

## Rhoda Davidson

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**From:** Cathy Tilbrook  
**Sent:** 03 November 2016 16:19  
**To:** Caroline Carter; Liam Wright; Suzanne Henderson; Jane Dodd  
**Subject:** RE: SASWG 17 Meetings dates  
**Attachments:** SASWG Meeting 17 Horsham Draft agenda.obr

Hi all

To note draft agenda (plus an update on our recent discussions on ADDs to be added).

Are any of you available / interested in linking to this meeting and delivering an SNH update (afraid I can't do that date)?

Thanks, Cathy

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**From:** [REDACTED]@st-andrews.ac.uk]  
**Sent:** 03 November 2016 15:40  
**To:** Cathy Tilbrook  
**Cc:** Caroline Carter; Suzanne Henderson; Liam Wright  
**Subject:** RE: SASWG 17 Meetings dates

Hi Cathy – I am still trying to confirm the agenda – as it is dependent on people having things to present, so your input would be much appreciated.

I am aware that you have been doing some things on ADDs – saw a map of sound exposure somewhere recently - and would be interested to learn more.

Here is the very draft agenda – I will update and circulate tomorrow.

[REDACTED]

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**From:** Cathy Tilbrook [<mailto:Cathy.Tilbrook@snh.gov.uk>]  
**Sent:** 03 November 2016 15:35  
**To:** [REDACTED]  
**Cc:** Caroline Carter; Suzanne Henderson; Liam Wright  
**Subject:** RE: SASWG 17 Meetings dates

Hi [REDACTED]

Is there a draft agenda and timings for SASWG yet? We would like to provide a quick verbal update on SNH discussions on ADD use with industry and others, but this would not be a formal presentation due to the difficulties of joining remotely. I note your recent email re linking to the meeting by laptop / webcam and will need to check with our IT support whether we have the technology to enable this (back-up plan might be via a telephone link!). I'm afraid I can't join you on that date but (depending on agenda), we will confirm who will join you.

Thanks, Cathy

Cathy Tilbrook  
Head of Coastal & Marine Ecosystems Unit (job-share)  
Scottish Natural Heritage, Battleby, Redgorton, Perth, PH1 3EW

Direct tel: 01738 458620

Mobile: [REDACTED] – please note new number

Please note I generally work Tues, Wed, Thur.

On other days, if urgent, please contact my job-share Katie Gillham ([Katie.Gillham@snh.gov.uk](mailto:Katie.Gillham@snh.gov.uk)) Tel 01463 725324.

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**From:** Cathy Tilbrook  
**Sent:** 10 October 2016 19:05  
**To:** [REDACTED]  
**Cc:** Caroline Carter  
**Subject:** RE: SASWG 17 Meetings dates

Hi [REDACTED]

Thanks for this and sorry not to have responded earlier. We will definitely seek to connect remotely to the meeting and may wish to table an item on ADDs and harbour porpoise (although could be tricky to discuss properly by virtual link). I'm now off on leave until 25 Oct but will ensure we get back to you promptly on my return then to confirm how we plan to engage and who will do so. If you have an urgent query in the meantime then please contact Caroline in my absence.

Thanks, Cathy

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**From:** [REDACTED]@st-andrews.ac.uk]  
**Sent:** 29 September 2016 08:43  
**To:** Cathy Tilbrook  
**Subject:** RE: SASWG 17 Meetings dates

Hi Cathy – I have assumed Caroline, Suzanne and yourself will be unable to attend as per your email below. I think there is an option for having people connect remotely as there is a big screen I am told in the room, though it may involve using skype. Is that okay and how many of you would be likely to want to join? I appreciate this may be hard without an agenda – I will endeavour to get that sorted asap – is there anything you might be able to contribute? I gather SNH has done some work on ADDS and potential impacts on porpoises? Are there other ongoing projects of relevance to SASWG?

Best wishes,

[REDACTED]

[REDACTED]  
Sea Mammal Research Unit  
University of St Andrews  
Bute Building  
Queens Terrace  
St Andrews  
Fife KY16 9TS  
[REDACTED]

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**From:** Cathy Tilbrook [<mailto:Cathy.Tilbrook@snh.gov.uk>]  
**Sent:** 20 September 2016 09:52  
**To:** [REDACTED] International Animal Rescue; [REDACTED]@thecrownestate.co.uk); [REDACTED]@campaign-whale.org); Caroline Carter; [REDACTED] Marine Scotland; [REDACTED]@waitrose.co.uk); [REDACTED]@rspca.org.uk); [REDACTED] SSPO; [REDACTED]

[redacted]@freedomfood.co.uk); [redacted]@bornfree.org.uk); [redacted] Suzanne Henderson

**Subject:** RE: SASWG 17 Meetings dates

Hi [redacted]

I assume RSPCA HQ is in London? I'm afraid it's highly unlikely we'd be able to send an SNH representative in person due to current travel budget constraints. Would there be a v/c or t/c option?

