monitoring data analysis.	
10	MSS to confirm if BOWL's 2019 aerial survey report should go through peer review or third party validation.	
11	Developers to confirm data sharing conditions.	
12	Moray West to provide clarification on ranking of species for monitoring and to provide justification on the selection of proposed survey area option and coverage for pre-construction aerial surveys in an updated survey note.	15 February 2021
13	NatureScot and MSS to provide feedback on Moray West's updated surveys note within one week.	23 February 2021
<b>Date of Next Meeting</b>	Date TBC via Doodle poll	

<b>1a. Introductions and Purpose of Meeting</b>
Introductions made.
<b>1b. Review of Minutes of Meeting from previous meeting (3<sup>rd</sup> November 2020)</b>
Status of Actions from previous meeting: <ul style="list-style-type: none"> <li>1. MFRAG secretariat to organise February update meeting. <i>Action completed – current meeting.</i></li> <li>2. MT to explore option for writing a paper linking findings from BOWL postconstruction monitoring with similar post construction monitoring (similar method) carried out for East Anglia One to determine if similar results. <i>Action ongoing – likely to be around 6 months before it is completed.</i></li> </ul>

3. NatureScot and MSS to agree caveats to be included with BOWL 2019 post-construction aerial survey report before report is made available on MS-LOT - MFRAG website. Timeline for this to be agreed following issuing to MFRAG of final report version (incorporating comments).  
[Action ongoing – GH to organise sentence to be added within the MFRAG webpage.](#)
4. BOWL to contact Maarten Platteeuw - Rijkswaterstaat to request information on results from boat-based gull catching carried out in The Netherlands – to understand what worked / didn't work.  
[Action ongoing – progress to be discussed under item 3.3.](#)
5. MSS to circulate LIDAR invitation-to-tender documents to MFRAG-O.  
[Action completed – awaiting clarification from bidders.](#)
6. MT and JD to revisit whether the majority of the turbines were rotating on the aerial survey days.  
[Action completed – MT noted that wind data was the only data that could be used to infer if WTGs were rotating. JD added that other data \(detailed WTG productivity data\) could not be used due to commercial issues.](#)
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.  
[Action completed.](#)
8. MT to discuss BTO Special Methods licence requirement with appointed tagging sub-contractor.  
[Action carried over, as BOWL are unlikely to be carrying out gull capture in 2021 \(onshore feasibility assessment fieldwork is still planned to go ahead in early summer 2021; this will be site reconnaissance rather than capture trials\).](#)
9. BOWL to have discussions with MSS about their BTO contract to train weak-link harness deployers.  
[Action carried over, as BOWL are unlikely to be carrying out gull capture in 2021 \(onshore feasibility assessment fieldwork is still planned to go ahead in early summer 2021; this will be site reconnaissance rather than capture trials\).](#)
10. BOWL, Moray East and Moray West to set up 3-month lookahead survey updates – JD to coordinate set-up.  
[Action completed – First look ahead survey update send at the beginning of Dec-20.](#)
11. Moray West to add a section on Covid contingency to aerial survey methodology, and will reissue methodology by 16<sup>th</sup> November 2020.  
[Action completed.](#)
12. MFRAG to return comments to Moray West on aerial survey methodology by 30<sup>th</sup> November 2020.  
[Action completed – MSS and NatureScot comments to be discussed under item 4.2.](#)
13. SE will discuss with APEM how transect design can be modified, to best enable future analysis.  
[Moray West transect design to be discussed under item 4.2.](#)
14. Moray West to look into including a discussion on the power analysis for the survey design, in the aerial survey methodology.  
[Action ongoing \(as it was not discussed under item 4.2\).](#)
15. MFRAG secretariat to add 'lessons learned from meeting' and 'strategic work/new initiatives' sections to agendas of future meetings.

Action completed – Strategic work update included under item 5, and lessons learned to be discussed under AOB.

