Chapter 34

Managing emblematic species and reef ecosystems

Catherine Sabinot and Éric Vidal

Humpback whale tail *(Megaptera novaeangliae)* belonging to an endangered population that is breeding in New Caledonian waters. © Opérations Cétacés/C. Garrigue

Many biologists who work in New Caledonia have offered to contribute to this book on New Caledonia's coral reefs by presenting the species they are focusing their research on and which, according to them, justify specific management measures.

These chapters will therefore showcase a few species that are of particular interest to scientists in New Caledonia. Some of them describe the knowledge that scientists have accumulated on these animals and tell us how this knowledge can inform or has already guided coral reef management and conservation policies. These species are not only studied because they are emblematic or charismatic. They can be valuable bio-indicators of the state of the ecosystem, or they can be "sentinel" species that can reveal subtle changes in the environment at an early stage. Others play a special role in the ecosystem, and many other species and habitats can rely on them. For example, seabirds form dense colonies that fertilize terrestrial and marine ecosystems with their feces. Some of these charismatic species can also be labelled "flagship species", and the public and users are more inclined to accept restrictions and regulations to guarantee the conditions of their protection.

Research in human and social sciences aimed, among other things, at documenting the views of New Caledonian people

on emblematic marine animals, was initiated recently. Some aspects of this are shared in the inset boxes, where the species chosen by biologists can be found; however, the emblematic status of a species is mainly justified by its social and symbolic significance. This reminds us that taking into account the social values of species as well as local and scientific knowledge is always a major challenge when building integrated, and respected, management policies.

In the following pages, the authors will therefore give priority to each "species" itself. However, this is not to lose sight of the challenges (as shown in other chapters of the book) faced by authorities to plan, structure and organize management and conservation policies with an ecosystemic and spatialized vision of the lagoon space which is to be preserved. It is also for this reason that this book has given special importance to the collectivities in charge of the different types of reserves and protected areas.

Box 27

What are the emblematic reef species for New Caledonians?

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The ESPAM program is interested in the emblematic species, social acceptance and the sustainability of marine protected areas. In 2017, it began important work on emblematic marine animals for New Caledonians. The objective of this project was to find out which species are the most important for the inhabitants of the island by collecting a list of these species from them, including the reasons for their choices.

A first significant result was the diversity of the species mentioned: out of seven public meetings, 80 species were mentioned. Of these, turtles, sharks and dugongs were the most frequently named, but the species that are fished for food were also important.

A second quite remarkable observation was the reasons why these animals are seen as emblematic. The social and symbolic importance of animals (culture, Kanak totem, etc.) is the most widely mentioned reason, followed by the enjoyment of direct observations. Ecological arguments about the importance of a species, such as its role in ecosystems or its threats, rank third.

These results may directly impact on conservation policies in the New Caledonian lagoon, which must take into account the social values attached to emblematic species. Policies based solely on ecological criteria are at risk of not meeting people's expectations and therefore not effectively protecting the reefs.

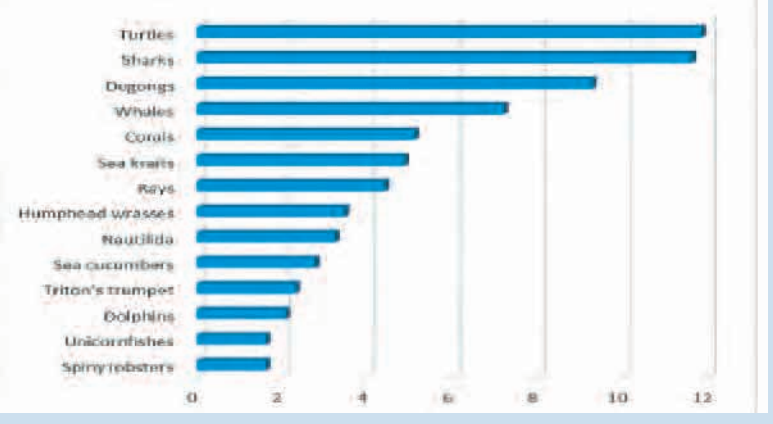

Figure 1: Animals cited by at least 2% of people (number of mentions). It is worth noting the importance of corals, which are selected for their reef-building role. Interviews conducted in 2017 by the authors

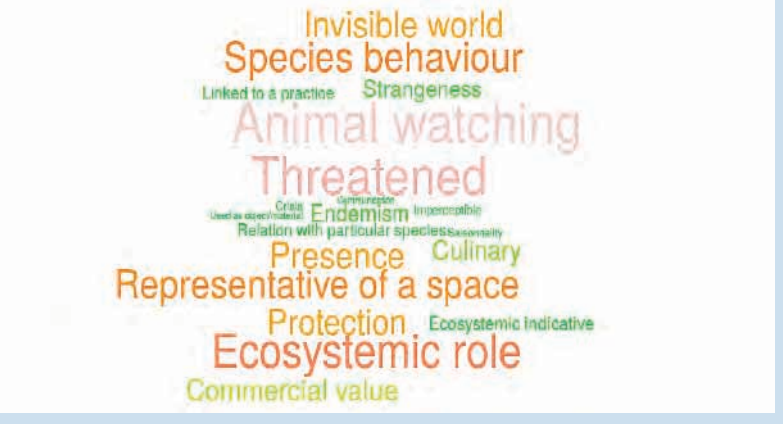

Figure 2: Main reasons given to justify the designation of "emblematic species" (size of words relates to the number of mentions). Interviews conducted in 2017 by the authors

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