

Working Group with the Aim to Develop Assessment Models and Establish Biological Reference Points for Sea Trout (Anadromous *Salmo trutta*) Populations (WGTRUTTA)

2016/MA2/SSGEPD06 The Working Group with the Aim to Develop Assessment Models and Establish Biological Reference Points for Sea Trout (Anadromous *Salmo trutta*) Populations (WGTRUTTA), chaired by Johan Höjesjö*, Sweden, and Alan Walker*, UK, will work on ToRs and generate deliverables as listed in the Table below.

	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
Year 2017	24–26 April	Gothenburg, Sweden	Interim report by 1 November to SSGEPD	The interim reports in 2017 and 2018 will be delivered late in the year in relation to the meeting dates since they will also report on intersessional work by several sub-groups, compiling databases and developing and fine-tuning population models.
Year 2018	DATE February	COPENHAGEN, DENMARK	Interim report by 1 November to SSGEPD	
	DATE September	Lisbon, Portugal		
Year 2019	DATE April	UK	Final report by 1 December to SCICOM	

ToR descriptors

	DESCRIPTION TOR	BACKGROUND	SCIENCE PLAN TOPICS ADDRESSED	DURATION	EXPECTED DELIVERABLES
a	Compile information from a selection of suitable rivers across Europe with long-term data on parameters such as juvenile densities, habitat characteristics and, if available, abundances of ascending spawners and out-migrating smolts.	To facilitate the development of population dynamic models, an important first step is to compile available information/data. The outcomes from WKTRUTTA2 in combination with data from research collaborations on sea trout will be an important starting point for this work. The compiled data will provide basic information on population dynamics and life history variation of sea trout in different areas and stream types and will be used as a basis for the development of population models under ToR b. This exercise will also facilitate identification of geographical areas with data deficiencies (e.g. absence of stock-recruitment data) that hampers the development of assessment methods and which should therefore be prioritized in future monitoring and research	4, 25, 31	Year 1	A database on juvenile densities, habitat characteristics and other important information along a south/north and coastal/inland gradient across Europe.

		programmes.			
b	Develop new, and validate and fine tune existing population models for sea trout.	There are different approaches available for modelling fish populations. By using abundance data from different life stages, information on habitat quality and fisheries data etc, the group will develop and evaluate different ways to model sea trout populations. This work will, to a large extent, be based on already existing data, such as stock-recruitment relationships derived from monitoring data on abundance and/or fisheries data (catch and CPUE-data) from a number of rivers across Europe. Models with different levels of complexity (taking into account e.g. habitat variation within rivers and between catchments, occurrence of lakes, migration obstacles and resident trout etc), as well as the representativeness of index rivers for larger areas with sparse information will be evaluated.	4, 9, 15, 25, 27, 31	Year 1-3	Evaluation of approaches / methods for modelling sea trout populations, with respect to assessment needs, availability of data, geographical coverage, complexity etc. Presentation of new models and a summary at the ASC meeting in 2019. In addition a peer-reviewed article on population modelling in Sea Trout will be produced.
c	Establish and evaluate different approaches for estimating Biological Reference Points (BRPs) across regions with different characteristics and conditions for sea trout.	There is a growing need to develop assessment methods for sea trout populations. Establishment of BRPs is a prerequisite to be able to assess status of populations. Different ways of estimating BRPs from population models developed under ToR b, based on e.g. stock-recruitment relationships or estimated pristine abundance levels, will be evaluated. This in turn enables assessment of status in relation to BRPs across Europe (on area or individual stock level).	4, 9, 10, 15, 25, 27, 31	Year 2-3	Establishment of Biological Reference Points by using different approaches depending on e.g. data availability and type of population model used.

Summary of the Work Plan

The working group will address key questions relating to the assessment of sea trout stocks in the North Atlantic and Baltic. The overall plan is to establish the working group in 2017 with subgroups across Europe. Over the 3-year period, there will be 4 meetings in total; Sweden (Gothenburg), Denmark (Copenhagen), Portugal (Lisbon) and UK (place to be decided). Subgroups will work on the ToRs between these meetings with regular contact through email and/or webinars. Most of the work regarding deliverables for the different ToRs will be planned and performed in parallel. The main goal of WGTRUTTA is to take on the work initiated during WKTRUTTA2, i.e. develop and evaluate different methods for modelling sea trout populations, and define BRPs and a protocol that can be used to assess status of sea trout populations in different regions.

Year 1	In year 1, the working group will be established and divide tasks among group members and prioritize among available data sources. The group will start to create a database in a gradient across European rivers to be able to develop new and existing population models. The database will be finalized in November 2017 and one of the outcomes of this work will be a recommendation on suitable index rivers in different areas, and identification of gaps and weaknesses in current monitoring programs. In parallel, the group will start to develop population models based on the available data. The starting point for the work during year 1 will be the output from WKTRUTTA2.
Year 2	In year 2, the group will continue to work on the database and potentially add new data and stream systems. Development of population models will continue. The group will also start to evaluate different approaches for estimating Biological Reference Points (BRPs), based on the population modelling work.
Year 3	During year 3, the focus will be to continue the development and validation of different population models, and the work to establish BRPs in different regions across Europe. At the completion of the year, WGTRUTTA should be able to recommend suitable population models and approaches to estimate BRPs, which could be used to assess status of sea trout populations across Europe.

Supporting information

Priority	<p>The inclusion of sea trout and other diadromous fish in EU policy areas including the CFP and Marine Strategy Framework Directive means that it is important to improve the methods currently available to managers to assess the status of stocks and investigate the effects of management actions.</p> <p>The final report and recommendations will guide both individual countries in making progress on sea trout assessment and management and will steer ICES on the best next steps for sea trout science, assessment and advice.</p>
Resource requirements	The research programmes which provide the main input to this group are already underway, and resources are already committed. The additional resources required to undertake additional activities in the framework of this group are negligible.
Participants	The Group will be attended by some 15-20 members and invited guests.
Secretariat facilities	Requires coordinating activities from ICES secretariat for the 4 meetings.
Financial	No financial implications.
Linkages to ACOM and groups under ACOM	Links to ACOM and WGBAST who provide advice on Baltic sea trout and SSGEPD and WGRECORDS regarding diadromous fish stocks, life histories, threats and sustainable use of the resource.
Linkages to other committees or groups	Relevant to SSGEPI and SSGIEOM. The activities of this group will take forward the scene-setting work of WKTRUTTA which met in 2012 and WKTRUTTA2 that met in 2016.
Linkages to other organizations	FAO