


	<p style="text-align: center;">Transport Scotland North West Unit</p> <p style="text-align: center;">Statement to Inform Appropriate Assessment</p>	
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A9 Mound Sluices

Statement to Inform Appropriate Assessment

	Name	Organisation	Signature	Date
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Updated by	Fran Tobin	Jacobs		05/06/2020
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Client:	Transport Scotland			

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1. Habitats Regulations Appraisal Proforma

APPRAISAL IN RELATION TO REGULATION 48 OF THE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 1994 AS AMENDED¹ (HABITATS REGULATIONS APPRAISAL)

NATURA SITE DETAILS

Name of Natura site(s) potentially affected:

Mound Alderwoods SAC, Dornoch Firth and Loch Fleet SPA, Dornoch Firth and Loch Fleet Ramsar (Figure 1)

Name of component SSSI if relevant:

Loch Fleet SSSI, Mound Alderwoods SSSI

Natura qualifying interest(s) & whether priority/non-priority:

Mound Alderwoods SAC

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion alvae*) – Priority Feature

Dornoch Firth and Loch Fleet SPA

- Osprey (*Pandion haliaetus*) – [REDACTED] foraging
- Bar-tailed godwit (*Limosa lapponica*) – non-breeding
- Greylag goose (*Anser anser*) – non-breeding
- Wigeon (*Mareca penelope*)* – non-breeding
- Waterfowl Assemblage – non-breeding
 - Curlew (*Numenius arquata*) – assemblage qualifier only
 - Dunlin (*Calidris alpina alpina*) – assemblage qualifier only
 - Oystercatcher (*Haematopus ostralegus*) – assemblage qualifier only
 - Redshank (*Tringa totanus*) – assemblage qualifier only
 - Scaup (*Aythya marila*) – assemblage qualifier only
 - Teal (*Anas crecca*) – assemblage qualifier only

Dornoch Firth and Loch Fleet Ramsar

The site qualifies under Ramsar criteria 1, 2, 5 and 6 (with a proposed update to include criteria 4)².

The site contains the following features:

- Waterfowl assemblage (non-breeding)
- Bar-tailed godwit (non-breeding)
- Curlew (non-breeding)
- Dunlin (non-breeding)
- Greylag goose (non-breeding)
- Oystercatcher (non-breeding)
- Redshank (non-breeding)
- Scaup (non-breeding)
- Teal (non-breeding)
- Whooper swan (*Cygnus cygnus*)
- Wigeon (non-breeding)
- Osprey [REDACTED] foraging
- Harbour seal (*Phoca vitulina*)
- Invertebrate assemblage

¹ Or, where relevant, under regulation 61 of The Conservation of Habitats and Species Regulations 2010 as amended, or regulation 25 of The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 as amended.

² JNCC. 2005. Information Sheet on Ramsar Wetlands. Dornoch Firth and Loch Fleet.

- Otter (*Lutra lutra*)
- Vascular plant assemblage
- Intertidal mudflats and sandflats
- Saltmarsh
- Sand dunes
- Wet woodland

*formerly *Anas penelope*.

Conservation objectives for qualifying interests:

Mound Alderwoods SAC

To avoid deterioration of the qualifying habitat (listed above) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitat that the following are maintained in the long term:

- Extent of the habitat on site
- Distribution of the habitat within site
- Structure and function of the habitat
- Processes supporting the habitat
- Distribution of typical species of the habitat
- Viability of typical species as components of the habitat
- No significant disturbance of typical species of the habitat

Dornoch Firth and Loch Fleet SPA

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Dornoch Firth and Loch Fleet Ramsar

No conservation objectives are detailed for Ramsar sites and as such those given above for the Dornoch Firth and Loch Fleet SPA have been adopted for this site.

STEP 1: WHAT IS THE PLAN OR PROJECT?

Proposal title:

A9 Mound Sluices

Name of consultee:

Scottish Natural Heritage

Name of competent authority:

Transport Scotland and Marine Scotland
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Details of proposal (inc. location, timing, methods):

The A9 Mound Sluices are located at the mouth of the River Fleet, where it flows into Loch Fleet, south of Golspie (Figure 2). The structure consists of six masonry arches each containing two wooden sluice gates, 12 gates in total (Photograph 1, Appendix A). The sluice gates prevent the ingress of sea water at high tide, but allow fresh water from the River Fleet to flow out as the tide falls. The sluices are essential for the maintenance of the qualifying interests of the Mound Alderwoods SAC.

Inspections of the structure have identified a number of maintenance issues that require rectification, including that a number of the sluice gates within the structure are no longer water tight and permit a degree of water leakage. The remedial works will involve replacement of all 12 wooden gates and the wooden and steel strapping within the arches. Repointing of the masonry arches with lime mortar and replacement of any stone as required will also be undertaken. Where possible, the arches which leak the most will be prioritised in the programme of works.

Works will be conducted within a dry working area which will encompass two of the six arches at any one time (i.e. four gates) (see Photograph 2 in Appendix A for an example). It is anticipated that the dry area will be created using weighted trench boxes. Water level data is available for both the freshwater and salt water levels at the structure from 2014 until present and the dry works area will be designed in line with best practice for temporary works within the water environment. While two arches are contained within the dry works area, the sluice gates within the remaining four arches will continue to function as normal (i.e. gates can be opened and closed to water flows). During the works the remaining operational sluice gates will be opened to full extent in response to high water, using the current water trigger level as an initial indicator. Manual operation of the gates, to open them to their full extent, will be undertaken should intense or prolonged precipitation events be forecast during the works period, if conditions allow. This will ensure the inundation regime of the woodland is maintained throughout the works period. Water levels will be monitored throughout the works.

The works will take up to six months in total to complete (6 to 8 weeks per two arch section). The main works will be undertaken between June and September inclusive (low flow periods), with the potential for some pre-works/site set-up in ahead of this period to facilitate quick start-up of the main works in June. There will be no working in the water in the months of April-May (inclusive) to reduce the risk to ground nesting wetland birds linked to the Mound Alderwoods SSSI. The programme of works has yet to be finalised, however the completion of all six arches in one year is very unlikely within the working window, therefore it is anticipated that the works will either be undertaken over two years (4 arches in year one, and 2 arches in year two), or over three years (two arches each year). There will be no 24-hour working on site; working hours are anticipated to be 7am-7pm.

