



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

All of nature for all of Scotland
Nàdar air fad airson Alba air fad

[Redacted]
Ports, Shipping, Freight and Canals Branch
Transport Scotland
[By email]

10 May 2017
Our ref: CDM145475

Dear [Redacted]

Aberdeen Harbour Expansion Project – Ministerial approval of CEMD

- **Marine Licence – 05965/16/0 – construction works**
- **Marine licence – 05964/16/0 – dredging**
- **Aberdeen Harbour Revision Order 2016**

I write further to our letter of 27 April 2017, commenting on the revised Construction and Environmental Management Document (CEMD) for the Aberdeen Harbour Expansion Project.

Following receipt of further revisions to some chapters of the CEMD, **we are satisfied that the revised CEMD contains adequate mitigation measures which, if implemented fully, allow us to conclude there would be no adverse effect on site integrity (AESI) to the Moray Firth and River Dee Special Areas of Conservation (SACs). As stated in our letter of 27 April, we also consider that the mitigation measures in the CEMD are sufficient to conclude no AESI to the Ythan estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA), and to prevent adverse impacts to Nigg Bay Site of Special Scientific Interest (SSSI).**

We advise that the information provided, relevant to our interests, meets the requirements of the Marine Licences and HRO for a CEMD.

We are also satisfied with the revised monitoring proposals for eider duck of the Ythan SPA. Condition 3.2.7 of the construction licence requires monitoring of eider duck once the harbour is in operation as well as during construction. We advise that this monitoring proposal could be included in the Operational Environmental Management Document, when it is prepared.

For the sake of clarity, the issue dates of revised chapters of the CEMD that we have considered in reaching the advice in this letter are listed below:

Chapter 8 – Fish Species Protection Plan	9 May 2017
Chapter 9 - Confidential Appendix B (eider monitoring)	10 May 2017
Chapter 11 – Marine Mammal Mitigation Plan	7 May 2017

The CEMD includes a commitment to prepare a number of reports for comment. For example, the underwater noise measuring procedure and report into efficacy of bubble curtains, amongst others. We advise Aberdeen Harbour Board and their contractors that these are submitted to the relevant organisations in plenty of time to allow comment on more than one draft, and if necessary, adjustment to methods. This is to avoid any interference with the construction timetable for the new harbour.



INVESTOR IN PEOPLE

Scottish Natural Heritage, Inverdee House, Baxter Street, Aberdeen, AB11 9QA
Tel 01224 266500 Fax 01224 895958 www.snh.gov.uk

We would like to thank Aberdeen Harbour Board and their contractors for making the amendments we required and look forward to working with them. We have provided additional comments, for information, in the appendix to this letter.

Yours sincerely


Tayside and Grampian Operations Officer


Aberdeen Harbour Expansion Project – Revised CEMD, SNH further comments

Chapter 8 – Fish Species Protection Plan

8.5.2 We welcome the statement that Dragados will explore the use of a soft start pre-blast procedure to deter fish from the immediate vicinity of blasting. We would like the opportunity to comment on their findings. Atlantic salmon, potentially from the River Dee SAC, may be present in Nigg Bay. The Environmental Statement predicts that injury will not occur to fish beyond 24m of the blast site, and that distance would decrease as fish size increases. The preparatory work for blasting may cause sufficient disturbance to displace fish from the blast site and the dimensions of the bay would allow fish to move beyond the injury zone. Given the limitations in modelling impacts to fish from underwater blasting, this precautionary measure should help prevent injury to Atlantic salmon which may otherwise be present in the vicinity of blasting.

Chapter 9 Confidential Appendix B

2.1.2 The reports should clarify how focal groups of eider are selected for behavioural observations.

Chapter 11 - Marine Mammal Protection Plan

11.9.1 The reports should clarify that the equipment used is capable of transmitting echolocation detections.

11.10.1 We commend the testing proposed of the bubble curtain and welcome the opportunity to have a site visit. We recommend that the report to demonstrate the efficacy of the bubble curtain before blasting commences, is submitted to the relevant organisations in plenty of time to allow comment and modifications if necessary. Otherwise, there is a risk that there could be a delay to the project. In the event that the bubble curtain is not achieving noise mitigation discussion would need to take place to agree an alternative.

11.11.3 We welcome the commitment to deploying C-PODS to monitor bottlenose dolphins and harbour porpoise during construction of the harbour and look forward to receiving a specification for this survey in due course. If feasible, data should be collected in a format that allows comparison with the data in the Environmental Statement.

11.11.5 We advise that the statistician should be consulted as early as possible to ensure that data is collected in a manner that is suitable for statistical analysis.

11.12 We look forward to seeing the noise measuring procedure and noise monitoring regime. The procedure should be agreed in advance of testing the mitigation efficacy of the bubble curtains.

[REDACTED]

From: [REDACTED] snh.gov.uk>
Sent: 10 May 2017 13:11
To: [REDACTED]
Cc: [REDACTED]

Subject: 2017 05 10 - Aberdeen harbour expansion project - revised CEMD - SNH response final (A2284505)
Attachments: 2017 05 10 - Aberdeen harbour expansion project - revised CEMD - SNH response final (A2284505).pdf

Dear [REDACTED]

Please find attached our advice on the revised CEMD for the Aberdeen Harbour expansion project.

Kind regards,

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial [REDACTED]

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mearachd, cuiribh fios dhan manaidsear-siostaim no neach-
sgrìobhaidh.

Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid
sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-
mach bho SNH.

[REDACTED]

From: [REDACTED] snh.gov.uk>
Sent: 09 October 2015 12:58
To: [REDACTED] aberdeen-harbour.co.uk
Cc: [REDACTED]
Subject: Aberdeen Harbour Expansion Project - Nigg Bay - SNH to Applicant - SNH
Comments to Draft ES Fish and Shellfish Ecology Chapter - 09 October 2015

Dear [REDACTED]

Below are our comments on the draft Fish and Shellfish chapter which I hope are helpful. I'm away now for the next two weeks but if you have any queries, please contact Darren who is around for the first of these weeks.

One other point to mention relevant to the chapter describing the development is that it is not easy to see where the two areas are that are to be dredged to -10.5m.

Kind regards

[REDACTED]
[REDACTED] Operations Officer - Tayside and Grampian Area | [Scottish Natural Heritage](#) | [Inverdee House](#) | [Baxter Street](#) | [Torry](#) | [Aberdeen AB11 9QA](#) | Tel: [REDACTED] | [Direct Dial:](#) [REDACTED]

Please note I work Mondays-Wednesdays

Nigg Bay Aberdeen Harbour Expansion Project :

SNH Advice on the draft Fish and Shellfish Chapter

This advice is based on a desk review of the Fish and Shellfish chapter of the Environmental Statement (ES), September 2015. We have not considered the detailed information contained in the Technical Appendices, but we presume that a summary of these are included within the main chapter. Our advice is made without prejudice to any comments we will make on the application once submitted, and are able to undertake a full review of the final ES.

Natura

It is stated on page 42 of chapter 13 that the predicted distance over which TTS (Temporary Threshold Shift) could occur encompasses the mouth of the River Dee. It states that, 'This might represent a barrier to salmonid migration and entry to the River Dee or avoidance of the local area during peak migration occasions. As a worst case, this will cause a temporary delay in the migration of adult Atlantic salmon.....for the duration of the piling activity.' Chapter 13 also states that, 'Effects on salmon emerging from the River Dee are unclear at present but may include similar barrier effects and delays to emergence into the marine environment during peak migration.'

It difficult to visualise the spatial extent of noise propagation and how the headland between Nigg Bay and Aberdeen Harbour might affect noise dispersal. The draft chapter states that the headland at Girdle Ness is 'highly likely to provide significant protection from adverse noise from piling in Nigg Bay, therefore, it is reasonable to suggest that the modelled predictions can be moderated considerably.' It is concluded that the impact of underwater noise arising from piling events will be localised and intermittent and will last throughout the construction period of up to 3 years. Impact magnitude is predicted to be Minor and effect significance is judged to be Moderate. We agree that shadowing of noise by the headland is likely to provide significant protection to salmon at Aberdeen harbour but the extent of this should be clarified, if possible, in the draft ES to support the assessment of impact. From the information presented on noise levels at the mouth of Aberdeen Harbour and the duration of the piling works, it is currently difficult to see how piling activities would not significantly impact on Atlantic salmon entering and leaving the river.

There should also be consideration of the impact of salmon migrating to and from the harbour. The Marine Scotland 2010 report 'Review of migratory routes and behaviour of Atlantic salmon, sea trout and European eel in Scotland's coastal environment - implications for development of marine renewables' found a predominantly northern migration of adult salmon in coastal waters. Little is known of the behaviour of smolts at sea.

Suitable mitigation will be important. Soft-start piling is proposed, which might deter fish from the vicinity of the piling operations (although we are not aware of evidence to support such a supposition) but could not be expected to facilitate entry/exit to the River Dee. The chapter appears to imply that breaks during piling would be sufficient mitigation to allow Atlantic salmon to enter and exit the river, but it is not clear how frequent/extensive the interim periods between blasting and piling would be and therefore whether they would be relevant as mitigation. There does not appear to be any discussion of mitigation related to timing/duration of works, such as no piling at night. More details of the mitigation should be proposed with an assessment of their efficacy, making it clear which are to be taken forward. If the breakwaters are constructed before piling and blasting take place, this is likely to be a significant form of mitigation.

There also does not appear to be any consideration of potential cumulative impacts with other relevant developments.

Other species of conservation interest

There are several additional diadromous fish species that are of conservation interest. These include European eel and sea trout, which are noted within Chapter 13 (Fish and shellfish ecology). However, Chapter 13 contains several errors in relation to these species. Sea trout and European eel are repeatedly (for example, Table 13-2, Table 13-7) referred to as SAC qualifying species, when in fact neither of these species is listed on Annex II of the Habitats Directive. The statement in Table 13-2 that, 'As SAC qualifying features, these species will require Appropriate Assessment in the event that likely significant effects.....are identified' is therefore not correct with regard to some of the species to which it refers. This is slightly surprising given that Tables elsewhere in Chapter 13 correctly reflect that sea trout and European eel are not listed under Annex II of the Habitats Directive.

Increased turbidity

Table 13-4 in Chapter 13 (Fish and shellfish ecology) sets out predicted impacts and associated pathways for effects on fish and shellfish. Dredging is a listed activity during both the construction and operation phases, and Table 13-4 summarises the effect of dredging operations within Nigg Bay. It is stated elsewhere that some or all of the dredged material during the construction phase and (presumably all of) the dredged material during the operational phase will be disposed of at a marine dumping ground. It is stated that the total volume of material to be dredged is 2,300,000 m³ (for the construction phase). It is also stated that there may be overlap with disposal of dredged material from Aberdeen Harbour. It would be useful to know the location of the dumping ground (perhaps this is set out elsewhere in the ES) and sediment movement in order to have a better understanding of plume dispersal.

Diadromous fish species are present, or have been recorded, in many estuaries regarded as being at the higher end of the turbidity scale. Some of these sites have been designated as a Special Area of Conservation for migratory fish species. It is perhaps unlikely that increased turbidity arising from dredging within Nigg Bay (or dumping at the disposal site) would be of a level at the entrance to Aberdeen Harbour to deter fish from entering or leaving the river. However, it would have been helpful in Chapter 13 to see modelling of plume dispersal from Nigg Bay, particularly as the construction dredging will take place over 19 months and may coincide with dredging within Aberdeen Harbour.

Underwater noise impacts on marine fish

We would welcome some visual aids and/or commentary that relates the noise propagation models to areas regarded as likely nursery and spawning grounds, particularly for herring (i.e. will the propagation of noise levels likely to induce a behavioural response extend into herring spawning or nursery grounds? If so, by how much and for how long?).

