

Assessing Growth Rates and Habitat Preferences of Atlantic Halibut Off the Coast of Maine

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Research Abstract

After a brief period of commercial fishing, Atlantic halibut (*Hippoglossus hippoglossus*) populations in the western North Atlantic collapsed in the late 19th century, prior to collection of any scientific data on this species. Because of this early collapse, little information is available on the life history, stock structure, and habitat usage of halibut in the Gulf of Maine. This information is critical for setting appropriate regulations for the fishery, which persists on a small scale in Maine state waters and as a bycatch-only fishery in federal waters. My research aims to address this critical knowledge gap in two ways: 1) by quantifying growth rates through otolith analysis, and 2) by quantifying and describing habitat preferences by combining rigorous statistical analyses and modeling with fishermen's knowledge, as provided during in-person interviews. My research not only provides much needed ecological information, but it also addresses the sustainability of the fishery and utilizes a novel approach to understanding habitat preferences by incorporating fishermen's knowledge with scientific data, an approach which is often cited as advantageous, yet is seldom achieved. Information provided by fishermen serves as both a verification of and a complement to my statistical analysis of fishery-dependent and fishery-independent data.