



Annual Report 2013

1 January to 31 December 2013

for Marine Scotland, Scottish Government

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Section 1: Executive Summary

From the 1st January to 31st December 2013, 404 marine animals were reported to the Scottish Marine Animal Stranding Scheme (SMASS); 191 seals, 211 cetaceans, 1 basking shark and 1 marine turtle. Of these, 62 cases (15.3%), comprising 47 cetaceans and 15 seals were necropsied to establish a cause of death. In the cases not necropsied, advanced autolysis or logistics were the most common reasons precluding further examination. There was a significant increase in the number of cetaceans reported this period compared to previous years, in specific harbour porpoise from the east coast. Investigations hypothesised the increase could be attributable to climatic conditions, cold temperatures and prevailing winds. There was a mass stranding of three long finned pilot whales (*Globicephala melas*) in Portmahomack, Highland, in April. One died and two were refloated. One of the refloated animals restranded, was again refloated and died at sea. Both cases were recovered for necropsy however the latter case was very autolysed at the point of eventual recovery three days later. The role of the concurrent military exercise Joint Warrior in this event was investigated. Seals with spiral “corkscrew” lesions continue to be reported with 12 cases, mainly from the Tay region, reported during this period. Towards the end of the year, however, the first confirmed case in the Moray Firth was identified and a suspected case in the Pentland Firth. Several strandings attracted significant media attention; a solitary male long-finned pilot whale live stranded in the firth of Forth in early September followed by a live stranded minke whale in the same area a couple of days later and a rare pygmy sperm whale in Banff, Aberdeenshire. The temporal proximity of these strandings also attracted some media attention, however, it was concluded unlikely that these strandings shared a common cause.

1.1 Project overview

The principal requirement of this project is to provide a co-ordinated approach to surveillance of marine species (e.g. cetacean & seal) strandings and to investigate major causes of death of stranded marine mammals in 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 Details of work

- To continue to collate, analyse and report data for all cetacean, seal, basking shark and marine turtle strandings across the Scottish coast. This will include determination of cause of death and surveillance of the incidence of disease.
- To undertake approximately 70 post mortems on cetaceans and seals stranded around the Scottish coast (approx 20-30 cetaceans and 40-50 seals). A wide geographical spread of post mortems should be achieved unless specified otherwise.
- To provide an overall Scottish sample of both species of seal, including areas of common seal decline, to determine cause of death and any potential contributing factors.

- To investigate specific cases of strandings/causes of death as requested by Scottish Government.
- Continue to contribute to existing SG funded projects including the minke whale entanglement and the bottlenose dolphin projects
- To provide scientific advice to the Scottish Government as necessary about major causes of death in stranded marine mammals, including any trends or unusual trends.
- To develop a database that brings together data on both strandings and post mortems for seals. All cetacean data should be fed into the database for the “UK Cetacean Strandings Investigation Programme”.
- Contribute to the production of strandings training material and workshop events and raise awareness through publicity.
- Standardise the current protocols for necropsies where appropriate
- Review options for specimen storage facility, with a focus on reducing storage demand and consider publicising tissue bank facility.
- Review any papers compiled using samples or data provided from the scheme as a means of quality control.

Section 2: Strandings

2.1 Strandings overview

Between 1st January and 31st December 2013, 404 marine animals were reported to the Scottish Marine Animal Stranding Scheme; 191 seals, 211 cetaceans, 1 basking shark and 1 marine turtle. Of these, 62 cases (15.3%), comprising 47 cetaceans and 15 seals were necropsied to establish a cause of death. Figure 1 shows the Scottish strandings since 2006 and shows 2013 had a lower number reported than the previous two years but was overall above the 8 year mean of 329 animals. A significant number of the cases reported in 2013 were harbour porpoise from the East coast in the spring (Figure 2). Figure 3 shows the number of strandings by month with April in particular seeing a significant rise compared to other years. The hypothesised reason for the harbour porpoise strandings is discussed in section 2.4, however it is also likely the recent improved poster distribution and media coverage of the strandings project has improved the reporting rate for cetaceans in general. Pinniped reporting is still low, however, and it is possible a different approach is needed to improve the reporting of these cases.

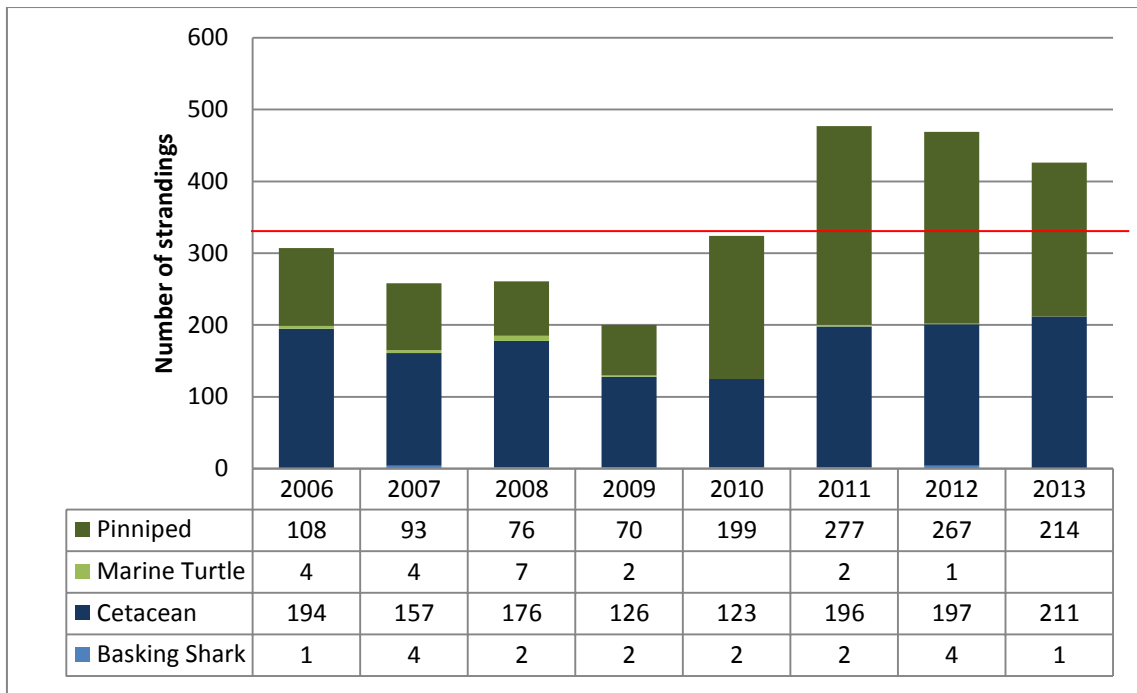


Figure 1: Strandings reported 2006-2013. Red line shows 8 year mean

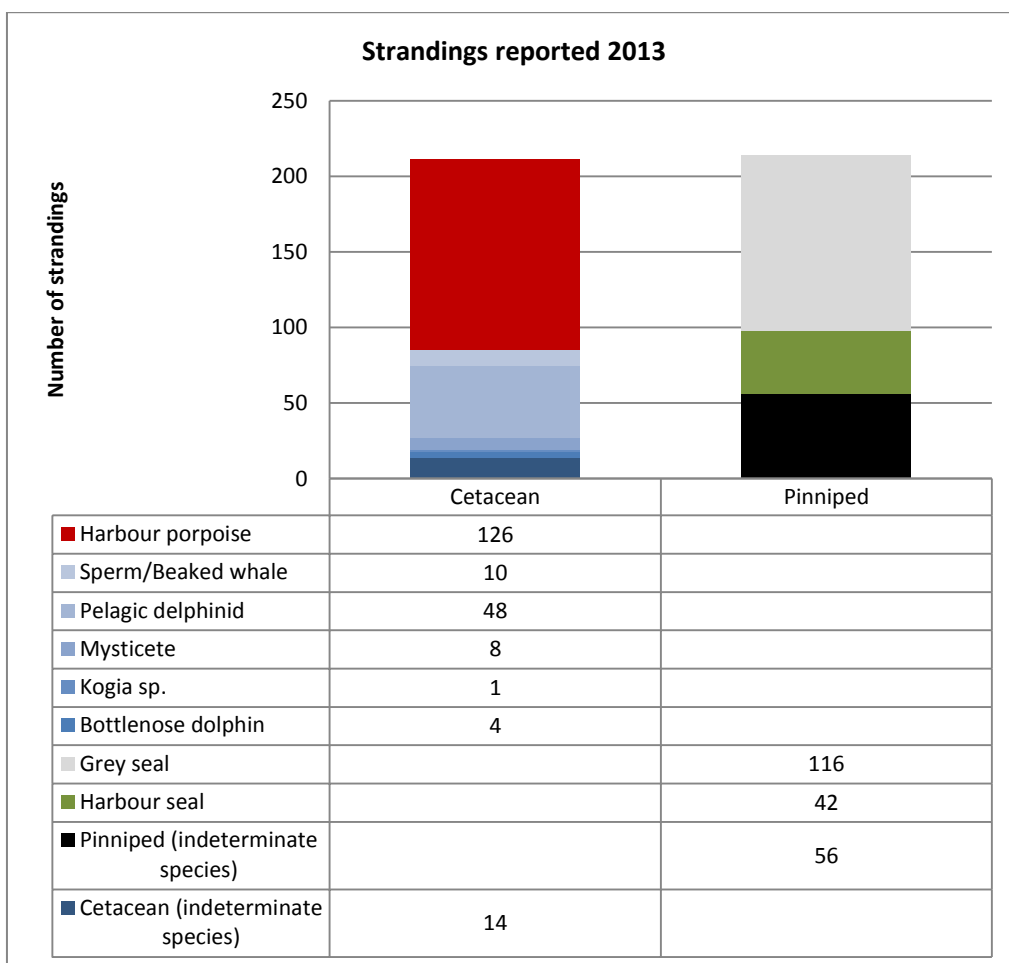


Figure 2: Species reported, by class

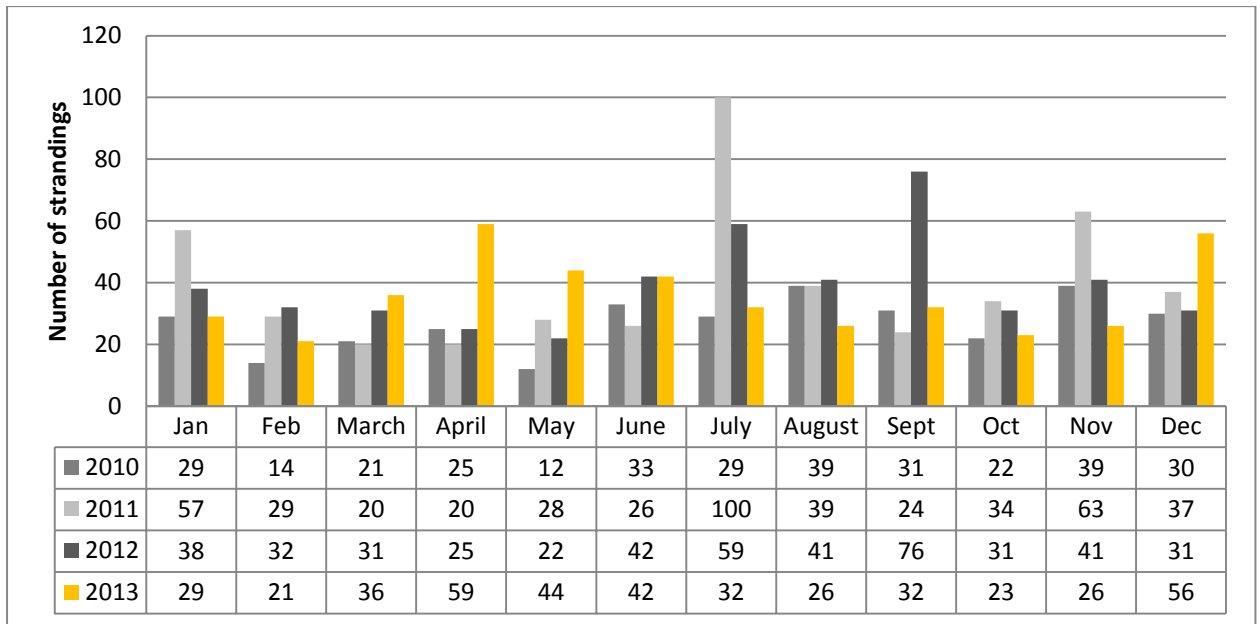


Figure 3: All strandings, by month

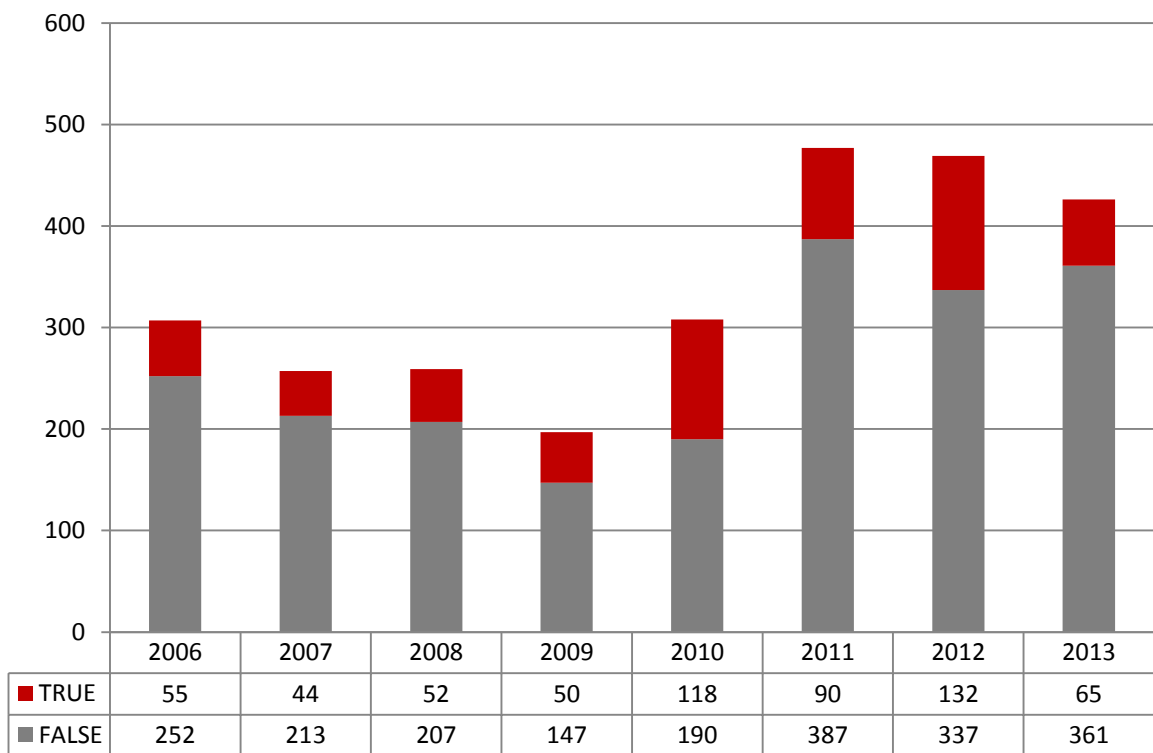


Figure 4: Cases necropsied 2006-2013 True = Necropsied; False= Not Necropsied

Figure 4 shows the number of cases necropsied during 2013. The 65 cases is slightly lower than the 8 year mean of 70 cases. The specific reason why cases were not collected is given in Table 1 (cetaceans) and Table 2 (pinnipeds) however poor animal condition was the most common reason cases were not suitable for necropsy.

2.1 Spatial maps of strandings

There were cases reported in all coastal regions with a bias towards eastern Scotland. As in previous years, notable clusters are present around Fife, the Forth, Tay and Moray firths and the Uists. There is improving, but still less than optimal surveillance and animal recovery in island communities such as the Western isles, Orkney and Shetland. Given the known high population of seals in Orkney and Shetland, there is a paucity of strandings data from this region. A programme of talks and publicity to raise awareness has been ongoing since early 2013 to improve strandings reporting in these areas. Recovery of animals or 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 not recovered animals from the eastern coast from Fife to Aberdeen is due to animal condition rather than capacity for recovery. Continued hugely valued assistance from SMRU and SNH in Shetland has enabled many animals suitable for necropsy or stranding morphometrics to be recovered. Figure 8 to Figure 11 show the spatial distribution of strandings for the period Jan-Dec 2013, arranged by species class. Figure 5 shows the spatial arrangement of animals recovered for necropsy. Figure 6 is a density map showing areas, in red, of high stranding reports. 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.

Strandings 2013
Necropsied cases

- Cetacean
- Pinniped

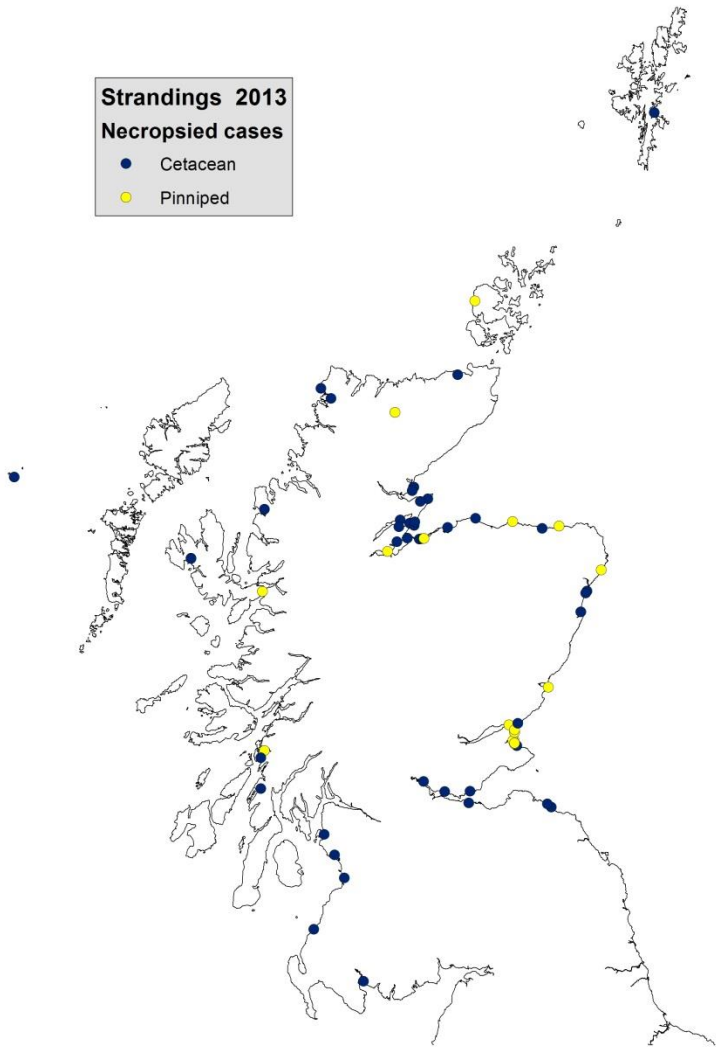


Figure 5: Strandings necropsied

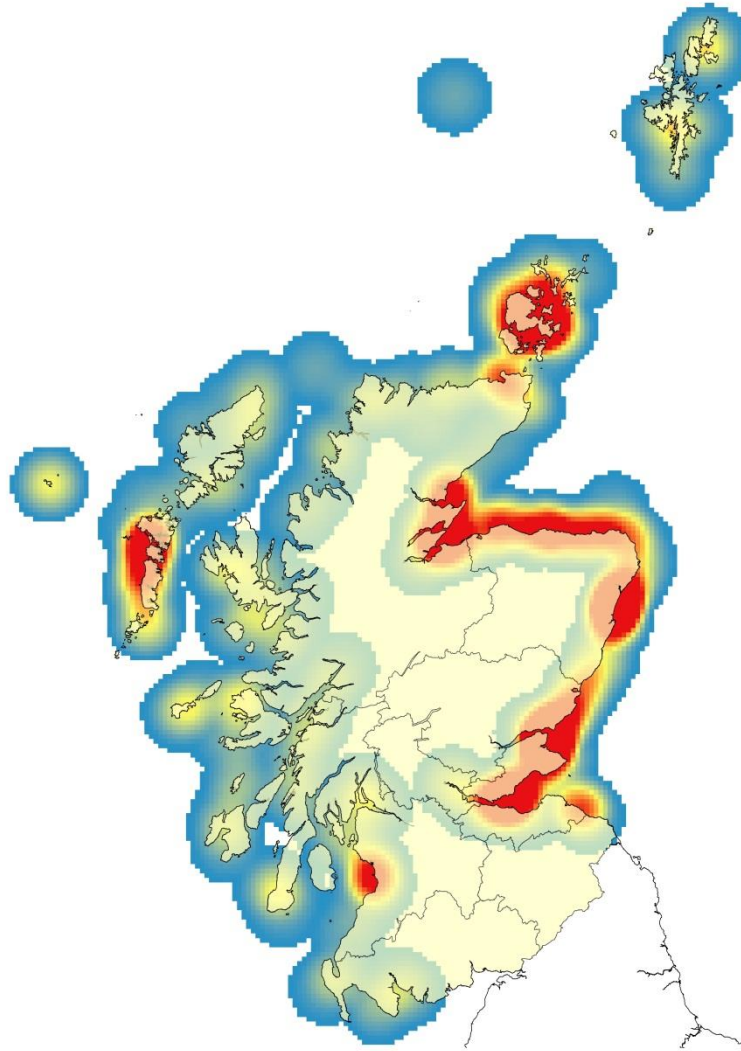


Figure 6: Kernel density plot of all strandings 2013. Blue=low, red=high

2.2 Pinniped strandings

One hundred and ninety-one pinnipeds were reported to SMASS in 2013; 95 grey seals, 41 common seals and 55 pinnipeds were too autolysed or data deficient for accurate speciation to be made. Of these reported, a large proportion (90.8%) were not recovered for post-mortem. This is again lower than previous years and due to a variety of reasons (listed in Table 1) but the main constraint was poor information attainable about the case. This precluded the animal recovery in a time window where post mortem examination was worthwhile.

