University of Massachusetts Dartmouth

Department of Fisheries Oceanography

Supporting Integrated Ecosystem Assessment Under Model Structural Uncertainty

A Dissertation in

Marine Science and Technology–Living Marine Resources Science and Management

by

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Preface

This dissertation is comprised of four research chapters, the first of which was prepared as a manuscript for publication in a peer-reviewed scientific journal. The candidate was responsible for data analysis, interpretation of results, and manuscript preparation, but each chapter was carried out in consultation with members of the committee. The co-authors for each chapter are listed below.

Chapter 1: Wildermuth, R.P., Fay, G., and Gaichas, S. (2018) Structural uncertainty in qualitative models of ecosystem-based management of Georges Bank. *Canadian Journal of Fisheries and Aquatic Sciences.* 75(10): 1635-1643. https://doi.org/10.1139/cjfas-2017-0149. Many thanks go out to the members of the ICES Working Group on the Northwest Atlantic Regional Seas for their efforts to construct the Georges Bank conceptual model and provide feedback about analytical results. Funding for RPW and GF was supported by the NOAA Fisheries Quantitative Ecology and Socioeconomics Training (QUEST) program through the Cooperative Institute for the North Atlantic Region via federal awards NA09OAR4320129 and NA14OAR4320158. RPW was also supported by MIT Sea Grant under federal award NA14OAR4170077. The manuscript was improved following the helpful comments of three anonymous reviewers.

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