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Annual Report 2017

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for Marine Scotland, Scottish Government

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Section 1: Executive Summary

From the 1st January to 31st December 2017, 667 reports of 671 marine animals were reported to the Scottish Marine Animal Stranding Scheme (SMASS), comprising 362 seals, 302 cetaceans, one basking shark and six marine turtles. Of these, 70 cases (10.4%), comprising 59 cetaceans, 11 seals were necropsied to establish a cause of death. A further 82 (12.2%) animals, comprising 64 cetaceans and 18 seals, were sampled by trained volunteers. In those cases not necropsied, advanced autolysis or carcass accessibility were the most common reasons precluding further examination. There were two small mass stranding events (MSE) one in January in the Cromarty Firth involving two common dolphins (*Delphinus delphis*) and one in August in Orkney involving white-beaked dolphin (*Lagenorhynchus albirostris*). Seals exhibiting lesions consistent with grey seal predation continue to be reported with 64 cases, mostly from Highland and Orkney. The majority were grey seal weaners (*Halichoerus grypus*) reported in the winter months, although harbour seals (*Phoca vitulina*) were also reported, as were suspected seal attacks on harbour porpoise (*Phocoena phocoena*). Notable, there is an increasing incidence in animals that appear to escape the initial attack but later develop chronic sepsis. The volunteer network has continued to expand with three courses being run in 2017; at Oceanlab University of Aberdeen, Inverness and Glasgow University Vet School. The number of trained volunteers had increased to 183 by the end of 2017. The volunteer network is proving a significant asset to SMASS, through provision of both photographic and accurate morphometric data and the safe collection of tissues for genetic and toxicological analysis. Several strandings attracted significant media attention; particularly two separate killer whales (*Orcinus orca*) strandings on Shetland. SMASS appeared on several television programmes, including coverage on BBC Newsnight and the BBC One Show discussing 'Lulu' the killer whale from 2016 with extremely high PCB levels and a segment in the Sky Oceans series "Ocean Rescue: a Plastic Whale" covering the problem of marine plastic ingestion in beaked whales. SMASS also featured in a CountryFile segment about 'Spirtle' the re-floated bottlenose dolphin with recovering sunburn.

1.1 Project overview

This work is delivered under the Scottish Marine Animal Strandings Research Programme issued on 12 March, 2015 by Scottish Ministers, with work running for 36 months and contract expiry on 7th June 2018.

The principal requirement of this project is to provide a coordinated approach to the surveillance of seal and cetacean strandings and to investigate major causes of death of stranded animals in Scotland. In addition, the contract specifies procedures are set in place for increasing awareness of the research in order to improve reporting and investigations of strandings in Scotland, with the ultimate purpose of implementing a Scotland wide strandings network. The project also has a requirement to manage a sample and data archive on behalf of Marine Scotland. Details about the Scottish Scheme can be found at strandings.org

This work builds on the work undertaken in Scotland by the UK Cetacean Strandings Investigation Programme (CSIP). Detailed information about the CSIP, including access to stranding records, can be found at ukstrandings.org

1.2 Contract specification

- 1) To collate, analyse and report data for all seal and cetacean strandings found around the Scottish coast. The approach should optimise the information recovered from stranded cases and include, but not be limited to sample and morphometric collection, necropsy and ancillary testing.
- 2) A relevant subset of these strandings should be necropsied to determine the major causes of death in stranded animals, including by-catch, physical trauma and the incidence of disease. Any cetacean necropsy will be in addition to those currently undertaken within Scotland as part of the UK Cetacean Strandings Investigation Programme.
- 3) Continue to support relevant research organisations (e.g., SMRU, SAMS, University of Aberdeen) and ongoing research to investigate the occurrence of seals exhibiting spiral seal lacerations. This will involve, but not be limited to, undertaking necropsies (in accordance with established criteria), working with SMRU on field trials, and scrutinising the current scheme in terms of its ability to effectively locate, monitor and respond to strandings of seals exhibiting spiral lesions across Scotland.
- 4) Development and maintenance of a Scotland-wide volunteer network to assist with identification triage and possible measurement and sampling of cases reported to the stranding scheme. This should allow for improved depth, accuracy and efficiency in the information recoverable from strandings.
- 5) Continue to improve public awareness and engagement with the scheme to improve the reporting and investigation of strandings in Scotland, with the ultimate purpose of supporting the implementation of a Scotland-wide volunteer network (point 2.4).
- 6) Continue to develop partnership arrangements with a range of organisations and individuals, with particular focus on increasing reporting effort in areas of less than optimal coverage such as Orkney, North coast of Scotland, Western Isles (in particular, the Uists), Dumfries and Galloway and the Scottish Borders.
- 7) Exploration and development of active collaborations/partnerships with organisations able to provide staff to improve public awareness. This could include NGO's (similar to current arrangements with HWDT, WDC) and the scientific community.
- 8) Continue efforts to increase awareness and reporting of the scheme through a range of activities. These should include at least, but not be limited to, two poster distribution campaigns, continuation of social media, talks and demonstration events.
- 9) Maintain a public-facing website to provide relevant information about reported cases back to the public to maintain interest.
- 10) Provide a minimum of four training courses and post mortem demonstrations to teach volunteers how to accurately and safely collect skin and blubber tissue samples from cases otherwise unsuitable for recovery. In addition to samples, volunteers will be trained to collect morphometric and locational data and a series of digital photographs. Efforts should be made to expand the volunteer network to

cover all areas of the Scottish coast (particularly those of less than optimal coverage) and include a range of individuals and organizations.

- 11) To maintain a standard Scottish database for seal strandings which brings together accurate and geo-reference data on both strandings and necropsy data. Any cetacean data should be fed into the cetacean database for the “UK Cetacean Strandings Investigation Programme” which is held by the Institute of Zoology (IoZ).
- 12) To maintain a standard Scottish sample archive (frozen and fixed samples) for seal and cetacean strandings which links case samples to both strandings and necropsy data. Where possible, efforts should be made to develop an online, secure searchable archive for data derived from the necropsies and ancillary tests
- 13) To provide scientific advice to the Scottish Government as necessary about major causes of death in stranded marine mammals, including any trends or unusual events. Where required, to contribute to the production of strandings training material and workshop events.

Section 2: Strandings

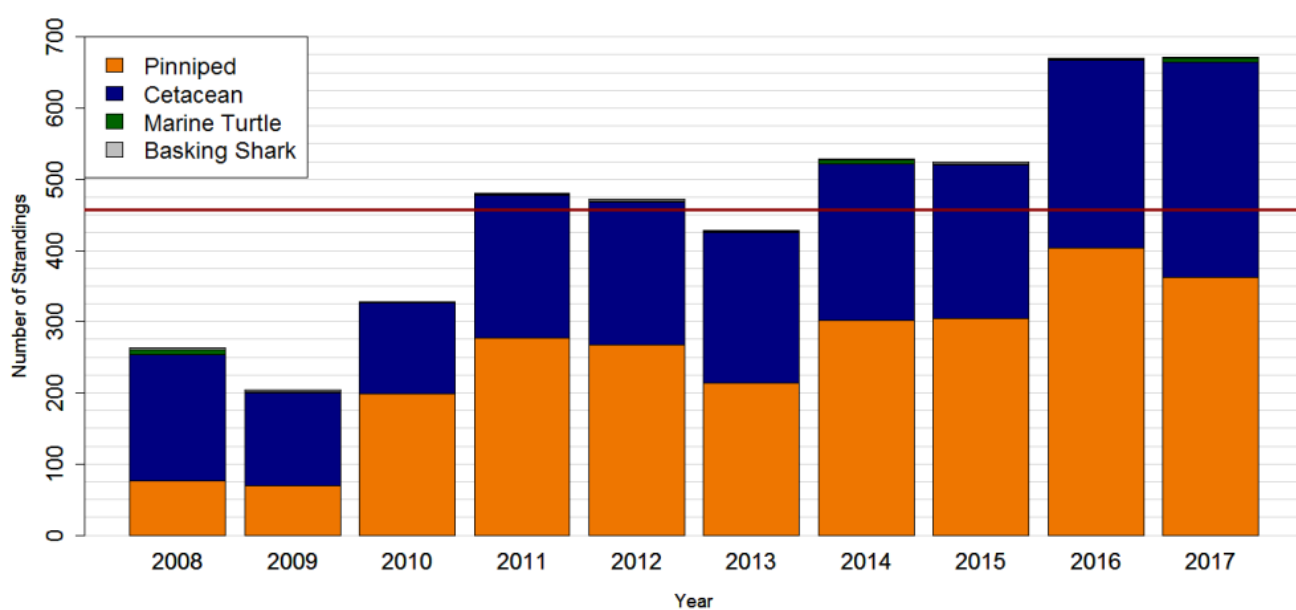


Figure 1: Total number of strandings reported 2008-2017. Red line shows the mean number of strandings over this 10-year period (457)

2.1 Strandings overview

From the 1st January to 31st December 2017, 667 reports of 671 marine animals were reported to the Scottish Marine Animal Stranding Scheme (SMASS), comprising 362 seals, 302 cetaceans, one basking shark and six marine turtles (Table 1). Of these, 70 cases (10.4%), 59 cetaceans and 11 seals were necropsied to establish a cause of death. A further 82 (12.2%) animals comprising 64 cetaceans, and 18 seals were sampled by trained volunteers. In the cases not necropsied, advanced autolysis was the most common reason

precluding further examination with 278 (41/4%) cases being too decomposed to allow further examination. Figure 1 presents the total number of strandings reported to SMASS since 2008 and shows the year on year increase in strandings reports is continuing with 2017 being very similar to 2016. Both these years are very close the number reported in 2002 which was the year of a phocine distemper virus epidemic (PDV). Figure 2 shows the breakdown of strandings by subclass for 2017. Figure 3 shows the cumulative number of strandings by month for each individual year since 2013.

Table 1: Summary of stranded animals 2017

Species	Sent for Necropsy	Sampled	Not Examined	Total	% with data
Cetaceans				302	40.7%
Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>)	1	1	2	4	50.0%
Bottlenose dolphin (<i>Tursiops truncatus</i>)	3	4		7	100.0%
Cetacean (indeterminate species)			25	25	0.0%
Cuvier's beaked whale (<i>Ziphius cavirostris</i>)		1	2	3	33.3%
Fin whale (<i>Balaenoptera physalus</i>)			1	1	0.0%
Harbour porpoise (<i>Phocoena phocoena</i>)	31	27	93	151	38.4%
Killer whale (<i>Orcinus orca</i>)	2	2		4	100.0%
Long-finned pilot whale (<i>Globicephala melas</i>)	4	4	6	14	57.1%
Minke whale (<i>Balaenoptera acutorostrata</i>)	3	1	13	17	23.5%
Northern bottlenose whale (<i>Hyperoodon ampullatus</i>)	1			1	100.0%
Risso's dolphin (<i>Grampus griseus</i>)	2	3	4	9	55.6%
Short-beaked common dolphin (<i>Delphinus delphis</i>)	8	11	20	39	48.7%
Sowerby's beaked whale (<i>Mesoplodon bidens</i>)		2		2	100.0%
Sperm whale (<i>Physeter macrocephalus</i>)		1	4	5	20.0%
Striped dolphin (<i>Stenella coeruleoalba</i>)	2	2	1	5	80.0%
White-beaked dolphin (<i>Lagenorhynchus albirostris</i>)	2	5	6	15	46.7%
Pinnipeds				362	8%
Grey seal (<i>Halichoerus grypus</i>)	2	13	190	205	7.3%
Harbour seal (<i>Phoca vitulina</i>)	9	5	55	69	20.3%
Seal (indeterminate species)			88	88	0.0%
Marine Turtle & Basking Shark				7	0.0%
Basking shark (<i>Cetorhinus maximus</i>)			1	1	0.0%
Leatherback turtle (<i>Dermochelys coriacea</i>)			6	6	0.0%
GRAND TOTAL	70	82	519	671	22.7%

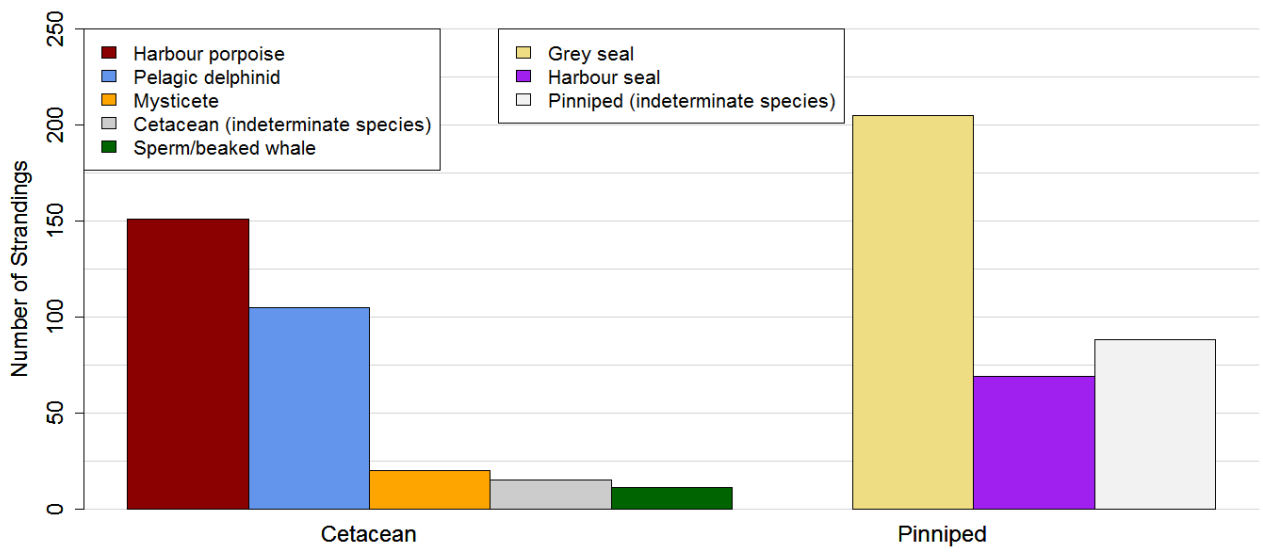


Figure 2: Total number of species reported in 2017, by subclass

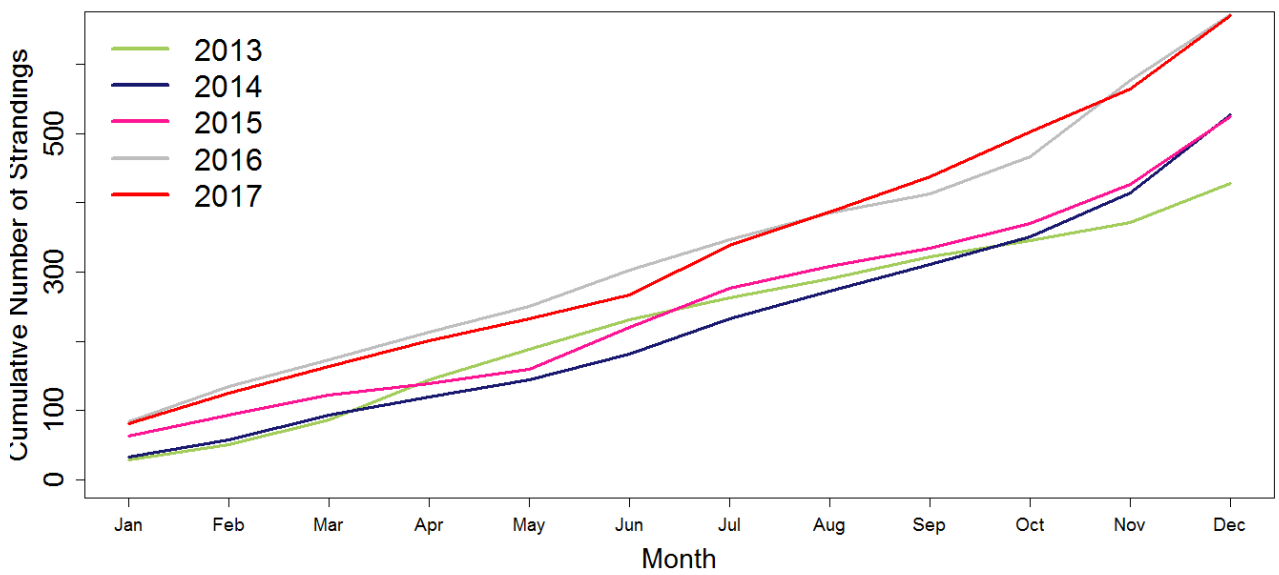


Figure 3: Cumulative number of cases all species by month for 2013 - 2017

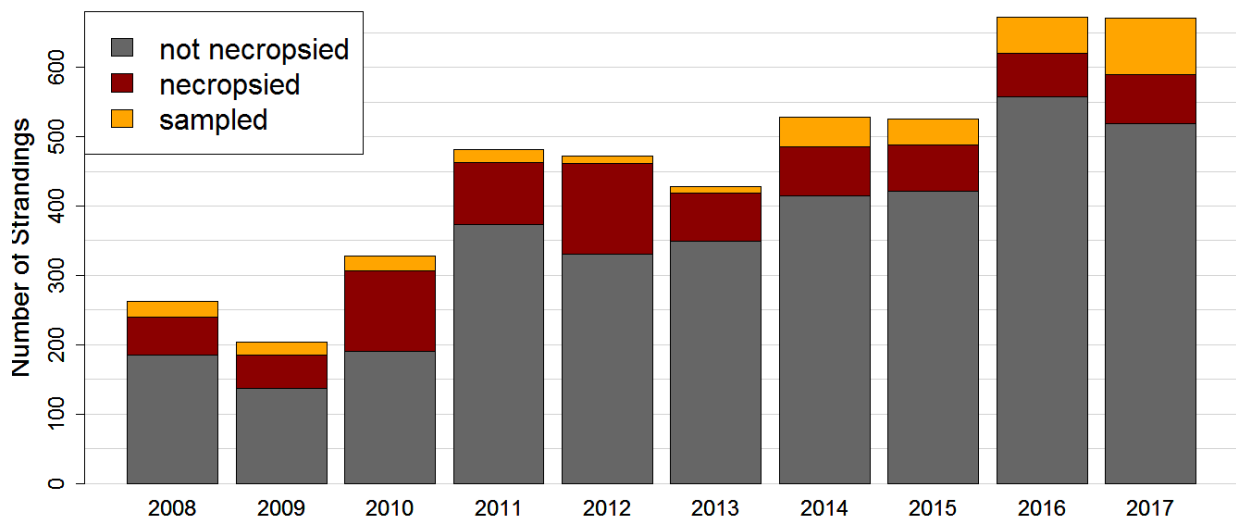


Figure 4: Cases necropsied and sampled 2008-2017

Figure 4 shows the number of cases necropsied, sampled, and not necropsied respectively during 2017 compared to the past ten years. The percentage of necropsied cases was similar to 2016, whereas there was an increase in the number of cases sampled by trained volunteers. Cases may be unsuitable for collection for a number of factors, with autolysis being the most common reason. A more detailed overview of this as well as findings at necropsy can be found in Section 3 of this report.

2.2 Spatial maps of strandings

There were cases reported in all coastal regions, although notable clusters of strandings were seen around Fife and the south east, Orkney and, for the first time, in the south west (Clyde area). The Clyde cluster is most likely effort-linked and associated to an increase in awareness following a recent training course. There is improving, but still less than optimal, surveillance and animal recovery in the Western Isle following formal training of volunteers in Uist and Harris. Recovery of carcasses and obtaining data from animals stranded in the west of Scotland was largely constrained by logistical difficulties, or poor information about the stranding, whereas the cluster of non-recovered animals from the eastern coast from Fife to Aberdeen was usually due to animal condition rather than the capacity for recovery. Continued and hugely valued assistance from the Sea Mammal Research Unit (SMRU) in Fife and Scottish Natural Heritage (SNH) in Shetland has enabled many animals suitable for necropsy to be recovered, or stranding morphometrics to be recorded. The maps below show the spatial distribution of strandings necropsied (Figure 5) and not necropsied (Figure 6) during 2017. Figure 7 is a density map showing areas, in red, of high stranding reports for all species. A density plot is a surface calculated from individual stranding points using a kernel function to fit a smoothly tapered surface, and is a way of visualising areas of high stranding density.

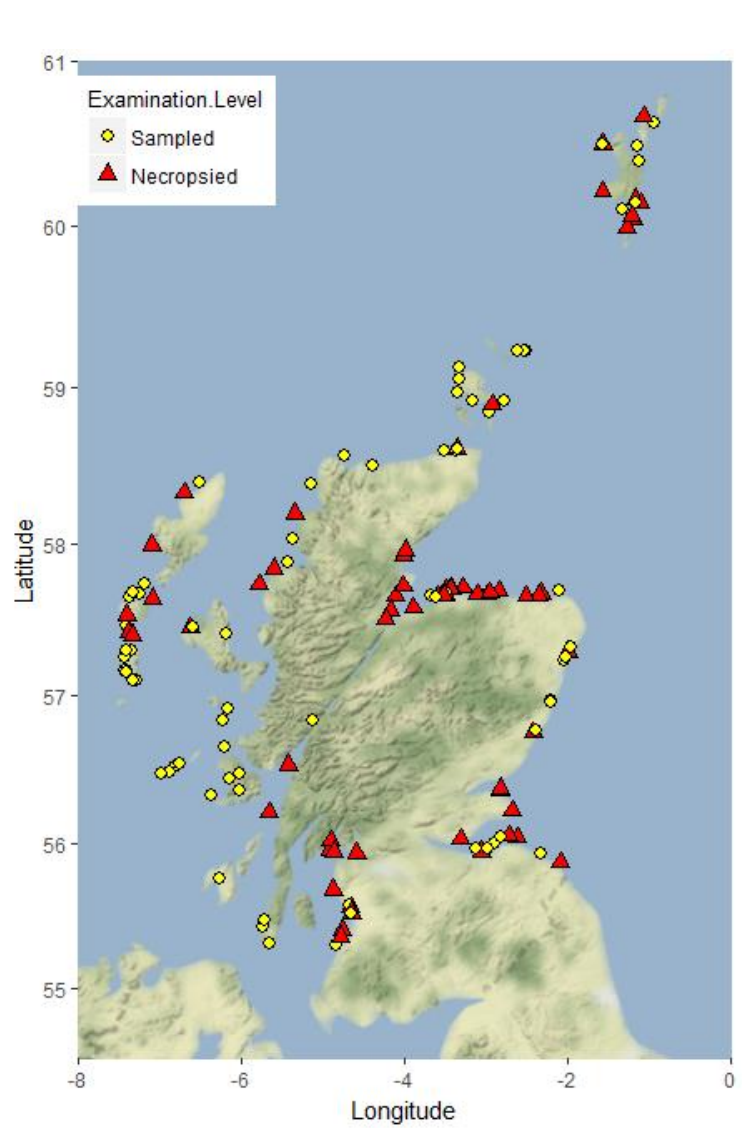


Figure 5: Strandings necropsied or sampled 2017

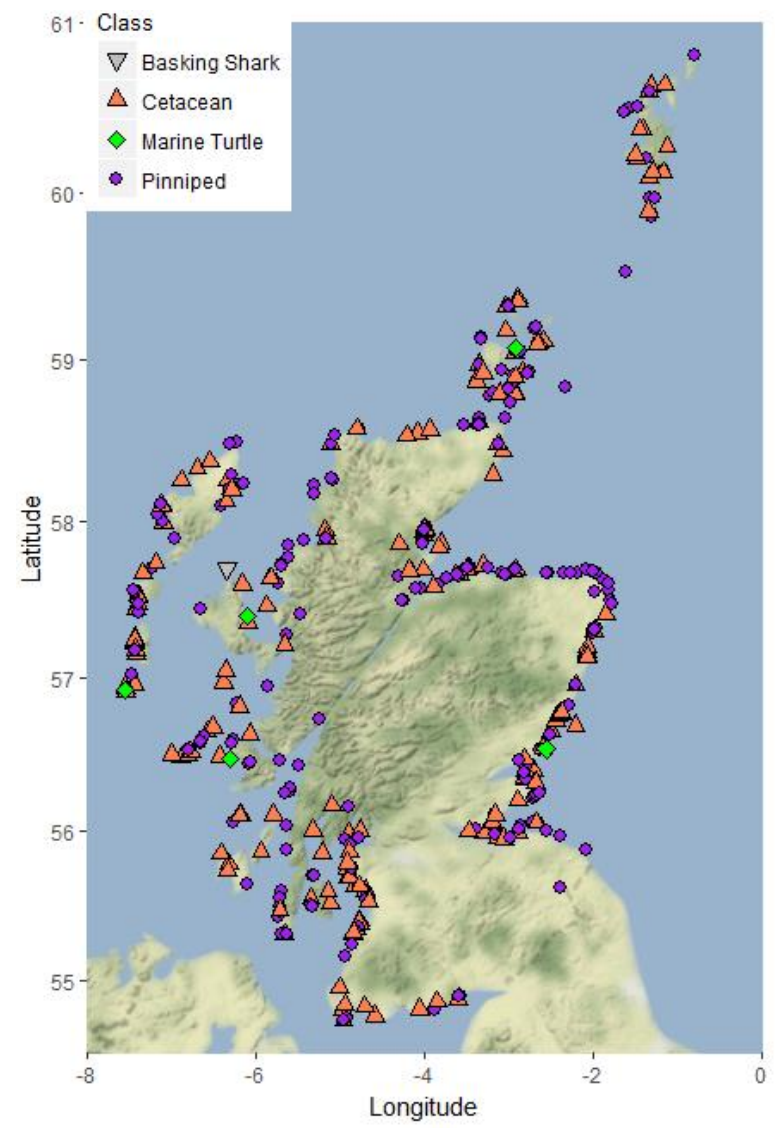


Figure 6: Strandings not necropsied 2017

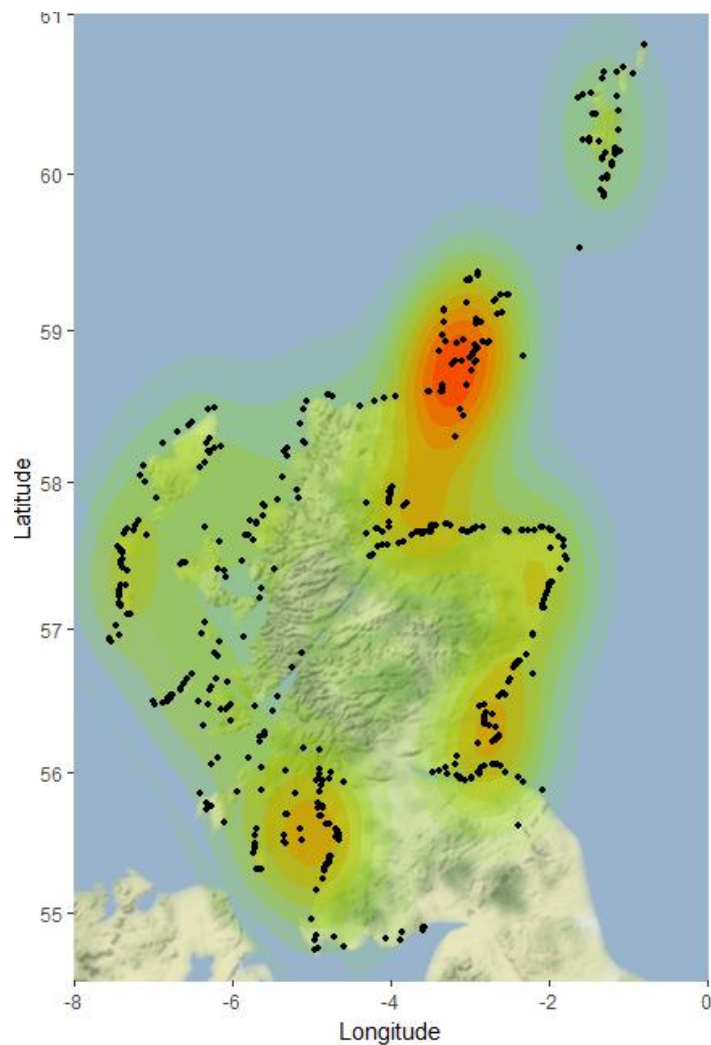


Figure 7: Kernel density plot of all strandings 2017. Colour spectrum from green (low) to red (high)

2.3 Pinniped strandings

Three hundred and sixty two seals were reported to SMASS in 2017 comprising of 205 grey seals, 69 harbour seals and 88 pinnipeds that were too autolysed or data deficient for accurate speciation (Figure 10, Table 2). Of those reported, the majority (97%) were not recovered for necropsy, mainly due to the carcass being an advanced state of autolysis or poor information from the reporter about the case. It is seldom a pinniped carcass is discovered in a suitable state of preservation to make it justifiable to recover for necropsy. Nevertheless 18 cases were sampled by volunteers compared to 10 cases in 2016.

Twelve animals (3.3%) were recovered for necropsy. Physical trauma was the most common finding in pinnipeds, both anthropogenic and attributable to grey seal predation (n=5). Two other animals were found to have a parasitic pneumonia. Two died due to starvation/hyperthermia and one of bacterial sepsis. In two animals a cause of death was not established.

This report does not include the detail on cases reported as shot under seal management licences. Information regarding these cases is available from Marine Scotland or online at:

2.3.1 ‘Corkscrew’ or spiral trauma cases

Sixty-six seals were reported as having trauma consistent with spiral or corkscrew injuries. These cases were reported from 9 different regions. The majority of these were grey seals (*Halichoerus grypus*) (n=37; 56.1%). Harbour seals (*Phoca vitulina*) (n=17; 25.7%) and those too decomposed or data deficient to be identified (n=12; 28.2%). It is now considered highly likely that the majority of historic “spiral or corkscrew” cases were due to predation, most likely by adult grey seals. More detail can be found in Section 6.

2.3.2 Other trauma cases

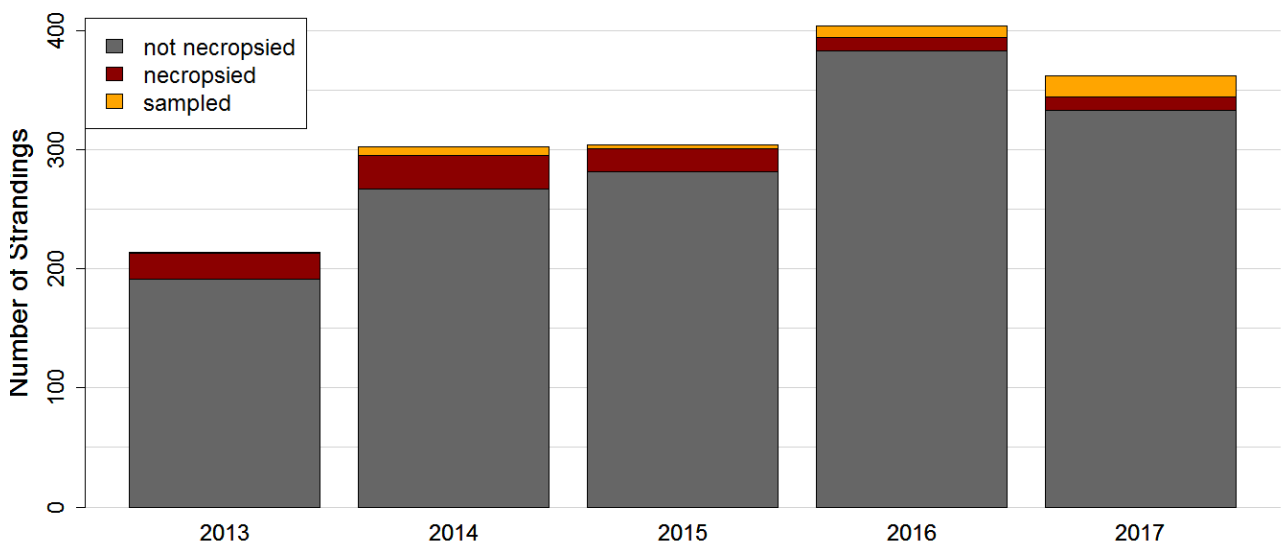


Figure 8: Pinniped strandings (all species) 2013– 2017, separated by level of examination

2.4 Pinniped age structure

Table 2 shows the age structure of pinnipeds reported to SMASS for the five year period from January 2013 to December 2017. Figure 11 graphs the structure for 2017 only.

Between 2013 and 2017, there were 1586 strandings of seals, of which the age could not reliably be established in 58.3% of cases. Of those where the age could be determined, 28.6% were pups, 42.6% were juveniles and 28.8% were adult animals. By species, adults made up 15% of grey seals and 13.7% of harbour seal strandings.

In 2017 the age could not be established for 46.7% of the 362 reported strandings. Of those where the age could be determined, 28% were pups; 47% were juveniles and 25% adults. By species, adults made up 16.6% of grey seals and 11.6% of harbour seal strandings. Figure 9 shows the age structure of cases by quarter, and in both species there is an increase in strandings after the common and grey breeding seasons in early summer and late autumn respectively. Figure 10 shows the spatial distribution of pinniped strandings which are

generally evenly distributed around the northern half of Scotland, with a slightly higher prevalence of harbour seals over the west coast region.

