



# MANX BASKING SHARK WATCH REPORT 2005

Report by Jackie Hall: maps by Tom Felce and Eleanor Stone

## 01 HIGHLIGHTS 2005

For most basking shark enthusiasts this wonderful picture of a newborn basking shark <2m long has to be the highlight of the results for 2005! It was taken from a kayak 4 miles off Dalby in July.



Picture by Shane Stigant.

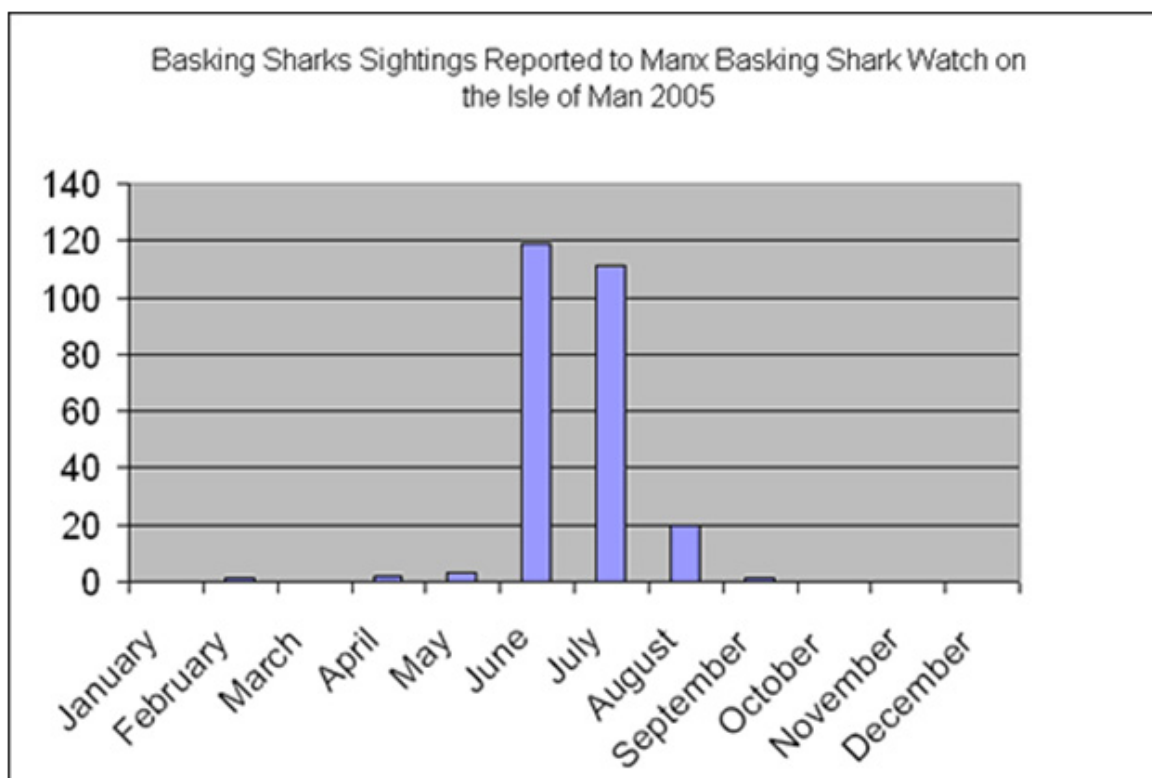
Well done every single person who was kind enough to report their basking shark sighting(s) to the newly established Manx Basking Shark Watch in it's first ever year. As you will see from the maps and graphs of sightings below we had a grand total of 257 sightings reported and these translate into some interesting statistics for the public, politicians and scientists to chew on!

- 159 reports of 1 or more sharks were received.
- Most of these were in June (119) and July (111).
- We had 7 reports of newborn sharks of less than 2m and one photograph of one!
- The Isle of Man had more large sharks of 6-8m and more than 8m than would be expected.
- We had 2 reports of very large sharks of possible 10m length, one was 3-4 nautical miles off Peel on the 10th July. It was so big that the observer initially thought that it was a submarine! The other was 3/4 mile off Peel breakwater on July 17th.
- Some 'putative' courtship behaviour was reported (that's scientific speak for "We're not going to admit that it's courtship behaviour until we've seen them behaving like this and it culminating in mating)! Most courtship behaviour seen was far offshore. This putative courtship behaviour was of basking sharks following one another very closely either one behind the other or parallel to one another. John Galpin also reported 'head-on challenging behaviour'.
- We had 4 reports of sharks leaping clear of the water (breaching) in July. This behaviour is often associated with the other kinds of courtship behaviour.
- We received one report of a basking shark colliding with a sailing yacht (luckily they were racing so the propeller was not engaged). The shark was not hurt.
- We have a shocking picture of a newly damaged basking shark dorsal fin. This shark was nick-named 'M' because of its fin shape. It looks like propeller damage.
- BIG NEWS! November 2005: Basking sharks were added to the Bonn Convention on Migratory Species and as a result the North Atlantic Fisheries Commission recommend that there be NO FISHING FOR BASKING SHARKS in the North Atlantic. This was initiated by the MCS to whom all our Isle of Man data is sent.

