Precision and Relative Accuracy of Striped Bass Age, Proportional Growth, and Origin Estimates from Both Scales and Sagittal Otoliths of Maine Striped Bass (Morone saxatilis)

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Striped bass, of great recreational and commercial importance, are currently overfished and their population is in decline. Understanding the current state of Maine striped bass populations may help reverse this trend and protect the species. Data regarding fish age and origin would be of great benefit to researchers. Although the sagittal otolith (ear bone) can be used to evaluate certain fish characteristics, acquisition involves harvesting otoliths from the ear canals. The utility of otoliths in determining fish age and origin has previously been demonstrated for other piscine species, yet this process is difficult and time-consuming. A study conducted at the Gulf of Maine Research Institute hopes to demonstrate that striped bass scales could be a more readily available alternative. The results suggest that scales and otoliths are both reliable indicators of fish age and annual proportional growth, and may allow for origin identification. The benefits of substituting scales for otoliths are discussed. While there are many governmental restrictions aimed towards striped bass protection, such measures are often ineffective. Currently, only fish greater than 28 inches in length can be legally taken from Maine waters. This limit protects small growing fish, but it does not protect the larger female fish, which are vital to sustaining striped bass populations. Information garnered from this study may improve understanding of striped bass demographics, which might then be used to restructure outmoded and obsolete fishing laws. Ultimately, the results of this study may help address the concerning population decline of striped bass in Maine.

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