Sandeel habitat

In considering loss of suitable sandeel habitat we would welcome some mapping / commentary on the area of suitable habitat that would be lost and where it falls in the categorisation given in Greenstreet et al 2010 (<http://icesjms.oxfordjournals.org/content/67/5/971.full.pdf+html>), i.e. prime / sub-prime / suitable / unsuitable. Note that we are not suggesting specific survey, but if particle size data is already available then this would help in making assertions about the area of suitable habitat that may be lost.

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Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-mach bho SNH.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 06 October 2015 13:18
To: [REDACTED] <[REDACTED]@aberdeen-harbour.co.uk>
Cc: [REDACTED]

Subject: Aberdeen Harbour Expansion Project - Nigg Bay - SNH to Applicant - SNH
Comments to Draft HRA - 06 October 2015

Dear [REDACTED]

c [REDACTED]

Below are our comments on the draft HRA which I hope are helpful. We can use these as a framework for our meeting tomorrow.

Kind regards

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial: [REDACTED]

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**Nigg Bay Aberdeen Harbour Expansion Project:
SNH Advice on the draft Habitats Regulations Appraisal**

This advice is based on a desk review of the Summary of the Habitats Regulations Appraisal and Information to Support the Appropriate Assessment, Chapter 27 of the Environmental Statement (ES), September 2015. Our advice is made without prejudice to any comments we will make on the applications once submitted and are able to undertake a full review of the final ES.

1. There is a fundamental omission in the draft Habitats Regulations Appraisal (HRA) document. It makes conclusions on likely significant effect but fails to provide information (including mitigation) to support the appropriate assessment stage of HRA for those issues which it has concluded require appropriate assessment.
2. The document has a confused approach to the HRA process and appears to conflate some aspects of the HRA tests. This may be one of the contributing factors to the issue noted above. For example tables 5.3, 5.5 etc have a concluding column heading "likely significant effect on site integrity". The tests on likely significant effect and no adverse effect on site integrity are different and separate stages of the HRA process. Likely significant effect test is a gross filter, simply expected to remove those issues which don't require further detailed thinking. The test to show that there is no adverse effect on site integrity is the appropriate assessment (AA) stage.

To explain this further, ECJ case C-258/11 Sweetman Opinion (para 47) says, "It follows that the possibility of there being a significant effect on the site will generate the need for an AA for the purposes of Article 6(3)... There is no need to establish such an effect. It is as Ireland observes, merely necessary to determine that there may be such an effect".

Sweetman Opinion (para 49), " The threshold at the first stage of Article 6(3) is thus a very low one. It operates merely as a trigger, in order to determine whether an AA must be undertaken..."

By conflating the two stages the HRA becomes confused. This appears as early as 5.2 when the screening for likely significant effect makes a judgment on whether there is an adverse effect on site integrity.

This confusion is particularly important in relation to bottlenose dolphin where a lot of discussion is given to issues in order to conclude that there is no likely significant effect. We consider that there is a likely significant effect and what is provided are the rudiments of an appropriate assessment but with insufficient information to conclude no adverse effect on site integrity (please refer to our comments on the draft marine mammals chapter).

3. It is essential that the HRA can be satisfactorily completed before the applications are determined, so further quantified information on impact pathway (even if these are worst case Rochdale envelope estimates) and how these will be mitigated must be present in the HRA. These mitigations must be clear, legally enforceable and definitively allow a conclusion of no adverse effect on site integrity. This is particularly urgent in relation to bottlenose dolphin. We are currently reviewing the fish and shellfish chapter and are not yet able to advise whether this is also urgent for salmon, and by association fresh-water pearl mussel.

4. Although the draft chapter notes it should be read in conjunction with other chapters, the HRA should detail its findings and conclusions in sufficient detail, and be cross referenced where appropriate.

5. It should be clear in the HRA which activities relate to the ongoing maintenance and operation of the harbour and would be granted permission through the Harbour Revision Order.

Conclusion

We recommend it is in the best interests of Aberdeen harbour board to provide a robust, well reasoned, HRA. If a potential adverse effect on site integrity cannot be ruled out, the proposal can only proceed if:

There are no alternative solutions;

There are imperative reasons of overriding public interest for doing so (including those of social or economic nature); and

Any necessary compensation measures are taken to secure the overall coherence of the Natura 2000 site network (The Scottish Government, 2014).

We believe the changes and additions required to the document may be challenging for your required timescale and you will need to consider the implications carefully. Only you will know how much extra work is required to pull together the relevant information to support the appropriate assessment stage in this document and reconsider the expressions of likely significant effect.

We believe raising these broad principle issues is more productive than discussing detailed comments at present but are happy to discuss the detail of issues in due course.

your organisations IT Helpdesk.

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Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-mach bho SNH.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 11 June 2015 13:50
To: [REDACTED] (fugroemu.com)
Cc: [REDACTED]
Subject: Nigg Bay Baseline distribution of marine mammals - interim report

Dear [REDACTED]

Thank you for sending us this interim report and I'm sorry not to have been able to get back to you sooner with some comments.

Section 2.2 - There are other cetaceans that may occur in the vicinity of Nigg Bay which should be considered in the ES eg Minke whale and Risso's dolphin.

Section 4.1 - This needs to be assessed in the context of Kate Brooke's advice about avoiding the use of detection positive minutes.

Results and data analysis –

The C-PODS appear to have picked up a lot of harbour porpoise activity, particularly given that they only detect out to 150m. However, the number of harbour porpoise observed in vantage point is not that high and less than the number of bottlenose dolphin. There should be some consideration of this in the final report. One factor may be the difficulty in detecting harbour porpoise using VPs.

It would also help to compare C-POD and VP data collected at the same time as this could give an indication of cetacean activity in the harbour at a specific time. Is there information on how harbour porpoise and bottlenose dolphin are using the bay? Are, for instance, a small number of harbour porpoise entering the bay and staying there resulting in the large number of clicks detected?

The results so far indicate diurnal periods of activity for both harbour porpoise and bottlenose dolphin. It will be interesting to see if these are seasonal or observed throughout the year. It should be used to inform mitigation proposals.

It isn't clear how the percentage of days has been calculated that dolphins if dolphins were detected from each C-POD (5.2 and 5.3) ie C-POD 2464, 27 out of 54 days is 50% and C-POD 2460, 19 out of 46 days is 41%.

Some of the figures (eg 4-17 and 4-18) should be more clearly labelled.

I hope these comments are helpful,

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dia [REDACTED]

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Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid
sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-
mach bho SNH.

[REDACTED]

From: [REDACTED] snh.gov.uk>
Sent: 14 November 2016 10:13
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: AHEP marine licences: piling query

Dear [REDACTED]

It would be useful to discuss this on wednesday. Our advice was given in the context of the information presented on the methods. In order to advise further on vibropiling, we would need to get an update on the methods and phasing of construction, for example, the timing of building of the breakwaters in relation to other construction works such as piling and blasting and other noisy activities.

There should be mitigation for vibropiling during the day as well as at night and we would expect the detail of this to be in the marine mammal protection plan.

I don't know yet if our marine mammal adviser, Caroline Carter, is able to take part in the meeting on Wednesday. It would be helpful if Kate Brookes from Marine Scotland can join and I will suggest this to Vikki.

Kind regards,

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House | Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial [REDACTED]

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From: [REDACTED] aberdeen-harbour.co.uk]
Sent: 10 November 2016 16:48
To: [REDACTED]
Cc: [REDACTED]
Subject: AHEP marine licences: piling query

Dear [REDACTED]

Yesterday we briefly discussed the wording in the AHEP marine licences relating to piling restrictions. We raised this with Marine Scotland today, and agreed to discuss it further with you at next week's meeting. I thought it'd be useful to provide the context in advance.

SNH's response dated 1st June 2016 states in Appendix B on page 13:

'Vibro piling to be used instead of impact where practical. Passive-acoustic monitoring (PAM) to be used for mitigation zone monitoring for vibro-piling at night.

Impact/percussive piling: - Use of MMOs for 1km buffer, soft start procedure (40 mins in HRA, 30 in ES).

Restricted to 7am-7pm Mon-Fri, 9am-4pm on Sat and no percussive piling on Sundays.'

When this is transposed to the mitigation measures on page 18 of your response, it refers only to piling:

'...restriction of piling activity to 7am-7pm Mon-Fri, 9am-4pm on Saturdays and no percussive piling on Sundays.'

The wording of the second statement has been transposed to Marine Scotland's EIA Consent Decision, Appropriate Assessment and Marine Licences. It appears to me that it could be an unintended consequence that the timing restriction has been applied to any piling activity (e.g. rotary (drilling) or vibro-piling) rather than only impact/percussive piling activity.

I've also reviewed the correspondence with WDC and MSS; neither stipulated in their written responses to us that all types of piling activity should be restricted to the hours stated above (only impact piling).

Could you please review your advice relating to piling activity so that we can discuss on Wednesday? There also seems to be some confusion over terms - could you please confirm whether you consider impact piling and percussive piling to be the same activity in the context of your response?

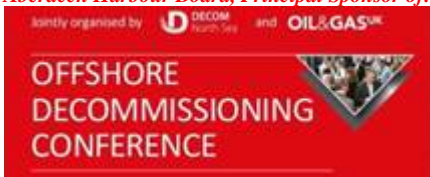
Many thanks,
Katherine

Aberdeen Harbour Board
16 Regent Quay
Aberdeen, AB11 5SS
Tel: [REDACTED]
Mob: [REDACTED]



www.aberdeen-harbour.co.uk

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Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-mach bho SNH.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 14 July 2015 15:58
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: [Nigg] HRA screening matrix

Dear [REDACTED]

As we just discussed, the selection of Natura 2000 sites seems suitable, and possibly overcautious by including dSPAs at some distance from Nigg Bay. The draft sites, which are confidential, were discussed at a meeting with Aberdeen Harbour Board last week which Katherine Harris attended.

Kind regards,

From: [REDACTED] <[REDACTED]@fugroemu.com>
Sent: 14 July 2015 15:24
To: [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>; [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>
Cc: [REDACTED]
Subject: RE: [Nigg] HRA screening matrix

Dear [REDACTED]

Many thanks for getting these comments back to us – these are very useful. One question before you head off on leave - are you happy with the selection of Natura 2000 sites and draft/candidate sites that have been screened in and out?

Thanks and regards,

[REDACTED]

[REDACTED]
Senior Environmental Consultant
Fugro EMU Limited

Telephone: [REDACTED] / Direct: [REDACTED] / Fax: +44 (0)131 449 5037
E-mail: i.stewart@fugro.com Website: www.fugro.com
Address: Gait 8, Research Park South, Heriot-Watt University, Riccarton, Edinburgh, EH14 4AP, UK

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 14 July 2015 15:17
To: [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>; [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>
Cc: [REDACTED]
Subject: RE: [Nigg] HRA screening matrix

Dear [REDACTED]

Thank you for sending the matrix to us, here are some comments that I hope will assist you. I will be on AL after today until 3rd August. If we have any additional comments to make I will send these to you on my return.

Loss of development area

- Footprint of the development should be considered beyond the seabed so that it includes tidal and onshore areas.
- Dredging of the harbour (eg turning basin) should be considered as well as its approaches

Reduce water chemical quality

- Other sources of pollutants to add are (i) accidental spills from on-site storage of fuels and any chemicals, and (ii) chemicals used to prevent fouling of ship hulls. Impacts might also include physical injury or loss of condition.
- Increased suspended sediment concentrations could also result from maintenance of dredge areas and also from propeller wash.
- Release of sediment contaminants should also be considered for Atlantic salmon.

Noise and vibration

- Include drilling in sources of impact. Nature of impact should also include injury (temporary and permanent) and death.

Behaviour modification

- The potential effects on the behaviour of bottlenose dolphin and on migratory movements on salmonids up the coast line should also be considered.