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

<http://www.scotland.gov.uk/topics/marine/licensing/seallicensing>.

Of the 15 cases examined at post mortem, 5 were found to be definite or possible spiral trauma cases, ie 'corkscrew' or 'spiral' seals. An additional 6 cases were diagnosed from photographs or assessments made on the beach. More detail can be found on these in Section 4.

Reporting and recovery rates for pinnipeds have been lower than anticipated. The number of cases suitable for necropsy has been less than previous years and this is largely due to a delay in cases being reported. Attempts have been made to encourage pinniped reporting, however in some regions, such as Orkney and the north coast, there is a very low number of reported strandings compared to estimated seal numbers (SMRU seal population data). In these areas a more targeted, or active surveillance approach may be necessary.

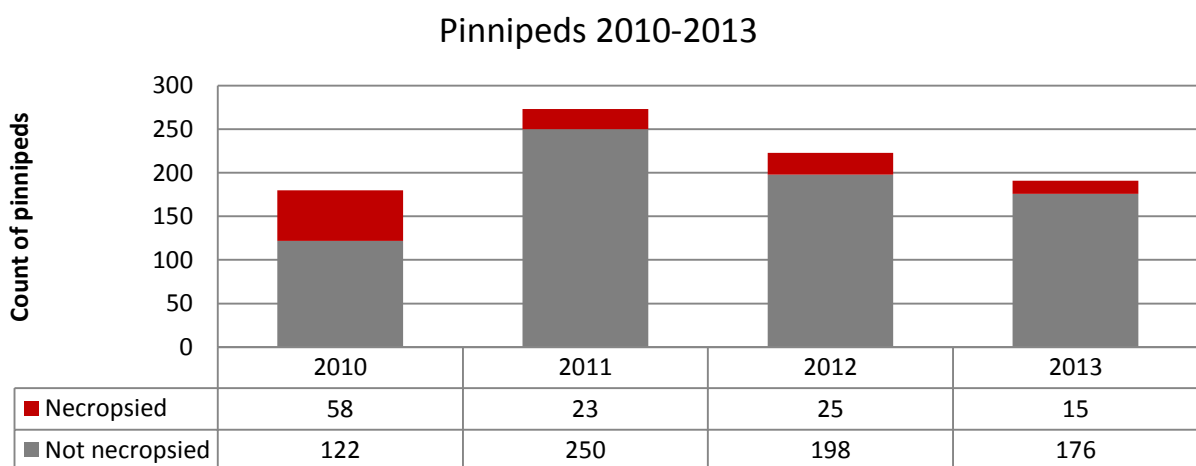


Figure 7: Pinniped strandings 2010-2013, all species

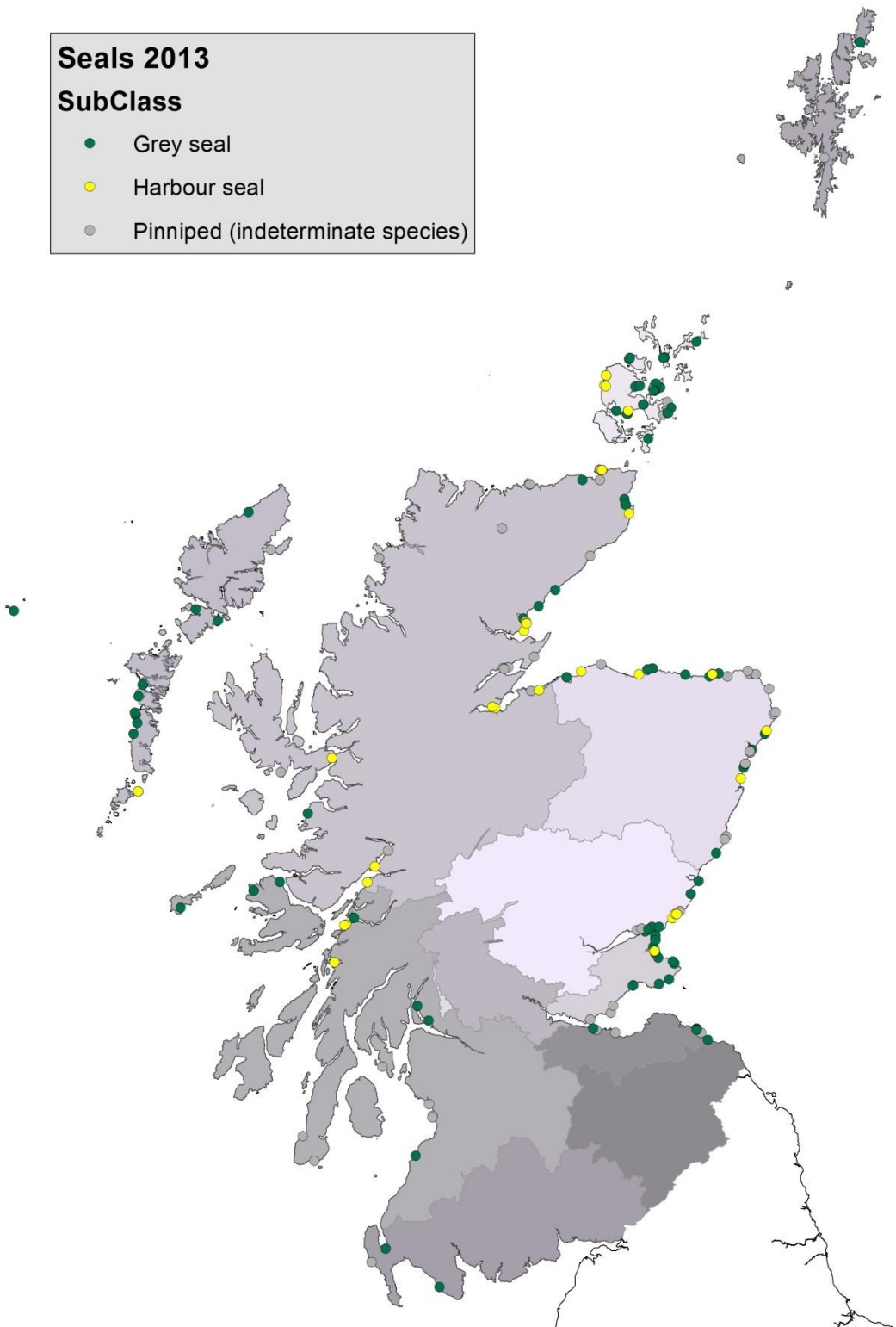


Figure 8: Pinniped strandings 2013

2.3 Cetacean strandings

211 cetaceans were reported to SMASS in 2013; the majority of these were harbour porpoise (n=126, 60%). Long finned pilot whales (n=11) and white-beaked dolphins (n=12) were the next most commonly reported. Minke whale (n=7) and fin whale (n=1) were the only species of mysticete reported during this period. Of the 211, 47 of these animals were necropsied. This is a decrease on the last three years (Figure 9), however this data is slightly skewed by the mass stranding events in 2011 and 2012. Only 14 cetaceans reported could not be identified. This is a decrease on previous years and can be attributed to increased use of mobile phone images in submissions and the gratefully received assistance from the taxonomy department at the National Museum of Scotland.

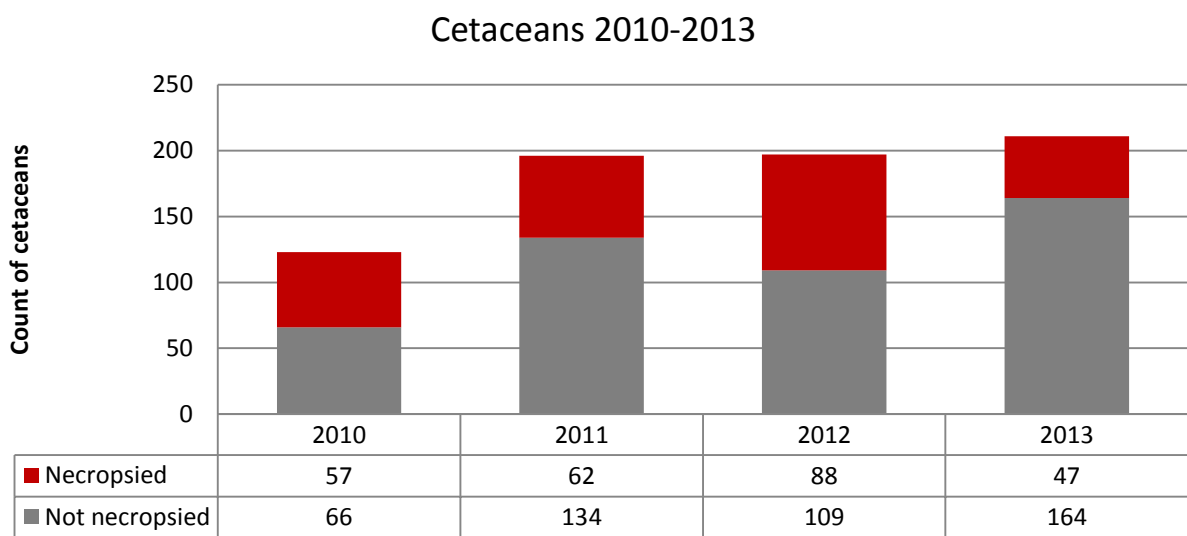


Figure 9: Cetacean strandings 2010-2013, all species

The most common cause of death for harbour porpoises was bottlenose dolphin attack (11%) followed by live stranding (10%) and starvation (9%).

As in previous years, the most common cause of death for other cetaceans was live stranding. 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 some cases attributed to *Brucella* infection. It appears meningoencephalitis attributable to *Brucella* infection is overrepresented in this group of cetaceans. Figure 10 shows the cetacean species (excluding harbour porpoise) found stranded around Scottish coasts in 2013. Species classes are also shown. 14 identifiable species of cetacean were reported)

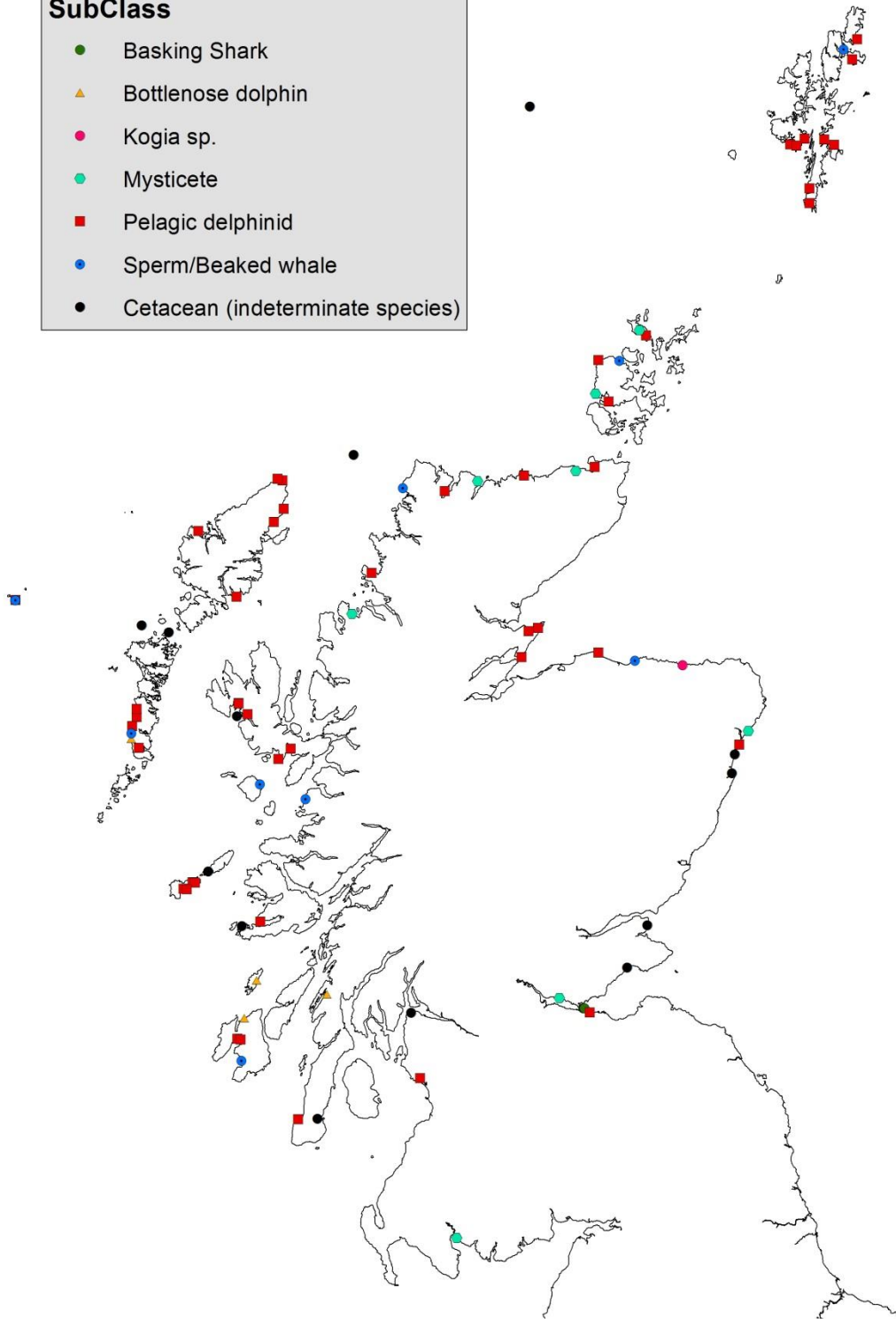


Figure 10: All cetacean and basking shark strandings excluding harbour porpoise 2013

2.4 Harbour porpoise strandings 2013

2013 saw a 200% rise in the 25 year-mean of harbour porpoise strandings (mean=63). Figure 12 shows the harbour porpoise strandings data by month and region and shows that most of the cases were from eastern Scotland between March and May. This three month period in eastern Scotland accounted for 68 cases compared to the average of 13 cases for the same period and region over the previous four years. Figure 11 shows the spatial distribution of cases. Following necropsy examination of 17 of these cases, it was concluded the pattern could be explained by two factors; a particularly cold March and April combined with a prevailing easterly wind throughout this period. These climatic conditions are hypothesised to contribute to both an increase in both absolute mortality and strandings numbers. Cold water temperatures would both reduce food availability, as fish remained at depth, and demand higher energy expenditure to thermoregulate. Prevailing onshore winds increase the sea area from which strandings make landfall. This increase did not continue during the summer or autumn. Relevant weather news summaries can be found here:

<http://www.bbc.co.uk/news/uk-22010852>

<http://www.metoffice.gov.uk/climate/uk/summaries/2013/march>

<http://www.metoffice.gov.uk/climate/uk/summaries/2013/april>

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, possibly as a consequence of loss of condition through the winter months. Neonates only occur between June and September, obviously coinciding with the calving season. Adults strand regularly throughout the year with the highest numbers occurring in June and July. The majority are females which may reflect extra stress during the calving season. Fewer animals strand in the last three months of the year. Of those that do, most are either adults or juveniles with slightly more male animals stranding than females.

