



# Don't let me down: West Indian manatee, *Trichechus manatus*, is still critically endangered in Brazil

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## Abstract

Sirenians have a unique ecological function in coastal ecosystems, deserving special conservation attention. The West Indian manatee (*Trichechus manatus*) is globally classified as Vulnerable by the IUCN. In Brazil, where the species was intensively hunted in the past and currently faces several threats, it was classified as Endangered during the last national assessment published in 2014. Here, we generated information based on available data to assess the species extinction risk in Brazil using IUCN regional guidelines, applying all criteria, and choosing the highest category of risk. Abundance at the national level was projected considering the density estimated in Ceará and Rio Grande do Norte states and the Criterion B EOO (Extent of Occurrence) estimated in this study (34,899 km<sup>2</sup>) and resulted in 1,047 individuals (95% CI: 538–2,038). Six scenarios of annual mortality were inferred and suspected based on evidence. We adopted a simple discrete logistic growth model to project population reduction in the past and future (three generations – 69 years) in 18 scenarios. Among the 18 projected scenarios, four resulted in extinction, six in decline and eight in population growth. Considering the low abundance bound, all scenarios indicate a reduction larger than 80% in population size, classifying the species as ‘Critically Endangered’ based on *A4de*. Reduction in EOO and abundance in the past classify the species as ‘Endangered’ based on *A2c*. The suspected number of mature animals (607; 95% CI: 312–1,182) and the projected decline higher than 20% in two generations also classify the species as ‘Endangered’ based on *C1* and ‘Vulnerable’ under *D1*. Our results indicate that information can be generated to produce more accurate assessments based on

available data. The species national extinction risk needs to be reassessed, and the National Action Plan effectiveness evaluated.

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## Keywords

Extinction risk; Red list; Conservation status; Mortality; Population reduction

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