

GENETIC STRUCTURE AND LIFE HISTORY AS BASIS FOR MANAGEMENT UNITS IN TURBOT *PSETTA MAXIMA*

Moreau Kelle¹, Sara G. Vandamme^{1,2}, Gregory E. Maes², Daan Delbare¹, Johan Robbens¹ and Filip A.M. Volckaert²

¹ Institute for Agricultural and Fisheries Research, Ankerstraat 1, 8400 Oostende, Belgium
E-mail: kelle.moreau@ilvo.vlaanderen.be

² Laboratory of Animal Diversity and Systematics, Katholieke Universiteit Leuven, Ch. De Beroitstraat 32, 3000 Leuven, Belgium

Many commercial marine fisheries have strongly declined or even collapsed due to the synergy between a changing climate and anthropological influences, such as habitat degradation and overfishing. Therefore, policy makers request management advice about a growing number of species that were not subject to analytical assessments of stock size and composition in the past, leading to the definition of Total Allowable Catches and the fishing quota. However, there is often a discrepancy between management units and biological populations for these 'new species', since management units were originally defined for the main commercial species (e.g., sole and plaice) and often reflect convenient geographic boundaries rather than biological entities of the new species. Furthermore, marine fishes are also strongly influenced by environmental oscillations, leading to an unpredictable reproductive success, high mortality and unclear population delineation. A good description of biological units within a species, and knowledge of the dispersal capacity and the realised genetic connectivity, are therefore important for the management of exploited fish populations. Turbot *Psetta maxima* is such a valuable commercial species for which the European Commission requests management advice. This species inhabits the entire northeastern Atlantic region, including the Baltic, Mediterranean and Black Seas, but analytical advice has not yet been provided in the past. In our research, information on the genetic structure and life-history traits of turbot from different areas is evaluated for its potential application in defining biologically relevant management units, and to obtain insights in population connectivity.