

Sirenews

Newsletter of the IUCN Sirenia Specialist Group

April 2020

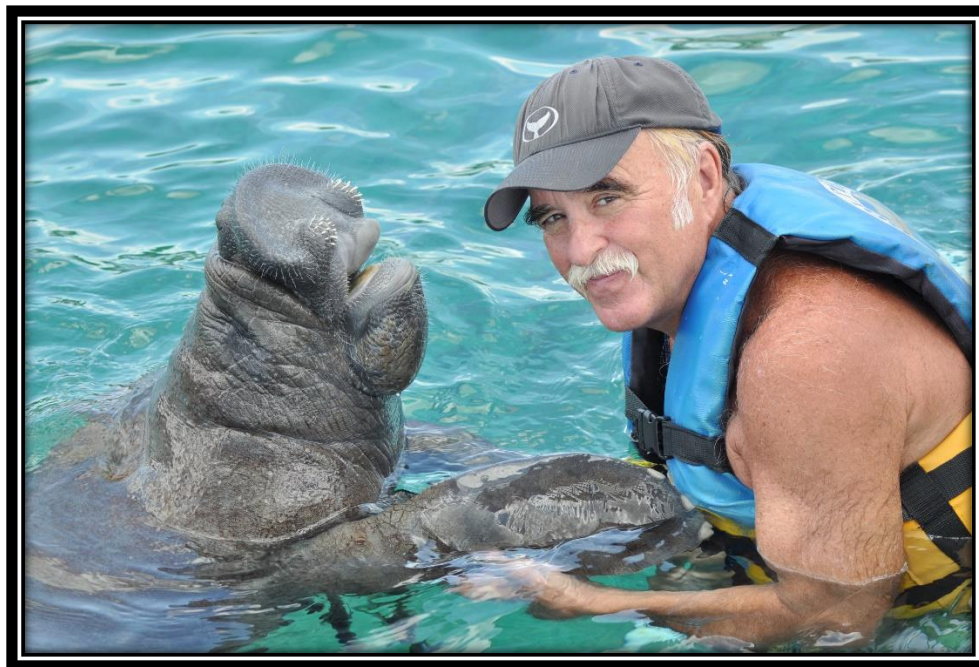
Funded by CMA Research Institute

Number 71

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IN MEMORY OF DR. GREGORY BOSSART



Gregory Bossart (1951-2019)

UNION INTERNATIONALE POUR LA CONSERVATION DE LA NATURE ET DE SES RESSOURCES

INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES

Commission de la sauvegarde des espèces - Species Survival Commission



Sirenews (ISSN 1017-3439) is published in April and October and is edited by

James A. Powell and Robert K. Bonde

CMA Research Institute, 249 Windward Passage, Clearwater, FL 33767 USA

Sirenews is available online at <http://cmaresearchinstitute.org/sirenews/>



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LOCAL NEWS

BRAZIL

2019 Northeast Brazil oil spill: how Antillean manatees (*Trichechus manatus manatus*) were affected along the coast of Maranhão, Brazil

Starting in late August 2019, beaches of Brazil were washed by crude oil of unknown origin, spilling over 3,000 km of the northeastern coast in the next months. Almost a thousand beaches were affected, reaching as far the Maranhão state coastline. This oil spill is considered the most extensive and severe environmental disaster ever recorded in Brazilian history (Soares *et al.*, 2020). For Antillean manatees (*T. m. manatus*), the coastline of Maranhão can be considered their last major stronghold in Brazil. But these important populations and related habitats were significantly affected by the oil spill as suggested by Magris and Giarrizzo (2020). According to the Ibama (Brazilian Environment Institute) website (<http://www.ibama.gov.br/manchasdeoleo-localidades-atingidas>) and ICICT/Fiocruz sources, almost 13 tons of crude oil were cleaned off along 47 affected beaches of Maranhão. These include several municipalities along the coast, such as: Tutóia (Ilha da Melancieira and Arpoador); São Luís (city coast); Alcântara (Ilha do Livramento, Praia da Mamuna and Praia do Itinga); Araisos (Ilha dos Poldros and Ilha do Caju, the mangroves of Canárias); Barreirinhas (Praia do Caburé and Praia Canto do Atins); Cururupu (Ilha de Maiaú and Ilha de Caçacueira); Humberto de Campos (Ilha de Santana); Paulino Neves (Praia do Barro Vermelho); and Santo Amaro (Travosa and Praia dos Lençóis) (Figure 1). Considering the amount of crude oil recorded and the remaining yet not fully dimensioned, it is highly recommended the evaluation of concentration of petroleum hydrocarbons and its contaminants such as metals, benzene, toluene, ethyl benzene and xylene in manatees living in Maranhão.