Table 2: Age structure of pinniped strandings 2013 – 2017

	Pup	Juvenile	Adult	Unknown	Grand Total
Grey seal	131	214	136	424	905
Harbour seal (Common seal)	38	58	39	150	285
Hooded seal				1	1
Seal (indeterminate species)	20	12	13	350	395
Grand Total	189	284	188	925	1586

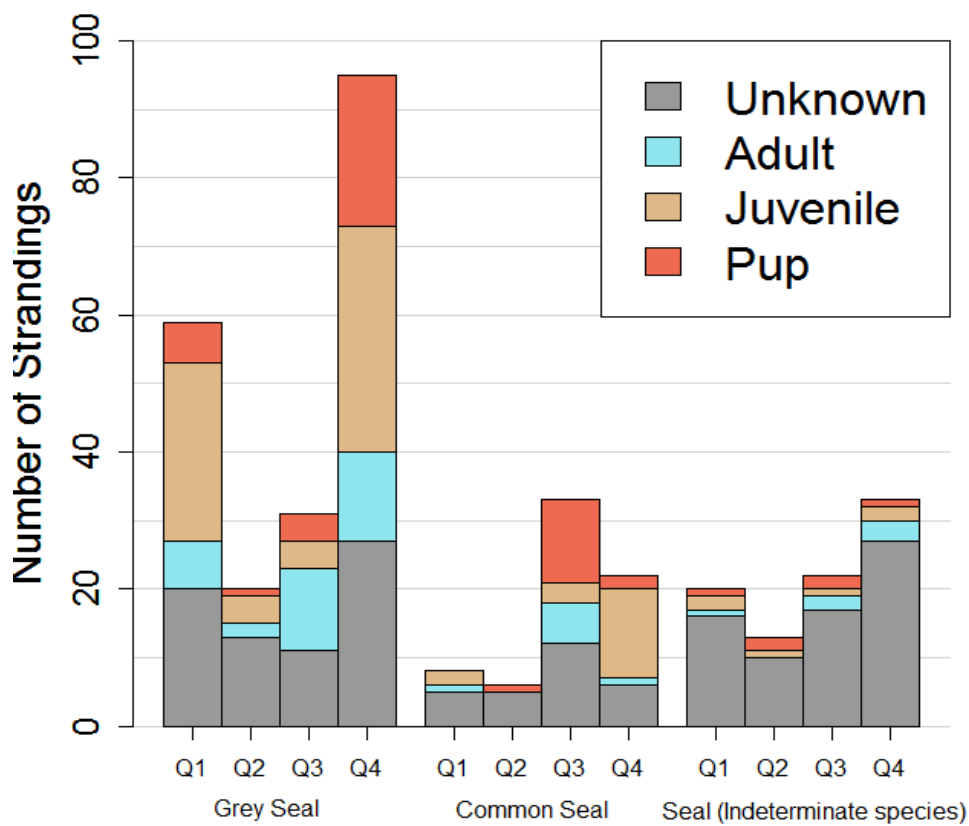


Figure 9:- Age structure of pinniped strandings 2017, by age group and species

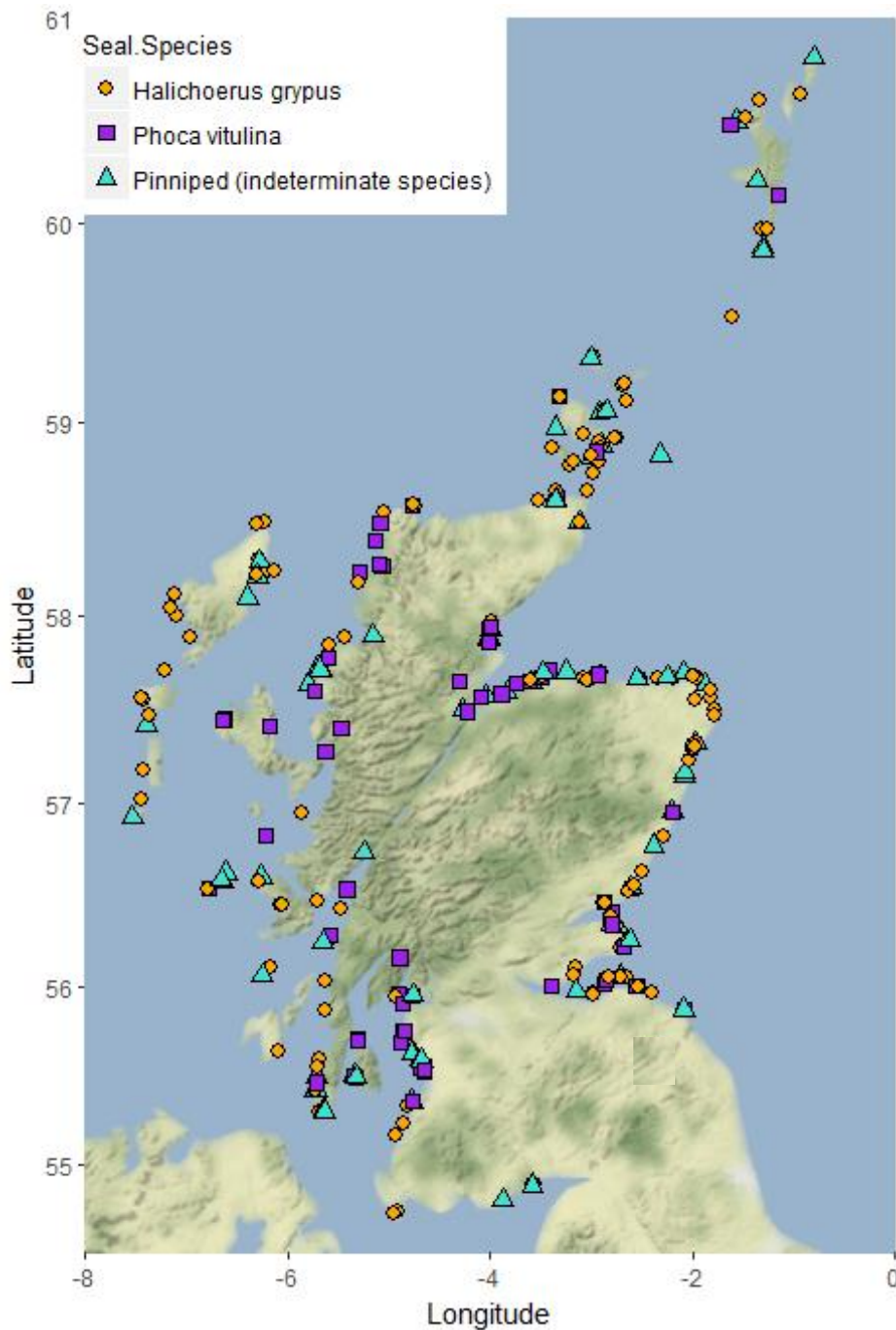


Figure 10: Pinniped strandings 2017

2.5 Cetacean strandings

Three hundred and two cetaceans, comprising of 15 different species were reported to SMASS in 2017. The most frequently reported species was the harbour porpoise ($n=151$, 50%) with a slight increase on the number reported last year. There was no specific geographical bias of these cases, unlike the east coast bias in 2013. Short-beaked common dolphins (*Delphinus delphis*) ($n=39$, 12.9%) were the second most commonly reported. Minke whales (*Balaenoptera acutorostrata*) accounted for 17 cases (5.6%), white beaked dolphins (*Lagenorhynchus albirostris*) 15 cases (4.9%) and long-finned pilot whales (*Globicephala melas*) 14 cases (4.6%). Only 25 (8.2%) animals were reported that could not

be identified to a species level. Of those eight (2.6%) were animals that were either common or striped dolphins but the photos weren't of suitable quality to allow differentiation. Of the remaining 10 species all were single figure strandings: Risso's dolphin (*Grampus griseus*) (n=9, 2.9%), bottlenose dolphin (*Tursiops truncatus*) (n=7, 2.3%), sperm whale (*Physeter macrocephalus*) and striped dolphins (*Stenella coeruleolba*) (both n=5, 1.6%). The remaining species were in descending order: Atlantic white-sided dolphin (*Lagenorhynchus acutus*), Killer whale (*Orcinus orca*) both (n=4, 1.3%), Cuvier's beaked whale (*Ziphius cavirostris*) (n=3, 0.9%), Sowerby's beaked whale (n=2, 0.6%), fin whale (*Balaenoptera physalus*) (n=1, 0.3%) and northern bottlenose whale (*Hyperoodon ampullatus*) (n=1, 0.3%).

Of the 302 animals, 59 (19.5%) cases were necropsied. This was a slight increase in numbers compared to 2016 (Figure 11). Of those animals that were not necropsied 64 (26.3%) were sampled by volunteers this is an increase on 2016. Figure 14 shows the spatial distribution (excluding harbour porpoise) of cetaceans for 2017.

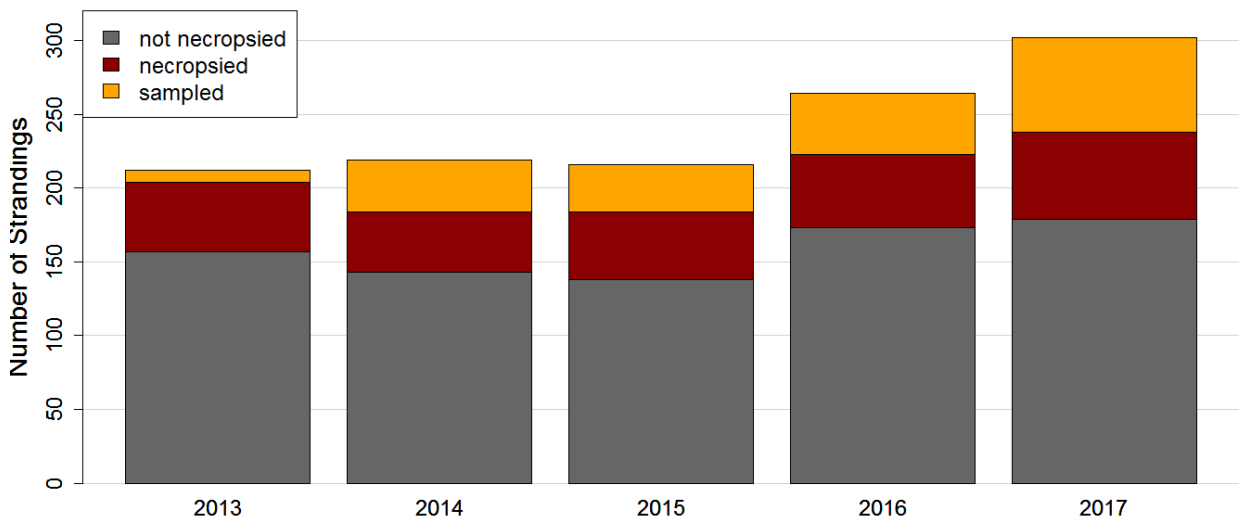


Figure 11: Cetacean strandings 2013-2017, all species

Thirty-one (20.5%) harbour porpoise were subjected to necropsy; this is a similar proportion to 2016. The most common cause of death in harbour porpoise was found to be bottlenose dolphin attack (32.2%), a slight increase on 2016. As in previous years, the most common cause of death for other cetaceans was live stranding (42.8%). This is defined as morbidity and eventual mortality as a result of the cascade of physical processes invoked by becoming stranded. This diagnosis is attributed to cases where there is good clinical or pathological evidence of live stranding and no other cause can be identified which would otherwise explain the stranding, for example trauma, poor body condition or concurrent infectious disease. Also of note is the prevalence of meningoencephalitis identified in pelagic delphinids, in several cases attributed to *Brucella ceti* infection. It appears meningoencephalitis due to *Brucella ceti* infection is overrepresented in this group of cetaceans, see more detail in section 8. Figure 12 shows the subclasses of cetaceans (excluding harbour porpoise) found stranded in 2017. An overview of the findings/cause of

death of all cetaceans necropsied, sampled and not necropsied in 2017 can be found in Tables 3 and 4 in Section 3 of this report.

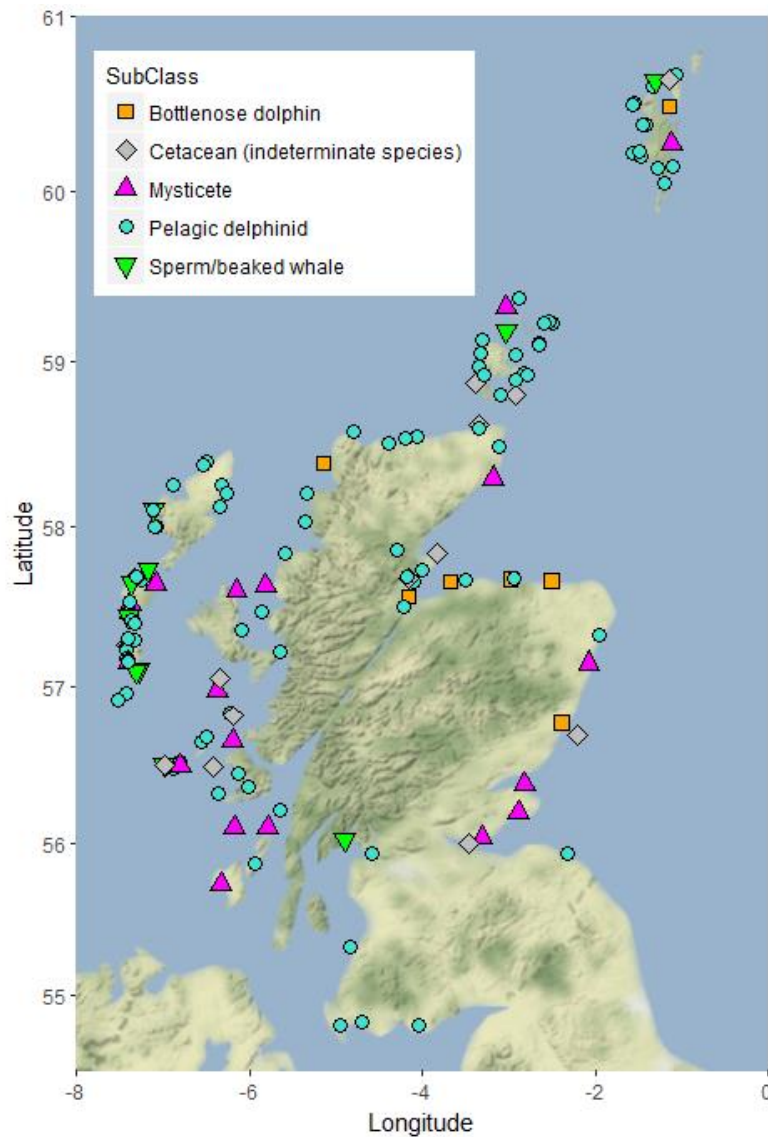


Figure 12: All cetacean strandings excluding harbour porpoise 2017

2.6 Harbour porpoise strandings 2017

The number of harbour porpoise strandings in 2017 was 151. This comprises of 50% of the total cetacean strandings in 2017, this is a slight decrease when compared to 2016. Figure 13 shows the spatial distribution of harbour porpoise cases from 2017. As in previous years, the age make up of harbour porpoise strandings differs depending on time of year with more juveniles and sub-adults stranding between January and June, most likely as a consequence of loss of condition through the winter months. Neonates are only found during the calving season between June and September. Adults strand regularly throughout the year with the highest numbers occurring in June and July. The majority are females and this may be attributable to extra stress during the calving season. Fewer animals are reported in the last three months of the year.

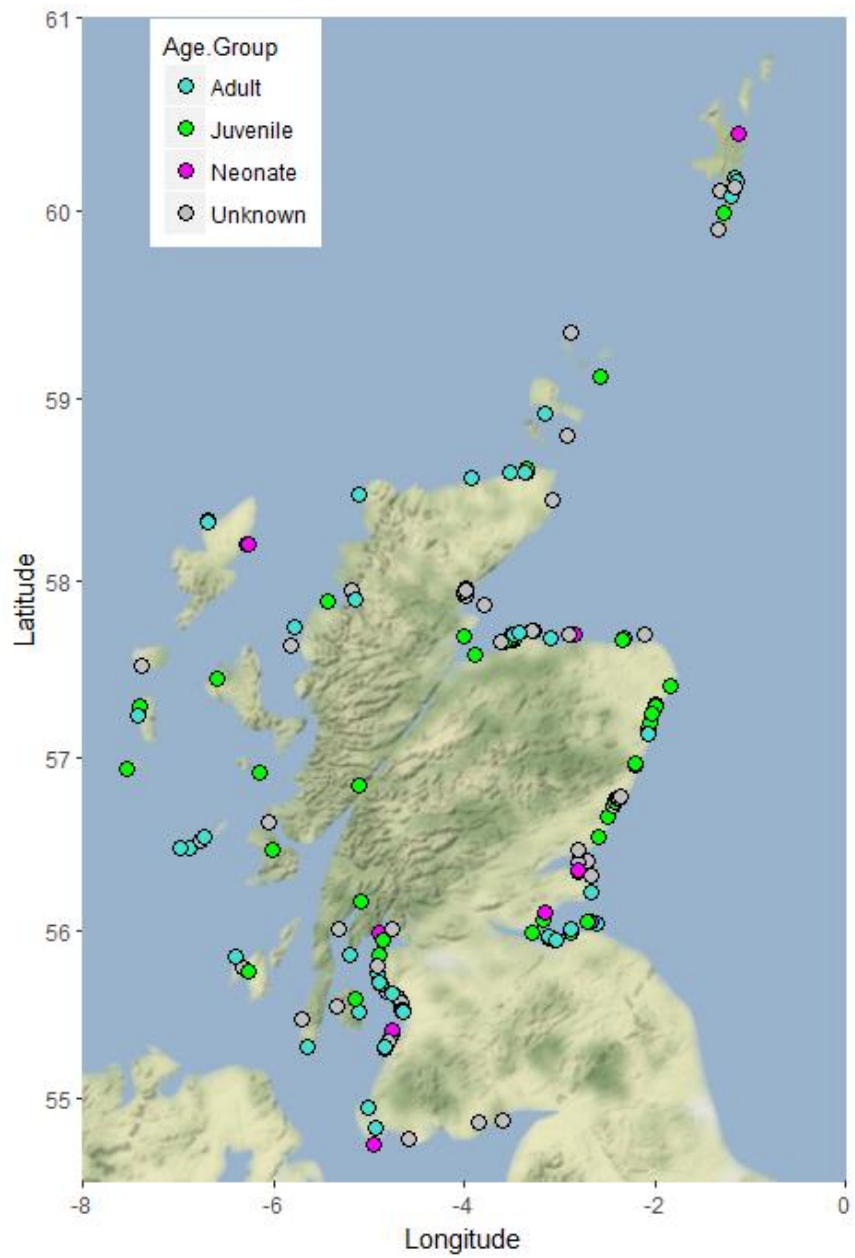


Figure 13: Spatial distribution of Harbour porpoise strandings, by age class, 2017

Section 3: Cause of death/findings summary tables

Table 3: Cetaceans examined, with findings based on photographs/volunteer examination, and sampled 2017

		Total with Findings																				Not Examined: Samples Taken		Grand Total with Findings	
		Dystocia	Dystocia and Peritonitis	Gastritis/Enteritis	Generalised Bacterial Infection or Septicaemia	Live Stranding	Live Stranding	Maternal Separation/Starvation	Meningoencephalitis	Not Established	Pending	Physical Trauma	Physical Trauma: Bottlenose Dolphin Attack	Physical Trauma: Bycatch	Physical Trauma: Entanglement	Physical Trauma: Entanglement	Pneumonia: Other	Pneumonia: Mycotic	Pneumonia: Possible grey seal predation	Starvation/Hypothermia	Not Examined	Samples Taken	Grand Total	Grand Total	
Bottlenose dolphin		3			1					2											4	7		7	
Harbour porpoise		57	1		3	2	1	2	3		2	3	14	1			1	20	1	2	1	20	77		77
Mysticete	Fin whale																								
	Minke whale	7					3	1						3											7
Pelagic delphinid	Atlantic white-sided dolphin	1													1									2	3
	Killer whale	2		1																				2	4
	Long-finned pilot whale	4					3		1															4	8
	Risso's dolphin	2			1		1																	5	7
	Short-beaked common dolphin	10			1		6	1	1						1									12	22
	Striped dolphin	2					1				1													2	4
	White-beaked dolphin	3					2	1																5	8
Sperm/beaked whale	Cuvier's beaked whale																								
	Northern bottlenose whale	1												1											1
	Sowerby's beaked whale																							2	2
	Sperm whale	1														1								1	2
Grand total		93	1	1	5	2	17	5	5	1	4	4	14	1	4	1	2	21	1	2	1	59	152		152

Table 4: Cetaceans not examined 2017

		Advanced Autolysis	At Sea	Carcase Incomplete/Scavenger Damage	Carcase Not Found	Delay in reporting	Insufficient Data	Not Priority	Removed by Council	Removed by Tide	Weather/travel difficult	Grand Total
Bottlenose dolphin												
Harbour porpoise		49	1	4		1	7	1	1	5	5	74
Mysticete	Fin whale	1										1
	Minke whale	7		2	1							10
Pelagic delphinid	Atlantic white-sided dolphin	1										1
	Killer whale											
	Long-finned pilot whale	5	1									6
	Risso's dolphin	1	1									2
	Short-beaked common dolphin	12				2				3		17
	Striped dolphin	1										1
	White-beaked dolphin	5			1						1	7
sperm/beaked whale	Cuvier's beaked whale	3										3
	Northern bottlenose whale											
	Sowerby's beaked whale											
	Sperm whale	3										3
Indeterminate Species	Baleen whale	1	1									2
	Cetacean	2	2	2		1	3			1		11
	Dolphin		1									1
	Common/striped dolphin	6		1			1					8
Grand Total		97	7	9	2	4	11	1	1	6	9	147

Table 5: Cause of death/findings for pinnipeds, basking sharks and marine turtles reported 2017

	Grey seal	Harbour seal (Common seal)	Seal (indeterminate species)	Leatherback turtle	Basking shark	Grand Total
Cases with Findings:	42	25	13	2		82
Physical Trauma: Entanglement	3			1		4
Physical Trauma: Entanglement (known)				1		
Physical Trauma: Possible Grey seal predation	37	15	13			65
Physical Trauma: Shot (suspected)		1				1
Physical Trauma: Other	2	1				3
Starvation/Hypothermia		2				2
Pending		5				5
Not Established		1				1
Sampled by Volunteer	13	6				19
Not Examined:	150	38	75	4	1	268
Advanced Autolysis	125	25	29	1	1	181
At Sea		2	1	1		4
Carcase Incomplete/Scavenger Damage	2	2	3	2		9
Not Examined: Carcass Not Found		2	6			8
Delay in reporting	2					2
Insufficient Data	9	2	36			47
Not Priority	7					7
Removed by Tide	2	1				3
Weather/travel difficulties	3	4				7
Grand Total	205	69	88	6	1	369

3.1 Cause of death; direct anthropogenic versus other causes of death.

Cause of death (COD) findings was usually determined following a full necropsy examination undertaken by Andrew Brownlow; a veterinary pathologist with experience of marine mammal necropsies. In the case of grey seal predation and bottlenose dolphin attacks, some of these cases had lesion patterns sufficiently pathognomonic to also enable reliable diagnosis from examination of photographs. Total number of diagnosed cases was 234: 152 cetaceans, 80 pinnipeds, and two leatherback turtles.

Figure 14 shows cases divided in three main categories based on if their likely cause was due to direct human impact. In 2017, the direct anthropogenic causes comprised bycatch, entanglement and seals thought to have been shot outwith a licence. Non direct anthropogenic causes of death, graphed as 'other' comprise everything else: all the metabolic and infectious disease cases and trauma cases not related to human impact.

There were five cases for which the cause of death could not be established despite having been necropsied.

As can be seen, mortality due directly to anthropogenic activity comprise only 12 cases, or around 5%. It should be noted however, that this doesn't account for indirect anthropogenic impact or mortality due to chronic or cumulative effects, for example due to contaminant exposure, prey depletion or disturbance.

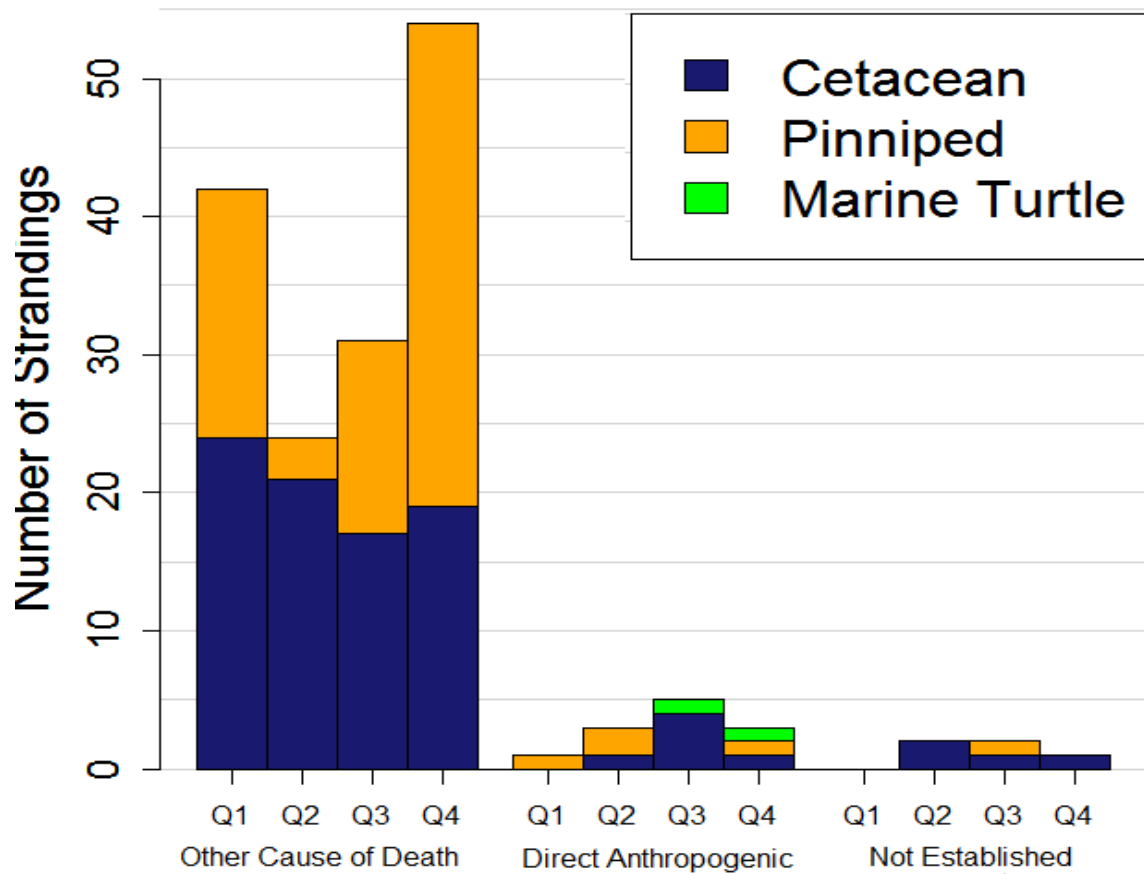


Figure 14: Cause of death (CoD) findings per species class. Direct anthropogenic versus other causes of death.

Section 4: Mass stranding events (MSE's)

4.1.1 Mass stranding events (MSE's) multiple strandings and unusual mortality events

Note: A mass stranding event (MSE) is defined as two or more animals that are not a cow/calf pair. There were two small MSE's during 2017.

4.1.2 M31.1- M31.2/17 common dolphin (*Delphinus delphis*)

Two common dolphins were seen to live strand on the morning of the 13th of January in the Cromarty Firth near Jemimaville. The juvenile a male (M31.1/17) died on the beach and a second animal (M31.2/17), thought to be an adult female animal, refloated on the rising tide. This adult animal was subsequently found dead on the other side of the firth at Nigg several days later. A third common dolphin an adult female (M37/17) was also recovered dead from this area on the 16th of January (see section 5). The juvenile animal (M31.1/17) was in good body condition and, excepting the pathology associated with live stranding (water aspiration, lung asymmetry), appeared in good body condition with no indication of significant underlying disease process. It had not recently fed, but the stomach contained a significant number of otoliths indicating past successful foraging. Bacteriology did not reveal any significant isolates with most sites cultured proving sterile. The adult female common dolphin (M31.2/17), was found dead on Nigg saltmarsh, approximately 10 days after being seen stranding alive with M31.1/17. Based on carcass autolysis, it is likely to have died soon after the original refloat on the 13th of January. There was evidence of live stranding, with lung hyperinflation and intercostal muscle hypertrophy, suggest the animal likely was left by a receding tide in this very shallow area. Otoliths indicate past, but not recent feeding success. No evidence for significant infectious processes was found, and live stranding remains the most likely cause of death. Due to the fresh nature of the first animal, the ears were extracted and fixed to assess hearing capabilities. It is understood the naval bomb disposal team exploded a dredged-up missile the previous day, and given the observed incidence of common dolphins in the Cromarty Firth is rare (only six recorded sightings in two decades of observation by the University of Aberdeen Lighthouse Field Station) noise could be a potential factor. Histology and microscopic examination of the ears of the juvenile will be undertaken in 2018.

A data request was made to the Royal Navy regarding the MOD disposal work, and the following details were provided:

- The time and location of the detonation: Detonation took place in position 57 41.708N, 003 29.992W. Time of detonation was 11:10 (18th of January 2017).
- The depth of the detonation and approx. depth of water at the time: At time of detonation, water depth was 6m. Munition was detonated on the seabed.
- Estimated size of the high order explosion: Exact size of explosive contained is unknown but observations by disposal team estimated that the net explosive quantity (NEQ) was less than 20Kg.
- The environmental mitigation employed during the task: Mitigation was in accordance with MOD instructions (BR5063) which are based on JNCC guidance.

- Marine mammal observations were made 30 minutes prior to, during and after underwater detonation out to 1km. No mammals were sighted.
- No other explosive detonation since 1st December 2016.

Further clarification was sought regarding anecdotal reports of underwater noise generated by the disposal team prior to the MSE, on the 7th January 2017 and the following data provided:

Clarifications provided by Rod Jones, Royal Navy on 20th March 2017.

“On the 7th Jan the original attempts to move the munition failed. Compressed air from a lifting equipment malfunction caused gas to be expelled in the water at regular intervals (most likely through a pressure relief valve lifting). I do not have full times or durations of this malfunction. This would have been audible underwater for those close enough but probably not above water. As part of the preparations for initial disposal on the 7th Jan, 2 x diver recall signals (like thunderflash) were deployed approximately 2 hours apart at around midday. Several seals were spotted during the day but not within 1km in the 30 minutes before each of the recall signals were deployed.

On the 18th, no recall signals were deployed and the only detonation would have been the demolition charge and simultaneous high order explosion, circa 20kg NEQ.”

The main underwater munitions disposal explosion was apparent carried out on the 18th January; a week after these stranding series (M31.1, M31.2, M37). The role of potential disturbance during the initial disposal operation on the 11th January is however unclear. The Cromarty firth is not a common place for *Delphinus delphis* and the possibility that this acoustic trigger lead to this group entering the firth and subsequent stranding.

Whilst the possibility remains that that the diver recall signals or compressed air may have provided some acoustic stimulus, leading to this group entering the Firth and subsequent stranding, the magnitude and duration of underwater noise does not seem excessive compared to usual activity in the Firth. It is therefore not immediately clear as to how this level of activity could have caused sufficient acoustic compromise to animals in the vicinity to plausibly directly lead to the stranding. Nonetheless, it does highlight the vital importance of monitoring, documenting and mitigating sources of underwater noise.



Figure 15: M31.1/17 Juvenile common dolphin (*Delphinus delphis*) from the Cromarty Firth.



Figure 16: M31.2.2/16 female common dolphin (*Delphinus delphis*) from the Cromarty Firth.

4.2 M350.1-M350.2/17 – white beaked dolphin (*Lagenorhynchus albirostris*)

Two white-beaked dolphins were observed to live strand at St Mary's Holm, Orkney on the 11th of August 2017. One animal was refloated by members of the public, the second animal died on the beach. The carcass, a sub adult male, was couriered down to Inverness but was reasonably autolysed on arrival due to a delay with the shipping. There was evidence for live stranding, but otherwise no significant discernible pathology likely to explain the stranding. No recent feeding, moderate body condition, and low gross parasite burden were noted. The visceral tissues did not show any significant lesions: the liver did not show indications of hepatitis or fatty change, there was no jaundice and cardiovascular system was grossly

unremarkable. Bacteriology was inconclusive producing gross mixed flora. The proximal cause of death is live stranding. Histology was initially unremarkable but additional tests are underway. Factors which do not leave a pathological signal, for example environmental factors or noise disturbance, cannot be ruled out in this case.