Thanks, Cathy

Cathy Tilbrook  
Head of Coastal & Marine Ecosystems Unit (job-share)  
Scottish Natural Heritage, Battleby, Redgorton, Perth, PH1 3EW

Direct tel: 01738 458620  
Mobile: [redacted] – please note new number

Please note I generally work Tues, Wed, Thur.  
On other days, if urgent, please contact my job-share Katie Gillham ([Katie.Gillham@snh.gov.uk](mailto:Katie.Gillham@snh.gov.uk)) Tel 01463 725324.

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**From:** [redacted]@st-andrews.ac.uk]  
**Sent:** 19 September 2016 18:07  
**To:** [redacted] International Animal Rescue; [redacted]@thecrownstate.co.uk); [redacted] Sainsbury's; [redacted]@campaign-whale.org); Caroline Carter; Cathy Tilbrook; [redacted], Marine Scotland; [redacted]@waitrose.co.uk); [redacted]@rspca.org.uk); [redacted] SSPO; [redacted]@freedomfood.co.uk); [redacted]@bornfree.org.uk); [redacted] Suzanne Henderson  
**Subject:** SASWG 17 Meetings dates

Dear All,

For some reason I am unable to get Doodle Poll to work for our next meeting. But some preliminary enquiries have resulted in just three suitable dates so far. These are Tuesday 1<sup>st</sup> November, Monday 7<sup>th</sup> November or Tuesday 8<sup>th</sup> November.

Please could you email me your availability for each of these three dates as I will collate the results manually on Thursday.

We are hoping to meet at RSPCA HQ which I realise will restrict the ability of some to attend, but we have been meeting North of the border for some time.

I have so far only received a couple of suggested agenda items. Please also give this some consideration.

With best wishes

[redacted]

[redacted]  
Sea Mammal Research Unit  
University of St Andrews  
Bute Building  
Queens Terrace  
St Andrews  
Fife KY16 9TS



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\*\*\*\*\*  
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Tha am post-dealain seo agus fiosrachadh sam bith na chois dìomhair agus airson an neach no buidheann ainmichte a-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.

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## Rhoda Davidson

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**From:** Caroline Carter  
**Sent:** 08 April 2016 10:23  
**To:** Suzanne Henderson; Cathy Tilbrook; Liam Wright; Jane Dodd  
**Subject:** RE: SASWG - confirming attendance?  
**Attachments:** SASWG 16 - meeting notes drafted by CC.obr

Hi All,

Please find attached some notes I have put together for our info following this meeting. Suz, please feel free to add or amend if there is anything I've misunderstood.  
Any questions – please shout.

Best,  
Caroline

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**From:** Suzanne Henderson  
**Sent:** 05 April 2016 12:01  
**To:** Cathy Tilbrook; Liam Wright; Jane Dodd; Caroline Carter  
**Subject:** RE: SASWG - confirming attendance?

Hi Cathy,  
Liam is on annual leave.

I just looked at travel – and Rosyth is not easiest to get to – so would prefer to VC/teleconference if you want me to attend – but happy to do that.

Cheers  
Suz

Direct Dial: 01463 725238  
Email: [Suzanne.henderson@snh.gov.uk](mailto:Suzanne.henderson@snh.gov.uk)

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**From:** Cathy Tilbrook  
**Sent:** 05 April 2016 11:10  
**To:** Suzanne Henderson; Liam Wright; Jane Dodd; Caroline Carter  
**Subject:** SASWG - confirming attendance?

Hi all

Caroline is able to go to the meeting, but we agreed that another of us would attend this time to provide some continuity and also because the ADD presentation may be useful (although makes sense for only one person to attend this group in future). I have booked a pool car from BBY and will go if needed but am very pushed for time, prior to going on annual leave after Thurs, so if anyone else is able to attend with Caroline then that would be really helpful. Alternatively, Jane offered to v/c or t/c from Oban so we could check with Simon if these facilities are available for the meeting. I think timing is 10.30-3.30, but again we should check this is confirmed. I'm in a phone conference for much of the day but will be on emails periodically, so can discuss that way.