## 02 GRAPHS

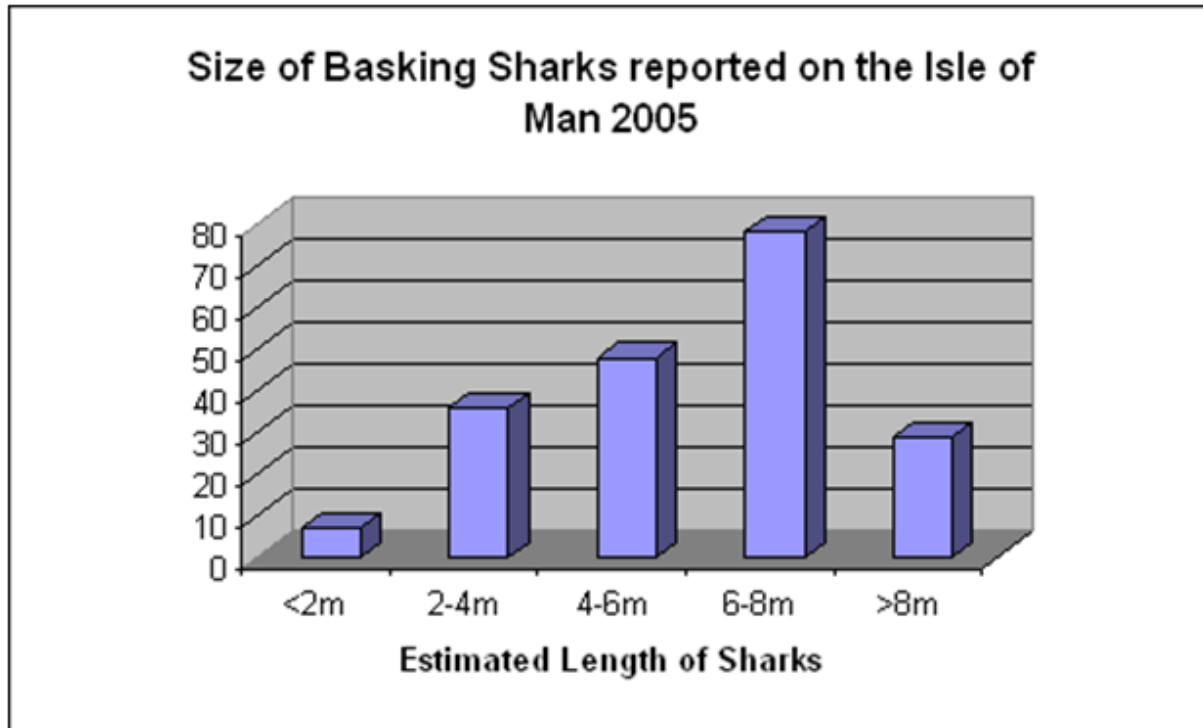
Be aware as you read this section that 257 sightings does not represent 257 sharks as many of these sightings were obviously the same animals being reported by different people or the same animals being seen and reported in successive days. Once we get a 'photo-library' of basking shark dorsal fins we might be able to sort this out better but, just for the record, it seems likely that there were at least 150 individuals spotted in Manx waters in 2005. This is to be further investigated.

**Graph 1: Total Basking Shark Sightings Reported to Manx Basking Shark Watch in 2005.**



Look at graph 1. A very clear pattern! We had a total of 257 sightings of basking sharks. We had 1 'stray' sighting in February, 2 in April and 3 in May. June and July were THE time to see basking sharks on the Isle of Man with 119 and 111 sightings respectively. If you had arrived with a film crew in August (which the BBC kept threatening to do, but luckily they went to Scotland instead), they were very thin on the ground, with only 20 sightings. We had almost given up manning the phone line when a straggler appeared in September.

**Graph 2:** Size of Basking Sharks Reported to Manx Basking Shark Watch in 2005. Does this represent a 'healthy' balanced population or are there size groups missing?



If you look at the OVERALL pattern of the graph of the size of basking sharks reported to Manx Basking Shark watch in 2005 you will observe something very close to a bell-shaped or NORMAL population curve. The curve is skewed to the right because of a large number of sharks in the 6-8m size class. More of that later. The graph shows that we have basking sharks from every size class, including very small newborns and very large >8m long sharks.

**Why should we be pleased about this?**

We should be pleased because there are no missing sectors of the population. If, for example, there were no sharks in the <2m category and the 2-4m category we would be concerned that the basking sharks were not producing young this year and we would wonder why. As it is, we can see that we have young this year, so that is excellent. Likewise if we had very few medium-sized sharks this might indicate that something bad had happened, maybe breeding had failed in the past 10 years or they had all been killed by hunters or something else, but, again, there is a nice 'bulge' in the middle 2 groups of 4-6m and 6-8m sharks, indicating a 'normal' expected pattern in the population of basking sharks seen in Manx waters in 2005.

**What of the interesting asymmetrical bulge to the right?**

Why are there more sharks in the 6-8m range than one might expect if looking for the typical bell-shaped population curve? The Marine Conservation Society data for the whole of British waters since 1987 shows an overall 'bulge' in the smaller 4-6m size category.

