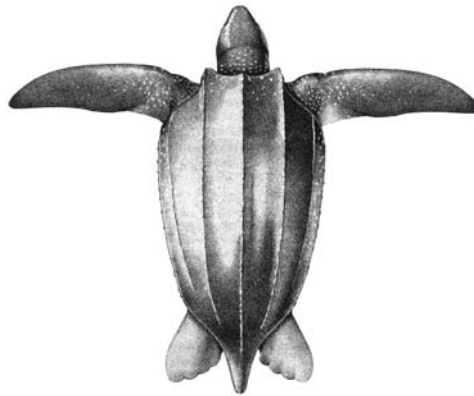


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British Isles & Republic of Ireland Marine Turtle Strandings &
Sightings
Annual Report 2013

R.S.Penrose & L.R.Gander. April 2014



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1. SUMMARY

A total of 30 turtles were reported to TURTLE during the year 2013; One Kemp's ridley turtle, 3 loggerhead turtles, 21 leatherback turtles and 5 unidentified to species.

Of the 30 turtles, 1 loggerhead and 4 leatherback turtles were found stranded dead. The Kemp's ridley live-stranded but died that evening. One loggerhead live-stranded in RoI. and is currently in rehabilitation.

Seventeen leatherbacks were reported as sightings at sea together with one loggerhead and five unidentified turtles (1 live, 4 dead).

Live turtles (24)

There were two live strandings this year. Seventeen leatherbacks were reported as live sightings at sea and 1 loggerhead and 4 unidentified turtles.

The geographical distribution of the 17 live leatherbacks being:- 10 England, 3 Eire, 2 Wales, 1 Scotland, 1 Offshore.

The live unidentified sightings being;- 3 England, 1 Scotland.

Dead turtles (6)

Four leatherbacks and 1 loggerhead were stranded dead. One unidentified turtle was sighted dead at sea.

The geographical distribution of the 6 dead turtles being:- 3 England (2 Lbt, 1 Log), 2 Eire (2 Lbt), 1 Scotland (1 Uni).

Data sharing

2012 TURTLE data has been uploaded to the NBN Gateway <http://www.nbn.org.uk/>

TURTLE record totals

The current total of 2633 is broken down thus:

1304 Eire, 601 England, 385 Scotland, 244 Wales, 39 Northern Ireland, 32 Isle of Man, 15 Channel Isles, 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.**).

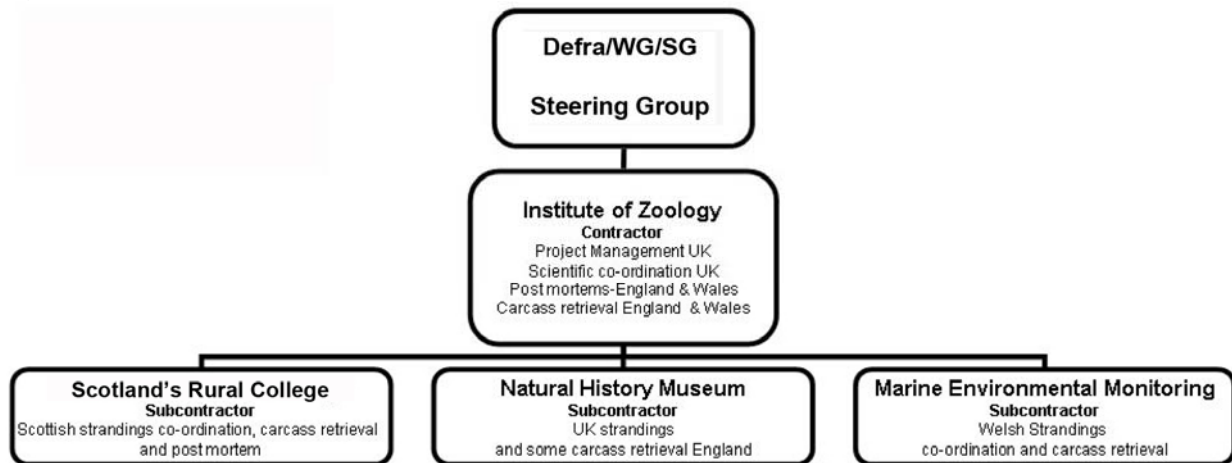


Figure 1. Current Technical Co-ordination of the Cetacean Strandings Investigation Programme (CSIP).

2.1 The UK Turtle Implementation Group.

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 is part of the UK Biodiversity Action Plan and aims 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 is Scottish Natural Heritage (SNH). The Turtle Implementation Group (TIG) consists of the following organisations:-

- **Amphibian & Reptile Conservation Trust¹** is an authority on reptile and amphibian issues and was the Lead Partners or joint Lead Partners for all five of the reptile and amphibian Action Plans within the UK BAP www.arc-trust.org
Contact: *Tony Gent, 01202 391319*
- 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 Fiona Gell, 01624 685835* www.gov.im/defa
- **Joint Nature Conservation Committee (JNCC)** is the public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation.
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
Contacts *Sue Ranger or Peter Richardson, 01989 566017*

¹ Formally Herpetological Conservation Trust (HCT).

- **Marine Environmental Monitoring (MEM)** is a member of the Defra “UK Cetacean Strandings Investigation Programme”, www.strandings.com www.ukstrandings.org 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.demon.co.uk*
- **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 & Dr 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 Arts, 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.*
- **Natural England (NE)** is the Government agency that champions the conservation of wildlife and natural features throughout England.
Contact: *Paul Edgar, 0300 060 1324 Paul.Edgar@naturalengland.org.uk*
- **Natural Resources Wales (NRW)** Formerly the Countryside Council for Wales, is the Government’s statutory advisor on sustaining natural beauty, wildlife and the opportunity for outdoor enjoyment in Wales and its inshore waters.
Contact: *Tom Stringell, 01248 385500*
- **Northern Ireland Environment Agency (NIEA)**, is the agency responsible for the implementation of government environmental policy in Northern Ireland. Its aim is “to protect and conserve the natural and man-made environment and to promote its appreciation for the benefit of present and future generations”.
Contact: *Gary Burrows, 028 9056 9571 or 028 7082 3600.*
- **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: *Laura Clark, 01463 725237.*
- **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) 21 4703119.*

3. MATERIALS AND METHODS

Contact details vary for different parts of the British Isles & Republic of Ireland and the Turtle Code 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.demon.co.uk

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 on **353-(0)21-4703119** (work) and **353-(0)87 1354938** (mobile). Sightings & strandings can also be reported online in the Republic of Ireland at www.turtle.ie

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** or directly to Dr Fiona Gell **07624 473753**.

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

4. RESULTS

The following three tables include marine turtle 'sightings' and 'strandings' reported through 2013.

Table 1.

2013 Total number of reported marine turtles for the British Isles & RoI. (live & dead).													
Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Green turtle (<i>Chelonia mydas</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawksbill turtle (<i>Eretmochelys imbricata</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Kemp's ridley turtle (<i>Lepidochelys kempii</i>)	0	0	0	0	0	0	0	0	0	0	0	1	1
Leatherback turtle (<i>Dermochelys coriacea</i>)	0	0	0	0	0	0	7	8	4	0	1	1	21
Loggerhead turtle (<i>Caretta caretta</i>)	0	0	0	0	0	0	0	1	0	0	1	1	3
Unidentified	0	0	0	0	0	1	1	2	0	0	1	0	5
Total animals	0	0	0	0	0	1	8	11	4	0	3	3	30

Table 2.

2013 Number of live marine turtles.													
Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Green turtle (<i>Chelonia mydas</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawksbill turtle (<i>Eretmochelys imbricata</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Kemp's ridley turtle (<i>Lepidochelys kempii</i>)	0	0	0	0	0	0	0	0	0	0	0	1	1
Leatherback turtle (<i>Dermochelys coriacea</i>)	0	0	0	0	0	0	6	7	4	0	0	0	17
Loggerhead turtle (<i>Caretta caretta</i>)	0	0	0	0	0	0	0	1	0	0	1	0	2
Unidentified	0	0	0	0	0	1	1	2	0	0	0	0	4
Total animals	0	0	0	0	0	1	7	10	4	0	1	1	24

Table 3.

