

## Letter to the Editor

# Why responding to strandings is critical - a student's perspective.

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As I reflect on my experiences working as a summer student at the Comeauville Marine Institute (CMI), I am reminded of a 2018 article by Askin and Belanger published in JMATE that discussed protecting both public curiosity and safety, as well as scientific research during marine animal strandings. The authors discussed safety issues that can arise while on site at marine mammal strandings (1). In response to this article, I would like to share some of my own experiences and opinions on safety at strandings.

In June of 2019, while employed by the Oceanographic Environmental Research Society (OERS), I was given the opportunity to participate in two North Atlantic right whale necropsies. As these whales are endangered, the necropsies were critical in determining whether the animal died from natural causes or from human interactions (2). Though I had some experience in small cetacean necropsies, fully examining a 40,000 pound animal was unlike anything I had ever seen. Working as a team, the OERS resident biologist Dr Askin and I prepared bins full of sample-taking tools and protective gear, packed up the truck and deployed from Comeauville, Nova Scotia to New Brunswick.

The first necropsy was on Miscou Island, in an isolated and rural area of northeastern New Brunswick. It began with a Mi'kmaq elder blessing the animal and performing chants about the importance of whales to our ecosystem. This experience brought a sense of community and purpose to the group, though many had just met for the first time. After the ceremony concluded, everyone split off into their assigned teams and work began by cutting through and carefully removing the blubber layer. The communication skills between the lead veterinarians and the volunteers was critical to the success of the necropsy. If anything was noticed, even if it seemed insignificant, it had to be photographed and looked at by at least one of the three vets. As one can imagine,

With a team of 20 people around a 40-foot long animal, knives being used and replaced constantly, and the addition of slippery oil from the blubber, being attentive and focused was a necessity. At times, there were frustrations and mistakes made, but that is the reality of field work and being in unconventional conditions. For example, obtaining precise measurements of the animal was next to impossible, due to his size and positioning on the beach (Figure 1). The experience of the team helped to alleviate as much error as possible, and they were able to come up with creative and effective ways to combat this issue. Overall, I noticed that proper communication was key to the success of this necropsy.



Figure 1: The lead veterinarian and other team members discuss the difficulties of getting an accurate length measurement of a large female North Atlantic right whale. Photo credit OERS.

Determining the cause of death was critical to this endangered species, and with that importance brought public inquiry. As soon as the necropsy began, there were news reporters and filmmakers capturing footage and asking questions to all the active participants. More interesting though, was the arrival of the public, who

came to marvel at the magnificent animal, and ask as many questions as they could. Coming from Toronto, Ontario and having never seen a whale up close, it seemed abnormal to me that parents would bring their young children to see the necropsy, which to some would be considered a gruesome scene. Instead of being distressed, the children were excited and curious to find out what had happened to this animal. I perceived this as a cultural difference, and found that these children had a more well-adjusted way of life when dealing with death and the impact humans have on the environment. I now agree with Askin and Belanger when they note that public education can help make a difference when discussing species conservation, which is why vets, scientists, volunteers and the Department of Fisheries and Oceans Canada (DFO) allow the public to attend necropsies (1). Being able to directly observe the effects of human interaction on marine mammals, and seeing the hard work and hours put in by the dedicated team helps the public become more motivated to help. In addition, because these communities have seen the same animals out in the wild prior to their death, they are more sensitive and understanding of the urgency of these issues. When it comes to marine mammal protection and conservation, that is an opportunity that most Ontarians will be unable to experience.

Another important aspect of the necropsy was safety. As noted in the previously referenced article, for any group participating in necropsies such as OERS, public safety is the number one priority (1). In my experience, the organizations had a few days' notice to prepare for this necropsy, and plan public safety measures, as opposed to being on call and rushing to the scene as described by Askin et al (1). I believe this preparation time permitted the necropsy to become a safer environment for all involved. In order to allow people to watch, DFO took yellow caution tape and cordoned off the area, and had security placed at the entrance of the necropsy site allowing only the groups directly involved with the necropsy past the cordoned off area. Taking these precautions ensured that no one was injured or interfered with the necropsy, but still allowed the public to get close enough to see what was going on.

This was especially important in ensuring that news reporters did not get too close to the animal and put themselves in danger (Figure 2). The filmmakers were given special privileges to gear up in protective



Figure 2: Documentary makers respectfully staying behind the caution tape surrounding the necropsy site while getting footage. Photo credit OERS.

wear and cross the yellow tape, but were asked to stay relatively far away from the people working. They also had to ask permission to film certain findings to ensure confidentiality. In addition, there were two DFO employees dedicated only to managing the media and public, which alleviated stress from everyone working on the animal. Those two employees also had the task of ensuring that everyone stayed well hydrated, fed and protected from the sun. Due to the fact that we were covered in biological material from the necropsy, they would uncap drinks for us, hand feed us granola bars and apply sunscreen to any exposed areas so that we did not have to change out of our personal protective gear. When I first arrived, I did not understand the importance of having someone keep track of your health, but as the day progressed I realized the difference it made. Once the cutting began, adrenaline kicked in and it became easy to get lost in what you were doing and forget about basic human needs. There were some people who had to be reminded every 2-3 hours to have water or a snack, because of their dedication and focus on the animal. Overall, having specific individuals committed strictly to health and safety made the necropsy more successful and enjoyable.

In response to another issue raised by Askin and Belanger, whereby at necropsies, especially in remote locations, weather conditions, tides and rocks can play a role in safety (1). In their experiences, the weather at

their locations included cold temperatures, high winds and tides moving in quickly. In this case, the beach was sandy and easy to navigate, and the weather was relatively calm and sunny. There was no major risk of twisting an ankle on a large rock or becoming too cold to work. The difference is that all the organizations were able to decide where the whale would be necropsied in advance, as they spotted the animal through aerial surveillance floating at sea. However, the sunny weather brought its own troubles. Wearing waders and other protective gear that trap heat make it extremely easy to sweat and become dehydrated (Figure 3).



