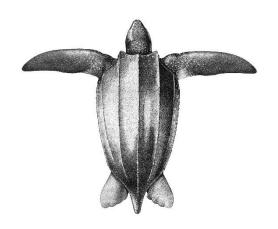


www.strandings.com

British Isles & Republic of Ireland Marine Turtle Strandings & Sightings Annual Report 2017

R.S.Penrose & L.R.Gander. May 2018







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1. SUMMARY

A total of 37 live and dead marine turtles were reported to TURTLE during 2017:

One Kemp's ridley turtle; Four loggerhead turtles; 28 leatherback turtles and four unidentified to species.

Live Stranded

One Kemp's ridley turtle stranded alive in Cornwall and was taken for rehabilitation but died.

Live sightings

Eight leatherback turtles were sighted at sea. Two in England; Two in Scotland; One in Wales; Two in the Republic of Ireland; One in the Isle of Man.

Two loggerhead turtles were sighted at sea off the English coast. One loggerhead was retrieved close to shore in the Republic of Ireland for repatriation.

Three unidentified turtles were sighted off the English coast.

Dead sightings

Six leatherback turtles were sighted dead at sea. Two in England; One in Wales; Two in Scotland; One in Northern Ireland.

One unidentified turtle was sighted dead off the English coast.

Dead Strandings

Fourteen leatherback turtles stranded dead: Two in England; Five in Wales; Five in the Republic of Ireland: Two in Scotland.

One loggerhead turtle stranded dead in the Republic of Ireland.

Post mortem examination

One Kemp's ridley received a post mortem examination on behalf of the CSIP at the University of Exeter's Cornwall campus.

Data Sharing

The TURTLE database is being adapted to enable it to be uploaded to the new NBN Atlas.

Repatriation

T2016/030 Olive ridley turtle is still being rehabilitated at Grand Canaria.

T2017/013 Loggerhead turtle was released in the Atlantic off Gibraltar by the Irish Navy.

TURTLE record totals

The current total of 2791 is broken down thus:

1336 Republic of Ireland; 668 England; 402 Scotland; 278 Wales; 41 Northern Ireland; 36 Isle of Man; 17 Channel Islands and 13 Offshore.

2. INTRODUCTION

In 1990, the 'Collaborative UK Marine Mammal Strandings Project' was initiated and part-funded by the UK Department of the Environment (now Defra). The project involves detailed pathological and other investigations of stranded marine mammal carcasses (mostly cetacean) from UK waters. It forms part of the Department's international obligations towards conservation agreements, including the 'Agreement on the conservation of Small Cetaceans of the Baltic and North Seas' (ASCOBANS). Detailed pathological investigations of stranded marine turtles were included in 2001 and the systematic recording and occasional examination of stranded basking sharks began in 2007. The project is now named the 'Cetacean Strandings Investigation Programme' (CSIP, www.ukstrandings.org) (see Figure 1.).

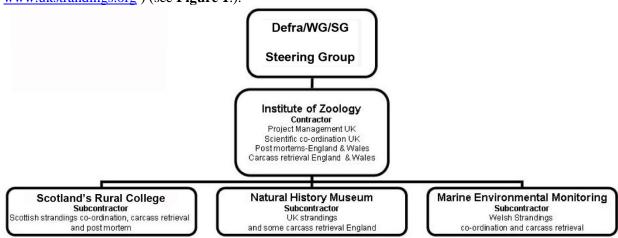


Figure 1. Current Technical Co-ordination of the Cetacean Strandings Investigation Programme (CSIP).

2.1 The UK Turtle Implementation Group.

Historically, in 1999, English Nature, now Natural England, published the UK Marine Turtles Grouped Species Action Plan (SAP) on behalf of the UK Biodiversity Group. The SAP was part of the UK Biodiversity Action Plan and aimed to enhance marine turtle conservation in UK waters and in the UK Overseas Territories as well as raise awareness and knowledge of their occurrence, legal protection and measures to enhance conservation amongst marine users and the general public. The SAP was implemented by a group of organisations led by joint lead partners the Marine Conservation Society (MCS) and the Amphibian & Reptile Conservation Trust¹ (ARC). The contact agency was Scottish Natural Heritage (SNH). The Turtle Implementation Group (TIG) now only communicate electronically and contribute to the project as a steering panel. TIG consists of the following organisations:-

- Amphibian & Reptile Conservation Trust¹ is an authority on reptile and amphibian conservation issues and is an active participant in Governmental and third sector nature conservation programmes across the UK www.arc-trust.org Contact: Karen Haysom, 01202 391319 karen.haysom@arc-trust.org
- The Department of Environment, Food and Agriculture (DEFA) is the Isle of Man Government's department responsible for species protection and site designation under the Manx Wildlife Act 1990. The Department is also the key Isle of Man contact for strandings and sightings of sea turtles. Contact: Dr Peter Duncan, 01624 685884 peter.duncan@gov.im
 - The Manx Wildlife Trust also record strandings on behalf of DEFA. Contact Dr Lara Howe on 01624 844432. lara@manxwt.org.uk
- The Department of Agriculture, Environment, and Rural Affairs (DAERA) Marine & Fisheries Division is responsible for protecting the marine environment while maximising the sustainable use of its resources, now and for future generations. Contact: Gary Burrows, 028 7082 3600. gary.burrows@daera-ni.gov.uk
- Joint Nature Conservation Committee (JNCC) is the public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation.

¹ Formally Herpetological Conservation Trust (HCT).

- Contact: Kelly Macleod, 01224 266584
- Marine Conservation Society (MCS) is the UK charity dedicated to the protection of the marine environment and its wildlife.
 MCS was the joint Lead Partner of the Marine Turtles Grouped Species Action Plan and coordinates the TIG. www.mcsuk.org
 Contact: Sue Ranger or Peter Richardson, 01989 566017
- Marine Environmental Monitoring (MEM) is a member of the Defra "UK Cetacean Strandings Investigation Programme", www.ukstrandings.com MEM also manages 'TURTLE' the British Isles & Republic of Ireland database holding both records of sightings and strandings of marine turtles dating back to 1748.
 Contact: Rod Penrose, (Reporting telephone No. 01239 683033) rodpenrose@strandings.com
- Marine Turtle Research Group is based at the University of Exeter, Cornwall Campus and carries out fundamental and applied research on marine turtles in British waters, the Mediterranean, West Africa and throughout the UK Overseas Territories. Contacts: Prof Brendan Godley & Prof Annette Broderick 01326 371 861.
- MEDASSET, founded in 1988, is an international environmental NGO registered as a charity and private company in the UK and as a Non Profit Organisation in Greece, working for the conservation of sea turtles and their habitats throughout the Mediterranean, through scientific research, environmental education, political lobbying and awareness-raising.
 Contact: Lily Venizelos, + 30 210 3613572 medasset@medasset.org
- National Parks and Wildlife Service (NPWS), part of the Department of Culture, Heritage and the Gaeltacht, provides the legislative and policy framework for the conservation of nature and biodiversity in the Republic of Ireland. It also oversees its implementation, based on good science, with particular emphasis on the protection of habitats and species, through the designation and conservation of sites under EU Directives and national legislation.

