

CM-14

GIS as a tool to identify priority areas for humpback whale conservation at Eastern Brazilian Coast

MARTINS, C.C.A. (1), SAITO, C.H. (2), ANDRIOLO, A. (3), ENGEL, M.H. (4), KINAS, P.G. (5)

(1,2) Departamento de Ecologia, Universidade de Brasília, Cx Postal 04457, CEP 70919-970, Brasília, DF, Brazil;

(3) Departamento. de Zoologia, Instituto de Ciências Biológicas da Universidade Federal de Juiz de Fora. Juiz de Fora, MG, Brazil. CEP: 36036-330;

(4) Instituto Baleia Jubarte / Humpback Whale Institute – Brazil. Praia do Kitongo s/nº-Caravelas, BA, Brazil. CEP: 45.900-000;

(5) Departamento de Matemática, Fundação Universidade Federal do Rio Grande, Rio Grande, RS, Brazil. CEP: 96200-970

19th ANNUAL CONFERENCE OF THE EUROPEAN CETACEAN SOCIETY AND ASSOCIATED WORKSHOPS, April 2-7, 2005, LA ROCHELLE, FRANCE

O poster foi publicado como segue a baixo nas pag 68-69

Este é o link para o livro de resumos da conferencia:

<http://www.univ-lr.fr/labo/lbem/ecs2005/Abstract%20book.pdf>

The humpback whale breeding stock “A” uses the Brazilian Coast as a calving and breeding ground during the austral winter. Aerial surveys, using line transect distance-sampling protocol, took place in the peak of humpback whale abundance (late August early September) in 2001, 2002 and 2003 seasons, covering the continental shelf of the states of Bahia and Espírito Santo (Eastern Brazilian Coast). As an essential tool, the Geographic Information System (GIS) offers support for environmental planning and management aiming for the conservation of natural resources. The aerial survey distribution data were analyzed using the GIS ArcView 8.3 and the extensions: Xtools and Spatial Analyst in which a mean density map was generated. This map was overlaid on the map of risk factors (and adjacent areas) relative to barge routes, navigation corridors, harbor and port areas, and proposed areas for oil and gas exploration. One of the humpback whale concentration areas located in the southern portion of the Abrolhos Bank coincides with two proposed areas for hydrocarbon exploitation (blocks named BM -ES-6 and BM -ES-7). The same mean density map was overlaid with Marine Protected Areas (MPA’s and their possible contiguous zone – 10, 20 and 50nm), and also with coastal community locations and proximities (15, 30 and 60nm). The last one allowed us to identify potential areas for whale-watching development. The combination of all the maps (risk factors, MPA’s and potential whale-watching) allowed the identification of priority areas for whale conservation and will guide the planning process. The Eastern Brazilian Coast besides being used as a breeding ground for humpback whales encompasses important coral reef formations and numerous mangroves systems. The area is receiving investments for tourism development and it has been the focus of oil and gas industry. Careful management should be implemented in order to guarantee the conservation of this important Ecosystem.