-Salvatore Siciliano¹, Renata Gracie² and Sérgio C. Moreira³

¹Laboratório de Biodiversidade, Instituto Oswaldo Cruz/Fiocruz, Rio de Janeiro, RJ Brazil & Grupo de Estudos de Mamíferos Marinhos da Região dos Lagos (GEMM–Lagos), Praia Seca, Araruama, RJ Brazil; E-mail: gemmlagos@gmail.com

²Laboratório de Informação em Saúde-ICICT/Fiocruz, Rio de Janeiro, RJ, Brazil

³PPGZOO, Departamento de Vertebrados, Museu Nacional/UFRJ; GEMM–Lagos & LBEC – Laboratório de Bioacústica e Ecologia de Cetáceos, Rio de Janeiro, RJ Brazil

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Magris, R.A. and T. Giarrizzo. 2020. Mysterious oil spill in the Atlantic Ocean threatens marine biodiversity and local people in Brazil. *Marine Pollution Bulletin*: 153, 110961. <https://doi.org/10.1016/j.marpolbul.2020.110961>

Soares, M.O, C.E.P. Teixeira, L.E.A. Bezerra, et al. 2020. Oil spill in South Atlantic (Brazil): Environmental and governmental disaster. *Marine Policy*, 115, 103879. <https://doi.org/10.1016/j.marpol.2020.103879>