 Contact: Dr Ferdia Marnell, +3531 8883290 ferdia.marnell@chg.gov.ie
- Natural England (NE) is the Government agency that champions the conservation of wildlife and natural features throughout England.
 Contact: Paul Edgar, 02080 267708 paul.edgar@naturalengland.org.uk or Gillian Benson, 02080 261060 gillian.benson@naturalengland.org.uk
- Natural Resources Wales (NRW) Natural Resources Wales is the largest Welsh Government Sponsored Body. Formed in April 2013, it took over the functions of the Countryside Council for Wales, Forestry Commission Wales and the Environment Agency in Wales, as well as certain Welsh Government functions. Its purpose is to pursue sustainable management of natural resources in all of its work. This means looking after air, land, water, wildlife, plants and soil to improve Wales' well-being, and provide a better future for everyone.

 Contact: Dr Tom Stringell, 03000 654912 tom.stringell@cyfoethnaturiolcymru.gov.uk or Ceri Morris, 03000 654913
- Queen's University Belfast: Dr Jonathan Houghton works on the foraging ecology and migratory behaviour of marine turtles with a particular focus on the predator prey interactions of leatherback turtles and gelatinous zooplankton (jellyfish). Contact: Dr Jonathan Houghton, 028 90972297 j.houghton@qub.ac.uk
- Scottish Natural Heritage (SNH) is a government body responsible to the Scottish Government and Scottish Parliament. SNH promotes the care, improvement, responsible enjoyment, understanding, appreciation and sustainable use of Scotland's natural heritage. SNH is the contact government point for the Marine Turtles Grouped Species Action Plan.

 Contact: Marine Monitoring Team, MPA@snh.gov.uk 01463 725 000
- The Wildlife Trusts is a partnership of 47 Wildlife Trusts, across the UK, caring for more than 2,400 nature reserves. It campaigns for the protection of wildlife and invests in the future by helping people of all ages to gain a greater appreciation and understanding of nature. The Wildlife Trusts Basking Shark Project contributes at sea survey data, from the west coast of Britain on an annual basis.

 Contact: Dr Nick Tregenza, 01736 711783.
- University College Cork Professor John Davenport is Emeritus Professor of Zoology. He has worked on most species of sea turtles, but especially leatherbacks, since the early 1980s, conducting fundamental studies on their physiology and biomechanics. He is currently linked to turtle conservation in Bermuda, and conducts turtle research with colleagues in Nova Scotia, France and Hawaii.
 - Contact: Professor John Davenport, +44 (0)1392 926233 or Dr Tom Doyle +353-(0)87 1354938.

3. MATERIALS AND METHODS

Contact details vary for different parts of the British Isles & Republic of Ireland and the Turtle Code (Appendix 2.) should be consulted for the relevant contacts.

In **England & Wales** a 24 hour answer phone **01239 683033**, is interrogated at regular intervals. A message requests callers to leave details of the stranding or sighting and location, along with their name and contact phone number, so they may be reached if confirmation of details are required. A dedicated email address to receive digital photographs has been created info@strandings.com

For **Scotland** all records should be reported to Scottish Natural Heritage on **01463 725237** with dead strandings being reported to the Scotland's Rural College (SRUC) **01463 243030.** Live strandings and entanglements should be reported to the SSPCA on **03000 999 999**.

For **Northern Ireland** all records of live or dead turtles should be reported to the Portrush Coastal Zone Centre on **028 7082 3600**.

In the **Republic of Ireland** all records should be reported to Dr Tom Doyle School of Biological, Earth & Environmental Sciences, University College Cork **353-(0) 87 1354938** (mobile). Sightings & strandings can also be reported online in the Republic of Ireland via the National Biodiversity Data Centre's turtle sightings page: https://records.biodiversityireland.ie/record/sea-turtles

UK turtle sightings and strandings can also be reported using the UK Turtle Code online at www.euroturtle.org/turtlecode

On the **Isle of Man** all marine animal strandings should be reported to **DEFA** on **01624 685835/685884** or directly to Dr Peter Duncan **07624 300525.**

The following criteria are applied: -

3.1 Live Animals

(Condition code 1)²

In 1994 the Marine Animal Rescue Coalition (MARC) was formed. This consists of all the major animal welfare and conservation bodies involved with marine mammals/turtles in the UK. It has been agreed that in the case of a live-stranding the first point of call would be the RSPCA (England & Wales), SSPCA (Scotland) as they support a manned 24-hour emergency phone. The RSPCA/SSPCA would then contact the relevant organisations, Marine Environmental Monitoring etc. Contacts and advice can be found in the UK Turtle Code at www.strandings.com/turtlepage.html

3.2 Dead Animals

(Condition code 2a extremely fresh as if just died) ²

(Condition code 2b slight decomposition)²

(Condition code 3 moderate decomposition)²

Health and safety precautions are followed with the animal being handled only with gloved hands. Preferably it is then taken immediately for *post-mortem* examination, but due to funding cuts in 2006 freezing is now an option until transport becomes available.

(Condition code 4 advanced decomposition)²

(Condition code 5 mummified carcass)²

Species identified, basic measurements taken together with skin for DNA. Health and safety precautions being observed. Local Authorities then contacted for safe disposal of remains.

All live and dead marine turtles are allocated a "T0000/001" number. "T" designates the animal as a marine turtle, 0000 is the year and /001 is an individual number for each record of the same year. Records of all strandings & sightings in the British Isles & Republic of Ireland are kept by the Strandings Co-ordinator. Copies of *post-mortem* examination reports are sent from the Strandings Co-ordinator to the finder and others associated with the relevant stranding.

² Body conditions based on Kuiken, T. and Garcia Hartmann, M (1991) Proceedings of the European Cetacean Society workshop on cetacean pathology: dissection techniques and tissue sampling. ECS newsletter 17, Special issue: 39pp

<u>4. RESULTS</u>

The following three tables include marine turtle 'sightings' and 'strandings' reported through 2017.

Table 1.