2013 Number of dead marine turtles.													
Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Green turtle (<i>Chelonia mydas</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawksbill turtle (<i>Eretmochelys imbricata</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Kemp's ridley turtle (<i>Lepidochelys kempii</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Leatherback turtle (<i>Dermochelys coriacea</i>)	0	0	0	0	0	0	1	1	0	0	1	1	4
Loggerhead turtle (<i>Caretta caretta</i>)	0	0	0	0	0	0	0	0	0	0	0	1	1
Unidentified	0	0	0	0	0	0	0	0	0	0	1	0	1
Total animals	0	0	0	0	0	0	1	1	0	0	2	2	6

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.

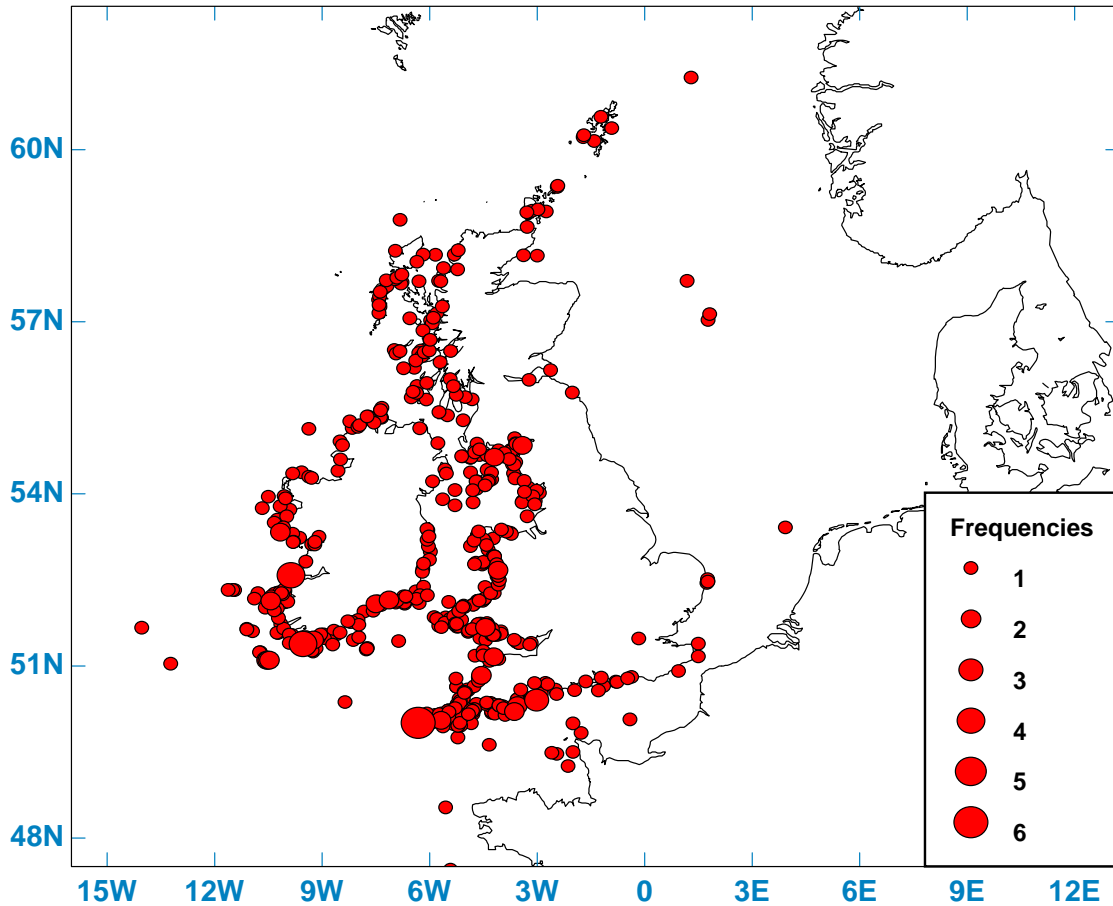


Figure 2. *All species sightings & strandings 2003-2013.*

All species, sightings & strandings over the eleven year period 2003-2013 have been plotted in **Figure 2.**

