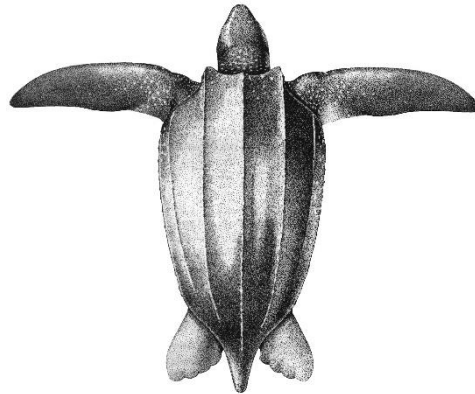


www.strandings.com

British & Irish Marine Turtle Strandings & Sightings Annual Report 2022

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Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage



Ariennir yn Rhannol gan
Lywodraeth Cymru
Part Funded by
Welsh Government

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1. SUMMARY

A total of 16 live and dead marine turtles were reported to TURTLE during 2022. Two Kemp's ridley turtles; 9 leatherback turtles; 2 loggerhead turtles; and 3 unidentified sightings.

Live stranded

There were 2 live stranded turtles reported in 2022. These were 2 loggerheads turtles, 1 in Scotland, 1 in England.

Live sightings

Ten turtles were sighted alive at sea. Seven leatherback turtles and 3 unidentified. Two leatherbacks sighted in England, 4 in Scotland, 1 in Wales, 3 unidentified turtles in England.

Dead sightings

No dead sightings were reported in 2022.

Dead strandings

A total of 4 turtles were reported stranded dead. Two leatherback turtles stranded dead. One in England and 1 in Ireland. Two Kemp's ridleys stranded dead. Both in Scotland.

Post-mortem examination

One loggerhead received a post-mortem examination within the CSIP and Irish network.

Data sharing

The TURTLE database has been adapted and uploaded to the NBN Atlas.

Rehabilitation

Kemp's ridley T2021/13 is still held at Anglesey Sea Zoo. It is hoped arrangements to fly the turtle back to America will be made in 2023.

Loggerhead turtle T2022//03 currently at Sea Life Scarborough should be flown out for release in 2023.

Repatriation

No repatriations took place in 2022.

TURTLE record totals

The current total of 2900 since 1748 is broken down thus:
1359 Ireland; 708 England; 432 Scotland; 293 Wales; 41 Northern Ireland; 37 Isle of Man; 17 Channel Islands; 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**).

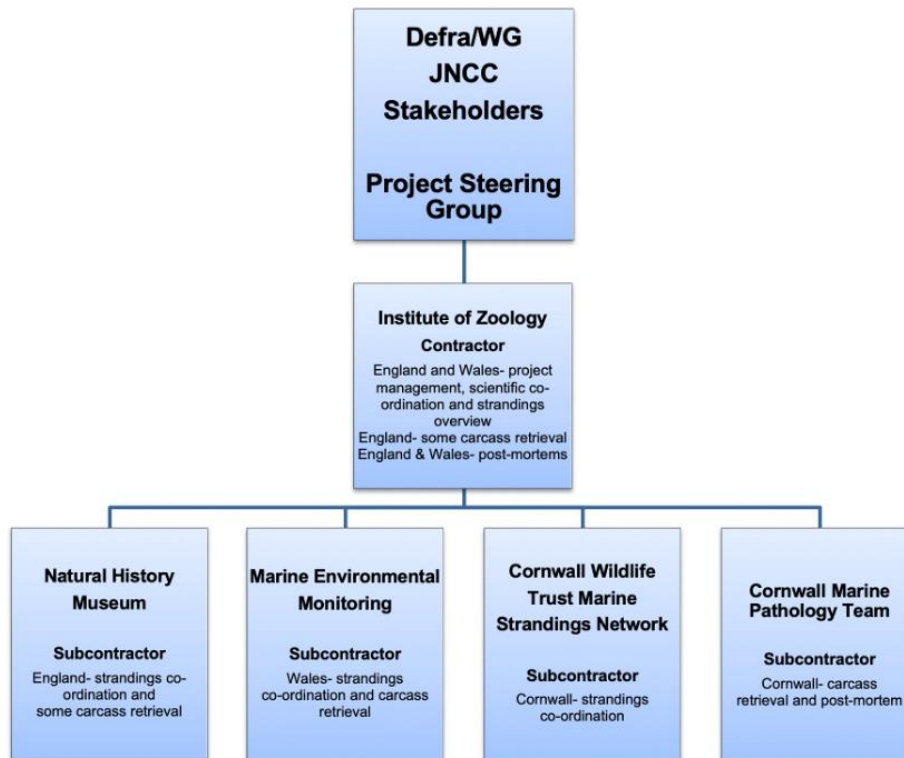


Figure 1. *Current technical co-ordination of the Cetacean Strandings Investigation Programme (CSIP).*

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:-

¹ Formally Herpetological Conservation Trust (HCT).

- **Amphibian & Reptile Conservation Trust** 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: *Dr 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@mwt.im*
- 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: *Dr Liz Pothanikat, 028 905 69421. Liz.Pothanikat@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.
Contact: *Nikki Taylor, 01733 866902*
- **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: *Dr Peter Richardson, 01989 566017*
- **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 & Irish database holding both records of sightings and strandings of marine turtles dating back to 1748.
Contact: *Rod Penrose, rodpenrose@strandings.com or Mat Westfield mat.westfield@strandings.com (Reporting telephone No. 01239 683033.)*
- **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 B.J.Godley@exeter.ac.uk*
- **MEDASSET**, founded in 1988, is an international environmental NGO registered as a Non Profit Organisation 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 Housing, Local Government and Heritage, 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@housing.gov.ie*
- **Natural England (NE)** is the Government agency that champions the conservation of wildlife and natural features throughout England.
Contact: *Tim Bernhard, 07775 026622 tim.bernhard@naturalengland.org.uk*
- **Natural Resources Wales (NRW)** 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. 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 653000 tom.stringell@cyfoethnaturiolcymru.gov.uk*
- **NatureScot** is Scotland's nature agency providing advice to Scottish Government. NatureScot promotes the care, improvement, responsible enjoyment, understanding, appreciation and sustainable use of Scotland's natural heritage.
Contact: *Marine Monitoring Team, MPA@nature.scot 01463 725 018*
- **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*
- **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** Dr Tom Doyle, School of Biological, Earth & Environmental Sciences. 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>
Contact: *Dr Tom Doyle, 353-(0) 87 1354938 (mobile).*

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 Live strandings and entanglements should be reported to the RSPCA on **0300 1234 999** and/or British Divers Marine Life Rescue (BDMLR) **01825 765546**.

For **Scotland** all records should be reported to the Scottish Marine Animal Strandings Scheme (SMASS) **07979 245893** reports@strandings.org Live strandings and entanglements should be reported to the SSPCA on **03000 999 999** and/or British Divers Marine Life Rescue (BDMLR) **01825 765546**.

For **Northern Ireland** all records of live or dead turtles should be reported to DAERA Marine and Fisheries Division on **028 905 69421** or <https://www.daera-ni.gov.uk/contacts/marine-wildlife-team>

UK turtle sightings and strandings can also be reported using the UK Turtle Code online at <http://www.euroturtle.org/turtlecode/default.htm>

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

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**, or Dr Lara Howe **07624 450879**.

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 (Appendix 2.).

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 2022.

Table 1.