## Why has the Isle of Man got more large sharks than we would expect in the 6-8m category?

Here are a few ideas-

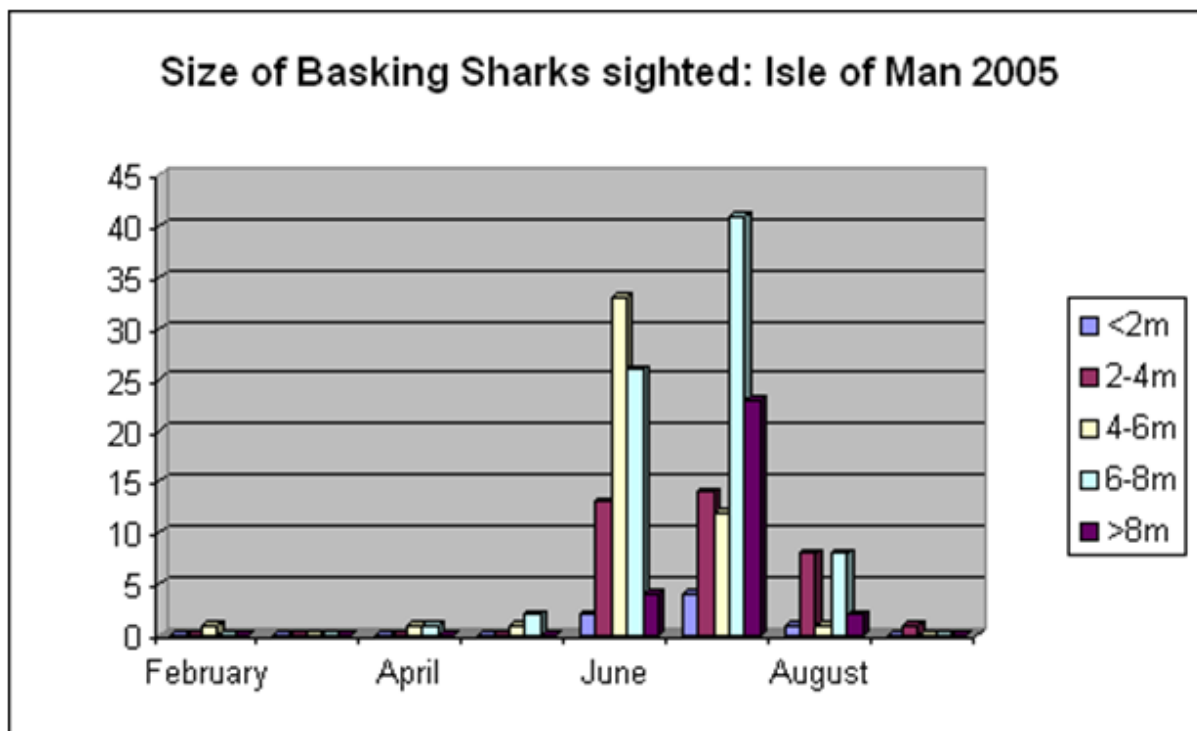
- 1. It is possible that the Isle of Man might get a larger ratio of larger sharks than that of the whole British Isles population of basking shark because large sharks are coming here for courtship activities.
- 2. The large number of estimates of 6-8m basking sharks might be an artefact of the 'estimated' nature of the size data.
- 3. Maybe we have this scew to the right because we haven't included a 10m or more size group. We don't have a size category for sharks of >10m because although we know that these sharks occur, rarely, there is a potential problem with introducing a >10m size category. Very big sharks are VERY rare but if we put this size category on a reporting form, inexperienced observers might incorrectly assign >8m sharks to the >10m category. We did have 2 sharks that were probably 10m long reported by experienced observers but they have been incorporated into the >8m category to be consistent with the MCS data collection. If we did have a >10m category this might partially alleviate the scew to the right.
- 4. It is possible that the population curve is scewed to the right because the very big sharks of 10-14m should be there but they are almost ABSENT from the sea as a result of historical basking shark fishing impacts. Basking sharks can live for a very long time (possibly 50-70 years) if they are not hunted or killed by disease, predation or accidental trapping in nets. Fish, unlike mammals, continue to grow throughout their life-span. If the sharks that were hunted off the British coasts up until quite recently had lived, they would now be those sharks of >10m which are almost absent from our data set. Then the graph would not be scewed to the right. It would assume a more bell shaped curve.

These possibilities are just guesses. More data, more time required!

The number of sightings of very large basking sharks of >8m were much fewer than of 'average' sized sharks. Again, we would expect this. We expect there to be fewer very large individuals in the same way that we would expect there to be very few 85 year old humans in our own populations. Very big basking sharks have had to avoid the hazards of being hunted for their fins or their oil, being injured by boat propellers, being accidentally captured in fishing nets, hunted by killer whales or any of the other myriad hazards of life in the oceans. We would never expect there to be lots of them but we would expect there to be a few, and there are. There will be more discussion about the real numbers of sharks of >8m later.

So, in conclusion, and given the limitations of a small sample size, the size-distribution curve of basking sharks seen off the Manx coast in 2005 shows more or less the pattern of sizes that one would expect in a population that has not been too damaged by external factors. The interesting prevalence of sharks in the 6-8m size category remains a cause for conjecture.

