

What steps will be taken to minimise impacts on cetaceans

In this study we will use LIMPET tags (Low Impact Minimally Percutaneous Electronic Transmitter), a satellite transmitting tag widely used for cetacean tracking. LIMPET tags have been used on about 20 species of cetaceans including Blue and Humpback whales in Australia. The LIMPET tag is the less invasive tagging system with the least likelihood for adverse impact on the target whale, but can still provide one month of tracking data. LIMPET tags attachment are made of two rows of three, backward facing petals (six petals total) that act as anchors. The darts do not penetrate past the blubber layer and the tag is prevented from penetrating deeper than the length of the darts (6.8 cm) by the tag itself. The tags small size allows for deployment high on the dorsal fin to enable frequent transmissions to the Argos satellites. LIMPET tags are designed to be deployed using Dan-Inject CO2 rifles from a distance ranging from 5 to 25 m from the individuals. Vessel approaches will be undertaken in a way that minimises risk to the personnel on board and minimises harassment and risk of injury of cetaceans being approached/tagged. The time spent with each individual will be limited to 30 minutes. More information on LIMPET tag can be found at the following links:

1) <https://static.wildlifecomputers.com/LIMPET-Deployment-Accessory-Options-12.pdf>

2) <https://static.wildlifecomputers.com/LIMPET-Suite-Product-Sheet2.pdf>

3) <https://static.wildlifecomputers.com/2019/06/06155039/LIMPET-Tag-Suite.pdf>

Overall LIMPET tags don't have a significant impact on the survival of the tagged individual. A followed-up analysis on various tagged whales found swelling occurred in 74% of re-encountered gray whales. Swellings on common in blue whales was rare with current models. Depressions occurred in 82% of gray and 71% of blue whales (Norman et al. 2017). A recent study on immediate reactions and long-term responses reported not severe immediate reactions to tagging. Hit or miss and age-sex class were important predictors of the reaction, but the method was unimportant. Overall, there were no significant mid- or long-term changes in the occurrence of whales in the study area following tagging. No major effect has been also reported on the reproductive success and survival (Best and Mate 2007).

Only adult individual will be targeted in this study