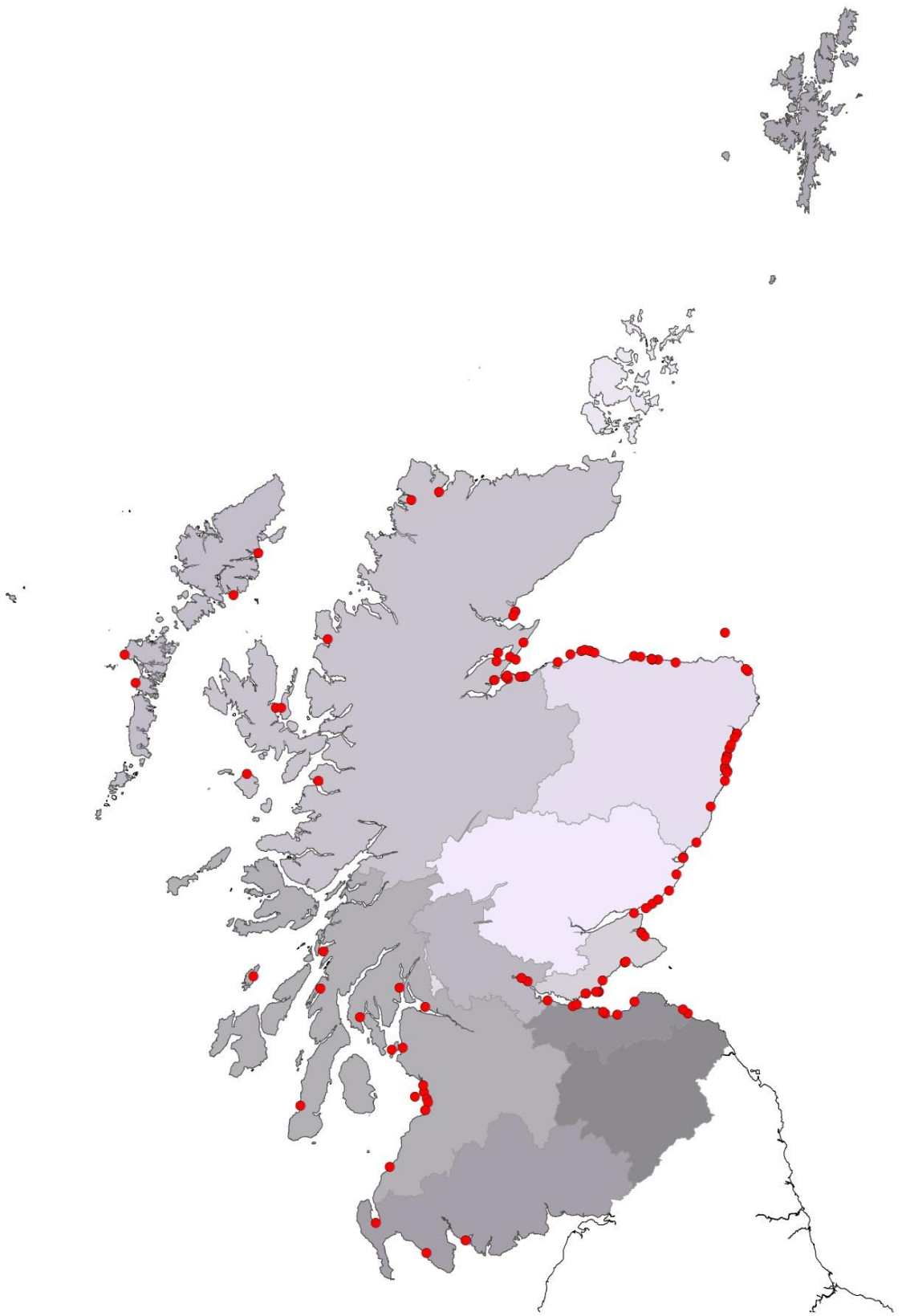


Figure 11: Harbour porpoise strandings 2013

Harbour porpoise strandings 2011-2013

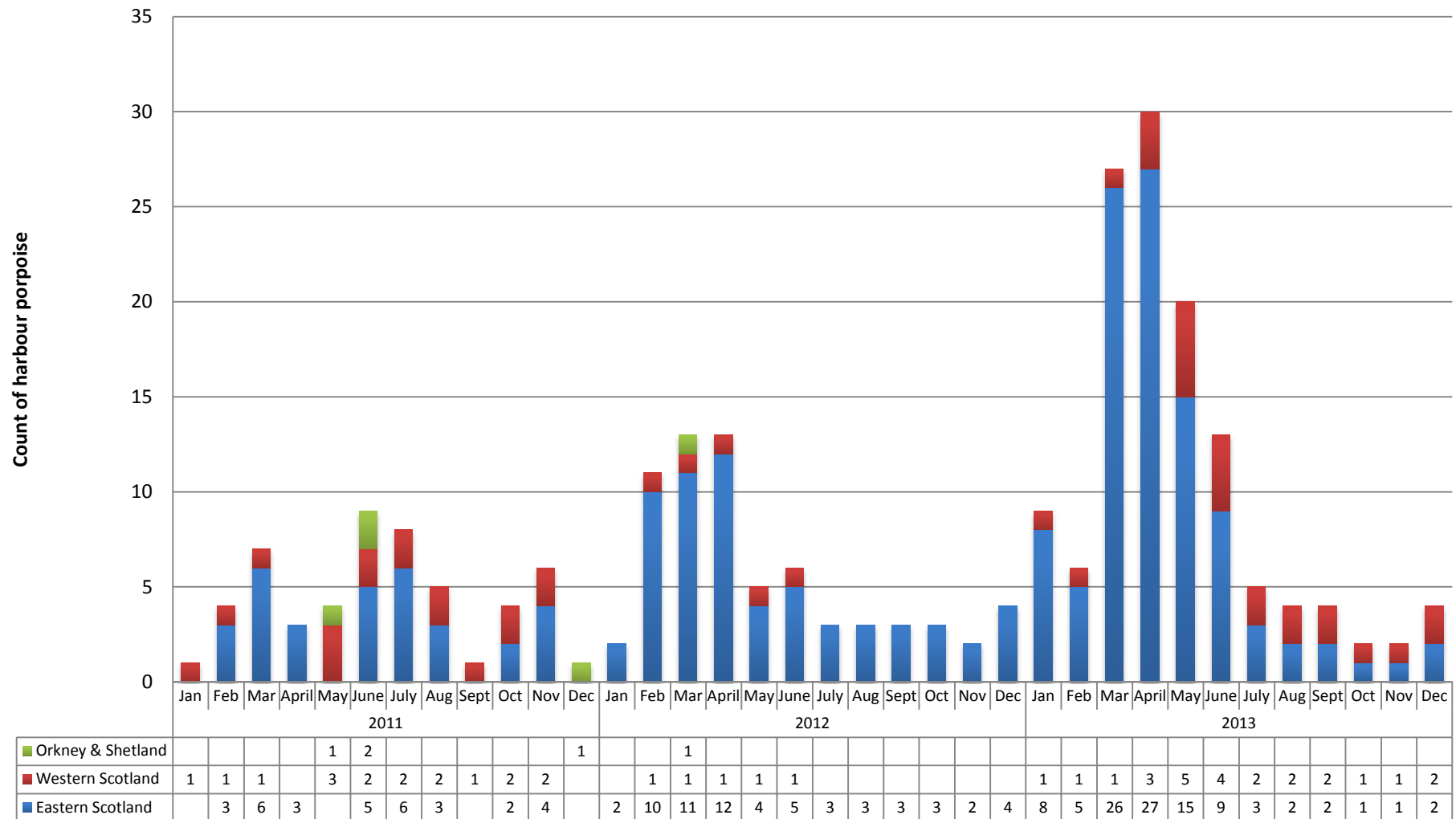


Figure 12: Monthly harbour porpoise strandings, by region

Section 3: Cause of death/findings summary tables

Cetaceans	Bottlenose dolphin	Harbour porpoise	Pygmy sperm whale	Mysticete		Pelagic delphinid						Sperm/Beaked whale			Indet. cetacean		Total
				Minke whale	Fin whale	Long-finned pilot whale	Short-beaked common dolphin	Striped dolphin	White-beaked dolphin	Atlantic white-sided dolphin	Risso's dolphin	Sowerby's beaked whale	Sperm whale	Cuvier's beaked whale	Odontocete (species)	Cetacean (species)	
Necropsied	1	30	1	2	1	4	2	2	2	0	0	2	0	0	0	0	47
Infectious Disease		4				1	1	1									7
(Meningo)encephalitis						1	1										2
Pneumonia: Parasitic		1						1									2
Generalised chronic debilitation		1															1
Pneumonia: Unknown Aetiology		1															1
Generalised Bacterial Infection/Septicaemia		1															1
Metabolic/Other	1	9	1	1	1	3	1	1	1			1					20
(Meningo)encephalitis								1									1
Live Stranding	1	6	1	1	1	3			1			1					15
Starvation/Hypothermia		3															3
Not Established							1										1
Trauma		17		1					1			1					20
Bycatch		6															6
Physical Trauma: Bottlenose Dolphin Attack		10															10
Physical Trauma: Other									1								1
Physical Trauma: Storm exposure		1															1
Physical Trauma: Boat/Ship Strike												1					1
Physical Trauma: Entanglement				1													1
Not necropsied	3	96	0	5	0	7	7	7	10	3	4	2	5	1	5	9	164

Cetaceans	Bottlenose dolphin	Harbour porpoise	Pygmy sperm whale	Mysticete		Pelagic delphinid						Sperm/Beaked whale			Indet. cetacean		Total
				Minke whale	Fin whale	Long-finned pilot whale	Short-beaked common dolphin	Striped dolphin	White-beaked dolphin	Atlantic white-sided dolphin	Risso's dolphin	Sowerby's beaked whale	Sperm whale	Cuvier's beaked whale	Odontocete (species)	Cetacean (species)	
Live Stranding												1					1
Not Examined: Advanced autolysis		23		3		4	4	2	4		3	1	4	1	1	3	53
Not Examined: Insufficient Data		14												4	2		20
Not Examined: Not Priority		2						1									3
Not Examined: Delay in reporting	1	7					1	2	1	2						2	16
Not Examined: Carcass not found		5							1								6
Not Examined: Weather/Travel Difficulties		3				1											4
Not Examined: Carcase Incomplete/Scavenger Damage		28						2	1							1	32
Not Examined: At Sea		3														1	4
Not Examined: Staff shortage		2							1								3
Not Examined: Refloated				1		1											2
Not Examined: Carcase Unrecoverable		1															1
Not Examined: Removed by tide	1	6		1			1										9
Not Examined: Removed By Council		2							1								3
Samples Taken	1						1		1	1			1				6
Live stranding: Successful refloat						1											1
Grand Total	4	126	1	7	1	11	9	9	12	3	4	4	5	1	5	9	211

Table 1: Cause of death/findings for cetaceans reported 2013

Pinnipeds	Grey seal	Common seal	Seal (ind species)	TOTAL
Necropsied	6	11	1	18
Infectious Disease	5	1		6
Pneumonia: Parasitic	4			4
Pneumonia: Unknown Aetiology	1	1		2
Other	1	2		3
Physical Trauma: Shot (known)	1			1
Maternal separation/starvation		2		2
Trauma		4	1	5
Physical trauma: Shot		1	1	2
Physical Trauma: Spiral "Corkscrew" lesions		1		1
Physical Trauma: Possible spiral "Corkscrew" lesions		2		2
Not examined		4		4
Pneumonia: Parasitic		1		1
Physical Trauma: Spiral "Corkscrew" lesions		1		1
Physical Trauma: Possible spiral "Corkscrew" lesions		1		1
Pending		1		1
Not necropsied	87	31	55	173
Other	1			1
Pending	1			1
Trauma	3	2		5
Physical Trauma: Spiral "Corkscrew" lesions	2			2
Physical Trauma: Possible spiral "Corkscrew" lesions	1	2		3
Not examined	83	29	55	167
Not Examined: Advanced autolysis	29	7	16	57
Not Examined: Neonate	1	1		2
Not Examined: Insufficient Data	27	12	30	69
Not Examined: Not Priority	13			13
Physical Trauma: Shot (known)	2			2
Not Examined: Delay in reporting	3	1		4
Not Examined: Weather/Travel Difficulties		1		1
Not Examined: Carcase Incomplete/Scavenger Damage	2	3	7	12
Not Examined: At Sea		1	1	2
Not Examined: Staff shortage	1			1
Not Examined: Carcase requested by SMRU	1			1
Physical Trauma: Possible spiral "Corkscrew" lesions	1			1
Not Examined: Carcase Unrecoverable	2	3		5
Not Examined: Removed by tide			1	1
Physical Trauma: Unlikely spiral "Corkscrew" lesions	1			1
Grand Total	93	42	56	191

Table 2: Cause of death/findings for pinnipeds reported 2013.

Section 4: Mass stranding events (MSE's)

4.1 M132.1.2.3/13 and M138/13 – long-finned pilot whale (*Globicephala melas*)

Three long-finned pilot whales live stranded at Portmahomack on the 24th of April. The MSE was attended by British Divers Marine Life Rescue (BDMLR) medics who re-floated two of the animals (M132.2/13 & M132.3/13). One animal died at the scene (M132.1/13) and was recovered for necropsy. There were no gross abnormalities seen in any of the viscera or systems. In particular there was no obvious haemorrhage in ears, no abnormalities present in blubber or acoustic fat. The brain appeared unremarkable and there was a normal volume of cerebral spinal fluid (CSF). There were no significant bacteria isolated from any of the visceral or neurological tissues sampled. Histopathological examination revealed severe, per-acute, generalised centrilobular hepatic congestion. Mild, chronic, focal, pulmonary nematode parasitism with associated mild, chronic-active, multi-focal mixed inflammatory cell broncho-pneumonia. Very mild, sub-acute to chronic, multi-focal lymphocytic encephalitis was also present. The hepatic lesions suggest the actual final cause of death was heart failure. However, this was probably a sequela of live-stranding rather than the cause. It was concluded this was a generally healthy animal with no evidence of underlying disease or trauma. The congestion and oedema in the lungs is also likely to have been a terminal event although the degree of verminous pneumonia did not appear to be sufficient to significantly compromise this animal.

A single pilot whale was found dead stranded at Inver near Tain on the 27th April. Subsequent photo-ID of the dorsal fin confirmed it as one of the three animals originally stranded at Portmahomack on the 24th of April. This animal was refloated in the morning of the 24th at Portmahomack, and again in the evening of the same day at Dornoch before being washed ashore dead three days later. This animal was necropsied as case ID M138/13 however was the same animal as originally allocated ID M132.3/13. It was body condition 3-4 and had been dead approximately 96 hours at point of necropsy and there was extensive gassing and autolysis. There was a large volume of fluid in thoracic cavity and congested lungs. There had been ingestion of silt and sand. There was mild ventral bruising, suggesting that the animal had previously live stranded. Culture of the cerebral spinal fluid (CSF) did not produce any significant bacteria. The autolytic state of the animal precluded the collection of samples for histopathology and the cause of the original live stranding was not established; however as with the previous case there appeared to be no indication of underlying disease.

Due to the coincidental operation of naval exercise “Joint Warrior” occurring in the region in the period immediately prior to these strandings, a FOI request was made to the Ministry of Defence (MOD) to establish if any acoustic generating activities were underway prior to the stranding. The data provided showed an amount of activity capable of generating underwater noise in the 48 period prior to the stranding. It was not clear however how this period differed from the normal level of disturbance from the permanent MOD bombing range. As this baseline data was not available, assessment of the relative significance of particular anthropogenic noise generating events was difficult and the significance of noise as a contributory factor in this mass stranding event was therefore inconclusive.



Figure 13: Recovery of first long-finned pilot whale animal in M138.1/13 MSE.



Figure 14: Second long-finned pilot whale M138/12 dead stranded following two refloats attempts by BDMLR.

Section 5: Other single cetacean strandings

5.1.1 M006/13 – short-beaked common dolphin (*Delphinus delphis*)

A sub-adult male short-beaked common dolphin was found dead stranded at Ardrossan north Ayrshire on the 7th of January. The animal showed evidence of recent feeding and live stranding. There was unusual trauma to right flank, however given the tailstock was known to have been removed by a member of the public prior to collection, it was considered this was also post mortem trauma complicated by freeze/thaw damage. No skeletal trauma was seen. Generalised evidence of debilitation was noted, however, there was a low parasite burden detected grossly in lung tissue. There was copious blood stained cerebral spinal fluid (CSF) present. *Brucella ceti* was isolated from both this fluid and brain tissue. Histological examination of the brain showed severe generalised freeze/thaw damage, however a severe, sub-acute to chronic, generalised primarily lympho-histiocytic meningitis was observed. These lesions are consistent with neurobrucellosis. Together with the isolation of *Brucella ceti* from the cerebro-spinal fluid (CSF) and brain, these lesions were considered severe enough to have significantly compromised this animal, leading to live-stranding. This is only the second report of this condition in this species.



Figure 15: M006/13 short-beaked common dolphin.

5.1.2 M019/13 – long-finned Pilot whale (*Globicephala melas*)

A sub-adult male long-finned pilot whale was found dead stranded at Balmedie beach Aberdeenshire on the 22nd of January, it was in thin body condition and appeared to have agonally live stranded. The bladder was full and contained a large amount of dark red urine, possibly indicative of myoglobinuria. Ventral musculature did not appear grossly abnormal, however, the kidneys appeared large and oedematous. Similar gelatinous oedema was noted in flank subcutis. The lungs were asymmetric, with some possible aspiration of stomach fluid into left lung. The gastrointestinal tract was empty, only containing bile

stained fluid. No otoliths or squid beaks were noted. The brain appeared abnormal with large, dilated ventricles and there was an excess of cerebral spinal fluid (CSF). *Brucella ceti* was isolated in profuse pure growth from the CSF and scant pure growth from the brain. Histopathology confirmed a morphological diagnosis of severe, sub-acute to chronic generalised lymphocytic meningoencephalitis, as seen in other pelagic delphinids. The brain lesions are entirely consistent with brucellosis. This is the first reported case of *Brucella* associated meningoencephalitis in this species.



Figure 16: M019/13 long-finned pilot whale.

5.1.3 M037/13 – fin whale (*Balaenoptera physalus*)

A sub-adult male fin whale was seen alive close to shore in the Cree estuary Wigton, Dumfries and Galloway, a large tidal region of soft sand and mud with, at time of stranding, a 4m tidal range. The animal was heard alive on the eve of 17th February and died overnight. It was recovered off the beach using two 30 tonne bucket loaders and following necropsy on site, buried in deep clay on the foreshore. Necropsy investigation was hampered slightly by the size of the animal but all major organ systems were visualised and sampled. The brain was sampled through the foramen magnum following removal of the head. The animal showed pathology consistent with aspiration drowning, specifically a large amount of fluid and stable foam in the airways and lung parenchyma. In addition, the animal was thin and moderately to severely jaundiced, most notably in the liver and kidney. Grossly, the liver did not appear pale or fatty and it is possible this is a physiological adaptation to prolonged winter fasting. The pulmonary lymphatics also appeared grossly enlarged and had a dark, melanotic

appearance to the cut surfaces. There was no evidence of recent feeding. No plastic ingesta was noted in the stomach and there was no indication of entanglement or traumatic lesions other than those associated with agonal stranding. It was originally hypothesised this animal live stranded and subsequently died due to entering this very tidal estuary at high water, possibly also becoming confused by the fishing groynes extending perpendicularly into the bay. Histopathology however revealed a severe, chronic, systemic granulomatous inflammation affecting many visceral organs and a mild to moderate, sub-acute to chronic, generalised non-suppurative encephalitis. The severity and systemic nature of the granulomatous inflammation is highly likely to have been severely debilitating and lead to the stranding of this animal. The aetiology is not obvious as no parasite profiles were found associated with the granulomatous lesions.

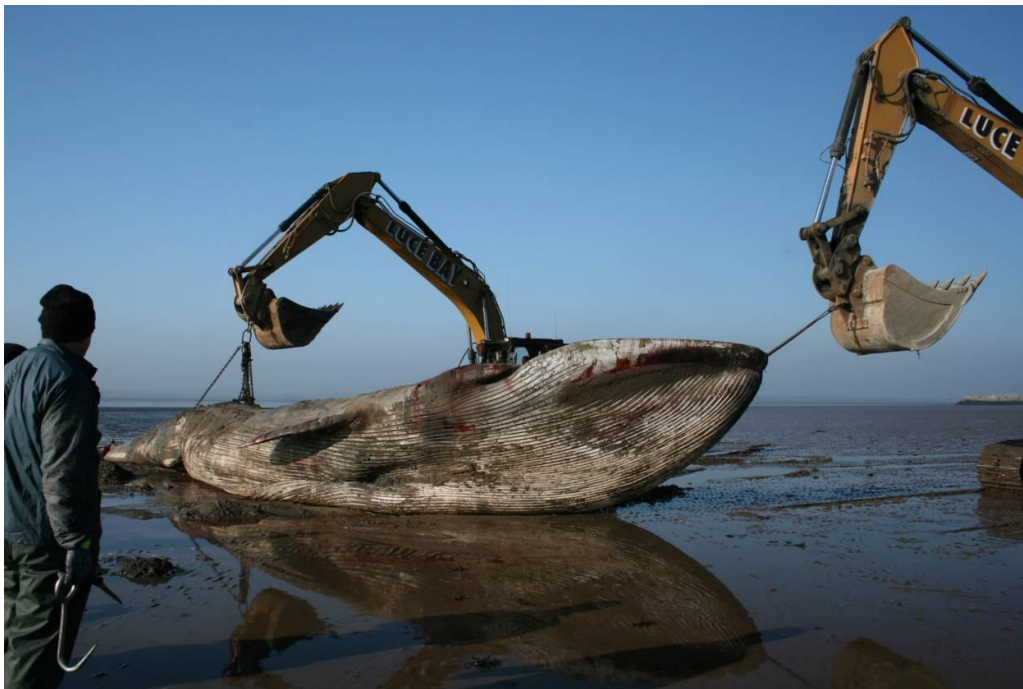


Figure 17: M0037/13 fin whale.

5.1.4 M122/13 – white-beaked dolphin (*Lagenorhynchus albirostris*)

This adult female white-beaked dolphin was observed swimming erratically close to shore at Loch Caroy, Isle of Skye on the 20th April. Shortly afterwards it appeared to seizure and die. There was no observed visceral pathology; there was a very low parasite burden and some evidence of lung asymmetry which may indicate sub-acute live-stranding. No food remains were seen and the liver was unremarkable. The brain had “tacky” meninges and haemorrhage within the ventricles suggesting possible meningoencephalitis possibly due to *Brucella ceti*. *Brucella* was not isolated from any tissues in this animal however a pure scant growth of *Streptococcus dysgalactiae equisimilis* was recovered from the brain. Histology on the brain showed lesions consistent with an infectious process and the presence of some polymorphonuclear neutrophils is suggestive of a bacterial aetiology. These lesions are consistent with a severe, sub-acute to chronic, multi-focal mixed inflammatory cell but primarily lymphocytic meningoencephalitis.

5.1.5 M199/13 – Sowerby’s beaked whale (*Mesoplodon bidens*)

This sub adult male Sowerby’s beaked whale was found dead stranded at Kinlochbervie on the 13th June. It was moderately autolysed at necropsy (on site) however there was evidence of multiple fractures and associated bruising and haemorrhage to both upper and lower jaw, with both lower mandibles smashed at the ramus so unable to close. An area of tissue around the labial commissure had been torn and appeared to show evidence of early stage granulation, possibly suggesting this trauma was not immediately fatal. The lungs were symmetrical, a suggestion of mild asymmetry but not sufficient to suggest prolonged live stranding. The stomach was empty of all contents and the pyloric stomach contained bile reflux and some nematodes. The liver was pale yellow and contained multiple bullae; - these were thought to be normal and there was no evidence of other trauma or emboli in the visceral tissues. The left ear was removed and there was no frank haemorrhage in the acoustic fat apart from that associated with skeletal trauma. It is likely this animal suffered blunt trauma, most likely boat or slow propeller strike and this caused significant trauma and prevented further feeding.



Figure 18: M199/13 Sowerby’s beaked whale.