**Graph 3:** Size range of basking sharks reported off the Isle of Man in 2005.

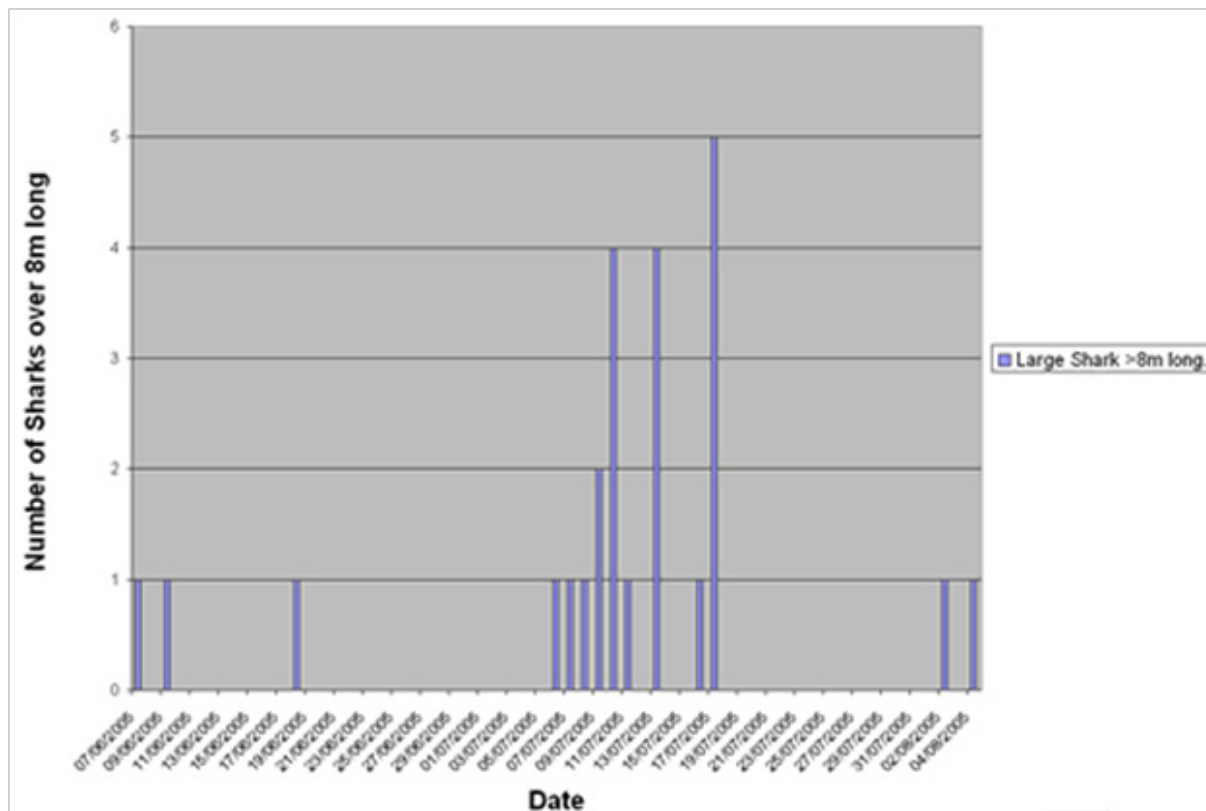


Newborn sharks of <2m (mid-blue on the graph) appear in June, July and August. Young-of-the-year sharks of 2-4m (red on the graph) appear in slightly greater numbers in June, July, August and September. More of these youngsters later.

Very large numbers of mid-sized sharks of 4-6m and 6-8m (yellow and pale blue on the graph) appear in June and July but have nearly gone by August. Why would this be? It is probable that the prime reason for these sharks coming to Manx waters is to feed on the rich planktonic shrimp that are here in those months. By August better plankton is to be found in Scottish waters so they have left.

When you first look at the numbers of large basking sharks of >8m it looks like we had 4 in June, 24 in July and 2 in August but remember, these are SIGHTINGS REPORTS PER MONTH not individual tagged sharks so look again! Without tagging we cannot be certain but it is possible that we had just 4 very large individuals that were seen again and again. Look at graph 5 below. Just look at the numbers for INDIVIDUAL DAYS.