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Green turtle (Chelonia mydas)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawksbill turtle (Eretmochelys imbricata)	0	0	0	0	0	0	0	0	0	0	0	0	0
Kemp's ridley turtle (Lepidochelys kempii)	0	0	0	0	0	0	0	0	0	0	0	1	1
Leatherback turtle (Dermochelys coriacea)	3	0	0	0	0	0	1	6	10	3	3	2	28
Loggerhead turtle (Caretta caretta)	0	0	0	1	0	0	1	2	0	0	0	0	4
Olive ridley turtle (Lepidochelys olivacea)	0	0	0	0	0	0	0	0	0	0	0	0	0
Unidentified	1	0	0	1	1	0	0	0	0	0	1	0	4

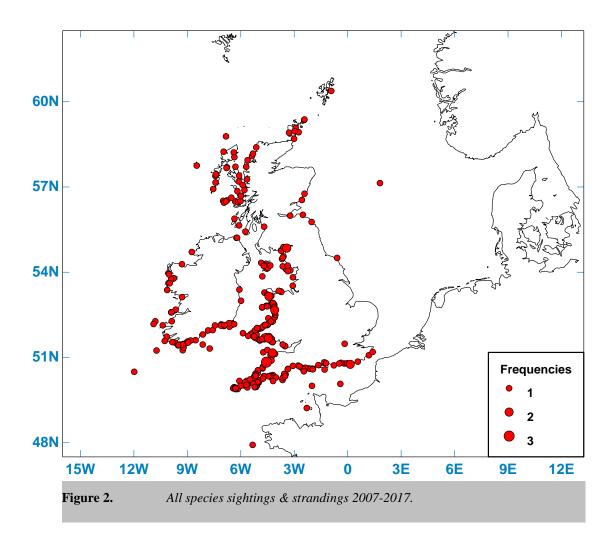
Table 2.

2017 Number of live marine turtles.													
Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Green turtle (Chelonia mydas)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawksbill turtle (Eretmochelys imbricata)	0	0	0	0	0	0	0	0	0	0	0	0	0
Kemp's ridley turtle (Lepidochelys kempii)	0	0	0	0	0	0	0	0	0	0	0	1	1
Leatherback turtle (Dermochelys coriacea)	0	0	0	0	0	0	1	4	1	1	0	1	8
Loggerhead turtle (Caretta caretta)	0	0	0	1	0	0	0	2	0	0	0	0	3
Olive ridley turtle (Lepidochelys olivacea)	0	0	0	0	0	0	0	0	0	0	0	0	0
Unidentified	1	0	0	0	1	0	0	0	0	0	1	0	3
Total animals	1	0	0	1	1	0	1	6	1	1	1	2	15

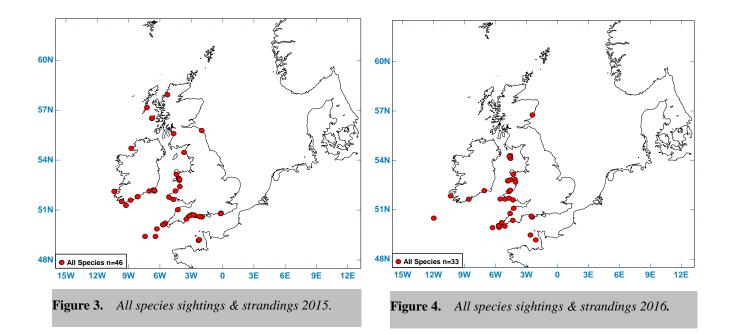
Table 3.

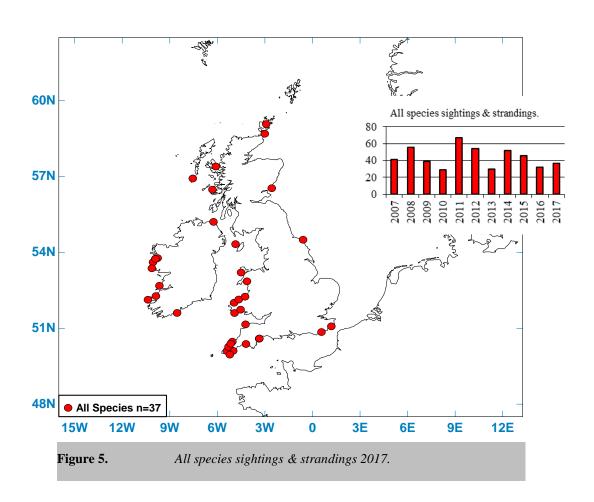
2017 Number of dead marine turtles.													
Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Green turtle (Chelonia mydas)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawksbill turtle (Eretmochelys imbricata)	0	0	0	0	0	0	0	0	0	0	0	0	0
Kemp's ridley turtle (Lepidochelys kempii)	0	0	0	0	0	0	0	0	0	0	0	0	0
Leatherback turtle (Dermochelys coriacea)	3	0	0	0	0	0	0	2	9	2	3	1	20
Loggerhead turtle (Caretta caretta)	0	0	0	0	0	0	1	0	0	0	0	0	1
Olive ridley turtle (Lepidochelys olivacea)	0	0	0	0	0	0	0	0	0	0	0	0	0
Unidentified	0	0	0	1	0	0	0	0	0	0	0	0	1
Total animals	3	0	0	1	0	0	1	2	9	2	3	1	22

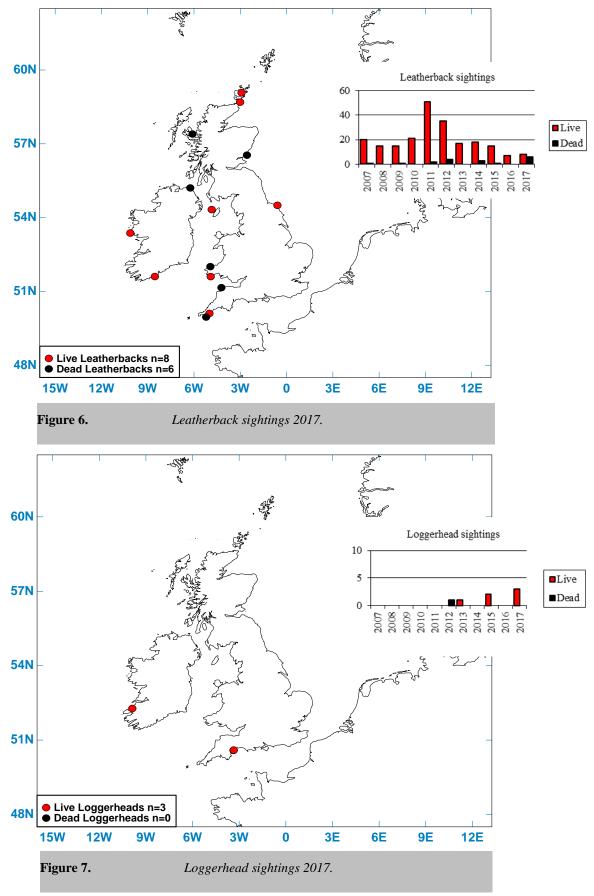
The general geographical distribution of each species, strandings and sightings, are plotted on the following maps. Although the maps are generated directly from the data stored, they should be regarded as showing distribution of animals rather than giving absolute counts. While the co-ordinate system and the mapping software can theoretically differentiate between points as close as 1 metre apart, even with separations of 100 metres at the scale at which these maps are presented, some symbols may appear to overlap completely.