Other impacts I would suggest that you add to the matrix are:

- Disturbance from maintenance and capital dredging operations
- Indirect impacts resulting from changes to prey species eg from changes in fish and shellfish communities

Kind regards,

Sue

Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial: [REDACTED]

Please note I work Mondays-Wednesdays

From: [REDACTED]@fugroemu.com]

Sent: 03 July 2015 16:14

To: [REDACTED]@scotland.gsi.gov.uk; [REDACTED]@scotland.gsi.gov.uk; [REDACTED]

Cc: [REDACTED]

Subject: [Nigg] HRA screening matrix

Dear [REDACTED],

Please find attached the screening matrix that we are proposing for use in the HRA for the Nigg Bay project. The matrix identifies the protected sites and their qualifying interests where we believe there may or may not be a likely significant effect arising from the Nigg Bay proposal.

We welcome any comments and thoughts that you may have in order for us to agree what will be scoped in or out of the HRA. This will be used as the basis for the assessment of cumulative impacts. We feel that the same factors that would be applied to scoping Natura 2000 sites in or out of the HRA e.g. connectivity, effects pathways, species distribution and foraging ranges etc. should also be applied to the consideration of other relevant projects when considering cumulative effects for specific receptors. This may not necessarily mean that every single project within the same geographical distance as these sites would be considered for assessment of cumulative effects, however the same logic and factors that led to Natura 2000 sites being scoped in or out would be applied. We would welcome your thoughts on this subject.

Please let us know if this needs to be sent to anyone else.

Kind regards,

Kate Buckle

Fugro EMU Limited

Kate Buckle
Marine Environmental Consultant

Telephone: [redacted] (ext [redacted] DD [redacted] Mobile [redacted]

Fax: +44 (0) 2392 205501

E-mail: kate.buckle@fugroemu.com / Website: www.fugroemu.com

Address Fugro EMU Limited, Trafalgar Wharf (Unit 16), Hamilton Road, Portchester, Portsmouth, PO6 4PX, UK

Registered Address: Fugro House, Hithercroft Road, Wallingford, OX10 9RB, UK

Registration No: 3469947 / VAT No: GB 704 4481 52

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Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-mach bho SNH.

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[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 04 August 2015 13:31
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: [Nigg] HRA screening matrix

Dear [REDACTED]

Here are some additional comments on the screening matrix, with particular focus on the SPAs although some comments apply more widely.

The HRA can be viewed as the whole process of considering impacts to Natura sites, and includes this screening of what should be scoped in or out of potential for LSE. As you will know, the HRA should be centred on the conservation objectives for each of the Natura sites. The HRA should be reasoned and recorded throughout and based on evidence.

There isn't any commentary to support the decision-making in the spreadsheet, and the reason for all of the choices is not immediately apparent. For example, Little Tern as a qualifier of the Ythan Estuary, Sands of Forvie and Meikle Loch SPA is scoped out, but the other terns are scoped in. Redshank are also scoped out. The reason for this is not clear.

Given its location, the HRA needs to be particularly robust for the Ythan Estuary, Sands of Forvie and Meikle Loch SPA. We recommend scoping in all species for this SPA unless you can provide a strong reason why not. The only exception would be PF goose, which we think can safely be scoped out at this stage.

An additional potential impact to consider is whether the proposal could result in changes to coastal processes that might affect neighbouring sections of coast? You may be able to discount this depending on the results of your modelling.

I hope these comments are helpful,

Kind regards,

From: [REDACTED] <[REDACTED]@fugroemu.com>
Sent: 03 July 2015 16:14
To: [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>; [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>; [REDACTED]
Cc: [REDACTED]
Subject: [Nigg] HRA screening matrix

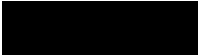
Dear [REDACTED]

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We welcome any comments and thoughts that you may have in order for us to agree what will be scoped in or out of the HRA. This will be used as the basis for the assessment of cumulative impacts. We feel that the same factors that would be applied to scoping Natura 2000 sites in or out of the HRA e.g. connectivity, effects pathways, species distribution and foraging ranges etc. should also be applied to the consideration of other relevant projects when considering cumulative effects for specific receptors. This may not necessarily mean that every single project within the same geographical distance as these sites would be considered for assessment of cumulative effects, however the same logic and factors that led to Natura 2000 sites being scoped in or out would be applied. We would welcome your thoughts on this subject.

Please let us know if this needs to be sent to anyone else.

Kind regards,



Fugro EMU Limited



Marine Environmental Consultant

Telephone: [redacted] (ext [redacted] / DD [redacted] / Mobile [redacted]
Fax: +44 (0) 2392 205501
E-mail: kate.buckle@fugroemu.com / Website: www.fugroemu.com
Address Fugro EMU Limited, Trafalgar Wharf (Unit 16), Hamilton Road, Portchester, Portsmouth, PO6 4PX, UK
Registered Address: Fugro House, Hithercroft Road, Wallingford, OX10 9RB, UK
Registration No: 3469947 / VAT No: GB 704 4481 52

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Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid

sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-
mach bho SNH.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 14 July 2015 15:17
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: [Nigg] HRA screening matrix

Dear [REDACTED]

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Other impacts I would suggest that you add to the matrix are:

- Disturbance from maintenance and capital dredging operations
- Indirect impacts resulting from changes to prey species eg from changes in fish and shellfish communities

Kind regards,

[REDACTED]
[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial: [REDACTED]

Please note I work mondays-wednesdays

From: [REDACTED] <[REDACTED]@fugroemu.com>
Sent: 03 July 2015 16:14
To: [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>; [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>; [REDACTED]
Cc: [REDACTED]
Subject: [Nigg] HRA screening matrix

Dea [REDACTED]

Please find attached the screening matrix that we are proposing for use in the HRA for the Nigg Bay project. The matrix identifies the protected sites and their qualifying interests where we believe there may or may not be a likely significant effect arising from the Nigg Bay proposal.

We welcome any comments and thoughts that you may have in order for us to agree what will be scoped in or out of the HRA. This will be used as the basis for the assessment of cumulative impacts. We feel that the same factors that would be applied to scoping Natura 2000 sites in or out of the HRA e.g. connectivity, effects pathways, species distribution and foraging ranges etc. should also be applied to the consideration of other relevant projects when considering cumulative effects for specific receptors. This may not necessarily mean that every single project within the same geographical distance as these sites would be considered for assessment of cumulative effects, however the same logic and factors that led to Natura 2000 sites being scoped in or out would be applied. We would welcome your thoughts on this subject.

Please let us know if this needs to be sent to anyone else.

Kind regards,

[REDACTED]

Fugro EMU Limited

[REDACTED]

Marine Environmental Consultant

Telephone: [REDACTED] (ext [REDACTED] / DD [REDACTED] / Mobile [REDACTED]
Fax: +44 (0) 2392 205501
E-mail: kate.buckle@fugroemu.com / Website: www.fugroemu.com
Address Fugro EMU Limited, Trafalgar Wharf (Unit 16), Hamilton Road, Portchester, Portsmouth, PO6 4PX, UK
Registered Address: Fugro House, Hithercroft Road, Wallingford, OX10 9RB, UK
Registration No: 3469947 / VAT No: GB 704 4481 52

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mhàin. Mas e gun d' fhuair sibh am post-dealain seo le
mearachd, cuiribh fios dhan manaidsear-siostaim no neach-
sgrìobhaidh.

Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid
sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-
mach bho SNH.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 04 June 2015 10:17
To: [REDACTED] <[REDACTED]@fugroemu.com>
Cc: [REDACTED]
Subject: RE: Nigg Bay Draft Minutes 13th April 2015, and preliminary marine mammal report

Dear [REDACTED]

You contacted me to discuss the distance of the proposed harbour expansion at Nigg Bay from seal SACs and whether we consider there to be connectivity ie a likely significant effect under the Habitats Regulations.

As you know, our advice has recently altered for seal colonies during the breeding season, and the distances at which there is now considered to be connectivity are 50km for harbour seals and 20km for grey seals. Outwith the breeding season, it is possible that grey seals seen in the vicinity of Nigg Bay could come from SAC colonies. Telemetry data shows that grey seals from these SACs will travel considerable distances and travel past Aberdeen. Any impact outwith the breeding season has the potential to affect the breeding population. Consequently there is a likely significant effect.

Having said that, as you note, the two nearest grey seal SACs are more than 100km from Nigg Bay. The proportion of seals travelling that distance from the SACs is likely to be small, the grey seal population is healthy and increasing, and mitigation that you use to protect cetaceans is also likely to apply to seals. Consequently we would expect you can conclude no adverse effect on the integrity of these two SACs.

You also asked about data from SMRU that you are considering purchasing. As I explained on the telephone, we cannot advise you which data sets you should purchase, that is a matter for your professional judgement based on the data that you have, and how well that addresses the impacts you need to assess in the EIA and Habitats Regulations Appraisal. I hope the information above helps you with this decision.

With regard to the Ecofish report, I appreciate that you are seeking our comments on this interim report to help you decide whether to use Ecofish for other. I am sorry that we are unable to provide you with comments at this time and will send you some early next week. Again this is a matter for your professional judgement on the extent to which you consider the report addresses the contract and provides the assessment that you require to thoroughly assess impacts in the EIA and Habitats Regulations Appraisal.

Kind regards,

From: [REDACTED] <[REDACTED]@fugroemu.com>
Sent: 30 April 2015 15:37
To: [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>; [REDACTED] <[REDACTED]@scotland.gsi.gov.uk>
Cc: [REDACTED]
Subject: Nigg Bay Draft Minutes 13th April 2015, and preliminary marine mammal report

Dear All

Please find a copy of the draft minutes from our recent meeting. I would be grateful if you have any comments or amendments you make them as track changes by close of play Monday 11th May, otherwise I will assume that you are happy with the content.

I've also attached a copy of the report from Ecofish – this is very much work in progress and any final report that would form part of the technical report in the ES will be more substantial . However we would welcome any comments you have on this (style, presentation and content).

I will send the figs separately as the file is 12MB.

Best regards



Fugro EMU Limited



Senior Consultant Marine Mammals and Birds

Telephone: [redacted] ext [redacted] Mobile: [redacted] / Fax: +44 (0) 23 9220 5550
E-mail: alastair.mackay@fugroemu.com / Website: www.fugroemu.com
Address: Victory House, Unit 16, Trafalgar Wharf, Hamilton Road, Portchester, PO6 4PX United Kingdom
Company No. 3469947 / VAT No. GB 704 4481 52
Registered Office: Fugro House, Hithercroft Road, Wallingford, Oxon OX10 9RB, UK

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Thoiribh an aire airson adhbharan gnòthaich, 's dòcha gun tèid sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a-mach bho SNH.

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[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>

Sent: 27 June 2017 17:15

To: [REDACTED]
Cc: [REDACTED]

Subject: RE: Breakwater construction

Hello [REDACTED]

Thank you for proposing this mitigation. I haven't responded to you sooner as you asked me to wait until you had sent out a revised protocol. However, as Jenny has replied I thought it might be useful if I wrote down the suggestions we discussed last week.

It sounds like a suitable approach to allow the eider to acclimatise to the breakwater construction activity or to move away if they need to prior to moult. As the boat transects don't fully replicate the activity of dredging, which could disturb the eider more than relatively short duration vessel movements alone, we wondered if it might be possible to vary the vessel's movements so it doesn't become predictable, or to sometimes follow the likely movements of the dredge vessel to replicate that activity? Also, would it be feasible to increase the level of disturbance to five times per day rather than three, to try to replicate longer bouts of disturbance? This might give the eider an opportunity to habituate to the works (if they are going to), but not displace them.

It would be good to hear from the monitoring that Andrew/Mark are carrying out how this seems to be working, if their visits could be planned to coincide with the vessel mitigation and record the eider response to vessels and any changes in abundance/distribution in the site. It would be really useful information to understand how and at what distance the eiders respond to the vessel, and whether habituation or disturbance occurs over time.