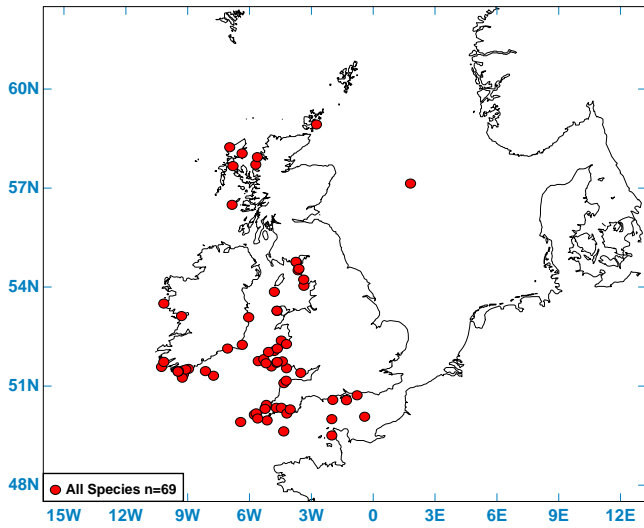


Figure 3. *All species sightings & strandings 2011.*

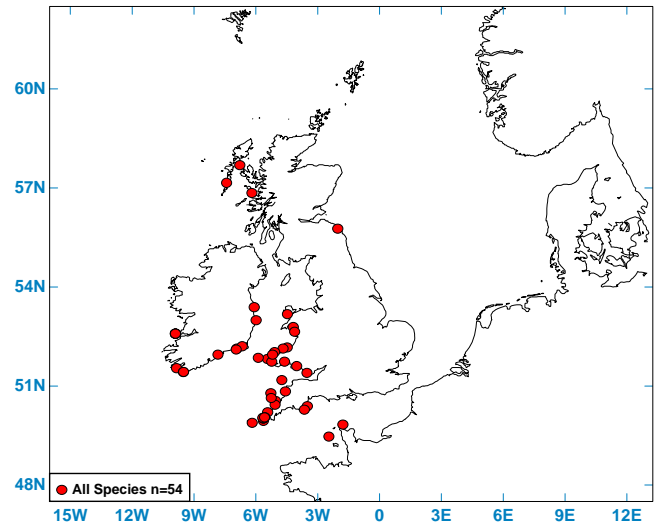


Figure 4. *All species sightings & strandings 2012.*

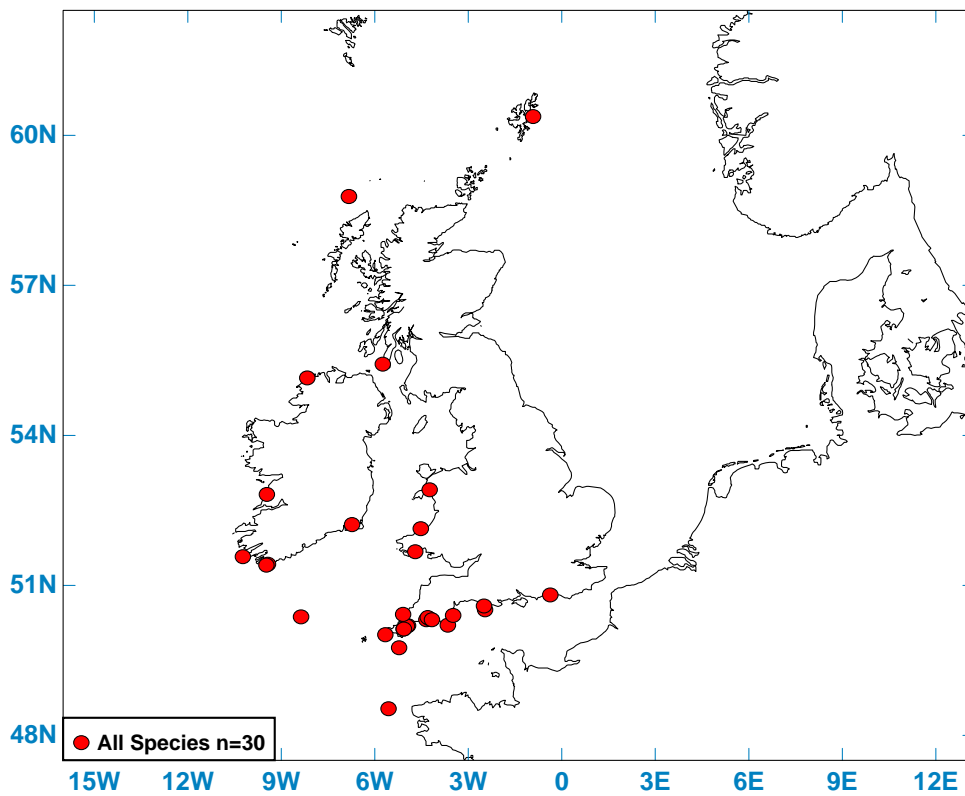


Figure 5. *All species sightings & strandings 2013.*

4.1 Sightings.

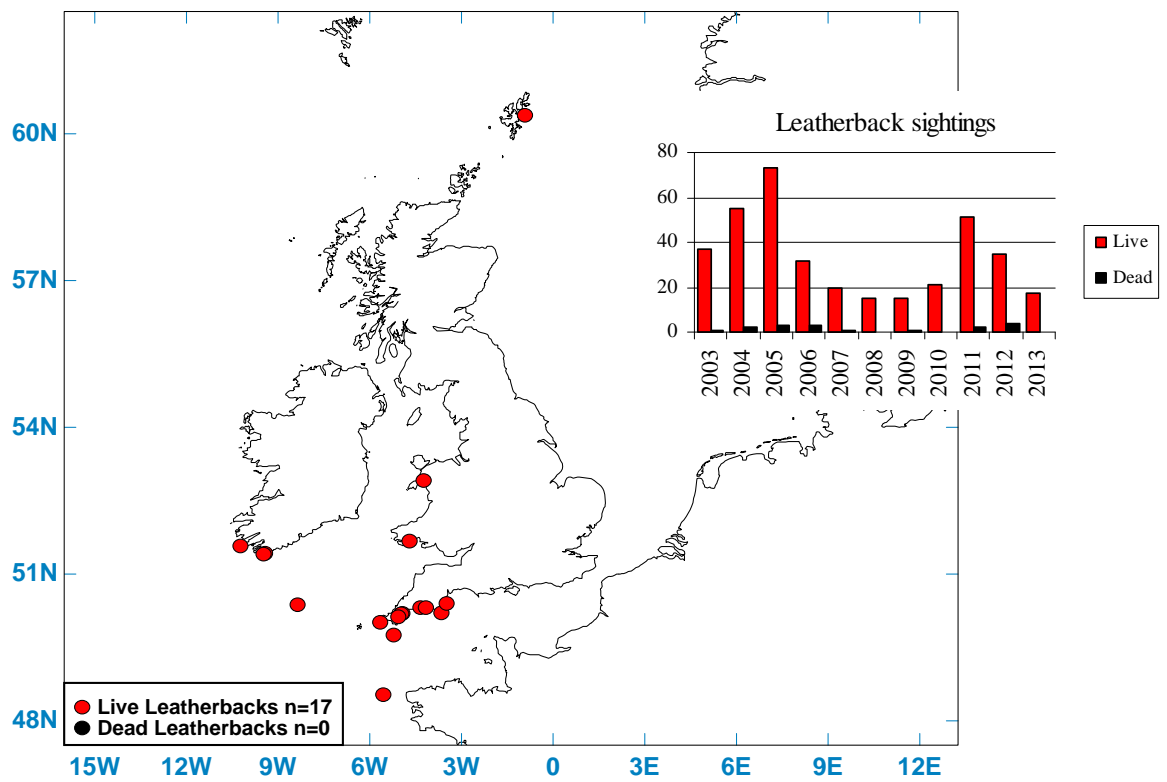


Figure 6. *Leatherback sightings 2013.*

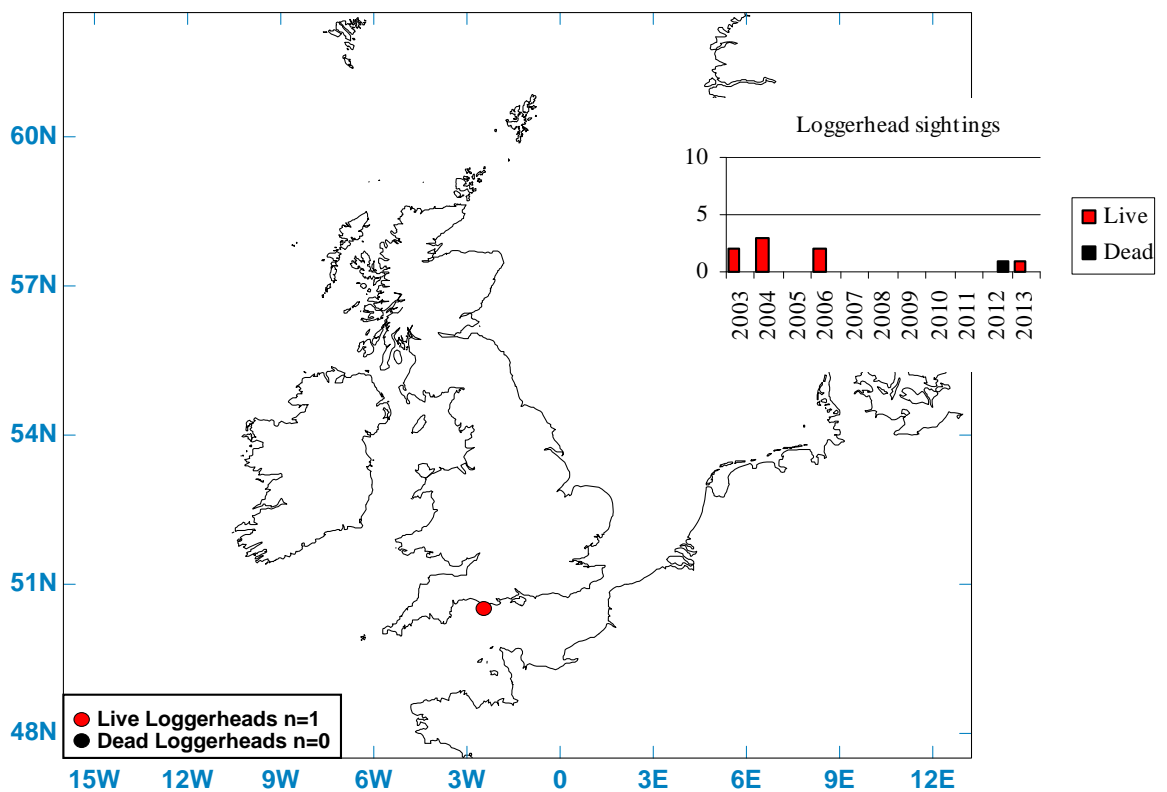


Figure 7. *Loggerhead sightings 2013.*

