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## **C-Well: The development of a welfare assessment index for captive bottlenose dolphins (*Tursiops truncatus*)**

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### **Abstract**

*The field of welfare science and public concern for animal welfare is growing, with the focus broadening from animals on farms to those in zoos and aquaria. Bottlenose dolphins (*Tursiops truncatus*) are the most common captive cetaceans, and relevant regulatory standards are principally resource-based and regarded as minimum requirements. In this study, the farm animal Welfare Quality<sup>®</sup> assessment was adapted to measure the welfare of bottlenose dolphins, with a similar proportion of animal-based measures (58.3%). The 'C-Well<sup>®</sup>' assessment included eleven criterion and 36 species-specific measures developed in situ at three marine mammal zoological facilities, tested for feasibility and accuracy, and substantiated by published literature on wild and captive dolphins and veterinary and professional expertise. C-Well<sup>®</sup> scores can be calculated for each measure or combined to achieve an overall score, which allows for the comparison of welfare among individuals, demographics, and facilities. This work represents a first step in quantifying and systematically measuring welfare among captive cetaceans and can be used as a model for future development in zoos and aquaria, as well as a means to support benchmarking, industry best practices, and certification.*

**Keywords:** animal-based measures, animal welfare, bottlenose dolphins, C-Well<sup>®</sup> assessment, dolphin welfare, welfare assessment