Many thanks,

From: [REDACTED] <[REDACTED]@arup.com>

Sent: 13 June 2017 22:56

To: [REDACTED] <[REDACTED]@gov.scot>

Cc: [REDACTED]

Subject: RE: Breakwater construction

H [REDACTED]

I wanted to confirm our conversation last week and conclusions from the regulators meeting today.

As previously stated, Dragados have confirmed with MS that the breakwater construction started on the 31st May 2017.

We note SNH concerns that the eider numbers are starting to build up in the bay and the need to ensure the birds are sufficiently disturbed from the area of the breakwater prior to moult, giving them opportunity to move away from the area of breakwater construction and future dredging areas should they wish. There is disturbance from depositing the material for the breakwater from land but given your concerns we propose that 3 times a day, first thing in the morning (around 7am), around lunchtime (13.00) and late afternoon (18.00) a vessel will make a series of transects for approximately 15 mins in the area of the breakwater and initial dredge areas. I will get a map and procedure drawn up on this basis. The vessel will then implement

this until such a time as the dredging commences or the eider numbers reduce later in the year. I will ask for some advice from our ornithologist when this would be and include in the procedure. The vessel started doing these transects today and, as we are monitoring the eider on a weekly basis just now, I will make sure the eider surveys in the next couple of week are undertaken at a time when we can record the reaction of birds to this vessel movements and report back to yourselves.

I'll send through the formal procedure in the next couple of days once I've had a map drawn up and then we will attach it to the Habitat Management Plan within the CEMD.

[REDACTED] Happy to chat through with you if this email isn't clear or you have any concerns on the above.

Best wishes

[REDACTED]
Associate | Marine Environment Leader
Bsc Hons PgDip

Arup
Scotstoun House South Queensferry Edinburgh EH30 9SE United Kingdom
d: +[REDACTED] m: [REDACTED]
www.arup.com

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From: [REDACTED] [\[REDACTED\]@snh.gov.uk](mailto:[REDACTED]@snh.gov.uk)
Sent: 06 June 2017 16:05
To: [REDACTED]
Cc: [REDACTED] ms.majorprojects@gov.scot
Subject: RE: Breakwater construction

Hello [REDACTED]

Further to my email this morning, if construction of the breakwater in the marine environment hasn't yet begun, we recommend that you introduce some suitably managed mitigation that achieves the same aim. I don't have current information on eider numbers in Nigg Bay (Andrew's surveys for you may show this) but am aware that they have begun to increase in Greyhope bay – there were over 200 earlier this week.

You might be able to achieve this, for instance, by a combination of boats and construction vehicles. The eider could then either acclimatise to the disturbance or move away before they become flightless during moult. This is broadly similar to the deterrent approach discussed in our guidance 'Dealing with construction and Birds': <http://www.snh.gov.uk/docs/A514967.pdf>

Please get in touch if you would like to discuss this.

Thanks

[REDACTED]

From: [REDACTED]
Sent: 06 June 2017 11:09
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Breakwater construction

Hello [REDACTED]

We too have been contacted about this matter. The conditions on the HRO and Marine Construction licence follow from a request that we made at a meeting on 17/2/16 with Katherine, MS-LOT and MS-Science: breakwater construction should be timed so that it doesn't start after eider numbers have begun to increase, ready to moult.

The rationale behind this was so that works that could potentially cause disturbance in the marine environment were already taking place before eider gathered and began moulting.

I appreciate the wording of the conditions doesn't differentiate between land and marine based aspects of breakwater construction. Can you let us know when the marine aspects of breakwater construction are due to commence?

Many thanks

[REDACTED]

From: [REDACTED] [mailto: [REDACTED]@arup.com]
Sent: 06 June 2017 10:31
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Breakwater construction

Hi [REDACTED]

We have also been asked this question by a few different people - please see the text below which has been issued by our Community Engagement Manager (I've copied Yvonne in if you have any further questions).

Dragados UK can confirm that construction of the AHEP North Breakwater commenced on the 31st May 2017, in full compliance with the project Construction Environmental Mitigation Document. Work will now proceed on completion of the access road and the North Breakwater concurrently.

Best wishes

[REDACTED]

[REDACTED]
Associate | Marine Environment Leader
Bsc Hons PgDip

Arup
Scotstoun House South Queensferry Edinburgh EH30 9SE United Kingdom
d: +[REDACTED] m: [REDACTED]
www.arup.com

Connect with Arup on LinkedIn
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From: [REDACTED] [rspb.org.uk](mailto:[REDACTED]@rspb.org.uk)]

Sent: 05 June 2017 11:32

To: [REDACTED]

Cc: [REDACTED]

Subject: Breakwater construction

Hi [REDACTED]

We have had two members of the public get in touch at the end of last week concerned that construction of the northern breakwater hadn't started ahead of the 1 June deadline. One pointed out the access road wasn't finished yet. Would you be able to confirm what is currently happening with the breakwater; apologies if this was discussed at the last EAG which I was unable to attend.

Best wishes

[REDACTED]

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[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 28 August 2017 13:29
To: [REDACTED] MS Major Projects
Cc: [REDACTED]
Subject: RE: AHEP Dredging MMO Observation Times

Hello [REDACTED]

Thanks for pointing this out. SNH would be content with a 20min watch, as per the marine mammal mitigation plan, so long as MS-LOT consider this is suitable.

Kind regards

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House | Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial [REDACTED]

Please note I work Mondays-Wednesdays

From: [REDACTED] <[REDACTED]@arup.com>
Sent: 23 August 2017 16:01
To: [REDACTED] <[REDACTED]@gov.scot>; [REDACTED]
Cc: [REDACTED]
Subject: AHEP Dredging MMO Observation Times

Hello

We have noticed a discrepancy with the CEMD and the Dredging Marine Licence.

In Section 3.3.6 of the Dredging Marine Licence (05964/16/0) it is stated that:

*'At the authorised disposal site, the licensee must ensure that a dedicated watch is kept by a trained Marine Mammal Observer (MMO) or someone else following the general guidance for, and acting in the role of, a MMO. A **30 minute watch** must be undertaken prior to disposal commencing to ensure that no marine mammals are within 500 metres of the authorised disposal site. If marine mammals are observed within this distance then disposal operations must be ceased until the area has been clear of marine mammals for at least 20 minutes.'*

Within our Marine Mammal Mitigation Plan we wrote:

11.6.7 At Sea Disposal

Further details of the at sea disposal are available within the Dredging and Dredge Spoil Disposal Management Plan. Whilst disposal operations are taking place, the vessels will adhere to the following conditions in relation to marine mammals.

- a) Marine Mammal Observers will be used to ensure that at sea disposal operations do not start while marine mammals are within the 500m mitigation zone.
- b) A **20 minute watch** must be kept prior to operations commencing.
- c) A continuous watch must be kept during operations and if marine mammals are observed within 500m then disposal operations must be ceased until the area has been clear of marine mammals for at least 20 minutes.

I am writing to ask if we need to complete the 30 minute watch as this is what is detailed in the marine licence? To me, 30 minutes does seem a long time to be watching for a low risk operation. For the current maintenance dredge from the existing harbour there is only a 20 minute watch requested, and to the best of Katherine Harris's knowledge no marine mammals have ever been spotted within the mitigation zone (which is 200m as opposed to the AHEP 500m) during the disposal operations. At the moment, my advice is that Dragados follow the Marine Licence condition, i.e. 30 minute pre watch, unless we hear from MSLOT that we can change.

Your advice would be appreciated and sorry for the discrepancy, one we missed.

Thanks

Z

[REDACTED]
Associate | Marine Environment Leader
Bsc Hons PgDip

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[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 02 October 2015 12:19
To: [REDACTED] <[REDACTED]@aberdeen.harbour.co.uk>
Cc: [REDACTED]
Subject: Aberdeen Harbour Expansion Project - SNH comments draft Socio-Economics chapter

Dear [REDACTED]

Below are our comments on the draft Socio-Economics Chapter. Please call me next week if you would like to discuss any of these.

Kind regards

[REDACTED]
[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House | Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial: [REDACTED]

Please note I work Mondays-Wednesdays

**Nigg Bay Aberdeen Harbour Expansion Project :
SNH Advice on the draft Socio-Economics Chapter**

This advice is based on a desk review of Chapter 11: Socio-Economics of the Environmental Statement (ES), September 2015. We have not considered the detailed information contained in the Technical Appendices, but we presume that a summary of these are included within the main Socio-Economics chapter. Our advice is made without prejudice to any comments we will make on the application once submitted, and are able to undertake a full review of the final ES.

Summary

It would be helpful if the chapter set out clearly at the beginning the role it takes in assessing impacts to existing recreation in the area and how it relates to other chapters that may consider this subject, eg Seascape, Landscape and Visual Impact Assessment (SLVIA).

There does not appear to be any assessment of impact on greenspace in this chapter, nor in the chapter dealing with SLVIA (see also our comments on that chapter). It may be that this is within the 'Other Users' chapter which we have not seen. It is important that the EIA considers impacts to greenspace. Nigg Bay itself is currently an area of greenspace that would be lost as a result of the development and there would also be impacts to St Fittick's park, both temporary and permanent. The draft development framework for Nigg recognises St Fitticks Park as the most relevant open space available to the residents of Torry. This attractive and well managed area of greenspace lies adjacent to Balnagask, which is rated as "most deprived" in the Scottish Index of Multiple Deprivation.

The draft ES appears to under assess the potential impacts to recreational users (cyclists, walkers both 'terrestrial leisure' and tourist, golfers, cf 16.24-25, 16.61-69, 16.71 and 16.92). The assessment is based on the proportion of the routes affected and that there is existing industrial use at the nearby Aberdeen harbour that affects the

character of the routes/Balnagask golf course. The assessment does not consider that Nigg bay, separated from Aberdeen harbour by Balnagask headland is very different in character. This contrast in character with the industrial Aberdeen harbour increases its value to users and its sensitivity to change. The assessment should consider the quality of the routes as well as the proportion affected. It should also consider the scenic qualities of the routes/Balnagask golf course and how the character would alter.

There should be a map showing the location of the paths and routes affected and likely diversions.

With regard to wildlife watching, the ES states that Nigg Bay is one of a large number of locations within the local areas from which it is possible to watch wildlife. It should consider the specific popularity and success of the RSPB Dolphinwatch programme and the reasons for this (more information is provided below). Bottlenose dolphins routinely occur around the mouth of Aberdeen harbour, at the entrance to the River Dee where it is likely that they are feeding on fish in passage to and from the river. Torry Battery and parts of the Balnagask headland are therefore a good location from which to view the dolphins. Dolphin sightings occurred on 95% of the days that Dolphinwatch took place this summer. There is a need to cross-reference this with the results of the assessment of impacts to marine mammals, as activity that affects the presence of dolphins will also affect the Dolphinwatch programme, and associated recreational activity.

Specific comments

SNH's website provides guidance that can be used to assess impacts on access routes, by producing an Outdoor Access Plan: 'Guidance for the Preparation of Outdoor Access Plans'. An Outdoor Access Plan should assess the existing outdoor access provision, predict the impact of the proposed development on that baseline and consider how any impacts will be managed and monitored and how opportunities can be realised. We recommend such a plan is produced for this development:

<http://www.snh.gov.uk/planning-and-development/advice-for-planners-and-developers/greenspace-and-outdoor-access/>

This page on our website also provides information on greenspace that should be helpful for the assessment, including a factsheet on the multiple benefits of green infrastructure.

16.61-63 Walking routes (tourist)

As noted above, the local character of the route would alter and should be assessed accordingly. The current character of Nigg Bay is a contrast with the more industrial area of Aberdeen bay and separated from it by the Balnagask headland. It has a relatively-natural character, open views to the sea, a beach.