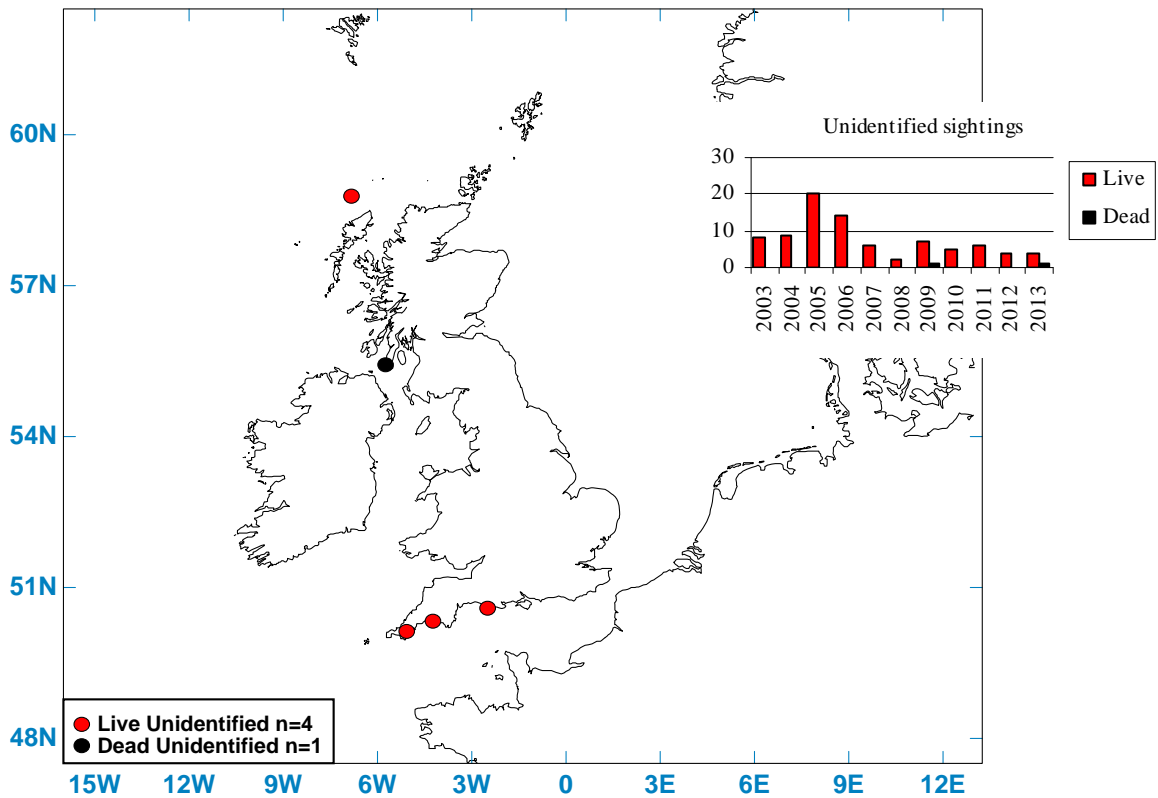


Figure 8. Unidentified sightings 2013.

4.2 Strandings.

No live or dead **green turtle** strandings were reported during 2013. However, strandings of both live and dead green turtles have been recorded in recent years as shown in **Figure 9**.

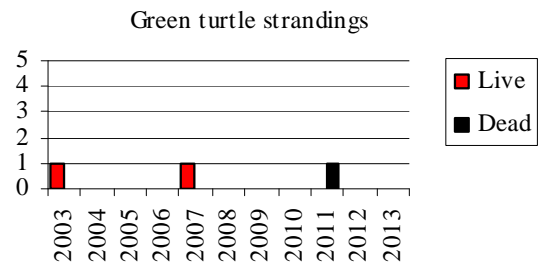


Figure 9. Green turtle strandings 2013.

No live or dead **hawksbill turtle** strandings were reported during 2013. 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.