Best practice construction methods will be employed, including adherence to Guidance for Pollution Prevention (GPPs), specifically, but not limited to, GPP5: Work and maintenance in or near water³. Prior to the commencement of works the contractor will produce a Pollution Prevention Plan including measures such as:

- The use of drip trays/bunds for machinery.
- Availability of spill kits and staff trained in their use.
- Use of filters/screens on any water pumps.
- Appropriate storage of chemicals and fuels away from waterbodies.
- The implementation of an appropriate pollution incident response plan.

³ SEPA. 2018. Guidance for Pollution Prevention. Works and maintenance in or near water: GPP 5. Available online at http://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf?utm_source=website&utm_medium=social&utm_campaign=GPP5%2027112017.

Over-pumping will be required initially to create the dry works area and then sporadically as required due to seepage and rainfall. Filters will be placed over the intake for any water pumps required in the dry working area, in order to prevent sediment release.

A crane, operated from the bridge, will be required to lift components and equipment into and out of the works area but it is not anticipated that any large plant, with the exception of the water pump, will be required within the dry works area. Any plant will be bunded/on drip trays to prevent pollution.

The construction compound will be located in the car park adjacent to the Mound Sluices structure. The car park will be closed to visitors during this time.

See Appendix A for photographs of the site and example working method.

STEP 2: IS THE PLAN OR PROJECT DIRECTLY CONNECTED WITH OR NECESSARY TO SITE MANAGEMENT FOR NATURE CONSERVATION?

The following points should be considered:

- i) Has the effect on all qualifying interests been considered?*
 - ii) Is the proposal part of a fully assessed and agreed management plan?*
 - iii) Is there a clear rationale to justify the connection with the conservation objectives?*
 - iv) If there is a clear connection with the conservation objectives will any benefits arising from the proposal outweigh any negative effects?*
 - v) Have any alternative methods of implementing the proposal been explored to demonstrate that this is the least damaging option?*
 - vi) Give a YES/NO conclusion in terms of whether the plan or project is considered directly connected with or necessary to site management for nature conservation.*
- If **YES** for all elements of a plan or project, for all the Natura qualifying interests (preferably as part of a fully assessed and agreed management plan), then consent can be issued. The rationale should be detailed below and no further appraisal is required (no need to proceed to step 3 or 4).*
- If **No** for all Natura qualifying interests then proceed to step 3.*
- If a plan has multiple elements (e.g. a range of policies or management objectives), elements of the plan considered directly connected with or necessary to site management for nature conservation should be discussed below and a rationale given for this conclusion. No further appraisal is then required for those elements. All other elements of the plan must proceed to step 3.*

The works are necessary for management of the Mound Alderwoods SAC for nature conservation. In 2010 the alder woodland was assessed as being in Unfavourable Declining⁴ condition and one of the reasons for this was thought to be due to increased inundation due to ineffectual operation of the sluice gates⁵. In an attempt to rectify the situation, the sluice gates were automated in 2017 and a new operational plan⁶ created in agreement with SNH. A number of maintenance issues were identified at a recent inspection and if the condition of the Mound Sluices is allowed to deteriorate this management will become ineffective and the predicted benefit to the alder woodlands will be reduced. It is acknowledged by SNH that there is an urgency to undertake the works to the sluice gates (David Patterson, SNH, 13/01/2020).

No alternative options have been identified.

It is considered that the proposed works are necessary for management of the Mound Alderwoods SAC. However, as the works do not form part of a wider management plan and this is not the only Natura 2000 site affected by the works, information for further appraisal of the works is presented below. It is considered that

⁴ SNH SiteLink (2020) Mound Alderwoods SAC. Online. Available at: <https://sitelink.nature.scot/site/8332>.

⁵ Hendry, S.J. & Edwards, C.E. (2012). Alder Woodland – Tree condition assessment survey: Mound Alderwoods Site of Special Scientific Interest and Special Area of Conservation. Scottish Natural Heritage Commissioned Report

⁶ BEAR Scotland Ltd. (2018). Unpublished. A9 1600 Mound Sluices Operational Management Plan.

any potential short-term negative effects (disturbance) on qualifying features of the Dornoch Firth and Loch Fleet SPA and Ramsar site will be out-weighed by the long-term benefits to the Mound Alderwood SAC.

STEP 3: IS THE PLAN OR PROJECT (EITHER ALONE OR IN COMBINATION WITH OTHER PLANS OR PROJECTS) LIKELY TO HAVE A SIGNIFICANT EFFECT ON THE SITE?

Each qualifying interest should be considered in relation to their conservation objectives. The following points should be considered:

- i) Briefly indicate which qualifying interest could be affected by the proposal and how; if none, provide a brief justification for this decision, and then proceed to v), otherwise continue;*
- ii) refer to other plans/projects with similar effects/other relevant evidence;*
- iii) consider the nature, scale, location, longevity, and reversibility of effects;*
- iv) consider whether the proposal contributes to cumulative or incremental impacts in combination with other plans or projects completed, underway or proposed;*
- v) Where the impacts of a proposal are the same for different qualifying interests these can be considered together however a clear conclusion should be given for each interest*
- vi) give Yes/No conclusion for each interest.*

- If yes, or in cases of *doubt*, continue to step 4.

- If potential significant effects can easily be avoided, record modifications required below.

- If no for *all* features, a consent or non-objection response can be given and recorded below (although if there are other features of national interest only, the effect on these should be considered separately). There is no need to then proceed to step 4.

Mound Alderwoods SAC

It is concluded that there will be no Likely Significant Effect (LSE) from the proposed works on the qualifying feature of the SAC. The footprint of the works will not extend into the SAC and there will therefore be no direct habitat loss. Carrying out the works on four of the 12 gates at a time ensures that the remaining eight gates continue to function, maintaining the current inundation regime. The use of best practice, and a dry works area designed in line with best practice for working in the water environment, will ensure no pollution from the works is introduced into the SAC habitat.

Dornoch Firth and Loch Fleet SPA

The following effects pathways have been considered for the potential to affect the qualifying interests and conservation objectives of the Dornoch Firth and Loch Fleet SPA.