16.64-66 Walking routes (terrestrial leisure users)

As noted above, the local character of the route would alter and should be assessed accordingly.

16.67 – 16.69 Wildlife watching

This information should be updated. The RSPB have now run Dolphinwatch for three years from Torry Battery. 2015 was the most successful year yet with over 5000 visits (300% more than 2014, in part due to this being the first year with AA road signs). Visitors come from Aberdeen and NE Scotland, the UK and across the world (Germany, Spain, the Netherlands, Sweden, Belgium, France, Mexico, the US, Canada and Malaysia). Bottlenose dolphins were present 95% of the days the RSPB were onsite which indicates how good this site is for watching nature. A survey found that nearly a third of the people who visited Dolphinwatch were in Aberdeen that day specifically because of Dolphinwatch and 97% of people said they would visit Dolphinwatch again and 99% would recommend it to others.

It should be noted (cf 16.69) that a District Wildlife Site is not necessarily a good destination for wildlife watching and therefore may not be a suitable alternative location.

Please note that District Wildlife Sites have been replaced with Local Nature Conservation Sites.

16.71 Golf

As noted above, it is necessary to consider the local character of Nigg Bay in assessing any impact on golf course users and visual impact. The ES states that there is there is no possibility of the proposed development having any significant adverse impact on golfers so this effect is not considered any further. This is based on an assumption that

views over Aberdeen harbour already form part of character of the Balnagask Golf course so the proposed development would not change the current character of the course.

16.99, 16.118 and 16.124 Diversion of Paths and Routes

We welcome the commitment to maintaining access to coastal areas for recreational users. However, it is incorrect to state that there would be no permanent loss of amenity for leisure users. The whole of Nigg Bay is currently open to the public and serves as an area of open space with access to the sea. Furthermore, it appears there would be some impact to St Fittick's park. As this paragraph relates to paths and routes, further information and a map should be provided to show the sections of paths affected and alternatives that would be provided. As explained above, the assessment should consider impacts to the scenic qualities of the route and this should be taken into account in determining if mitigation is required and the type of mitigation.

16.100, 16.116,16.119 and 16.125 and 16.128 and 16.129 Wildlife watching

See comments above.

[REDACTED]

From: [REDACTED] snh.gov.uk>
Sent: 02 October 2015 13:01
To: [REDACTED] aberdeen-harbour.co.uk
Cc: [REDACTED]
Subject: Aberdeen harbour expansion project - SNH comments draft chapter 17 SLVIA

Dear [REDACTED]

Below are our comments on the draft SLVIA which I hope are helpful. Please call me next week if you would like to discuss any of these.

Kind regards

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial [REDACTED]

Please note I work mondays-wednesdays

**Nigg Bay Aberdeen Harbour Expansion Project :
SNH Advice on the draft final Seascape, Landscape and Visual Impact Assessment**

This advice is based on a desk review of the Seascape, Landscape and Visual Impact Assessment (SLVIA) chapter 17 of the Environmental Statement (ES), September 2015. We have not considered the detailed information contained in the Technical Appendix 17.1 Land/Seascape and Visual Amenity Significance of Effects Tables, but we presume that a summary of this Appendix is included within the main SLVIA chapter. Our advice is made without prejudice to any comments we will make on the application once submitted, and are able to undertake a full review of the final ES.

Summary

There are a number of key issues with the draft SLVIA chapter that we strongly recommend are addressed before the final application and supporting SLVIA are submitted:

- There is no separate assessment of local landscape and coastal character which would 'nest' within the regional assessment in the ES. We provided advice on this in our scoping response of August 2013 and consider this a serious omission.
- Details of mitigation and broad design principles.

More explanation is provided below.

Assessment Methodology

The assessment methodology references two sources of English landscape and seascape assessment guidance (17.18). However, these are not applicable in Scotland nor endorsed by SNH, consequently we recommend that references to these documents should be removed.

More importantly the SLVIA assessment methodologies for landscape character assessment should follow the original LCA guidance '*Landscape Character Assessment Guidance for England and Scotland*' 2002 which is still applicable. See below also our comments about methods of coastal character assessment.

Establishment and Assessment of Local landscape and Coastal Character

The SLVIA is strongly weighted in terms of visual impact assessment at the expense of assessment of local landscape and coastal character, which should influence the siting, design and scale of the development.

In our scoping advice of August 2013 we stated:

“We support the initial use of the *Landscape character assessment of Aberdeen* (SNH 1996) to inform initial desk and field survey work. However this assessment was a City wide regional assessment of landscape character undertaken 17 years ago. We consider that a further more detailed level of landscape assessment work should be undertaken. This should assess, in particular, the local coastal character of the site and immediate surrounding area. This detailed scale of assessment, would be particularly useful in informing site design iterations and the relationship of the development with the adjacent communities of Torry and Balnagask (as part of the proposed Residential Amenity Study). We would welcome the opportunity to discuss this issue further in tandem with Aberdeen City Council. To inform this discussion, we have been undertaking some preliminary work in establishing an approach to coastal character assessment (based on work related to aquaculture development) and could provide some further guidance on draft methodologies.”

Under the section entitled 'Character' the SLVIA has used the 'regional' assessment of character contained in the SNH report *Landscape Character assessment of Aberdeen* to inform what should be an assessment of local landscaper character. There is no separate assessment of local landscape and coastal character which would 'nest' within this regional assessment.

We consider that this development is likely to have significant adverse impacts on local valued landscape, coastal and visual resources, which should be assessed in accordance with good practice. An assessment of local landscape and coastal character should be included within the SLVIA chapter and is fundamental to the siting and design and early mitigation of the development. In particular, Local Coastal Character Areas should be defined, and then an assessment of impact should be assessed. Both landscape and coastal character assessment should be mapped and presented in figures as part of the SLVIA report. Assessment of impact should include ZTV information overlay this assessment of local landscape and coastal character to inform the significant of effect.

We appreciate that there is now little time before the application is due to be submitted. We reiterate the offer in our scoping advice to provide further guidance on draft methodologies, as far as we are able in the time available. If so, Waterman should contact us as soon as possible. The first point of contact should be: sue.lawrence@snh.gov.uk.

Mitigation and Establishment of Broad Design Principles

We consider that this project will incorporate major and fundamental changes to the landscape and visual character of Aberdeen City, in particular its coastline.

There is no consideration of placemaking or green infrastructure, which given the context of national policy support for these initiatives (cf SPP 2014 paragraphs 29, 36-47, 220, 230-232) and the scale of development proposed, we feel is a lost opportunity to create a development that responds well to the existing City character and setting and establishes strong links for the local communities of Torry and Balnagask from its inception.

There is no reference in the SLVIA chapter to any broad design principles as part of a placemaking approach to this development. Discussions regarding the scale and massing of buildings, siting and design are absent from this assessment which we consider are an important part of mitigation of coastal, landscape and visual effects, which should be embedded at the start.

Early visualisation and ZTV work was undertaken by the applicant in consultation with ourselves to consider different building heights; however within chapter 17, there is no dialogue to explain how the results of this work have been used to mitigate impacts.

Nigg Bay is already a gateway for rail traffic from the south and the new harbour will be a gateway for marine users, including potentially tourists from cruise ships. As the draft Socio-Economics chapter states, 'Of the 13 data zones which comprise the local area all but one are designated within the most deprived 20% or within the most deprived 40% data zones in Scotland. Torry East was the most deprived data zone in Aberdeen City in the SIMD 2012 and amongst the 5% most deprived areas in Scotland.'

We strongly advocate a 'placemaking' approach to the development at Nigg Bay that considers the design of the development and its links to areas of green space in the vicinity. This could help mitigate impacts to the local landscape and visual character and help enhance the location as a gateway to Aberdeen. We would hope that a national important NPF3 project would be exemplar in its approach and consider innovative approaches. For example, mitigation could include a variation of a green wall using plants appropriate to a coastal environment, such as thrift.

[REDACTED]

From: [REDACTED] snh.gov.uk>
Sent: 02 October 2015 17:14
To: [REDACTED] aberdeen-harbour.co.uk
Cc: [REDACTED]
Subject: Aberdeen harbour expansion project - SNH comments draft marine mammals chapter

Dear [REDACTED]

Below are our comments on the draft marine mammals chapter which I hope are helpful. Please call me next week if you would like to discuss any of these.

Kind regards

[REDACTED]
[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House | Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial [REDACTED]

Please note I work Mondays-Wednesdays

Nigg Bay Aberdeen Harbour Expansion Project :

SNH Advice on the draft Marine Mammals Chapter

This advice is based on a desk review of the Marine Mammals chapter 11 of the Environmental Statement (ES), September 2015. We have not considered the detailed information contained in the Technical Appendices, but we presume that a summary of these are included within the main chapter. Our advice is made without prejudice to any comments we will make on the application once submitted, and are able to undertake a full review of the final ES.

Summary

While the evidence appears to be well researched and documented, the assessment is lacking in several areas which are detailed below, and we consider the mitigation to be insufficient.

- 1) The evidence appears to be well researched and documented. Appropriate references have been sourced and the most recent data (eg the most recent SCOS reports). The literature review conclusions have been reviewed against the data collected (VP watches and CPODs) and specially contracted studies (underwater noise and seal telemetry). Various designated sites (SACs) and EPS status for cetaceans and haulouts/ PBR for seals, have been correctly identified but there should also be consideration of the proposed nature conservation Marine Protected Area for minke whale at the southern trench.
- 2) There are a few areas where we recommend there is further clarification/amendment:

- a. Disturbance has been split into noise and visual but only seals have been put as impacted by visual. As its difficult to extract whether its visual or noise elements that cause disturbance we recommend that it is kept as disturbance that potential affects all marine mammals.
 - b. Definition of moderate presence – this is very species dependant and should be related to the population. Seeing 5 porpoise a week is different to seeing 5 bottlenose dolphin or 5 minke whale.
 - c. Evidence for assuming all dolphin clicks are bottlenose dolphin. This is particularly important given the picture the ES paints of Nigg bay being a hotspot.
 - d. More information on the dredged material and disposal. What is the location of the offshore disposal site and how many vessel trips might be required? Potential impacts of those vessel movements and the disposal?
 - e. Seal identification – there were no reports of harbour seals during VP watches. This may be correct but it is possible it may be an under recording due to identification issues.
- 3) There are fundamental flaws in the assessment for a number of reasons:
- a. Mitigation is only outlined for moderate or major impacts. It is stated that ‘minor significance relates to an impact which is measurable, but from which marine mammals are expected to recover quickly under natural processes with no significant reduction in feeding or foraging’. Most impacts, with the exception of piling, are classed as ‘minor’ despite construction activities of upto 3 years showing wide ranging displacement. No mitigation is proposed even for blasting.
 - b. The draft chapter paints a picture of Nigg Bay being particularly important for bottlenose dolphin. For instance, statements such as ‘that the highest land-based sightings per 60 min search effort (SPUE) was recorded from a viewpoint at Nigg with an SPUE of 0.71 in comparison to 0.46 for Aberdeen Harbour’; ‘suggesting that Nigg Bay and adjacent waters is an area of high use’; ‘From the survey data it is clear that dolphins, (likely to be bottlenose dolphins) are therefore using the waters adjacent to the Nigg Bay site (i.e. the areas within the ERDs of the C-PODs) regularly throughout much of the year.’; ‘This is particularly pertinent given that a number of data sources suggest that the coastal area of the Development supports a considerable proportion of the Scottish bottlenose dolphin population and is thus of potential significance with regards to the conservation of the species’; and ‘These results indicate that Nigg Bay and its local vicinity may be an important area or ‘hotspot’ for dolphin activity along the Scottish east coast.’ In addition the ES states ‘25% of the total Scottish east coast population are estimated to use the area of coast between Aberdeen and Stonehaven’ (equivalent to about 53 individuals). The data collected have compared results with those from other sources including Marine Scotland and compared against the wider area, and the results fit with previous surveys. Consequently Nigg is seen as important and when compared to the wider area (including the existing Aberdeen harbour) it is seen as being more important. However, the assessment makes no reference to the fact that there is a large percentage of an SAC population using a recognised important foraging area, that could potentially be displaced for upto 3 years.
 - c. The report also suggests the area is important for porpoise with year round sightings: ‘C-POD data that indicates porpoise presence in the Nigg Bay area on every day that was monitored between August 2014 and April 2015, with DPH ranging between 50% and 65%.’; ‘Between these datasets, it can be inferred that the species is commonly occurring through much of the year in the east coast region’; and even suggesting Nigg Bay is a ‘Nursing area (Increased observations during summer months associated with lactating females)’. Again this proposed importance has not been taken account of in the assessment, nor the fact that due to the continual presence of porpoise the likelihood of impacts is greater.
 - d. The assessment has grouped all marine mammals together against the impact. So for blasting the conclusion is the same even though the level of impact and risk of impact may be very different for different species.
 - e. There is no assessment against the Moray Firth SAC Conservation Objectives or European Protected Species requirements. There is a statement on Potential Biological Removal that ‘nothing will be killed’ as mitigation will be in place. Yet for blasting no mitigation is proposed.
 - f. Lack of mitigation detail. The mitigation proposed (for piling) is generic – eg bubble curtains, use of marine mammal observers, 500m mitigation zones. We advise that mitigation needs to be applied specifically for each activity and assessed for each species. For example, the ES and underwater noise report show that 500m is too small a mitigation zone. It is also important that the mitigation will be achievable for this project and provide the level of protection required. There is