**Graph 4:** Very large basking shark sightings off the Isle of Man 2005. How many did we really have?

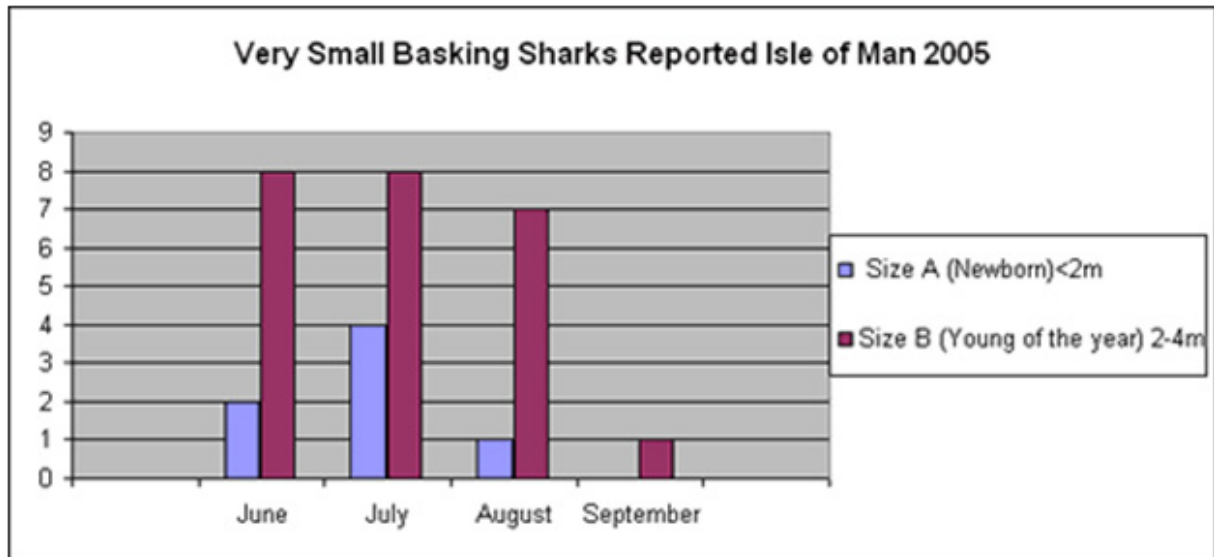


Looking at graph 4 which shows the basking sharks of >8m seen on each day it becomes obvious that there were possibly only 4 or 5 basking sharks of >8m but that they were reported again and again over several days. Looking again at the overall pattern maybe one might expect a slightly larger number of sharks of >8m but this is really far too small a sample, and only one year at that, so we cannot draw any conclusions. We need to be able to look at data for the whole of British waters and over many years to be able to draw ANY firm conclusions (hence the MCS database since 1987).

There are a maximum of 4 seen together (on 17/7/05 the count of 5 is due to 5 being seen at one sighting and 1 being seen later by itself). It is very interesting that only single sharks are seen until the end of the first week of July. Then they are grouped together (well off Dalby on the West coast). The following week was when they were repeatedly seen together and the courtship behaviour was seen.

You might view this small number of mature potential breeding animals with disappointment but it is also possible to view this in a different way: each of these large, potential breeding animals is very, very precious, especially given that they breed so slowly. It is vital that we give them full protection and respect while they are in our waters courting one another and (hopefully) conceiving future generations of basking sharks for our grandchildren to enjoy. When you see the awful injury done to the 6-8m shark nicknamed 'M' (link to picture not done yet) you will appreciate how vulnerable these magnificent beasts are.

## Graph 5: More about how lucky we were to have so many young basking sharks in 2005.



Very small sharks of <2 m length (shown as mid-blue on the left of each month) are considered to be 'newborn'. Dr David Sims, the basking shark researcher thinks that basking sharks are born offshore, off the continental shelf where the water becomes deep. As you can see from this graph we had 2 newborn sharks in June, 4 in July and 1 in August. We even have the wonderful picture at the header of this page. This newborn shark was photographed 4 miles of Dalby on July 17th 2005.

The following is a non-scientific observation but the one in the picture somehow looks 'new' and the one reported 8.5 miles off Peel on August 8th 2005 was curled up in a tangled position that could best be described as 'foetal'. We have no proof at all that basking sharks are being born in Manx waters but the previous observations make one wonder. A story has circulated that a few years ago someone thought that they had seen a basking shark being born in a welter of oily fluid. How we would like a first-hand account (or better still pictures) of something like that!

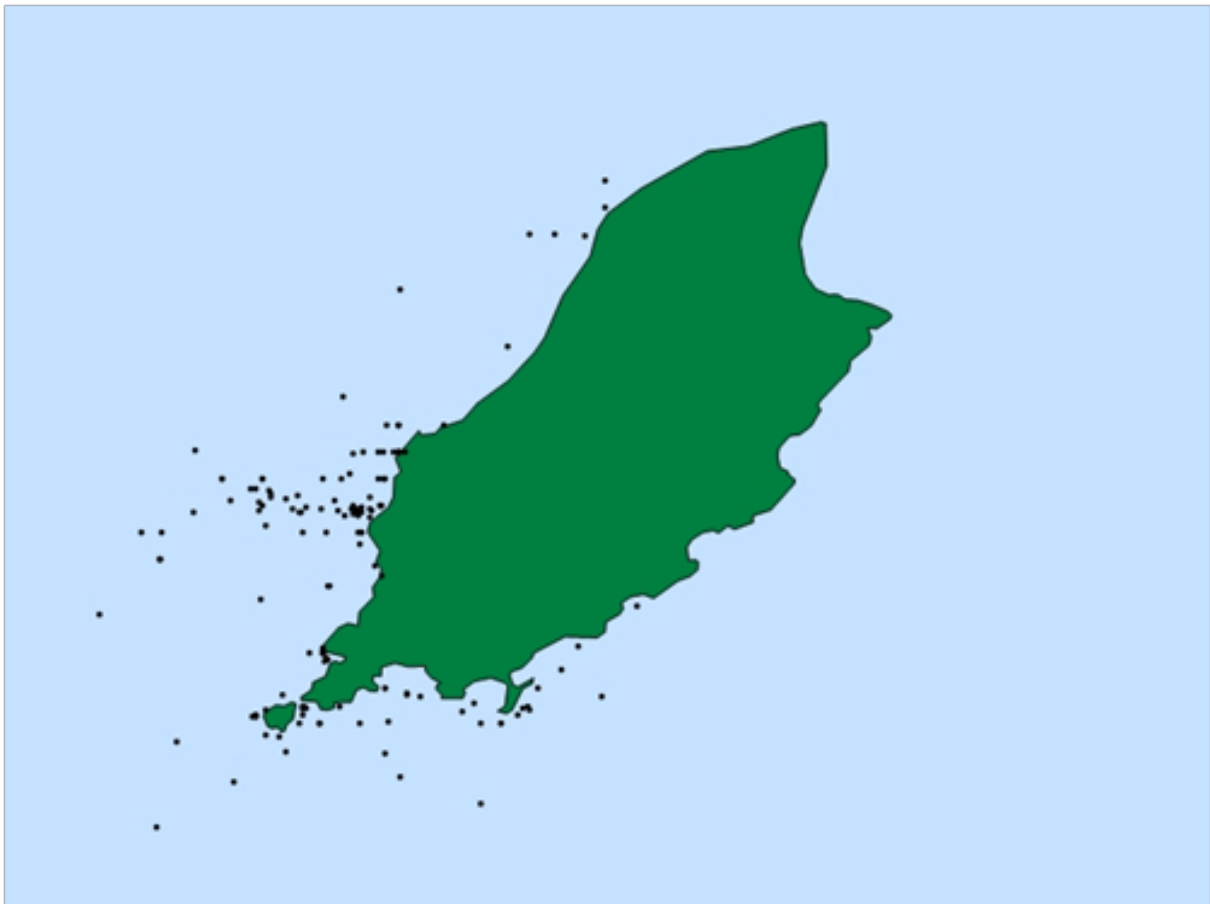
The slightly larger sharks of 2-4m are classed as young-of-the-year. That is, they have been born in this year and have grown a bit. Our Manx data for 2005 shows more young-of-the-year than newborn basking sharks. The fact that we have both size classes appearing over June, July and August MIGHT indicate that the season for basking sharks to be born is not short but that it goes on all summer. We will be interested to see if we get a similar pattern in 2006.