5.1.6 M226/13 – minke whale (*Balaenoptera acutorostrata*)

This adult female minke whale was found dead stranded on Thurso beach. A limited necropsy was undertaken due to disposal and equipment constraints. The animal was in thin body condition and the animal was moderately autolysed. It is likely the animal had been

dead at sea for several days prior to washing up. There was evidence of recent entanglement from linear regions of hyperpigmentation to the epidermis and erosions to the buccal and lingual mucosa around the back of the mouth. No ropes were seen attached to the animal. The stomach contained a large amount of recent digesta, likely mackerel, indicating the animal was able to successfully feed. Both lungs were very congested and collapsed, supporting a diagnosis of entanglement and anoxic drowning. It is of note however that no associated bruising was seen along the suspected entanglement line and there was evidence of recent feeding in an otherwise thin animal. Nonetheless a diagnosis of entanglement can relatively confidently be ascribed from the other pathological signs noted.



Figure 19: M226/13 minke whale.

5.1.7 M269/13 – striped dolphin (*Stenella coeruleoalba*)

This juvenile male striped dolphin was in thin body condition and was observed swimming erratically close to shore at Loch Caroy, Isle of Skye. It was re floated by members of the public before re-stranding. There was evidence of live stranding with asymmetrical inflation of the lungs otherwise the visceral tissues were unremarkable. The exception to this was the asymmetry seen in the testes. The excess amount of cloudy cerebral spinal fluid, dilated ventricles and tacky meninges are highly indicative of meningoencephalitis. *Brucella ceti* was isolated from the cerebral spinal fluid (CSF) and spinal cord and confirmed by Animal Health and Veterinary Laboratories Agency (AHVLA) Weybridge. Histology showed variably mild to severe, sub-acute to chronic, generalised lymphocytic meningo-encephalitis and mild to moderate, sub-acute, multi-focal granulo-suppurative broncho-pneumonia. It also showed mild to moderate, sub-acute to chronic, multi-focal necro-suppurative lymphadenitis. The key lesion in this case is the meningo-encephalitis which is typical in morphology and

distribution to those seen in cases of neuro-brucellosis in cetaceans and there is evidence to support this animal live-stranded prior to death.



Figure 20: M269/13 striped dolphin.

5.1.8 M288/13 – long-finned pilot whale (*Globicephala melas*)

This sub adult male long-finned pilot whale was seen alive but swimming with lateral (right-sided) recumbency. The left pectoral fin was often out of the water and the animal exhibited poor motor control and elevated respiratory rate. It died before euthanasia could take place.

The visceral tissues appeared unremarkable apart from the agonal aspiration of sea water and lung asymmetry associated with live stranding. The meninges appeared dry and “tacky”, there was also haemorrhage within the brainstem and the cerebral spinal fluid appeared blood stained and cloudy. There was no evidence of bruising or previous stranding. The tympanic bullae were removed within 180 minutes of death and fixed to allow for assessment of hair cell viability should this prove necessary. Bacteriology did not find any significant isolates. Unfortunately histopathology did not show any lesions severe enough to account for this live stranding and we are unable to determine the ultimate cause of death in this animal.



Figure 21: M288/13 long-finned pilot whale.

5.1.9 M291/13 – pygmy sperm whale (*Kogia breviceps*)

This was a juvenile/sub-adult female pygmy sperm whale that live stranded on the beach at Banff. In general the animal appeared in good body condition. There was a large amount of stable foam in the lungs and asymmetric congestion consistent with a live stranding event. All other systems appeared unremarkable. The exception to this was a large amount of cerebral spinal fluid (CSF) and seemingly dilated ventricles within the brain. Bacteriology did not reveal any significant isolates. This is only the 5th time this species has stranded in Scotland since the scheme began and only the 9th record for the UK as a whole. Unfortunately histopathology did not show any lesions severe enough to account for this live stranding and we are unable to determine the ultimate cause of death in this animal.



Figure 22: M291/13 pygmy sperm whale.

5.1.10 M292/13 – minke whale (*Balaenoptera acutorostrata*)

This female minke whale live stranded and was not considered a viable candidate for refloat. It was euthanased using a live round. The entry wound was at a 45° angle dorsally and midline. It was 280 mm midline behind the caudal edge of the blowhole and was approximately 280mm from the caudal edge of the eye, bisecting the midline. It was 120mm midline from the atlanto-occipital joint. The bullet passed through middle of the cranial vault causing fractures, substantial structural trauma and haemorrhage to the brain. Brain death was likely instantaneous and this represents a successful euthanasia strategy for this size of animal.

Pathological findings included markedly enlarged mesenteric and retropharyngeal LNs and haemorrhagic plaques on the spleen. There was no evidence of recent feeding however the presence of formed faeces would suggest successful foraging within the past few days. The lungs showed asymmetric congestion consistent with an animal that had live stranded. Bacteriology did not reveal any significant isolates. Histopathology was unable to determine the cause of the live stranding. The pattern of congestion in the lung is consistent with a live stranding and the lymphadenitis with mild parasitism.



Figure 23: M292/13 minke whale.

5.1.11 M299.1/13 – Sowerby's beaked whale (*Mesoplodon bidens*)

This adult female Sowerby's beaked whale live stranded together with her calf at St.Kilda on the 12th September and efforts were made by National Trust for Scotland staff and members of the public to refloat both animals. Unfortunately the adult female died on the beach. The calf was successfully re floated. However as the mother was still producing milk it is thought that the calf may not have been weaned so it is thought unlikely to survive. At necropsy the adult was found to be in good nutritional state. There was evidence of successful feeding due to the presence of otoliths in the stomach however there were no fleshy remains or squid beaks suggesting the animal had not fed recently. Stomach contents were of interest as they mainly contained otoliths rather than squid beaks. This supports the idea that Sowerby's are primarily fish rather than squid eaters. There was asymmetric congestion of the lungs and stable foam in the airways consistent with a live stranded animal. The uterus was red and possibly inflamed. All other visceral systems appeared normal. The brain on removal showed haemorrhage within the cerebral ventricles and congested meninges. There was also blood tinged cerebral spinal fluid. No gas bubbles were seen in the blood vessels surrounding the brain or within the mesenteric veins. Bacteriological examination did not reveal any obvious pathogens; however *Photobacterium damsela* was isolated from the brain and CSF in pure culture. Histopathology indicated that isolation of this organism was not significant in this case and was likely a post mortem invader. There was no evidence of infectious or pathologic metabolic processes in this animal and the proximal cause of death was live stranding. Histopathology also found spongiosis in the white matter of the brain, probably secondary to hepatic dysfunction (which can be due to inanition). Interestingly, vasculopathy was present in the central veins, suggestive of fibrinoid deposition, which would compromise hepatic function. This is usually associated with arteries and arterioles. However, hypertension, which may result from live-stranding stress, is one of the causes of fibrinoid deposition. As such, vasculopathy of the central veins may be one of the many sequelae of live-stranding, seen alongside small peri-vascular haemorrhages in the brain and per-acute liquifactive necrosis of the myocytes of the skeletal muscles. The lungs are consistent with a live-stranded animal and the ovaries suggest the animal was undergoing reproductive cycles.

There was no evidence of infectious or pathologic metabolic processes in this animal and the proximal cause of death was live stranding. She was obviously healthy and in good nutritive condition at the time of death.

The topography of the island and its isolated location close to deep water would mean that the animals were in an area where they would possibly be resident. It is possible that they may have been scared into the village bay area by an as yet unknown stimulus where the calf became disoriented by the unfamiliar topography and live stranded. We believe there was some anecdotal evidence to suggest the calf stranded first and that female may have stranded in response to this.



Figure 24: M299.1/13 Sowerby's beaked whale.

Section 6: Spiral trauma seal cases

Eleven animals were diagnosed as having trauma consistent with spiral injuries. These cases were mainly reported from the Tay and Eden estuaries on the east Scotland. Figure 26 shows the cases reported in 2013, coloured by likelihood score overlaid in a density map of all cases 1985-2013. Dark red areas show areas of high confirmed spiral trauma cases. Investigation of this phenomenon continues to be conducted in collaboration with the SMRU and identification of cases as spiral trauma is scored on a number of pathological attributes from either necropsy examination or photographs.

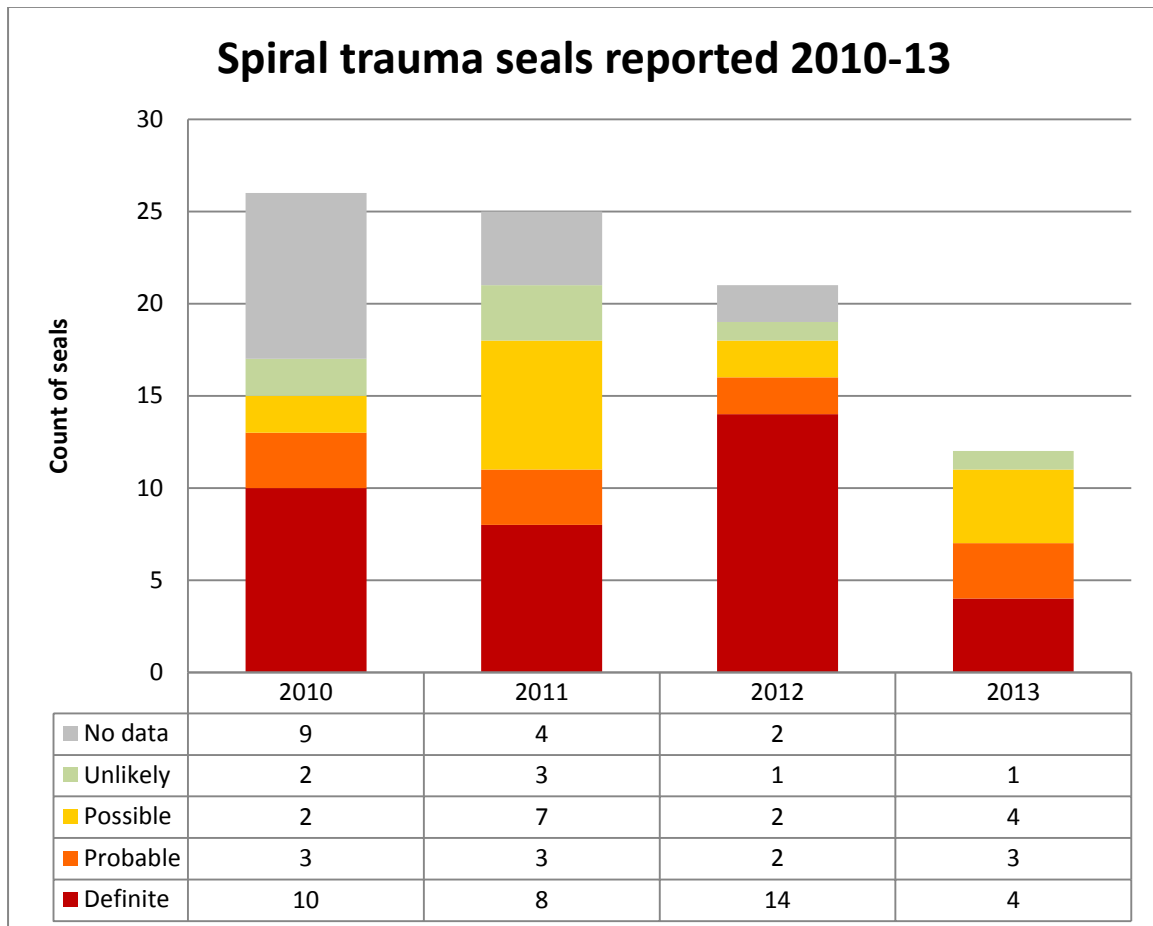


Figure 25: Spiral seal trauma seal cases 2010-13

6.1 Scoring criteria:

Photographs or, where available, necropsy findings were assessed by SMASS for evidence of each of the following attributes:

- Single linear lesion (one or more rotations)
- Absence of associated skeletal trauma
- Avulsion of one or both scapula
- Smooth edged wound
- No obvious tissue defects associated with wound

- Lesion begins at mouth
- Punctate lesions on muzzle
- Shearing of skin and blubber from underlying tissue

A score was allocated as follows:

- 1:** Information available to positively confirm the **presence** of this attribute
- 1:** Information available to positively confirm the **absence** of this attribute
- 0** Information not available to either confirm the presence or absence of this attribute.

Factors scored zero due to a range of reasons, for example absence of photographic or post mortem information, post mortem scavenger damage or autolysis.

6.2 Adjectival assessment

An adjectival assessment was also made by SMASS as to the likelihood the original cause of death was due to spiral trauma. This was based on all the available evidence, not just the attribute scores.

- **Definite:** High confidence this is a spiral trauma case
- **Probable:** Lower confidence this is a spiral case due to lack of detail, but no other explanation is more probable
- **Possible:** Pathological features also consistent with other causes of death but low confidence as simply too little information to make a judgment
- **Unlikely:** Pathological features more consistent with other causes of death or post mortem changes

Scoring was undertaken with a high specificity towards archetypal spiral seal lesions, by which we mean a single 'Spiral' helical cut along the body and associated pathology as described in Bexton et al., (2012) and Thompson et al., (2010). Cases which do not match this pattern will have a low index and be awarded a 'probable' or 'possible' descriptor. It should be emphasized that these cases could well have been caused by the same mechanism. This is particularly the case with headless seals. Historically these have been assumed to be due to entanglement in netting or post mortem scavenger damage, however it is worth considering that these cases may have been due to propeller interactions which did not manifest as the pathognomonic spiral trauma pattern.

6.3 2013 spiral trauma cases

1. M104/13 grey seal, 12/04/13 Eden Estuary. Some evidence of scavenger damage. Photos indicate a Spiral case. Examined by SMRU.
2. M143/13 common seal, 1/05/13 Eden Estuary. Very autolysed, partial animal, possible Spiral case. Collected by SMRU.
3. M145/13 grey seal 20/05/13, Tentsmuir. Basic morphometrics taken by SMRU as extensively autolysed.
4. M182/13 common seal 30/05/13 Eden Estuary. Some evidence of scavenger damage. Confirmed at necropsy.

5. M184/13 common seal 02/06/13 Headless seal with spine exposed and scavenger damage found at West beach St. Andrews by SMRU. Necropsy did indicate this was a Spiral case.
6. M230/13 common seal, 14/07/13 found at East Haven by SMRU. Headless seal, very autolysed, possible case.
7. M239/13 common seal, 22/07/13 found at West sands St. Andrews by SMRU. Photos indicate it is a Spiral case.
8. M247/13 male grey seal 25/07/13, very autolysed case found at East sands St. Andrews by SMRU. Photos indicate it is a Spiral case.
9. M314/13 female common seal 29/07/13 found at West sands St. Andrews by SMRU. Too autolysed for necropsy. Possible Spiral case.
10. M358/13: 03/12/13 grey seal reported as. "Looked fresh- lots of blood. Regular deep circumferential gashes which looked as if caused by a rotating blade. Brough Harbour, Thurso Caithness. This animal was taken back out to sea before it could be recovered or photographed.
11. M388/13 adult pregnant common seal 19/12/13, found in North Kessock, Inverness with typical spiral lesions. Recovered for necropsy. This is the first confirmed Spiral seal case from the inner Moray Firth.

The following two cases are from 2014 but are included here as they are relevant to the emergence of cases in the Moray Firth.

M02/14 01/01/14 seal sp., Dornoch beach, Highland Described as *"It looked like a sharp object had sliced round the shoulder area, and the skin then folded back over the head (although dogs or sea birds might have done this). It looked quite fresh, taken by tide"*.

- M03/14 04/01/14 Harbour seal reported at Whiteness head, Arderseir. Not recovered. Not a complete spiral laceration, a cut line across the left horizontal mandible, cleanly fracturing midway along the jaw in line with the skin lesion. This could be attributable to scavenger damage but more consistent with propeller trauma.

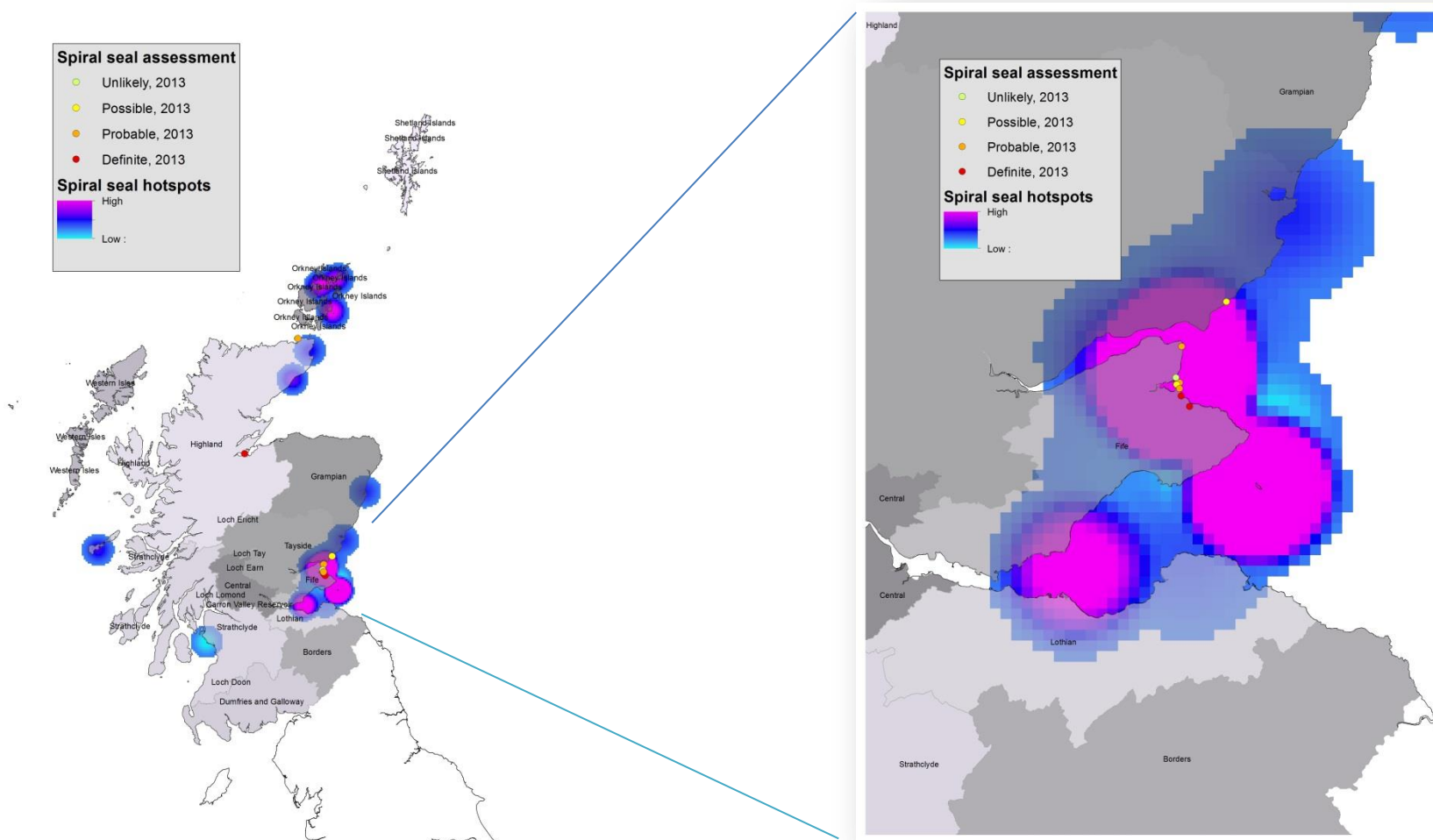


Figure 26: Spiral seals reported 2013. Coloured zones show hotspots of reporting between 1985 and 2013, dots show cases reported in 2013 only.

Figure 27: Detail, Forth and Tay region



Figure 28: M104/13 juvenile grey seal with distinctive spiral lesions although advanced autolysis and scavenger damage to animal.



Figure 29: M388/13 common seal from North Kessock, Moray Firth with distinctive spiral lesions.

Section 7: Other single pinniped strandings

7.1 M198/13 – common seal (*Phoca vitulina*)

A pregnant common seal from Kyle Rhea Skye, was close to term and showed evidence of lung congestion. She was in thin/emaciated body condition and showed no evidence of recent feeding; however a normal volume of faeces was present. The lungs were congested, dark red in colour some nematodes present. The lung pathology may be due to nematode migration; however the isolation of a *Pasteurella sp.* from the lung may also be significant. Histology showed marked, diffuse congestion throughout the lungs with diffuse, moderate alveolar and interstitial emphysema. It was difficult to establish the significance of the isolation of *Pasteurella spp.* from the lungs of this animal. The bronchial lesion was quite chronic and lacks the neutrophilic component that would typically be expected from such an infection. The final cause of death of this animal is unclear but it was not possible to rule out a process such as endotoxic shock.