no point proposing mitigation such as bubble curtains if it is not practical or will not actually reduce the impact.

- g. Cumulative – this needs greater consideration, particularly given the lengthy timescale of the development.
- h. Some statements used to justify assessments are inaccurate: '*they are used to noise at the existing Aberdeen harbour*'. While this is true, it is also the case that i) that is operational noise not construction noise; ii) there is a level of 'normal' activity that dolphins show displacement from; and iii) the draft chapter documents how important Nigg Bay is for these animals – ie they are apparently preferring the undeveloped Nigg bay to the developed area of the existing harbour. Or '*there are plenty of other foraging areas*' – this is potentially correct but again, as above, is it known if these 'other areas' are of similar quality? Can they access these other areas (cumulative effects from other developments)? The *effects are just temporary* – this needs to be considered given the lifecycle of the various species involved. Three years is a substantial chunk out of the 10 year life span of a porpoise particularly if it overlaps with calving (and remember Nigg Bay is a nursing area). Likewise there has been no assessment of bottlenose dolphin mothers/calves being displaced from an important foraging area for 3 years.
- i. The potential impact from vessel movements (construction and operational) needs further consideration.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 02 October 2015 13:07
To: [REDACTED] <[REDACTED]@aberdeen-harbour.co.uk>
Cc: [REDACTED]
Subject: Aberdeen harbour expansion project - SNH comments draft Terrestrial Ecology chapter 11

Dear [REDACTED]

Below are our comments on the draft terrestrial ecology chapter which I hope are helpful. Please call me next week if you would like to discuss any of these.

Kind regards

[REDACTED]
[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial: [REDACTED]

Please note I work Mondays-Wednesdays

**Nigg Bay Aberdeen Harbour Expansion Project :
SNH Advice on the draft Terrestrial Ecology Chapter**

This advice is based on a desk review of the Terrestrial Ecology assessment chapter 11 of the Environmental Statement (ES), September 2015. We have not considered the detailed information contained in the Technical Appendices, but we presume that a summary of these are included within the main Terrestrial Ecology chapter. Our advice is made without prejudice to any comments we will make on the application once submitted, and are able to undertake a full review of the final ES.

Summary

Much of the mitigation relies on the future production of an HCMP and CEMP. An outline of the measures that will be included should be provided. There should also be consideration of whether those measures are feasible. For instance, the possibility of transplanting plants to other parts of the development site is suggested as mitigation, but in practice, there may be no suitable habitat for them. There is no point in the ES resting on future mitigation that cannot be achieved.

11.7-.9 National policy

The chapter should refer to the latest version of Scottish Planning Policy ie 2014 not 2010.

11.16-.17 Biodiversity

The chapter should refer to the '2020 Challenge for Scotland's Biodiversity' and 'Scottish Biodiversity: It's in Your Hands'. These two strategy documents comprise the Scottish Biodiversity Strategy.

11.34-37 Designated sites

Table 11.3 should make it clear that the River Dee is designated as an SAC for the internationally important populations of Atlantic salmon, fresh-water pearl mussel and otter that it supports.

11.90-91, 11.121,.122 and.188 River Dee SAC

These paragraphs first state that the impact on the River Dee SAC is considered to be negligible but then state that there may be adverse impacts to the populations of Atlantic salmon and fresh-water pearl mussel (fwpm) within the SAC as a result of disruption to upstream and downstream migration of salmon. This conflicting information seems to stem from having a partial assessment in the Terrestrial Ecology chapter but the main assessment of salmon and fwpm in the Fish and Shellfish Ecology chapter. There needs to be cross-referencing between the chapters and with the Habitats Regulations Assessment (HRA). The potential impacts on the SAC must be considered together, as a whole, and in light of the conservation objectives for the SAC.

11.53 and .103 Amenity grassland

The assessment does not consider that some of the western amenity grassland is within St Fitticks park. It appears that some of this land would be used for the construction phase of the development and some would be part of the permanent footprint. The ES doesn't state what reinstatement would take place of the temporary construction areas. Significant ecological improvements have recently taken place to enhance this park for the benefit of the community that live there as well as biodiversity. The temporary and permanent impacts of the proposal on the biodiversity enhancements at St Fitticks park should be assessed.

11.118 Flora

This identifies a permanent, major adverse effect at the national level on flora due to the presence of curved sedge, sea pea and oyster plant. This impact appears to be not considered further in 11.144 Flora although under mitigation measures, 11.1.46, a CEMP would be produced which would employ measures to prevent or mitigate potential impacts on national scarce plants. However, it is not clear whether mitigation is feasible and while the ES cannot provide detail of the CEMP, it should set out the principle measures that it would be practical to follow for this development.

11.146 Mitigation measures

The CEMP should set out the principle measures it would employ eg for protected animals and birds there should be pre-construction checks.

11.154 Terrestrial habitats

The draft chapter states that all habitats should remain to the degree that is practicably possible. It would be preferable if the ES assessed to what extent this is feasible. Translocation of the seedbank to a suitable location of low value within the site is suggested for some habitats. However there is no consideration of whether there would be areas that are suitable and if not, what alternative mitigation would be put in place.

11.155

We support the principle of a Habitat Creation and Management Plan (HCMP). It would be helpful if there was an outline of realistic measures that will be included in an HCMP, so that it is clear whether the HCMP can provide the mitigation that the ES states.

11.156

We are not aware of any landscaping proposals for the development and this is an omission (cf comments on Seascape, Landscape and Visual Impact Assessment chapter). In selecting species for planting, it will be necessary to consider carefully which will grow in close proximity to the coast and also BAA's advice and guidance on reducing the risk of bird strikes from development.

11.165 Flora

Comment: There is a proposal to translocate plants such as sea pea, oyster plant and curved sedge to other areas of suitable habitat within the site. There should be consideration of whether there is any and if not, what other action would be taken.

11.188 Residual effects

There will be losses to habitats as a result of the development and although a Habitat Creation and Management Plan is proposed, it isn't clear from the ES what sort of measures it would include nor whether these would all be feasible. The assessment of likely residual effect will depend upon this. For instance, whether impacts on strandline vegetation would in fact be permanent minor beneficial as the ES states, when much of this vegetation is likely to be lost.

It is unclear how impacts upon amenity grassland could be 'minor beneficial' during construction. Whether they would be minor beneficial once the development is completed would depend on the final habitat and how that compared to what is present before the development takes place.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 02 October 2015 12:52
To: [REDACTED] <[REDACTED]@en-harbour.co.uk>
Cc: [REDACTED]
Subject: Aberdeen harbour expansion project - SNH comments Nigg Bay SSSI

Dear [REDACTED]

Below are our comments on the draft assessment of impacts to Nigg Bay SSSI. Please call me next week if you would like to discuss any of these.

Kind regards

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | [Scottish Natural Heritage](#) | [Inverdee House](#) | [Baxter Street](#) | [Torry](#) | [Aberdeen AB11 9QA](#) | [Tel: \[REDACTED\]](#) | [Direct Dial: \[REDACTED\]](#)

Please note I work Mondays-Wednesdays

Nigg Bay Aberdeen Harbour Expansion Project :

SNH Advice on Nigg Bay SSSI

This advice is made without prejudice to any comments we will make on the application once submitted, and are able to undertake a full review of the final ES.

In summary, we believe there has been insufficient analysis of potential impacts on Nigg Bay SSSI, and there has possibly been insufficient modelling.

It's helpful to consider three main ways the proposals could potentially impact the integrity of the SSSI:

A – CHANGES TO HYDRODYNAMICS AT THE SHORELINE

A1 – Effects of deep dredging close to shore

Within the intertidal part of the SSSI, the proposed dredging to -9m (within dotted line on Fig 3.3) will mean excavations >8m in places. This radical change in bathymetry very close to the shore could steepen the beach profile, which might in turn allow erosion of the coastal protection / rubble terrace that fronts the SSSI cliff. This potential effect and the implications for the SSSI should be assessed. The modelling done doesn't appear to have considered the potential for the beach to adjust its profile and width. If this has been taken into account, it should be explained in the ES. If not, new modelling is required.

A2 – Effects of sheet piling at southern end of West Quay (north end of SSSI)

This sheet piling is briefly mentioned at 9.60 as 'protecting' the SSSI cliffs. Its relationship to the SSSI, including the coastal protection / rubble terrace, should be mapped in greater detail and its hydrodynamic effects should be assessed more fully with regards to the assertion of protecting the SSSI. It should be reflected in 6.7.4 (see below).

A3 – Effects of bedrock re-profiling on south side of bay (east of the SSSI)

According to the cross-sections in Fig 3.11, excavations in (supra-tidal to sub-tidal) bedrock would be as deep as 14m. Another radical change close to shore, this could potentially alter the wave climate in the SSSI. Technical Appendix 6B states (2.2, para 2) that the modelling took account of the "dredging depths". It's not clear whether the re-profiling was also incorporated - the fact that the modelling maps seem to show MHWS unchanged in this area suggests it wasn't. This should be clarified, and if the re-profiled bathymetry was not part of the model then either this should be fully justified (i.e. why it doesn't alter the assessment), or further modelling and revised assessment is required.

If further modelling is indeed required, this would of course have to inform issues A1 and A2 above.

A4 – Assessment of effects on the SSSI (6.7.4)

At 6.7.4, the "substantial risk of erosion" stated to currently exist should be explained. A reduced erosion risk predicted from the proposal could potentially benefit the SSSI. The argument in the ES of benefiting the SSSI is not reflected in the conclusion of 'Negligible', however, see also our comments above. Some consideration should be given to whether the reduced wave climate could result in increased vegetation of the SSSI cliffs (e.g. due to less salt spray), which would be detrimental. We would be happy to discuss this further you, effectively expanding on the SSSI's management objectives.

B – CHANGES TO THE CLIFF AREA FOR NEW OR FUTURE HARBOUR INFRASTRUCTURE

There is a road to the southern breakwater (Fig 3.3) which begins above the SSSI cliffs, and is marked "indicative". Coastal cliffs in glacial deposits throughout NE Scotland show a tendency to landslides. There might be a future need for slope stabilisation in order to protect the road, but this could harm the integrity and visibility of the SSSI. The future stability of this cliffline and potential impacts on the SSSI should be assessed, if necessary by identifying a 'worst case' for the road (i.e. closest to cliff edge, with maximum ground works).