2022 Total number of reported marine turtles for the UK & Ireland. (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>)	2	0	0	0	0	0	0	0	0	0	0	0	2
Leatherback turtle (<i>Dermochelys coriacea</i>)	0	1	0	1	0	0	4	2	1	0	0	0	9
Loggerhead turtle (<i>Caretta caretta</i>)	1	0	0	0	0	0	0	0	0	0	1	0	2
Olive ridley turtle (<i>Lepidochelys olivacea</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Unidentified	0	0	3	0	0	0	0	0	0	0	0	0	3
Total animals	3	1	3	1	0	0	4	2	1	0	1	0	16

Table 2.

2022 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	0	0
Leatherback turtle (<i>Dermochelys coriacea</i>)	0	0	0	0	0	0	4	2	1	0	0	0	7
Loggerhead turtle (<i>Caretta caretta</i>)	1	0	0	0	0	0	0	0	0	0	1	0	2
Olive ridley turtle (<i>Lepidochelys olivacea</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Unidentified	0	0	3	0	0	0	0	0	0	0	0	0	3
Total animals	1	0	3	0	0	0	4	2	1	0	1	0	12

Table 3.

2022 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>)	2	0	0	0	0	0	0	0	0	0	0	0	2
Leatherback turtle (<i>Dermochelys coriacea</i>)	0	1	0	1	0	0	0	0	0	0	0	0	2
Loggerhead turtle (<i>Caretta caretta</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Olive ridley turtle (<i>Lepidochelys olivacea</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0
Unidentified	0	0	0	0	0	0	0	0	0	0	0	0	0
Total animals	2	1	0	1	0	0	0	0	0	0	0	0	4

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.

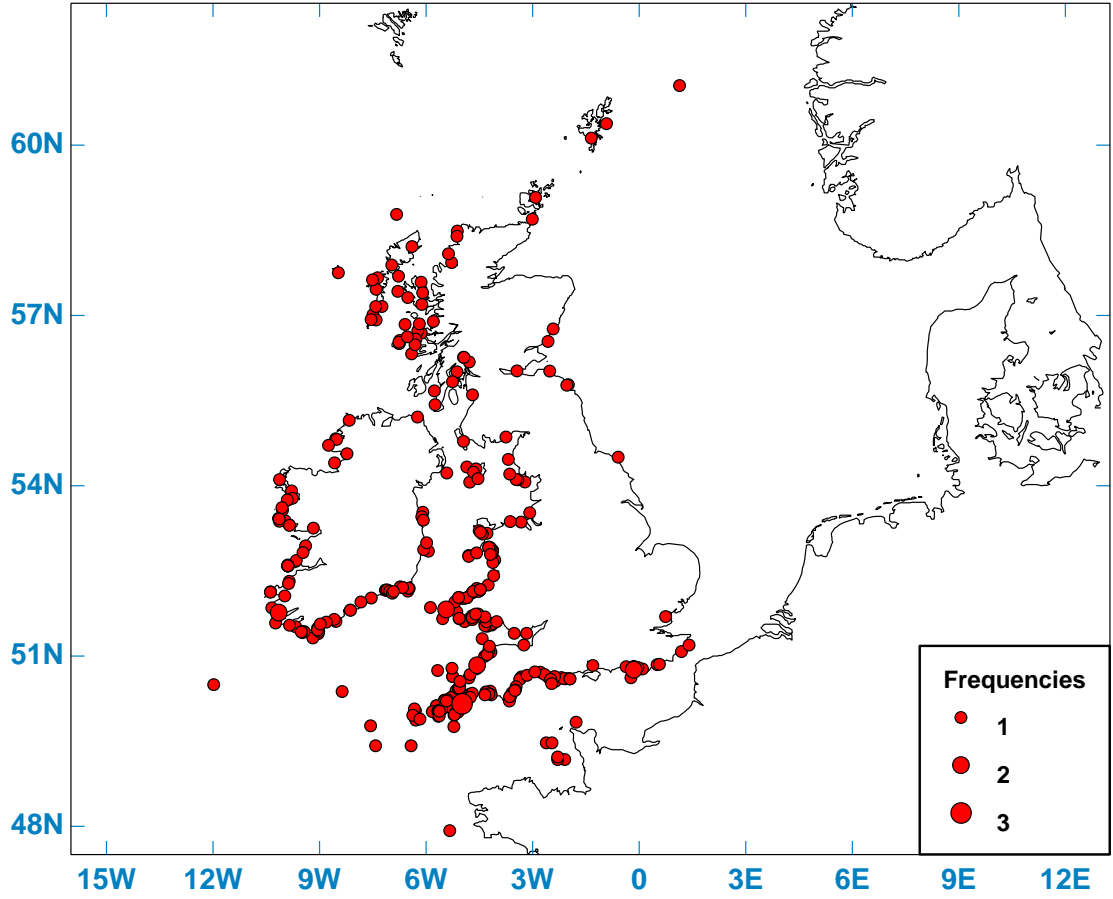


Figure 2. *All species sightings & strandings 2012-2022.*

All species, sightings & strandings over the eleven year period 2012-2022 have been plotted in **Figure 2.**

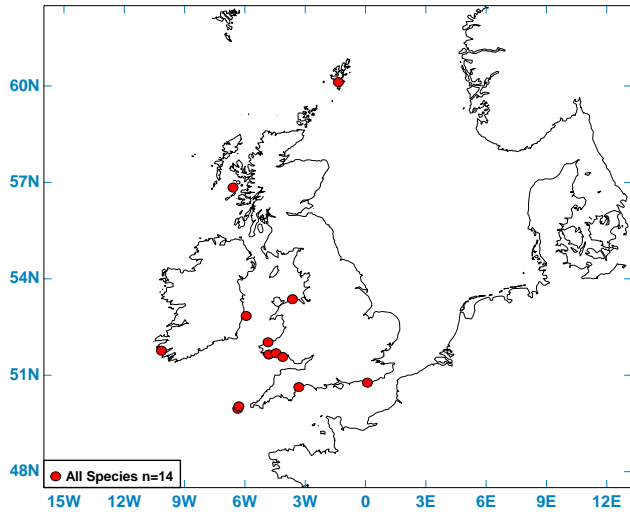


Figure 3. All species sightings & strandings 2020.

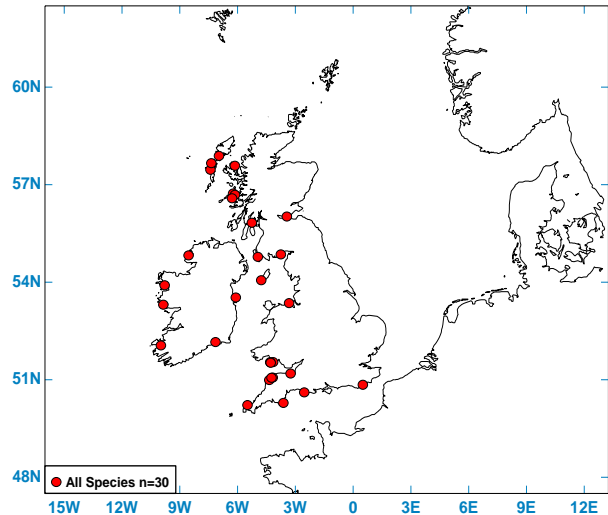


Figure 4. All species sightings & strandings 2021.