Figure 17: M350.1/17 white beaked dolphin (*Lagenorhynchus albirostris*) one of two that stranded on Orkney.

Section 5: Entanglement cases

The term entanglement usually only applies to large whales (particularly mysticetes) and leatherback turtles and occasionally basking sharks (see section 11).

Animals are sometimes seen with gear attached, usually flukes and fins but occasionally through baleen plates in the mouth. Over 70% of dead stranded cases are discovered with no material remaining on the animals and diagnosis is made by lesion pattern. Acute cases similar to bycatch, sub-acute cases result in exhaustion and impaired feeding and evidence of water aspiration or drowning. Chronic cases are often very thin and debilitated and show chronic wounds caused by abrasion and pressure from entangled equipment.

There was only a single, but unusual, case of entanglement in a cetacean during 2017; a northern bottlenose whale.

5.1 M418/17 – northern bottlenose whale (*Hyperoodon ampullatus*)

This sub-adult male northern bottlenose whale was found dead stranded on the shore at Loch Long in a moderate state of decomposition. Logistical constraints meant that examination was not possible for 72 hours, and as a result most of the visceral organs were in a moderate to severe state of autolysis. The animal was in moderate – good body condition with good blubber thickness and muscle mass. There was evidence of recent feeding with a large amount of squid beaks in the stomach. The tailstock exhibited significant antemortem damage characterised by an encircling lesion over the dorsal edge of the tailstock and several linear abrasions on the ventral surface of the fluke, with a width of approx. 10-15mm (Figure 19). This finding is consistent with entanglement in rope. There was some bruising evident laterally on the left side of tailstock; though this is possibly post mortem change and insignificant. There was a substantial amount of fluid present in both the cardiac and fundic stomach, most likely sea water. Most visceral organs were autolysed beyond the state of useful interpretation, and due to the size of the animal and its location on the beach it was impossible to examine the lungs/heart. Whilst it would have been good to be able to examine the lungs to confirm; these findings are consistent with a diagnosis of an acute entanglement and drowning as the cause of death. We believe this to be the first case of entanglement in this species of beaked whale.



Figure 18: M418/17 northern bottlenose whale (*Hyperoodon ampullatus*) field necropsy Loch Long, Argyll and Bute.

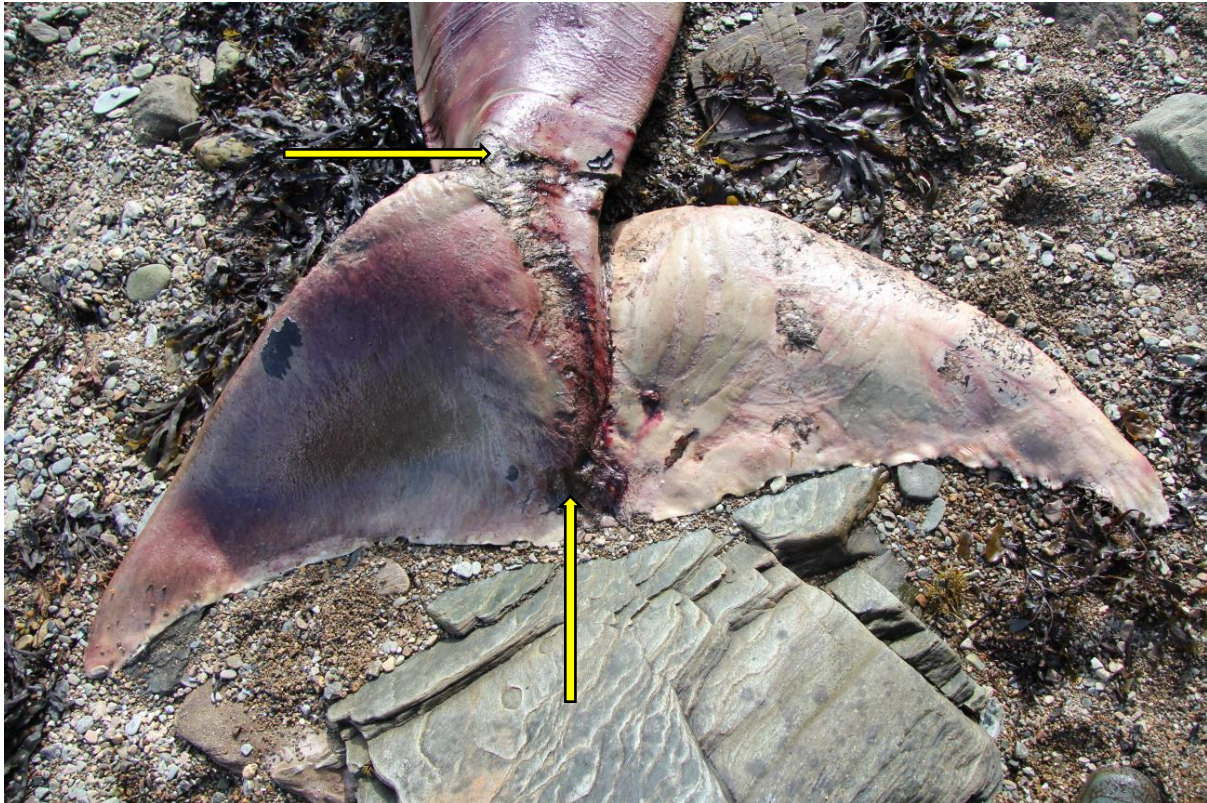


Figure 19: M418/17 northern bottlenose whale (*Hyperoodon ampullatus*) tail stock showing entanglement lesions (arrows).

Section 6: Grey seal predation (cetaceans).

This recently described phenomenon has so far only been seen on harbour porpoise from regions with sympatric grey seal populations. It is characterised by extensive trauma to blubber and underlying musculature, tissue loss and puncture marks around the head and around wound margins. Often large sections of tissue (both blubber and muscle) are removed, assumed predated, particularly the back muscle either side of the spine. Puncture marks through blubber often around the head and throat area. Blubber and skin commonly stripped resulting in missing tissue and flaps of blubber. Internal organs and skeleton are normally intact in very fresh cases. In some situations the porpoise initially escapes the seal only to die of bacterial sepsis arising from bite wounds, although none of these cases were noted in 2017. We had a total of 17 animals either reported as seal predation cases, the same number as 2016. Based on lesion pattern, cases are given an adjectival score: Unlikely, Possible, Probable and Definite (observed cases only).

6.1 Primary trauma cases suspected to be seal predation on harbour porpoise

1. M33/17, 14/01/2017 Mungasdale beach, Highland. Photographs provided show a headless carcass, **Possible seal predation case.**

2. M38/17, 17/01/2017 Port Shocky, south of Dunure, South Ayrshire. Photographs provided show a stripped carcass, **Possible seal predation case.**
3. M85/17, 04/02/2017 Stonehaven, Aberdeenshire. Photographs show an animal with a large hole in the right side of the head. **Possible seal predation case.**
4. M98/17, 11/02/2017 Bowmore, Islay, Argyll and Bute. Photographs show an animal with a large hole in the throat area and marks consistent with claw marks. **Probable seal predation case.**
5. M100/17, 12/02/2017 Gosford Bay, East Lothian, Lothian. Photographs provided show a stripped carcass (Figure 20), **Probable seal predation case.**
6. M108/17, 14/02/2017 South of Caolas, Vatersay, Western Isles. Photographs show an animal with a large hole in the throat area and Possible claw marks. **Possible seal predation case.**
7. M120/17, 22/02/2017 Corpach beach nr Fort William, Highland. Photographs show an animal with a large hole in the left side of the head, Possible teeth marks also present. **Possible seal predation case.**
8. M198/17, 30/04/2017, Findhorn beach, Moray. Images provided would suggest that this was a **Possible grey seal predation.**
9. M208/17, 12/05/17, Nigg beach, Cromarty Firth, Highland. Images provided would suggest that this was a **Possible grey seal predation.**
10. M216/17, 15/05/17, Tentsmuir, Fife. Images provided would suggest that this was a **Possible grey seal predation.**
11. M273/17, 10/07/16 Findochty, Moray. Images provided would suggest that this was a **Possible grey seal predation.**
12. M323/17, 25/07/17 Loch Fyne, Argyll and Bute. Photos provided do not show typical lesions and are not enough to confirm this as a grey seal predation case.
13. M434/17, 30/09/17 between Golspie and Littleferry, Highland. Images provided would suggest that this was a **ossible grey seal predation.**
14. M482/17, 26/10/17 Maidenhead bay, South Ayrshire. Images provided would suggest that this was a **possible grey seal predation.**

15. M545/17, 21/11/17 Papa Westray, Orkney. Images provided would suggest that this was a **possible grey seal predation**.
16. M581/17, 04/12/17 Milton Haven, Angus. Images provided would suggest that this was a **possible grey seal predation**
17. M620/17, 20/12/17 West point beach, Kintyre, Argyll & Bute. Images provided would suggest that this was a **possible grey seal predation**



Figure 20: M100/17 harbour porpoise (*Phocoena phocoena*) showing probable grey predation lesions.

Section 7: Neurobrucellosis cases

This term is applied to any cases where gross pathology of the brain would suggest this condition and/or where *Brucella sp.* was isolated from the central nervous system (CNS) of an animal. The diagnosis is backed up through histopathology. The condition is often associated with live stranding; these animals often exhibit erratic and unusual swimming behaviours. The disease seems to affect predominantly the families *Delphinidae* and *Ziphiidae*. There were two confirmed cases reported during this period. A further two possible cases are pending histology.

7.1 M200/17 – minke whale (*Balaenoptera acutorostrata*)

This juvenile minke whale was found freshly dead. It was in moderate to thin body condition. There was significant ventral bruising and water aspiration consistent with live stranding. There was a moderate *Anasakis sp.* (live) burden in the stomach; however no ulceration or mucosal erosions, and a moderate to high *Bolbosoma balaenae* burden in the proximal intestine. There was also a moderate *Bradycladium goliath* fluke burden in the liver. There was mild hepatobiliary hyperplasia/fibrosis but the parenchyma was otherwise unremarkable. The musculature was pale, even for recently weaned juvenile *Balaenoptera*, and it is possible the combined parasite burden was heavy enough to causing a degree of anaemia. The intestinal and mesenteric vasculature was hyperaemic, and appeared regionally inflamed, particularly in sections of the gut with high luminal parasitism. The lymph nodes appeared enlarged and very reactive, in particular the PALN and prescapular nodes. Of most significant interest however was the neuropathology. The brain exhibited severe bilateral ventricular dilatation with a notable excess (> 500ml) of turbid, slightly blood stained CSF (Figure 22). The choroid plexus was reactive and enlarged and the meninges appeared thickened, translucent and tacky in appearance. Bacteriology on the CSF from the cerebral ventricles and atlanto-occipital joint and the choroid plexus produced a heavy culture of a *Brucella pinnipedialis* together with *Photobacterium damsela*. The isolation of *Brucella pinnipedialis* together with the gross pathology in the brain is consistent with neurobrucellosis, which is the likely ultimate cause of stranding and, if confirmed, the first case of neurobrucellosis in this species and indeed family and sub-order. It would also be the first evidence of pathology associated with *Brucella pinnipedialis*. Histology showed a severe, sub-acute to chronic-active, generalised, predominantly lymphoplasmacytic meningitis. Severe, sub-acute, generalised, predominantly lymphoplasmacytic encephalitis. Severe, chronic-active, intestinal necro-suppurative parasitism. Moderate to severe, chronic-active, generalised lymphoid activation with localised suppurative lymphadenitis. These lesions in the brain are highly suggestive of neurobrucellosis but the suppurative element is atypical. However, this may be a response to the *Photobacterium damsela* bacteria present. The presence of the severe lesions in the proximal cervical spinal cord and cranial nerves is helpful with respect to determining the point of entry of the bacteria. The lymphadenopathy was probably a response to the severe intestinal parasitism rather than the infection within the central nervous system.

This case is significant for two reasons. It is the first evidence of *B.pinnipedialis* causing pathology in any species of marine mammal and the first case of neurobrucellosis in a minke whale or any species of mysticete.



Figure 21: M200/17 minke whale (*Balaenoptera acutorostrata*) Tentsmuir beach, Fife.



Figure 22: M200/17 minke whale (*Balaenoptera acutorostrata*) showing severe dilation of lateral ventricles (arrows) of the brain.

7.2 M449/17– Striped dolphin (*Stenella coeruleoalba*)

This juvenile female striped dolphin live stranded on Huisinis beach, south Harris on the 9th of October 2017 and died before a refloat attempt could be made. It was couriered to Inverness and necropsied within 40 hours. The animal was thin, dehydrated, with multiple parasite burden in the digestive tract and pulmonary system. This burden was unlikely to be the sole cause of the stranding but indicative of a debilitated or immunocompromised animal. There was no indication of recent feeding. Of most interest were dilated cerebral ventricles and an excess of turbid CSF (Figure 24). *Brucella ceti* was isolated from seven different sites within the CNS. Histology showed a moderate to severe, acute to sub-acute, generalised lymphocytic meningo-myelitis with a mild to moderate, sub-acute, multifocal lymphocytic encephalitis. In addition there was a moderate to severe, chronic-active, multifocal, verminous, mixed inflammatory broncho-pneumonia. These findings are suggestive of several concurrent disease processes but neurobrucellosis is the most likely to have resulted in the live-stranding and subsequent death of this animal. In the spinal cord the lesions were most severe in the cervical region but did extend down the whole cord. We will revisit the fixed tissue to see if we can determine if the pattern of lesions may enable us to locate the point of entry to the central nervous system.



Figure 23: M449/17 striped dolphin (*Stenella coeruleoalba*) Huisinis beach, south Harris.

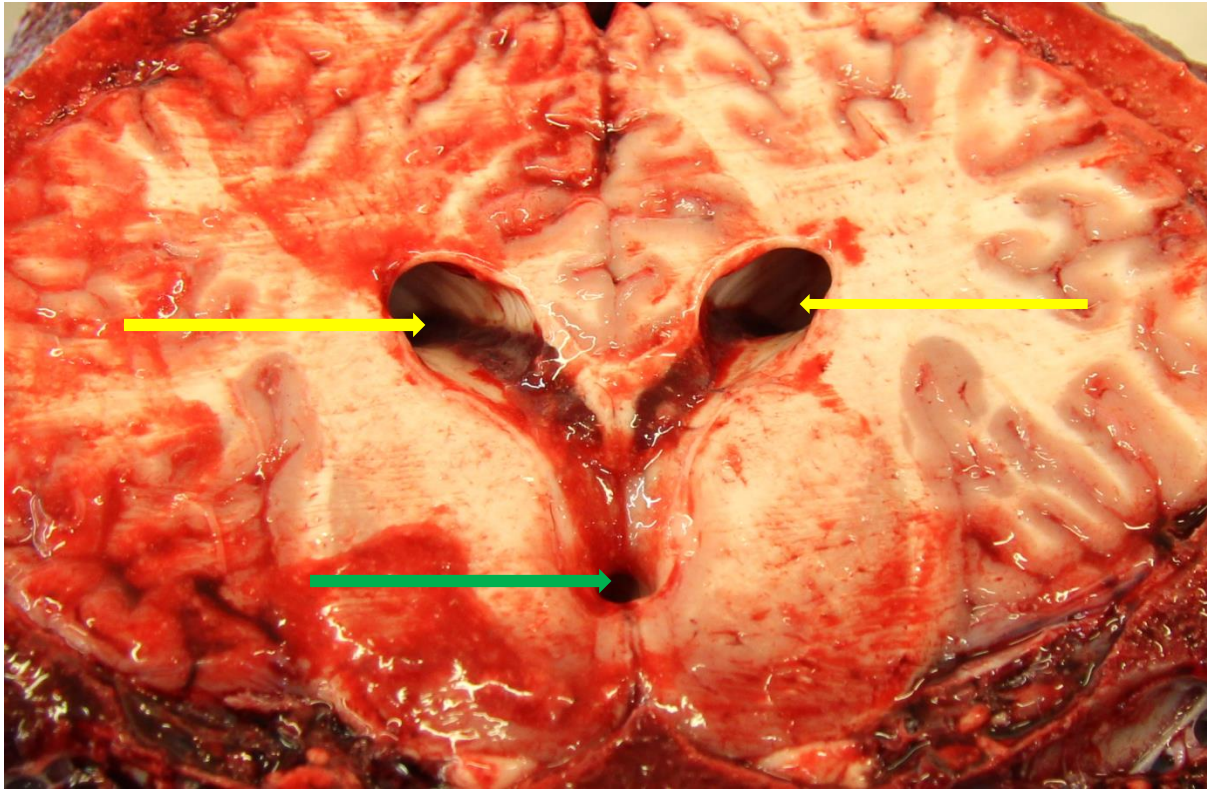


Figure 24: M449/17 striped dolphin (*Stenella coeruleoalba*) brain showing enlarged lateral ventricles (yellow arrows) and cerebral aqueduct (green arrow).

7.3 M563/17– short-beaked common dolphin (*Delphinus delphis*)

This juvenile common dolphin from Roseile beach, Moray had evidence of live stranding and generalised debilitation over time, and had a high parasite burden including two species of whale lice and pulmonary nematodes. The animal was very thin, yet had evidence of recent successful feeding. The liver was congested and friable, but no recent fatty change was evident. There was a significant verminous pneumonia (possibly *Halocercus sp*) and a notable *Anisakis* burden with an excessive stomach ulcer (35mm diameter) as a result. There was no obvious neuropathology on gross examination although there may be a slight increase in the CSF. Bacteriology revealed a pure growth of *B.ceti* from the CNS (brain, choroid plexus and the CSF from the atlanto-occipital joint and ventricles) the same organism was isolated from the lung in mixed culture. Live stranding due neurobrucellosis cannot be ruled out although at the time of this report the histology results are still pending.



Figure 25: M563/17 short-beaked common dolphin (*Delphinus delphis*) from Roseile beach, Moray.

7.4 M602/17– Killer whale (*Orcinus orca*)

This juvenile male killer whale was found dead stranded on the remote Hamnavoe beach in Eschaness, NW Shetland. Due to logistical issues it was necropsied a week after first sighting and it is estimated a fortnight after the stranding. From the sub-mandibular and dorsal bruising and asymmetric lungs it is highly likely this animal live stranded. From the location at the top of the spring tide range it is assumed this was during the NW hurricane-force winds of Storm Caroline which crossed Shetland on the 7th/8th of December 2017. Aside from the stranding pathology, the animal was otherwise in good body condition, with adequate blubber reserves and muscle mass. The animal had recently fed, and there was evidence of pinniped claws and a 15x20cm mass of partially digested lung tissue refluxed in the oesophagus, which appears to be of marine mammal origin, likely seal. Additionally, digesta and fur in the stomach indicate recent feeding on seal. No otoliths, lenses or bones were noted to indicate any recent fish in the diet. The brain was severely autolysed however no gross pathology such as haemorrhage or enlarged ventricles was noted. Although the advanced state of autolysis has ruled out most histopathology or bacteriology investigation, cultures were taken from the lung, brain and CSF. Those from the brain and CSF produced scant colonies of *Brucella ceti*. The isolation of this organism raises the possibility of neurobrucellosis, however may be an incidental finding. Unfortunately again because of the autolysis only a small part of the brain has been collected for histology, the results of which are awaited with interest. It is possible that this animal may have been compromised due the *B. ceti* infection in the brain and this together with the poor weather may have

contributed to it live stranding. We believe this is only the second time *B.ceti* has been isolated in this species.



Figure 26: M602/17 killer whale (*Orcinus orca*) Hamnavoe beach, Eshaness, Shetland.

Section 8: Other notable single strandings

8.1 M32/17 – killer whale (*Orcinus orca*)

This adult female killer whale was found dead stranded on the uninhabited island of Linga Shetland, the animal was recovered and taken to mainland Shetland for necropsy. Carcase condition suggested it had been dead for around a week prior to examination. The animal was in good body condition with no evidence for entanglement or external trauma. There was no evidence of recent feeding, but some fur, possibly seal fur was noted in the intestines. The most significant finding was evidence of uterine prolapse. The left horn had almost entirely prolapsed and had been partially scavenged. The uterine size and appearance of the mucosal surface indicate this animal had possibly been recently pregnant. No foetus remained and no placental membranes were noted. The right ovary was recovered and did not show any gross CL, however the left ovary was not found, instead a large volume of amorphous, tan brown glutinous material was present around the

attachment point of the left ovarian ligament. It is not clear if this was a ruptured/autolysed corpus luteum or a purulent reaction to a generalised infection. There was evidence for a, likely, non-septic peritonitis, with early stage fibrin tags noted between the diaphragm and liver. The sub-lumbar hypaxial muscles showed proteinaceous infiltrate, possibly also due to infection but also could be protein leakage from muscle damage caused by the dystocia or live stranding. Bacteriology was unrewarding producing a mixture of post mortem invaders from all sites cultured. Unfortunately, the carcass autolysis precludes definitive diagnosis, and all we can say for certain from histological examination of these tissue is that there was a severe inflammatory reaction in the two samples of what we believe are 'sub-cutaneous tissue'. Overall this appears to have been a dystocia and peritonitis case, although it is not clear if the observed abdominal pathology is the cause, or result of the dystocia.



Figure 27: M32/17 killer whale (*Orcinus orca*) fom linga, Shetland.

8.2 M146/17 – short-beaked common dolphin (*Delphinus delphis*)

This juvenile male common dolphin was found dead stranded on the isle of Luing. It was recovered by one of our volunteers for necropsy. There were numerous lesions over much of the epidermis; these lesions were suggestive of a viral dermatitis perhaps due to a herpes virus. There were bottlenose dolphin rake marks on the dorsal surface of the right tail fluke and over right dorsal and left ventral tail stock (Figure 29). There haemorrhages in blubber associated with the bottlenose dolphin rake marks. Both lungs were hyperinflated with very mild evidence of parasitism. The liver was slightly pale and friable the spleen was enlarged and autolysed. There was a length of approximately 60cm of distal intestine that was distended and full of greyish fluid, possibly indicating enteritis. The brain appeared normal however the CSF was turbid but of normal volume. Bacteriology revealed a pure growth of *Streptococcus phocae* from all sites but one cultured. Histopathology showed a severe, chronic-active, multifocal verminous pneumonia plus severe, acute to sub-acute, multifocal,

predominantly suppurative broncho-pneumonia. Moderate, acute to sub-acute, multifocal necro-suppurative hepatitis. Severe, acute to sub-acute, multi-organ, sepsis. These findings support a diagnosis of systemic bacterial infection. This would appear to be a case of sepsis in a compromised animal that was attacked by bottlenose dolphins however there is no evidence that this was a fatal attack. It's possible that this attack was on an already moribund animal.



Figure 28: M146/17 short-beaked common dolphin (*Delphinus delphis*) from Luig.



Figure 29: M146/17 short-beaked common dolphin (*Delphinus delphis*) from Luig, showing bottlenose dolphin rake marks arrow.

8.3 M155/17 – Risso's dolphin (*Grampus griseus*)

This sub adult female Risso's dolphin was found dead stranded on Baleshare North Uist. There was some avian scavenger damage to the ventral and right side of the animal. The animal was in moderate condition with good blubber deposits and some subcutaneous fat but thin back muscle mass. The left lung was hyperinflated and the right lung congested and the smaller bronchi contained stable foam. There was no evidence of active parasitic infection in either lung however there was a small white firm nodular foci, probably of parasitic origin, in the left pulmonary associated lymph node. There was sand and gravel present in the oesophagus around the larynx the same material was also present in the cardiac section of the stomach along with a few squid beaks. There was a single ulcer present in the cardiac stomach but no nematodes were noted. The fundic stomach contained sea water and a few squid beaks and its mucosa was diffusely ulcerated and had a greenish appearance. The liver appeared normal with no evidence of trematode infection. The adrenals were slightly haemorrhagic and all the lymph nodes examined had a fibrous and oedematous appearance. There was an excess amount of slightly turbid CSF and the cerebral ventricles appeared to be slightly dilated with the choroid plexus enlarged and reddened. Bacteriology was unrewarding with all sites cultured proving sterile. This animal appeared to have not fed very recently and showed clear evidence of live stranding. Histology revealed a severe, sub-acute, generalised, lymphocytic, pan meningoencephalitis and a severe, acute, multifocal coalescing hepatic fatty degeneration. The cause of live-stranding and subsequent death of this animal is the severe brain pathology. Although the morphology of the lesions is not dissimilar to neurobrucellosis in cetaceans the distribution is not and the glial foci appear too large and frequent. Furthermore, given the reasonable state of preservation of the tissues we did not isolate *Brucella spp.* bacteria if this had been the aetiology. Other intra-cellular pathogens that will be investigated including protozoa, especially *Toxoplasma gondii*, and possibly herpesvirus.



Figure 30: M155/17 Risso's dolphin Baleshare, North Uist.

8.4 M166/17 – Minke whale (*Balaenoptera acutorostrata*)

This large adult female minke whale was reported swimming erratically close to shore in North Uist in the company of a larger animal on the 1st of April 17. The animal live stranded in a small inlet at Cheesebay, North Uist the following day. The animal subsequently died several hours later; no refloat attempt was feasible. A beach necropsy was carried out 40 hours later. The animal was in moderate body condition with moderate blubber deposits. There were excoriations to pectoral fins, tail flukes and the ventrum of the animal. Epidermis sloughing was also evident. There was some avian scavenger damage to the genital slit and anus. Both lungs were hyperinflated and very congested, fluid oozed on cut surface. The trachea, bronchi and smaller airways were full of fluid (assumed sea water) and froth. There were no parasites seen in either lung. All sections of the stomach were full of fluid (assumed sea water), but there was no evidence of ingesta, plastic debris or parasites. The intestines contained greenish content but no parasites were noted. The ovaries appeared mature and the left active with a CL present. The uterus was distended but not gravid, suggesting arecent pregnancy and parturition. The mammary gland contained watery yellow fluid. The liver was swollen and fibrosed particularly the edges of the lobes. It

had a greyish green appearance and was mottled grey/green on cut surfaces. The ducts were full of very large number of large liver fluke (suspect *Brachycladium goliath*) in some cases occluding the ducts completely (Figure 32). The lymph nodes appeared enlarged and reactive. All other organs examined appeared normal. In conclusion this would appear to be a recently pregnant animal with evidence of chronic active liver fluke infection. Bacteriology produced a mixed heavy growth of *Photobacterium damsela* and a haemolytic *E.coli* from the lung and heavy pure growth of *Photobacterium damsela* from the liver and kidney, suggesting a possible secondary bacterial infection. The proximal cause of death is live stranding. Histology showed severe, chronic-active, locally extensive hepatic parasitism. Severe, chronic-active, focal, abscessation of the spleen and mesenteric lymph node (both presumed parasitic in origin).



Figure 31: M166/17 minke whale (*Balaenoptera acutorostrata*) Cheesebay, North Uist.

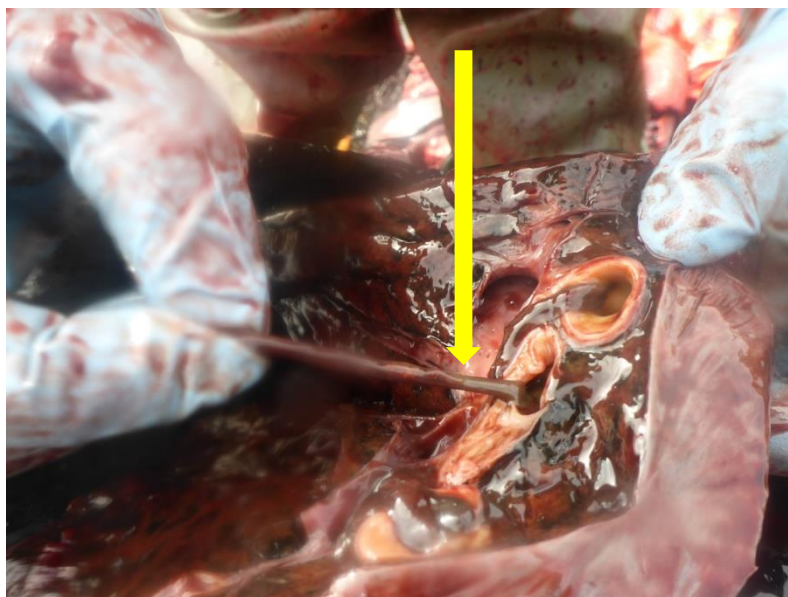


Figure 32: M166/17 minke whale (*Balaenoptera acutorostrata*) showing liver fluke (*Brachycladium goliath*) “arrow”.

8.5 M336/17 – Harbour porpoise (*Phocoena phocoena*)

This adult male harbour porpoise was in poor nutrition condition and significantly autolysed at necropsy. It had gone through two freeze/ thaw cycles so interpretation is complicated by these post mortem changes. The most significant finding was a pericarditis, characterised by an excess of pericardial fluid, acellular/fibrinous clots in the pericardial sac and adhesions to several abscess-like focal nodules within the myocardium. These focal nodules extended into the myocardium and were vegetative on cross section, 4-12mm in diameter with purulent necrotic centres. The valves were unremarkable and no parasites were noted in the vasculature. The lungs were congested with a moderate nematode burden. There was no evidence of any recent feeding. Both testes were enlarged and active consistent with the breeding season of this species. Differentials include abscessation, infarcts, encysted larval reaction or neoplasia. A pure growth of *Staphylococcus aureus* was isolated from both the pericardial fibrosis/clot and the heart ventricle lesion; this same organism was also isolated from the spleen. This suggests a *S. aureus* myocarditis, pericarditis and sepsis is the cause of death. Histology showed a severe, sub-acute, multifocal systemic bacterial colonisation and abscessation affecting the heart, lung, pericardial sac and adrenals. These findings support a diagnosis of septicaemia due to *Staphylococcus aureus*.

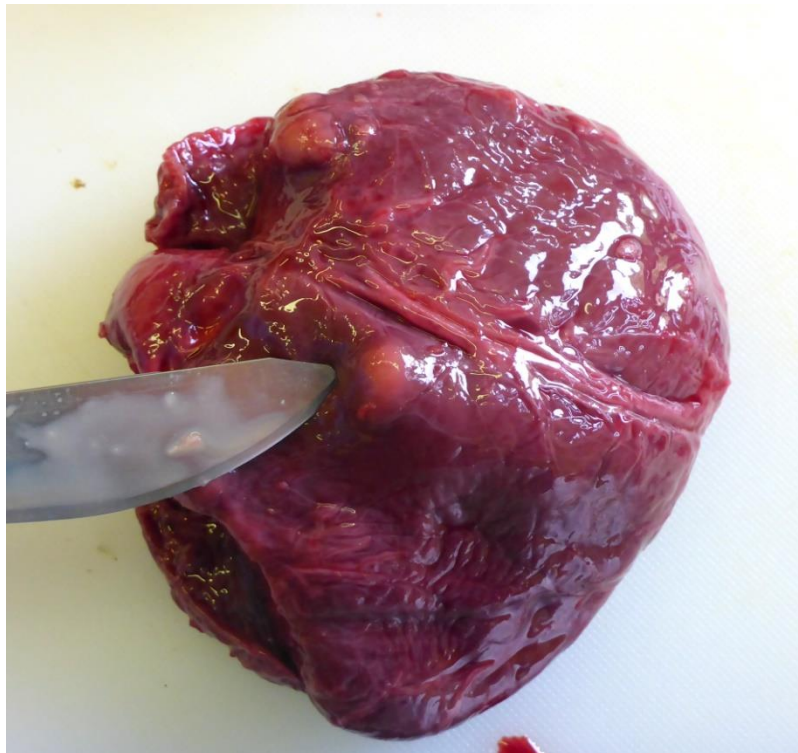


Figure 33: M336/17 harbour porpoise (*Phocoena phocoena*) heart showing myocardial foci.