C – CHANGES TO ACCESS TO THE SSSI FOR RESEARCH/STUDY

The ES should assess potential changes to access to the SSSI, both in physical terms (including issue B above) and in terms of management of a working commercial harbour.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>

Sent: 06 October 2015 13:18

To: [REDACTED]

Cc: [REDACTED]

Subject: Aberdeen harbour expansion project - SNH comments draft chapter 27 HRA

Dear [REDACTED]

cc [REDACTED]

Below are our comments on the draft HRA which I hope are helpful. We can use these as a framework for our meeting tomorrow.

Kind regards

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel [REDACTED] | Direct Dial: [REDACTED]

Please note I work mondays-wednesdays

**Nigg Bay Aberdeen Harbour Expansion Project:
SNH Advice on the draft Habitats Regulations Appraisal**

This advice is based on a desk review of the Summary of the Habitats Regulations Appraisal and Information to Support the Appropriate Assessment, Chapter 27 of the Environmental Statement (ES), September 2015. Our advice is made without prejudice to any comments we will make on the applications once submitted and are able to undertake a full review of the final ES.

1. There is a fundamental omission in the draft Habitats Regulations Appraisal (HRA) document. It makes conclusions on likely significant effect but fails to provide information (including mitigation) to support the appropriate assessment stage of HRA for those issues which it has concluded require appropriate assessment.
2. The document has a confused approach to the HRA process and appears to conflate some aspects of the HRA tests. This may be one of the contributing factors to the issue noted above. For example tables 5.3, 5.5 etc have a concluding column heading "likely significant effect on site integrity". The tests on likely significant effect and no adverse effect on site integrity are different and separate stages of the HRA process. Likely significant effect test is a gross filter, simply expected to remove those issues which don't require further detailed thinking. The test to show that there is no adverse effect on site integrity is the appropriate assessment (AA) stage.

To explain this further, ECJ case C-258/11 Sweetman Opinion (para 47) says, "It follows that the possibility of there being a significant effect on the site will generate the need for an AA for the purposes of Article 6(3)... There is no need to establish such an effect. It is as Ireland observes, merely necessary to determine that there may be such an effect".

Sweetman Opinion (para 49), " The threshold at the first stage of Article 6(3) is thus a very low one. It operates merely as a trigger, in order to determine whether an AA must be undertaken..."

By conflating the two stages the HRA becomes confused. This appears as early as 5.2 when the screening for likely significant effect makes a judgment on whether there is an adverse effect on site integrity.

This confusion is particularly important in relation to bottlenose dolphin where a lot of discussion is given to issues in order to conclude that there is no likely significant effect. We consider that there is a likely significant effect and what is provided are the rudiments of an appropriate assessment but with insufficient information to conclude no adverse effect on site integrity (please refer to our comments on the draft marine mammals chapter).

3. It is essential that the HRA can be satisfactorily completed before the applications are determined, so further quantified information on impact pathway (even if these are worst case Rochdale envelope estimates) and how these will be mitigated must be present in the HRA. These mitigations must be clear, legally enforceable and definitively allow a conclusion of no adverse effect on site integrity. This is particularly urgent in relation to bottlenose dolphin. We are currently reviewing the fish and shellfish chapter and are not yet able to advise whether this is also urgent for salmon, and by association fresh-water pearl mussel.

4. Although the draft chapter notes it should be read in conjunction with other chapters, the HRA should detail its findings and conclusions in sufficient detail, and be cross referenced where appropriate.

5. It should be clear in the HRA which activities relate to the ongoing maintenance and operation of the harbour and would be granted permission through the Harbour Revision Order.

Conclusion

We recommend it is in the best interests of Aberdeen harbour board to provide a robust, well reasoned, HRA. If a potential adverse effect on site integrity cannot be ruled out, the proposal can only proceed if:

There are no alternative solutions;

There are imperative reasons of overriding public interest for doing so (including those of social or economic nature); and

Any necessary compensation measures are taken to secure the overall coherence of the Natura 2000 site network (The Scottish Government, 2014).

We believe the changes and additions required to the document may be challenging for your required timescale and you will need to consider the implications carefully. Only you will know how much extra work is required to pull together the relevant information to support the appropriate assessment stage in this document and reconsider the expressions of likely significant effect.

We believe raising these broad principle issues is more productive than discussing detailed comments at present but are happy to discuss the detail of issues in due course.

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 06 October 2015 14:58
To: [REDACTED] <[REDACTED]@aberdeen-harbour.co.uk>
Cc: Darren Hemsley
Subject: Aberdeen harbour expansion project - SNH comments on draft marine ornithology chapter 14

Dear Katherine,

Below are our comments on the draft marine ornithology chapter which I hope are helpful. Please call me next week if you would like to discuss any of these.

Kind regards

Sue

Sue Lawrence | Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House | Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] | Direct Dial: [REDACTED]

Please note I work Mondays-Wednesdays

Nigg Bay Aberdeen Harbour Expansion Project :

SNH Advice on the draft Marine Ornithology Chapter

This advice is based on a desk review of the Marine Ornithology assessment chapter 14 of the Environmental Statement (ES), September 2015. We have not considered the detailed information contained in the Technical Appendices, but we presume that a summary of these are included within the main chapter. Our advice is made without prejudice to any comments we will make on the application once submitted, and are able to undertake a full review of the final ES.

The draft chapter provides a good level of evidence in terms of reference sources and has utilised the agreed surveys as well as additional sources such as the JNCC seaduck surveys. However, the ES chapter only undertakes a qualitative assessment of potential impacts on marine birds and in some cases requires further justification and evidence to support the conclusions. The following points are some of the key areas that we advise need further clarification:

The ES identifies the sensitivity of seaducks and divers to loss of habitat and disturbance during both construction and operation, concluding moderate adverse significance. However, the description of the mitigation, a breakwater providing a substitute rocky shore habitat for roosting, actually refers to a number of other species (e.g. gulls and terns). It would not provide a replacement habitat for the rafts of birds that were recorded on the water (page 14-23 notes eider use the site for feeding, resting and moulting but largest flocks are generally found on the water). We advise that further justification is required for the proposed mitigation.

There is a need for more information on turbidity impacts and plume modelling, particular the temporal and spatial extent. We note that there are placeholders for this in the report. In several places there are conclusions about the extent of plumes being negligible, for example in relation to tern species, despite having specifically mentioned their restricted foraging range and requirement for clear water. It therefore is difficult to understand how a conclusion has been reached that the turbidity will be localised in relation to their food supply.

There is an inconsistency in the way the different reports also acknowledges the importance of the bay for shelter for a number of species during bad weather (Nigg Bay Bird Survey – Winter 2014-15) but do not continue to acknowledge this when considering the importance of habitat loss and availability of similar habitats elsewhere along the coastline (page 14-55 of ES chapter).

There may be connectivity between shags breeding on the Isle of May (Firth of Forth SPA) and wintering along the Aberdeen coast. This is currently subject to a large colour-ringing study lead by Aberdeen University in collaboration with CEH (see Grist et al. 2014. Site Fidelity and Individual variation in Winter Location in Partially Migratory European Shags. PLoS ONE 9(6): e98562.) .

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 07 October 2015 16:54
To: [REDACTED] <[REDACTED]@aberdeen-harbour.co.uk>
Cc: [REDACTED]
Subject: Aberdeen harbour underwater noise impact study - SNH comments

Dear [REDACTED]

Here are our comments on the Underwater Noise Impact study by Kongsberg. In general this report is well informed, well referenced, up to date and thorough in approach. The acoustics and modelling sections are well done, although by trying to use all the available impact thresholds in estimating impact ranges, it has resulted in a confusing array of information. This may be because of the known uncertainty with the thresholds, but we feel that the thresholds used could be better targeted to the type of acoustic impact each highlighted activity is. We would also like confirmation that the propagation modelling and comparison with impact thresholds have been done using the same units. We have made some comments below which I hope are helpful.

Description of underwater noise and assessment metrics

1. This section sets out a clear explanation of acoustic terminology and identifies what each metric should be used for. It would be helpful if there was a link to the activities from this development and the specific metrics that should be used *i.e.* a clear statement of which metrics apply in this case.

Sound source characteristics

2. *Drilling noise* – we would describe drilling noise as a continuous noise source, however in this section the estimated source level is given as a peak level. We would query the use of a peak level in this instance.
3. *Material disposal* – it is not clear from this section what noise the author is considering here, is it the noise from the dumping of rock, or the noise from the disposal vessel as well? We note that it is stated that the noise from this activity is no more than background noise levels.
4. Table 3.2 and 3.3 – the broadband source levels are detailed here, but for clarity could the units be fully specified (ie RMS or peak etc).
5. *Dredging* – Do the noise levels quoted here include the vessel noise?

Criteria for assess impacts upon marine fauna

6. This is a generic review of the impact threshold criteria that we are aware of. It would be helpful to have a link between the activities that are being modelled in this study and the relevant or appropriate thresholds that could be used.
7. The NMFS thresholds are relatively old (late 1990's), and are not commonly used in the UK. However, Southall et al do not specifically detail thresholds for disturbance whereas the NMFS thresholds attempt to do this. It would add clarity if the term 'non-injury' could be clearly defined. How does this relate to our understanding of PTS or TTS?
8. Table 4.4 - there are some typo errors in this table
195 dB re $\mu\text{Pa}^2\text{s}$ SEL M-weighted should be TTS not PTS
183 dB re $\mu\text{Pa}^2\text{s}$ SEL M-weighted should be TTS not PTS (this line is repeated)
171 dB re $\mu\text{Pa}^2\text{s}$ SEL M-weighted should be TTS not PTS

Acoustic propagation modelling results

9. It is not clear in this section what dB units have been used for the sound propagation. This is of relevance when received levels are compared to the impact thresholds.
10. Throughout we would suggest that the term 'audibility' is amended to reflect what this is actually detailing which is the estimated signal-to-noise ratio, ie where the noise source remains above background levels. Audibility suggests some sort of comparison with animals hearing abilities – which will differ between the species of interest.

11. This is useful in setting in context the degree of noise input to the environment from the various activities, but it should be noted that being above background noise does not necessarily illustrate impact to marine fauna.

Acoustic impact modelling results

12. It is not clear in this section how the various metrics have been used. The text jumps from Root Mean Square (applicable for continuous noise) and peak (applicable for impulsive).
13. It is not clear why RMS is being used for explosive sources (in any case we need to know the averaging time).
14. It is not clear from the text whether the source level has been converted into the same metric as the threshold. This is important because the various metrics are not directly comparable ie 160dB RMS is not the same as 160 dB peak etc.
15. Table 7.1 and 7.2 – we need to know what is meant by the term ‘no-injury’. Does it mean zero lethality?
16. Non explosive sources should be further separated into impulsive and continuous.
17. Pg 50 (and throughout following text) reference is made to the PTS threshold Southall et al, 224 dB re 1µPa (pk-pk) is noted but this is not correct – this is the threshold for TTS not PTS, PTS should be 230 dB re 1µPa (pk-pk). This may be a typo rather than an error in use of threshold – this should be checked and clarified.
18. Where RMS is used there should be a note of the time period that this relates to.
19. We query whether SEL would be more appropriate than pk thresholds where the noise source is continuous. (eg for vessel noise and dredging noise).

Additive exposure

It is useful to consider a number of additive scenarios, and the explanations of the various scenarios are informative, however, rather than including all the detail that was included it would have been clearer if it had been discussed how the different scenarios might impact the additive impact ranges.