*Figure 3: OERS volunteer taking samples in warm weather conditions. Photo credit OERS.*

At this necropsy, the only washroom was half a kilometre away, which made individuals want to avoid drinking too many liquids. This led to not staying hydrated, and staff had to constantly remind everyone to drink water. Sunburn was also a concern, and sunscreen had to be reapplied every 2 hours. At the end of the day, everyone was in relatively good shape, though they were exhausted. Moreover, the good weather conditions made it more enjoyable for the public, as they could stay and watch for longer. The safety of the team working on the animal was also a priority. First, due to the animal's size, heavy machinery such as excavators had to be brought onto the beach to dispose of tissue. Operating heavy machinery close to large group of people meant that whoever was directing the driver must not get distracted. It helped to have only two people authorized to give the excavator directions, to ensure that nothing got confused (Figure 4). Additionally,

wearing rubber boots and trying to stand or sit on top of the whale safely was next to impossible. The large amount of oil produced once the blubber layer was cut open pooled in areas where the team was trying to work and made it difficult to balance. There was an added layer of danger, as everyone was holding large knives while trying to balance on slippery areas. Fortunately, there were no injuries and there was enough experience to know when to put the knife down and readjust positions. Between having an emotional connection to the work being done, exerting yourself for 10 hours and constantly paying attention to health and safety, the necropsy experience was draining both physically and mentally for all the active participants.



*Figure 4: OERS volunteer remaining a safe distance from the excavator while blubber is being removed from the animal using straps. Photo credit OERS.*

The experience and knowledge I gained from the first necropsy was put to the test when we had to deploy a second time, only three weeks later, for a second right whale necropsy in Cape Breton, Nova Scotia (Figure 5). Though much of the day was similar to the previous necropsy, the main difference was the size of the animal. This whale was almost double the size of previous animal. This meant that more volunteers had to be commandeered to help with the cutting for majority of the day, even if they had little experience. Due to the animal's size, the necropsy took over 12 hours, with many of us having only granola bars and sports drinks to sustain ourselves. That is when I was truly able to see the passion and dedication that we all have for these animals and their futures. In addition, having that many people standing on and around the whale at one time made the previous safety

concerns even more serious. As an example, I was asked to help cut and release a piece of tissue that was being pulled on by the excavator using straps. That involved a significant amount of tension being placed on those straps, so it was essential to listen to both the driver of the excavator and the volunteer who directs them. If the strap were to ever break, over 100 pounds could come crashing down onto someone below. The dissection skills I learned at the previous necropsy, alongside my ability to stay focused and attentive, allowed me to be more confident in myself and become comfortable taking on these roles. Overall, having the chance to attend a second necropsy helped me to solidify the skills I learned at the first necropsy, and put them into practice. Together, these experiences confirmed that the issues raised in the 2018 article by Askin and Belanger have real world applications (1). Specifically, if done correctly, both public safety and curiosity, as well as scientific research can be satisfied during marine mammal strandings.

The right whale necropsies I attended were incredible opportunities, full of learning and personal growth. Though I became knowledgeable about whale anatomy and the necropsy process, understanding the social and cultural importance of whales and their effect on local maritime communities is something I will never forget (Figure 6). Seeing the local community member's emotional connections to the animals and their dedication to environmental issues was very special. It is important to continue to build relationships between scientists and the public, especially in the current social climate where many people distrust science. This is a lesson I hope to bring back to Ontario with me in my own studies. To conclude, I would like to thank OERS for these experiences, and for allowing me to be a part of their response team and represent their organization at such important events.

## References

1. Askin N, Belanger MP. Protecting both public curiosity and safety as well as scientific research during marine animal strandings. *Journal of Marine Animals and Their Ecology* 10(1):9-12. 2018.
2. Department of Fisheries and Oceans (DFO). *North Atlantic Right Whale*. Retrieved from <https://www.dfo-mpo.gc.ca/species-especes/profiles-profil/rightwhaleNA-baleinenoireAN-eng.html>. 2019.



Figure 5: Meredith Foley, at Cape Breton site of the second North Atlantic right whale necropsy in summer 2019. Photo credit OERS.

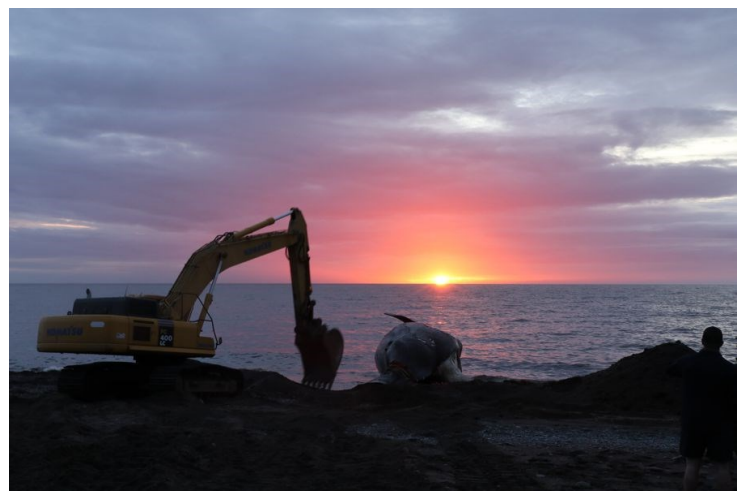


Figure 6: A sad memorable time as another North Atlantic right whale was found dead and brought to shore for necropsy. Photo credit OERS.