<b>Actions</b>	<ol style="list-style-type: none"> <li>1. MT to explore option for writing a paper linking findings from BOWL postconstruction monitoring with similar post construction monitoring (similar method) carried out for East Anglia One to determine if similar results.</li> <li>2. NatureScot and MSS to agree caveats to be included with BOWL 2019 post-construction aerial survey report before report is made available on MS-LOT - MFRAG website. Timeline for this to be agreed following issuing to MFRAG of final report version (incorporating comments).</li> <li>3. BOWL to contact Maarten Platteeuw - Rijkswaterstaat to request information on results from boat-based gull catching carried out in The Netherlands – to understand what worked / didn’t work.</li> <li>4. MT to discuss BTO Special Methods licence requirement with appointed tagging sub-contractor.</li> <li>5. BOWL to have discussions with MSS about their BTO contract to train weak-link harness deployers.</li> <li>6. Moray West to look into including a discussion on the power analysis for the survey design, in the aerial survey methodology.</li> </ol>
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### 3. Moray East Project

#### 3.1 Moray East project update

CR provided an overview of the ongoing construction activities at Moray East. Main updates from the last meeting were as follows:

Completed activities:

- Jacket installation – completed Dec-20.
- Inter-array cable installation – campaign 1 completed (40/102 cables installed).

Ongoing / planned activities:

- WTG installation – ongoing (6 WTGs installed at the time).
- Cable testing
- Inter-array cables installation – campaign 2 starting in mid-Feb 21.
- Commissioning and generation.

CR also noted that the only ongoing PEMP surveys were the marine mammal and underwater noise monitoring as part of the construction MMMP.

<b>Actions</b>	None
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<b>3. BOWL Project</b>	
<b>3.1 BOWL project update</b>	
<p>JD provided project update - Operations &amp; Maintenance work continuing successfully.</p> <p>The following BOWL PEMP update was also provided:</p> <ul style="list-style-type: none"> <li>- Sandeel surveys – completed during Dec-20 – a reduced number of survey locations (61 of 103) were covered, a briefing note has been submitted providing an explanation for the reduced coverage;</li> <li>- Benthic surveys – first post-construction surveys carried out during summer 2020 and further surveys planned for summer 2021 (scope of work to be discussed with MFRAG);</li> <li>- Cod surveys – planned for Mar-21.</li> </ul>	
<b>Actions</b>	None
<b>3.2 Update on 2019 aerial survey report</b>	
<p>MT provided an overview of the comments received by NatureScot and MSS and how BOWL proposed to address them.</p> <p><u>NatureScot comments:</u></p> <p>i) Distribution maps - A different (more recent) version of the model was used in the 2019 aerial survey report when compared to that used in the pre-construction survey reports. “Month” was also used as a variable in this most recent model, but MT noted that the maps have not actually changed much (e.g. guillemot maps – not much change in the main area, only peripheral area, but difference not significant; puffin and razorbill maps – not that different). TE stated that the changes in maps highlight that the analysis is sensitive to how it is parameterised. We can see the patterns are similar, but the “crosses” highlight significant differences.</p> <p>MT noted that although the model formulations had changed the results were not actually very different.</p> <p>KT stated that it would be helpful to see the maps with the same scale if possible, but MT replied that nothing else is affected by the change in scale apart from colour. In kittiwake the comment in the discussion on possible barrier effects was speculative but has now been removed as it doesn’t tie in with the other results. MT added that the current versions of the models are the final ones and the same formula will be used in future.</p> <p>JM noted that the report states that there have been small changes in methodologies, etc , then it is important to describe what was used.</p> <p>EK stated that NatureScot would need to understand the process followed. They would want to review the responses log before the report being signed off. MT replied he was in agreement</p>	

with the approach of stakeholders reviewing the responses log. TE added that the “end point” needs to be clear (i.e. how the analysis was carried out), however MT replied that an equation was included in the report.

ii) Confidence intervals – MT noted that to obtain confidence intervals it was necessary to divide the data into 500m long segments, but because the transects don’t fit to 500 m intervals this means data collected at the ends is not included. This has resulted in some revised estimates compared with previous outputs.

iii) Timing of the survey – Discussions have taken place with HiDef. More information will be provided in the comments log and report.

iv) Diagnostic plots – the tests generate outliers by their nature (the modelling guidance is very explicit on this point) but this is not a concern.

v) WTG avoidance and operational status – data confidentiality issues. MT noted that there are ongoing discussions on how this issue can be addressed. JD added that significant discussions had taken place at BOWL but that he was unsure if more data will be made available. JM suggested that BOWL could produce a note explaining what data is not able to provide and why, and added that assumptions on rotations speeds and WTG cut-offs appear to be a bit arbitrary.