- Habitat loss – There will be no effect of habitat loss on the qualifying species as works are restricted to the Mound Sluices structure itself and the adjacent car park.
- Pollution – Best practice methods will be used throughout the duration of the works (following appropriate GPPs). It is not anticipated that any large plant will be required within the dry works area, the exception being the pump for removal of water. It is therefore concluded that there is no potential for pollution to have a likely significant effect on the qualifying features or supporting habitat of the SPA.
- Disturbance to wintering qualifying interests – The works will avoid wintering bird season, therefore there is no potential for disturbance for wintering qualifying interests.
- Disturbance to foraging osprey – There is the potential for disturbance to foraging osprey during the works, which could lead to localised displacement. However, whilst osprey forage close to the Mound Sluices and Lagoon Car Park, birds are not solely reliant on areas close to the Mound Sluices and regularly forage over other tidal locations within Loch Fleet estuary (David Patterson 07/04/2020). Additionally, the Lagoon Car park is a popular recreation facility during the summer (David Patterson 07/04/2020), therefore osprey are likely habituated to vehicles and people near the Mound Sluices during the breeding season. Therefore, it is considered that any disturbance, and/or displacement caused by disturbance, from the works will not result in a significant impact on the foraging success of the species within the SPA. Furthermore, 24-hour working will be avoided leaving a period of 'quiet time' each day for osprey to forage undisturbed near the sluices, further reducing the likelihood for any significant disturbance.

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It is concluded that there will be no LSE on osprey or any of the qualifying interests of the SPA.

Dornoch Firth and Loch Fleet Ramsar site

As discussed above for the SPA, there will be no LSEs on the qualifying bird species of the Ramsar site

Harbour seals are known to use Loch Fleet during the pupping season (end of May to beginning of August). Consultation with SNH (Adam Rose, SNH, 30/01/2019) confirmed that the main seal haul-out sites are concentrated in the lower loch, around Littleferry and Skelbo. These sites are over 3km from the works and therefore unlikely to be disturbed. It was highlighted that seals do occasionally swim close to the Mound Sluices. While seals may be deterred from the area around the works this will not result in a LSE on the population of the Ramsar site.

It is concluded that there will be no LSE on the wetland/coastal habitats; or associated invertebrate and plant species for which the site is designated. The works are localised within the site; affecting only the car park, sluice structure and immediate surrounding habitat (required for the dry works area); therefore, there will be no direct physical damage to any of the qualifying habitats. Potential indirect effects of the works include pollution and changes in salinity. The use of best practice and an appropriately designed dry works area will minimise the potential for effects of pollution on the site. As discussed in the SAC assessment above; conducting the works in stages will ensure that eight of the twelve sluice gates remain functional at all times, with the other four contained within the dry works area, meaning that there will be no changes in salinity as a result of the works.

Mitigation or modifications required to avoid a likely significant effect & reasons for these:

In light of the working method described above, no mitigation or modifications are required to prevent LSEs on the qualifying features of Mound Alderwoods SAC. Similarly, no mitigation or modifications are required to prevent LSEs on the qualifying features of the Dornoch Firth and Loch Fleet SPA and Dornoch Firth and Loch Fleet Ramsar.

⁷ SNH. 2011. Mound Alderwoods Site of Special Scientific Interest Site Management Statement. Available online at: <https://sitelink.nature.scot/site/1202>.

⁸ BEAR Scotland NW (2019). BEAR Scotland NW Trunk Roads Operations and Otters: An Otter Species Protection Plan. January 2019.

Step 4: UNDERTAKE AN APPROPRIATE ASSESSMENT OF THE IMPLICATIONS FOR THE SITE IN VIEW OF ITS CONSERVATION OBJECTIVES

(It is the responsibility of the competent authority to carry out the appropriate assessment. The competent authority must consult SNH for the purposes of carrying out the appropriate assessment. SNH can provide advice on what issues should be considered in the appropriate assessment, what information is required to carry out the assessment, in some circumstances carry out an appraisal to inform an appropriate assessment and/or provide comments on an assessment carried out. Where we are providing advice to a competent authority our appraisal of the proposal should be recorded here.)

The following points should be considered:

- i) Describe for each qualifying interest the potential impacts of the proposal detailing which aspects or effects of the proposal could impact upon them and their conservation objectives.*
- ii) Evaluate the potential impacts, e.g. whether short/long term, reversible or irreversible, and in relation to the proportion/importance of the interest affected, and the overall effect on the site's conservation objectives. This should be in sufficient detail to ensure all impacts have been considered and sufficiently appraised. Record if additional survey information or specialist advice has been obtained.*
- iii) Each conservation objective should be considered and a decision reached as to whether the proposal will affect achievement of this objective i.e. whether the conservation objective will still be met if the proposal is consented to.*

As no LSEs were identified no Appropriate Assessment is required.

Step 5: CAN IT BE ASCERTAINED THAT THE PROPOSAL WILL NOT ADVERSELY AFFECT THE INTEGRITY OF THE SITE?

In the light of the appraisal, ascertain whether the proposal will not adversely affect the integrity of the site for the qualifying interests. Conclusions should be reached beyond reasonable scientific doubt. If more than one SAC and/or SPA is involved, give separate conclusions. If mitigation or modifications are required, detail these below.

Mound Alderwoods SAC

No LSEs were identified for the qualifying feature of the SAC, therefore there will be no adverse effect on site integrity.

Dornoch Firth and Loch Fleet SPA

No LSEs were identified for the qualifying interests of the SPA, therefore there will be no adverse effect on site integrity.

Dornoch Firth and Loch Fleet Ramsar site

No LSEs were identified for the qualifying interests of the Ramsar, therefore there will be no adverse effect on site integrity.