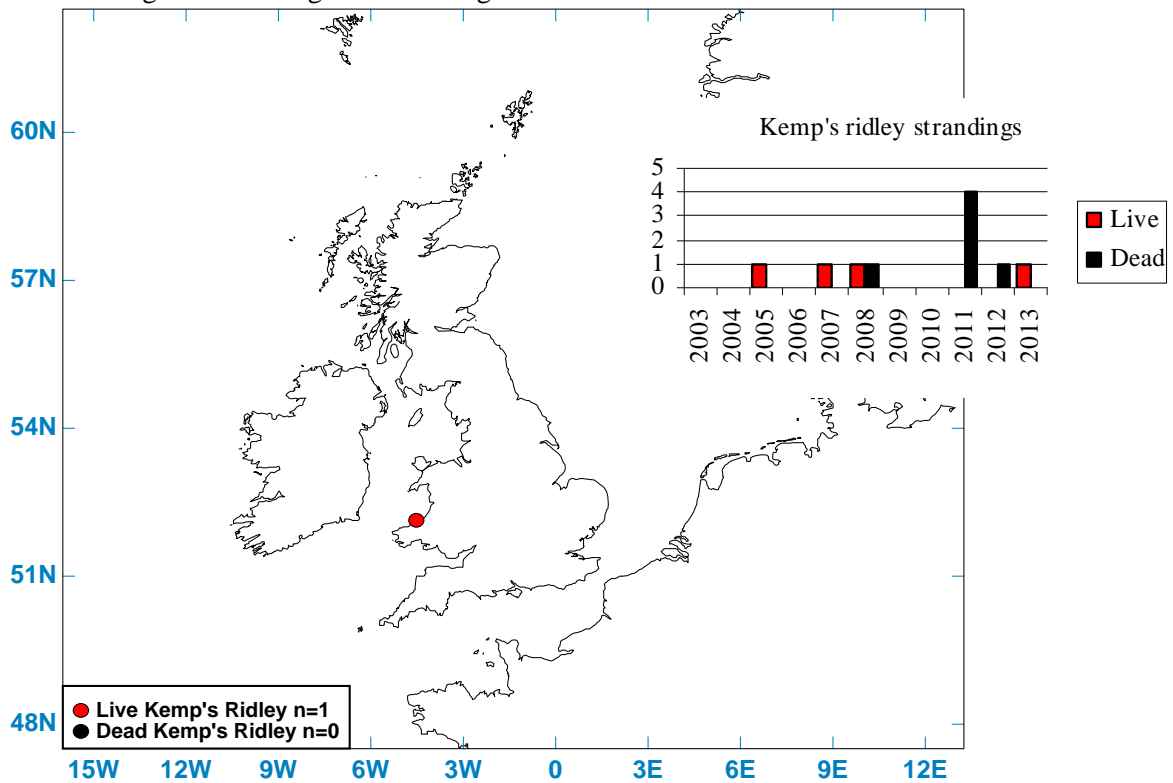


Figure 10. *Kemp's ridley strandings 2013.*

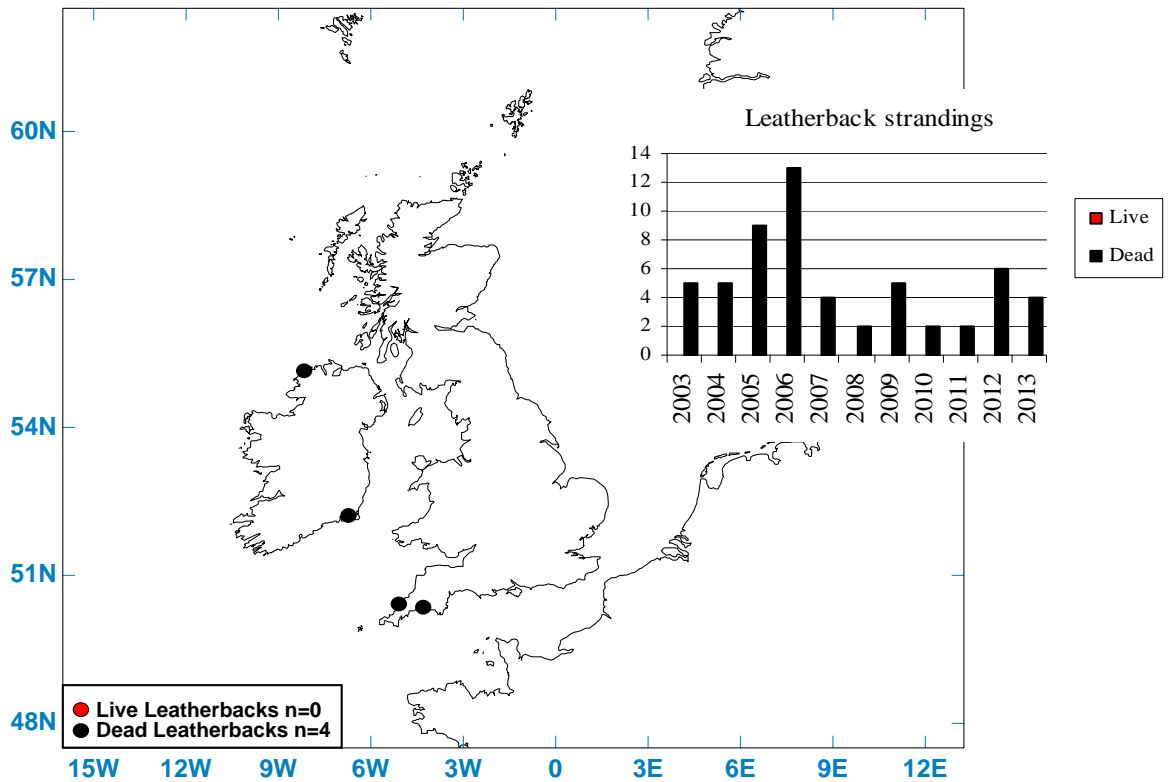


Figure 11. *Leatherback strandings 2013.*

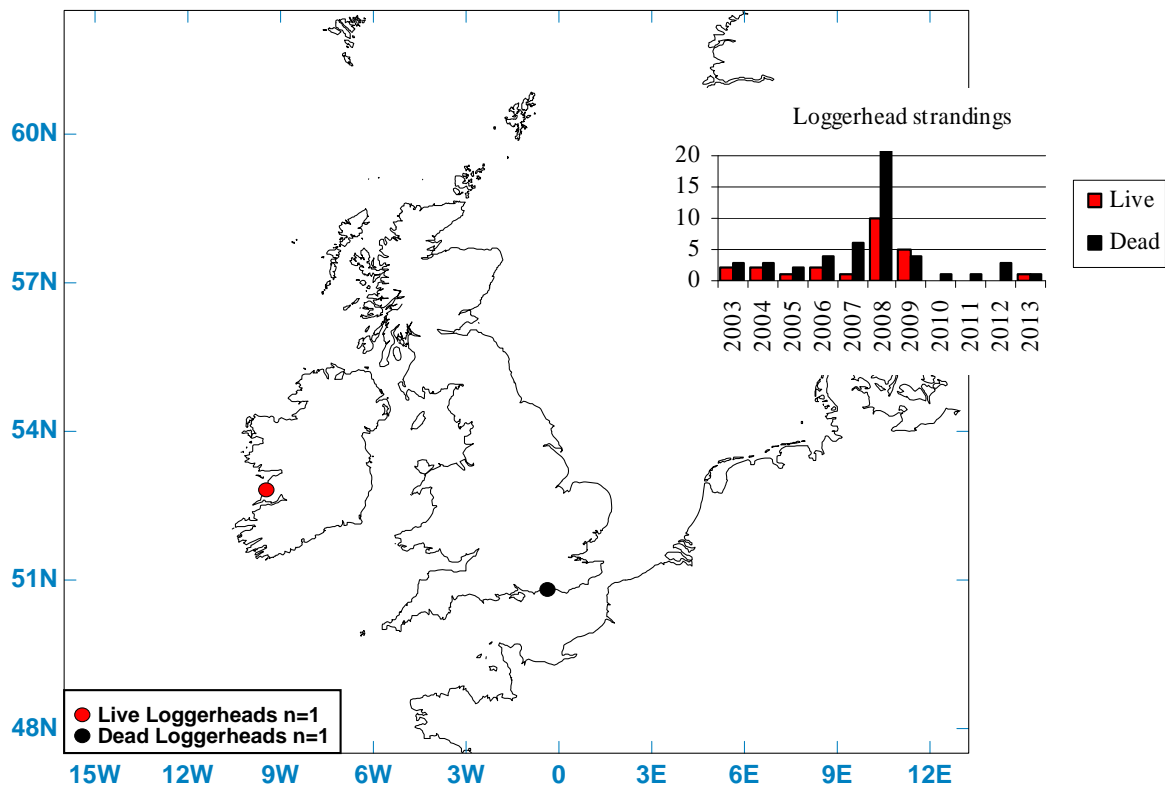


Figure 12. *Loggerhead strandings 2013.*

No live or dead **unidentified turtle** strandings were reported during 2013. However, strandings of both live and dead unidentified turtles have been recorded in recent years as shown in **Figure 13**.

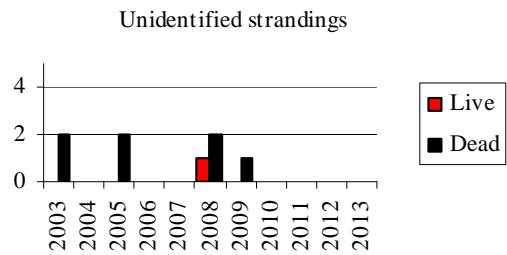


Figure 13. *Unidentified strandings 2013.*

All leatherback strandings and sightings, both dead and alive have been plotted by month for the period 2003 - 2013 (n=456) shown in **Figure 14**. The average figure was taken over 2003-2013 and plotted in **Figure 15**. 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 2003 - 2013 period is the loggerhead (n=83). The data for this species are plotted in **Figure 16** and **Figure 17**.

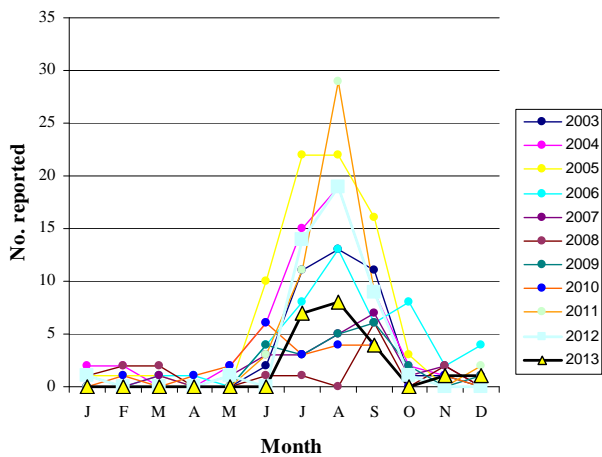


Figure 14. All leatherbacks by month.

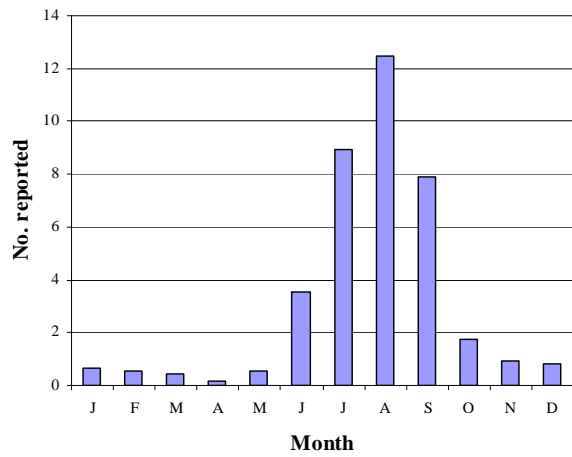


Figure 15. All leatherbacks average over 2003-2013

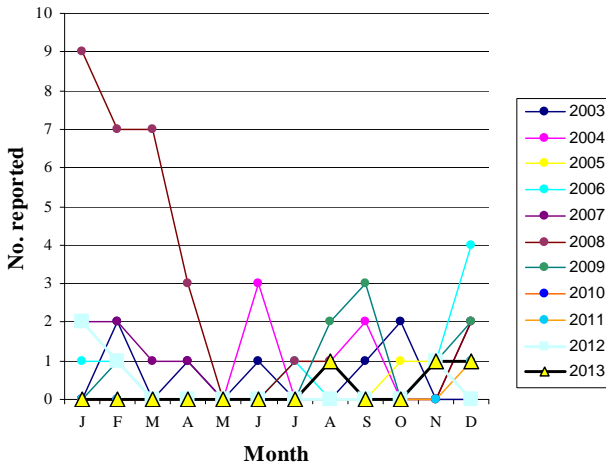


Figure 16. All loggerheads by month.