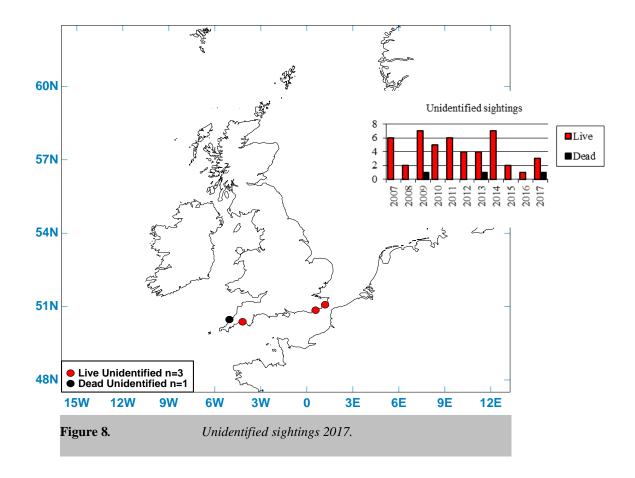


All species, sightings & strandings over the eleven year period 2007-2017 have been plotted in Figure 2.









4.2 Strandings.

No live or dead green turtle strandings were reported during 2017. However, strandings of both live and dead green turtles have been recorded in recent years as shown in **Figure 9.**

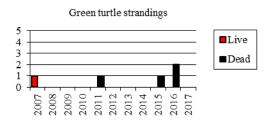
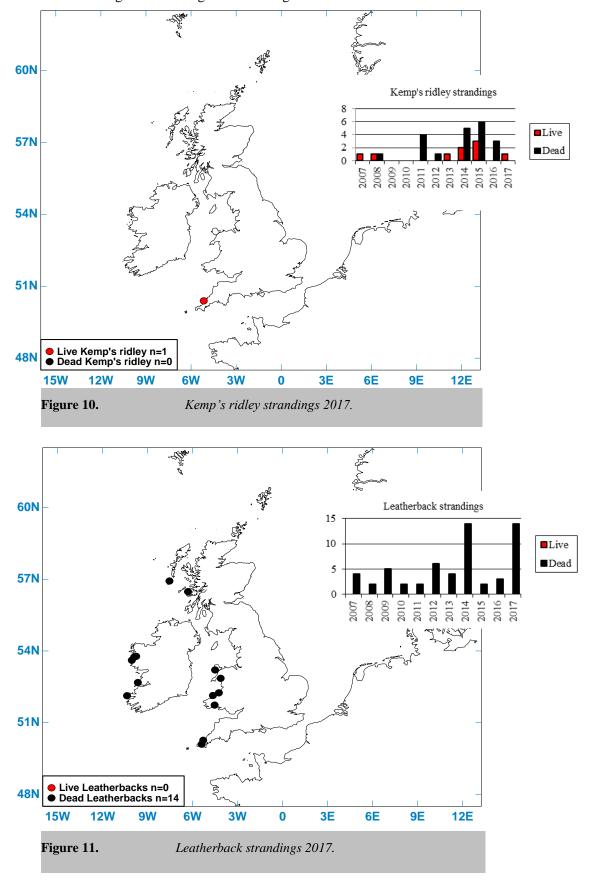
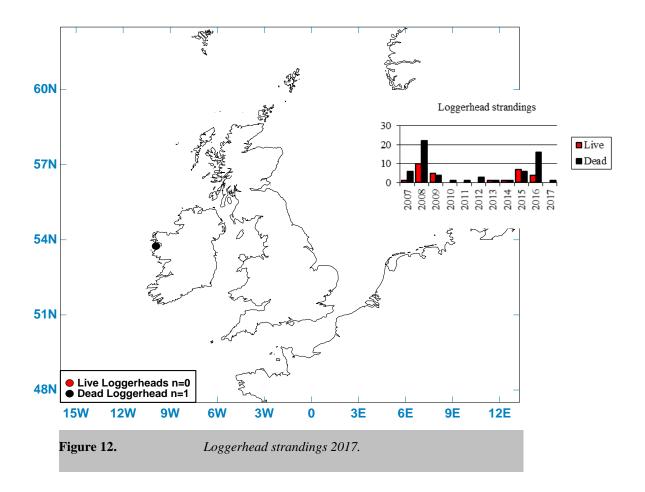


Figure 9. *Green turtle strandings 2017.*

No live or dead **hawksbill turtle** strandings were reported during 2017. There have been no records of hawksbill turtle strandings in the database. One sighting record exists off Cork Harbour in February 1983 when one was caught in a herring net and brought ashore alive.





No live or dead olive ridley turtle strandings were reported during 2017. However, a live stranding of an olive ridley turtle was recorded in recent years as shown in **Figure 13.**

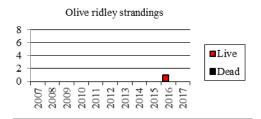


Figure 13. Olive ridley strandings 2017.

No live or dead unidentified turtle strandings were reported during 2017. However, strandings of both live and dead unidentified turtles have been recorded in recent years as shown in **Figure 14**.

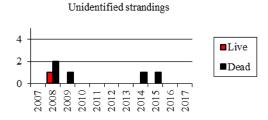


Figure 14. Unidentified strandings 2017.

All leatherback strandings and sightings, both dead and alive have been plotted by month for the period 2007 - 2017 (n=305) shown in **Figure 15.** The average figure was taken over 2007-2017 and plotted in **Figure 16.** The graph clearly shows the increase in numbers through the summer months and gives a good indication on when to expect leatherbacks around the British Isles & Republic of Ireland coast.

The records for the hard-shell species are more sporadic. Of the hard-shell species the most numerous recorded turtle over the 2007 - 2017 period is the loggerhead (n=94). The data for this species are plotted in **Figure 17** and **Figure 18**.

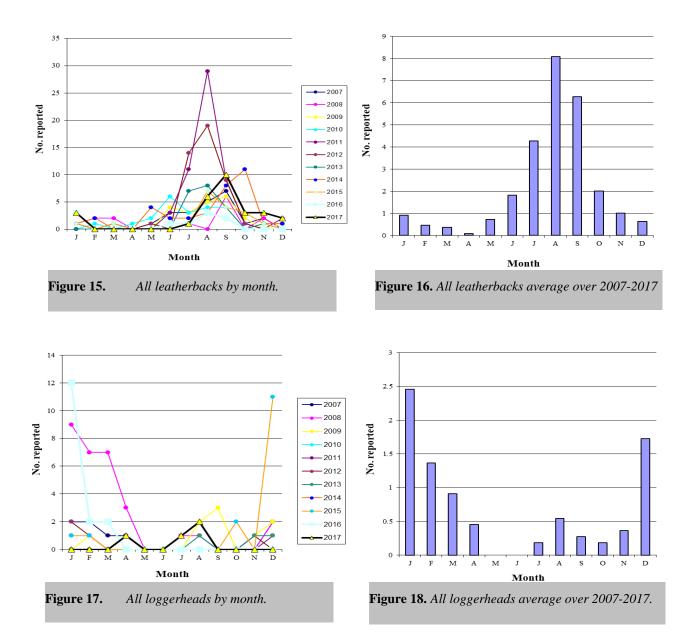


Table 4.