Cumulative exposure

20. This section considered the impact of noise from each activity over a period of time. It is not clear why noise from blasting was not included in this assessment.
21. This is the only section that uses SEL (We suggest SEL could also be used for continuous noise impact assessment which would allow comparison with Southall thresholds).
22. It is not stated over what time frame this has been modelled. Results are given as a safe distance away from source – ie if the animal does not approach within the estimated radius they should not accumulate injury.

Report conclusions

In the summary and conclusion section, the author states his conclusions of impact, however it is not clear from the text, why certain thresholds were chosen.

Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House |
Baxter Street | Torry | Aberdeen AB11 9QA | Tel [REDACTED] Direct Dial [REDACTED]

Please note I work mondays-wednesdays

[REDACTED]

From: [REDACTED] <[REDACTED]@snh.gov.uk>
Sent: 07 October 2015 16:33
To: [REDACTED] <[REDACTED]@aberdeen-harbour.co.uk>
Cc: [REDACTED]
Subject: SNH Coastal Character Guidance - Consultation Draft - September 2015 (A1760442)
Attachments: SNH Coastal Character Guidance - Consultation Draft - September 2015.pdf

Dear [REDACTED]

Further to our meeting and discussions this morning, here is a copy of "SNH Coastal Character Guidance - Consultation Draft - September 2015". This is the latest 'consultation' draft although it has been available since late 2013 and it is the guidance we were considering in our scoping response.

As I mentioned, the results of a landscape and visual impact assessment are inter-related, the one feeding into the other. We would expect the findings of the landscape impact assessment to inform the visual impact assessment and the mitigation, as per the Guidelines for Landscape and Visual Impact Assessment. We have not commented on the findings of the visual impact assessment for this reason.

We would anticipate that landscape and visual impacts may be an important consideration for local residents and it is in the harbour board's best interest to ensure that the method used follows good practice.

While I am away, if you or your consultants have any questions about the SLVIA, please contact Laura Campbell who is copied into this message and please copy both Darren and I into any emails. Please note that both Laura and Darren will be unavailable from 19th-26th October and so will consider if there is anyone else you can contact, if needed, while we are away.

Kind regards,

[REDACTED]

[REDACTED] Operations Officer - Tayside and Grampian Area | Scottish Natural Heritage | Inverdee House | Baxter Street | Torry | Aberdeen AB11 9QA | Tel: [REDACTED] Direct Dial: [REDACTED]

Please note I work Mondays-Wednesdays

[REDACTED]

From: [REDACTED] snh.gov.uk>
Sent: 07 October 2015 17:08
To: [REDACTED] aberdeencity.gov.uk
Cc: [REDACTED]
Subject: Aberdeen Harbour Expansion Project - Nigg Bay - SNH to MS LOT - SNH Comments Draft ES - 07 October 2015
Attachments: Aberdeen Harbour Expansion Project - SNH comments draft Socio-Economics chapter; Aberdeen harbour expansion project - SNH comments draft chapter 17 SLVIA; Aberdeen harbour expansion project - SNH comments draft marine mammals chapter; FW: Aberdeen Harbour Expansion Project - SNH comments draft Socio-Economics chapter; Aberdeen harbour expansion project - SNH comments draft Terrestrial Ecology chapter 11; Aberdeen harbour expansion project - SNH comments Nigg Bay SSSI; Aberdeen harbour expansion project - SNH comments draft chapter 27 HRA; Aberdeen harbour expansion project - SNH comments on draft marine ornithology chapter 14; Aberdeen harbour underwater noise impact study - SNH comments; SNH Coastal Character Guidance - Consultation Draft - September 2015 (A1760442)

Dear all,

I've attached copies of the comments we have sent to Aberdeen Harbour Board on the draft ES. We will send comments on diadromous fish (salmon) in the next couple of days to the harbour board.

[REDACTED] can you please forward these to Garfield as I don't have his email address.

I am away now until Monday 26th October. [REDACTED] will be available to help with urgent queries until Friday the 16th October.

Kind regards,

[REDACTED]
[REDACTED] as sent you copies of the following 10 documents from Objective:

- "2015 10 02 - Aberdeen Harbour Expansion - Nigg Bay - SNH comments draft Socio-Economics chapter ES" (A1761562) v1.0
- "2015 10 02 - Aberdeen harbour expansion - SNH comments draft chapter 17 SLVIA ES" (A1761580) v1.0
- "2015 10 02 - Aberdeen harbour expansion - SNH comments draft marine mammals chapter ES" (A1761585) v1.0
- "2015 10 02 - Aberdeen Harbour Expansion - SNH comments draft Socio-Economics chapter ES" (A1761568) v1.0
- "2015 10 02 - Aberdeen harbour expansion - SNH comments draft Terrestrial Ecology chapter 11 ES" (A1761581) v1.0
- "2015 10 02 - Aberdeen harbour expansion - SNH comments Nigg Bay SSSI draft ES" (A1761573) v1.0
- "2015 10 06 - Aberdeen harbour expansion - SNH comments draft chapter 27 HRA ES" (A1761609) v1.0
- "2015 10 06 - Aberdeen harbour expansion - SNH comments on draft marine ornithology chapter 14 ES" (A1762074) v1.0

"2015 10 07 - Aberdeen harbour expansion - SNH comments on underwater noise impact study" (A1764195) v1.0

"2015 10 07 - Aberdeen harbour expansion - SNH further comments draft SLVIA and Coastal Character Guidance" (A1764057) v1.0

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Aberdeen Harbour Expansion Project

27th January 2016
SNH Office, Aberdeen

Attendees:

[REDACTED] – Marine Scotland Licensing
[REDACTED] - Marine Scotland Licensing
[REDACTED] Marine Scotland Science
[REDACTED] Marine Scotland Science
[REDACTED] – Aberdeen Harbour Board
[REDACTED] – Aberdeen Harbour Board
[REDACTED] rd Environmental Associates Ltd
[REDACTED] SNH
[REDACTED] NH
[REDACTED] SNH

Notes:

Purpose

KH had requested the meeting to discuss mitigation for underwater noise impacts to bottlenose dolphins of the Moray Firth SAC.

Background

SL summarised SNH's concerns, that the information in the ES demonstrated the importance of Nigg Bay and the mouth of Aberdeen harbour for bottlenose dolphins. The ES concluded that disturbance from underwater noise from the development could displace bottlenose dolphins for up to three years. The ES stated that that mitigation, unspecified, would be put in place to reduce the impacts of underwater noise. SNH's advice was that without details of that mitigation and its effectiveness, it was not possible for a Habitats Regulations Appraisal to conclude no adverse effect on the integrity of the Moray Firth SAC.

KB added MS's concern that underwater noise from blasting could cause injury to cetaceans and the difficulty of using MMOs to mitigate over the large zone this noise was predicted.

Piling

KH said that the ES didn't propose complete construction of the breakwaters before undertaking noisy activities (mainly piling and blasting) in order to keep construction options open for Design and Build. On behalf of Aberdeen Harbour Board, PW had examined how partial construction of the breakwaters could reduce underwater noise, if piling occurred where there was no direct line of sight to open sea.

PW-carried out a literature search. As there was nothing relating specifically to acoustic diffraction, evidence from diffraction theory of sea waves and mathematically analogous propagation of light waves was used instead. If constructed sections of breakwater form a complete barrier in the water column, sound hitting the breakwater will reflect back into the bay at reduced levels. There would be some diffraction around the end of the breakwater, but at a reduced sound level. The diffraction of sound is not easy to model. Diffracted waves would effectively create a new source point at the opening beyond the breakwater, from which a new set of wave fronts would radiate. The secondary source would be at a lower sound level, estimated to be reduced by around 40dB.

The mid-frequency component of sound waves would be of most concern, as low frequency components can travel far but in shallow waters tend to be absorbed by sediments. High frequency components have a very short wavelength and therefore do not travel as far. By contrast, acoustic energy having frequencies in the range 1-10kHz has the potential to travel 10s of km without barriers.

SNH and MS asked AHB to provide a paper, summarising the explanation provided, citing references used, and with an estimate of the sound levels and distances that would be travelled by diffracted sound. CC advised that modelling follows a broadband approach and considering the frequency ranges and energies generated by piling could help the assessment to be more specific.

Action AHB to provide a rationale for mitigation of restricting piling to locations from where there is no line of sight to open water. To include diagrams and plans of how this could be implemented in practice.

Blasting

KH showed a map of Nigg Bay indicating that blasting will be required to remove rock in the north and south of the bay. The southern area will be in line of sight to open water but it may be possible for blasting of the northern area to be carried out behind a breakwater, depending on discussion with contractors. Blasting and drilling will be required for construction of the southern breakwater but not the northern.

KY advised that blasting would be intermittent, with either one or two series of charges in any day when required. Each series to include up to 8 charges with a 25 millisecond delay. Blasting would only be carried out in daylight but there may be emergency situations when it is required in the dark. Once blasting has commenced and the best method has been found, it will be possible to estimate the amount of blasting required in the northern and southern areas, based on the volume of rock to be removed.

DH advised that if it isn't currently feasible to estimate the amount of blasting it is necessary to ensure there is sufficient mitigation. KB said that some of the noise levels predicted from blasting were sufficiently loud that the marine mammal observer (MMO) zone could not be sufficient to prevent injury. CC agreed that it is difficult to carry out observations over 800m unless visibility is very good.

Modelling in the ES was based on 20kg charges detonated in the water column whereas in practice charges would be placed in drilled holes. PW had since used a rudimentary model to refine advice, based on charges buried underneath 2.5m of overburden. This reduced sound pressure levels eg for temporary threshold shift to 90-100m. [PW confirmed that this information is presented in the noise modelling study \(Appendix 13-B of the ES\).](#) MS and SNH agreed that passive acoustic monitoring and marine mammal observers could be used as effective mitigation over these reduced distances. AHB should provide a paper setting out the method and revised assessment.

Action AHB to provide a paper setting out effect of detonating charges in drilled holes on underwater noise.

Habitats Regulations Appraisal

The combination of piling only where there is no direct line of sight to open water and using drilled holes for charges should reduce the risk of injury and disturbance to bottlenose dolphin. AHB would provide MS licensing with revised information to support a Habitats Regulations appraisal. This should take into account all sources of disturbance together, and the likely sequencing and duration of activities. KY noted that blasting and pile driving would not take place at the same time. VB stated that additional information may require further time for consultation depending on whether it is clarification. KB advised that there may be useful information available on the response of bottlenose dolphins to pile driving from the Cromarty Firth and for harbour porpoises from the Moray Firth.

SL clarified that the effects of the Aberdeen harbour expansion project should be considered in combination with other developments once there was a clearer understanding of the impacts of the project and its mitigation.

Action AHB to provide MS licensing with revised information to support a Habitats Regulation appraisal.

All parties agreed to attend another meeting if required once further information had been provided and considered.

Atlantic salmon and acoustic deterrent devices

KH said that the Dee District Salmon Fishery Board (DDSFB) had raised concerns over sediment plumes around the mouth of Aberdeen harbour increasing the risk of predation to salmon entering and exiting the harbour. The DDSFB accepted that predicted sediment levels from construction were less than current background levels, however, requested the use of acoustic deterrent devices (ADDs) when sediment plumes were detected or levels elevated.

DH said that it did not sound as if mitigation was required and would make it harder to meet the requirements of the habitats regulations.

SL advised there are concerns over the salmon population of the River Dee which will have been exacerbated by flooding in late December/early January. The DDSFB had discussed with SNH their proposal for using ADDs at Aberdeen harbour in relation to a concern that underwater noise could make salmon more vulnerable to predation. SNH had advised them that they would not support the use of ADDs in this case, both due to impacts on the bottlenose dolphin population of the Moray Firth SAC and on cetaceans as European Protected Species. Obtaining mitigation to reduce underwater noise could benefit both salmon and dolphins.