Marine mammal entanglements: challenges and solutions

by
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An oft-quoted figure regarding pollution in the marine environment is that 100,000 marine mammals are estimated to die annually from entanglement. Depressing as this statistic is, it is often followed by rallying calls for a reduction in plastics, beach cleans, and pressure on governments and businesses to act. While this certainly serves its purpose for campaigning, there is sometimes a missing connection to the efforts of those on the frontline trying to rescue them.

Cetaceans

For cetaceans, it is rare in the UK to come across a porpoise or dolphin entangled at sea that is still alive. Those cases that are often face a race against time as the animal is weighed down, weakened, and possibly badly injured by its burden as it fights to surface for air. Asphyxia or drowning are an immediate threat if action is not taken quickly. However, whether that animal can survive post-release is a major welfare question.

For example, a common dolphin found in a Cornish harbour in 2005 caught in monofilament net was in a bad way, with line deeply embedded through its head and one eye. Trailing material around its tail resulted in the ragged partial amputation of one fluke. As a result, the decision was made that euthanasia would be the most appropriate outcome, as the prognosis for its survival was poor. Of course, there are examples when animals have been successfully released because they have a good prognosis, but the point is that the response in these specific cases must take into account the ability of the animal to survive beyond simply cutting it free and hoping for the best, no matter how terribly injured, and what further suffering it has to endure until death. Lay people without understanding of this can sometimes cause more suffering than assistance – something responders must deal with on arrival.

This becomes far harder for large whales. They are far more dangerous due to their size and power, which can unintentionally kill with one flick of the tail, or capsize a vessel. BDMLR has a specialised Large Whale Disentanglement Team who regularly train with purpose-made equipment to properly assess and identify the easiest and safest places to cut to remove all gear most efficiently. A major difference here is that due to their massive size, euthanasia is not an option as it is with small species. Instead, these specific situations are forced to be a case of cut and release, regardless of whether the animal has a good chance of surviving. There is no other option, besides doing nothing.

Entangled common dolphin, 2005, with severe head injury. The wound went through the other eye. Photo by BDMLR

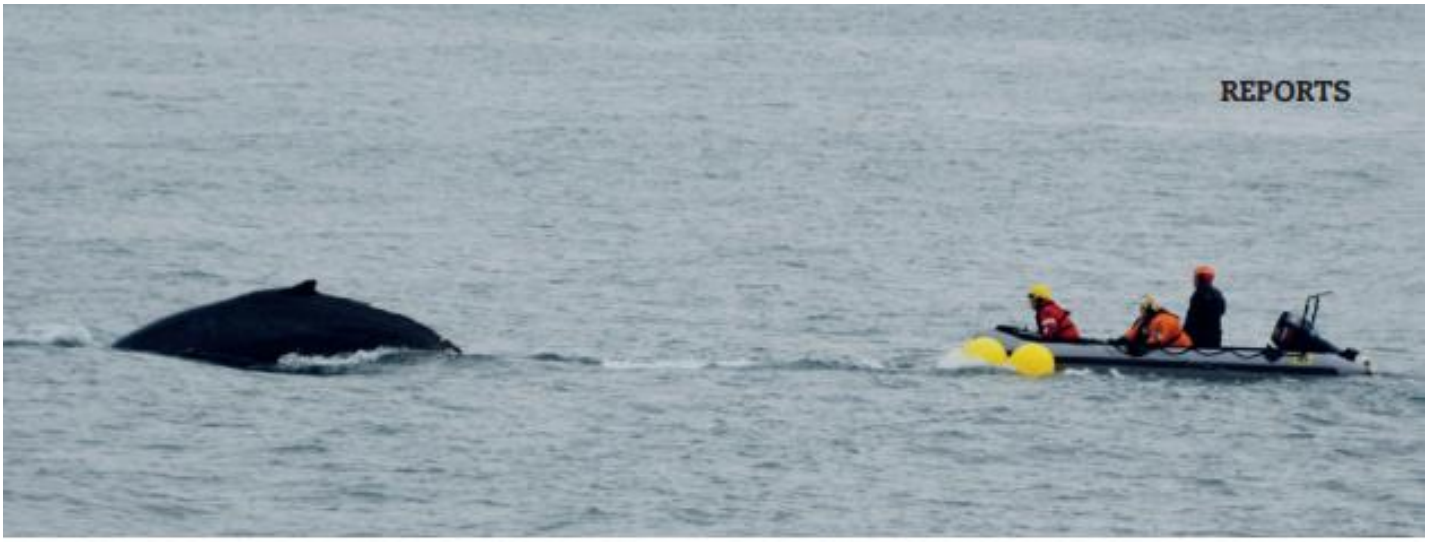
Humpback and minke whales especially are vulnerable, and with humpbacks increasing around Scotland and other parts of the UK, this is foreseen as an issue that will only grow. In 2018 a coalition of organisations created the Scottish Entanglement Alliance (**www.scottishentanglement.org**), working with the creel fishing industry. SEA has published reports on the scale of the issue and created resources for fishers on gear set ups that can reduce entanglements. The project continues, but positive efforts such as this highlight how solutions can be found across sectors.