Overall, the number of young appearing in Manx waters is an encouraging sign that breeding is successful.



## 03 MAPS

### Map 1: Basking shark sightings reports for 2005

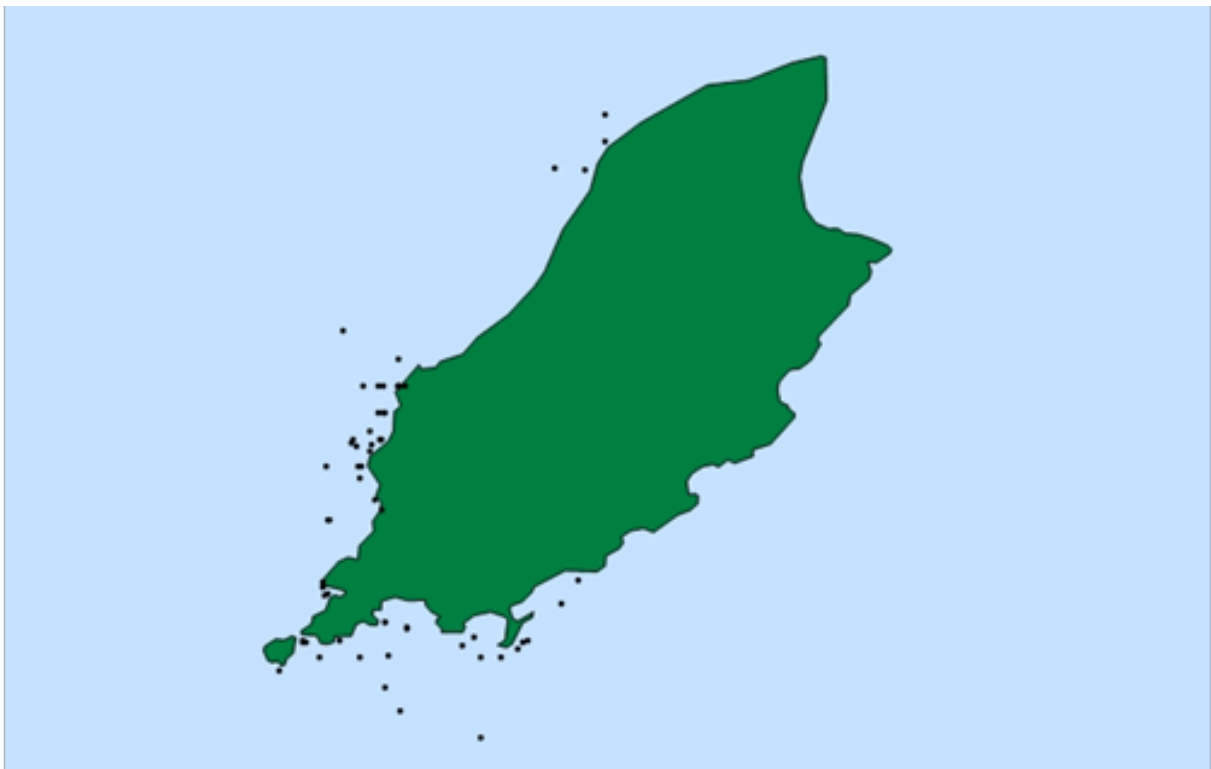


Map 1 (above): ALL 257 MBSW basking shark sightings reports for 2005. This map shows that the most common places for basking sharks to be seen were the West and Southwest of the Island. This pattern of basking shark sightings is very similar to the one seen in sightings reported to the Marine Conservation Society (MCS) since they started collecting data in 1987. It is to be hoped that if we can recruit a few enthusiastic 'spotters' in Douglas, Ramsey and Laxey they might help to put a few red stars on those parts of the Island in 2006!