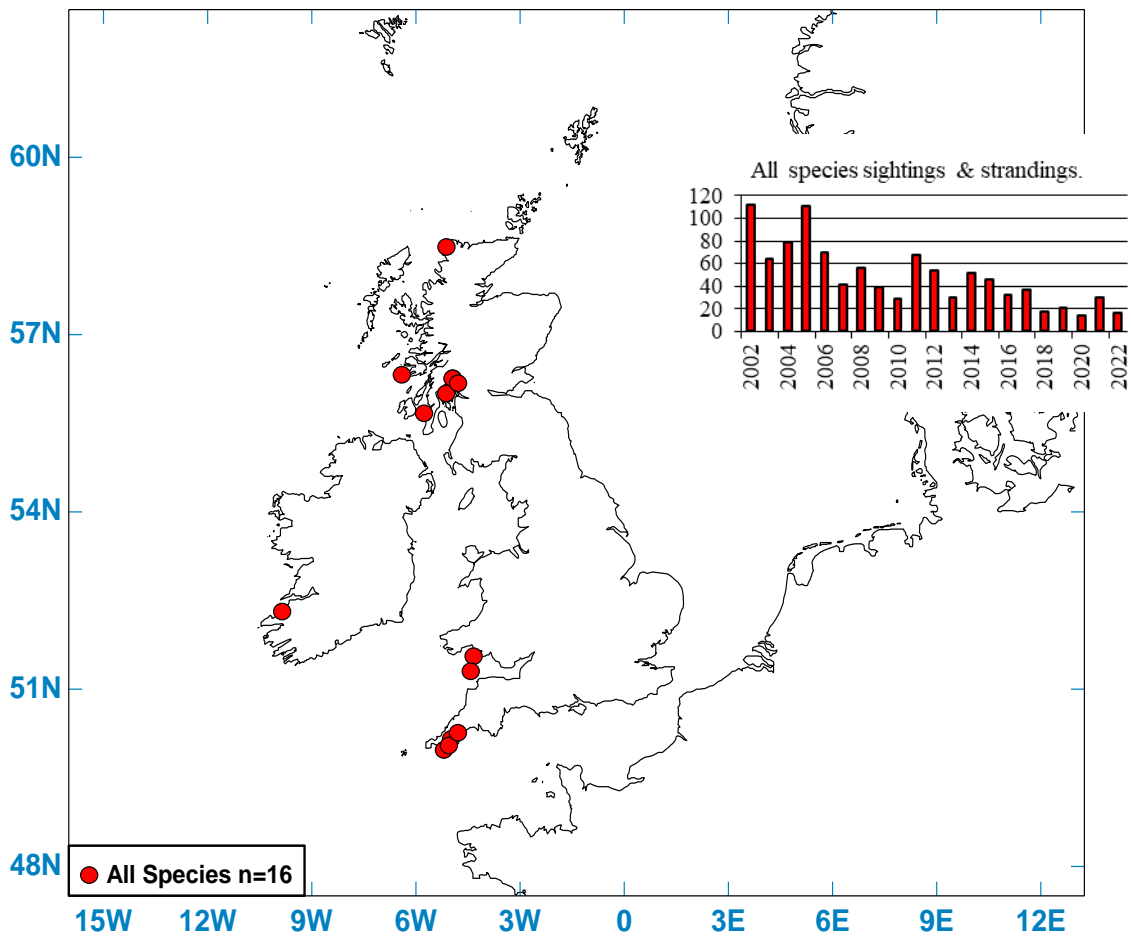


Figure 5. All species sightings & strandings 2022.

4.1 Sightings.

No live or dead Kemp's ridley sightings were reported during 2022. However, sightings of a live Kemp's ridley turtle has been recorded in recent years as shown in Figure 6.

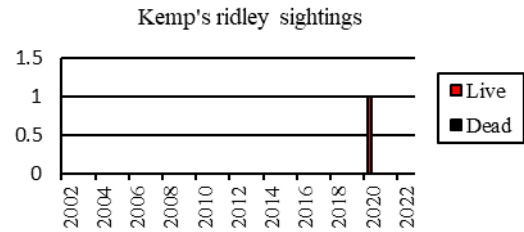


Figure 6. Kemp's ridley sightings 2022.

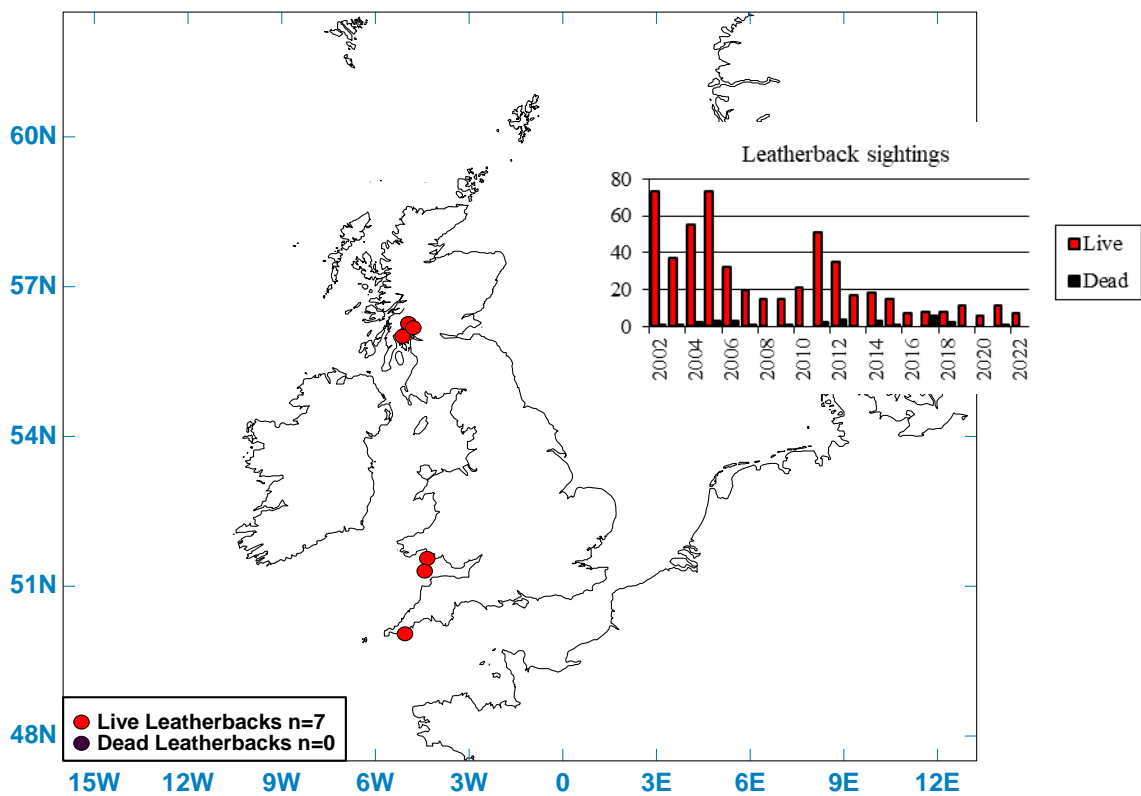


Figure 7. Leatherback sightings 2022.

No live or dead loggerhead sightings were reported during 2022. However, sightings of both live and dead loggerhead turtles have been recorded in recent years as shown in **Figure 8**.