Seals and other pinnipeds

For seals, things are somewhat different. For starters, it is not practical nor safe to capture one in the water; they can only be dealt with on land. Many haul out in locations where they're not easily accessible, such as islands or the base of steep cliffs. They are also highly prone to disturbance – any sound, sight or even smell of people getting too close will result in them stampeding into the sea to escape.

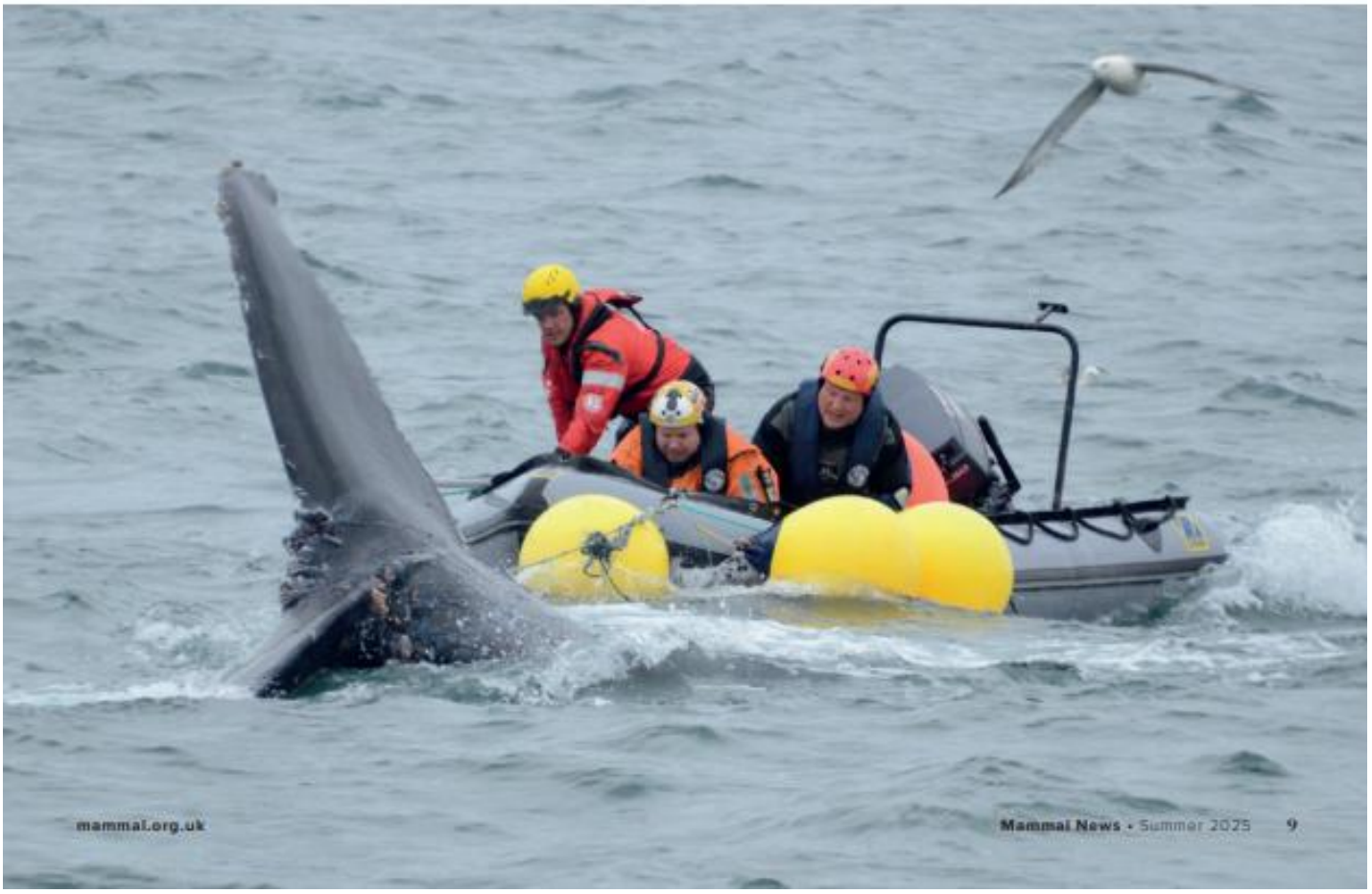
Instead, responders must usually use

Adult grey seal 'Hattie', rescued but later sadly euthanased. Entanglement injuries resulted in stunted growth and hepatic amyloidosis. Photo by BDMLR



Joint operation between BDMLR and IFAW, 2016, to disentangle a humpback whale in Flaxafoi Bay, Iceland, which took three days.

