Refloatation rates recorded in the **New Zealand Whale Stranding Database** 1978–2002

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Orca stranding, Tawharanui, July 2003

New Zealand has one of the highest rates of whale strandings in the world. Records dating back to 1846 are held in the New Zealand Whale Stranding Database (NZWSDB). The NZWSDB is administered by the Department of Conservation, and held at the Museum of New Zealand, Te Papa Tongarewa (Brabyn 1991).

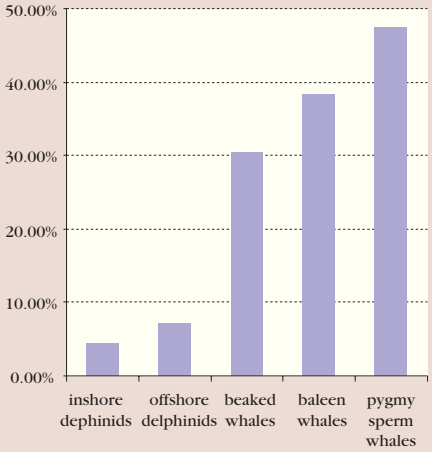
Systematic recording of stranding events began with the implementation of the Marine Mammals Protection Act in 1978. The NZWSDB now contains 2315 records, involving 13892 individuals (as at 31/12/02). Records include species, number of animals, location, and whether the animals were refloated.

Stranded whales are not rehabilitated in New Zealand, and most animals with no evident biomedical restraints are returned to sea. Little systematic effort has been made to follow the post-release survival of refloated animals.

Analysis

Using NZWSDB data, we analysed restranding records for five groups of cetaceans:

- **Inshore delphinids** (*Delphinus delphis, Lagenorhynchus obscurus, Orcinus orca, Tursiops truncatus*).
- **Offshore delphinids** (*Globicephala macrorhynchus, G. melas, Grampus griseus, Lissodelphis peronii, Pseudorca crassidens, Stenella coeruleoalba*).
- **Beaked whales** (*Berardius arnuxii, Hyperoodon planifrons, Mesoplodon bowdoini, M. grayi, M. hectori, M. layardii, Tasmacetus shepherdi, Ziphius cavirostris*).
- **Baleen whales** (*Balaenoptera acutorostrata, B. borealis, B. edeni, B. musculus, Caperea marginata*).
- **Pygmy sperm whales** (*Kogia breviceps).*

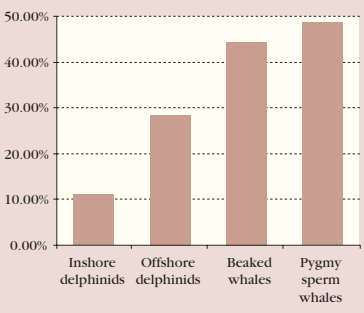


For the five groups, 7743 animals were recorded as stranded, 2221 animals were refloated, and 191 animals re-stranded.

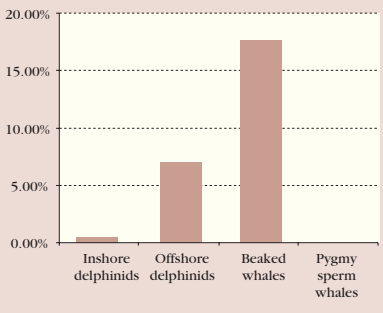
	Number animals stranded	Number stranding events	Total animals refloated	Total animals restranded	Percentage restranded
Inshore delphinids	792	455	176	8	4.6%
Offshore delphinids	6130	2080	1931	139	7.2%
Beaked whales	463	317	46	14	30.4%
Baleen whales	134	132	26	10	38.4%
Pygmy sperm whales	224	184	42	20	47.6%

We then compared mass and single strandings for 4 of these groups. Our study included only species with 3 or more recorded stranding events within the study period, and only those animals recorded as refloated, re-stranded and then known to have died.

Restranding rate following single stranding event



Restranding rate following mass stranding event



Mass pilot whale stranding, Stewart Island, December 2001.

Orca stranding, Tawharanui, July 2003.

Conclusions

The single and mass stranding data suggest that inshore delphinids have a higher likelihood of survival following a refloatation effort than other groups of stranded cetaceans. This may reflect the social structure of the stranded group. Social animals like long-finned pilot whales have a refloat success rate much higher from mass strandings (92%) than from single strandings (49%).

All re-strand rates must be interpreted with caution. Refloated animals may well die at sea, or may re-strand and not be discovered or recorded. Analysis of the inshore currents around the New Zealand coastline suggest most animals that die in the inshore region would become beach-cast, however, those that die offshore are less likely to be recovered (Dr James G Mead, in Baker 1981). This analysis does not incorporate any effect of personnel, access or environmental conditions on a refloatation attempt.

References

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