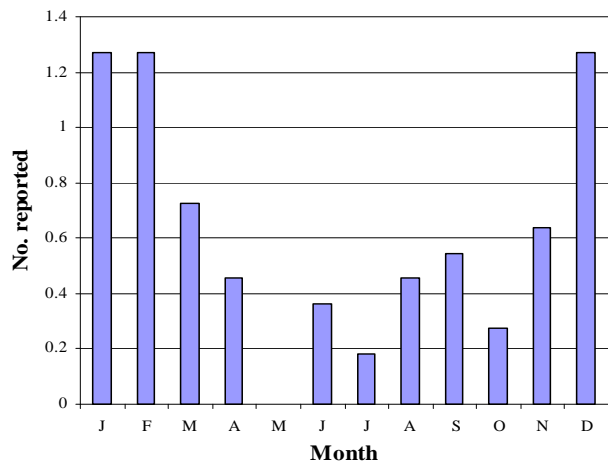


Figure 17. All loggerheads average over 2003-2013.

Table 4.

Cumulative number of records.		
Country	All Species	
	2013	1748 - 2013
Rep. of Ireland	6	1300
England	17	599
Scotland	3	380
Wales	3	244
N. Ireland	0	39
Isle of Man	0	32
Channel Islands	0	13
Offshore	1	13
Total	30	2620

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 – 2013** column.

Table 5.

Species Comparison.												
Country	<i>1993 - 2003</i>											
	2003 - 2013											
	GT		HB		KR		LBT		LOG		UNI	
England	2	0	0	0	5	2	159	125	17	22	29	49
Scotland	2	1	0	0	0	2	98	64	17	23	13	12
Rep. of Ireland	0	1	0	0	1	1	372	162	17	22	18	15
Wales	0	0	0	0	2	5	69	80	2	15	6	11
Channel Islands	1	1	0	0	0	0	0	1	2	0	1	1
N. Ireland	0	0	0	0	0	0	15	4	0	0	2	2
Isle of Man	0	0	0	0	0	0	10	13	0	0	4	4
Offshore	0	0	0	0	0	0	3	7	0	1	0	1
Total	5	3	0	0	8	10	726	456	55	83	73	95

GT = Green turtle, **HB** = Hawksbill turtle, **KR** = Kemp’s ridley turtle, **LBT** = Leatherback turtle, **LOG** = Loggerhead turtle, **UNI** = Unidentified turtle.

Table 6.

TURTLE Database Species Totals (1748 - 2013).	
Species	TOTAL
Green turtle (<i>Chelonia mydas</i>)	10
Hawksbill turtle (<i>Eretmochelys imbricata</i>)	1
Kemp's ridley turtle (<i>Lepidochelys kempii</i>)	42
Leatherback turtle (<i>Dermochelys coriacea</i>)	1970
Loggerhead turtle (<i>Caretta caretta</i>)	223
Unidentified	374
Total animals	2620

The total records held in TURTLE are 2633 (end of 2013). 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, 1993-2003 / 2003-2013 shown in **Table 5**, shows a marked decline in leatherback turtles recorded for the Republic of Ireland compared with increases for nearly all other countries, the high numbers in 1993-2003 are a result of the concerted efforts of Gabriel King in investigating and collecting historical records around the Irish coast.

5. MATTERS ARISING.

5.1 Retrospective Reports.

There were no retrospective reports submitted to the TURTLE database during 2013.

6. LIVE STRANDING EVENTS 2013.

There were 2 live-strandings of marine turtles reported in 2013.

Loggerhead turtle **T2013/024** found stranded alive at Seafield, Quilty, Co Clare, RoI on 19th November 2013.

Kemp's ridley turtle **T2013/026** found stranded alive at Tresaith beach, Ceredigion, West Wales on 7th December 2013.

6.1 Rehabilitation

T2013/024 was a loggerhead turtle found stranded alive at Seafield, Quilty, Co Clare, RoI on 19th November 2013. The animal was recovered for rehabilitation to Galway Atlantiquarium under the care of the county veterinary officer Rita Gately. The turtle weighed 12kg on recovery and was found to be unable to dive as it was too buoyant. After a period of rehabilitation it was found the turtle was able to dive again and had increased its weight to 15kg. Tagging and eventual release is planned for September if the animal is found fit to go.



Plate 1. *Loggerhead turtle T2013/024 at Seafield, R.o.I.*

Photo by: Dr Simon Berrow IWDG.

T2013/026 was a Kemp's ridley turtle found stranded alive at Tresaith beach, Ceredigion, West Wales on 7th December 2013. The animal was recovered for rehabilitation but unfortunately died the same evening. The animal was stored frozen for a full post-mortem examination within the CSIP and the results can be found under Section 8. p.21 [Samples & Post-Mortem Examinations.](#)



Plate 2. *Kemp's ridley turtle T2013/026.*

Photo by: Rod Penrose CSIP/MEM.

6.2 Repatriation.

Only one turtle, loggerhead **T2013/024**, survived in 2013. If this animal continues to do well it is hoped to be repatriated in September 2014.

7. BYCATCH.

No turtles were reported to the TURTLE database as by-caught during 2013.

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.

Kemp's ridley turtles, **T2011/051**, **T2011/053**, and **T2012/001** are held frozen awaiting examination at ZSL.

Kemp's ridley **T2013/026** and loggerhead turtle **T2013/028** were both recovered and underwent a full post-mortem examination at ZSL.

Kemp's ridley turtle **T2013/026** was a juvenile female which had live-stranded and died the same evening at Tresaith, Ceredigion, West Wales on the 7th December 2013. It had a straight overall length (SOL)³ of 31cm and a maximum body depth (straight)(DMAX)³ of 9.5cm and weighed 1.654kg. It was found to be in a moderate nutritional condition at death. The cause of death was considered consistent with 'cold stunning' due to the turtle entering colder waters around the UK. The isolation of bacteria *Hafnia alvei* from the lung is of uncertain significance which will require follow-up histopathology to determine if this contributed to the animals death.

Loggerhead turtle **T2013/028** was an adult female which was found freshly dead on rocks at Worthing, West Sussex on the 18th December 2013. It had a straight overall length (SOL)³ of 114cm and a maximum body depth (straight)(DMAX)³ of 31cm and weighed 84kg. It was found to be in a moderate nutritional condition at death. The cause of death was considered consistent with 'cold stunning' due to the turtle entering colder waters around the UK together with physical trauma at or around the point of death consequential to stranding during a period of heavy storm activity around the UK. Physical trauma consisted of a cracked plastron and haemorrhage around the head.



Plate 3. *Loggerhead turtle T2013/028*

Photo by: CSIP/ZSL.

³ A morphometric chart showing standardised measurements that are recorded whenever possible for both leatherbacks and hardshells is attached as Appendix 3.

9. DATA SHARING.

The TURTLE database was uploaded to the National Biodiversity Network (NBN) <http://www.nbn.org.uk/> to include the 2012 data.

10. UNUSUAL OCCURENCES.

There were no unusual occurrences during 2013.

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.

Marine turtle records are posted on the National Biodiversity Network (NBN) Gateway and these can be accessed at <http://www.searchnbn.net/> The NBN is now the preferred outlet for the TURTLE database and the database on the strandings.com web-site is no longer be maintained.

An updated UK Turtle Code was produced by MCS in 2011 funded by Natural England and the Scottish Natural Heritage <http://www.mcsuk.org/downloads/wildlife/turtlecode.pdf> a copy is also attached as Appendix 2.

12. TAGGING.

Of the two live-stranded turtles in 2013 only one survived, **T2013/024**. This animal is still undergoing rehabilitation in the Republic of Ireland and has not at present been tagged.

13. ACKNOWLEDGEMENTS.

Marine Environmental Monitoring wishes to acknowledge the following;

Cornwall Wildlife Trust, Doug Herdson, Emer Rogan, IWDG, Marine Conservation Society, Medasset, Tom Doyle (Coastal and Marine Research Centre (CMRC)), and G.L. King for supplying data to the database.

Scottish Natural Heritage, Natural England, National Parks & Wildlife Service and the Countryside Council for Wales/Natural Resources Wales for financial support towards the British Isles & Republic of Ireland TURTLE database.

14. APPENDICES.

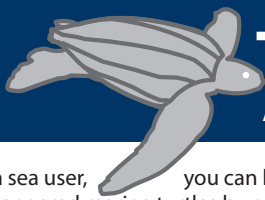
Appendix 1. 2013 TURTLE data.