Thanks, Cathy

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**From:** Suzanne Henderson  
**Sent:** 31 March 2016 17:11  
**To:** Liam Wright; Cathy Tilbrook; Jane Dodd; Caroline Carter  
**Subject:** RE: SASWG No 16

Hi

I have not heard of Pulcea either!

My planned time off next week is still tentative – but happy to attend if I am around.

I see that Jane is still on holiday though.

Suz

Direct Dial: 01463 725238

Email: [Suzanne.henderson@snh.gov.uk](mailto:Suzanne.henderson@snh.gov.uk)

---

**From:** Liam Wright

**Sent:** 29 March 2016 10:11

**To:** Cathy Tilbrook; Suzanne Henderson; Jane Dodd; Caroline Carter

**Subject:** RE: SASWG No 16

Thanks Cathy. I've never heard of Pulcea Ltd so it would be interesting to have someone present to hear what they have to say. I see their company is based in Inverness so I'm quite surprised I haven't heard of them before now – maybe others have?

Cheers

Liam

---

**From:** Cathy Tilbrook

**Sent:** 29 March 2016 10:02

**To:** Suzanne Henderson; Jane Dodd; Liam Wright; Caroline Carter

**Subject:** FW: SASWG No 16

Hi all

Please see draft agenda (pasted below) for SASWG meeting next Wed in Rosyth (Marine Harvest). There's not much detail yet, but note the presentation by new ADD company and the report on sound field mapping. I am available that day but wondered if one of you might be interested to attend instead (e.g. Caroline's input to sound mapping might be useful to the group, but would then need briefing from others re any points we want to raise on seal licensing issues?). Happy to discuss. Thanks, Cathy

PS Note that one [REDACTED] is attending for RSPCA!

**Draft Agenda to include**

1. Freedom Food –

- progress on liaison/discussions with members
- improving information gathering on seal incidents

2. Pulcea – “ADD's - can we learn from the lessons of the past?”

3. Marine Harvest – results of investigations into factors underlying seal shooting in 2015

4. SMRU

- Report on sound field mapping of a site with ADDs and ongoing seal depredation
- Report on captive seal behaviour with nets & salmon, & tests on netting properties

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**From:** [REDACTED] [\[REDACTED\]@st-andrews.ac.uk](mailto:[REDACTED]@st-andrews.ac.uk)

**Sent:** 25 March 2016 16:01

**To:** [REDACTED] International Animal Rescue; [REDACTED] [\[REDACTED\]@thecrownestate.co.uk](mailto:[REDACTED]@thecrownestate.co.uk); [REDACTED] Sainsbury's; [REDACTED] (Seal Protection Action Group); Cathy Tilbrook; [REDACTED] Marine Scotland; [REDACTED] [\[REDACTED\]@waitrose.co.uk](mailto:[REDACTED]@waitrose.co.uk); [REDACTED]

[REDACTED] [\[REDACTED\]@rspca.org.uk](mailto:[REDACTED]@rspca.org.uk); [REDACTED] SSPO; [REDACTED] [\[REDACTED\]@bornfree.org.uk](mailto:[REDACTED]@bornfree.org.uk); [REDACTED]

Cc: [REDACTED]@freedomfood.co.uk); [REDACTED]@rspca.org.uk  
Subject: SASWG No 16

Dear All,

Please find attached a very draft agenda and list of attendees.

Please confirm whether you will be attending as soon as you can.

Please also look at the draft agenda and feel free to make further suggestions.

Note that [REDACTED] has suggested inviting a new ADD company to make a presentation of their ideas before lunch.

[REDACTED] and [REDACTED] will join us therefore around 12:30 and will hopefully stay for lunch.

I will be away next week (28-1<sup>st</sup>) but will collate responses and finalise a draft agenda for adoption at the meeting on 4<sup>th</sup>.

I look forward to seeing you there.

[REDACTED]

[REDACTED]

Sea Mammal Research Unit  
University of St Andrews  
Bute Building  
Queens Terrace  
St Andrews  
Fife KY16 9TS

[REDACTED]

**From:** [Suzanne Henderson](#)  
**To:** [Liam Wright](#); [Cathy Tilbrook](#); [Jane Dodd](#); [Caroline Carter](#)  
**Subject:** RE: SASWG No 16  
**Date:** 31 March 2016 17:10:59

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Hi

I have not heard of Pulcea either!

My planned time off next week is still tentative – but happy to attend if I am around.

I see that Jane is still on holiday though.

Suz

Direct Dial: 01463 725238  
Email: [Suzanne.henderson@snh.gov.uk](mailto:Suzanne.henderson@snh.gov.uk)

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PS Note that one [REDACTED] is attending for RSPCA!