7.2 M337/13 – common seal (*Phoca vitulina*)

This juvenile female common seal was found with a laceration to the head and neck area with evidence of scavenger damage. It was in thin to emaciated condition and showed no evidence of recent feeding. The high respiratory nematode burden and associated emphysema would account for the debilitation and likely impaired dive capabilities. The epidermal trauma is likely post mortem damage by both terrestrial and avian scavengers. Histology showed extensive pulmonary parasitism and the presence of moderate emphysema and is most likely due to a combination of *Parafilaroides* and *Otostrongylus* nematodes. These lesions may have predisposed this animal to secondary bacterial infection (bacteria seen in bronchi). The reactive hepatitis and mild thickening of renal glomerular membranes seen in this seal are supportive of systemic septicaemia. Consequently the isolation of *Streptococcus phocae* from multiple organs may well be of significance. The point of entry is not clear but secondary infection of pulmonary lesions would be a strong possibility.



Figure 30: M337/13 common seal.

Section 8: Seal unusual mortality event (UME)

8.1 M195/13, M196/13 & M197/13 – grey seal (*Halichoerus grypus*)

A cluster of three adult grey seals presented in June 2013 from the Tay region. All were in emaciated body condition and displayed similar severe lung pathology. M195/13, an aged adult male grey seal, was found on the 9th June at Tentsmuir, Fife, with severe pulmonary emphysema, more notable over the dorsal areas. There was no evidence of recent feeding. Bacteriology on the lung showed a mixed growth of organisms none of which were considered significant.

M196/13, an adult female grey seal, was seen alive and swimming abnormally at Broughty ferry, Dundee. It was later rescued but died before transport to a rehab facility. It exhibited severe bilateral pulmonary emphysema.

M197/13. This aged adult male grey seal was seen hauled out in a moribund condition at Tentsmuir beach by SMRU staff. It died 24 hrs later. There was profound emaciation and with a body weight of 111kg was under half the normal body mass. There was no evidence of recent feeding; the stomach contained only bile and nematodes (possibly *Anasakis sp.*). The proximal duodenum contained inspissated bile and the ileum a high burden of spiny-headed worms (*Corynosoma sp.*). The lungs showed profound disseminated interstitial emphysema, extending to the aortic root.

The pathology observed in all these cases was likely severe enough to compromise the animal's buoyancy and diving ability and therefore the ability to successfully

forage. There was a moderate to high parasite burden in two cases and in one case, M197/13, potentially significant isolation of *Pasteurella spp.* from lung tissue.

Histology showed a series of changes likely to be secondary to parasite migration and systemic hypertension. The extensive alveolar and interstitial damage caused by massive release of parasite larval forms may have predisposed this tissue to secondary infection. Morbillivirus immunohistochemistry was carried out on all three cases to eliminate the unlikely role of phocine distemper virus in this pathology. The results in all three were negative.



Figure 31: M195/13 grey seal.



Figure 32: Lung tissue showing extensive interstitial emphysema (arrows)



Figure 33: M197/13 grey seal.

Section 9: Basking shark & marine turtle

9.1 Overview

There was only one reported basking shark (*Cetorhinus maximus*) stranding in 2013 (M217/13) on the 29th June at South Queensferry, Edinburgh. Only the front half of the animal was present and cause of death may have been boat/ship strike. Autolysis precluded a full necropsy though tissue samples were taken.

There was only one marine turtle stranding reported in 2013, M401/13, an unidentified species seen floating in the sea off West Port beach, Macrihanish bay, Argyll and Bute on the 23rd of November.

Section 10: Bacteriology

10.1 Brucella

In 2013, *Brucella ceti* was recovered from 4 cetaceans: 1 harbour porpoise, 1 short-beaked common dolphin, 1 striped dolphin and 1 long-finned pilot whale. This is lower than the number isolations in 2012 when there were 6 isolations *Brucella ceti* has been recovered from all of the aforementioned species in previous years and so the number of different host species from which Brucella has been recovered in Scotland remained at 9 cetaceans. However the last case, associated with meningoencephalitis, is the first report of this condition in this species. There were two isolations of *Brucella pinnipedialis*, one from a grey seal and one from a common seal. This is a slight increase in the number compared to last year when there was only one isolation.

10.2 Salmonella

The only Salmonella isolations during 2013 belonged to the monophasic group B Salmonella which is host-adapted to porpoises but seldom associated with disease. It was only recovered from two animals. This is the same number of isolations as last year.

10.3 Marine vibrios

Photobacterium damsela has only been recovered 3 times, from the intestine of a minke whale, the lung of a long-finned pilot whale and also from the brain, cerebral spinal fluid and uterus of a Sowerby's beaked whale.

Vibrio alginolyticus was isolated once from the intestine of a minke whale.

10.4 Pasteurellaceae

Actinobacillus delphinicola continues to be the most commonly isolated member of the *Pasteurellaceae* recovered from cetaceans with 6 isolations, 4 from harbour porpoise, one from a long-finned pilot whale and one from a Sowerby's beaked whale.

Pasteurellaceae that could not be identified as any of the species known to infect cetaceans or seals were recovered from a porpoise, 2 grey seals and a common seal pup.

A Haemophilus-like species was also isolated from 3 porpoise.

10.1 *Granulicatella balaenopterae*

Granulicatella balaenopterae, a Gram positive cocci whose major habitat appears to be minke whales, was recovered from the lung of a single minke whale.

10.2 *Arcanobacterium phocae*

Arcanobacterium phocae, a coryneform whose major habitat is pinnipeds, was recovered from a single grey seal.

10.3 *Streptococcus phocae*

This pyogenic species adapted to seals was isolated from a common seal in 2013.

Section 11: Outputs

11.1 Overview

In 2013 Staff at the Scottish Marine Animal Strandings Scheme generated a total of 9 peer reviewed papers, 6 conference presentations, and 7 conference posters.

11.2 Publications

- Brown, T.A., Belt, S.T., Ferguson, S.H., Yurkowski, D.J., **Davison, N.J.**, Barnett, J.E.F., Jepson, P.D. (2013) Identification of the sea ice diatom biomarker IP25 and related lipids in marine mammals: A potential method for investigating regional variations in dietary sources within higher trophic level marine systems. *Journal of Experimental Marine Biology and Ecology* 441 (2013) 99–104
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11.3 Conference presentations

- Paul Jepson, Rob Deaville, Jon Barber, James Barnett, **Andrew Brownlow**, **Nick Davison**, Antonio Fernandez, Marisa Ferreira, Tilen Genov, Joan Gimenez, Jan Loveridge, Angela Llavona, Vidal Martin, Sinead Murphy, Rod Penrose, Matt Perkins, Renaud de Stephanis, Nick Tregenza, Phillippe Verborgh & Robin Law. Disappearing killer whales (*Orcinus orca*) and coastal bottlenose dolphins (*Tursiops truncatus*) in Europe: What's causing the declines? Presentation European Cetacean Society workshops Setubal Portugal April 6-7, 2013
- Rob Deaville, **Andrew Brownlow**, Rod Penrose, Brian Smith, James Barnett, Matthew Perkins, Paul Jepson Turning the screw: Ship-strike in UK stranded cetaceans. Presentation European Cetacean Society Setubal Portugal April 8, 2013
- **Andrew Brownlow**, Steve Bexton, Ryan Milne, Ross Culloch, Dave Thompson Spiralling trauma? Describing a novel form of pinniped mortality in the United Kingdom. Presentation European Cetacean Society Setubal Portugal April 8, 2013
- Falko Steinbach, James Barnett, David Everest, **Nick Davison**, Paul Jepson, Rob Deaville, Christopher Finnegan, Akbar Dastjerdi. Identification of novel cetacean poxviruses in

animals stranded in Southern England. 5th European Congress Virology Lyon 11-14th Sept 2013

- **Andrew Brownlow, Nick Davison**, Rob Deaville, Paul Jepson. Whale meet again: approaches to future mass stranding events in the UK. MSE workshop at the Society for Marine Mammalogy 20th Biennial conference at Dunedin New Zealand 7th December 2013
- **Andrew Brownlow**, Dave Thompson, Steve Bexton, **Nick Davison**, Ryan Milne, Ross Culloch. Corkscrew seals: Individual and population impact of a novel form of pinniped mortality. at the Society for Marine Mammalogy 20th Biennial conference at Dunedin New Zealand 13th December 2013

11.4 Conference posters

- **Nick Davison**, James Barnett, Lorraine Perrett, Claire Dawson, Matt Perkins, Rob Deaville and Paul Jepson. First case of meningitis and arthritis associated with *Brucella ceti* in a short-beaked common dolphin (*Delphinus delphis*). Poster Presentation European Cetacean Society Setubal Portugal April 8-10, 2013
- James Barnett, **Nick Davison**, Rob Deaville, Jan Loveridge, Bob Monies, Sue Quinney, Vic Simpson, Stella Turk and Paul Jepson 27 years of cetacean necropsies in southwest England - a summary of pathology found. Poster Presentation European Cetacean Society Setubal Portugal April 8-10, 2013
- Johanna Baily, **Geoff Foster**, Simon Moss, Eleanor Watson, Kim Willoughby, Ailsa Hall, Mark Dagleish. Prevalence of *Salmonella enterica* and *Campylobacter spp.* in wild caught and stranded neonatal and juvenile grey seals (*Halichoerus grypus*) in Scotland. Poster Presentation European Cetacean Society Setubal Portugal April 8-10, 2013
- Graham J. Pierce, Jennifer A. Learmonth, Sinead Murphy, Fiona L. Read, Maria Begona Santos, **Andrew Brownlow**. Interpreting cetacean mortality rates using strandings data Poster Presentation European Cetacean Society Setubal Portugal April 8-10, 2013
- Matthew Perkins, Rob Deaville, **Andrew Brownlow**, Rod Penrose, Brian Smith, Paul Jepson Investigations of UK stranded beaked whales (1990-2011) Poster Presentation European Cetacean Society Setubal Portugal April 8-10, 2013
- **Nick Davison**, James Barnett, Lorraine Perrett, Claire Dawson, Matt Perkins, Rob Deaville and Paul Jepson. First case of meningitis and arthritis associated with *Brucella ceti* in a short-beaked common dolphin (*Delphinus delphis*). Poster Presentation Centenary celebration conference for the Natural History Museum's celebration of: A Century of Strandings 20/09/13.
- **Andrew Brownlow**, Johanna Bailey, Mark Dagleish, Rob Deaville, **Geoff Foster**, Silje-Kirsten Jensen, Ailsa Hall, Eva Krupp, Robin Law, Barbara Moriarty-Pearson, Rod Penrose, Paul Jepson. *Pilot error? Assessing the role of disease in a pilot whale mass stranding event.* Poster Presentation Centenary celebration conference for the Natural History Museum's celebration of: A Century of Strandings 20/09/13.

11.5 Media

In early June information was given to the Hebridean News (an online news resource for the Western Isles) on the Scottish Marine Animal Stranding Scheme following the live stranding of a pilot whale on Barra.

At the beginning of September there was numerous media coverage on the live stranded minke whale, pilot whale and pygmy sperm whale

<http://www.bbc.co.uk/news/uk-scotland-edinburgh-east-fife-23994336>



Figure 34: Screen grab showing media coverage, Sept 2013

18 September 2013

Press release By the National Trust for Scotland for the Sowerby's beaked whale mother and calf stranding, media coverage below

<http://www.heraldsotland.com/news/home-news/rare-sowerbys-beaked-whale-dies-after-becoming-stranded-on-st-kilda.1379502432>

<http://www.bbc.co.uk/news/uk-scotland-highlands-islands-24143838>

<http://news.stv.tv/highlands-islands/239949-rare-whale-beaches-and-dies-in-stranding-in-shallow-water-off-st-kilda/>

<http://www.scotsman.com/news/environment/whale-dies-after-becoming-stranded-on-st-kilda-1-3098807>

<http://www.hebrides-news.com/rare-whale-stranded-on-st-kilda-18913.html>

<http://www.bbc.co.uk/news/uk-scotland-highlands-islands-24143838>

A press release on corkscrew seal cases on 29TH September, media coverage below.

<http://www.heraldscotland.com/news/home-news/animal-welfare-groups-demand-take-action-now-to-stop-corkscrew-slaughter-of-seals.22281234>

There were two sensationalised reports by the Hebrides News about a white beaked dolphin that stranded on 27th December and was buried by the local council before collection could be made by us. This was due to a mix up in communication. The animal had been euthanased by a local vet as it live stranded and refloating was not an option.

http://www.hebrides-news.com/stolen_dolphin_271213.html

http://www.hebrides-news.com/mystery_of_dead_dolphin_281213.html

11.6 Conferences/meetings

- 1/04/13 – Andrew attended the ECS conference and presented on the spiral seal trauma cases 2009-2012.
- 20/04/13 – Nick attended the ECS conference and presented a poster on Brucella associated meningoencephalitis and arthritis in a Short-beaked common dolphin.
- 20/04/13 – Barry attended the ECS conference.
- 1/05/13 Andrew and Nick attended meeting with SMRU to discuss current work and findings investigating corkscrew seal trauma.
- 4-5/05/13 Andrew attended the workshop “Biology and ecotoxicology of large marine vertebrates and seabirds: potential sentinels of Good Environmental Status of marine environment, implication on European Marine Strategy Framework Directive in Sienna Italy.
- 20/06/13 Andrew and Nick visited the Hebridean Whale and Dolphin Trust (HWDT) to provide training in sample collection and discuss methods for improving stranding reporting and collection from their region.
- 21/06/13 Geoff gave a talk on the Zoonotic hazards of man’s evolving relationship with marine mammals’ to Celtic Microbiology Conference.
- 2/09/13 Andrew attended the SCOS meeting at SMRU and submitted a briefing paper prepared by SMASS summarising pinniped strandings in Scotland 1992-2012.
- 7/09/13 SMASS hosted the BDMLR/International Fund for Animal Welfare (IFAW) cetacean satellite tagging course at SAC Inverness. Training was given by Brian Sharp, Manager Marine Mammal Rescue and Research IFAW - International Fund for Animal Welfare, Yarmouth Port, Massachusetts USA. As a result both Andrew and Nick are trained to tag animals and the tagging kit for the whole of Scotland is held here at SAC Inverness. It is hoped that this equipment can be deployed at the next mass stranding event (MSE).

- 19/09/13 Andrew and Nick attended a meeting with CSIP at the Institute of Zoology, London to discuss current work, in specific euthanasia options for large cetaceans.
- 20/09/13 Nick and Andrew attended the Centenary celebration conference for the Natural History Museum's celebration of: A Century of Strandings.
- 29/09/13 Geoff gave a talk on the Zoonotic hazards of man's evolving relationship with marine mammals' to University of Copenhagen, Sep 29, 2013
- 11/10/13 Andrew gave a talk on the stranding scheme to the Moray Seal management forum at Scottish Natural Heritage Inverness.
- 12/10/13 Andrew was an invited speaker at the BDMLR annual conference Inverness.
- 26/10/13 Nick gave a presentation of an overview of the Scottish Marine Animal Strandings Scheme to the Cornwall Wildlife Trusts Marine Stranding Volunteers annual forum in Truro Cornwall.
- 02/11/13 Andrew participated in a MARC meeting concerned with euthanasia option for cetaceans.
- 12/11/13 Geoff gave a talk on the Zoonotic hazards of man's evolving relationship with marine mammals' to West of Scotland Microbiology Group.
- 12/11/13 Andrew gave a talk on the 2011 Pilot whale MSE at the Under Water sound Forum in Edinburgh.
- 13/11/13 Andrew attended the Defra steering group meeting in London.
- 14/11/13 Andrew represented SMASS at the WILDCOMS workshop in Edinburgh.
- 07/12/13 Andrew gave a talk on 2011 and 2012 pilot whale MSE's at the MSE workshop at the Society for Marine Mammalogy 20th Biennial conference at Dunedin New Zealand
- 12/12/13 Nick gave a short talk about the scheme to the SRUC Epidemiology Unit Inverness
- 13/12/13 Andrew gave a talk on corkscrew seals at the Society for Marine Mammalogy 20th Biennial conference at Dunedin New Zealand

11.7 Volunteers, necropsy demonstrations and outreach

- 21/01/13 – Corkscrew seal talk and demo for collaborating scientists from SMRU.
- 28/01/13 – Barry McGovern attended and gave a talk at the UK student chapter for the society of Marine Mammalogy annual conference.
- 21/02/13 – Aberdeen University PM demo.
- 22/02/13 – University of Highlands and Islands PM demo.
- 06/03/13 – Necropsy demo and talk for SAC Aberdeen Students.
- 26/03/13 – Talk and demo for collaborating scientists from SMRU.

- 13/03/13 – Necropsy demo and talk for Edinburgh Vet School at Edinburgh Vet School.
- 17/04/13 – Andrew & Barry gave a talk for WDC Shorewatch volunteers at WDC Spey bay.
- 3/06/13 Visit from Chilean Veterinary Student Constanza Cifuentes Ortiz to see how the stranding scheme worked.
- 10/06/13- 13/06/13 Lucy Jennings and Will Fitzpatrick, students from Newcastle University volunteered to help sort out our serum database.
- 19/06/13 Andrew Brownlow and Nick Davison gave a talk to the Dunbeg primary School, Oban on the strandings project, including a demonstration on how to report a stranding on the local beach. This was part of an outreach programme run by Janie Steele and funded by Vodafone to encourage children's' involvement with the marine environment.
- 30-31/07/13 Leaflets and posters were fixed to notice boards and distributed at tourist sites throughout Harris and Lewis, namely at the Harris fair where WDC had a stand and subsequently after SMASS gave a talk on the strandings project to the WDC Shorewatch volunteers at the RNLI station Stornoway, Isle of Lewis.
- 17/08/13 Talk on the strandings project to the WDC Shorewatch volunteers at the seadrift centre, Thurso.
- 06/09/13 Necropsy demonstration on the pygmy sperm whale for WDC staff at Inverness.
- 27/09/13 Necropsy demonstration for SMRU master students at Inverness.
- 04/11/13 Necropsy demonstration for SAMS master students at Inverness.

11.8 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. The initial feedback has been good and at the end of January 2014 Facebook has over 800 likes and Twitter has 212 followers. Both have proved a valuable resource for the reporting of strandings to the scheme.

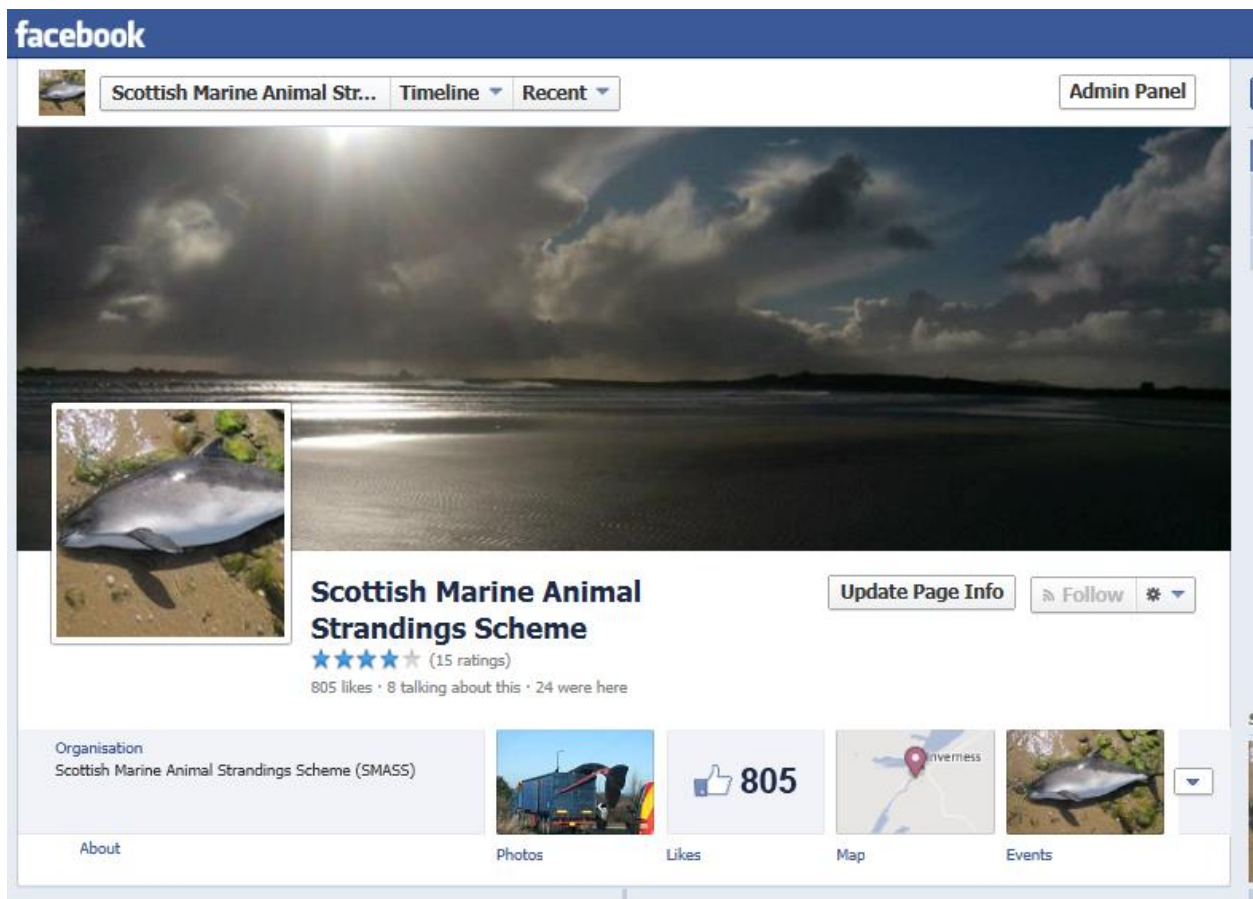


Figure 35: Facebook frontpage, Jan 2014

11.9 Data and sample requests

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

11.9.1 Samples sent

- 01/05/13, 24/06/13 & 13/08/13- Urine and faeces samples to Silje-Kirsten Jensen SMRU, Biotoxin screening for levels of domoic acid.
- 16/01/13 Tom Brown, University of Plymouth, liver samples for identification of the sea ice diatom biomarker IP25 and related lipids in marine mammals.
- 23/03/13 Lindsay Wilson SMRU, skin sample from a male grey seal.
- 07/04/13 Paolo Cipriani Department of Public Health and Infectious Diseases, Section of Parasitology, "Sapienza - University of Rome", Italy. Characterisation of parasites of the genus *Anisakis* from *Physeter macrocephalus* (and other pelagic cetaceans).
- 01/05/13 Jo Kershaw SMRU, skin/muscle/blubber, toxicology.
- 08/05/13 Robin Law CEFAS, porpoise blubber samples, toxicology.