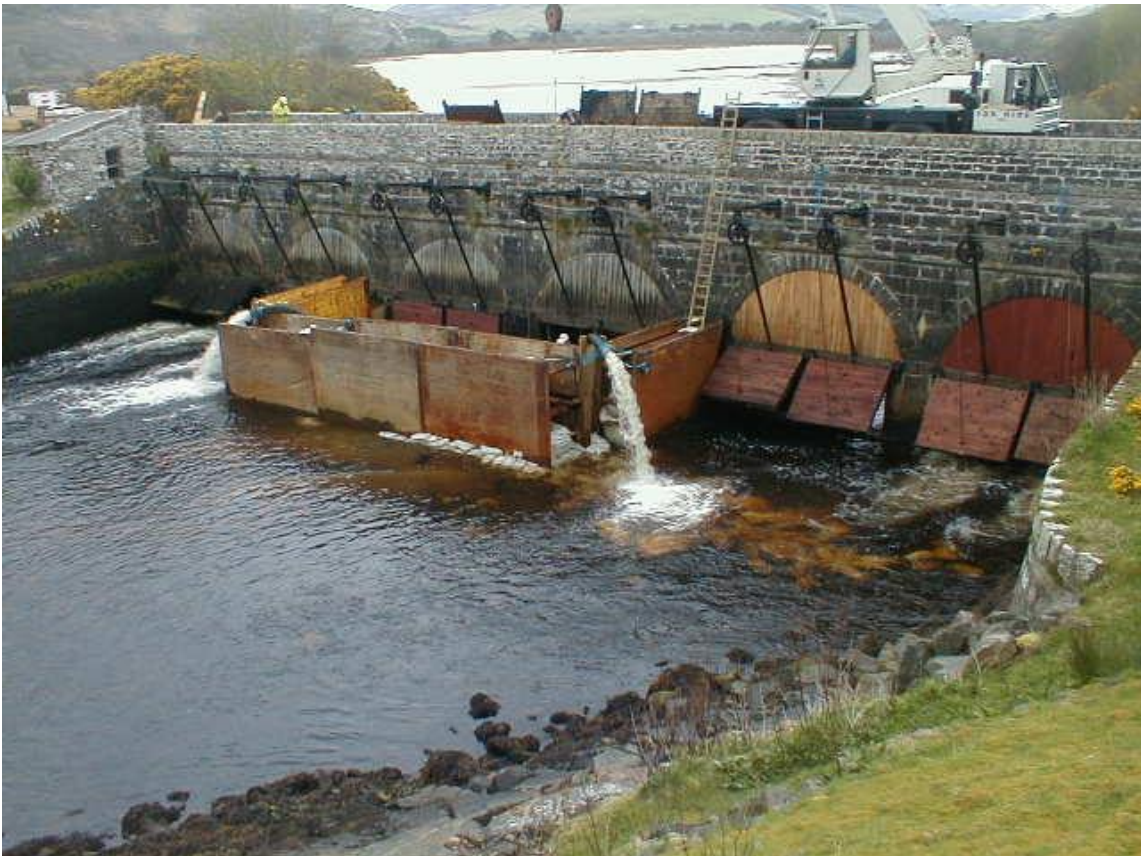
Mitigation or modifications required to ensure adverse effects are avoided, & reasons for these.

n/a	n/a
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Appendix A – Site Photographs



Photograph 1. View of Mound Sluices structure, car park and saline lagoon. Photograph shows the downstream face of the structure.



Photograph 2. Example working method at this location. Photo from works in 2002. Photograph shows the downstream face of the structure.

Appendix B – Correspondence with SNH

Correspondence between October 2019 and May 2020

Hi Fran (cc – Sarah),

Thanks for your recent email, as below.

My error, yes my previous advice was meant to read two arches (four sluice gates). Thanks for clarifying this.

Works timings

We would hope that the environmental sensitivities, may influence the timings of works. The works are taking place in a very environmentally sensitive location, therefore we recommend that this should have some bearing when the works take place. In this regard, we recommend against 24-hour working, due to the potential for constant disturbance/displacement issues, especially to SPA foraging osprey (as mentioned previously). It will be important for the site to have some quiet time.

In terms of winter working, disturbance to roosting greylag geese will be the main consideration which may be hard to overcome, as previously advised. However, winter working is likely to be low-impact in relation to disturbance potential for most other waterfowl.

I hope this provides some added clarity to our previous advice. Call me if you want to discuss anything in more detail.

Best regards,

David.

David Patterson | Protected Areas Officer

Scottish Natural Heritage | The Links | Golspiø Business Park | Golspiø | Sutherland | KW10 6UB |

From: Tobin, Fran <[REDACTED]>
Sent: 30 April 2020 16:32
To: David Patterson <[REDACTED]>
Subject: RE: Draft SIAA - Mound Sluices - Maintenance Works - OFFICIAL: ENVIRONMENTALLY SENSITIVE

Hi David,

I hope you're well. Apologies for the lateness of my reply to your email.

Thank you for your comments on the SIAA. I will take these on board in preparation of an amended draft and have been in contact with Sarah from BEAR Scotland about the programme of works.

In your comments below you state "Only two sluice gates should be out of action at any one time, to maximise freshwater outflow." I believe this is meant to read two arches. Please can I just double check that you mean two arches (i.e. 4 sluice gates) as has been previously discussed?

I have been advised that the standard working hours will be 7am-7pm, with the potential for 24-hour works in the summer months. I'd be grateful for your comment on these working hours. 7am-7pm will provide a period of 'quiet' time each day when birds will be undisturbed, although I note this is a slightly longer working period than you suggest in your comment below (i.e. 8am-5pm). Would you have concerns with 24-hour working during summer months? It should be noted that the 24-hour working in summer months would likely negate the requirement for winter working, although I believe there is still uncertainty on the programme still, on which I am awaiting clarification.

If you'd rather call me to discuss this when you are available that's fine - my mobile number is in my email signature. I just had wanted to have this in writing as a paper trail, especially with regard to clarification of the number of gates worked on at a time. I also appreciate that my response is delayed, so I wouldn't have wanted my call to come out of the blue.

I look forward to hearing from you.

Thanks, and stay well,

Fran

Frances Tobin BSc (Hons) MCIEEM MRSB | Jacobs | Ecologist | Water and Environment | [REDACTED]

I am currently working from home.

Our Ref: GEN 158747

Dear Fran (cc – Sarah),

Thank you for requesting our pre-application comments on the attached draft Statement to Inform Appropriate Assessment (SIAA) for the maintenance works on the Mound Sluices.

1. Summary

The timing of these works will be critical to ensure that recovery of the Mound Alderwoods SAC is not to be compromised. In addition, we have further advice on other Protected Areas, as outlined below.

2. Likely impacts of the proposal and further advice

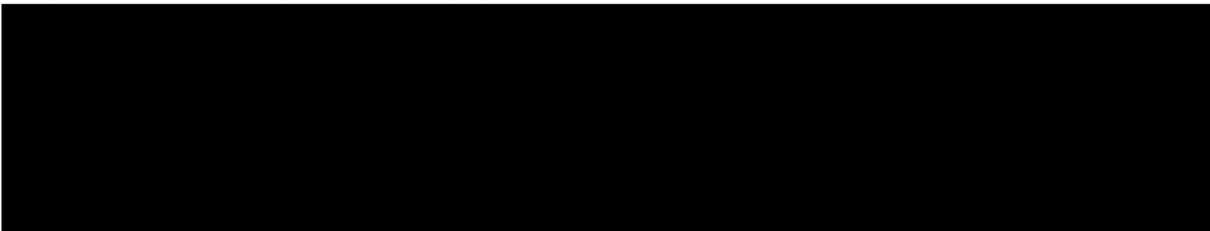
a) Mound Alderwoods Special Area of Conservation (SAC)

We note there is uncertainty when these works will take place and there appears to be no firm commitment to ensure that the works will be undertaken during low flow periods (i.e. June to September, inclusive), as we have previously advised. It will be very important that the least damaging option (e.g. timings/methods) should be chosen for the works, as indicated within the template text of the HRA for Step 2.

