

## **PROPOSAL OF A BODY CONDITION SCORING METHODOLOGY FOR BODY RESERVE EVALUATION IN SEAHORSES (*HIPPOCAMPUS REIDI*)**

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### **Abstract**

The study proposes the development of a body condition scoring (BCS) system applicable to seahorses of the species *Hippocampus reidi* seeking standardization in the qualitative assessment of body reserves. Weight gain and biometric parameters of 21 seahorses housed in the Ubatuba Aquarium were monitored for a period of 150 days. Among the animals, individuals were selected for weight gain regimen and photographic record in order to understand how muscle deposition and body reserves occurs in the species, allowing the evaluation of critical points to be observed in the proposal of the BCS methodology. For biometrics parameters, total length, caudal length, dorsal length, lateral width, frontal width, and body weight were recorded. The biometrics and BCS data were compared to the Fulton coefficient (k), a common estimate on fish studies that provides indirect estimates of energy storage among individuals of a given population. From the monitoring of muscle deposition, the points to be considered as criteria for the elaboration of the BCS were defined, with scores ranging from 1 to 5, accounting for the possibility of using intermediate categories with variations of 0.5. In this study, it is proposed that animals should be evaluated for abdominal muscle coverage, chest narrowing, contrast between the dorsal and abdominal region, and ventral bulging. When comparing the data to the Fulton coefficient (k), it was noted that the unique anatomy of seahorses requires analysis adapted to the morphology of the species, since visibly strong animals fell into categories of low reserve by Fulton's methodology. Additionally, for the calculation of Fulton's coefficient, it usually adopts the measure of total length. Unlike most teleost fish, besides not having a caudal fin, which requires adaptations on TL measurements, it is common for captive seahorses to lose a considerable amount of caudal tissue due to bacterial infections, generating bias in the body reserve data. This reinforces the need for alternative methodologies applicable to seahorses. Thus, the BCS methodology may be an alternative for mitigating bias on the evaluations, although more studies might be necessary for validating the health status within the categories proposed.