Country	All Species							
	2017	1748 - 2017						
Rep. of Ireland	9	1336						
England	13	668						
Scotland	6	402						
Wales	7	278						
N. Ireland	1	41						
Isle of Man	1	36						
Channel Islands	0	17						
Offshore	0	13						
Total	37	2791						

The 'Offshore' row in **Table 4**. includes records of turtles where it is difficult to attribute a county ie, animal far from shore or nearer to Europe than UK.

Countries are listed in **Table 4.** by descending order of total number of records shown in the year 1748 - 2017 column.

Table 5.

	1997 - 2007													
Country							2007	- 20	17					
	GT		НВ		K	R	LBT		LOG		OR		UNI	
England	2	0	0	0	7	12	179	92	20	31	0	0	50	32
Scotland	2	1	0	0	2	4	102	41	28	9	0	0	14	7
Rep. of Ireland	1	1	0	0	0	3	226	84	19	29	0	0	18	9
Wales	0	3	0	0	2	10	71	73	6	19	0	1	9	5
Channel Islands	1	0	0	0	0	1	0	2	1	2	0	0	2	0
N. Ireland	0	0	0	0	0	0	14	4	0	0	0	0	2	1
Isle of Man	0	0	0	0	0	0	13	5	0	3	0	0	4	1
Offshore	0	0	0	0	0	0	5	4	0	1	0	0	0	1
Total	6	5	0	0	11	30	610	305	74	94	0	1	99	56

GT = Green turtle, HB = Hawksbill turtle, KR = Kemp's ridley turtle, LBT = Leatherback turtle, LOG = Loggerhead turtle, OR = Olive ridley turtle, UNI = Unidentified turtle.

Table 6.

Species	TOTAL
Green turtle (Chelonia mydas)	13
Hawksbill turtle (Eretmochelys imbricata)	1
Kemp's ridley turtle (Lepidochelys kempii)	66
Leatherback turtle (Dermochelys coriacea)	2062
Loggerhead turtle (Caretta caretta)	258
Olive ridley turtle (Lepidochelys olivacea)	1
Unidentified	390
Total animals	2791

The total records held in TURTLE are 2806 (end of 2017). However, some records with inadequate year data have been excluded in this report and show as a discrepancy compared to previous years in some totals presented in Table 6.

A breakdown of records for each country is shown in **Table 4.** However, the eleven year comparison, 1997-2007 / 2007-2017 shown in **Table 5**, shows a marked decline in leatherback turtles recorded for most countries, this decline in sightings of LBTs is likely to be a reflection of reduced effort.

5. MATTERS ARISING.

Menai, the olive ridley turtle **T2016/030**, continued to improve and it was agreed that if we could get her to a warmer climate it may aid her recovery. On the 19th June 2017, Thomson Airways with the help of AIA Cargo, flew Menai with her carers to Gran Canaria free of charge where she is still being held. Unfortunately, after showing great improvement at Anglesey Sea Zoo, Menai's health appears to be deteriorating in Gran Canaria.

5.1 Retrospective Reports.

No retrospective reports were received during 2017.

6. LIVE STRANDING EVENTS 2017.

Technically, there was only one live-stranding reported in 2017 but additionally a loggerhead turtle was found "at sea" and recovered for rehabilitation.

T2017/013 Loggerhead turtle found alive by divers on the seabed at Fenit, Co Kerry, Ireland on 20th April.

T2017/027 Kemp's ridley turtle found alive at Holywell Bay, Cornwall on the 8th December.

6.1 Rehabilitation

T2017/013 (named Sally) Although technically not a live-stranding, on the 20th April a local diving club found a loggerhead turtle on the seabed in 5 metres of water at Fenit, Co Kerry, Ireland. The turtle was missing its left front flipper (healed injury), damage to the plastron and appeared lethargic. It was recovered and taken to Dingle Aquarium for assessment. The turtle was released with the aid of the Irish Navy in October 2017 (See 6.2 Repatriation).



Plate 1. T2017/013 (Sally) showing damage to plastron.

Photo by: Louise at Dingle Aquarium

T2017/027 was a Kemp's ridley turtle found at Holywell Bay, Cornwall on the 8th Dec 2017 and recovered to Blue Reef Aquarium where it sadly died on the 12th Dec 2017. The carcass was recovered for post-mortem examination on behalf of the CSIP at the University of Exeter's Cornwall campus. (see 8. SAMPLES & POST-MORTEM EXAMINATIONS).

6.2 Repatriation.

Of the two live strandings currently held, **T2016/030** Menai, the olive ridley turtle is still being held at Gran Canaria and unfortunately after showing great improvement at Anglesey Sea Zoo, Menai's health appears to be deteriorating in Gran Canaria.

T2017/013 (named Sally) was PIT and flipper tagged ready for release and kindly taken by the Irish Navy and released back into the Atlantic off Gibraltar on the 5th October 2017.



Plate 2. T2017/013 (Sally) being transported by the Irish Navy.

Photo by: Louise at Dingle Aquarium

7. BYCATCH.

Only two turtles were reported as being by-caught during 2017 with a further two reported as possibles.

T2017/003 was a dead unidentified turtle seen at sea off Magwn Porth, Cornwall on the 29th April 2017. The report stated it was observed from land for 30 mins and <u>may</u> have been entangled in netting.

T2017/012 was a dead leatherback turtle seen at sea off Putsborough Sands. Devon on the 12th September 2017. The report stated it was floating close to shore possibly entangled.

T2017/019 was a dead leatherback turtle at sea entangled in creel lines off Arbroath, Angus, Scotland on the 20th September 2017. Report states it was too heavy to haul so cut free from creel lines. **T2017/028** was a live leatherback turtle at sea entangled in creel lines off Shapinsay, Orkney, Scotland on the 10th December 2017. The animal was released alive.

8. SAMPLES & POST-MORTEM EXAMINATIONS.

The normal procedure for the taking of samples is from fresh animals that have been taken for *post-mortem* examination within the CSIP or the Irish Strandings project.

Only one turtle was recovered for post-mortem examination in 2017.

T2017/027 was a 33cm SOL (straight overall length) female Kemp's ridley turtle which live-stranded at Holywell Bay, Newquay, Cornwall on the 8th Dec 2017 and recovered to Blue Reef Aquarium where it sadly died on the 12th Dec 2017. The carcass was recovered for post-mortem examination on behalf of the CSIP at the University of Exeter's Cornwall campus. The turtle was estimated to be around 2 to 3 years of age, when its carapace length is compared with published data. A parasite was located in the coelomic cavity which was still alive at the time of the post mortem examination. The cause of death was given as starvation/hypothermia pending bacteriology and parasitology results.