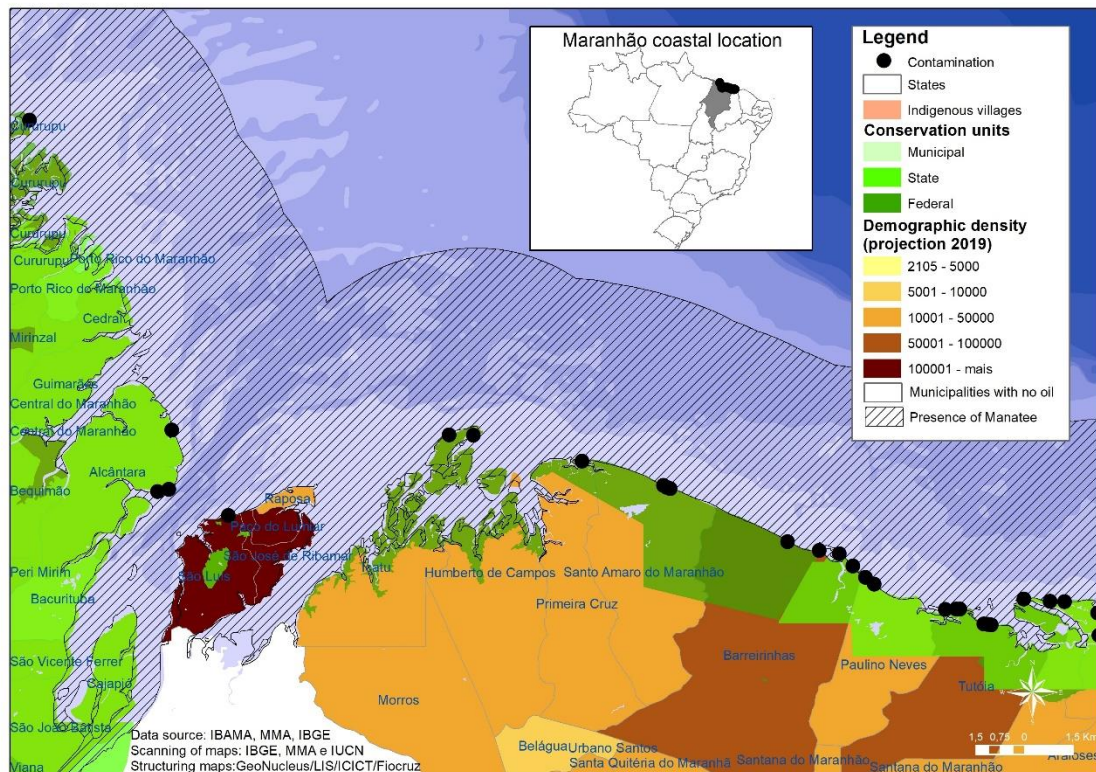


Figure 1. Crude oil contamination along Maranhão state coast, Brazil, since late August 2019 and the indication of Antillean manatee (*T. m. manatus*) distribution. Sources: Ibama (MMA) and ICICT/Fiocruz. Original shape of manatee distribution from: Deutsch, C.J., Self-Sullivan, C. & Mignucci-Giannoni, A. 2008. *Trichechus manatus*. *The IUCN Red List of Threatened Species* 2008: e.T22103A9356917. <https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T22103A9356917.en>. Downloaded on 23 March 2020.

Successful recaptures of released Amazonian manatees in Brazil

Since 2008, the Aquatic Mammals Laboratory of INPA, with support from the Friends of the Manatee Association (AMPA), has promoted the reintroduction of Amazonian manatees raised in captivity. Nowadays the animals are being released at the Piagaçu-Purus Sustainable Development Reserve, located in the lower Purus river, Central Amazon, Brazil. From 2016 to 2019, a total of 31 manatees (17 females and 14 males), from 4 to 16 years old, were released, 18 with VHF-transmitters. All reintroduction phases had the support of the local communities, aiming the protection and post-release monitoring of the animals.

The complexity of the habitats associated with the cryptic behavior of this species makes recapturing these animals challenging. However, to evaluate the health of the released manatees and the conditions of the VHF belts, a tentative recapture has been made once per year during the dry season of the Purus river. The capture team involves about 12 people including a biologist, a veterinarian, animal keepers and experienced fishermen. For the capture procedures, first, the animal is located using VHF signal and if its location is suitable, such as a small and shallow lake, it is surrounded with nets specifically designed for this species. Once surrounded, it is carefully

moved to the margin of the lake with the help of a stretcher. After biometrics and biological data collection (e.g. blood and feces samples) for its health assessment, the manatee is released again into the river.

So far four manatees were recaptured six to 18 months after release, showing an average increase of 45kg in body mass and 10cm in length. One of the animals recaptured was Baré, a female that was rescued as an orphan calf and reintroduced at 16 years of age. To our surprise, after 18 months in the wild, she increased 12cm and gained 106 kg; after hormonal analysis we confirmed her pregnancy. These results along with other indicators, such as the selection of suitable habitats, the survival of the individuals over at least one complete river flood pulse, the interaction of the released animals with wild Amazonian manatees and the absence of contact with humans confirms the success of our Manatee Reintroduction Program.

Our results proved that the protocol with the semi-captivity phase before release is working and can provide subsidies to improve the Amazonian manatee conservation in the long term. In 2020, 10 other manatees living in the semi-natural facility, are ready to go back to the wild.

The Reintroduction Program is being conducted by INPA (National Institute of Amazonian Research) and AMPA (Associação Amigos do Peixe-boi - www.ampa.org.br), under support of the Projeto Mamíferos Aquáticos da Amazônia from Petrobras, Japan International Cooperation Agency (JICA), Kyoto University, Itochu (Japan) and São Paulo Aquarium.

-Diogo A. de Souza¹, Vera M. F. da Silva^{1,2}, Rodrigo S. Amaral^{1,3} and José A. d'Affonseca Neto^{1,2}

¹Associação Amigos do Peixe-boi (AMPA)

²Laboratório de Mamíferos Aquáticos, Instituto Nacional de Pesquisas da Amazônia (INPA)

³Instituto Federal de Educação, Ciência e Tecnologia do Amazonas (IFAM). E-mail: diogo.peixeboi@gmail.com.



Figure 1. Encircling with nets, during the recapture of one released Amazonian manatee at a margin of the lake on the Piagaçu-Purus Reserve.