



HAL
open science

Science for glass eels fisheries management : how to define TAC in Europe ?

Laurent Beaulaton, Patrick Lambert, Etienne Prévost, Agnes Bardonnnet

► To cite this version:

Laurent Beaulaton, Patrick Lambert, Etienne Prévost, Agnes Bardonnnet. Science for glass eels fisheries management : how to define TAC in Europe ?. 144. Annual Meeting of the American Fisheries Society, Aug 2014, Quebec, Canada. 616 p. hal-02739295

HAL Id: hal-02739295

<https://hal.inrae.fr/hal-02739295v1>

Submitted on 2 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

develop GEREM model that aims at estimating glass-eel recruitment at different nested spatial scales More specifically the model estimates yearly recruitments at the river catchment level and at the eel management units scale, which are two relevant spatial scales for management, and at the distribution area scale, which is consistent with the stock biological scale The model has been applied to France and Europe on data-series lasting from 1970 to 2012 and provides trends that are consistent with current knowledge, and absolute recruitment estimates that are consistent with expert knowledge on exploitation rates

T-206B-3 Science for Glass Eel Fisheries Management: How to Define TAC in France?

Laurent Beaulaton*, ONEMA, laurentbeaulaton@onemafr, Patrick Lambert, Irstea, UR EABX, Aquatic Ecosystems and Global Change Research Unit, 50 avenue de Verdun, 33612 Cestas Cedex, France, Etienne Prévost, INRA and Agnès Bardonnnet, INRA

To tackle the low level of European eel stock, the European Union Council has adopted in 2007 a regulation for establishing measures for the recovery of the stock of European eel In application of this regulation France established an eel management plan that includes, among others, measures to decrease glass eel fisheries mortality by 60% in 2015 It has been decided to set up a total allowable catch system to achieve this mortality target

A scientific experts panel has been constituted to estimate TAC given the management target and the expected recruitment level We describe methods used (i) to estimate mean exploitation rate during reference period using catch and recruitment series and (ii) to predict future recruitment level A Bayesian model has been designed to cope with the variability in past exploitation rate due to environmental and economic conditions and with the uncertainty in recruitment prediction, particularly the possibility of alternative future (unchanged decreasing trend or regime shift and possibly increasing trend) The TAC really adopted and the actual recruitment and exploitation rate level are compared to the prediction made We finally discuss the role of scientists, managers and fishers and the importance of exchanges between them in this management process

T-206B-4 Glass Eel Recruitment Dynamics in a Southern Europe Estuary (Oria, Spain), 2003-2012

Aizkorri Aranburu*, AZTI-TECNALIA, Estibaliz Díaz Sr, AZTI-TECNALIA and Cédric Briand, Institution d'Aménagement de la Vilaine

The spatio-temporal migration patterns of European glass eel were studied in a long-standing tradition glass eel fishery estuary, the Oria Catch logbooks were collected during nine fishing seasons (2003-2012) and fishery-independent experimental surveys were carried out at two sampling points during the fishing season from 2005 to 2012 Environmental local variables potentially related to glass eel recruitment were recorded during the whole study period Glass eel used the tidal front to move At the river mouth, migration started in the deep layers coinciding with the salinity increase Upstream, as the water was mixed, glass eel were distributed along the whole water column and migration started with current rise Although a high daily variability was found in glass eel abundance, the general trends showed different behavior along the fishing season in the sampling points: a significant density decrease in the river mouth and an increase upstream Statistical analysis of the relationship between environmental variables and glass eel density variability is being carried out

T-206B-5 Young-of-the-Year American Eel Monitoring on the US Atlantic Coast