- 08/01/13 & 26/08/13- Teeth and gonads to Fiona Read, University of Aberdeen. Fiona now has a contract to look at age and life history for animals from 2009-2013.
- 04/10/13 Lilian Lieber University of Aberdeen, Skin & muscle from Basking shark M217/13 DNA analysis.
- 07/10/13 Katie Sculthorpe HERRIOT- WATT University, Parasites Various.
- 21/10/13 Georgia Clack Exeter University (Cornwall), seal whiskers from M31/13 & M102/13 for stable isotope analysis.
- 18/10/13 Norbert Van De Velde University of Ghent, sera for toxoplasmosis.

11.9.2 *Data sent*

- 23/01/13 Chris Booth Orkney cetacean recorder, details of striped dolphin M341/12.
- 11/02/13 Nienke van Geel SAMS, details on bottlenose dolphin.
- 18/02/13 Tom Brown University of Plymouth, details of liver samples held by SMASS.
- 20/03/13 Nicola Hodgins WDC, details of bottlenose dolphin strandings in the Clyde.
- 14/05/13 Meral Dalebout University of New South Wales, Details of Cuvier's beaked whale strandings in Scotland.
- 12/07/2013 Zena Floody National Museum of Scotland. Information on fin whale stranding M209/07.
- 12/08/13 Norbert Van De Velde University of Ghent, details of marine mammal sera samples for Toxoplasma study
- 14/09/13 David Lusseau. MASTS Senior Lecturer in Marine Top Predator Biology University of Aberdeen. Morphometrics on Minke whale M292/13.
- 05/12/13 Sarah Dolman WDC, details on minke whale strandings.

11.10 Collaborators

- Dr Mark Dagleish & Johanna Baily Moredun Research Institute, Pentlands Science Park, Bush Loan, Penicuik, Midlothian, EH26 OPZ, 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.
- Joanna Kershaw, SMRU. Harbour porpoise and large cetacean blubber samples.
- Michael Bedington, SAMS. Strandings location details for tidal drift modelling.
- Silje-Kristin Jensen/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, School of Biological Science, Oceanlab, George Street, Cromarty, Ross-shire IV11 8YJ. Collaboration on life history, dietary and toxicological studies of harbour porpoises and other cetaceans stranded in Scotland.
- Prof. Paul Thompson, University of Aberdeen, School of Biological Science, Lighthouse Field Station, George Street, Cromarty, Ross-shire IV11 8YJ. Collaboration on biological and genetic studies of harbour porpoises and bottlenose dolphins.
- Dr. Tom Brown, Biogeochemistry Research Centre, School of Geography, Earth and Environmental Sciences, Plymouth University, Drake Circus, Plymouth, Devon PL4 8AA, UK. Liver samples to test for regional variation in marine mammal diet determined using IP₂₅ and related highly branched isoprenoid (HBI) diatom biomarkers.
- 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 *Anisakis* from *Physeter macrocephalus* (and other pelagic cetaceans)
- Dr. Merel Dalebout Vice-Chancellor's Postdoctoral Fellow School of Biological, Earth and Environmental Sciences (BEES) University of New South Wales, Sydney NSW 2052, Australia. Genetic analysis of Cuvier's beaked whale
- Prof. Christina Fossi university of Siena Via Banchi di Sotto, 55, 4, 53100 Siena SI, Italy Samples sent for comparison of microplastics and pollutants in baleen whales in the Mediterranean and NE Atlantic.
- Roger Ayling, BAC5 Mycoplasma dept, Veterinary Laboratories Agency, New Haw, Addlestone, Surrey, KT15 3NB. Identification of *Mycoplasma sp.* isolates from marine mammals
- Lorraine Perrett, BAC3 Brucella Reference Laboratory, Veterinary Laboratories Agency, New Haw, Addlestone, Surrey, KT15 3NB. Serological studies to assess exposure to *Brucella spp.* and typing of *Brucella* isolates.
- Dr. Kevin Robinson, CRRU. Bottlenose dolphin kills on harbour porpoises in Scotland.
- Dr. Maria Morell, Laboratori d'Aplicacions Bioacústiques. Examination of ear bones using scanning and transmission electron microscopy for indirect quantification of hearing ability in mass stranded pilot whale.
- Ingebjorg Nymo, PhD student at Norwegian Veterinary Institute, Tromso, Norway. Spent one month at Inverness where she performed bacteriological culture of marine mammals.
- Johanna Baily, PhD student at Moredun RI. Spent several weeks at Inverness where she was trained in and performed bacteriological culture from seals. A large number of samples from her project were also cultured at Inverness by SRUC staff.
- Erasmus Medical Centre, Rotterdam, the Netherlands – bacteriological culture of samples collected following necropsy of marine mammals.
- James Barnett, AHVLA/ CSIP stranding work, SW England– bacteriological culture of samples collected following necropsy of marine mammals. Following the loss of marine mammal bacteriology experience in AHVLA, SMASS now undertake bacteriology from most strandings necropsied in SW England.
- 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.
- Georgia Clack Exeter University (Cornwall), seal whiskers for stable isotope analysis.
- Lilian Lieber University of Aberdeen, Skin & muscle from Basking sharks for DNA analysis.
- Norbert Van De Velde University of Ghent, Toxoplasma studies.

11.11 Staff

SMASS is based at the SRUC Wildlife Unit, Inverness and currently has two members of staff. Andrew Brownlow is the veterinary pathologist and has managed the project since 2009 and Nick Davison is the stranding coordinator who joined the team in October 2012. Barry McGovern who joined the team in April 2012 for a one year posting left at the beginning of May. During his time with us he became a much valued member of the team and we wish him well in his future endeavours.

11.12 Acknowledgments

The successful operation of a strandings project over a coastline the length of Scotland's 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 in 2013, however particular thanks are due to the staff and students of the Sea Mammal Research Unit, Karen Hall and the Scottish Natural Heritage team on Shetland, the National Museum of Scotland, the SSPCA, British Divers Marine Life Rescue medics, Ross Flett, the Hebridean Whale and Dolphin Trust, Hesselhead Wildlife Rescue Trust and Whale and Dolphin Conservation (WDC). The National Trust for Scotland for arranging helicopter transport to St. Kilda.

Appendix 1: Strandings 2013

Class	ID	Species (scientific)	Species (common)	Date Found	Local Authority	Sex	Findings
Pinniped	M001/13	Halichoerus grypus	Grey seal	01/01/2013	Aberdeenshire	U	Not Examined: Neonate
Pinniped	M002/13	Pinniped (indeterminate species)	Seal (indeterminate species)	03/01/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Pinniped	M003/13	Halichoerus grypus	Grey seal	04/01/2013	Moray	U	Not Examined: Advanced autolysis
Pinniped	M004/13	Halichoerus grypus	Grey seal	06/01/2013	East Lothian	U	Not Examined: Advanced autolysis
Pinniped	M005/13	Halichoerus grypus	Grey seal	06/01/2013	East Lothian	U	Not Examined: Not Priority
Cetacean	M006/13	Delphinus delphis	Short-beaked common dolphin	07/01/2013	North Ayrshire	M	(Meningo)encephalitis
Pinniped	M007/13	Halichoerus grypus	Grey seal	08/01/2013	Orkney	U	Physical Trauma: Shot (known)
Cetacean	M008/13	Cetacean (indeterminate species)	Cetacean (indeterminate species)	01/01/2013	City of Aberdeen	M	Not Examined: Delay in reporting
Cetacean	M009/13	Phocoena phocoena	Harbour porpoise	10/01/2013	Highland	M	Bycatch
Cetacean	M010/13	Phocoena phocoena	Harbour porpoise	11/01/2013	Fife	U	Not Examined: Animal not found
Cetacean	M011/13	Phocoena phocoena	Harbour porpoise	13/01/2013	Western Isles	F	Not Examined: Weather/Travel Difficulties
Pinniped	M012/13	Pinniped (indeterminate species)	Seal (indeterminate species)	13/01/2013	Shetland	U	Not Examined: Insufficient Data
Pinniped	M013/13	Halichoerus grypus	Grey seal	15/01/2013	Shetland	U	Not Examined: Advanced autolysis
Pinniped	M014/13	Halichoerus grypus	Grey seal	09/01/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Pinniped	M015/13	Halichoerus grypus	Grey seal	09/01/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Pinniped	M016/13	Halichoerus grypus	Grey seal	09/01/2013	Argyll and Bute	U	Not Examined: Not Priority
Pinniped	M017/13	Halichoerus grypus	Grey seal	18/01/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M018/13	Phocoena phocoena	Harbour porpoise	22/01/2013	Fife	U	Pneumonia: Parasitic
Cetacean	M019/13	Globicephala melas	Long-finned pilot whale	22/01/2013	Aberdeenshire	M	(Meningo)encephalitis
Cetacean	M020/13	Phocoena phocoena	Harbour porpoise	23/01/2013	Aberdeenshire	M	Not Examined: Weather/Travel Difficulties

Pinniped	M021/13	Halichoerus grypus	Grey seal	23/01/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Cetacean	M022/13	Stenella coeruleoalba	Striped dolphin	24/01/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M023/13	Phocoena phocoena	Harbour porpoise	25/01/2013	Highland	U	Not Examined: Advanced autolysis
Cetacean	M24/13	Phocoena phocoena	Harbour porpoise	26/01/2013	Fife	U	Not Examined: Weather/Travel Difficulties
Cetacean	M25/13	Phocoena phocoena	Harbour porpoise	26/01/2013	Aberdeenshire	M	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M26/13	Pinniped (indeterminate species)	Seal (indeterminate species)	27/01/2013	Fife	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M27/13	Halichoerus grypus	Grey seal	24/01/2013	Orkney	U	Physical Trauma: Shot (known)
Pinniped	M28/13	Halichoerus grypus	Grey seal	24/01/2013	Orkney	U	Physical Trauma: Shot (known)
Pinniped	M029/13	Pinniped (indeterminate species)	Seal (indeterminate species)	05/02/2013	City of Dundee	U	Not Examined: Insufficient Data
Cetacean	M030/13	Stenella coeruleoalba	Striped dolphin	01/02/2013	Highland	F	Not Examined: Delay in reporting
Pinniped	M031/13	Halichoerus grypus	Grey seal	09/02/2013	Argyll and Bute	U	Not Examined: Not Priority
Cetacean	M032/13	Phocoena phocoena	Harbour porpoise	29/01/2013	Fife	U	Not Examined: Advanced autolysis
Cetacean	M033/13	Phocoena phocoena	Harbour porpoise	11/02/2013	Fife	U	Not Examined: Animal not found
Pinniped	M034/13	Pinniped (indeterminate species)	Seal (indeterminate species)	11/02/2013	South Ayresshire	U	Not Examined: Advanced autolysis
Pinniped	M035/13	Pinniped (indeterminate species)	Seal (indeterminate species)	13/02/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Cetacean	M036/13	Phocoena phocoena	Harbour porpoise	17/02/2013	Argyll and Bute	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M037/13	Balaenoptera physalus	Fin whale	17/02/2013	Dumfries and Galloway	M	Live Stranding
Pinniped	M038/13	Halichoerus grypus	Grey seal	18/02/2013	Aberdeenshire	U	Not Examined: Not Priority
Cetacean	M039/13	Phocoena phocoena	Harbour porpoise	19/02/2013	Highland	M	Generalised chronic debilitation
Cetacean	M040/13	Cetacean (indeterminate species)	Cetacean (indeterminate species)	09/02/2013	Western Isles	U	Not Examined: Advanced autolysis
Pinniped	M041/13	Halichoerus grypus	Grey seal	19/02/2013	Orkney	U	Physical Trauma: Shot (known)

Pinniped	M042/13	Halichoerus grypus	Grey seal	22/02/2013	Orkney	U	Physical Trauma: Shot (known)
Pinniped	M043/13	Pinniped (indeterminate species)	Seal (indeterminate species)	23/02/2013	Fife	U	Not Examined: Insufficient Data
Cetacean	M044/13	Phocoena phocoena	Harbour porpoise	24/02/2013	Angus	U	Not Examined: At Sea
Pinniped	M045/13	Pinniped (indeterminate species)	Seal (indeterminate species)	02/02/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M046/13	Phocoena phocoena	Harbour porpoise	25/02/2013	East Lothian	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M047/13	Pinniped (indeterminate species)	Seal (indeterminate species)	25/02/2013	Orkney	U	Not Examined: Advanced autolysis
Pinniped	M048/13	Halichoerus grypus	Grey seal	26/02/2013	Orkney	M	Not Examined: Advanced autolysis
Pinniped	M049/13	Pinniped (indeterminate species)	Seal (indeterminate species)	26/02/2013	Orkney	U	Not Examined: Advanced autolysis
Cetacean	M050/13	Phocoena phocoena	Harbour porpoise	27/02/2013	Fife	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M051/13	Phocoena phocoena	Harbour porpoise	01/03/2013	Angus	U	Not Examined: Animal not found
Cetacean	M052/13	Phocoena phocoena	Harbour porpoise	01/03/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M053/13	Phocoena phocoena	Harbour porpoise	02/03/2013	City of Aberdeen	F	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M054/13	Lagenorhynchus albirostris	White-beaked dolphin	06/03/2013	Moray	M	Physical Trauma: Other
Cetacean	M055/13	Phocoena phocoena	Harbour porpoise	12/03/2013	Fife	F	Starvation/Hypothermia
Cetacean	M056/13	Phocoena phocoena	Harbour porpoise	11/03/2013	Highland	M	Bycatch
Cetacean	M057/13	Phocoena phocoena	Harbour porpoise	07/03/2013	Aberdeenshire	U	Not Examined: Delay in reporting
Cetacean	M058/13	Phocoena phocoena	Harbour porpoise	13/03/2013	Angus	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M059/13	Pinniped (indeterminate species)	Seal (indeterminate species)	13/03/2013	East Lothian	U	Not Examined: Insufficient Data
Cetacean	M060/13	Phocoena phocoena	Harbour porpoise	14/03/2013	Moray	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M061/13	Phocoena phocoena	Harbour porpoise	13/03/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage

Cetacean	M062/13	Phocoena phocoena	Harbour porpoise	13/03/2013	Dumfries and Galloway	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M063/13	Phocoena phocoena	Harbour porpoise	19/03/2013	East Lothian	F	Live Stranding
Cetacean	M064/13	Phocoena phocoena	Harbour porpoise	20/03/2013	City of Aberdeen	U	Not Examined: Animal not found
Cetacean	M065/13	Phocoena phocoena	Harbour porpoise	22/03/2013	Fife	U	Not Examined: Insufficient Data
Cetacean	M066/13	Phocoena phocoena	Harbour porpoise	22/03/2013	Falkirk	F	Not Examined: Advanced autolysis
Cetacean	M067/13	Phocoena phocoena	Harbour porpoise	22/03/2013	Fife	U	Not Examined: Animal not found
Cetacean	M068/13	Phocoena phocoena	Harbour porpoise	22/03/2013	City of Edinburgh	U	Not Examined: Insufficient Data
Cetacean	M069/13	Phocoena phocoena	Harbour porpoise	23/03/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M070/13	Phocoena phocoena	Harbour porpoise	24/03/2013	Angus	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M071/13	Phocoena phocoena	Harbour porpoise	24/03/2013	Highland	U	Not Examined: Advanced autolysis
Cetacean	M072/13	Phocoena phocoena	Harbour porpoise	25/03/2013	Highland	M	Live Stranding
Cetacean	M073/13	Phocoena phocoena	Harbour porpoise	26/03/2013	Moray	U	Not Examined: Advanced autolysis
Cetacean	M074/13	Phocoena phocoena	Harbour porpoise	27/03/2013	Fife	F	Starvation/Hypothermia
Cetacean	M075/13	Phocoena phocoena	Harbour porpoise	27/03/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M076/13	Phocoena phocoena	Harbour porpoise	27/03/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Pinniped	M077/13	Halichoerus grypus	Grey seal	25/03/2013	Orkney	U	Physical Trauma: Shot (known)
Pinniped	M078/13	Halichoerus grypus	Grey seal	27/03/2013	Orkney	U	Physical Trauma: Shot (known)
Pinniped	M079/13	Halichoerus grypus	Grey seal	27/03/2013	Orkney	U	Physical Trauma: Shot (known)
Cetacean	M080/13	Phocoena phocoena	Harbour porpoise	27/03/2013	Fife	F	Bycatch
Cetacean	M081/13	Phocoena phocoena	Harbour porpoise	28/03/2013	Highland	M	Live Stranding
Pinniped	M082/13	Phoca vitulina	Common seal	29/03/2013	Argyll and Bute	F	Physical trauma: shot
Pinniped	M083/13	Halichoerus grypus	Grey seal	30/03/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Pinniped	M084/13	Pinniped (indeterminate species)	Seal (indeterminate species)	30/03/2013	Aberdeenshire	U	Not Examined: Advanced autolysis