8.6 M341/17– Long-finned pilot whale (*Globicephala melas*).

This adult female long-finned pilot whale was found live stranded on the upper third of the tidal range on a stony shingle beach in North Kessock near Kilmur. A number of other animals had been observed around the Moray Firth region since 28th July, and in the Beaully Firth the previous day. The pod had been observed showing normal feeding behaviour in the outer Moray Firth, collaborative diving and apparently able to navigate successfully past complex bathymetry, such as Channory point and the Kessock narrows. This animal was the only one to strand and had been out of the water since 2am based on the position on the tideline. It displayed a respiratory rate of 10-15 breaths per minute and widespread persistent bilateral muscle fasciculation. At the time the tide returned it had been out of the water for 9 hours and on this basis of both the clinical picture of this individual and the possibility of a refloated but compromised animal invoking a mass stranding, it was elected to euthanase this animal. It was shot with a 0.270 calibre rifle using soft point ammunition. Initial shot was midline at 45' caudal from the blowhole and this fractured the frontal region of the skull and caused extensive trauma and haemorrhage to the cortex. This shot initially appeared to render the animal insensate a second lateral shot was required due to increasing developed tail movements. The animal was recovered and necropsied within four hours. On PM examination, the animal was aged, with worn teeth and in thin but not emaciated condition. There was no evidence of recent feeding however the liver did not show evidence of notable catabolism. There was ballistic damage to the cortex and generalised cerebral haemorrhage but most brain architecture was intact. There was a notable increase in white matter in the brain, suggesting an aged, possibly senescent animal however the ventricles and CSF were grossly unremarkable. There was a significant tetraphylidean parasite burden in the caudal abdomen and mesentry, and a notable hyperplasia of the pyloric stomach, producing cauliflower –like partially ulcerated masses. These appeared to be in response to a chronic stomach fluke infestation, likely *Pholeter gastrophilus*, and partially occluded the sphincter. The lung parenchyma showed some focal pale regions or possibly infarcts but neoplasia is a possibility; however histology showed a severe, sub-acute, multifocal becoming generalised, granulo-suppurative broncho-pneumonia. Severe, chronic-active, locally extensive, necro-suppurative verminous gastritis. Bacteriology proved sterile on all organs cultured. The pulmonary lesions, if representative of the whole lung field, would be clinically significant especially when combined with any reduction in feeding due to gastric emptying problems caused by the very severe abscessation of the stomach.

Notably, the pathological findings support the decision not to refloat this animal and risk it, with and potentially other members of the pod, from subsequently mass stranding. The 'sick-leader' hypothesis, where the pod of animal remain close to shore to support an ill member of their group is documented in this species and consequently it was decided to euthanize this case. Following euthanasia of this case, the other members of the pod left the region and were last sighted the following day swimming strongly out to sea.



Figure 34: M341/17 Long-finned pilot whale (*Globicephala melas*) live stranded at Kilmur, North Kessock Inverness.
©WDC/Charlie Phillips

8.7 M394/16 – Harbour porpoise (*Phocoena phocoena*)

This aged female harbour porpoise was found live stranded and died before refloat could be attempted. It was in thin condition and had not recently fed, but did not appear to be in a catabolic state. There was profound lung pathology, characterised by extensive lymphadenopathy and focal, nodular, chronic masses (Aspergilloma) throughout the parenchyma. Culture of the lung, lung lesion and adhesion produced a pure growth of *Aspergillus fumigatus*, suggesting this was a case of fungal pneumonia; however neoplasia needs to be ruled out by histopathology. Other age-related changes included cardiac valvular endocardiosis, cardiac dilatation (especially on right side), hepatic congestion and portal vein dilation, and notable increase in the white matter in the brain. In addition the phrenic nerve was displaced and stretched by the enlarged pulmonary associated lymph nodes. All would contribute to debilitation and account for the live stranding and death of this animal.



Figure 35: M394/17 close up of the lung *Aspergilloma* (arrow) from the harbour porpoise (*Phocoena phocoena*).

8.8 M447/17 – Minke whale (*Balaenoptera acutorostrata*)

This juvenile female minke whale was in very thin condition and showed indications of agonal live stranding, in particular stable foam suggestive of water aspiration and significant ventral bruising. The main pathology and likely reason for the poor condition was a significant intestinal parasite burden, both of *Anasakis sp.* nematodes in the stomach and *Bolbosoma balaenae* likely, spiny-headed worms, in the intestines. The latter had caused severe and extensive intestinal reaction with multifocal transmural abscesses. It is likely that this is the reason for the ill-thrift and was a possible cause of discomfort and colic, which possibly contributed to the live stranding. Bacteriology did reveal any significant isolates.



Figure 36: M447/17 minke whale (*Balaenoptera acutorostrata*) intestine showing *Bolbosoma balaenae* worms.

8.9 M450/17 – Harbour porpoise (*Phocoena phocoena*)

This aged female harbour porpoise was found dead stranded at Big Sand near Gairloch on the 10th of October 2017. It was in moderate condition, lactating and pregnant with a 5cm foetus in the left uterine horn. There was evidence of recent feeding with otoliths, fish lenses, bones and some beach debris in the cardiac stomach together with a moderate nematode (*Anasakis sp.*) burden. There was a moderate to high nematode (*Pseudalius inflexus*) burden in the lung consistent with an aged animal. There were numerous rake marks with associated bruising over the body these however were not consistent with bottlenose dolphin rake marks being only 5-7mm apart. There was a large haematoma within the liver associated with a rib fracture. T10-13 ribs were fractured. There was a puncture to the left ventricle approximately 1cm below the mitral valve causing haemorrhage into the pericardium and cardiac tamponade. This was again associated with rib fractures. Bacteriology did not reveal any significant isolates. This is consistent with an attack by a sympatric species, and based on the interdental spacing of the rake marks, possibly a common dolphin (*Delphinus delphis*) rather than the usual *Tursiops*.

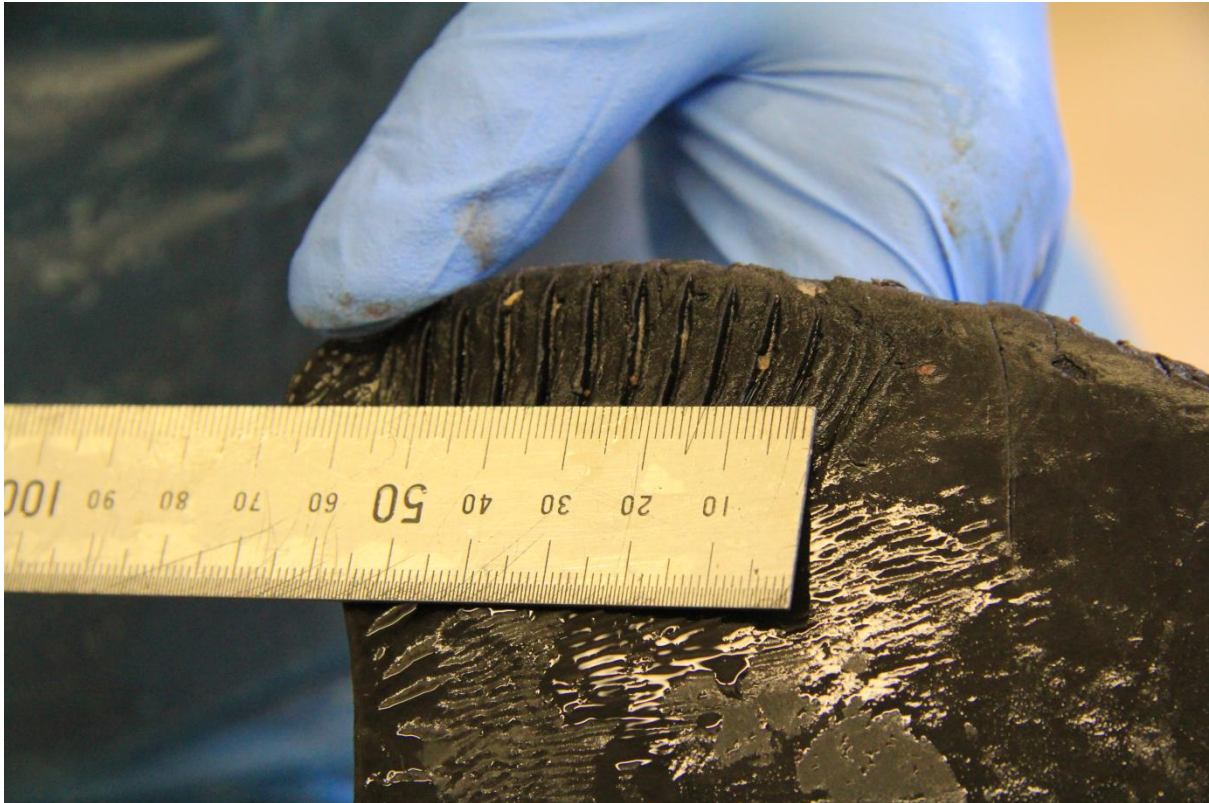


Figure 37: M450/17 harbour porpoise (*Phocoena phocoena*) showing rake marks 5-7 mm apart on dorsal fin



Figure 38: M450/17 harbour porpoise (*Phocoena phocoena*) showing rake marks 5-7 mm apart with associated bruising in the blubber (arrow).

8.10 M459/17 – Risso’s dolphin (*Grampus griseus*)

A juvenile male Risso’s dolphin was found live stranded by the causeway between Benbecula and South Uist on the 17th of October 2017. It was euthanased by a local vet because it was in very poor nutritional condition and showed clear evidence of a recent and reasonably prolonged live stranding. There was no evidence of recent feeding with only scant squid beaks and seaweed fragments present in the cardiac stomach section. Of most interest in the visceral organs was a generalised and significant lymphadenopathy especially in the cranial and pulmonary nodes. With the exception of a single *Stenurus minor* nematode found in the cochlea there were no other parasites noted in any systems. The brain was slightly congested and there was an excess of clear CSF, but no classic neurobrucellosis lesions were evident. Bacteriology revealed a mixed growth of *Vibrio alginolyticus* and *Photobacterium damsela*, histology showed a mild, sub-acute, multifocal, mixed, predominantly suppurative, broncho-pneumonia alongside a severe, sub-acute, generalised, reactive lymphadenopathy and granulomatous, enteritis. These findings are suggestive of debilitation due to a number of infectious process(es), possibly centred on the gut but also the lung. Further investigation of the intestine sample from this case by Ziehl Neelsen staining showed an exceptionally large number of ZN positive coccobacilli within the cytoplasm of the activated macrophages within the lamina propria. These same organisms were demonstrated in a ZN stained smear of the faeces from this animal. This would be suggestive of a Mycobacteria infection and would have certainly contributed to the animal’s demise. There have been very few reports of Mycobacterial infections in cetaceans. Those that have been reported are usually cases of dermatitis and panniculitis due to either *M. marinum* or *M. chelonae*. If confirmed, this would be the first report of a mycobacterial infection in the gastrointestinal tract of cetacean.



Figure 39: M459/17 Risso’s dolphin (*Grampus griseus*) was found live stranded by the causeway between Benbecula and South Uist.

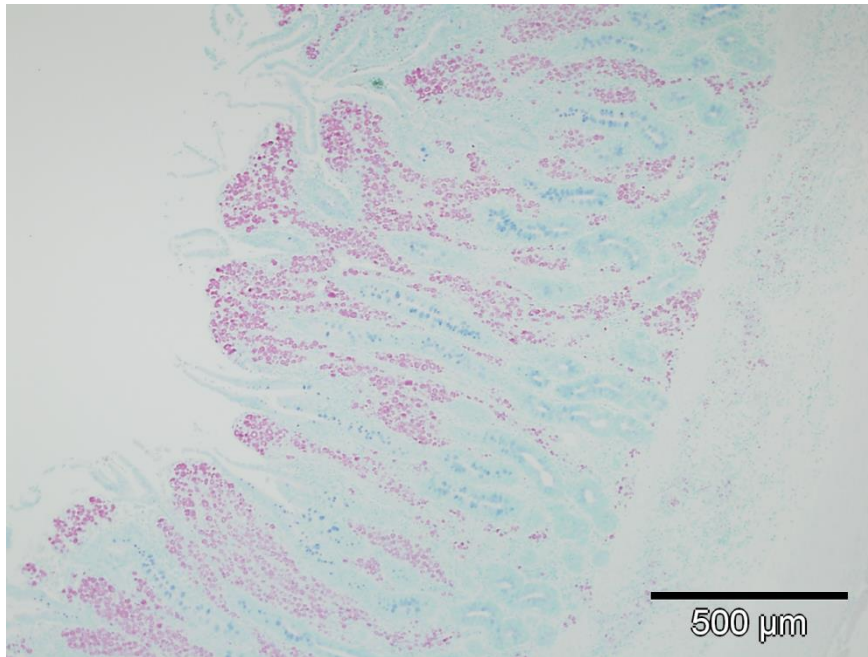


Figure 40: M459/17 Risso's dolphin (*Grampus griseus*) Ziehl-Neelsen stained section of intestine: Note large numbers of acid-fast bacteria (red pigment) completely filling the cytoplasm of activated macrophages which had infiltrated the lamina propria of the intestine.

8.11 M484/17 – Harbour porpoise (*Phocoena phocoena*)

This adult female harbour porpoise was in moderate nutritional condition, with no evidence of recent feeding. There was significant freeze/thaw damage to all organs. There was some possible bruising around the throat area though this may be freeze/thaw damage. There was stable foam and fluid in the lungs which had a congested and wet appearance possibly due to the freeze thaw process. There was a moderate nematode burden in the lungs (suspect *Pseudalius inflexus*). The liver was autolysed and friable with a moderate trematode (*Campula oblonga*) infection. The most striking finding was a very large ovarian cyst/ body attached to or part of the left ovary. This body contained two litres of turbid beige coloured fluid with necrotic material. The left uterine horn was also massively distended with the same fluid as in the ovarian body. The uterus and vagina also contained a number of large fibrous bodies partially occluding the cervix. The rest of the carcass was unremarkable. The lesions within the reproductive tract are certainly significant and may have acted as a reservoir of infection perhaps causing a terminal sepsis. Bacteriology examination of the ovarian cyst and uterine fluid produced *Brucella ceti* in mixed culture from both, confirming a significant reproductive tract infection in this case.

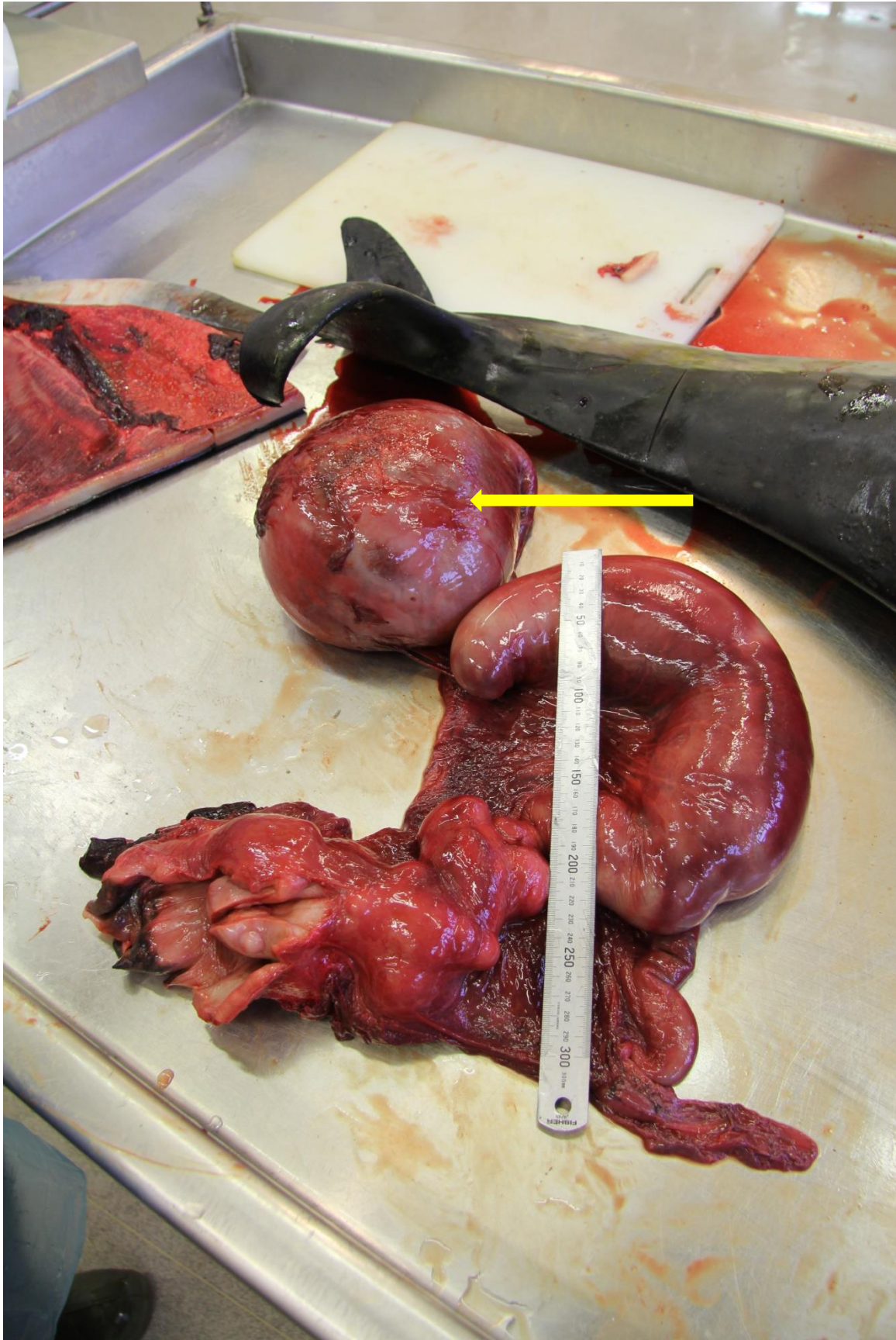


Figure 41: M484/17 harbour porpoise (*Phocoena phocoena*) reproductive tract showing massively enlarged left uterine horn and ovarian cyst (arrow).

8.12 M635/17 – Bottlenose dolphin (*Tursiops truncatus*)

This juvenile male bottlenose dolphin was found dead stranded in Macduff on the 29th of December 2017 and was chilled prior to post mortem. It was estimated to be <1year old as foetal folds were clearly visible and no teeth had erupted. There was some evidence for agonal live stranding including submandibular bruising and a bilateral non-turbid hematogenous transudate in the plural space may be due to agonal water aspiration. Of most significance however was a diffuse haemorrhage/bruising around the rete, lung and thoracic inlet, and significant diffuse intracranial, brainstem and meningeal haemorrhages, likely a result of generalised sepsis but possible exacerbated by stranding trauma. There was no indication of conspecific BND trauma and the animal was in general in moderate body condition suggesting a reasonably acute process. No parasite burden was noted and the stomach was empty excepting sand and some seaweed debris, however the lower GIT contents indicated the animal had reasonably recently suckled. Bacterial cultures from this animal produced a profuse culture of *Yersinia pseudotuberculosis* from all sites. This would indicate a sepsis due to this organism. We believe this may be the first such isolation of *Y. pseudotuberculosis* from a cetacean.



Figure 42: M635/17 bottlenose dolphin calf (*Tursiops truncatus*) Macduff, Moray.

Section 9: Spiral “corkscrew” trauma seal cases

Sixty-six seals were reported as having trauma consistent with spiral or corkscrew injuries. These cases were reported from nine different regions. Most reports from Highland and Orkney with 22 and 16 respectively. There were also reports from other areas including Aberdeenshire (7), Argyll and Bute (6), Shetland (5), Fife (7) and one each for North Ayrshire, Dumfries and Galloway and the Western Isles. The majority of these were grey seals (*Halichoerus grypus*) (n=37; 56.1%). Harbour seals (*Phoca vitulina*) (n=17; 25.7%) and those too decomposed or data deficient to be identified (n=12; 28.2%). Although it is considered highly plausible that a large majority of historic “spiral or corkscrew” cases are actually due to grey seal predation, research is still ongoing by SMRU in collaboration with SMASS.

Table 6 shows the details for all pinniped cases considered to be potential spiral trauma cases. The final two columns display an adjectival description of a) how likely it is that the case matches the archetypal spiral ‘corkscrew’ lesion and b) given the recent new evidence, how likely is it that the lesions could be due to grey seal predation. Figure 44 below shows the spatial distribution of cases across Scotland.



Figure 43: M80/17 grey seal (*Halichoerus grypus*) Near Scarff, Hamnavoe, Shetland showing some of the typical corkscrew/grey seal predation lesion characteristics.

Table 6: Scoring of suspected spiral trauma cases 2017

SMASS ID	Species	Date found	Region	Sex	Age Group	Likelihood of (grey) seal predation	Would lesions fit with the archetypal 'corkscrew' pattern?
M3/17	Grey seal	01/01/2017	Fife	U	Pup	Likely	Likely
M21/17	Grey seal	09/01/2017	Highland	U	Pup	Possible	Possible
M22/17	Grey seal	09/01/2017	Highland	U	Pup	Possible	Unlikely
M27/17	Grey seal	09/01/2017	Fife	U	Juvenile	Possible	Unlikely
M34/17	Grey seal	15/01/2017	Orkney	U	Pup	Possible	Unlikely
M42/17	Grey seal	15/01/2017	Highland	U	Unknown	Likely	Possible
M35/17	Grey seal	16/01/2017	Orkney	U	Pup	Possible	Unlikely
M59/17	Grey seal	20/01/2017	Orkney	U	Unknown	Unlikely	Unlikely
M61/17	Grey seal	20/01/2017	Orkney	U	Unknown	Possible	Unlikely
M63/17	Grey seal	20/01/2017	Orkney	U	Unknown	Possible	Unlikely
M70/17	Grey seal	29/01/2017	Aberdeenshire	U	Unknown	Unlikely	Unlikely
M71/17	Harbour seal	29/01/2017	Highland	U	Unknown	no data	no data
M72/17	Grey seal	30/01/2017	Shetland	U	Unknown	Possible	Possible
M74/17	Grey seal	30/01/2017	Aberdeenshire	U	Juvenile	Likely	Likely
M80/17	Grey seal	01/02/2017	Shetland	U	Unknown	Likely	Likely
M88/17	Harbour seal	05/02/2017	Highland	U	Juvenile	Possible	Unlikely
M93/17	Seal (indeterminate species)	05/02/2017	Orkney	U	Unknown	Possible	Unlikely
M96/17	Seal (indeterminate species)	09/02/2017	Highland	U	Unknown	no data	no data
M97/17	Seal (indeterminate species)	09/02/2017	Shetland	U	Unknown	no data	no data
M109/17	Grey seal	14/02/2017	Fife	U	Unknown	Likely	Unlikely
M113/17	Grey seal	16/02/2017	Orkney	U	Unknown	Possible	Unlikely
M241/17	Harbour seal	12/06/2017	Highland	U	Adult	Likely	Likely
M258/17	Harbour seal	22/06/2017	Highland	U	Juvenile	Likely	Likely

SMASS ID	Species	Date found	Region	Sex	Age Group	Likelihood of (grey) seal predation	Would lesions fit with the archetypal 'corkscrew' pattern?
M256/17	Harbour seal	23/06/2017	Highland	F	Adult	Likely	Likely
M272/17	Harbour seal	09/07/2017	Shetland	U	Pup	Possible	Unlikely
M274/17	Harbour seal	10/07/2017	North Ayrshire	U	Unknown	Possible	Unlikely
M286/17	Harbour seal	12/07/2017	Argyll and Bute	U	Unknown	Likely	Likely
M287/17	Harbour seal	12/07/2017	Argyll and Bute	U	Pup	Likely	Likely
M302/17	Seal (indeterminate species)	20/07/2017	Orkney	U	Unknown	Possible	Unlikely
M319/17	Harbour seal	25/07/2017	Fife	U	Juvenile	Likely	Likely
M326/17	Grey seal	26/07/2017	Highland	U	Juvenile	Possible	Possible
M333/17	Harbour seal	28/07/2017	Highland	U	Pup	Possible	Unlikely
M337/17	Harbour seal	01/08/2017	Shetland	U	Juvenile	Likely	Likely
M346/17	Harbour seal	09/08/2017	Fife	M	Adult	Likely	Likely
M663/17	Harbour seal	10/08/2017	Fife	F	Juvenile	Likely	Likely
M352/17	Harbour seal	11/08/2017	Argyll and Bute	U	Pup	Possible	Unlikely
M377/17	Grey seal	30/08/2017	Aberdeenshire	U	Juvenile	Likely	Likely
M385/17	Harbour seal	31/08/2017	Fife	U	Juvenile	Likely	Likely
M465/17	Grey seal	18/09/2017	Argyll and Bute	M	Juvenile	Possible	Unlikely
M469/17	Grey seal	21/10/2017	Aberdeenshire	U	Juvenile	Possible	Unlikely
M486/17	Grey seal	27/10/2017	Argyll and Bute	U	Juvenile	Likely	Likely
M489/17	Grey seal	29/10/2017	Aberdeenshire	U	Juvenile	Possible	Possible
M490/17	Grey seal	29/10/2017	Western Isles	U	Unknown	Possible	Possible
M534/17	Grey seal	29/10/2017	Argyll and Bute	F	Unknown	Possible	Unlikely
M523/17	Grey seal	13/11/2017	Highland	U	Juvenile	Possible	Unlikely
M556/17	Grey seal	21/11/2017	Orkney	U	Juvenile	Likely	Likely
M557/17	Grey seal	21/11/2017	Orkney	U	Pup	Unlikely	Unlikely
M558/17	Grey seal	22/11/2017	Orkney	U	Juvenile	Likely	Likely
M568/17	Grey seal	01/12/2017	Aberdeenshire	U	Juvenile	Possible	Unlikely

SMASS ID	Species	Date found	Region	Sex	Age Group	Likelihood of (grey) seal predation	Would lesions fit with the archetypal 'corkscrew' pattern?
M580/17	Grey seal	07/12/2017	Dumfries and Galloway	U	Juvenile	Possible	Unlikely
M591/17	Harbour seal	09/12/2017	Highland	U	Juvenile	Possible	Unlikely
M606/17	Grey seal	18/12/2017	Highland	U	Juvenile	Unlikely	Unlikely
M609/17	Grey seal	18/12/2017	Highland	U	Juvenile	Unlikely	Unlikely
M652/17	Grey seal	23/12/2017	Highland	U	Juvenile	Possible	Possible
M653/17	Seal (indeterminate species)	23/12/2017	Highland	U	Unknown	no data	no data
M654/17	Seal (indeterminate species)	23/12/2017	Highland	U	Unknown	no data	no data
M655/17	Seal (indeterminate species)	23/12/2017	Highland	U	Unknown	no data	no data
M656/17	Seal (indeterminate species)	23/12/2017	Highland	U	Unknown	no data	no data
M547/17	Seal (indeterminate species)	28/12/2017	Orkney	U	Unknown	no data	no data
M644/17	Grey seal	28/12/2017	Orkney	U	Juvenile	Possible	Unlikely
M645/17	Grey seal	28/12/2017	Orkney	U	Juvenile	Possible	Unlikely
M646/17	Seal (indeterminate species)	28/12/2017	Orkney	U	Unknown	no data	no data
M647/17	Seal (indeterminate species)	28/12/2017	Orkney	U	Unknown	no data	no data
M637/17	Seal (indeterminate species)	30/12/2017	Aberdeenshire	U	Unknown	Unlikely	Unlikely
M648/17	Grey seal	31/12/2017	Highland	U	Juvenile	no data	no data
M649/17	Grey seal	31/12/2017	Highland	U	Juvenile	Likely	Possible

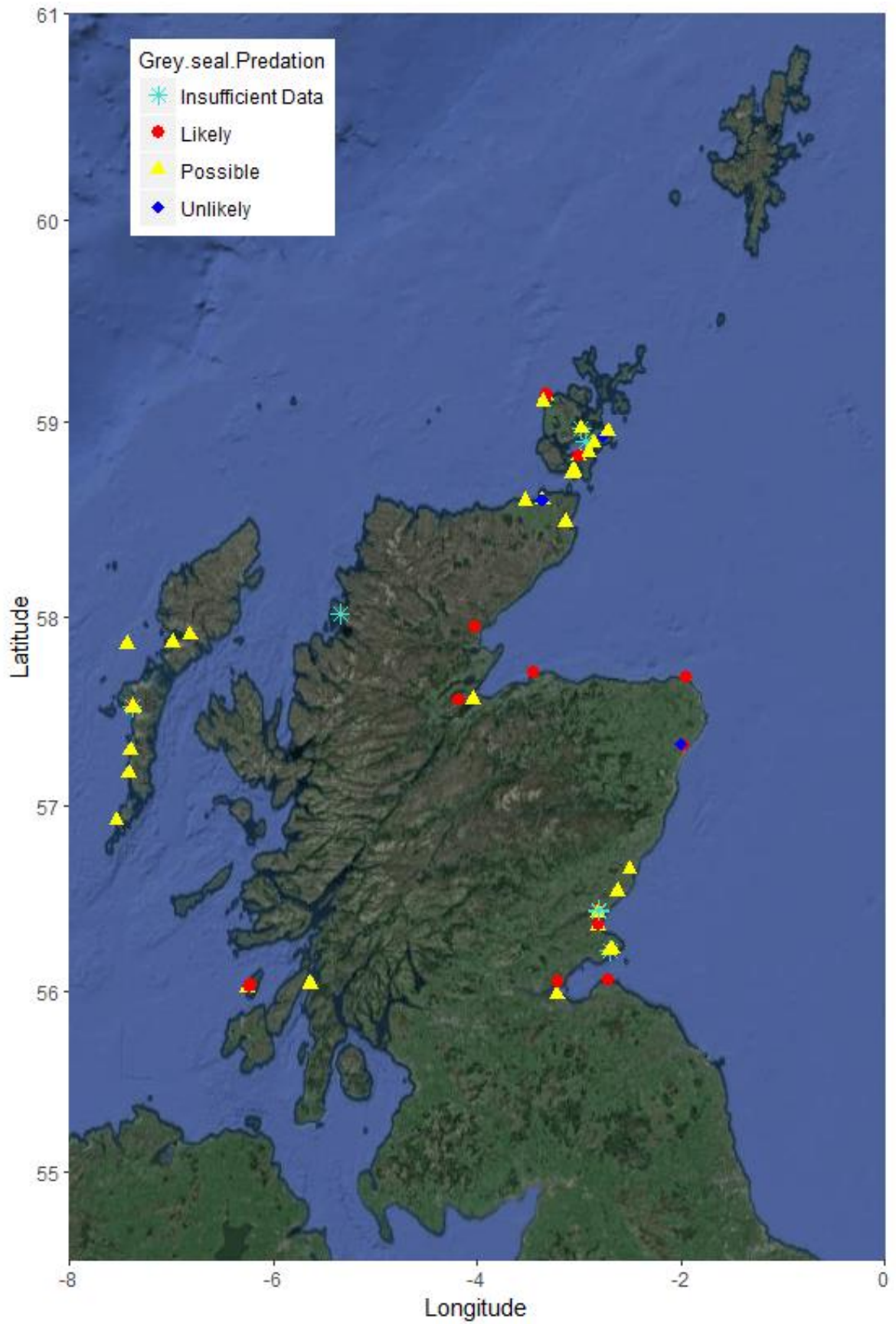


Figure 44: Distribution of seal “spiral” trauma cases in 2016

Section 10: Other single pinniped strandings

10.1 M13/17– Grey seal (*Halichoerus grypus*)

This juvenile male grey seal was found freshly dead at Eyemouth, Scottish Borders on the 6th of January 2017 and was frozen prior to necropsy. Consequentially there was significant freeze/thaw damage and no bacteriology or histopathology deemed valid. The weaner was in good body condition with no parasite burden (none seen) and had not recently fed. The skeleton did not show any fractures, however there was extensive gelatinous oedema and bruising over the left thorax and right occipital region of the head. This is not definitely ante-mortem but could be due to possible post-mortem artefact; however given the acute nature of the death a traumatic cause is highly possible.



Figure 45: M13/17 grey seal (*Halichoerus grypus*) from Eyemouth, Scottish Borders showing bruising and extensive haemorrhage (arrow).

10.2 M403/17 – Grey seal (*Halichoerus grypus*)

This female adult grey seal was found in moderate condition on West beach, North Berwick on the 17th of September and kept cool at around 10C for 72 hours prior to necropsy, although some autolysis was present in this case. It was in good body condition and was not gravid or showing evidence of lactation or recent pregnancy. It showed evidence of blunt trauma to the flank and abdomen, resulting in hepatic rupture with frank haemorrhage in the abdomen, bruising in the renal capsule at the cranial pole of the right kidney, gelatinous oedema and haemorrhage in the subcuticular tissues and focal bruising in the peri-lumbar blubber. There was no palpable evidence for skeletal trauma. The brain also showed

indication of intracranial haemorrhage, with dilated cranial vasculature and frank haemorrhage around the brainstem. There was no evidence of ballistic trauma. The stomach was empty and contained refluxed bile and the lungs were congested, hyperaemic and showed a mild parasite burden. There was no evidence for stable foam or water aspiration. The diaphragm was intact. This degree of haemorrhage and bruising would be consistent with severe focal blunt trauma, for example boat strike. Bacteriology produced a pure growth of *Pasteurella multocida* from the lung, liver, spleen, kidney and brain. Given the degree of both focal abdominal and intracranial haemorrhage, it is likely this animal was moribund with a *P. multocida* sepsis, and hence potentially more prone to a collision. Further work to investigate the potential role of any underlying toxic or metabolic processes which could predispose to impaired clotting function is also underway.



Figure 46: M403/17 grey seal (*Halichoerus grypus*) West beach, North Berwick.