9. DATA SHARING.

The National Biodiversity Network (NBN) Gateway permanently closed on 31st March 2017 superseded by the NBN Atlas which went live on 1st April 2017. The TURTLE database will be transferred to this platform once it has been adapted to meet the new validation process required for the NBN Atlas. It is hoped this work will be completed in 2018.

10. UNUSUAL OCCURRENCES.

There were no unusual occurrences in 2017.

11. PUBLICITY.

The Strandings Web-site has been maintained to provide details of the CSIP. Although this is intended primarily for Wales, key contact details are given for England, Scotland and Ireland. The pages can be viewed at www.strandings.com/

Annual reports and other turtle related publications are available at www.strandings.com/
Posters and leaflets produced to increase awareness of the project have continued to be distributed.

As stated above the NBN Gateway permanently closed on 31st March 2017. Marine turtle records will now be posted on the NBN Atlas once the new validation process is completed. The NBN Atlas will now be the preferred outlet for the TURTLE database.

12. ACKNOWLEDGEMENTS.

Marine Environmental Monitoring wishes to acknowledge the following;

Cornwall Wildlife Trust, Marine Conservation Society, Dr Tom Doyle, the Irish Navy, Louise Overy Dingle Oceanworld Aquarium, Frankie Hobro Anglesey Sea Zoo, THOMSON AIRWAYS, AIA Cargo, Irish Whale and Dolphin Group (IWDG), Blue Reef Aquarium, University of Exeter's Cornwall campus and Veterinarian Pascual Calabuig.

Natural England, National Parks & Wildlife Service and the Welsh Government for financial support towards the British Isles & Republic of Ireland TURTLE database.

13. APPENDICES.

Appendix 1. 2017 TURTLE data. Appendix 2. UK Turtle Code. Appendix 3. Morphometrics.

RecordKeyecies	ChtStr	raive	Dea EndDate	Country	County	Location	Notes
T2017/001 LBT	SEA	DE	AD 15/01/201	WALES	PEMBROKESI	Aber Grugog Bay 100m from land	Seen through binoculars from cliff top. Gull predation.
T2017/002 UNI	SEA	AL	VE 27/01/201	ENGLAND	DEVON	Off Millbay dock, Plymouth	Observed from boat at 50m. Have emailed for further info if poss
T2017/003 UNI	SEA	DE	AD 29/04/201	ENGLAND	CORNWALL	Magwn Porth	Observed from land for 30 mins floating. Possibly entangled in netting.
T2017/004 UNI	SEA	AL	VE 07/05/201	ENGLAND	KENT	near Folkstone Harbour arm	seen from land. At least a metre long. Swam along inshore side of harbour arm and then out to sea.
T2017/005 LBT	SEA	AL	VE 13/08/201	ISLE OF MAN	ISLE OF MAN	10 miles off Peel	seen 8-10m from yacht.
T2017/006 LBT	SEA	AL	VE 15/08/201	ENGLAND	CORNWALL	4 miles off Falmouth Bay	seen from fishing boat at 20 m. Surfaced breathing , dived and headed west.
T2017/007 LOG	SEA	AL	VE 27/08/201	ENGLAND	DEVON	2000m offshore Exe mouth	Seen 1m from boat. Photos taken.
T2017/008 LOG	SEA	AL	VE 27/08/201	ENGLAND	DEVON	1500m offshore Exe mouth	Seen 4m from boat. Photos taken. Probably same turtle as 007.
T2017/009 LBT	SEA	DE	AD 31/08/201	SCOTLAND	WESTERN ISI	Sound of Raasay	Seen floating dead by Brigadoon Boat trips
T2017/010 LBT	SEA	AL	VE 27/08/201	WALES	PEMBROKESI	600M offshore near Stackpole Quay.	Seen briefly 3m from fishing boat as it surfaced.
T2017/011 LBT	SEA	DE	AD 01/09/201	NORTHERN IRELAN	ANTRIM	Ballycastle Bay. 30m offshore. Midway between	Seen floating dead . Poor dondition, 2 metres long. Sample and measurements taken by Gary Burrows.
T2017/012 LBT	SEA	DE	AD 12/09/201	ENGLAND	DEVON	Putsborough Sands	Floating dead decomposed, possibly entangled, close to shore - Become beached seen by four further individual reports.
T2017/013 LOG	SEA	AL	VE 20/04/201	EIRE	KERRY	Fenit	Strong swimming, but lethargic. Missing left front flipper. Old injury. Taken to vets for treatment. And released. Pit tagged and Rear flipper tags provided by MEM.
T2017/014 LBT	ST	DE	AD 03/09/201	ENGLAND	CORNWALL	Kenneggy Sand, Helston	Battered, tail and head partially missing. Approx 5feet. Probably washed in day before during storm. Second report on 7/9/2017 to MCS Anita Streek.
T2017/015 LBT	ST	DE	AD 08/09/201	WALES	GWYNEDD	Harlech Beach	Carapace only
T2017/016 LBT	SEA	AL	VE 11/09/201	SCOTLAND	HIGHLAND	Near Pentland firth	6 miles offshore. Seen from North Link Ferry at 100m . Heading east through the firth towards North Sea
T2017/017 LBT	SEA	DE	AD 12/09/201	ENGLAND	CORNWALL	in bay near Lizard Point, next to old lifeboat st	In surf no head. No shell so considered to be LBT.
T2017/018 LBT	ST	DE	AD 22/09/201	SCOTLAND	WESTERN ISI	Vatersay	Large LBT on beach. Picked up on Facebook - Beachcombing. CSIP report missing pectoral flippers.
T2017/019 LBT	SEA	DE	AD 22/09/201	SCOTLAND	ANGUS	Arbroath	Too heavy to haul, cut loose from creel lines.
T2017/020 LBT	ST	DE	AD 15/09/201	WALES	CEREDIGION	MWNT	NT PROPERTY, NO VEHICULAR ACCESS.
T2017/021 LBT	ST	DE	AD 08/09/201	ENGLAND	CORNWALL	PORTREATH	IN HARBOUR
T2017/022 LBT	ST	DE	AD 14/10/201	WALES	CARMARTHE	PENDINE	on MOD beach. Limbs appear missing in pic, head still attached. MEM unable to access beach.
T2017/023 LBT	ST	DE	AD 17/10/201	WALES	ANGLESEY	Cable bay	
T2017/024 LBT	ST	DE	AD 11/11/201	WALES	CEREDIGION	Aberaeron North Beach	Seen by walking birders in surf. Was left stranded on beach. Advanced decomposition no limbs. Appros 5ft.
T2017/025 LBT	SEA	AL	VE 20/10/201	ENGLAND	YORKSHIRE	a mile SE of Whitby Nth Cardinal mark	Seen by boat on passage from Scarborough to Whitby. Approx 6ft with ridges and bumps, long flippers squat head. Following coast northwards.
T2017/026 UNI	SEA	AL	VE 15/11/201	ENGLAND	SUSSEX	near Hastings pier	Seen from the pier. Sizeable presumed leatherback?
T2017/027 KR	ST	AL	VE 08/12/201	ENGLAND	CORNWALL	Holywell Bay	Found by Dave Hudson, taken to Blue Reef Aquarium, died Tuesday 12th Dec, pm'd Weds night 13th Dec.
T2017/028 LBT	SEA	AL	VE 10/12/201	SCOTLAND	ORKNEY	just off Shapinsay	leatherback turtle entangled in the end line of creel pots in Orkney. The animal was about 5ft long and released alive (10/12/17). Grid ref HY 47864 21224, just off Shapinsay. O
T2017/029 LBT	ST	DE	AD 27/12/201	SCOTLAND	ARGYLL & BU	Isle of Gometra	Skeletal and carapace remains. Reported 9th Jan 2018.
T2017/030 LBT	ST	DE	AD 22/01/201	EIRE	CLARE	Kilkee	
T2017/031 LBT	ST	DE	AD 30/08/201	EIRE	GALWAY	Renvyle	
T2017/032 LBT	ST	DE	AD 14/11/201	EIRE	KERRY	Ventry	
T2017/033 LBT	SEA	AL	VE 05/07/201	EIRE	GALWAY	2 miles south of Bunowen Pier.Ballyconneely.	Observed for 15 minutes. Surfaced a dozen times. Further details with Tom Doyle.
T2017/034 LOG	ST	DE	AD 29/07/201	EIRE	MAYO	Emlagh beach, Louisburgh	
T2017/035 LBT	ST	DE	AD 14/01/201	EIRE	MAYO	Old Head beach, Westport.	Partially decomposed, mostly buried in sand. Head appeared to be missing
T2017/036 LBT	ST	DE	AD 10/11/201	EIRE	MAYO	Between Doughmakeon and Carrowniskey be	
T2017/037 LBT	SEA	AL	VE 03/08/201	EIRE	CORK	Old head of Kinsale	