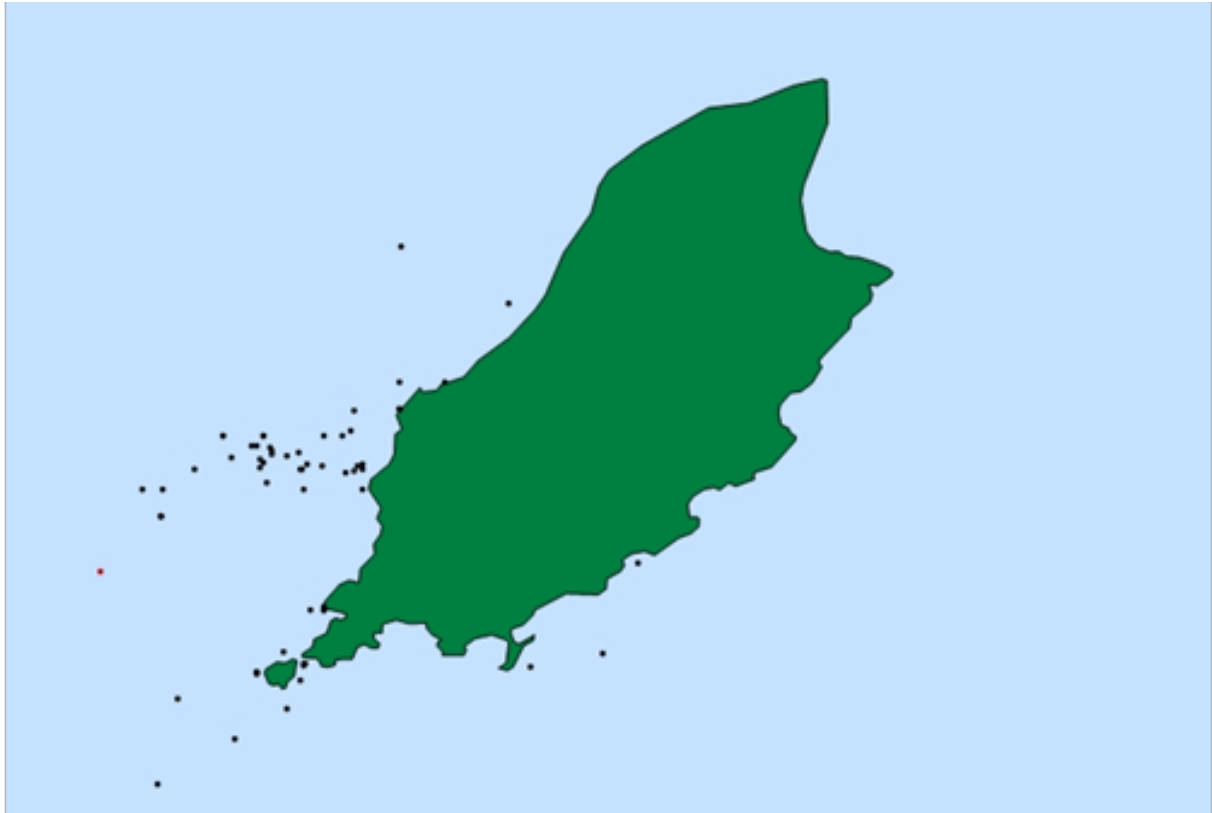
**Map 2:** Basking Shark Sightings (4) Reported to Manx Basking Shark Watch May 2005.



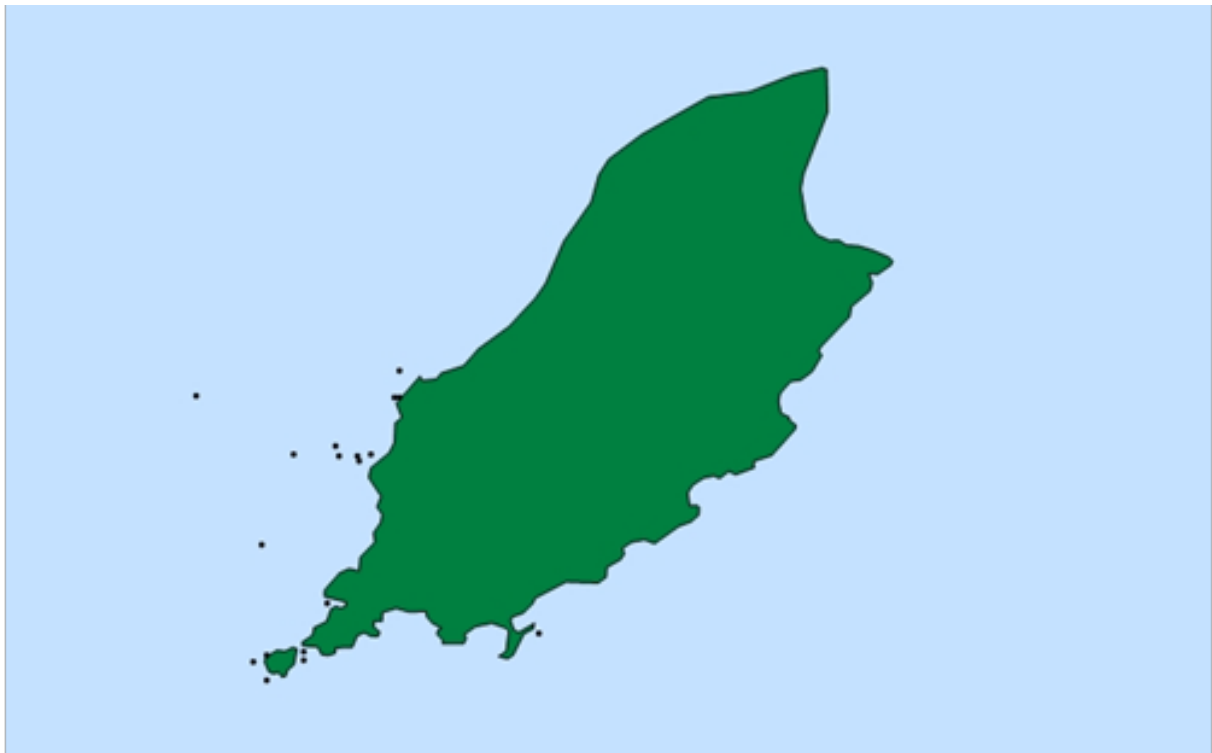
**Map 3:** Basking Shark Sightings (68) Reported to Manx Basking Shark Watch June 2005.