10.3 M593/17– Harbour seal (*Phoca vitulina*)

This juvenile female harbour seal was found freshly dead at Roseisle beach, Moray on the 10th of December. It showed evidence of significant verminous pneumonia, and was in moderate to thin body condition with little functional back muscle reserves and low blubber thickness. In addition there was generalised acute peritonitis, white pink/brown turbid fluid free in the abdomen and a significant volume of digested blood and melena in the intestine, likely a result of haemoptysis. Bacteriology showed a mixed growth of *Streptococcus phocae* and a *Brucella pinnipedialis* from nearly all tissues cultured. This would suggest a *Streptococcal* sepsis. The significance of the *B. pinnipedialis* uncertain as is the single colony

of *Aspergillus sp.* from the brain. Histopathology is awaited with interest to assess the degree of compromise to this animal.



Figure 47: M593/17 harbour seal (*Phoca vitulina*) from Roseisle, Moray.

Section 11: Basking sharks and marine turtles

11.1 Basking sharks (*Cetorhinus maximus*)

There was a single report of a basking shark in this period at Rubha Hunish Isle of Skye. This comprised of some cartilaginous vertebrae and was identified by the National Museum of Scotland as the remains of a basking shark.

11.2 Marine Turtles

There were five reports of marine turtles during this reporting period. They were all leatherback turtles. None were necropsied. One was spotted floating out to sea off Raasay. Two were reported as entangled in creel lines one of which in Orkney was released alive. The other two were too decomposed for examination.



Figure 48: M597/17 leatherback turtle (*Dermochelys coriacea*), disentangled by fishermen and released alive from creel lines in Orkney.

Section 12: Other shark species

12.1 M536/17 – Blue shark (*Prionace glauca*)

The blue shark is a species of requiem shark, in the family *Carcharhinidae* that inhabits deep waters in the world's temperate and tropical oceans, preferring cooler waters. They migrate long distances. The species is listed as Near Threatened by the IUCN. They are viviparous and are noted for large litters of 25 to over 100 pups. They feed primarily on small fish and squid, although they can take larger prey. Maximum lifespan is still unknown, but it is believed that they can live up to 20 years.

This juvenile female blue shark was found dead stranded on Roseisle, Moray on the 18th of November 2017. Unfortunately most of the internal organs had been removed by avian scavengers. There was no significant pathology observed, although the lack of organs may have hampered diagnosis. No direct evidence for- or lesions associated with bycatch/entanglement were seen, yet given its location it was likely incidentally caught and discarded. Samples for genetics and toxicology were collected.



Figure 49: M536/17 Blue shark (*Prionace glauca*) from Roseisle, Moray.

Section 13: Bacteriology

13.1 *Brucella* sp.

Brucella ceti was isolated from six cases during this period. In mixed culture from the cerebral spinal fluid (CSF) brain of a common dolphin

It was isolated in septicaemic distribution from the lung, liver, spleen and CSF of harbour porpoise causing a *Brucella* sepsis.

B. ceti was isolated from 7 different sites within the CNS of a striped dolphin with neurobrucellosis including CSF, spinal cord, cerebral cortex choroid plexus and vestibula cochlea nerve. We believe this to be the first isolation from the spinal cord of any species of dolphin. See section 7.

B. ceti was isolated very large ovarian cyst/ body and dilated left uterine horn of a harbour porpoise, histology is pending. See section 8.

B. ceti was also isolated from the the brain and CSF of a common dolphin perhaps suggesting neurobrucellosis. Histology is pending. See section 7.

Brucella pinnipedialis was from the CSF from the cerebral ventricles and atlanto occipital joint and the choroid plexus of a minke whale. Phenotypic typing and molecular typing has shown the isolate to be *B. pinnipedialis*, ST24 by full MLSA. We have requested whole genome sequencing. This may be the first case of *B. pinnipedialis* in any marine mammal species and the first case of neurobrucellosis in this species and indeed family and sub-order. See section 7.

B. ceti was isolated from the brain and CSF of a killer whale; we believe this to be the first confirmed isolation of *Brucella* from this species. Histology is pending. See section 7.

13.2 *Streptococcus* sp.

A *Streptococcus* sp. with a profile not seen before was isolated in mixed culture with a Yeast sp. from the skin lesions of a harbour porpoise. The significance of this is uncertain at present.

Streptococcus phocae was isolated from all sites culture in a juvenile common dolphin with skin lesions. This suggests a sepsis. See section 8.

A α -Haemolytic *Streptococcus* sp. was isolated from the lung, spleen, kidney and brain of a harbour porpoise. It was not thought significant in this case.

Another α -Haemolytic *Streptococcus* sp. was isolated from the lung, PALN, and CSF of a minke whale. This also was not thought significant.

Bacteriology revealed a *Streptococcus group C equisimilis*-like from the lung, associated lymph nodes and CSF of a live stranded white-beaked dolphin, histology is pending.

13.3 *Pasteurella* sp.

Actinobacillus delphinicola was isolated in pure culture from the brain and CSF of a live stranded common dolphin, this significance of this isolate will be investigated by histology. The same organism was isolated in mixed culture from the CSF another common dolphin. It was also isolated from a striped dolphin with neurobrucellosis and a harbour porpoise that died due a bottlenose dolphin attack.

A *Pasteurella* sp. with a profile not seen before was isolated from the lung and PALN of a minke whale this is thought to be an incidental finding.

Another *Pasteurella* sp. with a profile not seen before was isolated from the lung and brain of a harbour porpoise.

Pasteurella multocida was recovered in pure culture from the lung, liver, spleen, Kidney, and brain of a grey seal with traumatic lesion and possible sepsis (see above).

13.4 *Vibrio* sp.

Photobacterium damsela was in pure culture from the liver, kidney and in mixed culture from the lung of minke whale this may be a secondary infection resulting from liver fluke damage. This same organism was isolated from the liver, spleen, kidney, brain and CSF of a second minke whale with a probable neurobrucellosis and therefore not thought significant in this instance. It was also isolated from a striped dolphin with neurobrucellosis. It was also isolated from the lung and CNS of a Risso's dolphin that live stranded.

Vibrio anguillarum was isolated in septicaemic distribution in a neonatal long finned pilot whale however did not reveal any associated inflammation so it is probably a post mortem invader.

Vibrio alginolyticus was isolated from the lung and CNS of a Risso's dolphin that live stranded.

13.5 *Staphylococcus sp.*

Staphylococcus aureus was recovered in pure culture from heart lesions, pericardium and spleen of a harbour porpoise. This suggests a *S. aureus* myocarditis, pericarditis and sepsis is the cause of death. *S. aureus* is not a particularly common isolate in cetaceans, only being recovered 6 times since the start of the scheme in 1992 and only from harbour porpoises. See section 8.

13.6 *Yersinia sp.*

Yersinia pseudotuberculosis was isolated from all sites cultured from a bottlenose dolphin calf. This would indicate a sepsis due to this organism. We believe this may be the first such isolation of *Y. pseudotuberculosis* from a cetacean. The histology is awaited with interest. See section 8.

13.7 Fungal isolates

Aspergillus fumigatus was recovered from the lungs, lung lesion (Aspergilloma) and lung adhesions of harbour porpoise leading to a diagnosis of fungal pneumonia pending histology (see above).

Section 14: Virology

The role of viral infection in the morbidity and mortality of stranded marine mammals in Scotland is not clear, and although virology screening is conducted as part of epizootic or mass stranding investigations, it has not been undertaken routinely.

Currently tissues are archived at -80°C for virology screening, and we intend to batch process historic samples for herpes and morbillivirus from past cases during 2018.

Section 15: Volunteer training courses

Scotland has over 10,000 miles of coastline, including over 800 islands; an enormous area to cover for the SMASS team alone. Consequently, since 2014, we have implemented an initiative to recruit and train collaborators and members of the public in the safe, reliable and accurate measurement and sampling of dead stranded marine animals. This outlines techniques used for encouraging the public to report strandings and assesses how effective this approach has been to add data and samples to the scheme. Coined by one volunteer as a way of training “Whale Detectives”, the programme has proved invaluable to SMASS in both providing rapid and reliable information and images about strandings and in many cases measurement and samples from cases too autolysed, or remote, to enable a necropsy.

15.1 Introduction

A significant increase in strandings surveillance and data recovery could be achieved by improving public awareness of, and engagement with SMASS. The purpose of the network is therefore to enable better data and in some case samples to be taken from animals not suitable for collection and necropsy. The most efficient and effective option for this and extend the reach of the strandings scheme to all parts of Scotland was to utilise volunteers trained by SMASS to accurately identify species, photograph, collect data and samples from such cases.

15.2 Training courses

15.2.1 *Course aims and objectives*

Volunteers were invited to apply for training courses, via our website, social media or word of mouth. Courses were often oversubscribed, but if selected, candidates were invited to attend a training course, where they were given important safety information, had an opportunity to take samples from a stranding case and watched a complete diagnostic cetacean necropsy. If, having seen what was involved, they still wished to help and were deemed competent; they were issued with a sampling kit and became one of our team. When a stranding is reported in their area, we send out an available volunteer to collect the necessary measurements and/or samples.

The purpose of the training day is to demonstrate how to safely and accurately collect information and samples from stranded marine animals. This involves a cetacean necropsy which is used to demonstrate what samples to take and show how we conduct a full necropsy examination. There is no expectation for the volunteers to attempt examinations at this level of detail but we hope to show how even basic sampling and data collection can be of great benefit to the scheme.

The day has a set of modules and usually run in this order;

- Arrival and HSE brief.
- 45-50 minute talk on the stranding scheme and what is expected of those who sign up as a “SMASS Stranding Volunteer”
- Post mortem examination demonstration and sampling techniques.
- Hand out certificates and tags provision of sampling kits.

Health and safety documentation is supplied to the attendees via email beforehand and they are expected to have read and understood them all before attending the course. They sign a document to confirm this prior to entering the post-mortem room or observing the necropsy. During the necropsy demonstration each potential volunteer will be given the opportunity to take samples and measurements from the animal as they would do when asked to attend a stranding on the beach. Each potential volunteer is assessed on their abilities and only if deemed competent will a stranding kit be issued. These kits cost around £24-26 each in materials and are designed to be small enough to be easily carried and stored in the volunteer’s car. With the exception of the gloves, bio bottle and cut resistant gloves, most components are sourced from supermarkets or basic hardware stores.

15.2.2 Courses run 2017

Three courses were run in 2017 targeting Skye, Wester Ross, and the Western Isles; south west Scotland including the islands of Arran and Cumbrae, a number of volunteers were also trained along the Moray Firth and Easter Ross to fill in gaps in our coverage

1. 24/03/17 Volunteer training course and Necropsy Demonstration at Ocean lab Aberdeen University.
2. 17/08/2017: Volunteer training course at Skye, Wester Ross, Western Isles and Moray Firth at Inverness.
3. 15/10/17 Volunteer training course at Glasgow vet school, South West Scotland Including, Arran and Cumbrae.

Since beginning this initiative in 2014, we now have 183 people trained, of which 181 were considered competent to be issued with a kit and wished to be a volunteer a single volunteer declined to sample.



Figure 50: Volunteer training course and Necropsy Demonstration at Ocean lab Aberdeen University



Figure 51: 17/08/2017: Volunteer training course at Inverness for Skye, Wester Ross, and the Western Isles



Figure 52: Volunteer training course at Glasgow vet school, South West Scotland Including, Arran and Cumbrae.

15.3 Make up of volunteers

Volunteers come from quite a wide range of backgrounds however 70% have some affiliation to NGO's, statutory body or education institutions. Figure 50 shows the volunteer affiliations that include two or more people.

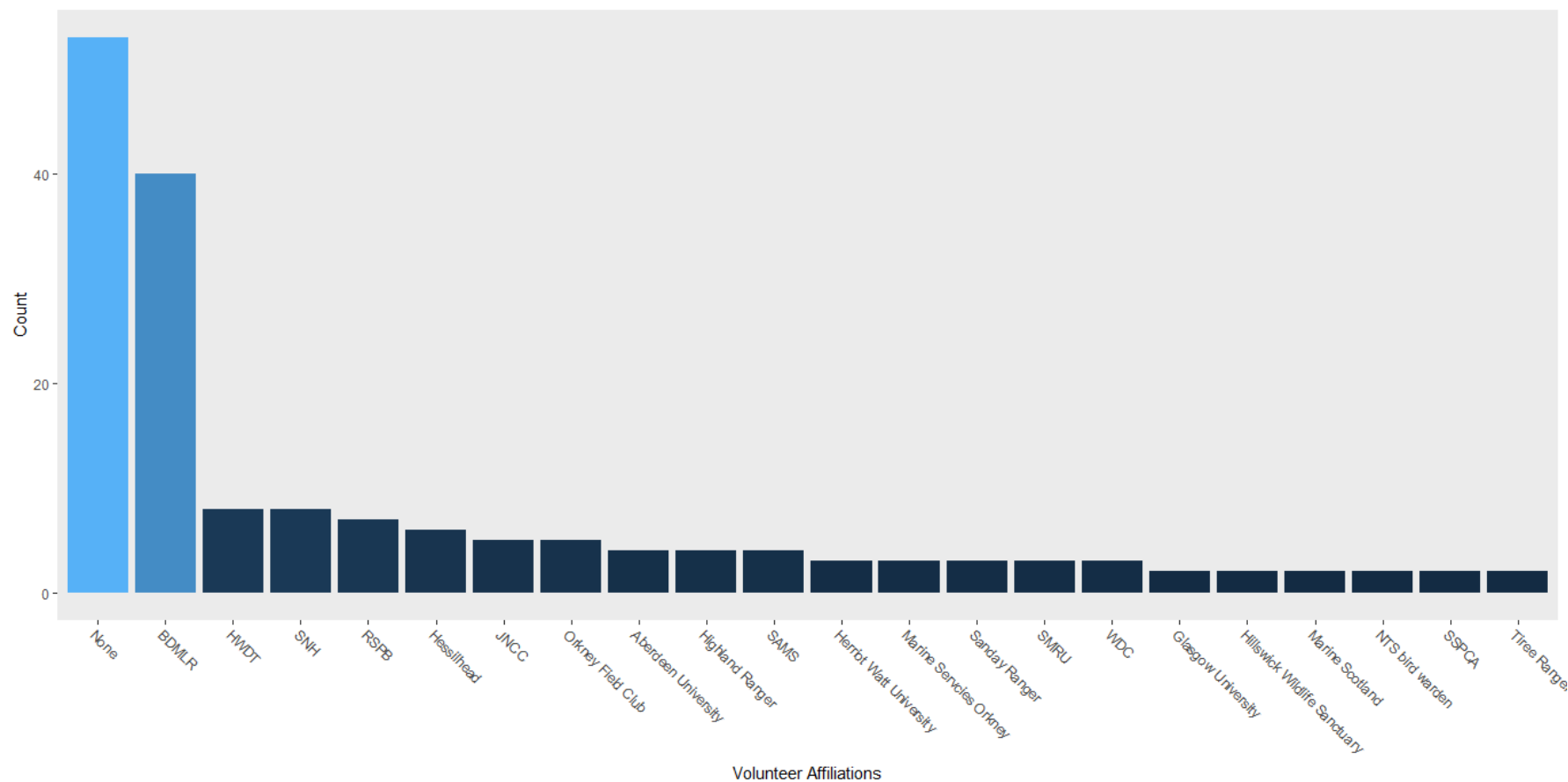


Figure 53: Volunteer affiliations

15.4 Engagement with scheme since training.

Since attending a course 120 different volunteers (66.6%) have been asked to attend a stranding. Of those 106 (88.3%) were able to go and of those, 66 (62.2%) actually sampled an animal. Sixty (33.3%) volunteers have yet to be asked to attend a stranding, largely due to no cases being reported in their area of coverage. A number of volunteers have helped recover carcasses.

15.5 Number of sampling visits by year

In 2017 there were 82 sampling visits by trained volunteers with 21 volunteers sampling at least two animals and one volunteer sampling five animals. A further 20 volunteers sampling one animal only. There were three animals sampled by untrained volunteers.

These samples were from 13 species of cetacean and two of species seal.

15.6 Issues with health and safety

Involving members of the public in tissue sampling of wild animals presents a number of potential health and safety risks. The importance of strict adherence to H&S protocols is made paramount in the lecture, demonstration and support documentation. To date there has been only one incident with a volunteer inflicting a minor cut to their finger. They weren't wearing the cut resistant glove issued and this was before there was any contact with the animal. Nevertheless in view of this the volunteer was told to monitor the cut at go to the GP any symptoms of infection occurred. They didn't and the cut healed normally.

15.7 Volunteer engagement post training

Engaging volunteers to attend a case has been relatively straightforward; a private group on Facebook is the usual way of contact followed up by email and text messages. A small minority of volunteers have proved difficult to contact post training either due to a reluctance to be on social media or moving and not informing the scheme. Only one volunteer has had no contact with the scheme since their training day. It has become apparent that the most enthusiastic volunteers are those that already volunteer with other organisations such as BDMLR. Those less likely to attend a stranding are those in higher education. Volunteers from WDC, HWDT and the countryside ranger service have also been very willing to attend a stranding.

In 2017 after consultation with the volunteers we decided to set up "WhatsApp" messaging groups. These consist of one national group to be used only when a mass stranding (MSE) or similar event of great importance happens. There are also 8 regional groups for contacting volunteers about strandings in their area. They are:

1. Shetland
2. Orkney
3. Western Isles
4. North west Scotland (Duncansby head to Oban including Skye and the small isles)

5. South west Scotland (Oban to the Solway Firth including, Mull, Tiree, Coll, Islay, Jura and Arran).
6. South east Scotland (Borders to the River Tay including Edinburgh and the Firth of Forth).
7. East Scotland (River Tay to Fraserburgh).
8. Moray Firth (Fraserburgh to Ducansby Head).

15.8 Help with carcase collection

Several volunteers have helped with the collection of carcasses for necropsy, mostly in Orkney where we have courier boxes stored at Northwards Transport in Kirkwall for onward transport to Inverness. A similar service runs from Lerwick, Shetland supported by the volunteer network up there. Several volunteers have transported carcasses to Hessilhead Wildlife Rescue Trust for freezer storage pending collection others have collected and delivered carcasses direct to us particularly the Rangers in the North West or to SRUC Aberdeen.

In addition to the volunteer network, we are particularly grateful to continued collaborative help from SMRU whose students and staff have examined collected carcasses and frozen carcasses for later collection.

15.9 Volunteer coverage

By the end of 2017 SMASS have a total of 180 trained stranding volunteers with at least one volunteer on North, East and West coasts. There are two volunteers on Eigg and Tiree. There are also seven volunteers on Mull (all but two HWDT staff). A number of SAMS students and staff have also been trained providing coverage in the Oban and Argyll areas. We have good coverage in the Forth of the Firth area and around the Aberdeenshire and Tayside coasts this is complimented by staff from SMRU. We have a trained volunteer on Kintyre who has proved invaluable to us by attending and sampling strandings along the entire Kintyre peninsula. There are now 25 on Shetland 23 trained volunteers on Orkney and 16 volunteers able to cover the Caithness and Sutherland.



Figure 54: Distribution of stranding volunteers , colours representing the different WhatsApp groups

We addressed the lack of cover in Dumfries and Galloway by running a course specifically for that area in October 2017. We now have trained volunteers on both of the Uists, Benbecula and Harris. There were two volunteers on St Kilda this year. There are other gaps notably the Lewis, Islay, Jura and some of the smaller islands along with some of the remoter areas of the west, again we hope to attract suitable volunteers from these areas in 2018. However the logistics of either getting us a suitable location to train people or getting people to Inverness to train them here is still proving difficult.

15.10 Untrained samplers

We have at present three people who have historically taken samples for the scheme. Two who were untrained in the last annual report have now been trained. None of these have

attended a training course; this is due to their remote locations. We hope at some point to address this and at some point formally train them. We have partially addressed this by providing them with a Bio bottle, field sampling guide (report form), prepaid postage labels and reference guides for sampling and posting. Nevertheless their remote locations provide us with data and samples from animals we would otherwise get very little from. We have one on Islay, one in South Uist, and one on Orkney.

15.11 Future work

There are still some gaps in our coverage. Notably the Western Isles in particular Lewis, but also a lot of the islands including, Coll and Jura. We have little way to go if we are to achieve complete coverage, if this is ever possible. We also need to assess the usefulness of the network; at the moment there is a definite net benefit to SMASS where we receive a higher quality of data collection, in addition to more general engagement of the public in marine ecology and citizen science. A next step will be to assess if the samples are being utilised by us and our collaborators to justify this component of the programme.

The SMASS volunteer network was shortlisted for the 2017 Nature of Scotland Awards

<https://ww2.rspb.org.uk/about-the-rspb/at-home-and-abroad/scotland/nature-of-scotland-awards/winners-and-finalists/2017-shortlist/>

Section 16: Necropsy demonstrations and outreach

In addition to the volunteer training courses, SMASS have run a number of necropsy demonstrations to veterinary and marine science students from several higher education institutions. Talks were also given to NGO and local interest groups on request.

- 3/2/17 Necropsy demonstration for Aberdeen University Masters students at Inverness.
- 03/03/17 Andrew gave a talk to the Institute of Comparative Biology in Glasgow.
- 27/04/2017: Presence through posters and leaflets and presentations by BDMLR at the Scottish Fisheries Conference at Eden Court, Inverness
- 14/06/2017; Necropsy Demonstration of a harbour porpoise (SW2017/321) for the team and students of the Cetacean Research and Rescue Unit (CRRU).
- 09/08/2017: Andrew gave a talk on the stranding scheme for CoCoast volunteers at SAMS in Oban. <https://www.youtube.com/watch?v=9Ljc-v78qcY>
- 06/09/2017: Nick gave a talk on the stranding scheme to the Kiltarlity Women's Institute, near Beauly.
- 16/09/2017: Presence though video footage and leaflets by WDC at Oceans film festival Eden Court Inverness.
- 30/09/2017: Presence though leaflets by Lighthouse Field Station at Royal Society of Edinburgh's "meet the experts" event at Eden Court Inverness.
- 04/10/2017: Necropsy demonstration for SAMS at Inverness

- 13/10/2017: Necropsy demonstration for Glasgow vet students at Glasgow vet School.
- 14/10/2017: Andrew gave a talk about SMASS to Biological Recording in Scotland (BRIS) group at Millport, Isle of Cumbrae.



Figure 55: Necropsy Demonstration for Aberdeen University Masters students at Inverness



Figure 56: Necropsy Demonstration of a harbour porpoise (M238/17) for the team and students of the Cetacean Research and Rescue Unit (CRRU).

Section 17: Outputs

17.1 Overview

In 2017, staff at the Scottish Marine Animal Strandings Scheme generated a total of eight peer reviewed papers, five conference presentations, and one conference poster.

17.2 Publications

- Michaël C. Fontaine, Oliver Thatcher, Nicolas Ray, Sylvain Piry, **Andrew Brownlow**, **Nicholas J. Davison**, Paul Jepson, Rob Deaville, Simon J. Goodman. (2017) Mixing of porpoise ecotypes in south western UK waters revealed by genetic profiling. Royal Society Open Science. 4: 160992. <http://dx.doi.org/10.1098/rsos.160992>
- Maria Morell, **Andrew Brownlow**, **Barry McGovern**, Stephen A. Raverty, Robert E. Shadwick, and Michel André. 2017. "Implementation of a Method to Visualize Noise-Induced Hearing Loss in Mass Stranded Cetaceans." Scientific Reports 7 (February). Nature Publishing Group: 41848. doi:10.1038/srep41848.
- **Nicholas J. Davison**, Lorraine L. Perrett, Claire Dawson, Mark P. Dagleish, Gary Haskins, Jakub Muchowski, Adrian M. Whatmore. (2017) Brucella ceti infection in a common minke whale (*Balaenoptera acutorostrata*) with associated pathology. Journal of Wildlife Diseases Vol. 53, No. 3, pp. 572-576. <https://doi.org/10.7589/2016-08-200>
- **Ten Doeschate, M., Brownlow, A., Davison, N., & Thompson, P.** (2017). Dead useful; methods for quantifying baseline variability in stranding rates to improve the ecological value of the strandings record as a monitoring tool. Journal of the Marine Biological Association of the United Kingdom, 1-5. <https://doi.org/10.1017/S0025315417000698>
- Joanna L. Kershaw, Meredith Sherrill, **Nicholas J. Davison**, **Andrew Brownlow**, Ailsa J. Hall. (2017) Evaluating morphometric and metabolic markers of body condition in a small cetacean, the harbor porpoise (*Phocoena phocoena*). Ecology and Evolution. <http://onlinelibrary.wiley.com/doi/10.1002/ece3.2891/full>
- Adrian Whatmore, Claire Dawson, Jakub Muchowski, Lorraine L. Perrett, Emma Stubberfield, Mark Koylass, **Geoffrey Foster**, **Nicholas J. Davison**, Christine Quance, Inga F. Sidor, Cara L. Field, Judy St. Leger (2017) Characterisation of North American Brucella isolates from marine mammals. PLOS ONE <https://doi.org/10.1371/journal.pone.0184758>
- Kieran M. Tierney , Graham K.P. Muir, Gordon T. Cook, Johanna J. Heymans, Gillian MacKinnon , John A. Howe , Sheng Xu , **Andrew Brownlow**, **Nicholas J. Davison**, **Mariel ten Doeschate** , Rob Deaville (2017) Nuclear reprocessing-related radiocarbon (¹⁴C) uptake into UK marine mammals. Marine Pollution Bulletin <https://doi.org/10.1016/j.marpolbul.2017.07.002>

- Kershaw J., Stubberfield E., **Foster G. ., Brownlow A.**, Hall A. J., Perrett L. Exposure of harbour seals (*Phoca vitulina*) to *Brucella* in declining populations across Scotland. *Diseases of Aquatic Organisms*.
<http://www.int-res.com/abstracts/dao/v126/n1/p13-23/>

17.3 Publications (Submitted)

- Milaja Nykanen, Kristin Kaschner, Vincent Ridoux, Willy Dabin, **Andrew Brownlow, Nicholas J. Davison**, Rob Deaville, Rod Penrose, Valentina Islas-Villanueva, Nathan Wales, Simon N. Ingram, Emer Rogan, Marie Louis, Andrew D. Foote. Post-glacial Colonisation History of Bottlenose Dolphins at the Northern Extreme of Their Range: A Marine Leading-edge Expansion? *Systematic Biology*

17.4 Conference Presentations

- **Andrew Brownlow, Nick Davison, Mariel ten Doeschate** , Russell Leaper, Conon Ryan , Noel Hawkins, Stephen Marsh, Mark Dagleish. Knot a problem? Distribution and pathology of fatal entanglements in large marine animals in Scotland. Presentation: European Cetacean Society Annual Conference in Middelfart, Denmark, 1st -3rd May 2017
- **Andrew Brownlow**. “Grey seal predation cases in the UK”. Presentation: ECS/WKPIGS workshop, Middelfart, Denmark, 30th April 2017.
- **Mariel ten Doeschate**. “PCB levels in UK stranded Harbour porpoise” Presentation: ECS workshop on the effects of PCB exposure in killer whales and other threatened toothed whale species of the North Atlantic, Middelfart, Denmark, 30th April 2017
- **Andrew Brownlow**, Maria Morell, **Nick Davison, Mariel ten Doeschate**, Rob Deaville, Mark Dagleish, Matt Perkins, Rod Penrose, Paul Jepson. Pilot error: Investigation into three *Globicephala melas* mass stranding events in Scotland Presentation: the biennial SMM conference in Halifax Nova Scotia, Canada 23-27th October 2017
- **Mariel ten Doeschate, Nicholas J. Davison, Andrew Brownlow** Eyes and Knives Everywhere; Citizen Science Strategies for Strandings Monitoring. Video Presentation: the biennial SMM conference in Halifax Nova Scotia, Canada 23-27th October 2017

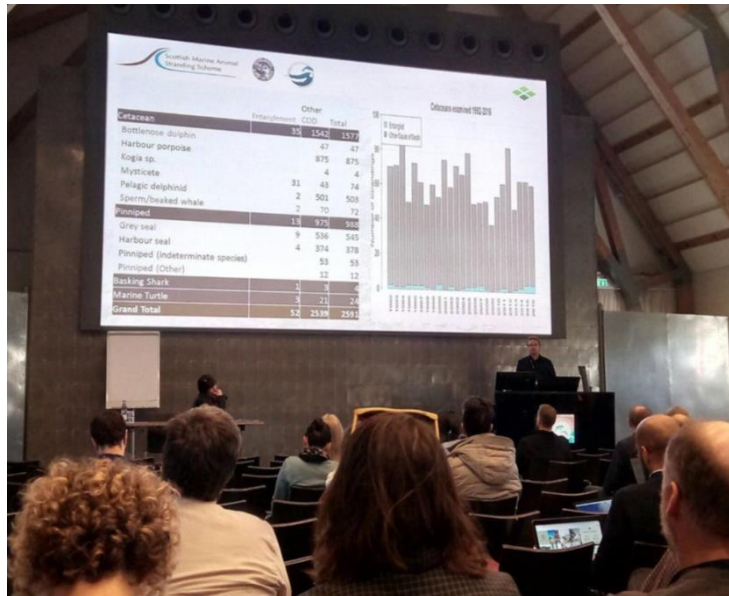


Figure 57: Andrew Presenting at the European Cetacean Society Annual Conference in Middelfart, Denmark, 1st - 3rd May 2017

17.5 Conference Posters

- Nicholas J. Davison, Mariel ten Doeschate, Mark P. Dagleish, Lorraine L. Perrett, Claire Dawson, Jakub Muchowski, Andrew Brownlow.** The first report of the isolation of *Brucella ceti* in a Risso's dolphin (*Grampus griseus*). Poster presentation: European Cetacean Society Annual Conference in Middelfart, Denmark, 1st -3rd May 2017

17.6 Media

The stranding of a killer whale on an uninhabited island in Shetland on the 12th of January attracted some media attention. Including the usual poor journalism by deadline news and the Daily Mail. It even made it onto a Dutch website.

- <https://stv.tv/news/north/1378009-killer-whale-washes-up-dead-on-small-shetland-island/>
- <http://www.shetnews.co.uk/newsbites/13874-orca-washed-up-near-walls>
- <http://www.shetnews.co.uk/news/13909-dead-killer-whale-to-remain-in-shetland>
- <https://www.sott.net/article/339584-Killer-whale-found-dead-on-island-in-Shetland-Scotland>
- <http://www.dailymail.co.uk/news/article-4132008/Marine-experts-perform-gruesome-autopsy-killer-whale.html>
- <https://www.zeezoogdieren.org/wordpress/2017/01/14/dode-orca-shetlands/>
- <http://orcazine.com/necropsy-orca-shetland/>
- <http://myshetland.co.uk/the-orca-autopsy/>

29th March Andrew was filmed at NMS about Lulu for BBC Newsnight .

The stranding of a sperm whale at stinky bay Benebcula 5th of April attracted some local media attention.

<http://www.hebrides-news.com/sperm-whale-washed-ashore-12417.html>

<https://www.pressreader.com/uk/the-press-and-journal-inverness/20170412/281556585689665>

The live stranding and successful refloat of a minke whale by BDMLR in Fife on the 20th of April attracted quite a bit of media attention.

<http://www.telegraph.co.uk/news/2017/04/22/minke-whale-stranded-scottish-beach-refloated-rescuers/>

<http://www.bbc.co.uk/news/uk-scotland-edinburgh-east-fife-39675201>

<http://www.scotsman.com/news/video-minke-whale-stranded-on-beach-in-elie-refloated-1-4426917>

<https://stv.tv/news/east-central/1386414-rescuers-attend-minke-whale-stranded-on-fife-beach/>

Another much decomposed sperm whale that was spotted floating in a cove on Shetland on the 14th of May somewhat surprisingly made it into the Sun newspaper and others.

<https://www.thesun.co.uk/news/3602588/sperm-whale-trapped-shetland-cove/>

<https://www.newsflare.com/video/125500/other/dead-sperm-whale-off-shetland>

<https://www.sott.net/article/351479-Dead-sperm-whale-found-in-a-remote-cove-in-Shetland-Scotland>

<https://www.earthtouchnews.com/oceans/whales-and-dolphins/dead-sperm-whale-floats-into-uk-cove-but-remains-out-of-reach-video/>

13th of April Sky News as part of the campaign “Sky Ocean Rescue” produced a short film called “the plastic whale” as part of this Andrew and Nick filmed regarding plastic found inside a Cuvier’s beaked whale in 2015. Broadcast 9pm 21st June

<http://news.sky.com/feature/sky-ocean-rescue-a-plastic-whale-10917187>



Figure 58: Screen shot of the Sky TV ocean rescue programme.

Following this article, a number of newspapers additionally published articles including the Daily Mail (online and in print).

<http://www.dailymail.co.uk/sciencetech/article-4622564/Cuvier-s-beaked-whale-4kg-plastic-bags-stomach.html>

<http://www.bbc.co.uk/news/uk-scotland-highlands-islands-40354561>

16th May; Andrew filming for the One Show at the National Museum of Scotland, broadcast date to be announced.

