

Book Review

GUIA DE ESTUDO DE CETÁCEOS. VOLUME 1: INTERAÇÕES COM ATIVIDADES DE PESCA. Ana Paula Madeira DiBeneditto. Yaqu Pacha (Organization for the Conservation of South American Aquatic Mammals), Universidade Estadual do Norte Fluminense (UENF), Av. Alberto Lamego, 2.000, Campos dos Goytacazes/RJ 28013-600, Brasil. 2004. ISBN 85-89479-03-X.

Books on cetacean research written in Portuguese are rare. When considering published books in Brazil for undergraduate students and professionals, the situation is worse: Almost no publications are available on this issue. This is a big cause of concern, as Brazil has a long coast of approximately 8,500 km, and also a considerable portion of the Amazon basin where two cetacean species are typically found (*Sotalia fluviatilis* and *Inia geoffrensis*). As of 2004, 44 cetacean species were reported in Brazil through sightings, incidental captures, and strandings. This number represents approximately 50% of all cetacean species described worldwide, giving emphasis to the relevance of cetacean research and conservation in this country.

Dr. Ana Paula Madeira Di Benedetto has been working for more than 15 years with cetacean incidental captures and feeding habits along the northern coast of Rio de Janeiro state in south-eastern Brazil. She has been doing research that integrates important components of the trophic level (cetaceans and fishes), and the relationship between cetaceans and fishes with the fishing economy, social life, and education. Besides scientific research, Di Benedetto dedicates a significant portion of her time to educational purposes. In the 1990s, she published two books on cetaceans with the help of her colleagues Dr. Renata Ramos and Dr. Neuza Lima (Di Benedetto et al., 2001a, 2001b).

Di Benedetto currently is preparing field guides directed towards undergraduate students and other professionals interested in cetacean research. One of the merits of this field guide collection is that it is not only restricted to Brazilian readers. These booklets may be used by many other nations where Portuguese and Spanish are the primary languages. Volume 1, *Interações com Atividades de Pesca* (*Cetacean Fishery Interactions*), and Volume 2, *Métodos para Coleta de Amostras em Carcaças* (*Sampling Methods on Dead Cetaceans*), were published in 2004, and the author plans future vol-

umes. Another positive aspect of this collection is that both books are small and readily carried to the field to be consulted as necessary.

Interações com Atividades de Pesca has a reader-friendly language in a compact booklet. Readers can go directly to the main points that are necessary for a better understanding of the interactions between fisheries and cetaceans before beginning research on the same topic. The author expressed concern in adapting the known research methods worldwide to the Brazilian reality, where few government agencies have collected adequate data on fisheries. In other Latin America countries, cetacean researchers gather data on fishery efforts and production, as well as on cetaceans. In Brazil, however, there is also a social problem that must be addressed when working with fisheries: Most fishermen are poor, do not have access to higher education, and have almost no support from government agencies to keep their boats in safe conditions. Thus, it is often a challenge to merge studies of cetacean interactions with fisheries in Brazil. Therefore, a field guide like this one is extremely valuable for beginners.

The guide is organized into four main sections: (1) a brief introduction, (2) aspects about Brazilian laws on cetacean research, (3) research instructions, and (4) literature cited. Sections 2 and 3 are the most important. From Section 2, it is possible for beginners to learn the procedure to obtain a research permit in Brazil. The requirement of permits was not common practice in Brazil until recently. Now, all individuals who intend to collect any biological material on dead and live marine mammals must have a permit. Section 3 is divided into five items: (1) a description of fishery activities, (2) a description of interactions between fisheries and by-catch, (3) monitoring cetacean interactions with fisheries, (4) identification of incidentally captured cetacean species, and (5) final considerations on incidental cetacean captures. The author's intention to present standardized methods is apparent in each section. The reader will also find reference to pertinent websites for additional detailed information on relevant subjects.

Item 1 in Section 3 deals with aspects related to gathering the most relevant information on fishery activities. There are suggestions on how to describe the fleet, the fishermen crew data, the target fish, the way fishermen keep and

sell their catch, and how to describe how their economy flows. Di Benedetto suggests ways to describe the most common fishing gears used in Brazilian waters, giving emphasis to gillnets. The author also includes detailed information on mathematical conversions and also how to calculate fishing efforts. Measurement conversions would be more usefully shown in tables rather than as part of a running text. The volume would have benefited from an additional section discussing "how to evaluate fishing efforts," including all the mathematical explanations the author presented in this item and in a second one. Item 2 presents pathways to get information on by-catches, including marine birds and turtles. The author calls the readers' attention to the fishermen's perspective, as well as the researchers', for a balanced view regarding by-catches.

In Item 3, Di Benedetto gives instructions on how to gather data on cetacean interactions with fisheries. Two aspects are the most important: (1) the randomized selection of a significant proportion of the fishing fleet, and (2) the way the information will be obtained (e.g., interviews, traveling onboard when possible). In this item, readers will find an example of a form to be used onboard or to be used in interviews with fishermen. There is a paragraph on how to calculate the fishing effort. This paragraph also might be better included in a section called "how to evaluate fishing efforts," as suggested earlier. Another topic that could be inserted into this booklet refers to a common bad practice in Brazil in the 1990s—the exchange of a T-shirt or a cap for a cetacean carcass brought in by a fisherman. This could be a cause of concern as fishermen may avoid releasing live entangled cetaceans in order to get a new shirt or cap.

Item 4 gives emphasis on the importance of proper identification of incidentally captured cetacean species. The author presents a list of three identification guides published between 1983 and 1993, as well as two specific scientific papers (one on a delphinid species and the other on a baleen whale species). It would be better to avoid quoting these two scientific papers, which are too specific and include other sources such as the *Handbook of Marine Mammals* collection, as well as other recently published and updated field guides. Di Benedetto quoted two ways of identifying incidentally captured species: (1) analyzing the carcass onboard or brought in by fishermen, and (2) hearing their description on captured specimens if they were not able or authorized to bring the carcass. A discussion of the handling of cheap cameras and film would make a good addition to this guide to help avoid the misidentification of described specimens by fishermen—photographs of entan-

gled by-catch would help obtain more accurate descriptions. Finally, in Item 5, the author shows the importance of using GIS in studies on cetacean incidental captures.

This field guide definitely is an important tool to those who are interested in establishing long-term studies on cetacean interactions with fisheries. It must be the first booklet to be read by mainly Brazilian students before visiting the field. The author's initiative is brilliant and should be followed in many other countries to give the basic support for beginners.

Literature Cited

- Di Benedetto, A. P. M., & Ramos, R. M. A. (2001a). *Biologia da conservação de pequenos cetáceos no Norte do Estado do Rio de Janeiro. Série Ciências Ambientais, Volume 1: Fundação estadual do Norte Fluminense*. 94 pp.
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