**Map 4:** Basking Shark Sightings (69) Reported to Manx Basking Shark Watch July 2005.



**Map 5:** Basking Shark Sightings (18) Reported to Manx Basking Shark Watch August 2005.



## 04 OTHER FINDINGS

### Basking Shark Courtship Behaviour Isle of Man 2005.

So what is courtship behaviour? It is the behaviours seen in large basking sharks of 6-8m and >8m long in the lead up to and including mating. It includes large sharks joining into groups to socialise, following one another, circling one another, head-on challenging, leaping clear of the water (breaching) and mating. Details of everything that could be construed as courtship behaviour that was seen off the Isle of Man is listed below. Note that all courtship events occurred in a very limited time frame, being all in July between the 7th and 13th July.

#### Groups of large sharks.

Curiously, there were only 12 groups that included large sharks seen in 2005. They are listed below. Most reports were of single sharks.

- 3 sharks of 6-8m 9th June off Dalby No socializing.
- 3 sharks of 5-8m seen feeding off Peel 23rd June. No socializing.
- 6 sharks 4-8m seen off the Calf 1st July. No socializing.
- 2 large sharks seen off Langness on the 4th July. No socializing.
- 3 sharks of 6-8m were seen well off Dalby on July 8th. Socializing seen between 2 of the sharks\*\*\*\*
- 6 sharks of 6-8m were in a loose group 3-4 nautical miles off Dalby on 10th July. 2 of them were socializing (swimming in line)\*\*\*\*
- 7 sharks (4 of 6-8m and 3 of >8m) were spotted in an area 2-5.5 nm off Dalby on 10th July. Three of these were quite close together, swimming along the same strip of water. Some socializing (following) seen between 2 of these sharks (parallel swimming)\*\*\*\*.
- Again on the 10th July, in a group of 3 sharks of >8m, 2 sharks were seen to challenge one another\*\*\*\*.
- 2 sharks, one of 6-8m and another of >8m were seen off the West coast on 11th July, no socializing seen.
- 2 sharks of 6-8m were seen off the West coast on 13th July, no socializing.
- 4 sharks 15th July 2 miles NNE of Peel, no socializing.
- 6 sharks were seen 4 miles off Dalby on 17th July, 3 of these were >8m and one was the youngster of <2m whose photo is the star of this section! No socializing seen.

#### Breaching Sharks

- On the 7th of July a large shark of >8m breached 6-7 nautical miles off Dalby.
- On the 8th of July a large shark of >8m was seen to breach once in clear view of staff in the Sound Cafe!
- On the 13th July a 6-8m shark was seen to breach at 15.45, 4 miles off Dalby "twisting and writhing and then a big belly flop onto water".
- Also on July 13th, another breaching of a large shark of >8m was seen at 20.50, 6.5 miles off Bradda Head. 'Following' behaviour.
- On 8th July 3 sharks of 6-8m were seen well off Dalby, socializing was seen between 2 of the sharks. They were parallel swimming, one slightly to the rear and about 8m to the side of the other one
- On 10th July 2 sharks of 6-8m, part of a loose group of sharks well spread out on the water 3-4 nautical miles off Dalby, were seen swimming in line, one close behind the other.

## Challenging head-on behaviour

- On July 10th, 7 sharks (4 of 6-8m and 3 of >8m) were spotted in an area 2-5.5 nm off Dalby. Three of these were quite close together, swimming along the same strip of water. Some socializing seen between 2 of these sharks. A 6-8m shark swam towards an 8m shark and then submerged.
- Again on July 10th, 4nm off Dalby, 2 sharks of >8m swam towards one another and then both submerged.
- Mating. No mating was seen in 2005.

## 'M' the damaged shark.

Where wildlife and humans mix there is always the danger that accidents will happen. Basking sharks get caught up in nets and collide with boats propellers. This shark, a 6-8m animal nicknamed 'M' appeared around the Dalby/Niarbyl area in July. It was seen on the 11th, 13th and 17th of July. It was assessed as >8m from a close-up encounter with a kayak on the 17th. It has a fresh wound on its dorsal fin.



Presumably this was due to a collision with a boat propeller. ALWAYS put your engine into neutral or off if you are aware that you are next to basking sharks.



It is interesting that the first picture looks so different. It is definitely the same shark.



There is a shark nicknamed 'Stumpy' who has a wound that must have been as bad as this. We can only hope that 'M' will recover and be very recognisable in 2006.

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