TE noted it appears that on surveys when the wind speed was lower there were more guillemots recorded in the wind farm.

MT replied that these are still preliminary results, but that although the abundance varied, the distributions through the wind farm were similar irrespective of wind speed.

JW suggested that BOWL could possibly share the data just with MT (for the data analysis) and enquired how stakeholders would feel about this approach.

JM stated that it is possible that WTG “on/off data” would be sufficient.

EK enquired if the group came up with a list of parameters required for the analysis would that be useful for BOWL.

JD added that the data required would likely be very limited.

EK suggested that JM could join in a meeting with BOWL management to explain why the data was required.

vi) Peer review – MT stated that he would be happy that the report would go through a peer review, although JD noted that this could lead to some issues with the discharge of consent conditions.

JM stated that what they would be looking for was third-party validation, not peer review.

GH noted that the condition only requires agreement by the group for the report to be approved, but if the group requires peer review than MS-LOT would also be happy with that approach.

MT mentioned that his goal would be to publish the WTG avoidance work (for BOWL and East Anglia ONE) assuming agreement from both operators.

<b>Actions</b>	<p>7. BOWL (MT) to share the report Responses Log with NatureScot.</p> <p>8. MT to make clear in the report where changes have occurred and the rationale.</p> <p>9. JD to contact JM and MT about the possibility of joining a meeting with BOWL management to explain the WTG operational data requirement for monitoring data analysis.</p> <p>10. MSS to confirm if BOWL's 2019 aerial survey report should go through peer review or third party validation.</p>
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**3.3 Update and current status of proposed 2021 Beatrice monitoring (aerial survey, gull tagging feasibility study onshore, gull catching feasibility study offshore)**

JD noted that BOWL are ongoing discussions with HiDef on aerial surveys, including survey times. MT added that there will be some constraints on timing of surveys with regards to glare when the sun is at a low angle and also on the operating times for local airports.

JD noted that for planned gull reconnaissance work the intention would be to use a local ornithologist and that with regards to offshore tagging BOWL are currently evaluating potential H&S issues.

<b>Actions</b>	None
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**3.4 Update on puffin remote monitoring machine-learning trial**

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. JD queried if the Isle of May could be used as a proxy for the East Caithness Cliffs SPA.

KT noted that NatureScot had been in discussions with BOWL on the Isle of May trials, and added that NatureScot had no issues with cameras at the East Caithness Cliffs and Orkney trials.

JW enquired about potential logistic issues at the isle of May and JD replied that they will carry out a day trip and will then find out about next steps.

<b>Actions</b>	None
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**4. Moray West Project**

**4.1 Moray West project update**

NA provided a Moray West project update presentation.

Main updates were as follows:

- Refining project layout – Moray West is currently undertaking site investigation works (geotechnical surveys) and further surveys planned during Q2 2021.
- Procurement activities commenced and ongoing.

- Progressing draft Consent Plans.
- Consent conditions:
  - o Pre-construction digital aerial surveys due to commence in Mar-21.
  - o Moray West ECoW appointed.
  - o Additional PEMP requirements to be progressed, including GBBG tagging.

<b>Actions</b>	None
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#### 4.2 Moray West Pre-Construction Digital Aerial Surveys

NA provided a summary of the consultation responses received from NatureScot and MSS on Moray West’s pre-construction survey method statement.

RM proposed some key point for discussion taking into account the comments received.

- Should survey buffers take account of currently surveyed areas from BOWL and Moray East and is there a value in surveys overlapping BOWL and Moray East?

JW enquired if Moray West would have data from the BOWL and Moray East surveys and RM replied that this is part of the collaboration work to be discussed at the meeting.

MT asked if the proposed survey was a transect based approach and SM confirmed it was.

EK highlighted that it is important to find out if projects are able to collaborate. CR replied that from Moray East’s perspective that there should be no problem in sharing data with Moray West.

JD stated that if requested to do so he would enquire internally at SSE about the possibility of data sharing (BOWL data) with Moray West.