During discussions with Bear Scotland, we are of the understanding that it is likely to take approximately 3 months to complete the works on 4 sluice gates (i.e. two arches). However, the SIAA indicates that 4 sluice gates could be completed in 2 months. This means that there is now potential to complete 8 sluice gates during low flow periods within the same year. If this is indeed the case, then to reduce the risk that these works may over-run beyond September, we recommend that any works which will not influence water levels, could be done in advance so that the maintenance team could make best use of the critical low-flow period. Only two sluice gates should be out of action at any one time, to maximise freshwater outflow.

Please note that we consider October as being a sensitive month for high water levels. Therefore, any proposal for winter working affecting water levels should take place from November to March (inclusive).

b) Dornoch Firth & Loch Fleet Special Protection Area (SPA) & Ramsar



Osprey - foraging

Birds regularly forage in close proximity to the Mound Sluice Bridge and Lagoon Car Park. Therefore, there is the potential for some disturbance/displacement to occur to foraging birds. This is especially relevant during periods of full height crane use and perhaps during some periods of sustained noise.

Issues to consider within a second draft for foraging osprey could include:

- o Birds will forage taking into consideration tidal patterns, especially in high summer when there is very little darkness. Therefore, birds can forage during undisturbed periods early in the morning and late into the evening (assuming standard working hours prevail, e.g. 8-5pm).
- o Birds are not solely reliant on areas close to the Mound sluices and regularly forage over other tidal locations within Loch Fleet estuary.
- o Other mitigation options could be considered to reduce disturbance to foraging birds, such as; 'crane will be retracted at the end of each day', etc.
- o As the Mound Lagoon Car Park is a popular recreational facility for locals and tourists (especially in the summer), ospreys are used to this site being busy with vehicles and people.

Waterfowl

If indeed winter working is considered a realistic option, then it might be easier to group waterfowl species together (within the appraisal) where similar impacts are likely to occur. This way it is easier to assess all of the SPA conservation objectives.

Greylag geese might be considered as one of the most sensitive waterfowl receptors at this site, as they often roost within the Mound Lagoon, closer to the works location. If works are to be restricted to daytime during the winter (e.g. works suspended for an hour before sunset and an hour after sunrise), then it may call into question the viability of a full working day. This could result in the normal 2 month working period (for four gates) to be extended to 3 or maybe even 4 months (including the Xmas break). Therefore, we recommend that 'winter working' is re-considered or any associated impacts (including mitigation) are reviewed.

3. Concluding comments

I hope these comments are of some help. Please call me if you or Sarah (or both) would like to discuss any of the above in more detail, as we are eager to help BEAR Scotland find the best possible way forward for this proposal. I think this approach may be more effective rather than quoting this and past emails in a subsequent draft.

Best regards,

David.

David Patterson | Protected Areas Officer

Scottish Natural Heritage | The Links | Golspie Business Park | Golspie | Sutherland | KW10 6UB |



Dualchas Nàdair na h-Alba | A' Mhachair | Pàirc Gnòthachais Ghoillsidh | Goillsidh | Cataibh | KW10 6UB
[nature.scot](https://www.nature.scot) – Connecting People and Nature in Scotland – [@nature_scot](https://twitter.com/nature_scot)

From: David Patterson [REDACTED]
Sent: 13 January 2020 14:51
To: Sarah Rauch-Lynch [REDACTED]
Cc: [REDACTED]
Subject: Mound Sluices - Amended pre-application advice on proposed Maintenance Works

Linked to SNH Ref: GEN 157337

Dear Sarah (cc – David Wilby [SEPA])

Following our site meeting on 5 December, we all appear to have a better understanding of the maintenance works issues, both with respect to the environmental effects and methods proposed. We now offer revised pre-application comments on the Mound Alderwoods SAC, which we hope will help to move things forward for the benefit of everyone. Our previous pre-application advice on the Domoch Firth & Loch Fleet SPA remains valid.

1. Summary

In our opinion, if the maintenance works are carried out as recommended below, we believe that they are unlikely to compromise the recovery of the Mound Alderwoods SAC.

2. Appraisal of impacts and advice

2.1 Mound Alderwoods SAC

As I explained at our site meeting, we believe the most important consideration linked to the maintenance works is the Mound Alderwoods SAC (alder woodland interest). In this regard, there should be a presumption to reduce the risk of encountering high water events during maintenance when four of the sluice gates will be temporarily out of action. Therefore, we strongly recommend that the annual works (with a duration of c. 3 months) should take place during low river flows (i.e. June - September, inclusive). Our previous advice on undertaking these works between November to March still stands, but we acknowledge the difficulties of winter working.

In context to the above, we recognise that many of the sluice gates are now very leaky, which is allowing additional (sea) water into the Mound Alderwoods during each rising tide. Therefore, in our opinion, the urgency to get these works done (during low flow conditions) and improve the efficiency of the sluice gates, outweighs the potential risk of high water events. We advise that the leakiest sluice gates should be prioritised for repair. This will help to manage down water levels within the alder woodland which is in line with the restoration of the SAC. So, in taking forward these recommendations, we are of the understanding that the maintenance programme would now stretch over three years, with two arches (four gates) being completed in each year, but only during low flow months.

You previously mentioned that during the works period, when the four gates were to be out of action, the remaining operational sluice gates could be opened to full extent specifically in response to high water (as they now do automatically). We advise that this mitigation should be included within the Method Statement for these works, using the current water trigger level as an initial indicator for this to occur. Should intense or prolonged precipitation events be forecast during the works period, the functional gates could be opened to their full extent in advance, should local conditions allow.

2.2 Consents & Habitats Regulation Appraisal (HRA)

You informed me that Marine Scotland has requested that a licence application is submitted for the works on the sea-ward side of the sluices (i.e. within Loch Fleet SSSI). Therefore, the licence from Marine Scotland will mean that our SSSI consent is no longer required. I understand that Marine Scotland will consult us on this application and we will provide our advice directly to them. This will of course include advice on the Mound Alderwoods SAC, as well as those protected area interests within Loch Fleet.

Please call me if you would like to discuss these issues in more detail.

Kind regards,

David.

David Patterson | Operations Officer

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Please note, I normally work Mon-Thurs only.