The United Kingdom & Rol Turtle Code

Advice for sea users on how to deal with marine turtle encounters

As a sea user, you can help in the effort to protect endangered marine turtles by providing information about your encounters with these spectacular creatures in UK waters.

MARINE TURTLES ARE LEGALLY PROTECTED

Appendix 2.

There is no offence if turtles are caught accidentally in fishing gear. Nor is it an offence to help turtles if entangled or stranded, or temporarily to hold dead turtles for later examination by experts.

However, marine turtles are protected in Britain. This means that:

- · turtles may not be deliberately killed or caught
- live turtles may not be landed unless for the purpose of tending them or enabling their subsequent release
- dead turtles or shells obtained from turtles in UK waters may not be possessed unless the animal was lawfully acquired
- turtles and their derivatives may not be sold or offered for sale without UK government permission, unless they are antiques acquired before 1st June 1947 (with documented proof)
- turtles and their derivatives may not be imported or exported without UK government permission.

The following legislation pertains to marine turtles:

- Wildlife and Countryside Act 1981 (as amended), in England and Wales.
- Conservation of Habitats and Species Regulations 2010, in England and Wales.
- Conservation (Natural Habitats, &c.) Regulations 1994 as amended, in Scotland.
- Conservation (Natural Habitats etc.) (Amendment) Regulations (Northern Ireland) 2007.
- Control of Trade in Endangered Species (Enforcement) Regulations (1997) as amended, in the UK.
- Customs and Excise Management Act 1979.
- Isle of Man Wildlife Act 1990.

PLEASE REPORT ALL TURTLE ENCOUNTERS

ENGLAND/WALES

ALL RECORDS

Rod Penrose, Marine Environmental Monitoring 01239 683033 (24hrs) www.strandings.com

LIVE STRANDINGS/ ENTANGLEMENTS

RSPCA 0300 1234999 BDMLR 01825 765546

ISLE OF MAN

Dr Peter Duncan DEFA - Isle of Man Government 01624 685835 (main) Marine Operations Centre 01624 686628 (24hrs)

SCOTLAND

ALL RECORDS

Marine Monitoring Team, Scottish Natural Heritage, 01463 725009

DEAD STRANDINGS

Nick Davison, Scottish Rural College (SRUC) 01463 243030 07979 245893 strandings@sruc.ac.uk

LIVE STRANDINGS/ ENTANGLEMENTS

SSPCA 03000 999999

NORTHERN IRELAND

ALL RECORDS

The Portrush Coastal Zone (DAERA) 028 7082 3600

REPUBLIC OF IRELAND

ALL RECORDS

Dr Tom Doyle School of Biological, Earth & Environmental Sciences, University College Cork.

00353 (0) 87 1354938 (24hrs)

Report online at: www.euroturtle.org/turtlecode & www.mcsuk.org

RECORD THE FOLLOWING DETAILS

All information is valuable, but the following details are particularly useful:

- A description of the turtle (alive or dead), identification of species (at least to leatherback/ hard-shelled level) and overall straight length. Note any damage (e.g. cuts, scars) and take photographs when possible.
- · Location (longitude & latitude/ OS grid reference), date and time of sighting.
- Other observations, such as turtle's behaviour, whether caught in fishing gear (including exact nature of entanglement, gear involved) etc.
- Presence of tags. Many conservation projects place plastic or metal tags on turtles' flippers, which display identification numbers and a return address. Record any tag details if this can be done without causing disturbance to the turtle.

Please report all dead turtles, even if they have to be discarded at sea. Records from diaries or logbooks, however old, are also of interest.

WHAT TO DO IF YOU FIND A SICK OR ENTANGLED TURTLE

Immediately report the turtle to the relevant contact. Marine turtles will drown if trapped underwater, but prompt action can save them. A turtle that is entangled or trapped is likely to be stressed. Large turtles deliver a serious bite and a blow from a flipper can be painful, so be careful. Due to possible health risks involved in handling turtles, always wear rubber gloves.

TURTLES ENTANGLED AT SEA

Approach calmly and cautiously and ensure first of all that the turtle's head is above water so that it can breathe if it is alive.

ALIVE: AVOID TOWING TURTLES TO SHORE. They should be disentangled and released at sea whenever possible.

If alert & active

- Do not use a gaff to pull the turtle alongside and do not haul leatherbacks aboard.
- Avoid pulling hard on the turtle's flippers as they may dislocate or break.
- Carefully disentangle the turtle, making sure that as much net and line as possible has been removed before the animal is released.
- Make sure that the vessel is stopped and out of gear before carefully sliding the turtle back into the water.
- Ensure that the turtle is clear of the vessel before moving away.

ONLY if disentanglement at sea is impossible should the turtle be brought ashore.

Tow leatherbacks very slowly and make sure the animal's head is above water so that it can breathe. Release leatherbacks in shallow water, not on land. Other species should be retained and reported.