TE noted that the Forth & Tay developers have a data sharing agreement (which has been led by SSE) which could be used as a template for the Moray Firth developers.

KT highlighted that seasonality of the data could be an issue as well as practicalities in combining the data will need to be carefully considered.

RM noted that the survey approach should consider the key objectives of the survey, including key species, and summarised the approach previously agreed by the MFRAG-O for the Moray East and BOWL monitoring.

JM queried if Moray West have gannet on site then it should probably be considered as a key driver for the survey.

RM highlighted that gannet is not an SPA species in the Moray Firth (and it was not included in Moray West’s Appropriate Assessment), but noted that it is a key species in the Forth and Tay area. Any records of gannet during Moray West’s surveys would still be analysed but they should not be the driver for the survey design.



TE noted that gannet was identified as a key species in the Sectoral Marine Plan, and that it included displacement effects.

RM stated that the list of primary species (great back-backed gull, black-legged kittiwake), secondary species (herring gull, common guillemot, razorbill) and tertiary species (Atlantic puffin, northern gannet, fulmar) was produced taking into account key colonies and key risks as identified in the Moray West Appropriate Assessment.

JW enquired if Moray West would be carrying our power-analysis to all the species in the table. RM replied it would depend on the densities. Great back-backed gull is not a high-density species on site so it is unlikely it will be the focus of a power analysis exercise.

KT suggested that Moray West should provide more information about the key species considered, including how the selection of primary, secondary and tertiary species was identified.

JW noted that the primary species were those species under HRA(?) and that the list did not change (from those considered in the BOWL and Moray East developments).

MT added that the list of species did not matter for the analysis.

JM stated that there are good reasons for a 10 km survey buffer and MT noted that if the 10 km buffer was the driver then the survey should not cover the operational wind farms.

KT noted that Moray West’s note (on the proposal for survey buffers) should include options for survey coverage and pros and cons of each option.

<b>Actions</b>	<ul style="list-style-type: none"> <li>11. Developers to confirm data sharing conditions.</li> <li>12. Moray West to provide clarification on ranking of species for monitoring and to provide justification on the selection of proposed survey area option and coverage for pre-construction aerial surveys in an updated survey note.</li> <li>13. NatureScot and MSS to provide feedback on Moray West’s updated surveys note within one week.</li> </ul>
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#### 4.3 Moray West Pre-construction monitoring of GBBG

Post-meeting note:

Moray West approached BOWL for collaboration on their pilot study for great back-backed gull tagging but BOWL replied that the approach for the study was still being developed and that it would not be possible at this stage to carry out a joint study.

Moray West will seek to define a great back-backed monitoring gull study for 2022 and it will consider the results of BOWL’s pilot study.

<b>Actions</b>	None
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## 5. Strategic Work Updates

### Post-meeting note:

Agenda item not discussed at the meeting but update provided by JW via email on 9 February 2021.

Summary of update: HERNOW project renamed to ReCREATES (Reducing Consenting Risks in the Environment). A high-level project outline was submitted to the Crown Estate on 29 January 2021 as part of the funding application for the OWEC funding call. Ewan Edwards is the lead project manager (from MSS). Further project details will be submitted by the 28 February 2021 as part of the application's stage 2 process.

<b>Actions</b>	None
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## 6. AOB and close

Next meeting to be confirmed by the secretariat.

<b>List of Abbreviations</b>	
BOWL	Beatrice Offshore Windfarm Ltd
ECoW	Ecological / Environmental Clerk of Works
MMMP	Marine Mammal Monitoring Programme
Moray East	Moray Offshore Windfarm (East) Limited
Moray West	Moray Offshore Windfarm (West) Limited
MFRAG	Moray Firth Regional Advisory Group
MFRAG-O	Moray Firth Regional Advisory Group – Ornithology Subgroup
MS-LOT	Marine Scotland Licensing Operations Team
MSS	Marine Scotland Science
NatureScot	Previously called Scottish Natural Heritage (SNH)
OWEC	Offshore Wind Evidence Change Programme
PEMP	Project Environmental Monitoring Programme
SPA	Special Protection Area (designation under the European Union Directive on the Conservation of Wild Birds)
WTG	Wind Turbine Generator