From: Tobin, Fran <[REDACTED]>
Sent: 29 November 2019 15:21
To: David Patterson <[REDACTED]>
Cc: [REDACTED]
Subject: RE: A9 Mound Sluices - Maintenance Works - 20191030

Dear David,

Thanks again for your comments and apologies for my delayed response.

I have spoken with BEAR regarding your comments and have provided some responses/clarifications in green below. Since my initial email outlining the proposed works I have been advised that the programme of works has changed and is yet to be finalised. It may be that the works will be undertaken over a period of three years with two arches repaired each year, however it may be that all works are completed in a single year. Our approach to undertaking the SIAA will be to assess the worst case scenario which we consider to be works over three consecutive years. However with mitigation in place as discussed previously, and with altered sluice management to ensure the efficiency of the structure is maintained, we do not anticipate any AESI on the SAC or SPA.

BEAR have advised that they are undertaking a site visit on 5 December to the Mound Sluices and would be happy to meet you on site to discuss any queries and explain the proposals in more depth. Sarah Rauch-Lynch (BEAR) may have already been in contact with you about this, however she has asked me to pass on her details if you wish to contact her directly ([REDACTED]).

Many thanks,

Fran

Frances Tobin, BSc (Hons) MCIEEM MRSB | Jacobs | Ecologist | Water and Environment | [REDACTED]
[REDACTED] 95 Bothwell Street, Glasgow, G2 7HX

From: David Patterson <[REDACTED]>
Sent: 14 November 2019 15:26
To: Tobin, Fran <[REDACTED]>
Cc: [REDACTED]
Subject: [EXTERNAL] A9 Mound Sluices - Maintenance Works - 20191030

Our Ref: GEN 157337

Dear Fran (cc – David Wilby),

Thanks for requesting our pre-application comments on the proposed maintenance works at the Mound Sluices, as described in your email below.

For the avoidance of doubt, we consider that the following statements are valid, but we would be eager for clarification on these in due course:

- Working on two arches (i.e. four gates) at a time will reduce the efficiency of the Mound Sluices to discharge excess water by 33%. Whilst working on only one arch (i.e. two gates) will reduce the efficiency down to 16%.

The management of the sluices during construction can be altered including manually setting the gates to open while the tide is out to ensure that the efficiency of the structure is not compromised during construction and does not prohibit the movement of water downstream. The gates must be closed when the tide is in, and would be anyway under the current management regime.

- We anticipate that the dry working zones will be created on the seaward side of the Mound sluices (i.e. the Loch Fleet side) in connection with replacing the woodwork. We therefore assume that there will be no requirement for creating dry zones on the freshwater side. In addition, we are of the understanding that all sluice gates not within a dry zone will work as per normal, including being opened to full extent by high water levels.

The dry working zone will enclose both the upstream and downstream faces of the Mound Sluices. The gates will be removed and replaced so a dry working area encasing both the seawater and freshwater sides is necessary in order to carry out these works and ensure a safe working area for site staff. As above, the management of the sluice gates can be altered during construction to ensure movement of water downstream is not prohibited due to the works.

Based on the information provided, along with the above bullets, we have the following comments to help shape this proposal:

- a) April-May (inclusive)

We recommend that no works are undertaken during these two months, to help ensure recovery of the Mound Alderwoods Special Area of Conservation (SAC) woodland habitat and also to reduce risk of flooding to ground nesting wetland birds linked to the Mound Alderwoods Site of Special Scientific Interest (SSSI).

A commitment can be made that no works will be carried out in April- May (inclusive).

b) June-Oct (incl.)

As these are normally drier months, we suggest that works can progress on only one arch (i.e. two gates) at a time being out of action. We anticipate that this approach should still allow recovery of the SAC alder woodland and will also reduce the flooding risk to ground nesting birds.

Working on only one arch at a time would prolong working periods. The management of the sluice gates could be altered including manually opening other gates to compensate for the two arches not being operational and therefore increase the efficiency of the remaining gates, as discussed above. This would reduce the risk of flooding to any ground nesting birds and retention of water. This would allow work on two arches at a time without compromising the efficiency of the structure.

c) Nov-March (incl.)

Even though these are wetter months, we anticipate that, from a Protected Area point of view (only), works could progress to two arches at a time throughout this period. The SAC alder woodland will be more resilient to flooding in the winter months and there will be no breeding birds during this time. However, this approach does pose additional flood risk upstream where the Rogart community may be adversely affected. Therefore, you may want to re-evaluate this working approach during the wettest time of the year, when floods are highly likely to occur.

Some elements of works may be undertaken between November and March (inclusive). BEAR have discussed this with David Wilby at SEPA who advised he would not have concerns about works being carried out between October – May (inclusive). Due to nature of works it is likely that working during the wettest period would be avoided. BEAR will be advising the landowners of the proposed works once a programme of works has been agreed.

Mound Alderwoods SAC

We consider that this proposal is linked to the management of the SAC. However, if the above works schedule can be adopted, it is likely that the recovery of this SAC will not be compromised.

To assist in assessing future water level monitoring data from this SAC, we request records are kept during these works that can tell us (including all the Mound Sluice Management Partners) when and how long specific sluice gates were out of operation.

BEAR can provide information via email to inform Mound Sluice Management Partners (SNH, SEPA, TS) of works duration and how long specific sluice gates are out of operation during construction.

Dornoch Firth & Loch Fleet Special Protection Area (SPA)

Subject to Best Practice Pollution Prevention Guidelines and your suggested mitigation, we tend to agree with your initial assessment that there should be no Adverse Effect on Site Integrity with regard to the SPA qualifying features, subject to completion of a full Habitats Regulation Appraisal (HRA).

Once you are content with your Works Method Statement, Work Schedule and associated mitigation, we would be happy to accept an Application for SSSI Consent for these maintenance works, unless of course these are being consented by another Competent Authority [CA] (e.g. SEPA or the Planning Department). If this is the case, we will then get consulted and shall advise the CA accordingly.

I hope these comments are of some help. Please feel free to give me a call if you would like to discuss any of the above in more detail.

Kind regards,

David.

David Patterson | Operations Officer

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From: David Patterson [REDACTED]
Sent: 14 November 2019 15:26
To: Tobin, Fran [REDACTED]
Cc: [REDACTED]
Subject: [EXTERNAL] A9 Mound Sluices - Maintenance Works - 20191030

Our Ref: GEN 157337

Dear Fran (cc – David Wilby),

Thanks for requesting our pre-application comments on the proposed maintenance works at the Mound Sluices, as described in your email below.