Pinniped	M085/13	Halichoerus grypus	Grey seal	30/03/2013	Aberdeenshire	U	Physical Trauma: Shot (known)
Cetacean	M086/13	Phocoena phocoena	Harbour porpoise	28/03/2013	East Lothian	F	Starvation/Hypothermia
Pinniped	M087/13	Halichoerus grypus	Grey seal	02/04/2013	East Lothian	U	Not Examined: Staff shortage
Pinniped	M088/13	Halichoerus grypus	Grey seal	02/04/2013	East Lothian	U	Not Examined: Advanced autolysis
Pinniped	M089/13	Pinniped (indeterminate species)	Seal (indeterminate species)	02/04/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Pinniped	M090/13	Pinniped (indeterminate species)	Seal (indeterminate species)	03/04/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Cetacean	M091/13	Phocoena phocoena	Harbour porpoise	03/04/2013	Fife	M	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M092/13	Phocoena phocoena	Harbour porpoise	03/04/2013	Falkirk	M	Live Stranding
Pinniped	M093/13	Halichoerus grypus	Grey seal	04/04/2013	Moray	F	Pneumonia: Parasitic
Cetacean	M094/13	Phocoena phocoena	Harbour porpoise	05/04/2013	Fife	U	Not Examined: Insufficient Data
Pinniped	M095/13	Pinniped (indeterminate species)	Seal (indeterminate species)	08/04/2013	Highland	U	Not Examined: Insufficient Data
Pinniped	M096/13	Pinniped (indeterminate species)	Seal (indeterminate species)	08/04/2013	Fife	U	Not Examined: Insufficient Data
Cetacean	M097/13	Phocoena phocoena	Harbour porpoise	10/04/2013	Highland	F	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M098/13	Phocoena phocoena	Harbour porpoise	16/04/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Cetacean	M099/13	Phocoena phocoena	Harbour porpoise	12/04/2013	Fife	U	Not Examined: Insufficient Data
Cetacean	M100/13	Phocoena phocoena	Harbour porpoise	12/04/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Cetacean	M101/13	Phocoena phocoena	Harbour porpoise	12/04/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Pinniped	M102/13	Halichoerus grypus	Grey seal	12/04/2013	Angus	U	Physical Trauma: Shot (known)
Cetacean	M103/13	Phocoena phocoena	Harbour porpoise	12/04/2013	Falkirk	U	Not Examined: Insufficient Data
Pinniped	M104/13	Halichoerus grypus	Grey seal	12/04/2013	Fife	F	Physical Trauma: Spiral "Spiral" lesions
Pinniped	M105/13	Halichoerus grypus	Grey seal	08/04/2013	Fife	M	Not Examined: Animal requested by SMRU
Cetacean	M106/13	Phocoena phocoena	Harbour porpoise	12/04/2013	City of Aberdeen	U	Not Examined: Insufficient Data
Cetacean	M107/13	Odontocete (indeterminate)	Odontocete	12/04/2013	Highland	U	Not Examined: Advanced autolysis

		species)	(indeterminate species)				
Cetacean	M108/13	Phocoena phocoena	Harbour porpoise	13/04/2013	Angus	U	Not Examined: Insufficient Data
Cetacean	M109/13	Phocoena phocoena	Harbour porpoise	12/04/2013	Falkirk	U	Not Examined: Insufficient Data
Cetacean	M110/13	Phocoena phocoena	Harbour porpoise	12/04/2013	City of Edinburgh	U	Not Examined: Insufficient Data
Cetacean	M111/13	Phocoena phocoena	Harbour porpoise	14/04/2013	City of Aberdeen	U	Not Examined: Advanced autolysis
Cetacean	M112/13	Phocoena phocoena	Harbour porpoise	14/04/2013	City of Aberdeen	M	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M113/13	Halichoerus grypus	Grey seal	04/04/2013	Orkney	U	Physical Trauma: Shot (known)
Pinniped	M114/13	Halichoerus grypus	Grey seal	04/04/2013	Orkney	U	Physical Trauma: Shot (known)
Pinniped	M115/13	Halichoerus grypus	Grey seal	13/04/2013	Orkney	F	Physical Trauma: Shot (known)
Cetacean	M116/13	Phocoena phocoena	Harbour porpoise	13/04/2013	Angus	U	Not Examined: Advanced autolysis
Cetacean	M117/13	Phocoena phocoena	Harbour porpoise	14/05/2013	Angus	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M118/13	Pinniped (indeterminate species)	Seal (indeterminate species)	16/04/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Cetacean	M119/13	Stenella coeruleoalba	Striped dolphin	17/04/2013	Shetland	M	Pneumonia: Parasitic
Cetacean	M120/13	Phocoena phocoena	Harbour porpoise	18/04/2013	Highland	M	Live Stranding
Cetacean	M121/13	Phocoena phocoena	Harbour porpoise	19/04/2013	Highland	F	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M122/13	Lagenorhynchus albirostris	White-beaked dolphin	20/04/2013	Highland	F	Live Stranding
Cetacean	M123/13	Phocoena phocoena	Harbour porpoise	21/04/2013	Highland	F	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M124/13	Phocoena phocoena	Harbour porpoise	20/04/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Cetacean	M125/13	Phocoena phocoena	Harbour porpoise	20/04/2013	Aberdeenshire	M	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M126/13	Lagenorhynchus albirostris	White-beaked dolphin	21/04/2013	Western Isles	U	Not Examined: Advanced autolysis
Cetacean	M127/13	Cetacean (indeterminate species)	Cetacean (indeterminate species)	21/04/2013	Shetland	U	Not Examined: At Sea
Cetacean	M128/13	Phocoena phocoena	Harbour porpoise	20/04/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage

Cetacean	M129/13	<i>Phocoena phocoena</i>	Harbour porpoise	18/04/2013	City of Aberdeen	M	Not Examined: Delay in reporting
Cetacean	M130/13	Cetacean (indeterminate species)	Cetacean (indeterminate species)	20/04/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Pinniped	M131/13	<i>Halichoerus grypus</i>	Grey seal	20/04/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M132.1/13	<i>Globicephala melas</i>	Long-finned pilot whale	24/04/2013	Highland	M	Live Stranding
Cetacean	M132.2/13	<i>Globicephala melas</i>	Long-finned pilot whale	24/04/2013	Highland	U	Not Examined: Refloated
Cetacean	M133/13	<i>Tursiops truncatus</i>	Bottlenose dolphin	23/04/2013	Argyll and Bute	M	Live Stranding
Cetacean	M134/13	<i>Phocoena phocoena</i>	Harbour porpoise	24/04/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M135/13	<i>Balaenoptera acutorostrata</i>	Minke whale	26/04/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M136/13	<i>Tursiops truncatus</i>	Bottlenose dolphin	18/04/2013	Argyll and Bute	U	Not Examined: Delay in reporting
Cetacean	M137/13	<i>Phocoena phocoena</i>	Harbour porpoise	26/04/2013	City of Aberdeen	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M138/13	<i>Globicephala melas</i>	Long-finned pilot whale	27/04/2013	Highland	M	Live Stranding
Cetacean	M139/13	<i>Phocoena phocoena</i>	Harbour porpoise	27/04/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M140/13	<i>Phocoena phocoena</i>	Harbour porpoise	22/04/2013	Argyll and Bute	U	Not Examined: Delay in reporting
Cetacean	M141/13	Odontocete (indeterminate species)	Odontocete (indeterminate species)	30/04/2013	City of Edinburgh	U	Not Examined: Insufficient Data
Cetacean	M142/13	<i>Phocoena phocoena</i>	Harbour porpoise	01/05/2013	East Lothian	U	Not Examined: Staff shortage
Pinniped	M143/13	<i>Phoca vitulina</i>	Common seal	01/05/2013	Fife	F	Physical Trauma: Possible spiral "Spiral" lesions
Cetacean	M144/13	<i>Phocoena phocoena</i>	Harbour porpoise	24/04/2013	Fife	U	Physical Trauma: Storm exposure
Pinniped	M145/13	<i>Halichoerus grypus</i>	Grey seal	20/04/2013	Fife	U	Physical Trauma: Possible spiral "Spiral" lesions
Cetacean	M146/13	<i>Physeter macrocephalus</i>	Sperm whale	03/05/2013	Shetland	U	Not Examined: Advanced autolysis
Cetacean	M147/13	<i>Phocoena phocoena</i>	Harbour porpoise	03/05/2013	Western Isles	U	Not Examined: Advanced autolysis
Cetacean	M148/13	<i>Lagenorhynchus albirostris</i>	White-beaked dolphin	06/05/2013	Argyll and Bute	U	Not Examined: Staff shortage
Cetacean	M149/13	<i>Lagenorhynchus albirostris</i>	White-beaked dolphin	05/05/2013	Western Isles	U	Not Examined: Advanced autolysis

Cetacean	M150/13	Phocoena phocoena	Harbour porpoise	06/05/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M151.1/13	Phoca vitulina	Common seal	06/05/2013	Western Isles	U	Not Examined: At Sea
Pinniped	M151.2/13	Phoca vitulina	Common seal	06/05/2013	Western Isles	U	Not Examined: Animal Unrecoverable
Pinniped	M151.3/13	Phoca vitulina	Common seal	06/05/2013	Western Isles	U	Not Examined: Animal Unrecoverable
Pinniped	M151.4/13	Phoca vitulina	Common seal	06/05/2013	Western Isles	U	Not Examined: Animal Unrecoverable
Cetacean	M152/13	Phocoena phocoena	Harbour porpoise	08/05/2013	City of Edinburgh	U	Not Examined: Advanced autolysis
Cetacean	M153/13	Phocoena phocoena	Harbour porpoise	09/05/2013	Highland	U	Not Examined: At Sea
Cetacean	M154/13	Phocoena phocoena	Harbour porpoise	11/05/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M155/13	Phocoena phocoena	Harbour porpoise	12/05/2013	Angus	U	Not Examined: Advanced autolysis
Cetacean	M156/13	Stenella coeruleoalba	Striped dolphin	12/05/2013	Shetland	U	Not Examined: Advanced autolysis
Cetacean	M157/13	Phocoena phocoena	Harbour porpoise	13/05/2013	South Ayreshire	F	Not Examined: Not Priority
Pinniped	M158/13	Halichoerus grypus	Grey seal	15/05/2013	Highland	U	Not Examined: Insufficient Data
Pinniped	M159/13	Halichoerus grypus	Grey seal	19/05/2013	Highland	U	Not Examined: Advanced autolysis
Pinniped	M160/13	Halichoerus grypus	Grey seal	16/05/2013	Highland	M	Not Examined: Advanced autolysis
Pinniped	M161/13	Pinniped (indeterminate species)	Seal (indeterminate species)	20/05/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M162/13	Phocoena phocoena	Harbour porpoise	21/05/2013	Moray	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M163/13	Phocoena phocoena	Harbour porpoise	23/05/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M164/13	Phocoena phocoena	Harbour porpoise	22/05/2013	Moray	M	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M165/13	Balaenoptera acutorostrata	Minke whale	23/05/2013	Highland	M	Not Examined: Removed by tide
Cetacean	M166/13	Phocoena phocoena	Harbour porpoise	17/05/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Pinniped	M167/13	Halichoerus grypus	Grey seal	24/05/2013	Orkney	M	Not Examined: Advanced autolysis
Cetacean	M168/13	Phocoena phocoena	Harbour porpoise	24/05/2013	City of Aberdeen	U	Not Examined: Removed by tide
Cetacean	M169/13	Phocoena phocoena	Harbour porpoise	25/05/2013	South Ayreshire	U	Not Examined: Removed By Council

Cetacean	M170/13	Phocoena phocoena	Harbour porpoise	26/05/2013	City of Aberdeen	M	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M171/13	Phocoena phocoena	Harbour porpoise	26/05/2013	Moray	M	Not Examined: Removed by tide
Cetacean	M172/13	Phocoena phocoena	Harbour porpoise	26/05/2013	Moray	U	Not Examined: Insufficient Data
Pinniped	M173/13	Pinniped (indeterminate species)	Seal (indeterminate species)	26/05/2013	Moray	U	Not Examined: Advanced autolysis
Pinniped	M174/13	Pinniped (indeterminate species)	Seal (indeterminate species)	24/05/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M175/13	Phocoena phocoena	Harbour porpoise	25/05/2013	Aberdeenshire	M	Not Examined: Insufficient Data
Cetacean	M176/13	Odontocete (indeterminate species)	Odontocete (indeterminate species)	19/05/2013	Argyll and Bute	U	Not Examined: Insufficient Data
Cetacean	M177/13	Grampus griseus	Risso's dolphin	28/05/2013	Western Isles	U	Not Examined: Samples Taken
Pinniped	M178/13	Halichoerus grypus	Grey seal	28/05/2013	Western Isles	U	Physical Trauma: Shot (known)
Cetacean	M179/13	Globicephala melas	Long-finned pilot whale	24/05/2013	Western Isles	U	Live stranding: Successful refloat
Pinniped	M180/13	Pinniped (indeterminate species)	Seal (indeterminate species)	24/05/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M181/13	Halichoerus grypus	Grey seal	30/05/2013	Fife	M	Not Examined: Advanced autolysis
Pinniped	M182/13	Phoca vitulina	Common seal	30/05/2013	Fife	F	Physical Trauma: Possible spiral "Spiral" lesions
Cetacean	M183/13	Phocoena phocoena	Harbour porpoise	01/06/2013	Dumfries and Galloway	F	Not Examined: Removed By Council
Pinniped	M184/13	Phoca vitulina	Common seal	02/06/2013	Fife	M	Physical Trauma: Possible spiral "Spiral" lesions
Pinniped	M185/13	Pinniped (indeterminate species)	Seal (indeterminate species)	03/06/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M186/13	Physeter macrocephalus	Sperm whale	02/06/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Pinniped	M187/13	Phoca vitulina	Common seal	03/06/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M188/13	Pinniped (indeterminate species)	Seal (indeterminate species)	05/06/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M189/13	Phocoena phocoena	Harbour porpoise	04/06/2013	Highland	U	Not Examined: Advanced autolysis

Cetacean	M190/13	Phocoena phocoena	Harbour porpoise	04/06/2013	Moray	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M191/13	Pinniped (indeterminate species)	Seal (indeterminate species)	06/06/2013	City of Dundee	U	Not Examined: Insufficient Data
Cetacean	M192/13	Phocoena phocoena	Harbour porpoise	07/06/2013	Highland	M	Physical Trauma: Bottlenose Dolphin Attack
Cetacean	M193/13	Phocoena phocoena	Harbour porpoise	07/06/2013	Moray	U	Not Examined: Advanced autolysis
Pinniped	M194/13	Halichoerus grypus	Grey seal	10/06/2013	Angus	U	Not Examined: Advanced autolysis
Pinniped	M195/13	Halichoerus grypus	Grey seal	09/06/2013	Fife	M	Pneumonia: Parasitic
Pinniped	M196/13	Halichoerus grypus	Grey seal	11/06/2013	City of Dundee	F	Pneumonia: Parasitic
Pinniped	M197/13	Halichoerus grypus	Grey seal	12/06/2013	Fife	M	Pneumonia: Parasitic
Pinniped	M198/13	Phoca vitulina	Common seal	13/06/2013	Highland	F	Pneumonia: Unknown Aetiology
Cetacean	M199/13	Mesoplodon bidens	Sowerby's beaked whale	13/06/2013	Highland	M	Physical Trauma: Boat/Ship Strike
Pinniped	M200/13	Halichoerus grypus	Grey seal	13/06/2013	Fife	U	Physical Trauma: Unlikely spiral "Spiral" lesions
Cetacean	M201/13	Phocoena phocoena	Harbour porpoise	14/06/2013	Highland	F	Not Examined: Removed by tide
Cetacean	M202/13	Phocoena phocoena	Harbour porpoise	17/05/2013	Western Isles	U	Not Examined: At sea
Cetacean	M203/13	Phocoena phocoena	Harbour porpoise	10/06/2013	Highland	M	Not Examined: Delay in reporting
Pinniped	M204/13	Halichoerus grypus	Grey seal	13/06/2013	Aberdeenshire	M	Physical trauma: Shot
Pinniped	M205/13	Pinniped (indeterminate species)	Seal (indeterminate species)	18/06/2013	Highland	U	Not Examined: Advanced autolysis
Cetacean	M206/13	Phocoena phocoena	Harbour porpoise	17/06/2013	South Ayrshire	U	Not Examined: Not Priority
Cetacean	M207/13	Phocoena phocoena	Harbour porpoise	19/06/2013	Highland	U	Not Examined: Removed by tide
Pinniped	M208/13	Pinniped (indeterminate species)	Seal (indeterminate species)	19/06/2013	Highland	U	Not Examined: At sea
Pinniped	M209/13	Pinniped (indeterminate species)	Seal (indeterminate species)	22/06/2013	Angus	U	Not Examined: Advanced autolysis
Pinniped	M210/13	Halichoerus grypus	Grey seal	25/06/2013	Aberdeenshire	U	Physical trauma: Shot
Pinniped	M211/13	Pinniped (indeterminate species)	Seal (indeterminate species)	26/06/2013	Highland	U	Not Examined: Advanced autolysis

Cetacean	M212/13	Phocoena phocoena	Harbour porpoise	26/06/2013	South Ayrshire	U	Not Examined: Advanced autolysis
Cetacean	M213/13	Globicephala melas	Long-finned pilot whale	22/06/2013	Shetland	U	Not Examined: Weather/Travel Difficulties
Pinniped	M214/13	Halichoerus grypus	Grey seal	22/06/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Pinniped	M215/13	Pinniped (indeterminate species)	Seal (indeterminate species)	15/06/2013	Fife	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M216/13	Cetacean (indeterminate species)	Cetacean (indeterminate species)	18/06/2013	Inverclyde	U	Not Examined: Advanced autolysis
Basking Shark	M217/13	Cetorhinus maximus	Basking shark	29/06/2013	City of Edinburgh	U	Physical Trauma: Boat/Ship Strike
Pinniped	M218/13	Phoca vitulina	Common seal	27/06/2013	Orkney	U	Not Examined: Insufficient data
Pinniped	M219/13	Phoca vitulina	Common seal	27/06/2013	Orkney	U	Not Examined: Insufficient data
Cetacean	M220/13	Grampus griseus	Risso's dolphin	27/06/2013	Western Isles	U	Not Examined: Advanced autolysis
Pinniped	M221/13	Phoca vitulina	Common seal	28/06/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Cetacean	M222/13	Phocoena phocoena	Harbour porpoise	27/06/2013	Western Isles	U	Not Examined: Advanced autolysis
Cetacean	M223/13	Phocoena phocoena	Harbour porpoise	04/07/2013	North Ayrshire	U	Not Examined: Advanced autolysis
Cetacean	M224/13	Phocoena phocoena	Harbour porpoise	07/07/2013	Aberdeenshire	F	Live Stranding
Cetacean	M225/13	Phocoena phocoena	Harbour porpoise	20/04/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M226/13	Balaenoptera acutorostrata	Minke whale	09/07/2013	Highland	F	Physical Trauma: Entanglement
Pinniped	M227/13	Halichoerus grypus	Grey seal	10/07/2013	Highland	M	Not Examined: Not Priority
Pinniped	M228/13	Phoca vitulina	Common seal	10/07/2013	Moray	U	Not Examined: Insufficient Data
Pinniped	M229/13	Phoca vitulina	Common seal	11/07/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M230/13	Phoca vitulina	Common seal	14/07/2013	Angus	M	Physical Trauma: Possible spiral "Spiral" lesions
Pinniped	M231/13	Halichoerus grypus	Grey seal	14/07/2013	Fife	U	Not Examined: Advanced autolysis
Cetacean	M232/13	Phocoena phocoena	Harbour porpoise	06/06/2013	Moray	U	Not Examined: Removed by tide
Cetacean	M233/13	Phocoena phocoena	Harbour porpoise	03/06/2013	Angus	U	Not Examined: Advanced autolysis
Pinniped	M234/13	Unknown	Seal (indeterminate)	16/07/2013	Argyll and Bute	U	Not Examined: Insufficient Data

			species)				
Pinniped	M235/13	Halichoerus grypus	Grey seal	17/07/2013	Moray	U	Not Examined: Advanced autolysis
Cetacean	M236/13	Globicephala melas	Long-finned pilot whale	17/07/2013	Shetland	U	Not Examined: Advanced autolysis
Pinniped	M237/13	Unknown	Seal (indeterminate species)	19/07/2013	Highland	U	Not Examined: Insufficient Data
Pinniped	M238/13	Unknown	Seal (indeterminate species)	22/07/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Pinniped	M239/13	Phoca vitulina	Common seal	22/07/2013	Fife	M	Physical Trauma: Spiral "Spiral" lesions
Pinniped	M240/13	Unknown	Seal (indeterminate species)	23/07/2013	Highland	U	Not Examined: Insufficient Data
Pinniped	M241/13	Unknown	Seal (indeterminate species)	23/07/2013	Highland	U	Not Examined: Insufficient Data
Pinniped	M242/13	Halichoerus grypus	Grey seal	23/07/2013	South Ayrshire	F	Not Examined: Advanced autolysis
Pinniped	M243/13	Phoca vitulina	Common seal	24/07/2013	Orkney	M	Maternal separation/starvation
Cetacean	M244/13	Phocoena phocoena	Harbour porpoise	24/07/2013	City of Edinburgh	F	Not Examined: Staff shortage
Pinniped	M245/13	Unknown	Seal (indeterminate species)	21/07/2013	Highland	U	Not Examined: Removed by tide
Pinniped	M246/13	Halichoerus grypus	Grey seal	25/07/2013	Aberdeenshire	F	Physical trauma: Shot
Pinniped	M247/13	Halichoerus grypus	Grey seal	25/07/2013	Fife	M	Physical Trauma: Spiral "Spiral" lesions
Pinniped	M248/13	Halichoerus grypus	Grey seal	19/07/2013	Orkney	U	Physical trauma: Shot
Pinniped	M249/13	Halichoerus grypus	Grey seal	28/07/2013	Highland	M	Not Examined: Advanced autolysis
Cetacean	M250/13	Lagenorhynchus albirostris	White-beaked dolphin	28/07/2013	Western Isles	M	Not Examined: Animal not found
Pinniped	M251/13	Unknown	Seal (indeterminate species)	29/07/2013	City of Edinburgh	U	Not Examined: Insufficient Data
Pinniped	M252/13	Phoca vitulina	Common seal	27/07/2013	City of Aberdeen	U	Not Examined: Insufficient Data
Cetacean	M253/13	Delphinus delphis	Short-beaked common dolphin	29/07/2013	Highland	F	Not Established
Cetacean	M254/13	Phocoena phocoena	Harbour porpoise	29/07/2013	Dumfries and Galloway	U	Not Examined: Advanced autolysis
Pinniped	M255/13	Unknown	Seal (indeterminate species)	02/08/2013	City of Edinburgh	U	Not Examined: Insufficient Data