Appendix 2. UK Turtle Code.

Appendix 3. Morphometrics.

Appendix 1.

RecordKey	SpeciesCode	LightStrat	AliveDead	EndDate	Country	County	Location	Notes
T2013/001	UNI	SEA	ALIVE	30/06/2013	ENGLAND	CORNWALL	Falmouth Bay, 1.5miles SW Pendinnis Point	saw pale turtle from 5m(defo not a sunfish) . About 2ft long. Rounded shell.
T2013/002	LBT	SEA	ALIVE	08/07/2013	WALES	GWYNEDD	off Criccieth	Seen from land , feeding 40m off Marine Terrace (seen from 70m)
T2013/003	LBT	SEA	ALIVE	06/07/2013	ENGLAND	CORNWALL	15 miles S of Lizard point	Seen from boat 7-10m. Size 2.5-3 metres
T2013/004	LBT	SEA	ALIVE	07/07/2013	ENGLAND	CORNWALL	Runnelstone, Penzance	Seen from boat aprox 50m heading west
T2013/005	LBT	SEA	ALIVE	14/07/2013	ENGLAND	CORNWALL	Whitsand Bay, Looe. 5 mile west Rame Head	Sighted from boat aprox 10 metres. Huge healthy animals diving every 2 - 3 minutes. Heading SW.
T2013/006	LBT	SEA	ALIVE	24/07/2013	ENGLAND	DEVON	Start Point. Dartmouth	Seen from boat at 10 metres in Scarries, shallow fishing area, head seen for about 30 secs. Heading west.
T2013/007	LBT	SEA	ALIVE	23/07/2013	OFFSHORE		off France?	appeared healthy, yellow/orange patch on left hand side of head. 1.5m length.
T2013/008	UNI	SEA	ALIVE	27/07/2013	SCOTLAND	Highland	Tarbet Isles of Harris	Seen from land whilse sea watching from holiday cottage
T2013/009	UNI	SEA	ALIVE	13/08/2013	ENGLAND	DEVON	Near Queener Point, east end of Whitsand bay)	Seen from shore at 10 metres off headland. Looked green/yellow colouration. 1 metre length hardshell.
T2013/010	LBT	SEA	ALIVE	18/08/2013	ENGLAND	DEVON	Bury Head, Brixham	Seen from two metres by boat to be one metre from headland
T2013/011	LOG	SEA	ALIVE	18/08/2013	ENGLAND	DORSET	Portland Bill, Weymouth	Seen from boat happily swimming east, 100 metres off the Bill. Surfaced at 10 m. from boat breathed and dived.
T2013/012	LBT	SEA	ALIVE	18/08/2013	WALES	PEMBROKESHIRE	Tenby	Definite ID with bins. Length 1 metre (have queried, no reply)
T2013/013	LBT	SEA	ALIVE	18/08/2013	SCOTLAND	SHETLAND	Skaw Beach, Unst	Seen approx 25 metres off beach.
T2013/014	LBT	SEA	ALIVE	04/08/2013	EIRE	CORK	Cape Clear	Seen from Marine Eco Tour rib moving slowly south for 1 min.. Slight swell
T2013/015	UNI	SEA	ALIVE	31/08/2013	ENGLAND	DORSET	Wyke Regis. Lyme Bay	Swimming in 5 ft of water just 6ft from the pebbles of Chesil Beach
T2013/016	LBT	SEA	ALIVE	04/09/2013	ENGLAND	CORNWALL	Gerrans Bay	Seen from approx 50 metres in company of ocean sunfish. AK Wildlife Cruise.
T2013/017	LBT	SEA	ALIVE	13/08/2013	ENGLAND	ISLES OF SCILLY	approx half way between Fastnet and Scilly	Seen from boat heading east.
T2013/018	LBT	SEA	ALIVE	25/08/2013	ENGLAND	DEVON	off Plymouth	Seen from fishing boat Temisis at 10 metres . 10 ft long .
T2013/019	LBT	SEA	ALIVE	13/09/2013	ENGLAND	CORNWALL	off Stevens Point, Gerrands Bay, Portscatho	Seen from land, 50 metres off shore, moving steadily.
T2013/020	LBT	SEA	ALIVE	13/09/2013	ENGLAND	CORNWALL	Falmouth Bay	Seen from boat. 4ff by 6ft
T2013/021	LBT	ST	DEAD	07/07/2013	ENGLAND	CORNWALL	Towan beach	decomposed carapace and some skin
T2013/022	LBT	SEA	ALIVE	22/08/2013	EIRE	CORK	Gascanaun Sound, Cape Clear Sherkin Island	Seen from Marine Eco Tour boat. Turtle travelling west.
T2013/023	UNI	SEA	DEAD	23/11/2013	SCOTLAND	Argyll	near Westport beach, Machrihanish Bay	Seen from land
T2013/024	LOG	ST	ALIVE	19/11/2013	EIRE	CLARE	Seafield, Quilty	Taken to Galway, Atlantiquarium CCL 600mm
T2013/025	LBT	ST	DEAD	09/11/2013	EIRE	DONEGAL	Magahoraty	1.8-2 metres
T2013/026	KR	ST	ALIVE	07/12/2013	WALES	CEREDIGION	Tresaith Beach	Found by holiday maker. Collected by MEM. Died later. Held in freezer for PM.
T2013/027	LBT	ST	DEAD	16/08/2013	EIRE	WEXFORD	Cullenstown	little in excess of 5 feet long, left front flipper missing. Decomposing.
T2013/029	LBT	ST	DEAD	29/12/2013	ENGLAND	CORNWALL	Tregante Beach. Whitsand Bay, Crafhole, SE	Very decomposed. Some scaly flesh and rolled up leathery back with the distinctive ridges.
T2013/028	LOG	ST	DEAD	17/12/2013	ENGLAND	WEST SUSSEX	Splash Point, Worthing	Very fresh. Collected by CSIP for post mortem.
T2013/030	LBT	SEA	ALIVE	15/09/2013	EIRE	CORK	Durseys Island	Seen close inshore off the Old Lighthouse. In the early afternoon , moving north. Large individual.



The United Kingdom 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

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 Fiona Gell
DEFA - Isle of Man Government
01624 685835 (main)
Marine Operations Centre
01624 686628 (24hrs)

SCOTLAND

ALL RECORDS
Laura Clark, Marine Monitoring Officer,
Scottish Natural Heritage
01463 725237

DEAD STRANDINGS

Nick Davison
Scotland's Rural College (SRUC).
01463 243030/
07979245893

LIVE STRANDINGS/ ENTANGLEMENTS
SSPCA 03000 999999

NORTHERN IRELAND

ALL RECORDS
The Coastal Zone Centre at Portrush (DOENI)
028 7082 3600

REPUBLIC OF IRELAND

ALL RECORDS
Dr Thomas Doyle
Coastal & Marine Research Centre, University College Cork
00353 (0) 21 4703119 (Direct)
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 times.

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.

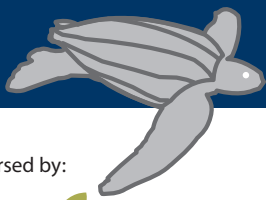
Other species (hard-shelled)

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).

Marine Turtles in the UK



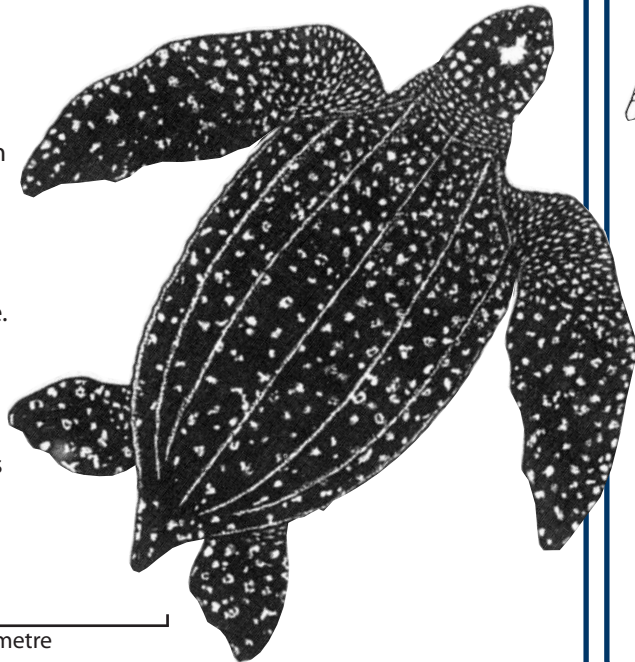
Endorsed by:



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.

