

Rare whale species identified in Komodo National Park, Indonesia

A rare and regionally distinct whale species has just been identified in the waters of Komodo National Park and World Heritage Site, Indonesia - the pygmy Bryde's whale, *Balaenoptera edeni*.

Whale researchers from The Nature Conservancy's Coastal and Marine Conservation Center and Apex Environmental first observed the mysterious marine mammal in 1999 and 2000 while conducting routine whale and dolphin surveys in the Park.

Interestingly, these whales could not be positively identified in the field because of their unusual colour patterns and shy behaviour. This is not that surprising as there are only a few reports of 'normal' Bryde's whales in Southeast Asian waters published, let alone the pygmy form! Further examination of the photographic material available confirmed the Komodo whales looked very different from all likely whale candidates known to occur in SE Asian waters. There simply was not enough information to compare the Komodo sighting with.



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So, in order to get a better understanding of the whale and dolphin species richness of Komodo National Park (KNP) and the role the Park plays in the day-to-day lives of the whales, a small skin sample was taken from one of the whales. The whale's DNA was then analysed and this resulted in a complete match with a pygmy Bryde's whale sample from the Philippines!

This is the first positive identification of a *living* pygmy Bryde's whale with matching photographic data in Indonesia, and possibly SE Asia (the few samples available for the pygmy Bryde's whales come from stranded or harpooned individuals). Thus the photos and video footage taken of this species during the regular Komodo cetacean surveys are an important benchmark for other whale research in the Indo-Pacific.

More questions than answers

So little is known about this species (as well as the many other Indonesian whales and dolphins) that the pygmy Bryde's whale is listed as 'data deficient' by major international conservation bodies. This means no official conservation status (such as an endangered or vulnerable status) can be given. Actually, we don't even know precisely how many different kind of whales and dolphins inhabit Indonesian waters! This huge information gap on Indonesia's whales and dolphins can only be filled by regional cetacean programs such as those conducted by The Nature Conservancy and Apex Environmental.

The visual and acoustic cetacean surveys in Komodo National Park are have been conducted twice yearly since 1999 in order to assess the Park's importance for whale and dolphin species. Eighteen different species of whales and dolphins have been sighted to date, including the endangered blue whale, roving orcas and the deep-diving Cuvier's beaked whale.

The surveys also focus on several Park management priorities:

- Identify which species of whales and dolphins are abundant, common, uncommon, or rare in Komodo National Park and adjacent waters.
- Identify resident or transient populations, and if the latter, record any seasonal sighting patterns in the Park.
- Identify critical habitats for cetaceans of regional importance, such as preferred feeding and breeding habitats, as well as migration corridors.
- Provide site and species-specific information on Komodo's cetaceans for:
 - i. Marine resource and Park management purposes.
 - ii. Environmental awareness and educational programs.
 - iii. Support to the Park's marine tourism and dive industry.
- Examine the major local and regional environmental impacts that threaten eastern Indonesia's whales and dolphins.
- Evaluate which protective measures can be implemented by Park management authorities to minimize the environmental impacts on cetacean habitats, including coral reefs, mangroves and the open ocean.
- Involve local communities, dive operators, and tour guides to help monitor whale and dolphin activity in and around the Park.
- Share the survey results with the Indonesian National Park Authorities, environmental organisations and local communities.

These research activities aim to increase the protective management for the many rare and endangered whale and dolphin species in Indonesian waters. For example, as a direct result of the whale surveys in Komodo, extensions to the Park's boundaries and additional buffer zones have been adopted by the management authorities. These measures are also incorporated in the 25-year management plan in order to protect sensitive marine areas for Indonesia's whales and dolphins such as feeding and breeding grounds as well as migration corridors of regional significance.

The importance of the Indonesian Seas to whales and dolphins

Whales and dolphins are versatile marine mammals and inhabit Indonesia's major rivers, mangroves, reef and open ocean environments. These diverse habitats are often in close proximity to one another because of Indonesia's narrow continental shelf, abundant oceanic islands and extreme depth gradients.

In addition to this, Indonesia is uniquely located as the only tropical region worldwide where an exchange of marine life between the Indian and Pacific Ocean occurs - in this respect the Indonesian Seas are a huge melting pot. Each year whales and dolphins travel from the Pacific and Indian Oceans through Indonesian waters, and vice versa. To do so, most will have to pass the narrow yet deep inter-island passages of the Nusa Tenggara island chain in eastern Indonesia. Komodo National Park includes three of these sensitive bottleneck passages: Selat Molo, Selat Linta and Selat Sape.

This means that cetaceans are especially vulnerable to numerous regional and local environmental impacts that may occur near the passages, such as habitat destruction, subsurface noise disturbances such as reef blasting, net entanglement, marine pollution and over fishing of marine resources. Most, if not all, of these impacts may occur in the waters of Indonesia, and would affect both residential populations as well as transient species that include these waters in their long-range movements. The Komodo whale surveys, as well as similar surveys in North Sulawesi and Alor, help to identify and minimise these threats and safeguard the exceptional diversity of Indonesia's marine heritage.



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For more information please contact:

Benjamin Kahn, M.Sc.
Principal Investigator
KNP Cetacean Survey Program
Director, APEX Environmental
E-mail: bkahn@apex-environmental.com or

Dr. Jos Pet
Deputy Director
Coastal and Marine Conservation Center
The Nature Conservancy, Indonesia Program
E-mail: jpet@attglobal.net

An information sheet as well as scientific publications on Indonesia's whales and dolphins can be downloaded from <http://www.komodonationalpark.org> ('Reports' section).