			species)				
Cetacean	M256/13	Phocoena phocoena	Harbour porpoise	28/07/2013	Highland	U	Not Examined: Delay in reporting
Cetacean	M257/13	Phocoena phocoena	Harbour porpoise	01/08/2013	Fife	U	Not Examined: Removed by tide
Pinniped	M258/13	Halichoerus grypus	Grey seal	02/08/2013	Aberdeenshire	U	Not Examined: Advanced autolysis
Cetacean	M259/13	Phocoena phocoena	Harbour porpoise	05/08/2013	Dumfries and Galloway	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M260/13	Lagenorhynchus acutus	Atlantic white-sided dolphin	01/08/2013	Shetland	M	Not Examined: Delay in reporting
Cetacean	M261/13	Lagenorhynchus acutus	Atlantic white-sided dolphin	03/08/2013	Shetland	U	Not Examined: Delay in reporting
Cetacean	M262/13	Lagenorhynchus acutus	Atlantic white-sided dolphin	05/08/2013	Shetland	M	Not Examined: Samples Taken
Pinniped	M263/13	Phoca vitulina	Common seal	04/08/2013	Highland	F	Maternal separation/starvation
Pinniped	M264/13	Halichoerus grypus	Grey seal	05/08/2013	Fife	F	Pneumonia: Unknown Aetiology
Cetacean	M265/13	Phocoena phocoena	Harbour porpoise	10/08/2013	South Ayrshire	F	Pneumonia: Unknown Aetiology
Pinniped	M266/13	Phoca vitulina	Common seal	03/08/2013	Argyll and Bute	U	Not Examined: Delay in reporting
Cetacean	M267/13	Globicephala melas	Long-finned pilot whale	14/08/2013	Shetland	U	Not Examined: Advanced autolysis
Pinniped	M268/13	Phoca vitulina	Common seal	14/08/2013	Moray	U	Not Examined: Advanced autolysis
Cetacean	M269/13	Stenella coeruleoalba	Striped dolphin	14/08/2013	Highland	M	(Meningo)encephalitis
Cetacean	M270/13	Phocoena phocoena	Harbour porpoise	16/08/2013	Tayside	U	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M271/13	Unknown	Seal (indeterminate species)	19/08/2013	North Ayrshire	U	Not Examined: Insufficient Data
Cetacean	M272/13	Stenella coeruleoalba	Striped dolphin	19/08/2013	Western Isles	U	Not Examined: Advanced autolysis
Pinniped	M273/13	Unknown	Seal (indeterminate species)	04/09/2013	South Ayrshire	U	Not Examined: Insufficient Data
Pinniped	M274/13	Phoca vitulina	Common seal	23/08/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Pinniped	M275/13	Halichoerus grypus	Grey seal	15/08/2013	Argyll and Bute	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M276/13	Delphinus delphis	Short-beaked common	23/08/2013	Highland	U	Not Examined: Advanced autolysis

dolphin							
Pinniped	M277/13	Unknown	Seal (indeterminate species)	23/08/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Cetacean	M278/13	Globicephala melas	Long-finned pilot whale	19/08/2013	Orkney	U	Not Examined: Advanced autolysis
Pinniped	M279/13	Unknown	Seal (indeterminate species)	25/08/2013	Highland	U	Not Examined: Advanced autolysis
Pinniped	M280/13	Unknown	Seal (indeterminate species)	25/08/2013	Highland	U	Not Examined: Advanced autolysis
Cetacean	M281/13	Unknown	Odontocete (indeterminate species)	27/08/2013	Fife	U	Not Examined: Insufficient Data
Pinniped	M282/13	Halichoerus grypus	Grey seal	24/08/2013	Dumfries and Galloway	U	Not Examined: Delay in reporting
Cetacean	M283/13	Phocoena phocoena	Harbour porpoise	02/09/2013	South Ayresshire	U	Not Examined: Advanced autolysis
Cetacean	M284/13	Phocoena phocoena	Harbour porpoise	02/09/2013	South Ayresshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M285/13	Delphinus delphis	Short-beaked common dolphin	13/06/2013	Argyll and Bute	U	Not Examined: Delay in reporting
Cetacean	M286/13	Lagenorhynchus albirostris	White-beaked dolphin	05/07/2013	Argyll and Bute	U	Not Examined: Delay in reporting
Cetacean	M287/13	Unknown	Cetacean (indeterminate species)	05/07/2013	Argyll and Bute	U	Not Examined: Delay in reporting
Cetacean	M288/13	Globicephala melas	Long-finned pilot whale	03/09/2013	City of Edinburgh	M	Live Stranding
Pinniped	M289/13	Halichoerus grypus	Grey seal	04/09/2013	Western Isles	U	Not Examined: Advanced autolysis
Cetacean	M290/13	Stenella coeruleoalba	Striped dolphin	05/09/2013	Argyll and Bute	F	Not Examined: Not Priority
Cetacean	M291/13	Kogia breviceps	Pygmy sperm whale	06/09/2013	Aberdeenshire	F	Live stranding
Cetacean	M292/13	Balaenoptera acutorostrata	Minke whale	06/09/2013	Fife	F	Live stranding
Pinniped	M293/13	Halichoerus grypus	Grey seal	09/09/2013	Angus	F	Physical trauma: Shot
Pinniped	M294/13	Phoca vitulina	Common seal	09/09/2013	Highland	U	Not Examined: Neonate
Pinniped	M295/13	Unknown	Seal (indeterminate species)	07/09/2013	Western Isles	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M296/13	Unknown	Seal (indeterminate species)	09/09/2013	Highland	U	Not Examined: Advanced autolysis

Pinniped	M297/13	Halichoerus grypus	Grey seal	06/09/2013	Orkney	U	Physical trauma: Shot
Pinniped	M298/13	Phoca vitulina	Common seal	11/09/2013	Highland	U	Not Examined: Insufficient Data
Cetacean	M299.1/13	Mesoplodon bidens	Sowerby's beaked whale	12/09/2013	Western Isles	F	Live Stranding
Cetacean	M299.2/13	Mesoplodon bidens	Sowerby's beaked whale	12/09/2013	Western Isles	U	Live Stranding
Pinniped	M300/13	Unknown	Seal (indeterminate species)	12/09/2013	Aberdeenshire	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M301/13	Unknown	Seal (indeterminate species)	14/09/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Cetacean	M302/13	Unknown	Odontocete (indeterminate species)	10/09/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M303/13	Halichoerus grypus	Grey seal	13/09/2013	Orkney	M	Physical trauma: Shot
Cetacean	M304/13	Balaenoptera acutorostrata	Minke whale	17/09/2013	Highland	F	Not Examined: Advanced autolysis
Cetacean	M305/13	Lagenorhynchus albirostris	White-beaked dolphin	18/09/2013	Western Isles	F	Not Examined: Samples Taken
Pinniped	M306/13	Phoca vitulina	Common seal	18/09/2013	Highland	U	Not Examined: Insufficient Data
Pinniped	M307/13	Unknown	Seal (indeterminate species)	20/09/2013	Fife	U	Not Examined: Insufficient Data
Cetacean	M308/13	Phocoena phocoena	Harbour porpoise	28/04/2013	Argyll and Bute	U	Not Examined: Delay in reporting
Pinniped	M309/13	Halichoerus grypus	Grey seal	30/09/2013	Fife	F	Pending
Cetacean	M310/13	Lagenorhynchus albirostris	White-beaked dolphin	20/09/2013	Highland	U	Not Examined: Advanced autolysis
Pinniped	M311/13	Halichoerus grypus	Grey seal	22/09/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Pinniped	M312/13	Unknown	Seal (indeterminate species)	22/09/2013	Aberdeenshire	U	Not Examined: Insufficient Data
Cetacean	M313/13	Phocoena phocoena	Harbour porpoise	24/09/2013	Highland	F	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M314/13	Phoca vitulina	Common seal	25/09/2013	Fife	F	Physical Trauma: Possible spiral "Spiral" lesions
Cetacean	M315/13	Phocoena phocoena	Harbour porpoise	29/09/2013	Highland	F	Physical Trauma: Bottlenose Dolphin Attack
Pinniped	M316/13	Unknown	Seal (indeterminate species)	24/09/2013	Highland	U	Physical trauma: Shot

Cetacean	M317/13	Unknown	Cetacean (indeterminate species)	04/10/2013	Fife	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M318/13	Halichoerus grypus	Grey seal	05/10/2013	Moray	U	Not Examined: Not Priority
Cetacean	M319/13	Phocoena phocoena	Harbour porpoise	11/10/2013	Argyll and Bute	U	Not Examined: Animal Unrecoverable
Pinniped	M320/13	Halichoerus grypus	Grey seal	13/10/2013	Angus		Not Examined: Advanced autolysis
Pinniped	M321/13	Halichoerus grypus	Grey seal	16/10/2013	Highland	M	Not Examined: Animal Unrecoverable
Pinniped	M322/13	Halichoerus grypus	Grey seal	16/10/2013	Highland	F	Not Examined: Advanced autolysis
Cetacean	M323/13	Ziphius cavirostris	Cuvier's beaked whale	16/10/2013	Moray	U	Not Examined: Advanced autolysis
Cetacean	M324/13	Delphinus delphis	Short-beaked common dolphin	14/10/2013	Highland	F	Not Examined: Removed by tide
Pinniped	M325/13	Halichoerus grypus	Grey seal	17/10/2013	Fife	U	Not Examined: Advanced autolysis
Cetacean	M326/13	Phocoena phocoena	Harbour porpoise	18/10/2013	Fife	F	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M327/13	Halichoerus grypus	Grey seal	20/10/2013	City of Edinburgh	F	Not Examined: Advanced autolysis
Pinniped	M328/13	Halichoerus grypus	Grey seal	22/10/2013	Fife	F	Not Examined: Animal Unrecoverable
Pinniped	M329/13	Phoca vitulina	Common seal	23/10/2013	Highland	U	Not Examined: Advanced autolysis
Pinniped	M330/13	Phoca vitulina	Common seal	24/10/2013	Orkney	U	Not Examined: Weather/Travel Difficulties
Cetacean	M331/13	Balaenoptera acutorostrata	Minke whale	28/10/2013	Orkney	M	Not Examined: Advanced autolysis
Pinniped	M332/13	Halichoerus grypus	Grey seal	28/10/2013	Argyll and Bute	M	Not Examined: Advanced autolysis
Pinniped	M333/13	Unknown	Seal (indeterminate species)	24/10/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M334/13	Unknown	Seal (indeterminate species)	24/10/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M335/13	Phoca vitulina	Common seal	30/10/2013	Angus	U	Not Examined: Advanced autolysis
Pinniped	M336/13	Phoca vitulina	Common seal	30/10/2013	Angus	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M337/13	Phoca vitulina	Common seal	04/11/2013	Aberdeenshire	F	Pneumonia: Parasitic
Pinniped	M338/13	Halichoerus grypus	Grey seal	06/11/2013	Scottish Borders	U	Not Examined: Not Priority
Pinniped	M339/13	Unknown	Seal (indeterminate species)	07/11/2013	Shetland	U	Not Examined: Insufficient Data

			species)				
Cetacean	M340/13	Unknown	Cetacean (indeterminate species)	08/11/2013	Argyll and Bute	U	Not Examined: Insufficient Data
Pinniped	M341/13	Unknown	Seal (indeterminate species)	26/10/2013	Western Isles	U	Not Examined: Insufficient Data
Cetacean	M342/13	Tursiops truncatus	Bottlenose dolphin	11/11/2013	Western Isles	M	Not Examined: Samples Taken
Cetacean	M343/13	Phocoena phocoena	Harbour porpoise	14/11/2013	Argyll and Bute	F	Bycatch
Pinniped	M344/13	Unknown	Seal (indeterminate species)	16/11/2013	Argyll and Bute	U	Not Examined: Insufficient Data
Cetacean	M345/13	Grampus griseus	Risso's dolphin	16/11/2013	Shetland	U	Not Examined: Advanced autolysis
Cetacean	M346/13	Lagenorhynchus albirostris	White-beaked dolphin	14/11/2013	Orkney	M	Not Examined: Advanced autolysis
Pinniped	M347/13	Halichoerus grypus	Grey seal	16/11/2013	Fife	U	Not Examined: Not Priority
Pinniped	M348/13	Halichoerus grypus	Grey seal	18/11/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M349/13	Halichoerus grypus	Grey seal	18/11/2013	Orkney	U	Not Examined: Advanced autolysis
Pinniped	M350/13	Halichoerus grypus	Grey seal	18/11/2013	Orkney	U	Not Examined: Not Priority
Pinniped	M351/13	Halichoerus grypus	Grey seal	19/11/2013	Highland	U	Not Examined: Advanced autolysis
Cetacean	M352/13	Physeter macrocephalus	Sperm whale	19/11/2013	Highland	U	Not Examined: Advanced autolysis
Pinniped	M353/13	Unknown	Seal (indeterminate species)	20/11/2013	Dumfries and Galloway	U	Not Examined: Insufficient Data
Pinniped	M354/13	Halichoerus grypus	Grey seal	19/11/2013	Orkney	M	Not Examined: Advanced autolysis
Cetacean	M355/13	Stenella coeruleoalba	Striped dolphin	23/11/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M356/13	Halichoerus grypus	Grey seal	24/11/2013	Western Isles	U	Not Examined: Advanced autolysis
Pinniped	M357/13	Halichoerus grypus	Grey seal	28/11/2013	Dumfries and Galloway	U	Not Examined: Insufficient Data
Pinniped	M358/13	Halichoerus grypus	Grey seal	03/12/2013	Highland	U	Physical Trauma: Possible spiral "Spiral" lesions
Pinniped	M359/13	Halichoerus grypus	Grey seal	01/12/2013	Western Isles	U	Not Examined: Insufficient Data
Cetacean	M360/13	Balaenoptera acutorostrata	Minke whale	29/11/2013	Orkney	U	Not Examined: Refloated

Pinniped	M361/13	Halichoerus grypus	Grey seal	30/11/2013	Western Isles	U	Not Examined: Not Priority
Pinniped	M362/13	Halichoerus grypus	Grey seal	30/11/2013	Western Isles	U	Not Examined: Not Priority
Pinniped	M363.1/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.2/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.3/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.4/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.5/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.6/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.7/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.8/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M363.9/13	Halichoerus grypus	Grey seal	02/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M364/13	Halichoerus grypus	Grey seal	18/10/2013	Orkney	U	Not Examined: Delay in reporting
Pinniped	M365/13	Halichoerus grypus	Grey seal	10/11/2013	Orkney	U	Not Examined: Delay in reporting
Pinniped	M366/13	Halichoerus grypus	Grey seal	01/12/2013	Orkney	U	Not Examined: Not Priority
Cetacean	M367/13	Grampus griseus	Risso's dolphin	02/12/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Pinniped	M368/13	Halichoerus grypus	Grey seal	03/12/2013	Western Isles	U	Not Examined: Not Priority
Cetacean	M369/13	Tursiops truncatus	Bottlenose dolphin	02/12/2013	Strathclyde	U	Not Examined: Removed by tide
Cetacean	M370/13	Phocoena phocoena	Harbour porpoise	22/11/2013	Highland	U	Not Examined: Delay in reporting
Cetacean	M371/13	Stenella coeruleoalba	Striped dolphin	02/11/2013	Highland	U	Not Examined: Delay in reporting
Cetacean	M372/13	Mesoplodon bidens	Sowerby's beaked whale	02/12/2013	Highland	U	Not Examined: Advanced autolysis
Cetacean	M373/13	Phocoena phocoena	Harbour porpoise	07/12/2013	South Ayrshire	F	Pending
Pinniped	M374/13	Phoca vitulina	Common seal	08/12/2013	Highland	U	Not Examined: Advanced autolysis
Cetacean	M375/13	Phocoena phocoena	Harbour porpoise	08/12/2013	Highland	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M376/13	Globicephala melas	Long-finned pilot whale	09/12/2013	Argyll and Bute	U	Not Examined: Advanced autolysis
Cetacean	M377/13	Phocoena phocoena	Harbour porpoise	10/12/2013	Highland	M	Generalised Bacterial

							Infection/Septicaemia
Cetacean	M378/13	Physeter macrocephalus	Sperm whale	11/12/2013	Orkney	M	Not Examined: Advanced autolysis
Pinniped	M379/13	Halichoerus grypus	Grey seal	12/12/2013	Orkney	U	Not Examined: Animal Incomplete/Scavenger Damage
Cetacean	M380/13	Physeter macrocephalus	Sperm whale	13/12/2013	Western Isles	M	Not Examined: Samples Taken
Pinniped	M381/13	Phoca vitulina	Common seal	15/12/2013	Aberdeenshire	U	Pending
Cetacean	M382/13	Delphinus delphis	Short-beaked common dolphin	17/12/2013	Argyll and Bute	F	Not Examined: Samples Taken
Cetacean	M383/13	Lagenorhynchus albirostris	White-beaked dolphin	18/12/2013	Argyll and Bute	M	Not Examined: Animal Incomplete/Scavenger Damage
Pinniped	M384/13	Halichoerus grypus	Grey seal	10/12/2013	Highland	F	Not Examined: Advanced autolysis
Cetacean	M385/13	Delphinus delphis	Short-beaked common dolphin	19/12/2013	Western Isles	U	Not Examined: Advanced autolysis
Pinniped	M386/13	Halichoerus grypus	Grey seal	19/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M387/13	Halichoerus grypus	Grey seal	19/12/2013	Western Isles	U	Not Examined: Insufficient Data
Pinniped	M388/13	Phoca vitulina	Common seal	19/12/2013	Highland	U	Physical Trauma: Spiral "Spiral" lesions
Pinniped	M389/13	Phoca vitulina	Common seal	19/12/2013	Highland	U	Not Examined: Insufficient Data
Cetacean	M390/13	Lagenorhynchus albirostris	White-beaked dolphin	26/12/2013	Western Isles	M	Not Examined: Removed By Council
Pinniped	M391/13	Phoca vitulina	Common seal	28/12/2013	Highland	U	Not Examined: Advanced autolysis
Pinniped	M392/13	Unknown	Seal (indeterminate species)	28/12/2013	Highland	U	Not Examined: Insufficient Data
Pinniped	M393/13	Halichoerus grypus	Grey seal	29/12/2013	Argyll and Bute	U	Not Examined: Insufficient Data
Pinniped	M394.1/13	Phoca vitulina	Common seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M394.2/13	Phoca vitulina	Common seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M394.3/13	Phoca vitulina	Common seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M394.4/13	Phoca vitulina	Common seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M394.5/13	Phoca vitulina	Common seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M395.1/13	Halichoerus grypus	Grey seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data

Pinniped	M395.2/13	Halichoerus grypus	Grey seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M395.3/13	Halichoerus grypus	Grey seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M395.4/13	Halichoerus grypus	Grey seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M395.5/13	Halichoerus grypus	Grey seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M395.6/13	Halichoerus grypus	Grey seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M395.7/13	Halichoerus grypus	Grey seal	23/12/2013	Orkney	U	Not Examined: Insufficient Data
Cetacean	M396/13	Phocoena phocoena	Harbour porpoise	30/12/2013	North Ayrshire	M	Pending
Cetacean	M397/13	Delphinus delphis	Short-beaked common dolphin	31/12/2013	Western Isles	F	Not Examined: Advanced autolysis
Pinniped	M398/13	Halichoerus grypus	Grey seal	31/12/2013	Orkney	U	Not Examined: Advanced autolysis
Pinniped	M399.1/13	Halichoerus grypus	Grey seal	29/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M399.2/13	Halichoerus grypus	Grey seal	29/12/2013	Orkney	U	Not Examined: Insufficient Data
Pinniped	M399.3/13	Halichoerus grypus	Grey seal	29/12/2013	Orkney	U	Not Examined: Insufficient Data
Cetacean	M400/13	Delphinus delphis	Short-beaked common dolphin	30/12/2013	Orkney	U	Not Examined: Advanced autolysis
Marine Turtle	M401/13	Unknown	Marine turtle (indeterminate species)	23/11/2013	Argyll and Bute	U	Not Examined: Insufficient Data