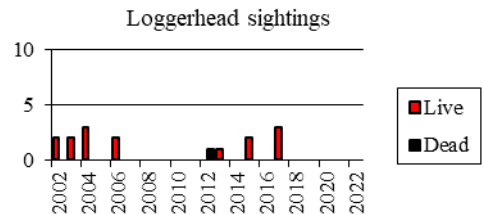


Figure 8. *Loggerhead sightings 2022.*

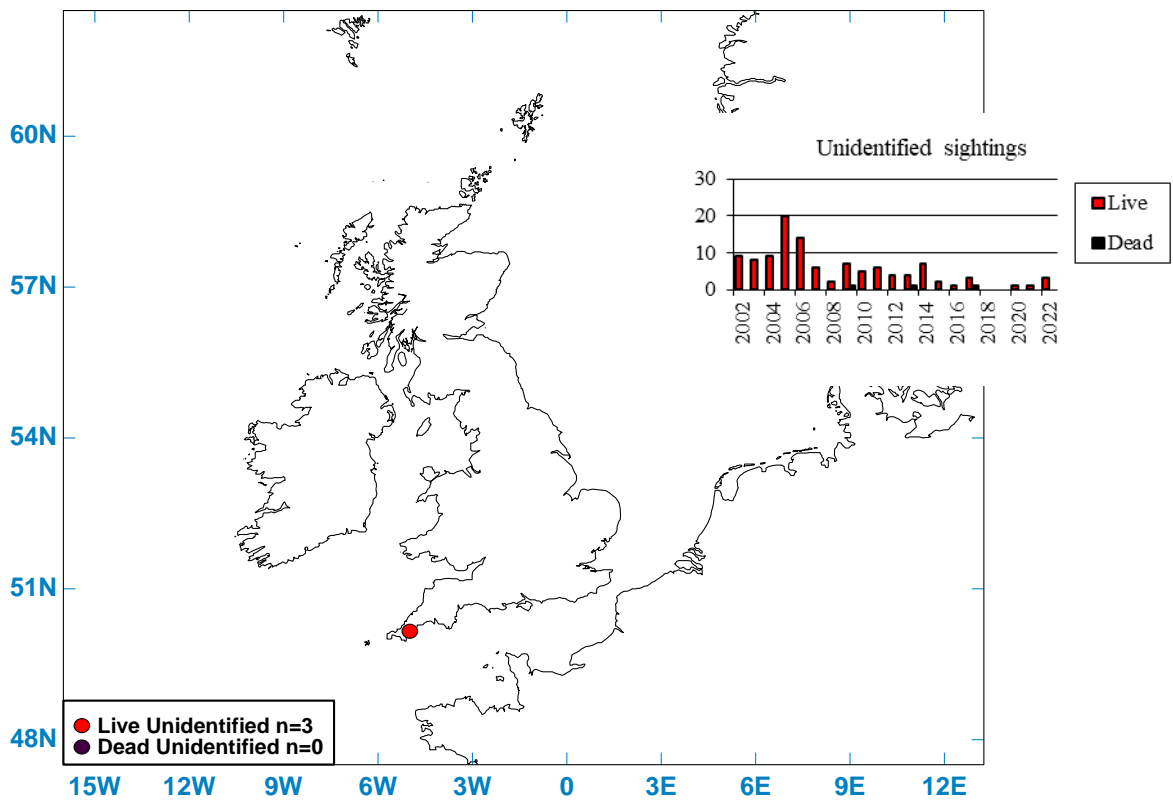


Figure 9. *Unidentified sightings 2022.*

All three Unidentified turtles were seen as a group and therefore only show as one plot in Figure 9.

4.2 Strandings.

No live or dead Green turtle strandings were reported during 2022. However, strandings of dead Green turtles have been recorded in recent years as shown in **Figure 10**.

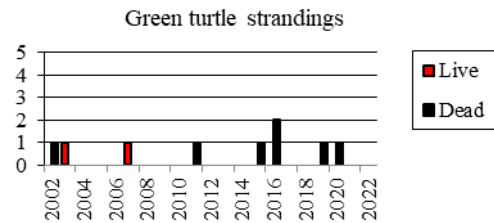


Figure 10. Green turtle strandings 2022.

No live or dead hawksbill turtle strandings were reported during 2022. 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.

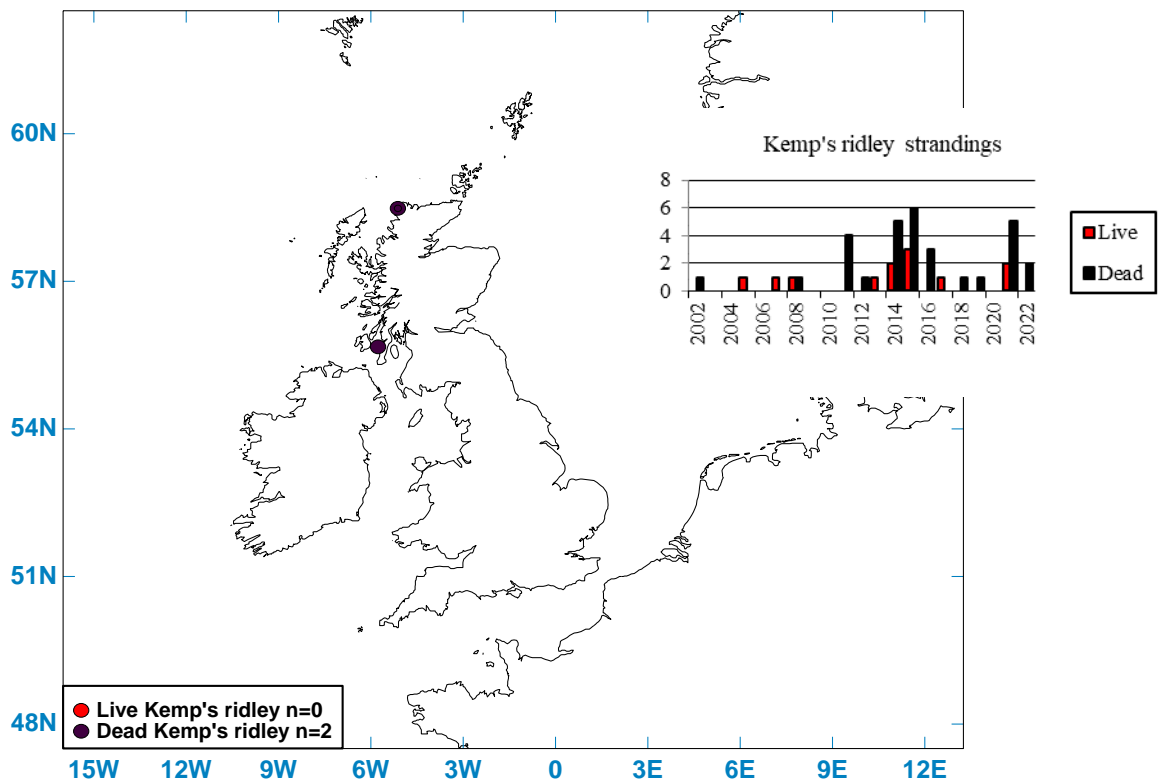


Figure 11. Kemp's ridley strandings 2022.