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1. Freedom Food –
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    - improving information gathering on seal incidents
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  3. Marine Harvest – results of investigations into factors underlying seal shooting in 2015
  4. SMRU
    - Report on sound field mapping of a site with ADDs and ongoing seal depredation
    - Report on captive seal behaviour with nets & salmon, & tests on netting properties
-

**From:** [REDACTED] [\[REDACTED\]@st-andrews.ac.uk](mailto:[REDACTED]@st-andrews.ac.uk)  
**Sent:** 25 March 2016 16:01  
**To:** [REDACTED] International Animal Rescue; [REDACTED] [\[REDACTED\]@thecrownestate.co.uk](mailto:[REDACTED]@thecrownestate.co.uk); [REDACTED]  
[REDACTED] Sainsbury's; [REDACTED] (Seal Protection Action Group); Cathy Tilbrook;  
[REDACTED] Marine Scotland;  
[REDACTED] [\[REDACTED\]@waitrose.co.uk](mailto:[REDACTED]@waitrose.co.uk); [REDACTED] [\[REDACTED\]@rspca.org.uk](mailto:[REDACTED]@rspca.org.uk); [REDACTED] SSPO;  
[REDACTED] [\[REDACTED\]@bornfree.org.uk](mailto:[REDACTED]@bornfree.org.uk);  
**Cc:** [REDACTED] [\[REDACTED\]@freedomfood.co.uk](mailto:[REDACTED]@freedomfood.co.uk); [REDACTED] [\[REDACTED\]@rspca.org.uk](mailto:[REDACTED]@rspca.org.uk)  
**Subject:** SASWG No 16

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I look forward to seeing you there.

[REDACTED]

[REDACTED]

Sea Mammal Research Unit  
University of St Andrews  
Bute Building  
Queens Terrace  
St Andrews  
Fife KY16 9TS

[REDACTED]



- [REDACTED]
- [REDACTED]
- [REDACTED]

FF/RSPCA (in conjunction with SSPO) are planning a meeting involving industry and predator control manufacturers (nets and ADDs). The aim is to bring together a mix of personnel of both workers and managers and have a 'sales pitch' from the manufacturers with the intention of proving the efficacy of their systems.

- Meeting to be linked with a technical working group for each of the RSPCA standards.
- Also a separate meeting with RSPCA trustees to communicate understanding and awareness of this issue.
- FF/RSPCA have a 72 hour reporting system where a report must be sent to them within 72 hours of a seal being shot. This enables them to investigate the shooting to make sure that all correct procedures were followed.
  - Currently data is just being collated, but there may be option for this to be analysed at some point in the future.

Presentation by Pulcea – [REDACTED]

- Pulcea is a partnership organisation with Score Group Plc (branches in 30 countries worldwide). Score group is largely an engineering company and mainly involved with the oil and gas industry.
- Proposed device is at the prototype stage – the presentation gave very little information as to how the device actually works.
- In conversation with the 'inventor' at lunch it seems that the intention is to generate an asymmetric pulse with similar amplitude (volume) to existing ADDs. He suggested that the benefit of an asymmetric pulse is that it should not interact with following pulses (constructive and destructive interactions as found in existing ADDs) which means essentially means that it should not propagate as far into open water. It would be a physically longer pulse than other ADDs, with a longer inter-pulse time, and therefore fewer pulses emitted in comparison to traditional devices. The intention here is to reduce the noise pollution into the environment.
- Low frequency (but they did not state at what frequency).
- They advertised this as species specific – but it can't be and on challenge they admitted that it would 'work' on any animal within the range, so it can't be considered species specific based.
- Idea is not to target hearing thresholds, but to generate a shock wave (but not one powerful enough to injury the target).
- They intend the device to exclude target animals within a 500m range.
- They are calling it a 'seal persuader'.
- No technical detail presented and no evidence as yet as to whether this would work.

Presentation by SMRU

- SARF 97- 'Plugging the gaps – Improving our knowledge of how predators impact salmon farms'
  - Tested how seals eat fish through netting using captive trained seals at their pool facility in St Andrews.