5th June; Andrew filming for CountryFile on the bottlenose dolphin Spirtle, that live stranded and was refloated by Andrew and members from BDMLR and the general public

The adult female Long finned pilot whale that live stranded near North Kessock and was euthanased on the 8th of August received media attention from several agents, some of which attended the stranding:

<http://www.inverness-courier.co.uk/News/Pilot-whale-stranded-at-North-Kessock-has-to-be-put-down-07082017.htm>

<http://www.bbc.co.uk/news/uk-scotland-highlands-islands-40849669>

<https://www.pressandjournal.co.uk/fp/news/inverness/1304151/pilot-whale-put-down-after-stranding-on-black-isle-shore/>

<https://stv.tv/news/north/1395151-pilot-whale-euthanized-after-becoming-stranded-on-beach/>

Northern bottlenose whale that stranded with entanglement lesions at Ardentinny, near Dunoon on the 22nd of September attracted some media attention.

<http://www.deadlinenews.co.uk/2017/09/28/whale-died-getting-caught-rope-off-scottish-coast-reveals-report/>

The story of ‘Lulu’ the stranded killer whale from the west coast community was also part of a two part piece on the BBC’s One Show broadcast on the 12th and 13th of September.

<http://www.bbc.co.uk/iplayer/episode/b094fmh5/the-one-show-12092017>

The SMASS volunteer network has been shortlisted for the 2017 Nature of Scotland Awards

<https://ww2.rspb.org.uk/about-the-rspb/at-home-and-abroad/scotland/nature-of-scotland-awards/winners-and-finalists/2017-shortlist/>

An adult male white beaked dolphin was found swimming in Buckie harbour on the 30th of October. The animal live stranded and died despite attempts by BDMLR medics to herd it back to sea

<http://www.bbc.co.uk/news/uk-scotland-north-east-orkney-shetland-41805596>

A blue shark that was found on the 18th of November at Roseisle beach on the Moray Firth attracted some media interest.

<http://www.bbc.co.uk/news/uk-scotland-north-east-orkney-shetland-42087405>

The announcement that SMASS would hold its first annual forum in January 2018 was picked up by the BBC.

<http://www.bbc.co.uk/news/uk-scotland-highlands-islands-42439945>

A Killer whale calf that was found stranded quite a way from the sea in Shetland on the 13th of December, caused a minor storm...

<https://www.thesun.co.uk/news/5188482/killer-whale-dead-scottish-field-storm-caroline/>

17.7 Conferences/meetings

- 01/04/2017 – 08/04/2017 Andrew assisted with a potential UME in Cape Cod USA at the request of the IFAW Stranding Scheme.
- 30/04/17 Andrew co-chaired and Nick attended the workshop by the working group on predator interactions with Grey Seals in Middelfart, Denmark.
- 30/04/17 Mariel attended the ECS workshop on the effects of PCB exposure in killer whales and other threatened toothed whale species of the North Atlantic, Middelfart, Denmark.
- 01/05/17-03/05/17 Andrew, Nick and Mariel, attended the European Cetacean Society Annual Conference in Middelfart, Denmark.
- 17/05/17 Andrew, Nick and Mariel met with Owen McGrath and Katie Gillham from SNH regarding strandings monitoring app development, Great Glen House SNH Inverness.
- 29/05/17 Andrew and Nick met with Alisa Hall SMRU to discuss the review of SMASS
- 09/08/2017 Mariel and Andrew met Andrew Dale at SAMS to discuss further work on strandings in relation to ocean currents.
- 23/10/2017 to the 27/10/17 Mariel and Andrew attended the bi-annual SMM conference in Halifax Nova Scotia, Canada.
- 23/11/17 Andrew, Nick and Mariel attended the RSPB Nature in Scotland awards ceremony. SMASS were shortlisted for the volunteer scheme.

17.8 Other collaborations

Lonneke Ijsseldijk from the University of Utrecht's Dutch stranding scheme finished a four and a half month internship with SMASS on the 31st March.



Figure 59: Lonneke Ijsseldijk from the University of Utrecht examining a Risso's dolphin on Baleshare North Uist.

17.9 Website and digital media

Facebook and Twitter pages were set up in October 2012. We post regular stranding reports, selected photos and requests for information on strandings on both. Feedback has generally been good and at the end of January 2016 Facebook has over 8100 likes and Twitter has 893 followers. Both still prove a valuable resource for the reporting of strandings to the scheme.

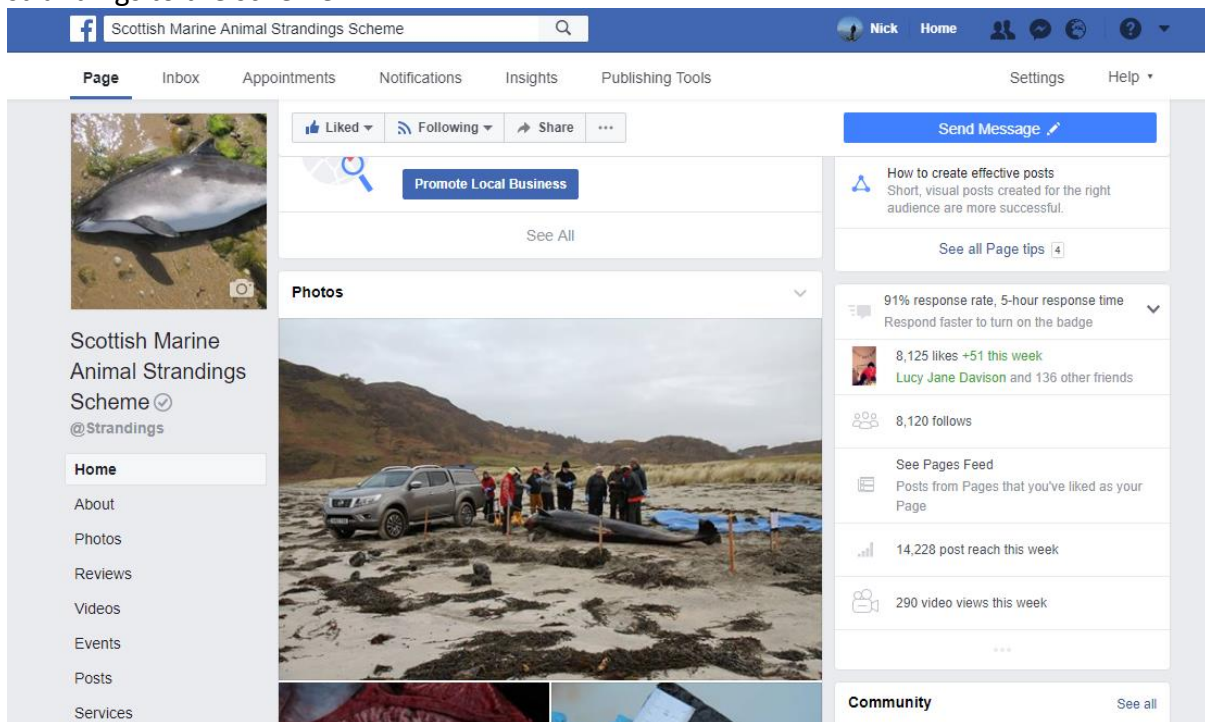


Figure 60: Facebook front page, Jan 2017.

17.10 Data and sample requests

These are either part of on-going collaborations or one off requests for data and or samples.

17.10.1 *Samples sent*

- 07/03/2017 skin and blubber samples for POPS and stable isotopes Alethea Madgett PhD student Marine Scotland.
- 16/08/17 Skin samples from beaked whales for genetic analysis to Emma Carroll (SMRU) as part of Morten Olsen's work

17.10.2 *Data sent*

- 12/01/2017 Data on seal Strandings Skye, Kintyre, Orkney Monica Arso SMRU
- 18/01/2017 Killer whale teeth photos to assess patterns of wear from all ecotypes as a function of their ecology, Audrey Granger masters student at Edinburgh Napier University.
- 08/02/2017 Data on Kogia strandings for proposed paper Georg Hanke National Museum of Scotland.
- 16/02/2017 Data on Seal Strandings Orkney Brian Ribbands Orkney Field Club.
- 16/02/2017 Data on Strandings Mull & Iona for Wild Mull magazine Steve & Linda Littlewood
- 03/03/2017 Data on specimens sent to NMS Zena Timmons National Museum of Scotland
- 22/03/2017 Data on seal Strandings Skye, Kintyre, Orkney Monica Arso SMRU.
- 03/04/2017 Myles O'Reilly Biologist / SEPA. Data and images on barnacle samples in archive for publication on Goliath Anchorworms (Copepoda: Penellidae) and barnacles (Cirripedia: Coronulidae, Lepadidae, & Platylepadidae) from whales and turtles in Scottish waters.
- 19/06/17 Monica Arso SMRU. Data on seal Strandings Skye, Kintyre, Orkney for Harbour Seal Population study.
- 19/06/17 Data on Minke whale strandings Scotland for MSc thesis project on Minke whale distribution in the North Sea, Carolin Philipp ITAW Hannover.
- 18/07/2017 Details of BND strandings Scotland 1992 – present Barbara Cheney, University of Aberdeen Lighthouse field station Cromarty.
- 16/08/17 data on skin samples from beaked whales for genetic analysis to Emma Carroll (SMRU) as part of Morten Olsen's work
- 28/09/17 Copy of Lulu's PM report to Robb Lott, WDC policy manager.
- 18/10/17 Alisa Hall SMRU Data on seal Strandings Skye, Kintyre, Orkney for Harbour Seal Population study.

- 07/12/17 Sean O'Callaghan Honours student GMIT Galway Ireland, Photos of dorsal fins from pelagic delphinids for morphometrics/photogrammetry project.
- 08/12/17 Monica Arso SMRU. Data on seal Strandings Skye, Kintyre, Orkney for Harbour Seal Population study.

17.11 Collaborators

- Dr Mark Dagleish Moredun Research Institute, Pentlands Science Park, Bush Loan, Penicuik, Midlothian, EH26 0PZ, Scotland. Histopathological studies on cetacean tissues from Scottish cetaceans.
- Dr Andrew Kitchener, Royal Museum of Scotland, Edinburgh, Scotland. Recording all marine mammal stranding events in Scotland. Marine mammal skulls and scapulae are sent to Dr Kitchener for marine mammal morphometric studies.
- Professor Ailsa Hall SMRU. Biotoxin screening for levels of domoic acid
- Dr Eva Krupp, Aberdeen University. Metal residue analysis of tissues collected at necropsy
- Dr Barbara Cheney, Aberdeen University. Bottlenose dolphin necropsy details for comparison with photo-id catalogue.
- Dr Graham Pierce, University of Aberdeen, Oceanlab, Main Street, Newburgh, Aberdeenshire, Scotland, AB41 6AA, UK Collaboration on life history, dietary and toxicological studies of harbour porpoises and other cetaceans stranded in Scotland.
- Dr Fiona Read, University of Aberdeen, Oceanlab, Main Street, Newburgh, Aberdeenshire, Scotland, AB41 6AA, UK Collaboration on life history and teeth aging cetaceans stranded in Scotland.
- Dr. Paolo Cipriani Department of Public Health and Infectious Diseases, Section of Parasitology, Sapienza - University of Rome", P.le Aldo Moro, 5, 00185 Rome – Italy Characterisation of parasites of the genus *Anasakis* from *Physeter Macrocephalus* (and other pelagic cetaceans)
- Mycoplasma dept., Animal and Plant Health Agency, New Haw, Addlestone, Surrey, KT15 3NB. Identification of *Mycoplasma sp.* isolates from marine mammals.
- Lorraine Perrett, BAC3 Brucella Reference Laboratory, Animal and Plant Health Agency, New Haw, Addlestone, Surrey, KT15 3NB. Serological studies to assess exposure to *Brucella spp.* and typing of *Brucella* isolates.
- Dr. Maria Morell, University of British Columbia (UBC), Canada. Examination of ear bones using scanning and transmission electron microscopy for indirect quantification of hearing ability in mass stranded pilot whale.
- Erasmus Medical Centre, Rotterdam, the Netherlands – bacteriological culture of samples collected following necropsy of marine mammals.
- Scottish Salmonella Reference Laboratory – perform typing of *Salmonella* isolates
- Lesley Hoyles, Department of Food and Nutritional Sciences, University of Reading, Whiteknights, Reading – performs sequencing of bacterial isolates.
- Dr. Catherine S Jones University of Aberdeen, Skin & muscle from Basking sharks for DNA analysis.

- Milaja Nykanen, PhD Candidate School of BEES University College Cork Ireland for bottlenose dolphin mitogenome work.
- Chiara Giulia Bertulli, PhD student, University of Iceland. Project on body colouration patterns in white-beaked dolphins and Atlantic white-sided dolphins.
- Kieran Tierney, Scottish Universities Environmental Research Centre (SUERC) & the Scottish Association for Marine Science (SAMS). Transportation and Bioaccumulation of Sellafield-derived radiocarbon (¹⁴C) in the Marine Environment: Analysing ¹⁴C in Marine Mammals.
- Eileen Harris Senior Curator Parasites & Vectors Division Department of Life Sciences Natural History Museum Cromwell Road London SW7 5BD
- Lonneke L. Ijsseldijk, BSc Project coordinator Cetaceans Faculty of Veterinary Medicine, Department of Pathobiology Utrecht University Yalelaan Utrecht The Netherlands. Bacteriology
- Rachel Ball University of Chester pilot whale samples to analyse mitochondrial DNA to determine the maternal haplotypes present in three MSEs of the Scottish coast.
- Sean O'Callaghan Honours student GMIT Galway Ireland, Photos of dorsal fins from pelagic delphinids for morphometrics/photogrammatry project.

Section 18: Staff and facilities

SMASS currently has three members of staff. Andrew Brownlow is the veterinary pathologist and has managed the project since 2009. Nick Davison is the stranding coordinator who joined the team in October 2012. Mariel ten Doeschate joined as a part time marine strandings administration assistant in September 2014.

Since its inception, SMASS has operated from SRUC Veterinary Services Disease Surveillance centre at Drummondhill, Inverness. It continued to do so for the whole of 2017. A replacement facility in the Inverness region, proposed in 2015, has not significantly moved forward, although it is currently expected that the existing facility will need to be vacated in January 2019.

Section 19: Acknowledgments

The successful operation of a strandings project over the 10,000 miles comprising Scotland's coastline is only possible with assistance from a large number of individuals and organisations in the identification, recovery, storage and transport of stranded animals. We are immensely grateful to all who helped us out so far in 2017, however particular thanks are due to the staff and students of the Sea Mammal Research Unit, Hesselhead Wildlife Rescue Trust, Karen Hall and the Scottish Natural Heritage team on Shetland, the National Museums of Scotland, British Divers Marine Life Rescue medics, the Hebridean Whale and Dolphin Trust and Mark Dagleish at the Moredun Research Institute. We are also grateful to all our trained stranding volunteers who have ventured out in all weathers to collect photographs, data and samples from some fairly decomposed animals. Particular thanks to Marina Swanson (Highland Council Ranger), Matt Smith, Steve Nagy, Malcolm Ogilvie, Laura Shirra (BDMLR), Penny Martin, Denise Risch (SAMS), Emma and Russell Neave-Webb

(Sanday Rangers), Ross Flett (Orkney Seal Rescue), Sorcha Cantwell (BDMLR), Claire Cook, Sian Bryant, Claire Henry, Stephen and Linda Littlewood, Bill Neill, Mary Harman, Jac Volbeda, Selene Huntley, Lisa Forsyth, Andrew Ferguson, Lee Watson, Stephanie Cope, Matt Smith, Bill Neill and Sarah Dolman (WDC). Special thanks also to Jan and Pete Beavington of Hillswick Wildlife Sanctuary and Dorota Rychlik for their efforts in recovering the killer whale from Linga Island and facilitating the necropsy.

Appendix 1: Strandings 2017

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M2/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped dolphin (indeterminate species)	01/01/2017	Western Isles	U	Not Examined
Pinniped	M20/17	Halichoerus grypus	Grey seal	01/01/2017	Western Isles	U	Not Examined
Pinniped	M3/17	Halichoerus grypus	Grey seal	01/01/2017	Fife	U	Physical Trauma: Other
Cetacean	M4/17	Delphinus delphis	Short-beaked common dolphin	01/01/2017	Western Isles	U	Not Examined
Pinniped	M75/17	Phoca vitulina	Harbour seal (Common seal)	01/01/2017	Highland	U	Not Examined
Pinniped	M76/17	Halichoerus grypus	Grey seal	01/01/2017	Highland	U	Not Examined
Pinniped	M77/17	Pinniped (indeterminate species)	Seal (indeterminate species)	01/01/2017	Orkney	U	Not Examined
Cetacean	M5/17	Mysticete (indeterminate species)	Baleen whale (indeterminate species)	02/01/2017	Western Isles	U	Not Examined
Pinniped	M7/17	Halichoerus grypus	Grey seal	02/01/2017	Orkney	U	Not Examined
Pinniped	M79/17	Phoca vitulina	Harbour seal (Common seal)	02/01/2017	Angus	U	Not Examined
Cetacean	M1/17	Phocoena phocoena	Harbour porpoise	03/01/2017	South Ayrshire	U	Not Examined
Pinniped	M10/17	Halichoerus grypus	Grey seal	04/01/2017	Highland	U	Not Examined
Pinniped	M6/17	Halichoerus grypus	Grey seal	04/01/2017	Shetland	U	Not Examined
Cetacean	M8/17	Delphinus delphis	Short-beaked common dolphin	04/01/2017	Argyll and Bute	M	Not Examined: Samples Taken
Pinniped	M9/17	Halichoerus grypus	Grey seal	04/01/2017	Highland	U	Not Examined
Pinniped	M11/17	Halichoerus grypus	Grey seal	05/01/2017	Orkney	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M12/17	Delphinus delphis	Short-beaked common dolphin	05/01/2017	Highland	M	Not Examined
Pinniped	M13/17	Halichoerus grypus	Grey seal	06/01/2017	Scottish Borders	M	Physical Trauma: Other
Pinniped	M14/17	Halichoerus grypus	Grey seal	06/01/2017	Highland	U	Not Examined
Pinniped	M15/17	Halichoerus grypus	Grey seal	06/01/2017	Fife	U	Not Examined
Cetacean	M30/17	Phocoena phocoena	Harbour porpoise	06/01/2017	North Ayrshire	U	Not Examined
Cetacean	M16/17	Phocoena phocoena	Harbour porpoise	07/01/2017	Highland	M	Not Examined
Cetacean	M19/17	Delphinus delphis	Short-beaked common dolphin	07/01/2017	Western Isles	U	Not Examined
Pinniped	M17/17	Halichoerus grypus	Grey seal	08/01/2017	Dumfries and Galloway	U	Not Examined
Pinniped	M18/17	Halichoerus grypus	Grey seal	08/01/2017	Argyll and Bute	U	Not Examined
Cetacean	M36/17	Cetacean (indeterminate species)	Cetacean (indeterminate species)	08/01/2017	Highland	U	Not Examined
Pinniped	M21/17	Halichoerus grypus	Grey seal	09/01/2017	Highland	U	Physical Trauma: Other
Pinniped	M22/17	Halichoerus grypus	Grey seal	09/01/2017	Highland	U	Physical Trauma: Other
Pinniped	M23/17	Halichoerus grypus	Grey seal	09/01/2017	Highland	U	Not Examined
Pinniped	M27/17	Halichoerus grypus	Grey seal	09/01/2017	Fife	U	Physical Trauma: Other
Cetacean	M24/17	Phocoena phocoena	Harbour porpoise	10/01/2017	Shetland	F	Not Examined
Cetacean	M25/17	Phocoena phocoena	Harbour porpoise	10/01/2017	Dumfries and Galloway	U	Not Examined
Pinniped	M26/17	Halichoerus grypus	Grey seal	10/01/2017	Aberdeenshire	U	Not Examined
Pinniped	M28/17	Halichoerus grypus	Grey seal	10/01/2017	Highland	U	Not Examined
Pinniped	M29/17	Pinniped (indeterminate species)	Seal (indeterminate species)	10/01/2017	Highland	U	Not Examined
Cetacean	M32/17	Orcinus orca	Killer whale	12/01/2017	Shetland	F	Infectious Disease
Cetacean	M31.1/17	Delphinus delphis	Short-beaked common dolphin	13/01/2017	Highland	M	Live Stranding
Cetacean	M31.2/17	Delphinus delphis	Short-beaked common dolphin	13/01/2017	Highland	F	Live Stranding

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M33/17	Phocoena phocoena	Harbour porpoise	14/01/2017	Highland	F	Physical Trauma: Other
Pinniped	M34/17	Halichoerus grypus	Grey seal	15/01/2017	Orkney	U	Physical Trauma: Other
Pinniped	M40/17	Halichoerus grypus	Grey seal	15/01/2017	Highland	U	Not Examined
Pinniped	M41/17	Phoca vitulina	Harbour seal (Common seal)	15/01/2017	Highland	U	Not Examined
Pinniped	M42/17	Halichoerus grypus	Grey seal	15/01/2017	Highland	U	Physical Trauma: Other
Pinniped	M43/17	Halichoerus grypus	Grey seal	15/01/2017	Highland	U	Not Examined
Pinniped	M44/17	Halichoerus grypus	Grey seal	15/01/2017	Highland	U	Not Examined
Pinniped	M35/17	Halichoerus grypus	Grey seal	16/01/2017	Orkney	U	Physical Trauma: Other
Cetacean	M37/17	Delphinus delphis	Short-beaked common dolphin	16/01/2017	Highland	F	Live Stranding
Cetacean	M49/17	Delphinus delphis	Short-beaked common dolphin	16/01/2017	Argyll and Bute	U	Not Examined
Pinniped	M53/17	Halichoerus grypus	Grey seal	16/01/2017	Orkney	U	Not Examined
Cetacean	M56/17	Phocoena phocoena	Harbour porpoise	16/01/2017	Argyll and Bute	U	Not Examined
Cetacean	M38/17	Phocoena phocoena	Harbour porpoise	17/01/2017	South Ayrshire	U	Physical Trauma: Other
Pinniped	M52/17	Halichoerus grypus	Grey seal	17/01/2017	Orkney	U	Not Examined
Pinniped	M39/17	Halichoerus grypus	Grey seal	18/01/2017	Western Isles	U	Not Examined
Pinniped	M48/17	Pinniped (indeterminate species)	Seal (indeterminate species)	18/01/2017	Aberdeenshire	U	Not Examined
Cetacean	M50/17	Delphinus delphis	Short-beaked common dolphin	18/01/2017	Argyll and Bute	M	Not Examined
Pinniped	M51/17	Halichoerus grypus	Grey seal	18/01/2017	Dumfries and Galloway	U	Not Examined
Cetacean	M54/17	Balaenoptera acutorostrata	Minke whale	19/01/2017	Western Isles	U	Not Examined
Cetacean	M55/17	Phocoena phocoena	Harbour porpoise	19/01/2017	South Ayrshire	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M57/17	Delphinus delphis	Short-beaked common dolphin	19/01/2017	Orkney	M	Not Examined
Pinniped	M58/17	Halichoerus grypus	Grey seal	20/01/2017	Fife	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M60/17	Halichoerus grypus	Grey seal	20/01/2017	Orkney	U	Not Examined
Pinniped	M61/17	Halichoerus grypus	Grey seal	20/01/2017	Orkney	U	Physical Trauma: Other
Pinniped	M62/17	Halichoerus grypus	Grey seal	20/01/2017	Orkney	U	Not Examined
Pinniped	M63/17	Halichoerus grypus	Grey seal	20/01/2017	Orkney	U	Physical Trauma: Other
Pinniped	M64/17	Phoca vitulina	Harbour seal (Common seal)	20/01/2017	Highland	U	Not Examined
Pinniped	M65/17	Halichoerus grypus	Grey seal	20/01/2017	Argyll and Bute	U	Not Examined
Pinniped	M59/17	Halichoerus grypus	Grey seal	21/01/2017	Orkney	U	Physical Trauma: Other
Pinniped	M81/17	Pinniped (indeterminate species)	Seal (indeterminate species)	22/01/2017	Shetland	U	Not Examined
Pinniped	M82/17	Pinniped (indeterminate species)	Seal (indeterminate species)	22/01/2017	Shetland	U	Not Examined
Pinniped	M67/17	Pinniped (indeterminate species)	Seal (indeterminate species)	24/01/2017	Highland	U	Not Examined
Pinniped	M83/17	Pinniped (indeterminate species)	Seal (indeterminate species)	25/01/2017	Shetland	U	Not Examined
Pinniped	M68/17	Halichoerus grypus	Grey seal	26/01/2017	Highland	U	Not Examined
Cetacean	M66/17	Globicephala melas	Long-finned pilot whale	27/01/2017	Shetland	F	Live Stranding
Cetacean	M69/17	Phocoena phocoena	Harbour porpoise	27/01/2017	Aberdeenshire	U	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M105/17	Halichoerus grypus	Grey seal	29/01/2017	Highland	U	Not Examined
Pinniped	M70/17	Halichoerus grypus	Grey seal	29/01/2017	Aberdeenshire	U	Not Examined
Pinniped	M71/17	Phoca vitulina	Harbour seal (Common seal)	29/01/2017	Highland	U	Not Examined
Pinniped	M72/17	Halichoerus grypus	Grey seal	30/01/2017	Shetland	U	Physical Trauma: Other
Cetacean	M73/17	Phocoena phocoena	Harbour porpoise	30/01/2017	Western Isles	M	Not Examined
Pinniped	M74/17	Halichoerus grypus	Grey seal	30/01/2017	Aberdeenshire	U	Physical Trauma: Other
Cetacean	M78/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped	30/01/2017	Argyll and Bute	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
			dolphin (indeterminate species)				
Pinniped	M80/17	Pinniped (indeterminate species)	Seal (indeterminate species)	01/02/2017	Shetland	U	Physical Trauma: Other
Pinniped	M84/17	Halichoerus grypus	Grey seal	03/02/2017	Fife	U	Not Examined
Pinniped	M112/17	Halichoerus grypus	Grey seal	04/02/2017	Orkney	U	Not Examined
Cetacean	M85/17	Phocoena phocoena	Harbour porpoise	04/02/2017	Aberdeenshire	F	Physical Trauma: Other
Cetacean	M99/17	Delphinus delphis	Short-beaked common dolphin	04/02/2017	Argyll and Bute	U	Not Examined
Pinniped	M86/17	Pinniped (indeterminate species)	Seal (indeterminate species)	05/02/2017	Highland	U	Not Examined
Pinniped	M87/17	Halichoerus grypus	Grey seal	05/02/2017	Orkney	U	Not Examined
Pinniped	M88/17	Phoca vitulina	Harbour seal (Common seal)	05/02/2017	Highland	U	Physical Trauma: Other
Pinniped	M89/17	Halichoerus grypus	Grey seal	05/02/2017	Highland	U	Not Examined
Pinniped	M90/17	Pinniped (indeterminate species)	Seal (indeterminate species)	05/02/2017	Highland	U	Not Examined
Pinniped	M91/17	Pinniped (indeterminate species)	Seal (indeterminate species)	05/02/2017	Highland	U	Not Examined
Pinniped	M93/17	Pinniped (indeterminate species)	Seal (indeterminate species)	05/02/2017	Orkney	U	Not Examined
Cetacean	M92/17	Phocoena phocoena	Harbour porpoise	06/02/2017	Angus	U	Not Examined
Cetacean	M94/17	Phocoena phocoena	Harbour porpoise	08/02/2017	Shetland	M	Live Stranding
Cetacean	M95/17	Phocoena phocoena	Harbour porpoise	08/02/2017	Aberdeenshire	U	Not Examined
Pinniped	M96/17	Pinniped (indeterminate species)	Seal (indeterminate species)	09/02/2017	Highland	U	Not Examined
Pinniped	M97/17	Pinniped (indeterminate species)	Seal (indeterminate species)	09/02/2017	Shetland	U	Not Examined
Pinniped	M102/17	Halichoerus grypus	Grey seal	11/02/2017	Orkney	U	Not Examined
Pinniped	M103/17	Halichoerus grypus	Grey seal	11/02/2017	Orkney	U	Not Examined
Cetacean	M104/17	Delphinus delphis	Short-beaked	11/02/2017	Western Isles	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
			common dolphin				
Cetacean	M98/17	Phocoena phocoena	Harbour porpoise	11/02/2017	Argyll and Bute	M	Physical Trauma: Other
Cetacean	M100/17	Phocoena phocoena	Harbour porpoise	12/02/2017	East Lothian	U	Physical Trauma: Other
Pinniped	M101/17	Halichoerus grypus	Grey seal	12/02/2017	Argyll and Bute	U	Not Examined
Pinniped	M106/17	Pinniped (indeterminate species)	Seal (indeterminate species)	14/02/2017	City of Aberdeen	U	Not Examined
Cetacean	M107/17	Tursiops truncatus	Bottlenose dolphin	14/02/2017	Aberdeenshire	U	Not Examined: Samples Taken
Cetacean	M108/17	Phocoena phocoena	Harbour porpoise	14/02/2017	Western Isles	F	Physical Trauma: Other
Pinniped	M109/17	Halichoerus grypus	Grey seal	14/02/2017	Fife	U	Physical Trauma: Other
Cetacean	M110/17	Phocoena phocoena	Harbour porpoise	14/02/2017	Highland	M	Pending
Pinniped	M111/17	Halichoerus grypus	Grey seal	15/02/2017	East Lothian	U	Not Examined
Pinniped	M113/17	Halichoerus grypus	Grey seal	16/02/2017	Orkney	U	Physical Trauma: Other
Pinniped	M114/17	Halichoerus grypus	Grey seal	17/02/2017	Aberdeenshire	U	Not Examined
Pinniped	M115/17	Halichoerus grypus	Grey seal	17/02/2017	Aberdeenshire	M	Not Examined
Cetacean	M116/17	Phocoena phocoena	Harbour porpoise	19/02/2017	East Lothian	F	Infectious Disease: Other
Cetacean	M117/17	Phocoena phocoena	Harbour porpoise	20/02/2017	City of Edinburgh	U	Not Examined
Cetacean	M118/17	Phocoena phocoena	Harbour porpoise	20/02/2017	Angus	U	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M119/17	Pinniped (indeterminate species)	Seal (indeterminate species)	21/02/2017	City of Aberdeen	U	Not Examined
Cetacean	M120/17	Phocoena phocoena	Harbour porpoise	22/02/2017	Highland	F	Physical Trauma: Other
Cetacean	M121/17	Phocoena phocoena	Harbour porpoise	22/02/2017	Argyll and Bute	F	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M122/17	Delphinus delphis	Short-beaked common dolphin	23/02/2017	Argyll and Bute	F	Not Examined: Samples Taken
Pinniped	M123/17	Halichoerus grypus	Grey seal	24/02/2017	Shetland	M	Not Examined: Samples Taken
Pinniped	M124/17	Pinniped (indeterminate species)	Seal (indeterminate species)	25/02/2017	Fife	U	Not Examined
Cetacean	M125/17	Phocoena phocoena	Harbour porpoise	25/02/2017	North Ayrshire	U	Not Examined
Cetacean	M126/17	Mesoplodon bidens	Sowerby's beaked	27/02/2017	Western Isles	U	Not Examined: Samples Taken