LEATHERBACK TURTLE

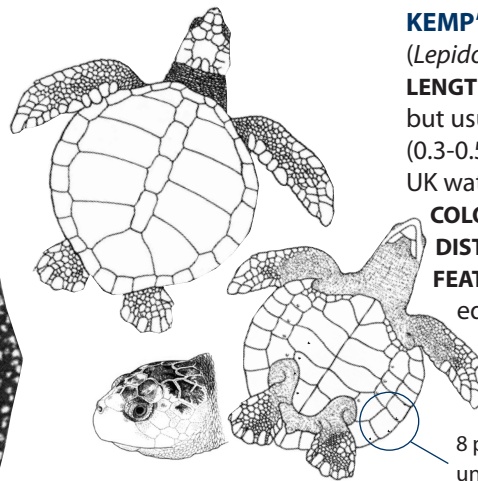
(Dermochelys coriacea)
Most frequently recorded species in UK waters.
LENGTH: up to 2.91 metres.
COLOUR: black, spotted with white.
DISTINCTIVE FEATURES: large, up to 916 kg, pronounced longitudinal ridges on shell, which tapers to a blunt spike.



SCALE 1 metre

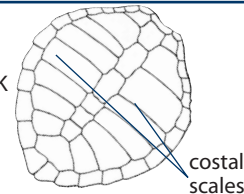
KEMP'S RIDLEY TURTLE

(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.



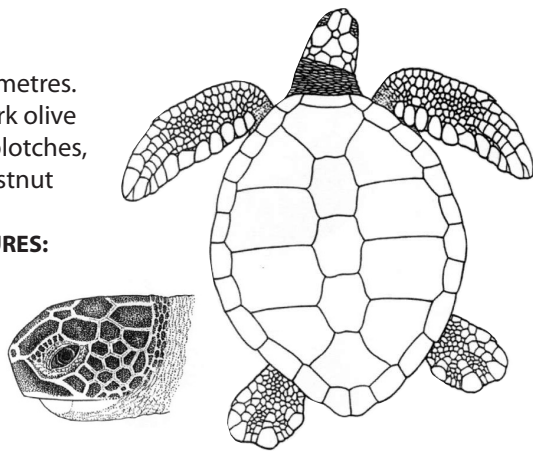
8 pores visible on underside (4 either side)

NB: The olive ridley turtle (*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 pairs of costal scales on shell.



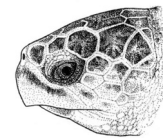
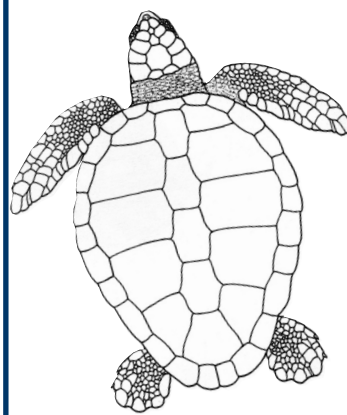
GREEN TURTLE

(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 angular).



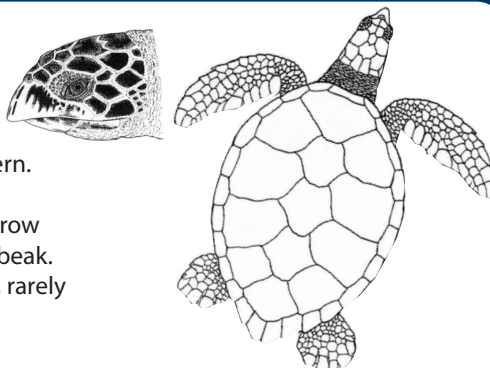
LOGGERHEAD TURTLE

(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.



HAWKBILL TURTLE

(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

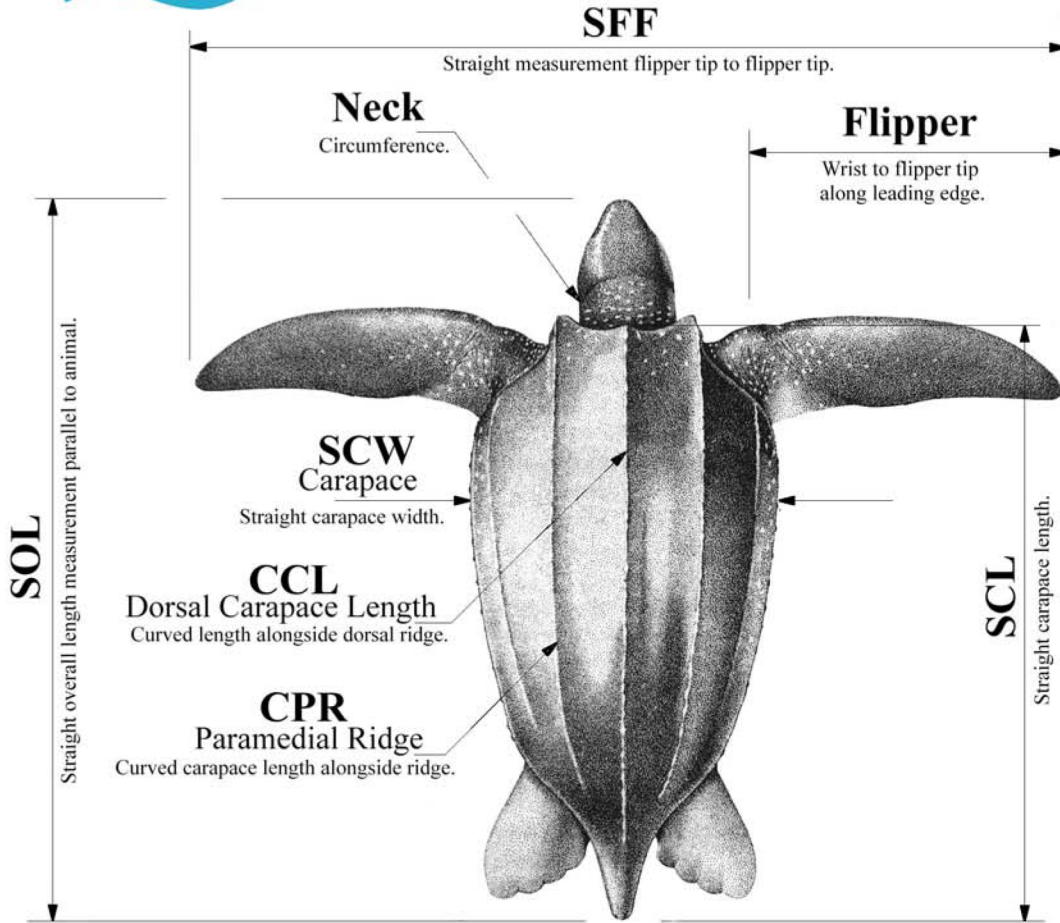
In UK waters threats include:

- **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.**



Illustrations are taken, with permission, from: Eckert, K.L., K.A. Bjorndal, F.A. Abreu-Grobois, and M. Donnelly (Editors). 1999. *Research and Management Techniques for the Conservation of Sea Turtles*. IUCN/SSC Marine Turtle Specialist Group Publication No. 4.

THIS DOCUMENT WAS PRODUCED BY THE MARINE CONSERVATION SOCIETY (MCS) IN 2011 WITH SUPPORT FROM NATURAL ENGLAND AND SCOTTISH NATURAL HERITAGE AND IN COLLABORATION WITH THE TURTLE IMPLEMENTATION GROUP OF THE UK MARINE TURTLES GROUPED SPECIES ACTION PLAN.



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.