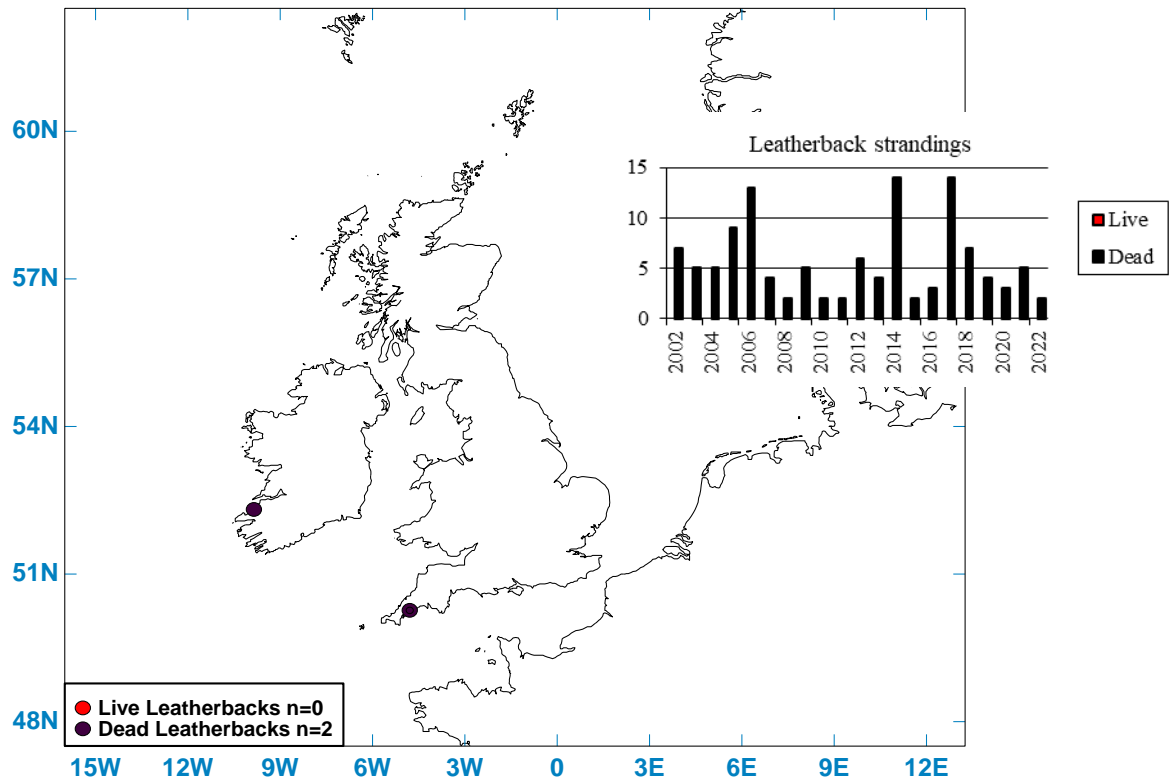


Figure 12. *Leatherback strandings 2022.*

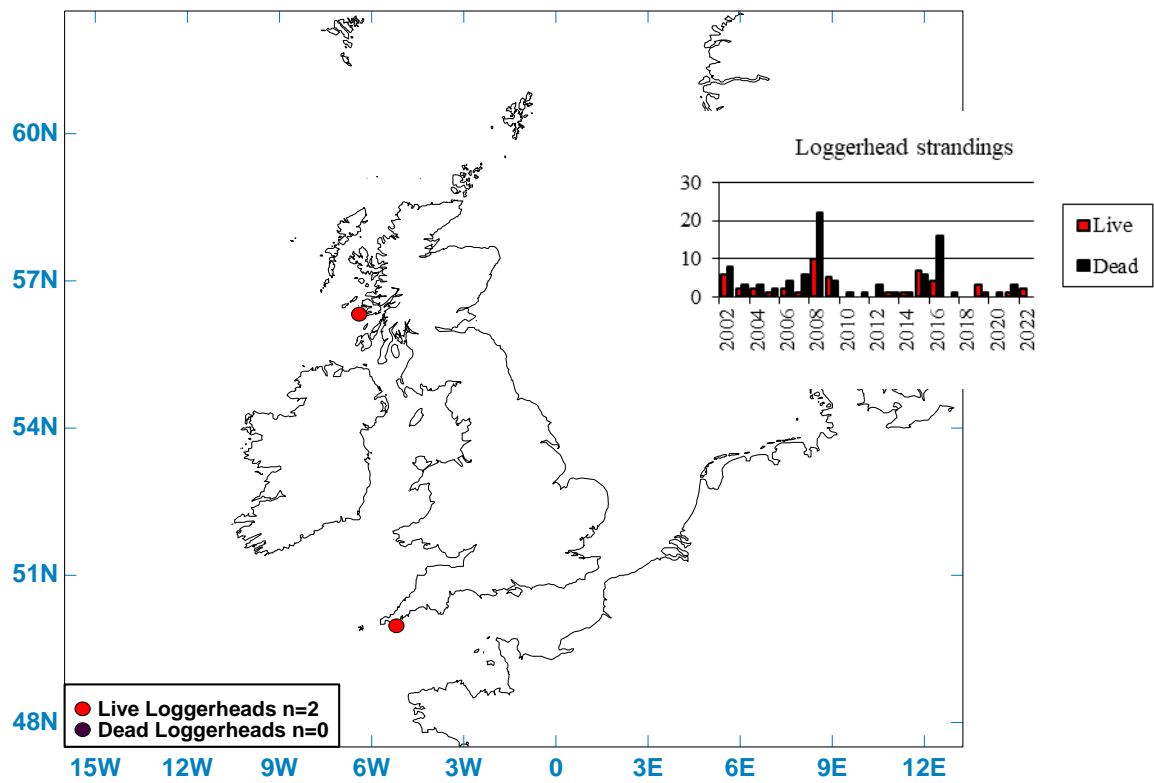


Figure 13. *Loggerhead strandings 2022.*

No live or dead olive ridley turtle strandings were reported during 2022. However, a live stranding of an olive ridley turtle was recorded in recent years as shown in **Figure 14**.

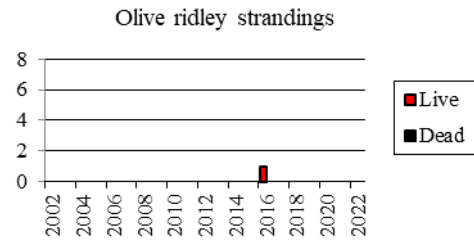


Figure 14. Olive ridley strandings 2022.

No live or dead Unidentified turtle strandings were reported during 2022. However, strandings of Unidentified turtles have been recorded in recent years as shown in **Figure 15**.

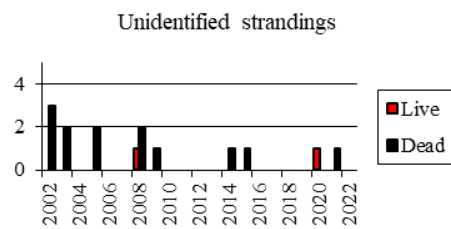


Figure 15. Unidentified strandings 2022.

All leatherback strandings and sightings, both dead and alive have been plotted by month for the period 2012 - 2022 (n=229) shown in **Figure 16**. The average figure was taken over 2012-2022 and plotted in **Figure 17**. 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 & Irish coast. The records for the hard-shell species are more sporadic. Of the hard-shell species the most numerous recorded turtle over the 2012 - 2022 period is the loggerhead (n=56). The data for this species are plotted in **Figure 18** and **Figure 19**.

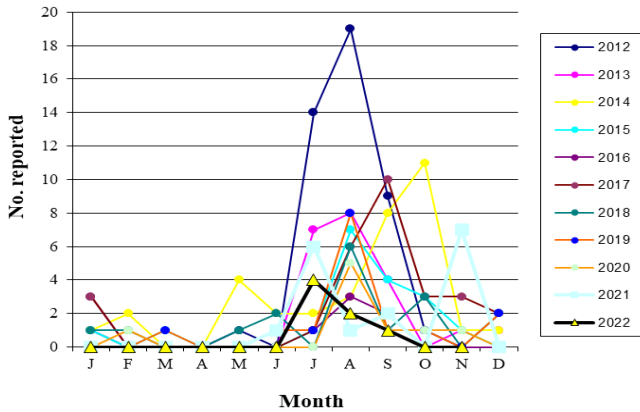


Figure 16. All leatherbacks by month.