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
			whale				
Cetacean	M127/17	Phocoena phocoena	Harbour porpoise	28/02/2017	City of Edinburgh	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M128/17	Phocoena phocoena	Harbour porpoise	01/03/2017	Fife	U	Not Examined
Cetacean	M129/17	Tursiops truncatus	Bottlenose dolphin	02/03/2017	Shetland	M	Not Examined: Samples Taken
Cetacean	M140/17	Phocoena phocoena	Harbour porpoise	02/03/2017	Aberdeenshire	M	Not Examined
Pinniped	M130/17	Halichoerus grypus	Grey seal	03/03/2017	Moray	U	Not Examined
Pinniped	M662/17	Phoca vitulina	Common seal	03/03/2017	Highland	M	Physical Trauma: Other
Pinniped	M131/17	Halichoerus grypus	Grey seal	04/03/2017	Highland	U	Not Examined
Pinniped	M132/17	Pinniped (indeterminate species)	Seal (indeterminate species)	04/03/2017	Highland	U	Not Examined
Cetacean	M137/17	Delphinus delphis	Short-beaked common dolphin	04/03/2017	Western Isles	F	Not Examined: Samples Taken
Cetacean	M138/17	Cetacean (indeterminate species)	Cetacean (indeterminate species)	04/03/2017	Western Isles	U	Not Examined
Cetacean	M133/17	Lagenorhynchus albirostris	White-beaked dolphin	05/03/2017	Orkney	U	Not Examined: Samples Taken
Pinniped	M134/17	Halichoerus grypus	Grey seal	05/03/2017	Aberdeenshire	U	Not Examined
Cetacean	M135/17	Phocoena phocoena	Harbour porpoise	05/03/2017	Aberdeenshire	U	Not Examined
Pinniped	M136/17	Pinniped (indeterminate species)	Seal (indeterminate species)	05/03/2017	Highland	U	Not Examined
Cetacean	M142/17	Cetacean (indeterminate species)	Cetacean (indeterminate species)	05/03/2017	Aberdeenshire	U	Not Examined
Pinniped	M139/17	Halichoerus grypus	Grey seal	06/03/2017	Orkney	U	Not Examined
Cetacean	M141/17	Physeter macrocephalus	Sperm whale	06/03/2017	Argyll and Bute	U	Not Examined
Cetacean	M143/17	Grampus griseus	Risso's dolphin	08/03/2017	Orkney	F	Not Examined: Samples Taken
Cetacean	M145/17	Phocoena phocoena	Harbour porpoise	08/03/2017	Shetland	M	Infectious Disease: Pneumonia
Cetacean	M144/17	Delphinus delphis	Short-beaked common dolphin	09/03/2017	Western Isles	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M146/17	Delphinus delphis	Short-beaked common dolphin	09/03/2017	Argyll and Bute	M	Infectious Disease
Cetacean	M147/17	Phocoena phocoena	Harbour porpoise	11/03/2017	Orkney	F	Not Examined: Samples Taken
Pinniped	M148/17	Phoca vitulina	Harbour seal (Common seal)	12/03/2017	Highland	U	Physical Trauma: Anthropogenic
Cetacean	M149/17	Phocoena phocoena	Harbour porpoise	13/03/2017	City of Aberdeen	U	Not Examined
Cetacean	M150/17	Phocoena phocoena	Harbour porpoise	15/03/2017	North Ayrshire	M	Not Examined
Cetacean	M151/17	Delphinus delphis	Short-beaked common dolphin	17/03/2017	Western Isles	F	Not Examined: Samples Taken
Cetacean	M152/17	Phocoena phocoena	Harbour porpoise	19/03/2017	South Ayrshire	M	Not Examined: Samples Taken
Cetacean	M153/17	Delphinus delphis	Short-beaked common dolphin	21/03/2017	Dumfries and Galloway	M	Not Examined
Pinniped	M154/17	Pinniped (indeterminate species)	Seal (indeterminate species)	21/03/2017	Highland	U	Not Examined
Cetacean	M158/17	Phocoena phocoena	Harbour porpoise	21/03/2017	Highland	U	Not Examined
Cetacean	M155/17	Grampus griseus	Risso's dolphin	22/03/2017	Western Isles	F	Infectious Disease
Cetacean	M159/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped dolphin (indeterminate species)	22/03/2017	Western Isles	U	Not Examined
Cetacean	M156/17	Stenella coeruleoalba	Striped dolphin	24/03/2017	West Dunbartonshire	M	Live Stranding
Cetacean	M157/17	Phocoena phocoena	Harbour porpoise	25/03/2017	Moray	M	Infectious Disease: Pneumonia
Cetacean	M162/17	Delphinus delphis	Short-beaked common dolphin	27/03/2017	Highland	U	Not Examined
Cetacean	M160/17	Delphinus delphis	Short-beaked common dolphin	28/03/2017	Western Isles	U	Not Examined: Samples Taken
Cetacean	M161/17	Phocoena phocoena	Harbour porpoise	28/03/2017	Western Isles	U	Not Examined: Samples Taken
Cetacean	M163/17	Balaenoptera	Minke whale	28/03/2017	Argyll and Bute	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
		acutorostrata					
Pinniped	M164/17	Halichoerus grypus	Grey seal	31/03/2017	Orkney	M	Not Examined
Cetacean	M174/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped dolphin (indeterminate species)	01/04/2017	Western Isles	U	Not Examined
Pinniped	M165/17	Unknown	Seal (indeterminate species)	02/04/2017	North Ayrshire	U	Not Examined
Cetacean	M166/17	Balaenoptera acutorostrata	Minke whale	02/04/2017	Western Isles	F	Infectious Disease
Cetacean	M167/17	Phocoena phocoena	Harbour porpoise	02/04/2017	Aberdeenshire	F	Not Examined
Cetacean	M168/17	Delphinus delphis	Short-beaked common dolphin	03/04/2017	Dumfries and Galloway	F	Not Examined
Cetacean	M169/17	Phocoena phocoena	Harbour porpoise	05/04/2017	Moray	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M170/17	Physeter macrocephalus	Sperm whale	05/04/2017	Western Isles	M	Not Examined
Cetacean	M171/17	Phocoena phocoena	Harbour porpoise	05/04/2017	Fife	U	Not Examined
Pinniped	M172/17	Halichoerus grypus	Grey seal	05/04/2017	Western Isles	U	Not Examined
Cetacean	M175/17	Balaenoptera acutorostrata	Minke whale	05/04/2017	Highland	U	Not Examined
Cetacean	M199/17	Balaenoptera acutorostrata	Minke whale	05/04/2017	City of Aberdeen	U	Not Examined
Pinniped	M173/17	Phoca vitulina	Harbour seal (Common seal)	08/04/2017	Fife	U	Not Examined
Pinniped	M176/17	Unknown	Seal (indeterminate species)	09/04/2017	Aberdeenshire	U	Not Examined
Pinniped	M45/17	Unknown	Seal (indeterminate species)	10/04/2017	Highland	U	Not Examined
Cetacean	M46/17	Phocoena phocoena	Harbour porpoise	11/04/2017	Moray	M	Physical Trauma: Bottlenose Dolphin Attack

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M47/17	Phocoena phocoena	Harbour porpoise	11/04/2017	Grampian	U	Not Examined
Pinniped	M177/17	Unknown	Seal (indeterminate species)	12/04/2017	Argyll and Bute	U	Not Examined
Cetacean	M178/17	Phocoena phocoena	Harbour porpoise	12/04/2017	Moray	F	Physical Trauma: Other
Cetacean	M179/17	Globicephala melas	Long-finned pilot whale	13/04/2017	Shetland	U	Not Examined
Cetacean	M184/17	Balaenoptera acutorostrata	Minke whale	14/04/2017	Western Isles	U	Not Examined
Pinniped	M185/17	Halichoerus grypus	Grey seal	14/04/2017	Argyll and Bute	U	Not Examined
Cetacean	M180/17	Phocoena phocoena	Harbour porpoise	15/04/2017	Western Isles	U	Not Examined
Cetacean	M183/17	Phocoena phocoena	Harbour porpoise	16/04/2017	Aberdeenshire	M	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M181/17	Phoca vitulina	Harbour seal (Common seal)	17/04/2017	East Lothian	U	Not Examined
Cetacean	M183/17	Phocoena phocoena	Harbour porpoise	18/04/2017	Aberdeenshire	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M186/17	Balaenoptera acutorostrata	Minke whale	18/04/2017	Argyll and Bute	U	Not Examined
Cetacean	M187/17	Phocoena phocoena	Harbour porpoise	21/04/2017	Moray	U	Not Examined
Cetacean	M188/17	Phocoena phocoena	Harbour porpoise	21/04/2017	Highland	M	Starvation/Hypothermia
Cetacean	M189/17	Delphinus delphis	Short-beaked common dolphin	21/04/2017	Western Isles	M	Not Examined: Samples Taken
Cetacean	M190/17	Balaenoptera acutorostrata	Minke whale	21/04/2017	Fife	U	Live Stranding
Cetacean	M191/17	Phocoena phocoena	Harbour porpoise	21/04/2017	Aberdeenshire	F	Not Examined: Samples Taken
Pinniped	M192/17	Halichoerus grypus	Grey seal	24/04/2017	Moray	U	Not Examined
Cetacean	M193/17	Phocoena phocoena	Harbour porpoise	24/04/2017	Highland	M	Not Examined
Cetacean	M202/17	Delphinus delphis	Short-beaked common dolphin	24/04/2017	Argyll and Bute	U	Not Examined
Cetacean	M194/17	Phocoena phocoena	Harbour porpoise	26/04/2017	Fife	M	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	m195/17	Halichoerus grypus	Grey seal	29/04/2017	Aberdeenshire	M	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M196/17	Phocoena phocoena	Harbour porpoise	30/04/2017	Aberdeenshire	M	Not Examined: Samples Taken
Cetacean	M198/17	Phocoena phocoena	Harbour porpoise	30/04/2017	Moray	U	Physical Trauma: Other
Pinniped	M197/17	Halichoerus grypus	Grey seal	01/05/2017	Angus	U	Not Examined
Cetacean	M200/17	Balaenoptera acutorostrata	Minke whale	05/05/2017	Fife	F	Infectious Disease
Cetacean	M201/17	Phocoena phocoena	Harbour porpoise	05/05/2017	City of Edinburgh	U	Live Stranding
Cetacean	M203/17	Phocoena phocoena	Harbour porpoise	09/05/2017	Highland	U	Not Examined
Cetacean	M257/17	Unknown	Cetacean (indeterminate species)	09/05/2017	Argyll and Bute	U	Not Examined
Cetacean	M204/17	Phocoena phocoena	Harbour porpoise	10/05/2017	Moray	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M205/17	Phocoena phocoena	Harbour porpoise	10/05/2017	Moray	M	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M206/17	Unknown	Seal (indeterminate species)	10/05/2017	Western Isles	U	Not Examined
Cetacean	M207/17	Tursiops truncatus	Bottlenose dolphin	11/05/2017	Highland	F	Not Established
Cetacean	M208/17	Phocoena phocoena	Harbour porpoise	12/05/2017	Highland	U	Physical Trauma: Other
Cetacean	M209/17	Phocoena phocoena	Harbour porpoise	13/05/2017	City of Edinburgh	M	Not Examined: Samples Taken
Pinniped	M210/17	Unknown	Seal (indeterminate species)	13/05/2017	Highland	U	Not Examined
Cetacean	M213/17	Phocoena phocoena	Harbour porpoise	13/05/2017	Argyll and Bute	M	Not Examined
Pinniped	M211/17	Halichoerus grypus	Grey seal	14/05/2017	Western Isles	U	Not Examined
Cetacean	M212/17	Physeter macrocephalus	Sperm whale	14/05/2017	Shetland	M	Not Examined
Cetacean	M214/17	Phocoena phocoena	Harbour porpoise	15/05/2017	Argyll and Bute	M	Not Examined
Cetacean	M216/17	Phocoena phocoena	Harbour porpoise	15/05/2017	Fife	U	Physical Trauma: Other
Cetacean	M215/17	Phocoena phocoena	Harbour porpoise	16/05/2017	Argyll and Bute	F	Physical Trauma: Other
Cetacean	M217/17	Delphinus delphis	Short-beaked common dolphin	18/05/2017	Highland	M	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M218/17	Unknown	Seal (indeterminate species)	19/05/2017	East Lothian	U	Not Examined
Cetacean	M219/17	Phocoena phocoena	Harbour porpoise	21/05/2017	Shetland	M	Not Examined: Samples Taken
Cetacean	M220/17	Phocoena phocoena	Harbour porpoise	21/05/2017	Orkney	U	Not Examined
Cetacean	M221/17	Delphinus delphis	Short-beaked common dolphin	21/05/2017	Highland	U	Not Examined
Pinniped	M222/17	Halichoerus grypus	Grey seal	21/05/2017	Aberdeenshire	U	Not Examined
Pinniped	M223/17	Unknown	Seal (indeterminate species)	23/05/2017	Western Isles	U	Not Examined
Pinniped	M224/17	Unknown	Seal (indeterminate species)	24/05/2017	Highland	U	Not Examined
Pinniped	M225/17	Halichoerus grypus	Grey seal	26/05/2017	Scottish Borders	U	Not Examined
Pinniped	M226/17	Unknown	Seal (indeterminate species)	28/05/2017	Highland	U	Not Examined
Cetacean	M227/17	Balaenoptera acutorostrata	Minke whale	28/05/2017	Highland	U	Physical Trauma: Anthropogenic
Cetacean	M228/17	Phocoena phocoena	Harbour porpoise	30/05/2017	East Lothian	U	Not Examined
Pinniped	M234/17	Halichoerus grypus	Grey seal	30/05/2017	Western Isles	U	Not Examined
Pinniped	M229/17	Unknown	Seal (indeterminate species)	02/06/2017	City of Edinburgh	U	Not Examined
Cetacean	M232/17	Unknown	Cetacean (indeterminate species)	02/06/2017	Argyll and Bute	U	Not Examined
Pinniped	M235/17	Halichoerus grypus	Grey seal	02/06/2017	Western Isles	U	Not Examined
Pinniped	M230/17	Halichoerus grypus	Grey seal	03/06/2017	Fife	U	Not Examined
Pinniped	M231/17	Halichoerus grypus	Grey seal	04/06/2017	Western Isles	M	Not Examined
Cetacean	M233/17	Phocoena phocoena	Harbour porpoise	09/06/2017	Moray	F	Starvation/Hypothermia
Cetacean	M238/17	Phocoena phocoena	Harbour porpoise	10/06/2017	Aberdeenshire	M	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M240/17	Halichoerus grypus	Grey seal	10/06/2017	Highland	U	Not Examined
Cetacean	M236/17	Tursiops truncatus	Bottlenose dolphin	11/06/2017	Moray	M	Not Established

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M239/17	Phocoena phocoena	Harbour porpoise	11/06/2017	Highland	U	Not Examined
Cetacean	M242/17	Phocoena phocoena	Harbour porpoise	11/06/2017	Highland	F	Not Examined
Pinniped	M237/17	Halichoerus grypus	Grey seal	12/06/2017	Moray	M	Not Examined: Samples Taken
Pinniped	M241/17	Phoca vitulina	Harbour seal (Common seal)	12/06/2017	Highland	U	Physical Trauma: Other
Cetacean	M243/17	Phocoena phocoena	Harbour porpoise	13/06/2017	Dumfries and Galloway	U	Not Examined
Cetacean	M244/17	Phocoena phocoena	Harbour porpoise	15/06/2017	North Ayrshire	F	Infectious Disease: Other
Cetacean	M245/17	Phocoena phocoena	Harbour porpoise	15/06/2017	Moray	M	Not Examined
Pinniped	M254/17	Halichoerus grypus	Grey seal	15/06/2017	East Lothian	U	Not Examined
Pinniped	M246/17	Halichoerus grypus	Grey seal	16/06/2017	Argyll and Bute	U	Not Examined
Pinniped	M248/17	Phoca vitulina	Harbour seal (Common seal)	16/06/2017	Orkney	M	Not Examined: Samples Taken
Cetacean	M251/17	Phocoena phocoena	Harbour porpoise	16/06/2017	Western Isles	U	Not Examined
Cetacean	M247/17	Delphinus delphis	Short-beaked common dolphin	17/06/2017	Highland	M	Starvation/Hypothermia
Cetacean	M261/17	Phocoena phocoena	Harbour porpoise	17/06/2017	Argyll and Bute	U	Not Examined
Pinniped	M249/17	Unknown	Seal (indeterminate species)	20/06/2017	Highland	U	Not Examined
Pinniped	M250/17	Halichoerus grypus	Grey seal	20/06/2017	Aberdeenshire	U	Not Examined
Cetacean	M252/17	Phocoena phocoena	Harbour porpoise	21/06/2017	Western Isles	U	Not Examined
Pinniped	M253/17	Halichoerus grypus	Grey seal	21/06/2017	Western Isles	U	Not Examined
Pinniped	M258/17	Phoca vitulina	Harbour seal (Common seal)	22/06/2017	Highland	U	Physical Trauma: Other
Pinniped	M255/17	Unknown	Seal (indeterminate species)	23/06/2017	Highland	U	Not Examined
Pinniped	M256/17	Phoca vitulina	Harbour seal (Common seal)	23/06/2017	Highland	F	Physical Trauma: Other
Cetacean	M259/17	Phocoena phocoena	Harbour porpoise	23/06/2017	Dumfries and Galloway	M	Not Examined
Cetacean	M260/17	Phocoena phocoena	Harbour porpoise	24/06/2017	East Lothian	F	Not Examined: Samples Taken

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M266/17	Halichoerus grypus	Grey seal	28/06/2017	Western Isles	U	Physical Trauma: Anthropogenic
Pinniped	M267/17	Halichoerus grypus	Grey seal	28/06/2017	Western Isles	U	Physical Trauma: Anthropogenic
Cetacean	M265/17	Phocoena phocoena	Harbour porpoise	30/06/2017	Moray	U	Not Examined
Cetacean	M268/17	Mysticete (indeterminate species)	Baleen whale (indeterminate species)	30/06/2017	Highland	U	Not Examined
Cetacean	M262/17	Phocoena phocoena	Harbour porpoise	01/07/2017	Aberdeenshire	F	Infectious Disease: Other
Cetacean	M263/17	Phocoena phocoena	Harbour porpoise	02/07/2017	North Ayrshire	F	Not Examined
Pinniped	M282/17	Unknown	Seal (indeterminate species)	02/07/2017	Argyll and Bute	U	Not Examined
Cetacean	M264/17	Phocoena phocoena	Harbour porpoise	04/07/2017	Aberdeenshire	U	Pending
Pinniped	M269/17	Phoca vitulina	Harbour seal (Common seal)	06/07/2017	Orkney	M	Not Examined: Samples Taken
Pinniped	M270/17	Phoca vitulina	Harbour seal (Common seal)	06/07/2017	North Ayrshire	F	Not Examined
Cetacean	M285/17	Balaenoptera acutorostrata	Minke whale	06/07/2017	Orkney	U	Not Examined
Cetacean	M275/17	Balaenoptera acutorostrata	Minke whale	07/07/2017	Argyll and Bute	F	Physical Trauma: Anthropogenic
Cetacean	M271/17	Phocoena phocoena	Harbour porpoise	08/07/2017	East Lothian	U	Not Examined
Pinniped	M272/17	Phoca vitulina	Harbour seal (Common seal)	09/07/2017	Shetland	U	Physical Trauma: Other
Cetacean	M273/17	Phocoena phocoena	Harbour porpoise	10/07/2017	Moray	M	Physical Trauma: Other
Pinniped	M274/17	Phoca vitulina	Harbour seal (Common seal)	10/07/2017	North Ayrshire	U	Physical Trauma: Other
Cetacean	M276/17	Lagenorhynchus acutus	Atlantic white-sided dolphin	10/07/2017	Scottish Borders	M	Not Examined: Samples Taken
Cetacean	M277/17	Phocoena phocoena	Harbour porpoise	10/07/2017	East Lothian	M	Starvation/Hypothermia
Cetacean	M278/17	Phocoena phocoena	Harbour porpoise	10/07/2017	Fife	U	Not Examined
Cetacean	M284/17	Phocoena phocoena	Harbour porpoise	10/07/2017	South Ayrshire	U	Not Examined
Cetacean	M279/17	Balaenoptera acutorostrata	Minke whale	11/07/2017	Highland	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M280/17	Grampus griseus	Risso's dolphin	11/07/2017	Orkney	U	Not Examined
Pinniped	M281/17	Unknown	Seal (indeterminate species)	12/07/2017	Angus	U	Not Examined
Pinniped	M286/17	Phoca vitulina	Harbour seal (Common seal)	12/07/2017	Argyll and Bute	U	Physical Trauma: Other
Pinniped	M287/17	Phoca vitulina	Harbour seal (Common seal)	12/07/2017	Argyll and Bute	U	Physical Trauma: Other
Cetacean	M288/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped dolphin (indeterminate species)	13/07/2017	Argyll and Bute	U	Not Examined
Pinniped	M289/17	Halichoerus grypus	Grey seal	14/07/2017	Western Isles	U	Not Examined
Cetacean	M290/17	Phocoena phocoena	Harbour porpoise	15/07/2017	Highland	M	Not Examined
Pinniped	M294/17	Unknown	Seal (indeterminate species)	15/07/2017	Fife	U	Not Examined
Cetacean	M291/17	Phocoena phocoena	Harbour porpoise	16/07/2017	Fife	U	Not Examined
Pinniped	M292/17	Halichoerus grypus	Grey seal	16/07/2017	Fife	U	Not Examined
Pinniped	M283/17	Phoca vitulina	Harbour seal (Common seal)	17/07/2017	Argyll and Bute	M	Pending
Cetacean	M293/17	Phocoena phocoena	Harbour porpoise	17/07/2017	Aberdeenshire	M	Not Examined: Samples Taken
Pinniped	M295/17	Unknown	Seal (indeterminate species)	17/07/2017	Shetland	U	Not Examined
Cetacean	M296/17	Phocoena phocoena	Harbour porpoise	17/07/2017	Highland	M	Not Examined
Pinniped	M297/17	Unknown	Seal (indeterminate species)	18/07/2017	Highland	U	Not Examined
Cetacean	M298/17	Lagenorhynchus acutus	Atlantic white-sided dolphin	18/07/2017	Shetland	M	Physical Trauma: Other
Cetacean	M299/17	Globicephala melas	Long-finned pilot whale	19/07/2017	Shetland	F	Live Stranding
Pinniped	M300/17	Unknown	Seal (indeterminate species)	19/07/2017	Moray	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
			species)				
Cetacean	M301/17	Lagenorhynchus albirostris	White-beaked dolphin	19/07/2017	Orkney	U	Not Examined
Pinniped	M302/17	Unknown	Seal (indeterminate species)	20/07/2017	Orkney	U	Physical Trauma: Other
Cetacean	M303/17	Unknown	Cetacean (indeterminate species)	20/07/2017	Highland	U	Not Examined
Cetacean	M316/17	Phocoena phocoena	Harbour porpoise	20/07/2017	Western Isles	U	Not Examined
Cetacean	M304/17	Phocoena phocoena	Harbour porpoise	21/07/2017	Argyll and Bute	M	Not Examined
Pinniped	M305/17	Halichoerus grypus	Grey seal	21/07/2017	Highland	U	Not Examined
Cetacean	M309/17	Globicephala melas	Long-finned pilot whale	21/07/2017	Shetland	F	Not Examined: Samples Taken
Pinniped	M306/17	Unknown	Seal (indeterminate species)	22/07/2017	Aberdeenshire	U	Not Examined
Basking Shark	M310/17	Cetorhinus maximus	Basking shark	22/07/2017	Highland	U	Not Examined
Cetacean	M332/17	Phocoena phocoena	Harbour porpoise	22/07/2017	Moray	U	Not Examined
Cetacean	M307/17	Phocoena phocoena	Harbour porpoise	23/07/2017	Shetland	M	Physical Trauma: Other
Cetacean	M308/17	Lagenorhynchus acutus	Atlantic white-sided dolphin	23/07/2017	Shetland	M	Not Examined: Samples Taken
Pinniped	M311/17	Halichoerus grypus	Grey seal	23/07/2017	Western Isles	U	Not Examined
Cetacean	M312/17	Unknown	Dolphin (indeterminate species)	23/07/2017	Western Isles	U	Live Stranding
Pinniped	M313/17	Halichoerus grypus	Grey seal	24/07/2017	Angus	U	Not Examined
Pinniped	M314/17	Unknown	Seal (indeterminate species)	24/07/2017	Dumfries and Galloway	U	Not Examined
Pinniped	M315/17	Phoca vitulina	Harbour seal (Common seal)	24/07/2017	Highland	U	Not Examined
Cetacean	M317/17	Unknown	Dolphin (indeterminate	25/07/2017	Highland	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
			species)				
Cetacean	M318/17	Unknown	Cetacean (indeterminate species)	25/07/2017	Highland	U	Not Examined
Pinniped	M319/17	Phoca vitulina	Harbour seal (Common seal)	25/07/2017	Fife	U	Physical Trauma: Other
Cetacean	M320/17	Phocoena phocoena	Harbour porpoise	25/07/2017	Fife	U	Not Examined
Cetacean	M321/17	Unknown	Cetacean (indeterminate species)	25/07/2017	Highland	U	Live Stranding
Cetacean	M322/17	Phocoena phocoena	Harbour porpoise	25/07/2017	South Ayrshire	F	Starvation/Hypothermia
Cetacean	M323/17	Phocoena phocoena	Harbour porpoise	25/07/2017	Argyll and Bute	U	Physical Trauma: Other
Pinniped	M324/17	Halichoerus grypus	Grey seal	26/07/2017	Angus	U	Not Examined
Pinniped	M325/17	Halichoerus grypus	Grey seal	26/07/2017	Shetland	U	Not Examined
Pinniped	M326/17	Halichoerus grypus	Grey seal	26/07/2017	Highland	U	Physical Trauma: Other
Cetacean	M327/17	Delphinus delphis	Short-beaked common dolphin	27/07/2017	Highland	M	Not Examined
Cetacean	M328/17	Phocoena phocoena	Harbour porpoise	27/07/2017	Shetland	M	Not Established
Pinniped	M329/17	Phoca vitulina	Harbour seal (Common seal)	27/07/2017	Highland		Not Examined
Cetacean	M330/17	Lagenorhynchus albirostris	White-beaked dolphin	28/07/2017	Aberdeenshire	F	Not Examined: Samples Taken
Cetacean	M331/17	Phocoena phocoena	Harbour porpoise	28/07/2017	Shetland	U	Not Examined: Samples Taken
Pinniped	M333/17	Phoca vitulina	Harbour seal (Common seal)	28/07/2017	Highland	U	Physical Trauma: Other
Pinniped	M334/17	Phoca vitulina	Harbour seal (Common seal)	28/07/2017	Highland	U	Not Examined
Pinniped	M335/17	Phoca vitulina	Harbour seal (Common seal)	29/07/2017	Moray	U	Not Examined
Cetacean	M339/17	Phocoena phocoena	Harbour porpoise	31/07/2017	Moray	U	Not Examined
Cetacean	M336/17	Phocoena phocoena	Harbour porpoise	01/08/2017	South Ayrshire	M	Infectious Disease: Other

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M337/17	Phoca vitulina	Harbour seal (Common seal)	01/08/2017	Shetland	U	Physical Trauma: Other
Cetacean	M338/17	Lagenorhynchus albirostris	White-beaked dolphin	02/08/2017	Western Isles	F	Not Examined
Pinniped	M340/17	Phoca vitulina	Harbour seal (Common seal)	04/08/2017	Moray	U	Not Examined
Cetacean	M343/17	Grampus griseus	Risso's dolphin	05/08/2017	Western Isles	U	Not Examined
Cetacean	M342/17	Lagenorhynchus acutus	Atlantic white-sided dolphin	07/08/2017	Shetland	U	Not Examined
Cetacean	M341/17	Globicephala melas	Long-finned pilot whale	08/08/2017	Highland	F	Live Stranding
Pinniped	M345/17	Phoca vitulina	Harbour seal (Common seal)	08/08/2017	Argyll and Bute	U	Not Examined
Cetacean	M347/17	Delphinus delphis	Short-beaked common dolphin	08/08/2017	Orkney	U	Not Examined
Cetacean	M344/17	Mesoplodon bidens	Sowerby's beaked whale	09/08/2017	Western Isles	F	Not Examined: Samples Taken
Pinniped	M346/17	Phoca vitulina	Harbour seal (Common seal)	09/08/2017	Fife	M	Pending
Pinniped	M348/17	Halichoerus grypus	Grey seal	10/08/2017	Moray	U	Not Examined
Pinniped	M349/17	Unknown	Seal (indeterminate species)	10/08/2017	Argyll and Bute	U	Not Examined
Cetacean	M350.1/17	Lagenorhynchus albirostris	White-beaked dolphin	11/08/2017	Orkney	M	Live Stranding
Cetacean	M350.2/17	Lagenorhynchus albirostris	White-beaked dolphin	11/08/2017	Orkney	U	Live Stranding
Cetacean	M351/17	Phocoena phocoena	Harbour porpoise	11/08/2017	Argyll and Bute	M	Not Examined
Pinniped	M352/17	Phoca vitulina	Harbour seal (Common seal)	11/08/2017	Argyll and Bute	U	Physical Trauma: Other
Cetacean	M353/17	Orcinus orca	Killer whale	13/08/2017	Western Isles	U	Not Examined: Samples Taken
Cetacean	M354/17	Phocoena phocoena	Harbour porpoise	14/08/2017	Argyll and Bute	F	Not Examined
Cetacean	M355/17	Lagenorhynchus	White-beaked	14/08/2017	Orkney	U	Not Examined: Samples Taken

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
		albirostris	dolphin				
Pinniped	M356/17	Unknown	Seal (indeterminate species)	15/08/2017	Highland	U	Not Examined
Pinniped	M357/17	Unknown	Seal (indeterminate species)	16/08/2017	Aberdeenshire	U	Not Examined
Pinniped	M358/17	Halichoerus grypus	Grey seal	17/08/2017	Argyll and Bute	U	Not Examined
Pinniped	M359/17	Phoca vitulina	Harbour seal (Common seal)	18/08/2017	Highland		Not Examined
Cetacean	M360/17	Phocoena phocoena	Harbour porpoise	21/08/2017	Argyll and Bute	M	Not Examined
Cetacean	M361/17	Unknown	Cetacean (indeterminate species)	21/08/2017	At sea	U	Not Examined
Pinniped	M362/17	Halichoerus grypus	Grey seal	21/08/2017	Argyll and Bute	F	Not Examined
Pinniped	M363/17	Halichoerus grypus	Grey seal	23/08/2017	Aberdeenshire	M	Not Examined: Samples Taken
Pinniped	M364/17	Unknown	Seal (indeterminate species)	23/08/2017	Highland	U	Not Examined
Cetacean	M365/17	Phocoena phocoena	Harbour porpoise	23/08/2017	Dumfries and Galloway	F	Not Examined
Pinniped	M366/17	Halichoerus grypus	Grey seal	23/08/2017	Argyll and Bute	U	Not Examined
Pinniped	M387/17	Halichoerus grypus	Grey seal	23/08/2017	Western Isles	U	Not Examined
Pinniped	M367/17	Halichoerus grypus	Grey seal	25/08/2017	Highland	U	Not Examined
Pinniped	M378/17	Unknown	Seal (indeterminate species)	25/08/2017	Argyll and Bute	U	Not Examined
Cetacean	M368/17	Phocoena phocoena	Harbour porpoise	26/08/2017	North Ayrshire	U	Not Examined
Pinniped	M370/17	Phoca vitulina	Harbour seal (Common seal)	26/08/2017	Fife	U	Not Examined
Pinniped	M371/17	Phoca vitulina	Harbour seal (Common seal)	26/08/2017	Orkney	U	Not Examined
Pinniped	M396/17	Unknown	Seal (indeterminate species)	26/08/2017	North Ayrshire	U	Not Examined
Cetacean	M372/17	Balaenoptera acutorostrata	Minke whale	28/08/2017	Argyll and Bute	F	Physical Trauma: Anthropogenic