If traumatised/inactive

(no or slight movement, limbs flexible and limp, no decomposition)

Severely traumatised hard-shelled turtles can be saved if they are small enough to fit on your boat.

- Wrap the turtle in a towel soaked in seawater.
 Do not cover the nostrils.
- Place the animal in a sheltered and secure place on its belly. To drain the lungs, raise the back end of the shell so the turtle is resting at approximately 30°. Keep it in this position until you return to shore.
- Leatherbacks should **not** be hauled aboard. If inactive, they can be towed to shore very slowly, ensuring they are able to breathe at all

DEAD: There may be serious health risks involved in handling dead turtles. Inexperienced individuals are advised not to touch them. Where possible, record the details listed above and, only if the specimen is fresh, bring it back to shore and place in cold storage. Always wear rubber gloves when handling turtles.

TURTLES STRANDED ON LAND

Leatherback turtles

Leatherbacks found stranded on beaches are usually very weak, dead or dying, but might still be saved.

If apparently uninjured:

- Carefully drag the turtle back to the sea and release it (enlist the help of several people and pull the shell rather than the flippers).
- Do not drag the animal over rocks, as this will cause severe damage.
- If stranded on rocks, it may be better to wait for the incoming tide to provide some buoyancy before dragging the turtle back to sea.

Other species (hard-shelled)

Loggerhead, Kemp's ridley, green and hawksbill turtles encountered on UK shores are usually cold stunned juveniles and should not be placed back in the sea.

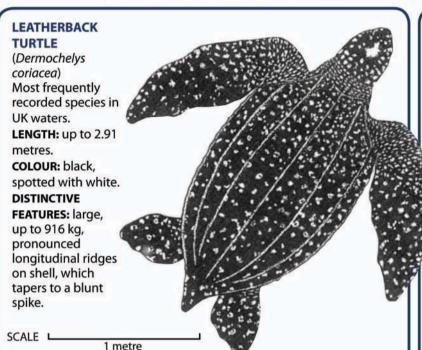
- Wrap the turtle in a towel soaked in seawater, do not cover the nostrils
- Place the animal in a sheltered and secure place on its belly. If inactive, raise the back end of the shell so the turtle is resting at approximately 30° to drain the lungs. Report the turtle as soon as possible.

Dead turtles of all species are valuable for research and should be reported as soon as possible. Fresh specimens should be preserved in a cold store where possible. These animals will undergo a full post-mortem examination within the DEFRA-funded UK Cetacean Strandings Investigation Project (CSIP).

Endorsed by: SEAFISH Department for Endorsent or Endors

Marine Turtles in the UK & Rol

Of the world's seven marine turtle species, five have been recorded in UK waters. They are the leatherback, loggerhead, Kemp's ridley, green and hawksbill turtles. The leatherback, the largest marine turtle, is the species most frequently recorded in UK waters. Leatherbacks have a flexible, leathery shell and are unique among reptiles in that they are able to metabolically raise their body temperature above that of their immediate environment, allowing them to survive in colder waters. Each summer leatherbacks migrate to UK waters where they feed on jellyfish. The other four species have hard shells and are less frequently encountered in UK waters, where they usually occur as stray juveniles carried by currents from warmer seas.



KEMP'S RIDLEY TURTLE
(Lepidochelys kempii)
LENGTH: up to 1 metre,
but usually juveniles
(0.3-0.5 metres) occur in
UK waters.
COLOUR: grey/olive.
DISTINCTIVE
FEATURES: shell width
equal to or greater
than shell length.

8 pores visible on
underside (4 either side)

GREEN TURTLE
(Chelonia mydas)
LENGTH: up to 1.5 metres.
COLOUR: adults dark olive
or grey with dark blotches,
juveniles have chestnut
coloured shell.
DISTINCTIVE FEATURES:
smooth shell,
rounded facial
profile (not

LOGGERHEAD TURTLE
(Caretta caretta)
LENGTH: adults up to 1.5 metres,
but usually juveniles (0.3-0.5
metres) occur in UK waters.
COLOUR: reddish brown.
DISTINCTIVE FEATURES:
large head, juveniles have small
spikes along spine of shell.

HAWKSBILL TURTLE

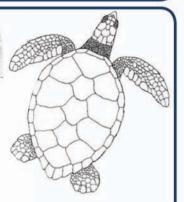
angular).

(Eretmochelys imbricata) **LENGTH:** up to 1.2 metres.

COLOUR: brown, amber and black tortoiseshell pattern.

DISTINCTIVE FEATURES:

shell scales overlapping, narrow tapered head with bird-like beak. Largely tropical distribution, rarely encountered in UK waters.



MARINE TURTLES ARE THREATENED

In UK waters threats include:

NB: The olive ridley turtle

pairs of costal scales on shell.

(Lepidochelys olivacea) occurs in the

Atlantic, but has not been recorded in UK waters to date. Similar to Kemp's ridley with 8 pores on underside, but has 5-9

- Accidental entanglement in fishing gear. Although turtles can dive to great depths, they become stressed and drown when trapped underwater by fishing gear. Fishing gear discarded at sea may also entangle and kill turtles.
- Marine litter, especially plastic, which turtles mistake for jellyfish. Once ingested, plastic can block a turtle's gut leading to starvation.
- Boat collisions. Turtles often bask and must surface regularly to breathe, leaving them vulnerable to boat strike.
 PLEASE BE VIGILANT, AND DO NOT DISCARD FISHING GEAR OR LITTER AT SEA.



















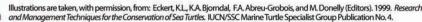


costal scales







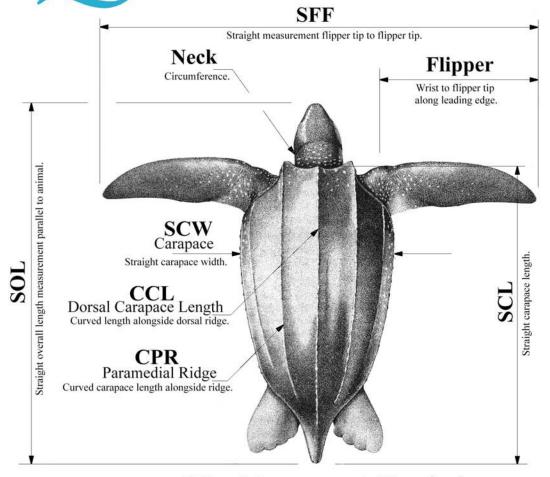


Appendix 3.

Marine Environmental Monitoring

UK & Eire Marine Turtle Morphometrics.

Ver.1.2



Other Measurements Required.

COL Curved Overall Length.

CFF Curved Flipper tip to Flipper tip over Animal.

CCW Curved Carapace Width.

DMAX Maximum Body Depth. (Straight).TTL Total Tail Length from Plastron.

PTL From Centre of Cloacal Opening to end of Tail.

WEIGHT In Kilograms. SEX If Known.

