

Southern link offers hope for critically endangered Maui's dolphins

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There are estimated to be just 55 adult and juvenile Maui's dolphins according to a joint study by The University of Auckland, Department of Conservation and Oregon State University. With appropriate protections, however, there is reason to hope the subspecies may survive.

“Despite low abundance the population has maintained an equal balance of females and males and retained a surprising, albeit low, level of genetic diversity over the years,” says Professor Scott Baker from The University of Auckland and Oregon State University who led the research with colleague Rebecca M. Hamner.

The [dolphins](#) are travelling distances of up to 80km throughout their main range between Kaipara and Raglan on the west coast of the North Island, preventing further fragmentation and isolation of groups within the small population. This mixing is also likely to maximise the dolphin's chances of finding a mate, and their fertility is at normal levels. “One concern with such a dangerously low number of breeding females has been that the fertility of the population may be compromised, but our work shows that the number of pregnant females is within the expected range, which is encouraging,” says co-researcher Dr Rochelle Constantine from The University of Auckland.

Surprisingly, DNA analysis also revealed that two migrant female Hector's dolphins were mixed with the Maui's dolphins – the first recorded contact between the two subspecies. The females are thought to have originated from the West Coast of the South Island and travelled at

least 400km to the location off the Manukau Harbour where they were found – the longest distance ever recorded for these dolphins.

“This unexpected discovery provides hope that if the Hector’s dolphins mate with Maui’s dolphins, they may enhance the genetic diversity of the Maui’s dolphin population,” says Ms Hamner. While the precise route the females travelled is unknown, the scientists say their findings support the need to protect not only the main zones in which the two subspecies live, but also the corridors that link them.

The work was done in 2010 and 2011 by taking small tissue samples from 41 dolphins, primarily for DNA identification. It has given the best understanding to date of the movements of individual dolphins, and their relatedness. The sampling also allowed analysis of progesterone levels as an indicator of pregnancy rates.

The study is the most comprehensive recent analysis of the Maui’s dolphin population. It will be used amongst other relevant information by the Department of Conservation and Ministry of Primary Industries to aid deliberations over managing threats to the dolphins.

The researchers are now analysing the tissue samples further, to learn about the dolphin’s diet. “By analysing fish from the region then matching their chemical signatures to those found in the skin samples we will be able to determine where Maui’s dolphins capture their prey, giving us important information to help protect their feeding habitats,” explains Dr Constantine. The small [population](#) size and consequent rarity of stranding means that traditional stomach content analysis is not possible for these dolphins.

Provided by University of Auckland

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