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M373/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	29/08/2017	South Ayrshire	M	Not Established
Pinniped	M374/17	Unknown	Seal (indeterminate species)	29/08/2017	North Ayrshire	U	Not Examined
Pinniped	M375/17	<i>Halichoerus grypus</i>	Grey seal	30/08/2017	Aberdeenshire	U	Not Examined
Pinniped	M376/17	<i>Halichoerus grypus</i>	Grey seal	30/08/2017	Aberdeenshire	U	Not Examined
Pinniped	M377/17	<i>Halichoerus grypus</i>	Grey seal	30/08/2017	Aberdeenshire	U	Physical Trauma: Other
Pinniped	M382/17	Unknown	Seal (indeterminate species)	30/08/2017	Dumfries and Galloway	U	Not Examined
Cetacean	M379/17	<i>Tursiops truncatus</i>	Bottlenose dolphin	31/08/2017	Moray	M	Not Examined: Samples Taken
Cetacean	M380/17	<i>Delphinus delphis</i>	Short-beaked common dolphin	31/08/2017	Highland	U	Physical Trauma: Anthropogenic
Marine Turtle	M381/17	<i>Dermochelys coriacea</i>	Leatherback turtle	31/08/2017	Highland	U	Not Examined
Pinniped	M385/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	31/08/2017	Fife	U	Physical Trauma: Other
Cetacean	M384/17	<i>Phocoena phocoena</i>	Harbour porpoise	02/09/2017	Shetland	U	Not Examined
Pinniped	M389/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	02/09/2017	Highland	U	Not Examined
Cetacean	M383/17	<i>Grampus griseus</i>	Risso's dolphin	03/09/2017	Orkney	M	Not Examined: Samples Taken
Pinniped	M386/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	05/09/2017	South Ayrshire	M	Starvation/Hypothermia
Pinniped	M388/17	<i>Halichoerus grypus</i>	Grey seal	06/09/2017	Orkney	U	Not Examined
Pinniped	M391/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	06/09/2017	North Ayrshire	U	Not Examined
Pinniped	M390/17	<i>Halichoerus grypus</i>	Grey seal	07/09/2017	Argyll and Bute	M	Not Examined: Samples Taken
Cetacean	M399/17	<i>Phocoena phocoena</i>	Harbour porpoise	07/09/2017	Aberdeenshire	M	Not Examined
Pinniped	M392/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	08/09/2017	South Ayrshire	U	Not Examined
Pinniped	M393/17	<i>Halichoerus grypus</i>	Grey seal	08/09/2017	Argyll and Bute	U	Not Examined
Pinniped	M396/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	09/09/2017	Highland	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M397/17	Phoca vitulina	Harbour seal (Common seal)	09/09/2017	Highland	U	Not Examined
Pinniped	M398/17	Phoca vitulina	Harbour seal (Common seal)	09/09/2017	Highland	U	Not Examined
Cetacean	M394/17	Phocoena phocoena	Harbour porpoise	10/09/2017	Moray	F	Infectious Disease: Pneumonia
Cetacean	M395/17	Lagenorhynchus albirostris	White-beaked dolphin	10/09/2017	Orkney	F	Not Examined
Pinniped	M401/17	Halichoerus grypus	Grey seal	14/09/2017	Western Isles	F	Not Examined
Cetacean	M402/17	Grampus griseus	Risso's dolphin	16/09/2017	Moray	M	Not Examined: Samples Taken
Pinniped	M411/17	Unknown	Seal (indeterminate species)	16/09/2017	Western Isles	U	Not Examined
Pinniped	M403/17	Halichoerus grypus	Grey seal	17/09/2017	East Lothian	F	Physical Trauma: Other
Pinniped	M404/17	Halichoerus grypus	Grey seal	17/09/2017	Orkney	U	Not Examined
Pinniped	M406/17	Unknown	Seal (indeterminate species)	17/09/2017	Moray	U	Not Examined
Pinniped	M407/17	Halichoerus grypus	Grey seal	17/09/2017	Highland	U	Not Examined
Cetacean	M408/17	Phocoena phocoena	Harbour porpoise	17/09/2017	Argyll and Bute	U	Not Examined
Cetacean	M412/17	Stenella coeruleoalba	Striped dolphin	17/09/2017	Argyll and Bute	M	Not Examined: Samples Taken
Cetacean	M414/17	Phocoena phocoena	Harbour porpoise	17/09/2017	North Ayrshire	M	Not Examined
Pinniped	M405/17	Phoca vitulina	Harbour seal (Common seal)	18/09/2017	Scottish Borders	U	Not Examined
Pinniped	M409/17	Unknown	Seal (indeterminate species)	18/09/2017	Western Isles	U	Not Examined
Pinniped	M436/17	Halichoerus grypus	Grey seal	18/09/2017	Western Isles	U	Not Examined
Pinniped	M410/17	Halichoerus grypus	Grey seal	19/09/2017	City of Dundee	U	Not Examined
Pinniped	M417/17	Halichoerus grypus	Grey seal	19/09/2017	Moray	U	Not Examined
Cetacean	M413/17	Globicephala melas	Long-finned pilot whale	20/09/2017	Shetland	U	Not Examined
Marine Turtle	M419/17	Dermochelys coriacea	Leatherback turtle	20/09/2017	Angus	U	Physical Trauma: Anthropogenic
Cetacean	M415/17	Phocoena phocoena	Harbour porpoise	21/09/2017	North Ayrshire	F	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M420/17	Phocoena phocoena	Harbour porpoise	21/09/2017	Highland	U	Not Examined
Cetacean	M418/17	Hyperoodon ampullatus	Northern bottlenose whale	22/09/2017	Argyll and Bute	M	Physical Trauma: Anthropogenic
Marine Turtle	M421/17	Dermochelys coriacea	Leatherback turtle	22/09/2017	Western Isles	U	Not Examined
Cetacean	M422/17	Grampus griseus	Risso's dolphin	23/09/2017	Highland	U	Not Examined: Samples Taken
Pinniped	M427/17	Phoca vitulina	Harbour seal (Common seal)	23/09/2017	East Lothian	U	Not Examined
Pinniped	M423/17	Halichoerus grypus	Grey seal	24/09/2017	Fife	F	Not Examined: Samples Taken
Cetacean	M424/17	Phocoena phocoena	Harbour porpoise	25/09/2017	Highland	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M425/17	Unknown	Cetacean (indeterminate species)	26/09/2017	Highland	U	Not Examined
Pinniped	M426/17	Halichoerus grypus	Grey seal	26/09/2017	Western Isles	U	Not Examined
Cetacean	M431/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped dolphin (indeterminate species)	26/09/2017	Western Isles	U	Not Examined
Cetacean	M428/17	Phocoena phocoena	Harbour porpoise	28/09/2017	Dumfries and Galloway	U	Not Examined
Cetacean	M429/17	Phocoena phocoena	Harbour porpoise	28/09/2017	Highland	U	Not Examined
Pinniped	M430/17	Phoca vitulina	Harbour seal (Common seal)	28/09/2017	East Lothian	M	Not Examined
Pinniped	M432/17	Unknown	Seal (indeterminate species)	28/09/2017	Highland	U	Not Examined
Pinniped	M433/17	Halichoerus grypus	Grey seal	30/09/2017	Aberdeenshire	U	Not Examined
Cetacean	M434/17	Phocoena phocoena	Harbour porpoise	30/09/2017	Highland	U	Physical Trauma: Other
Cetacean	M435/17	Phocoena phocoena	Harbour porpoise	30/09/2017	Highland	U	Not Examined
Pinniped	M438/17	Unknown	Seal (indeterminate)	30/09/2017	Argyll and Bute	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
			species)				
Cetacean	M661/17	<i>Phocoena phocoena</i>	Harbour porpoise	03/10/2017	Fife	F	Not Established
Pinniped	M437/17	<i>Halichoerus grypus</i>	Grey seal	04/10/2017	Argyll and Bute	F	Not Examined
Pinniped	M439/17	<i>Halichoerus grypus</i>	Grey seal	05/10/2017	East Lothian	U	Not Examined
Pinniped	M442/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	07/10/2017	North Ayrshire	U	Not Examined
Pinniped	M455/17	<i>Halichoerus grypus</i>	Grey seal	07/10/2017	City of Dundee	U	Not Examined
Cetacean	M440/17	<i>Globicephala melas</i>	Long-finned pilot whale	08/10/2017	Western Isles	M	Neonatal death
Cetacean	M441/17	<i>Globicephala melas</i>	Long-finned pilot whale	08/10/2017	Orkney	F	Not Examined: Samples Taken
Cetacean	M443/17	<i>Balaenoptera acutorostrata</i>	Minke whale	08/10/2017	Shetland	U	Not Examined
Pinniped	M444/17	<i>Halichoerus grypus</i>	Grey seal	08/10/2017	South Ayrshire	U	Not Examined
Pinniped	M445/17	Unknown	Seal (indeterminate species)	08/10/2017	South Ayrshire	U	Not Examined
Pinniped	M446/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	09/10/2017	Moray	F	Starvation/Hypothermia
Cetacean	M447/17	<i>Balaenoptera acutorostrata</i>	Minke whale	09/10/2017	Fife	F	Infectious Disease
Pinniped	M448/17	<i>Halichoerus grypus</i>	Grey seal	09/10/2017	Moray	U	Not Examined
Cetacean	M449/17	<i>Stenella coeruleoalba</i>	Striped dolphin	09/10/2017	Western Isles	F	Infectious Disease
Cetacean	M450/17	<i>Phocoena phocoena</i>	Harbour porpoise	10/10/2017	Highland	F	Physical Trauma: Other
Pinniped	M451/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	10/10/2017	Highland	U	Not Examined
Cetacean	M454/17	<i>Phocoena phocoena</i>	Harbour porpoise	10/10/2017	North Ayrshire	F	Not Examined: Samples Taken
Cetacean	M452/17	<i>Grampus griseus</i>	Risso's dolphin	11/10/2017	Highland	F	Not Examined: Samples Taken
Cetacean	M453/17	<i>Lagenorhynchus albirostris</i>	White-beaked dolphin	11/10/2017	Orkney	F	Not Examined: Samples Taken
Pinniped	M457/17	<i>Halichoerus grypus</i>	Grey seal	11/10/2017	Orkney	U	Not Examined
Pinniped	M456/17	<i>Halichoerus grypus</i>	Grey seal	12/10/2017	South Ayrshire	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M458/17	Phoca vitulina	Harbour seal (Common seal)	14/10/2017	Aberdeenshire	U	Not Examined: Samples Taken
Cetacean	M459/17	Grampus griseus	Risso's dolphin	17/10/2017	Western Isles	M	Infectious Disease
Pinniped	M460/17	Phoca vitulina	Harbour seal (Common seal)	17/10/2017	North Ayrshire	U	Not Examined
Cetacean	M461/17	Phocoena phocoena	Harbour porpoise	17/10/2017	North Ayrshire	U	Not Examined
Cetacean	M462/17	Phocoena phocoena	Harbour porpoise	17/10/2017	North Ayrshire	M	Not Examined
Pinniped	M463/17	Unknown	Seal (indeterminate species)	18/10/2017	Western Isles	U	Not Examined
Pinniped	M464/17	Unknown	Seal (indeterminate species)	18/10/2017	Inverclyde	U	Not Examined
Pinniped	M465/17	Halichoerus grypus	Grey seal	18/10/2017	Argyll and Bute	U	Physical Trauma: Other
Pinniped	M466/17	Phoca vitulina	Harbour seal (Common seal)	18/10/2017	South Ayrshire	U	Not Examined
Cetacean	M467/17	Phocoena phocoena	Harbour porpoise	19/10/2017	Angus	U	Not Examined
Pinniped	M468/17	Halichoerus grypus	Grey seal	21/10/2017	Moray	F	Not Examined: Samples Taken
Pinniped	M469/17	Halichoerus grypus	Grey seal	21/10/2017	Aberdeenshire	U	Physical Trauma: Other
Cetacean	M470/17	Phocoena phocoena	Harbour porpoise	22/10/2017	Dumfries and Galloway	M	Not Examined
Pinniped	M471/17	Unknown	Seal (indeterminate species)	23/10/2017	Orkney	U	Not Examined
Pinniped	M472/17	Halichoerus grypus	Grey seal	23/10/2017	Dumfries and Galloway	U	Not Examined
Pinniped	M473/17	Halichoerus grypus	Grey seal	23/10/2017	Fife	U	Not Examined
Pinniped	M475/17	Phoca vitulina	Harbour seal (Common seal)	23/10/2017	South Ayrshire	U	Not Examined
Pinniped	M474/17	Unknown	Seal (indeterminate species)	24/10/2017	Argyll and Bute	U	Not Examined
Pinniped	M476/17	Unknown	Seal (indeterminate species)	24/10/2017	Argyll and Bute	U	Not Examined
Cetacean	M479/17	Phocoena phocoena	Harbour porpoise	24/10/2017	North Ayrshire	U	Not Examined
Pinniped	M494/17	Halichoerus grypus	Grey seal	24/10/2017	Western Isles	U	Physical Trauma: Anthropogenic

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M477/17	Unknown	Seal (indeterminate species)	25/10/2017	Moray	U	Not Examined
Cetacean	M478/17	<i>Phocoena phocoena</i>	Harbour porpoise	25/10/2017	Highland	F	Not Examined
Pinniped	M480/17	<i>Halichoerus grypus</i>	Grey seal	25/10/2017	Argyll and Bute	U	Not Examined
Pinniped	M481/17	<i>Halichoerus grypus</i>	Grey seal	25/10/2017	Moray	U	Not Examined
Cetacean	M482/17	<i>Phocoena phocoena</i>	Harbour porpoise	26/10/2017	South Ayrshire	F	Physical Trauma: Other
Cetacean	M483/17	<i>Phocoena phocoena</i>	Harbour porpoise	26/10/2017	Moray	M	Generalised debilitation
Cetacean	M484/17	<i>Phocoena phocoena</i>	Harbour porpoise	27/10/2017	South Ayrshire	F	Infectious Disease: Other
Pinniped	M485/17	<i>Halichoerus grypus</i>	Grey seal	27/10/2017	Dumfries and Galloway	U	Not Examined
Pinniped	M486/17	<i>Halichoerus grypus</i>	Grey seal	27/10/2017	Argyll and Bute	U	Physical Trauma: Other
Cetacean	M487/17	<i>Phocoena phocoena</i>	Harbour porpoise	27/10/2017	Orkney	M	Live Stranding
Pinniped	M488/17	<i>Halichoerus grypus</i>	Grey seal	28/10/2017	Aberdeenshire	U	Not Examined
Pinniped	M489/17	<i>Halichoerus grypus</i>	Grey seal	29/10/2017	Aberdeenshire	U	Physical Trauma: Other
Pinniped	M490/17	<i>Halichoerus grypus</i>	Grey seal	29/10/2017	Western Isles	U	Physical Trauma: Other
Cetacean	M491/17	<i>Phocoena phocoena</i>	Harbour porpoise	29/10/2017	Shetland	U	Not Examined
Pinniped	M492/17	<i>Halichoerus grypus</i>	Grey seal	29/10/2017	Dumfries and Galloway	U	Not Examined
Pinniped	M493/17	<i>Phoca vitulina</i>	Harbour seal (Common seal)	29/10/2017	Inverclyde	U	Not Examined
Pinniped	M534/17	<i>Halichoerus grypus</i>	Grey seal	29/10/2017	Argyll and Bute	U	Physical Trauma: Other
Cetacean	M495/17	<i>Phocoena phocoena</i>	Harbour porpoise	30/10/2017	Argyll and Bute	F	Not Examined: Samples Taken
Cetacean	M496/17	<i>Lagenorhynchus albirostris</i>	White-beaked dolphin	30/10/2017	Moray	M	Live Stranding
Pinniped	M497/17	<i>Halichoerus grypus</i>	Grey seal	30/10/2017	Western Isles	U	Not Examined
Cetacean	M498/17	<i>Phocoena phocoena</i>	Harbour porpoise	31/10/2017	South Ayrshire	U	Not Examined
Cetacean	M499/17	<i>Phocoena phocoena</i>	Harbour porpoise	31/10/2017	Highland	F	Not Examined: Samples Taken
Pinniped	M500/17	Unknown	Seal (indeterminate species)	01/11/2017	Fife	U	Not Examined
Cetacean	M501/17	<i>Ziphius cavirostris</i>	Cuvier's beaked whale	01/11/2017	Western Isles	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M502/17	Globicephala melas	Long-finned pilot whale	02/11/2017	Orkney	M	Not Examined: Samples Taken
Cetacean	M503/17	Delphinus delphis	Short-beaked common dolphin	02/11/2017	Western Isles	M	Not Examined: Samples Taken
Pinniped	M504/17	Unknown	Seal (indeterminate species)	03/11/2017	Scottish Borders	U	Not Examined
Cetacean	M505/17	Lagenorhynchus albirostris	White-beaked dolphin	03/11/2017	Western Isles	U	Not Examined: Samples Taken
Pinniped	M506/17	Halichoerus grypus	Grey seal	04/11/2017	Orkney	U	Not Examined
Pinniped	M507/17	Halichoerus grypus	Grey seal	04/11/2017	Orkney	U	Not Examined
Pinniped	M509/17	Halichoerus grypus	Grey seal	04/11/2017	Western Isles	U	Not Examined
Pinniped	M508/17	Halichoerus grypus	Grey seal	05/11/2017	Western Isles	U	Not Examined
Pinniped	M510/17	Halichoerus grypus	Grey seal	05/11/2017	Argyll and Bute	U	Not Examined
Cetacean	M511/17	Phocoena phocoena	Harbour porpoise	06/11/2017	Western Isles	F	Physical Trauma: Anthropogenic
Pinniped	M512/17	Halichoerus grypus	Grey seal	06/11/2017	Highland	U	Not Examined
Pinniped	M513/17	Unknown	Seal (indeterminate species)	06/11/2017	Argyll and Bute	U	Not Examined
Pinniped	M514/17	Unknown	Seal (indeterminate species)	06/11/2017	Argyll and Bute	U	Not Examined
Pinniped	M515/17	Halichoerus grypus	Grey seal	07/11/2017	Argyll and Bute	U	Not Examined
Cetacean	M516/17	Phocoena phocoena	Harbour porpoise	08/11/2017	Argyll and Bute	M	Not Examined: Samples Taken
Cetacean	M517/17	Phocoena phocoena	Harbour porpoise	08/11/2017	Highland	U	Not Examined: Samples Taken
Pinniped	M518/17	Halichoerus grypus	Grey seal	08/11/2017	Argyll and Bute	U	Not Examined
Pinniped	M519/17	Phoca vitulina	Harbour seal (Common seal)	09/11/2017	Highland	F	Not Examined: Samples Taken
Cetacean	M520/17	Globicephala melas	Long-finned pilot whale	11/11/2017	Shetland	F	Not Examined
Cetacean	M521/17	Phocoena phocoena	Harbour porpoise	11/11/2017	South Ayrshire	U	Not Examined
Cetacean	M522/17	Globicephala melas	Long-finned pilot whale	12/11/2017	Western Isles	U	Not Examined
Pinniped	M524/17	Halichoerus grypus	Grey seal	12/11/2017	Shetland	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M523/17	Halichoerus grypus	Grey seal	13/11/2017	Highland	U	Physical Trauma: Other
Cetacean	M525/17	Ziphius cavirostris	Cuvier's beaked whale	13/11/2017	Orkney	U	Not Examined
Cetacean	M526/17	Unknown	Odontocete (indeterminate species)	13/11/2017	Shetland	U	Not Examined
Pinniped	M535/17	Halichoerus grypus	Grey seal	13/11/2017	Argyll and Bute	U	Not Examined
Pinniped	M527/17	Phoca vitulina	Harbour seal (Common seal)	14/11/2017	North Ayrshire	U	Not Examined
Pinniped	M528/17	Unknown	Seal (indeterminate species)	14/11/2017	North Ayrshire	U	Not Examined
Pinniped	M529/17	Halichoerus grypus	Grey seal	15/11/2017	Highland	M	Not Examined: Samples Taken
Cetacean	M530/17	Phocoena phocoena	Harbour porpoise	15/11/2017	North Ayrshire	M	Not Examined
Cetacean	M531/17	Stenella coeruleoalba	Striped dolphin	15/11/2017	Western Isles	M	Not Examined: Samples Taken
Pinniped	M532/17	Halichoerus grypus	Grey seal	16/11/2017	Angus	U	Not Examined
Pinniped	M539/17	Halichoerus grypus	Grey seal	16/11/2017	Argyll and Bute	U	Not Examined
Cetacean	M533/17	Globicephala melas	Long-finned pilot whale	17/11/2017	Highland	U	Not Examined
Cetacean	M540/17	Ziphius cavirostris	Cuvier's beaked whale	17/11/2017	Western Isles	U	Not Examined
Cetacean	M544/17	Unknown	Cetacean (indeterminate species)	17/11/2017	Orkney	U	Not Examined
Cetacean	M537/17	Delphinus delphis	Short-beaked common dolphin	18/11/2017	Highland	M	Live Stranding
Pinniped	M538/17	Unknown	Seal (indeterminate species)	19/11/2017	South Ayrshire	U	Not Examined
Pinniped	M543/17	Halichoerus grypus	Grey seal	19/11/2017	Shetland	U	Not Examined
Pinniped	M541/17	Halichoerus grypus	Grey seal	20/11/2017	South Ayrshire	U	Not Examined
Pinniped	M542/17	Halichoerus grypus	Grey seal	20/11/2017	Highland	U	Not Examined
Pinniped	M546/17	Phoca vitulina	Harbour seal (Common seal)	20/11/2017	Argyll and Bute	U	Physical Trauma: Other

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Cetacean	M545/17	Phocoena phocoena	Harbour porpoise	21/11/2017	Orkney	U	Physical Trauma: Other
Cetacean	M547/17	Globicephala melas	Long-finned pilot whale	21/11/2017	Western Isles	M	Not Examined: Samples Taken
Pinniped	M556/17	Halichoerus grypus	Grey seal	21/11/2017	Orkney	U	Physical Trauma: Other
Pinniped	M557/17	Halichoerus grypus	Grey seal	21/11/2017	Orkney	U	Physical Trauma: Other
Pinniped	M558/17	Halichoerus grypus	Grey seal	21/11/2017	Orkney	U	Physical Trauma: Other
Cetacean	M548/17	Delphinus delphis	Short-beaked common dolphin	22/11/2017	Western Isles	M	Not Examined: Samples Taken
Pinniped	M549/17	Halichoerus grypus	Grey seal	22/11/2017	Western Isles	U	Not Examined
Cetacean	M552/17	Balaenoptera acutorostrata	Minke whale	23/11/2017	Argyll and Bute	M	Not Examined
Pinniped	M553/17	Phoca vitulina	Harbour seal (Common seal)	24/11/2017	Argyll and Bute	U	Pending
Cetacean	M550/17	Phocoena phocoena	Harbour porpoise	25/11/2017	South Ayrshire	F	Not Examined: Samples Taken
Cetacean	M551/17	Unknown	Cetacean (indeterminate species)	25/11/2017	West Lothian	U	Not Examined
Cetacean	M555/17	Stenella coeruleoalba	Striped dolphin	25/11/2017	Western Isles	U	Not Examined
Pinniped	M554/17	Halichoerus grypus	Grey seal	26/11/2017	Argyll and Bute	U	Not Examined
Cetacean	M559/17	Delphinus delphis	Short-beaked common dolphin	27/11/2017	Orkney	U	Live Stranding
Pinniped	M560/17	Halichoerus grypus	Grey seal	28/11/2017	South Ayrshire	M	Not Examined
Pinniped	M561/17	Halichoerus grypus	Grey seal	28/11/2017	South Ayrshire	M	Not Examined
Pinniped	M562/17	Unknown	Seal (indeterminate species)	29/11/2017	Argyll and Bute	U	Not Examined
Cetacean	M563/17	Delphinus delphis	Short-beaked common dolphin	30/11/2017	Moray	M	Live Stranding
Pinniped	M564/17	Phoca vitulina	Harbour seal (Common seal)	01/12/2017	North Ayrshire	U	Not Examined
Cetacean	M565/17	Physeter macrocephalus	Sperm whale	01/12/2017	Western Isles	M	Not Examined: Samples Taken
Pinniped	M566/17	Halichoerus grypus	Grey seal	01/12/2017	Aberdeenshire	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M567/17	Halichoerus grypus	Grey seal	01/12/2017	Aberdeenshire	U	Not Examined
Pinniped	M568/17	Halichoerus grypus	Grey seal	01/12/2017	Aberdeenshire	U	Physical Trauma: Other
Pinniped	M571/17	Halichoerus grypus	Grey seal	01/12/2017	Aberdeenshire	U	Not Examined
Pinniped	M572/17	Halichoerus grypus	Grey seal	01/12/2017	Aberdeenshire	U	Not Examined
Cetacean	M656/17	Physeter macrocephalus	Sperm whale	01/12/2017	Western Isles	M	Physical Trauma: Other
Pinniped	M569/17	Halichoerus grypus	Grey seal	02/12/2017	Western Isles	U	Not Examined
Pinniped	M576/17	Halichoerus grypus	Grey seal	02/12/2017	Aberdeenshire	U	Not Examined
Cetacean	M573/17	Phocoena phocoena	Harbour porpoise	03/12/2017	City of Aberdeen	M	Not Examined
Pinniped	M574/17	Phoca vitulina	Harbour seal (Common seal)	03/12/2017	Moray	U	Not Examined: Samples Taken
Cetacean	M582/17	Delphinus delphis	Short-beaked common dolphin	03/12/2017	Orkney	U	Not Examined
Pinniped	M657/17	Halichoerus grypus	Grey seal	03/12/2017	East Lothian	U	Not Examined
Pinniped	M657/17	Halichoerus grypus	Grey seal	03/12/2017	East Lothian	U	Not Examined
Pinniped	M570/17	Halichoerus grypus	Grey seal	04/12/2017	Aberdeenshire	U	Not Examined
Cetacean	M575/17	Lagenorhynchus albirostris	White-beaked dolphin	04/12/2017	Highland	U	Not Examined
Cetacean	M577/17	Phocoena phocoena	Harbour porpoise	04/12/2017	Highland	M	Not Examined: Samples Taken
Cetacean	M581/17	Phocoena phocoena	Harbour porpoise	04/12/2017	Angus	U	Physical Trauma: Other
Pinniped	M578/17	Halichoerus grypus	Grey seal	05/12/2017	Highland	U	Not Examined
Pinniped	M579/17	Halichoerus grypus	Grey seal	05/12/2017	Highland	U	Not Examined
Cetacean	M660/17	Delphinus delphis	Short-beaked common dolphin	06/12/2017	Western Isles	U	Not Examined
Cetacean	M660/17	Delphinus delphis	Short-beaked common dolphin	06/12/2017	Western Isles	U	Not Examined
Pinniped	M580/17	Halichoerus grypus	Grey seal	07/12/2017	Dumfries and Galloway	U	Physical Trauma: Other
Pinniped	M583/17	Halichoerus grypus	Grey seal	07/12/2017	South Ayrshire	U	Not Examined
Pinniped	M584/17	Halichoerus grypus	Grey seal	07/12/2017	South Ayrshire	U	Not Examined
Pinniped	M585/17	Halichoerus grypus	Grey seal	07/12/2017	South Ayrshire	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M586/17	Halichoerus grypus	Grey seal	07/12/2017	South Ayrshire	U	Not Examined
Pinniped	M587/17	Phoca vitulina	Harbour seal (Common seal)	08/12/2017	Highland	U	Not Examined: Samples Taken
Cetacean	M588/17	Tursiops truncatus	Bottlenose dolphin	08/12/2017	Highland	M	Not Examined: Samples Taken
Cetacean	M589/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped dolphin (indeterminate species)	09/12/2017	South Ayrshire	U	Not Examined
Pinniped	M590/17	Halichoerus grypus	Grey seal	09/12/2017	Argyll and Bute	U	Physical Trauma: Other
Pinniped	M591/17	Phoca vitulina	Harbour seal (Common seal)	09/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M592/17	Phoca vitulina	Harbour seal (Common seal)	09/12/2017	City of Dundee	U	Not Examined
Pinniped	M593/17	Phoca vitulina	Harbour seal (Common seal)	10/12/2017	Moray	F	Pending
Cetacean	M594/17	Phocoena phocoena	Harbour porpoise	10/12/2017	Angus	U	Not Examined
Marine Turtle	M597/17	Dermochelys coriacea	Leatherback turtle	10/12/2017	Orkney	U	Physical Trauma: Anthropogenic
Pinniped	M600/17	Halichoerus grypus	Grey seal	10/12/2017	East Lothian	F	Not Examined: Samples Taken
Cetacean	M595/17	Delphinus delphis	Short-beaked common dolphin	11/12/2017	Highland	M	Not Examined: Samples Taken
Pinniped	M596/17	Halichoerus grypus	Grey seal	11/12/2017	Highland	U	Not Examined: Samples Taken
Pinniped	M598/17	Halichoerus grypus	Grey seal	11/12/2017	Argyll and Bute	U	Not Examined: Samples Taken
Cetacean	M599/17	Odontocete (indeterminate species)	Short-beaked common dolphin/striped dolphin (indeterminate species)	11/12/2017	Highland	U	Not Examined
Cetacean	M601/17	Delphinus delphis	Short-beaked	13/12/2017	Highland	M	Live Stranding

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
			common dolphin				
Cetacean	M602/17	Orcinus orca	Killer whale	13/12/2017	Shetland	M	Pending
Cetacean	M603/17	Balaenoptera physalus	Fin whale	14/12/2017	Argyll and Bute	M	Not Examined
Pinniped	M604/17	Halichoerus grypus	Grey seal	16/12/2017	East Lothian	M	Not Examined: Samples Taken
Cetacean	M605/17	Phocoena phocoena	Harbour porpoise	17/12/2017	Argyll and Bute	U	Not Examined
Pinniped	M606/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M607/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M608/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M609/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M610/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M611/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M612/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M613/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M614/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M615/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M616/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M617/17	Halichoerus grypus	Grey seal	18/12/2017	Highland	U	Not Examined
Pinniped	M618/17	Phoca vitulina	Harbour seal (Common seal)	18/12/2017	Moray	U	Not Examined
Pinniped	M619/17	Unknown	Seal (indeterminate species)	20/12/2017	Moray	U	Not Examined
Cetacean	M620/17	Phocoena phocoena	Harbour porpoise	20/12/2017	Argyll and Bute	U	Physical Trauma: Other
Pinniped	M621/17	Halichoerus grypus	Grey seal	20/12/2017	Argyll and Bute	U	Not Examined: Samples Taken
Cetacean	M622/17	Phocoena phocoena	Harbour porpoise	20/12/2017	Inverclyde	F	Pending
Cetacean	M623/17	Globicephala melas	Long-finned pilot whale	20/12/2017	Shetland	U	Not Examined
Pinniped	M624/17	Phoca vitulina	Harbour seal (Common seal)	21/12/2017	Highland	U	Pending
Pinniped	M625/17	Halichoerus grypus	Grey seal	22/12/2017	Moray	U	Not Examined: Samples Taken
Pinniped	M652/17	Halichoerus grypus	Grey seal	23/12/2017	Highland	U	Physical Trauma: Other

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M652/17	Halichoerus grypus	Grey seal	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M653/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M653/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M654/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M654/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M655/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M655/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M656/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M656/17	Unknown	Seal (indeterminate species)	23/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M626/17	Halichoerus grypus	Grey seal	24/12/2017	Orkney	U	Not Examined
Pinniped	M627/17	Halichoerus grypus	Grey seal	24/12/2017	Highland	U	Not Examined
Cetacean	M628/17	Lagenorhynchus albirostris	White-beaked dolphin	25/12/2017	Orkney	U	Not Examined
Pinniped	M629/17	Halichoerus grypus	Grey seal	25/12/2017	Highland	U	Not Examined
Cetacean	M631/17	Lagenorhynchus albirostris	White-beaked dolphin	25/12/2017	Western Isles	M	Not Examined
Pinniped	M630/17	Phoca vitulina	Harbour seal (Common seal)	27/12/2017	North Ayrshire	U	Not Examined
Marine Turtle	M658/17	Dermochelys coriacea	Leatherback turtle	27/12/2017	Argyll and Bute	U	Not Examined
Marine Turtle	M658/17	Dermochelys coriacea	Leatherback turtle	27/12/2017	Argyll and Bute	U	Not Examined
Pinniped	M659/17	Unknown	Seal (indeterminate species)	27/12/2017	North Ayrshire	U	Not Examined

Class	Ref	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings summary
Pinniped	M659/17	Unknown	Seal (indeterminate species)	27/12/2017	North Ayrshire	U	Not Examined
Pinniped	M632/17	Unknown	Seal (indeterminate species)	28/12/2017	Argyll and Bute	U	Not Examined
Pinniped	M644/17	Halichoerus grypus	Grey seal	28/12/2017	Orkney	U	Physical Trauma: Other
Pinniped	M645/17	Halichoerus grypus	Grey seal	28/12/2017	Orkney	U	Physical Trauma: Other
Pinniped	M646/17	Unknown	Seal (indeterminate species)	28/12/2017	Orkney	U	Physical Trauma: Other
Pinniped	M647/17	Unknown	Seal (indeterminate species)	28/12/2017	Orkney	U	Physical Trauma: Other
Pinniped	M633/17	Halichoerus grypus	Grey seal	29/12/2017	Aberdeenshire	U	Not Examined
Pinniped	M634/17	Unknown	Seal (indeterminate species)	29/12/2017	Orkney	U	Not Examined
Cetacean	M635/17	Tursiops truncatus	Bottlenose dolphin	29/12/2017	Aberdeenshire	M	Infectious Disease
Pinniped	M637/17	Unknown	Seal (indeterminate species)	30/12/2017	Aberdeenshire	U	Physical Trauma: Other
Pinniped	M639/17	Unknown	Seal (indeterminate species)	30/12/2017	Argyll and Bute	U	Not Examined
Pinniped	M640/17	Unknown	Seal (indeterminate species)	30/12/2017	Argyll and Bute	U	Not Examined
Pinniped	M641/17	Unknown	Seal (indeterminate species)	30/12/2017	Argyll and Bute	U	Not Examined
Cetacean	M636/17	Phocoena phocoena	Harbour porpoise	31/12/2017	Aberdeenshire	F	Not Examined: Samples Taken
Cetacean	M638/17	Lagenorhynchus albirostris	White-beaked dolphin	31/12/2017	Dumfries and Galloway	M	Not Examined
Cetacean	M642/17	Orcinus orca	Killer whale	31/12/2017	Shetland	U	Not Examined: Samples Taken
Pinniped	M643/17	Phoca vitulina	Harbour seal (Common seal)	31/12/2017	Highland		Not Examined
Pinniped	M648/17	Halichoerus grypus	Grey seal	31/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M649/17	Halichoerus grypus	Grey seal	31/12/2017	Highland	U	Physical Trauma: Other
Pinniped	M650/17	Halichoerus grypus	Grey seal	31/12/2017	Highland	U	Not Examined
Pinniped	M651/17	Halichoerus grypus	Grey seal	31/12/2017	Highland	U	Not Examined