For the avoidance of doubt, we consider that the following statements are valid, but we would be eager for clarification on these in due course:

- Working on two arches (i.e. four gates) at a time will reduce the efficiency of the Mound Sluices to discharge excess water by 33%. Whilst working on only one arch (i.e. two gates) will reduce the efficiency down to 16%.
- We anticipate that the dry working zones will be created on the seaward side of the Mound sluices (i.e. the Loch Fleet side) in connection with replacing the woodwork. We therefore assume that there will be no requirement for creating dry zones on the freshwater side. In addition, we are of the understanding that all sluice gates not within a dry zone will work as per normal, including being opened to full extent by high water levels.

Based on the information provided, along with the above bullets, we have the following comments to help shape this proposal:

a) April-May (inclusive)

We recommend that no works are undertaken during these two months, to help ensure recovery of the Mound Alderwoods Special Area of Conservation (SAC) woodland habitat and also to reduce risk of flooding to ground nesting wetland birds linked to the Mound Alderwoods Site of Special Scientific Interest (SSSI).

b) June-Oct (incl.)

As these are normally drier months, we suggest that works can progress on only one arch (i.e. two gates) at a time being out of action. We anticipate that this approach should still allow recovery of the SAC alder woodland and will also reduce the flooding risk to ground nesting birds.

c) Nov-March (incl.)

Even though these are wetter months, we anticipate that, from a Protected Area point of view (only), works could progress to two arches at a time throughout this period. The SAC alder woodland will be more resilient to flooding in the winter months and there will be no breeding birds during this time. However, this approach does pose additional flood risk upstream where the Rogart community may be adversely affected. Therefore, you may want to re-evaluate this working approach during the wettest time of the year, when floods are highly likely to occur.

Mound Alderwoods SAC

We consider that this proposal is linked to the management of the SAC. However, if the above works schedule can be adopted, it is likely that the recovery of this SAC will not be compromised.

To assist in assessing future water level monitoring data from this SAC, we request records are kept during these works that can tell us (including all the Mound Sluice Management Partners) when and how long specific sluice gates were out of operation.

Dornoch Firth & Loch Fleet Special Protection Area (SPA)

Subject to Best Practice Pollution Prevention Guidelines and your suggested mitigation, we tend to agree with your initial assessment that there should be no Adverse Effect on Site Integrity with regard to the SPA qualifying features, subject to completion of a full Habitats Regulation Appraisal (HRA).

Once you are content with your Works Method Statement, Work Schedule and associated mitigation, we would be happy to accept an Application for SSSI Consent for these maintenance works, unless of course these are being consented by another Competent Authority (CA) (e.g. SEPA or the Planning Department). If this is the case, we will then get consulted and shall advise the CA accordingly.

I hope these comments are of some help. Please feel free to give me a call if you would like to discuss any of the above in more detail.

Kind regards,

David.

David Patterson | Operations Officer

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Please note, I normally work Mon-Thurs only.

From: Tobin, Fran [REDACTED]
Sent: 30 October 2019 15:02
To: David Patterson [REDACTED]
Subject: A9 Mound Sluices - Maintenance Works - 20191030

Dear David,

I am working on behalf of BEAR Scotland, on the Statement to Inform Appropriate Assessment (SIAA) for some maintenance works on the A9 Mound Sluices at the mouth of the River Fleet, south of Golspie. You previously spoke with my colleague Evonne Maxwell back in January regarding these works, and I believe you have been in contact with Sarah Rauch-Lynch from BEAR previously as well.

In summary the works will involve replacement of all wood and metal work within the six arches (12 gates) and repointing of the masonry with lime mortar. A dry working area will be created around two arches (4 gates) at a time, leaving the remaining gates fully functional. No piling will be required to create the dry working areas, these will be created with temporary caissons. Each section will take 6 to 8 weeks to complete with an estimated total construction time of up to 6 months. Originally the intended start date of these works was June/July this year, however the programme of works has been revised and there is the potential for works to be undertaken at any time of year, including over the winter.

The original assessment concluded that there would be no LSE on wintering bird species/assemblages of the Dornoch Firth and Loch Fleet SPA/Ramsar; although the works could potentially extend into winter (based on the original programme), any disturbance effects would be short term and would not compromise the conservation objectives of the sites. However, as there is now potential for works to commence in/be undertaken during the wintering bird season, it is our preliminary assessment that there is the potential for LSE on wintering bird species, and we intend to undertake Appropriate Assessment. However, with the application of mitigation, which you previously discussed with Evonne, we do not anticipate any Adverse Effect on Site Integrity (AESI) with regard to any of the qualifying features of the SPA/Ramsar. Mitigation is proposed to include screening off works, limiting works to daylight hours, ceasing works during prolonged freezing temperatures and soft-starts to machinery to allow gradual dispersal of birds near the sluices.

In relation to the Mound Alderwoods SAC or the nearby Moray Firth SAC our preliminary conclusions are that there will not be any impacts on these sites.

I would be grateful for your initial opinion on this approach to assessment. I would be happy to discuss this via email or over the phone if that would suit.

Many thanks,

Fran

Frances Tobin BSc (Hons) MCIEEM MRSB | Jacobs | Ecologist | Water & Environment | [REDACTED]
www.jacobs.com

Correspondence in January 2019

From: David Patterson [REDACTED]
Sent: 28 January 2019 12:08
To: Maxwell, Evonne [REDACTED]
Subject: [EXTERNAL] A9 Mound Sluices - Maintenance works

Our Ref: CDM 153901

Hi Evonne,

Thanks for summarising the main points of our discussion, as below. However, we did not discuss in detail whether the works would have a Likely Significant Effect, as I would leave that opinion until the Habitats Regulation Appraisal (HRA) stage, which has still be completed.

The Mound Lagoon is also used by other SPA qualifying species, such as; wigeon, teal, curlew, redshank, etc. If you need more information how any other qualifying species uses protected areas, then please get in touch.

Thanks again for your note and I look forward to commenting on this proposal in due course. Give me a call if you would like any further clarification.

Best regards,

David.

David Patterson | Operations Officer

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Please note, I normally work Mon-Thurs only.

From: Maxwell, Evonne [REDACTED]
Sent: 25 January 2019 15:25
To: David Patterson
Subject: RE: A9 Mound Sluices

Hi David,

Thanks for your time yesterday discussing the proposed works at the A9 Mound Sluices.

I have summarised the points we discussed and would appreciate if you could let me know if I have mis-understood anything.