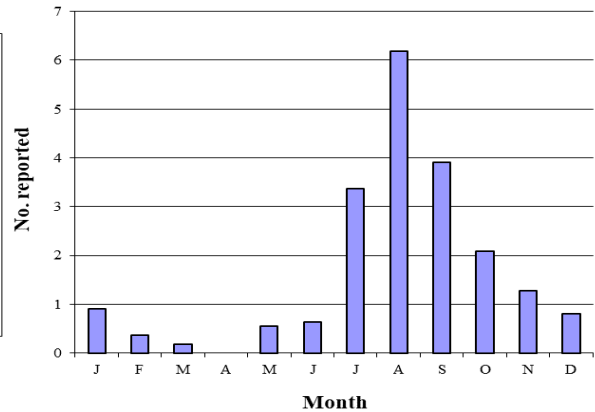


Figure 17. All leatherbacks average over 2012-2022

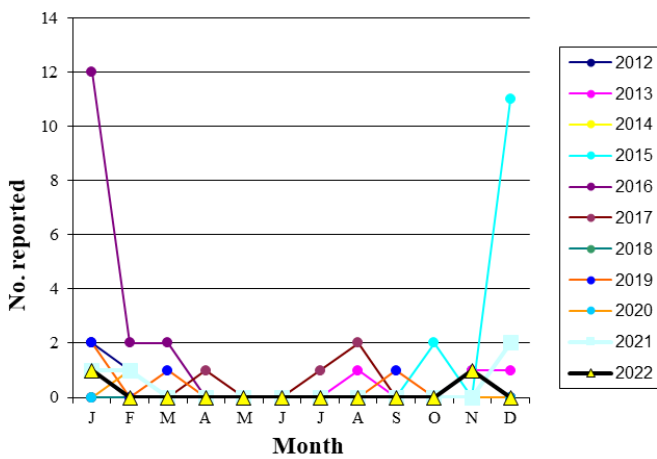


Figure 18. All loggerheads by month.

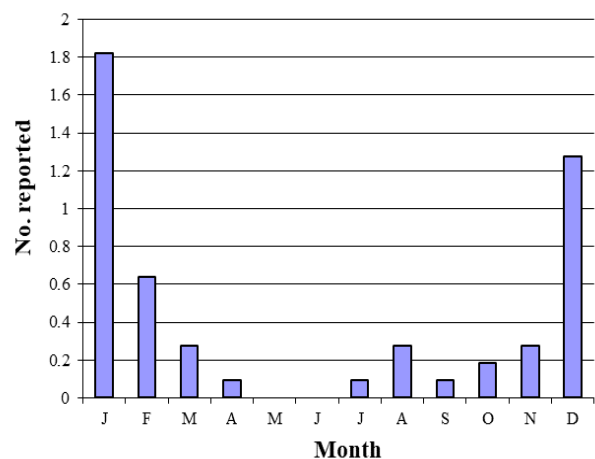


Figure 19. All loggerheads average over 2012-2022.

Table 4.

Cumulative number of records in the TURTLE database.		
Country	All Species	
	2022	1748 - 2022
Rep. of Ireland	1	1359
England	7	708
Scotland	7	432
Wales	1	293
N. Ireland	0	41
Isle of Man	0	37
Channel Islands	0	17
Offshore	0	13
Total	16	2900

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 – 2022** column.

Table 5.

Species comparison from all TURTLE database records														
Country	2002 - 2012													
	2012 - 2022													
	GT	HB	KR	LBT	LOG	OR	UNI	GT	HB	KR	LBT	LOG	OR	UNI
England	0	0	0	0	3	14	162	85	24	21	0	0	56	25
Scotland	2	1	0	0	3	7	77	38	25	6	0	0	11	3
Rep. of Ireland	1	0	0	0	1	3	174	58	30	16	0	0	15	3
Wales	0	4	0	0	4	10	80	41	15	7	0	1	11	1
Channel Islands	1	0	0	0	0	1	1	2	1	2	0	0	2	0
N. Ireland	0	0	0	0	0	0	5	1	0	0	0	0	2	1
Isle of Man	0	0	0	0	0	0	15	2	0	3	0	0	4	0
Offshore	0	0	0	0	0	0	6	2	1	1	0	0	1	0
Total	4	5	0	0	11	35	520	229	96	56	0	1	102	33

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.

TURTLE Database Species Totals (1748 - 2022).	
Species	TOTAL
Green turtle (<i>Chelonia mydas</i>)	15
Hawksbill turtle (<i>Eretmochelys imbricata</i>)	1
Kemp's ridley turtle (<i>Lepidochelys kempii</i>)	78
Leatherback turtle (<i>Dermochelys coriacea</i>)	2137
Loggerhead turtle (<i>Caretta caretta</i>)	270
Olive ridley turtle (<i>Lepidochelys olivacea</i>)	1
Unidentified	398
Total animals	2900

The total records held in TURTLE are 2900 (end of 2022). However, some historical records with inadequate year data have been excluded in this report and from being uploaded to the NBN Atlas.

A breakdown of records for each country is shown in **Table 4**. However, the eleven-year comparison, 2002-2012 / 2012-2022 shown in **Table 5**, shows a marked decline in leatherback and loggerhead turtles recorded for most countries, this decline of leatherbacks and loggerhead turtles is likely to be a reflection of reduced effort. The increase in Kemp's ridley turtles is likely to be the result of successful management of the breeding beach in Mexico where eggs have been introduced to additional sites and the nests have been afforded greater protection.

5. MATTERS ARISING.

5.1 Retrospective Reports.

No retrospective reports were received during 2022.

6. LIVE STRANDING EVENTS 2022.

Two turtles were reported as live-stranding in 2022, these are listed below;

T2022/03 was a loggerhead turtle found on Iona, Inner Hebrides, Scotland on the 27th January. The turtle was relayed across the island, on to the ferry to the Sea Life Centre Loch Lomond and later moved south to Sea Life Centre Scarborough where it is currently housed. The animal is 'fit to go' and it is hoped it will be flown out sometime in 2022.

T2022/12 was a loggerhead turtle found alive at Church Cove, Cornwall on the 16th November. The turtle was recovered to Blue Reef Aquarium, Cornwall where unfortunately it died 10th December.

6.1 Rehabilitation

Of the 2022 live-strandings, only one turtle, a loggerhead **T2022/03** found on Iona, Inner Hebrides on the 27th January survived in rehabilitation. The turtle has been PIT tagged in the front left shoulder with a UK series tag. The animal is ‘fit to go’ waiting for CITES export/import permits and it is hoped it will be flown out to warmer waters sometime in 2023.

Kemp’s ridley turtle **T2021/13** that live-stranded 28th November 2021 is still held at Anglesey Sea Zoo. The turtle has been tagged in the front left shoulder with a UK series PIT tag and is fit to go.

6.2 Repatriation.

No turtles were repatriated during 2022. Only the Kemp’s ridley turtle **T2021/13** that live-stranded 28th November 2021 would have been a candidate for repatriation.

No turtles have been repatriated since the UK left the EU. Where once unhindered flights to the Canaries could be conducted, as the Islands are Spanish flagged, all turtles now require CITES Import and Export permits. Unfortunately, paperwork required is not clear yet with some Health Certificates not available.

Flights to the US have remained unchanged.

7. BYCATCH.

A leatherback turtle was found alive at sea entangled in whelk header rope in the Bristol Channel, off Devon on the 20th September 2022. It was successfully released by fishermen. The turtle was released alive and reported “hissing” by the crew. Front right entanglement.

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 to the project in 2022 in a suitable condition to undergo a full post-mortem examination.



Plate 1. *Live-stranded loggerhead turtle T2022/12 with mass of goose barnacles attached.*

Photo by: Mrs J M Pearson.