Photo by BDMLR

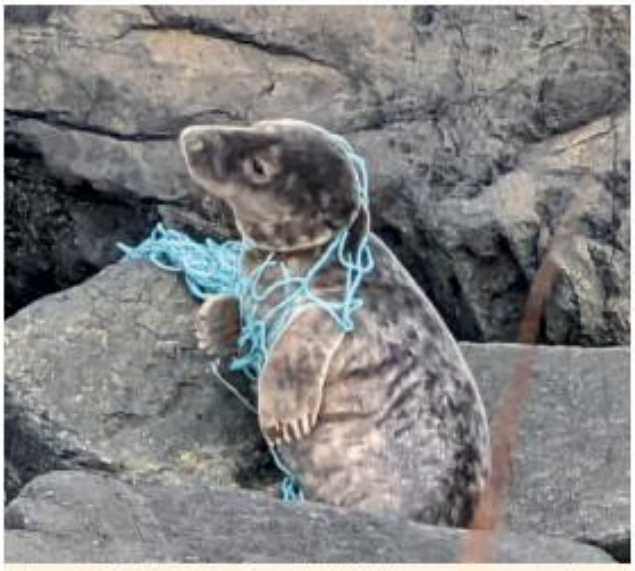


stealth and surprise to get as close as possible, followed by speed to stand a good chance of a successful capture. The criteria to decide whether to green light an operation is complex, taking into account safety, accessibility, terrain, the number of people and equipment needed (adult male grey seals can be around 250kg – not something you can wander up to and drop a towel on in the typical way a seal pup is handled!). The number of other seals present – especially mothers with dependent pups at risk of separation – needs to be considered, along with the state of the tide and distance of the target to the water, so its escape can be cut off in time.

This is why rescues at haul-out sites are rare, as the logistics and process dictate opportunity. Greater fortune can be found with young naive seals that can haul out on public beaches and can be far more easily dealt with. For others, a good deal of patience must be given in waiting for the right opportunity. Trying for the sake of it, when there is a low chance of success, only results in scared seals dashing into the sea, risking injury and maternal separation, and no rescued seal. In January 2024, BDMLR were able to disentangle an adult male grey seal after waiting six years for him to be in the right place at the right time.

Sadly, it should be remembered there are many that can't be helped, due to inaccessibility. It can only be hoped they will move somewhere they can be reached. Time is a serious factor, with examples of seals being photo-identified by the Seal Research Trust being found dead just weeks after they are first sighted with an entanglement. Younger animals may be more at risk if they are still able to forage effectively and continue to grow, causing material to cut in and open horrendous injuries. If not, they starve. For some adult animals, they can end up carrying their burden for many years, somehow adapting and coping despite the odds, and the pain. There is also the terrible effect of trailing material constantly being pulled under their body as they haul over land, slowly sawing into them like decapitation in slow motion. Welfare of individuals is a huge issue and balancing that against chances to attempt rescue is very difficult as, despite the highest motivation to help, the opportunities are simply not there for all of them as often as we would like.

The good news is that new techniques are being developed globally, and these organisations come together as the Pinniped Entanglement Group (**www.pinnipedentanglementgroup.org**), a coalition enabling sharing of these and raising awareness. In North America, for instance, the use of sedative darts on sea lions has been successful, but not without risk of fatal overdosing or negative reaction to the sedative, so the technique is highly specialised. Unlike in TV and movies, sedatives can take several minutes to have an effect, giving plenty of time for the animal to dive and travel out of reach. For sea lions that do enter the water, it has been found they tend to float, making recovery relatively simple. Surprisingly, the technique does not translate so well to seals – they usually sink.



Pup entangled in 11 m of ghost gear. Incredibly lucky rescue in a remote place. Photo by BDMLR

'Wings', an adult female grey seal successfully entrapped and freed from a fatal frisbee ring. Photo by Kirsty Probert

Seal pup showing how quickly devastating injuries can be caused by a single loop of monofilament net. Photo by BDMLR

In the UK, BDMLR is continuing to innovate too. At one site, a procedure for abseiling into an inaccessible cove has been developed and is very effective when the circumstances are right, though adults are still a tall order due to the difficulty in getting enough people and heavy-duty equipment down undetected. In another 2024 case, an unusual situation of an adult female grey seal habituated to human contact via public feeding in a harbour (an activity that is actively discouraged and has other negative welfare implications) was entrapped by luring her with fish into a tunnel, whereupon she could be released from a frisbee ring.

While most entanglements relate to fishing gear, which has plenty of ongoing action and awareness, there is a steady rise in entrapment in frisbee rings, especially in East Anglia but also in other areas. Yet another coalition, the Seal Alliance (**www.sealalliance.org**), has been working to engage with retailers by asking them to stop stocking these with good success, including major national chains and supermarkets. There is now a focus on more public engagement, so consider this your rallying call: to sign and share this petition and help us do our little bit to support this cause: **www.sealalliance.org/flying-rings-campaign-2025**