- The sites north and south of the works are both very sensitive but the actual location of the works less so.
- You would like to see more detail on how high water events (tidal and flood) will be dealt with during construction to prevent inundation of the dry works area or the saline lagoon (via any gates which are in the process of being replaced).
- The lagoon habitat is important for roosting greylag geese and, should the works extend into the wintering bird season, we would need to include measures such as screens and directional lighting, or no night-time works, to avoid a significant effect on this species.
- Significant effects are not predicted for any of the other qualifying bird species, including osprey, as sufficient habitat is available elsewhere on the site.

Hopefully I have understood everything that we discussed but please correct me if not.

Thanks again,

Evonne

Evonne Maxwell CBiol MSc BSc (Hons) | Jacobs | Senior Aquatic Ecologist | Environment, Maritime and Resilience | [REDACTED]
www.jacobs.com

From: Maxwell, Evonne
Sent: 09 January 2019 13:01
To: [REDACTED]
Subject: A9 Mound Sluices

Good afternoon David,

I am working on behalf of BEAR Scotland, on the Statement to Inform Appropriate Assessment (SIAA) for some maintenance works on the A9 Mound Sluices at the mouth of the River Fleet, south of Golspie. I believe you previously spoke to my colleague Sarah Rauch-Lynch at BEAR regarding these works and that you had no particular concerns, but I was hoping to check a few things with you.

In summary the works will involve replacement of all wood and metal work within the six arches (12 gates) and repointing of the masonry with lime mortar. A dry working area will be created around two arches (4 gates) at a time, leaving the remaining gates fully functional. No piling will be required to create the dry working areas, these will be created with temporary caissons. Each section will take 6 to 8 weeks to complete with an estimated total construction time of up to 6 months and an intended start date of June/July 2019.

As the works will be very localised and no particularly disruptive activities, such as piling, are required it is my preliminary assessment that there will be no Likely Significant Effect on the wintering bird assemblage for which the Dornoch Firth and Loch Fleet SPA is designated for. I note however that the SPA is also designated for breeding osprey. The Mound Alderwoods SSSI Site Management Statement highlights that although osprey do nest within the SSSI the majority of osprey linked with the SPA nest some distance (up to 8km) away, it is therefore anticipated that the works will not affect nesting osprey. However, the Site Management Statement also indicates that the Mound lagoon is a favoured foraging area for osprey. As this document is now 8 years old would you be in a position to provide more up to date information on osprey usage of the area around the Mound Sluices and indicate if you have any concerns, or point me in the direction of someone who may be able to provide this information?

In relation to the Mound Alderwoods SAC or the nearby Moray Firth SAC our preliminary conclusions are that there will not be any impacts on these sites.

Sarah also mentioned that you thought it would be beneficial to speak to the coastal advisor as they would be interested in this scheme due to any potential impacts on the salinity of the lagoon. I'd be happy to speak to them regarding this, are you able to provide me with the appropriate contact details?

Kind regards,

Evonne

Evonne Maxwell CBiol MSc BSc (Hons) | Jacobs | Senior Aquatic Ecologist | Environment, Maritime and Resilience | [REDACTED]
www.jacobs.com

From: Adam Rose [REDACTED]
Sent: 30 January 2019 10:13
To: Maxwell, Evonne [REDACTED]
Cc: David Patterson [REDACTED]
Subject: [EXTERNAL] RE: Mound Sluices Works

Dear Evonne (cc – David),

Thank you for requesting further information on protected area interests at Loch Fleet from us in relation to the proposed Mound Sluice Works.

Otters are known to be within the vicinity of the sluices and we would consider that an otter survey should be undertaken to inform their use of the area in order to identify whether any otter resting places are present. Once you have carried out this survey, you will be able to identify whether otters are an issue or not. Otters are now also considered a Ramsar interest feature, as are harbour seals. The main seal haul-outs are closer around Skelbo and Littleferry, however, harbour seals do occasionally swim close to the sluice gates.

There is some anecdotal evidence to suggest that eiders might be nesting on the Mound Causeway within dense vegetation. We do not know how close to the sluices they nest, but they may also use the north bank of the Loch Fleet estuary (e.g. under the new A9 bridge) which is in close proximity to the sluices. Some eider ducks were noted as road casualties on the A9 Mound Causeway (early May 2018). Ducklings were first noted in the estuary adjacent to the causeway in early June last year.

Loch Fleet estuary, downstream of the sluices and upstream within the Mound lagoon, are favoured areas for Special Protection Area waterfowl (e.g. teal, wigeon, redshank, curlew, etc.), therefore some disturbance effects would be expected. Depending on the nature and duration of the works, displacement effects might also be expected. The intertidal areas are important supporting habitats for SPA waders and waterfowl, as well as being notified features of Loch Fleet SSSI - sandflats and eelgrass beds. Pollution prevention will be critical in ensuring that the works do not contaminate these important supporting habitats. We would advise that all works adhere to Guidance for Pollution Prevention 5: Works and maintenance in or near water available from http://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf?utm_source=website&utm_medium=social&utm_campaign=GPP5%2027112017. Consideration should be given to including a pollution prevention plan to support and detail what measures would be undertaken for the proposal.

Please let David or I know if you need any further information to help inform your appraisal.

Kind regards,

Adam

Adam Rose | Operations Officer, Sutherland
Scottish Natural Heritage | The Links | Golspie Business Park | Golspie | Sutherland | KW10 6UB | [REDACTED]

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From: Maxwell, Evonne [REDACTED]
Sent: 28 January 2019 12:01
To: Adam Rose
Subject: Mound Sluices Works

Dear Adam,

On behalf of BEAR Scotland, I am writing the Statement to Inform an Appropriate Assessment for some proposed maintenance works on the Mound Sluices. I have spoken to David Patterson at the SNH Golspie office about the Natura 2000 sites and qualifying habitats and bird species. While David didn't mention any concerns for otter or harbour seal I was hoping you might be able to provide some information on how these species use the Loch Fleet NNR to allow us to try and avoid any impacts on them.

From what I can gather it looks like the seals tend to haul-out and pup closer to the mouth of Loch Fleet rather than up towards the mound sluices and I'd be grateful if you could either confirm this or perhaps give me a bit more detail on which areas are important for this species. Similarly, if you have concerns about other features which may be sensitive to works on the mound sluices please do let me know, the more information we have at this early stage the better.

Feel free to give me a call if you would like to discuss this.

Kind regards,

Evonne

Evonne Maxwell CBiol MSc BSc (Hons) | Jacobs | Senior Aquatic Ecologist | Environment, Maritime and Resilience [REDACTED]
[REDACTED] www.jacobs.com