This was a loggerhead turtle **T2022/12** which live-stranded and died in rehabilitation (**Plate 1**). The following is an extract from the ‘Comments’ section of the post-mortem report conducted by James Barnett within the CSIP.

“This juvenile loggerhead turtle was judged to be male from the positioning of the cloaca relative to the end of the tail. However, the immature gonads could not be visualised or examined histologically to confirm this. From the curved carapace length, the turtle is estimated to be less than a year old (Casale et al, 2009).

The primary finding on gross post mortem examination was of malnutrition/starvation and no significant additional lesions were found on histopathology to explain its sudden deterioration in condition and death during attempted rehabilitation. It is suspected that the bacterial isolates are post mortem contaminants.”

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 has now been transferred to this platform having been updated to the new validation process required for the NBN Atlas.

10. UNUSUAL OCCURRENCES.

There were no unusual occurrences to report during 2022.

11. PUBLICITY.

The Strandings Web-site has been maintained to provide details of MEM and the CSIP. 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 <https://strandings.com/annual-reports/>

Posters and leaflets produced to increase awareness of the project have continued to be distributed.

The NBN Atlas is now the preferred outlet for the TURTLE database.

12. ACKNOWLEDGEMENTS.

Marine Environmental Monitoring wishes to acknowledge the following;

Cornwall Wildlife Trust, Dr Tom Doyle, Irish Whale and Dolphin Group (IWDG), University of Exeter’s Cornwall campus, Gabriel King, Julia Cable and Dan Jarvis British Divers Marine Life Rescue, Nick Davison SMASS, Peter Richardson MCS, Pascual Calabuig, Anglesey Sea Zoo, Sea Life Loch Lomond, Sea Life Scarborough, Blue Reef Aquarium, Dingle Oceanworld, and Doug Herdson.

Natural England, NatureScot, National Parks & Wildlife Service and the Welsh Government for financial support towards the British & Irish TURTLE database.

13. APPENDICES.

- Appendix 1. 2022 TURTLE data.
- Appendix 2. UK Turtle Code.
- Appendix 3. Morphometrics.



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage



Ariennir yn Rhannol gan
Lywodraeth Cymru
Part Funded by
Welsh Government

Appendix 1.

RecordKey	SpeciesCode	SightStrat	AliveDead	EndDate	Country	County	Location	Notes
T2022/01	KR	ST	DEAD	12/01/2022	SCOTLAND	ARGYLL & BUTE	Poll Mor beach on the Isle of Gigha	
T2022/02	KR	ST	DEAD	13/01/2022	SCOTLAND	HIGHLAND	Droman	
T2022/03	LOG	ST	ALIVE	27/01/2022	SCOTLAND	ARGYLL & BUTE	Iona, Inner Hebrides	Reported by Julia Cable BDMLR. Thought to be very weak, attempt to get it to SeaLife Centre at Loch Lomond for rehab. To be moved to Scarborough SeaLife approx June 2022.
T2022/04	UNI	SEA	ALIVE	18/03/2022	ENGLAND	CORNWALL	Off St Anthony's Head, Portscatho	1 of 3 Original location was given as Isles of Scilly changed to St Anthony's Head, Portscatho 10/05/2022. Reporter convinced they were turtles, possibly of a reddish purple colour but insufficient info to confirm species.
T2022/05	UNI	SEA	ALIVE	18/03/2022	ENGLAND	CORNWALL	Off St Anthony's Head, Portscatho	2 of 3 Original location was given as Isles of Scilly changed to St Anthony's Head, Portscatho 10/05/2022. Reporter convinced they were turtles, possibly of a reddish purple colour but insufficient info to confirm species.
T2022/06	UNI	SEA	ALIVE	18/03/2022	ENGLAND	CORNWALL	Off St Anthony's Head, Portscatho	3 of 3 Original location was given as Isles of Scilly changed to St Anthony's Head, Portscatho 10/05/2022. Reporter convinced they were turtles, possibly of a reddish purple colour but insufficient info to confirm species.
T2022/07	LBT	SEA	ALIVE	17/07/2022	SCOTLAND	ARGYLL & BUTE	Cairndow, Loch Fyne.	Possibly same animal T2022/08.
T2022/08	LBT	SEA	ALIVE	21/07/2022	SCOTLAND	ARGYLL & BUTE	What3Words location: "templates.wriggle.decisive" Loch Fyne, so poss	What3Words location: "templates.wriggle.decisive" in Loch Fyne, so possibly same animal as 07.
T2022/09	LBT	SEA	ALIVE	29/07/2022	SCOTLAND	ARGYLL & BUTE	Loch Striven	we spotted what we think was a leatherback turtle on Friday in Loch Striven Argyll Scotland it was approximately 5/6 feet in length feeding on jellyfish. Species confirmed by photograph sent by Mike Lindop.
T2022/10	LBT	SEA	ALIVE	29/07/2022	WALES	SWANSEA	Sighted south of Worm's Head by Lizzie Stephensun-Hobbs.	Sighted south of Worm's Head by Lizzie Stephensun-Hobbs.
T2022/11	LBT	SEA	ALIVE	08/08/2022	SCOTLAND	ARGYLL & BUTE	Loch Long, location given //obstruct.bidder.tastes	Sighted from boat. Turtle came up to breathe for about 10-15 secs then dived again. Was quite loud. when it put its head down there were 3 distinct ridges on its shell.
T2022/12	LOG	ST	ALIVE	16/11/2022	ENGLAND	CORNWALL	Church Cove	Recovered to Blue Reef Aquarium, very small c20cm long with a mass of goose barnacles attached to rear. Died 10/12/2022. Sent to James Barnett for PME 12/12/2022.
T2022/13	LBT	SEA	ALIVE	11/08/2022	ENGLAND	CORNWALL	Sighted at the Manacles, Cornwall.	Sighted from boat. Short video clip before diving.
T2022/14	LBT	SEA	ALIVE	20/09/2022	ENGLAND	DEVON	Bristol Channel.	Found entangled in whelk header rope. The turtle was released alive and reported "hissing" by the crew. Front right entanglement.
T2022/15	LBT	ST	DEAD	13/02/2022	EIRE	KERRY	Banna Strand, Barrow	retro report.
T2022/16	LBT	ST	DEAD	02/04/2022	ENGLAND	CORNWALL	Portmellon	retro report

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 & SCOTLAND

ALL RECORDS

Rod Penrose or Mat Westfield, Marine Environmental Monitoring, 01239 683033 (24hrs) info@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

DEAD STRANDINGS
Nick Davison, Scottish Marine Animal Strandings Scheme (SMASS)
07979 245893
reports@strandings.org
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 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 & RoI



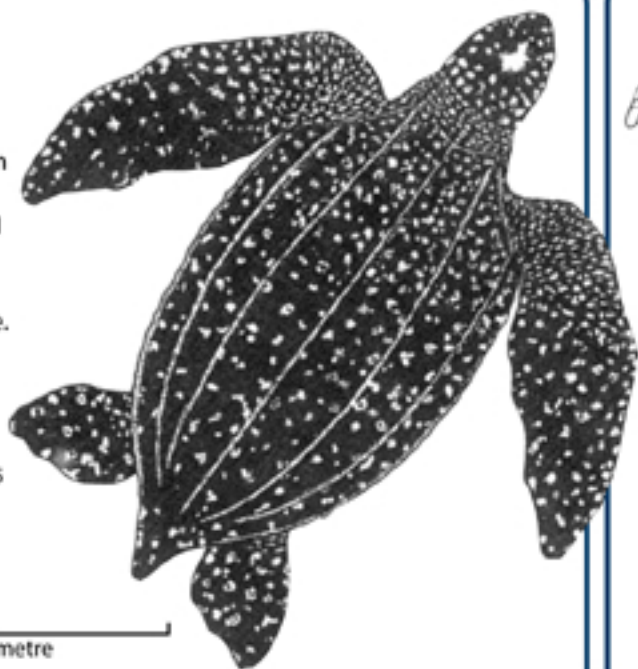
Endorsed by:



Of the world's seven marine turtle species, six have been recorded in UK waters. They are the leatherback, loggerhead, Kemp's ridley, olive 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 five 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

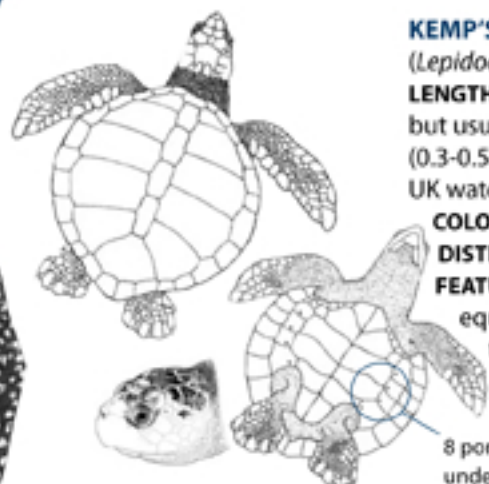
(*Dermochelys coriacea*)
Most frequently recorded species in UK waters.
LENGTH: up to 2.91 metres.
COLOUR: black, spotted with white.
DISTINCTIVE FEATURES: large, up to 916 kg, pronounced longitudinal ridges on shell, which tapers to a blunt spike.



SCALE 1 metre

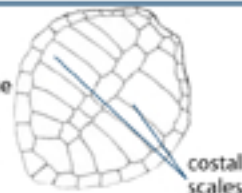
KEMP'S RIDLEY TURTLE

(*Lepidochelys kempi*)
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.



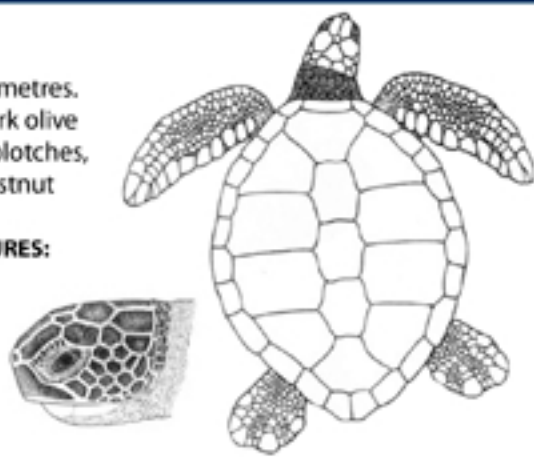
8 pores visible on underside (4 either side)

NB: The olive ridley turtle (*Lepidochelys olivacea*) occurs in the Atlantic, but has been recorded only once 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.



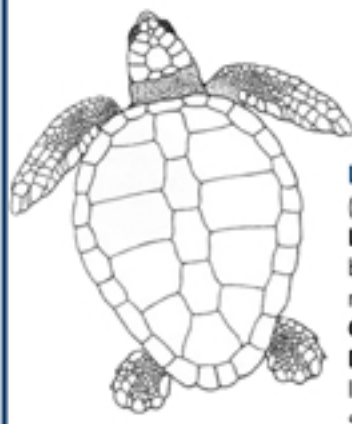
GREEN TURTLE

(*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).



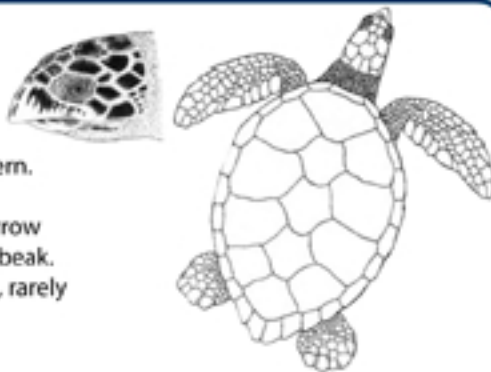
LOGGERHEAD TURTLE

(*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.

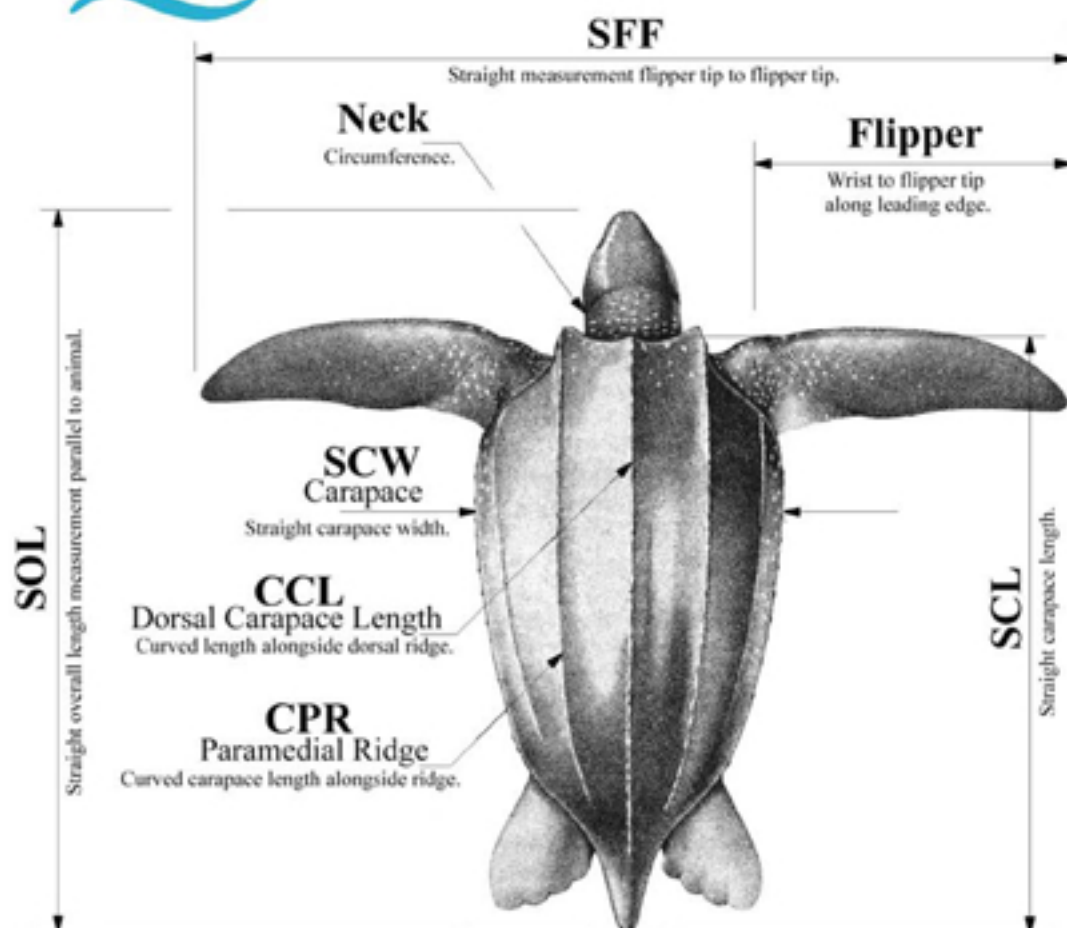


MARINE TURTLES ARE THREATENED

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.



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.