<ul style="list-style-type: none"> <li>• All seals tested found it difficult to feed on salmon through the net. They had to be trained using small pieces of salmon and worked up to trying to take whole fish.</li> <li>• Stereotypical gashes and abdominal bite marks were not observed in these trials and are probably indicative of fish being live at the point of attach. Only dead fish were able to be used in this experiment.</li> <li>• Seals exhibited great patience in waiting for the fish to be close enough to the net in order for them to take it.</li> <li>• Seals could depress a tensioned net by ~30cm in order to reach the fish. The net tested was nylon which is more stretchy in comparison to newer netting materials.</li> <li>• Seals would hold station by the net using their hind flippers, with their nose on (or close to) the net, and then use an explosive push forward to move the net to reach the fish using their neck muscles.</li> </ul> <ul style="list-style-type: none"> <li>▪ Also deployed an underwater camera at four sites. <ul style="list-style-type: none"> <li>• No seals were observed in these locations.</li> <li>• Recording period of ~90 days.</li> </ul> </li> <li>▪ Report should be available on the SARF website after 8<sup>th</sup> April and the intention was to include links to video clips of the captive seal feeding techniques, but they were not sure whether this would be direct links or links to YouTube.</li> <li>▪ It was stressed that more work needs to be done to assess this in the 'real world' situation.</li> </ul> <ul style="list-style-type: none"> <li>○ Study into sound propagation around fish farms. <ul style="list-style-type: none"> <li>▪ Used multiple recorders situated around a fish farm cage approx. 10m away from each transducer.</li> <li>▪ Scenario recorded where one of the transducers was not operating at the same level as the others (it was much quieter).</li> <li>▪ However on analysis the recordings could not differentiate any difference in sound level (this would therefore not be a useable technique to assess ADD operation in the field).</li> <li>▪ They also tested the received levels around a steel square fish farm pen where only one ADD was being used at one corner. Mapping the output suggests that the cage does shadow the acoustic output and they noted a 3dB reduction in the shadow zone.</li> </ul> </li> </ul>
<p>Meeting minutes taken by [REDACTED] to follow.</p> <p>No date was given for the following meeting – but it was suggested that it should be held south of the border next time. A further suggestion was made for two locations connected by VC.</p>

**Comment [CC1]:** What this suggests to me is that numerous ADDs deployed around a fish farm cage does not necessarily increase the noise levels by much more than would be observed by one ADD, but will increase the time that the noise is emitted over –ie makes it continuous rather than having gaps between the pulses.

**Comment [CC2]:** This could make a difference in the seal approaching the net from the 'quieter' direction.

End.

# Salmon Aquaculture and Seal Working Group Meeting 17

11<sup>th</sup> November 2016

10:30-15:00\*

RSPCA Wilberforce Road Horsham

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## Attendees:

Confirmed attendees:

1. [REDACTED]
2. [REDACTED]
3. [REDACTED]
4. Cathy Tilbrook + n (Skype?)
5. [REDACTED]
6. [REDACTED]
7. [REDACTED] (Skype?)
8. [REDACTED]
9. [REDACTED]
10. [REDACTED]
11. [REDACTED] (Skype)
12. [REDACTED] (?)
13. [REDACTED] (late)
14. [REDACTED]
15. [REDACTED]

## Apologies

1. [REDACTED] - Marine Scotland
2. [REDACTED] - Crown Estates
3. [REDACTED]
4. SNH ??

**DRAFT AGENDA**

**1. Opening matters (standing items):**

- a. Introductions and Housekeeping
- b. Minutes from Meeting 15
- c. Previous Actions.

**2. Latest SG Seal Shooting Figures**

??? who will table???

**3. Update from Marine Harvest (█)**

Anything to report ? ? Latest shooting figures and salmon losses –  
█ to supply

**4. Update from FF/RSPCA (█)**

Post mortem investigations

*(Lunch provided by RSPCA - around 1pm*

**5. Seal trapping for translocation – █**

**6. Welfare implications of seal shooting (█)**

**7. Any Other Business**

**9 Next meeting**

## Actions from last meeting August 2015

### Draft Consolidated Action Points from SASWG 16

1. **Action** ■ to find regional figures for PBR calculations and circulate to group. **DONE**
2. **Action** ■ to check dates the ADD system was changed at Sconser in 2015– did seal depredation cease once a new ADD system was installed – or before, or after? ??
3. **Action** ■ to circulate PDF of MHS presentation **DONE (I have not circulated yet!)**
4. **Action** ■ to take suggestions for further analysis of shooting incidents back to MHS **(Any?)**
5. **Action** ■ to organise meeting with FF members to address seal concerns **???**
6. **Action** ■ to circulate a copy of presentation, report and link to the videos **DONE**
7. **Action** ■ to circulate his own timeline on startle response device **??**
8. **Action** ■ to make enquires about state of developments on the startle device within the University of St Andrews - **not so easy.....**
9. **Action** ■ to approach Knox nets and/or other net manufacturers to try to build on previous studies examining net deformation by seals in captivity ...
10. **Action** ■ to consult with group on suitable dates later, and with ■ about venue availability **DONE**