

# 2021 SCRS Research Activities and U.S. Participation



**NOAA  
FISHERIES**

**Southeast  
Fisheries  
Science Center**

**Spring Species Working Groups Meeting of the  
Advisory Committee to the U.S. Section to ICCAT**

April 21, 2021



## SCRS Officers

Chairman, SCRS

Vice-Chair

Sub-Committee on Ecosystems

Sub-Committee on Statistics

Methods Working Group

Tropical Tunas Coordinator

*Bigeye tuna*

*Yellowfin tuna*

*Eastern Skipjack*

*Western Skipjack*

Atlantic Albacore:

Mediterranean Albacore

Bluefin tuna Coordinator:

*Eastern Atlantic Bluefin*

*Western Atlantic Bluefin*

Billfishes

Swordfish Coordinator:

*North Atl Swordfish*

*South Atl Swordfish*

*Mediterranean Swordfish*

Sharks

Small tunas

Ad hoc WG on coordination

of tagging information

Gary Melvin (Canada)

Rui Coelho (EU-Portugal)

Andres Domingo (Uruguay) - convener/bycatch

Alex Hanke (Canada) - Ecosystem Based Fisheries Mgmt

Guillermo Diaz (USA)

Michael Schirripa (USA)

David Die (USA)

David Die (USA)

Shannon Calay (USA)

Lorelei Guéry (EU-France)

Rodrigo Sant'Ana (Brazil)

Haritz Arrizabalaga (EU-Spain)

José M<sup>a</sup> Ortiz de Urbina (EU-Spain)

Gary Melvin (Canada)

Enrique Rodriguez Marín (EU-Spain)

John Walter (USA)

Fambaye Ngom Sow (Senegal)

Rui Coelho (EU-Portugal)

Kyle Gillespie (Canada)

Denham Parker (South Africa)

George Tserpes (EU-Greece)

Rodrigo Forselledo (Uruguay)

Flavia Lucena (Brazil)

East Atlantic: Enrique Rodriguez-Marin (EU-Spain)



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| <b>March 15-16</b>   | <b>GBYB Electronic Tagging workshop</b> |
| <b>March 22-26</b>   | <b>ICCAT Swordfish Biology workshop</b> |
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# Symposium of the Atlantic Ocean Tropical Tuna Tagging Program

## Theme sessions:

- Age and Growth
- Tagging and Spatial Dynamics
- Mortality and Abundance
- Stock Assessment and Management





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## GBYP Close-Kin workshop

- Genetic Close Kin Mark Recapture (CKMR) uses the frequency of closely related individuals (e.g. parent-offspring, siblings) to estimate absolute number or exploitation rate, either of which can be directly used in stock assessments or harvest control rules.
- Based on the initial success of a pilot study applied to Western Atlantic Bluefin, advances in genetic techniques to distinguish stock of origin and improvements in biological sampling, this workshop was convened to further evaluate the feasibility of implementing a CKMR study for EBFT.
- Participants evaluated the financial, logistic and scientific feasibility of implementing a CKMR study for EBFT.
- The outputs from this workshop were discussed in the 1<sup>st</sup> Intersessional Meeting of the SCRS BFT Species Group, with the aim of issuing research recommendations that could be considered by the SCRS and the Commission.







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# Intersessional meeting of the Billfish Species Group

- Advances on CPUE standardization for billfishes
  - *Review and consideration of electronic components that may have affect catchability in sport and recreational fisheries over time*
  - *Exploration of billfish Joint CPUE analysis with fine scale operational data from longline fleets*
  - *Comparison and review of observer vs. logbook CPUE indices by national fleets*
- Review of the ongoing activities within Enhanced Programme for Billfish Research (EPBR) and new relevant scientific information on billfishes
- Workplan including the activities within the EPBR and other activities for 2021
- Recommendations
- Responses to the Commission (Rec. 19-05, para 16, 17 and 21, others derived from 2020 Commission if any)

Report: [https://www.iccat.int/Documents/Meetings/Docs/2021/REPORTS/2021\\_BIL\\_ENG.pdf](https://www.iccat.int/Documents/Meetings/Docs/2021/REPORTS/2021_BIL_ENG.pdf)





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## GBYP Electronic Tagging Workshop

The objectives were:

- to identify the main knowledge gaps on Atlantic Bluefin Tuna spatial patterns
- to update the status of ongoing BFT electronic tagging programs, aiming to find potential synergies among national and ICCAT programs
- to elaborate a list, defining priorities, of research needs related to BFT spatial patterns aiming to improve stock assessment and MSE related modelling
- to agree on the best electronic tagging methodologies (type of tags, tag deployment methods, tagging time and areas, target population fraction...) to fulfill the objectives derived from SCRS research needs.





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# ICCAT Swordfish Biology workshop

- Status update of the ICCAT swordfish project
- Update of the sample collection and sample processing
  - *Ageing (spines and otoliths)*
  - *Reproduction*
  - *Genetics*
- Establishment of reference sets, with regards to
  - *Ageing (incl. spines and otoliths)*
  - *Reproduction biology (macroscopic and histological scales)*
- Discussion
  - *future sampling needs*
  - *plans for sample processing completion and data analysis*
  - *other priority areas for the project*





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# Tropical Tuna MSE Technical Group meeting

- State of development of Management Strategy Evaluation (MSE) operating models
  - Western SKJ
  - Eastern SKJ/YFT/BET
    - *Stock specific YFT, BET, SKJ*
    - *Multi-stock*
- Major axis of uncertainty for operating models (OMs)
- Performance metrics
- Update of roadmap
  - *Process (including single-stock vs. multi-stock)*
  - *Communication*
  - *Capacity building*
- Research recommendations







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## Bluefin Tuna Species Group (including W-BFT data preparatory) part 1

- Brief summary of Panel 2 meeting
- MSE
  - *Review of the data for OM reconditioning*
  - *Update from Candidate Management Procedure (CMP) developers on progress*
  - *Discussion of poll results and plausibility weighting of OMs*
  - *Reference Grid finalization and adoption*
  - *Finalization of input data for reconditioning*
  - *Terms of Reference for MSE code review*
- Progress of Technical Sub-groups
  - *Technical Sub-group on Abundance Indices*
  - *Technical Sub-group on Assessment models*
  - *Technical Sub-group on Growth in Farms*



## Bluefin Tuna Species Group (including W-BFT data preparatory) part 2

- Preparation for the W-BFT assessment
  - Biology and age data
  - Size and age composition
  - Catch Estimates
    - *Task I Nominal Catches*
    - *Catches for 2020 and 2021 assumptions for projections*
  - Indices of abundance
  - Stock assessment models and its specification
  - ToRs for W-BFT stock assessment
- GBYP matters
  - Aerial survey review
  - Intersessional workshops
    - *Report from Close-Kin Workshop*
    - *Report from Electronic Tagging Workshop*





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- Review of the progress of AOTTP (excluding analysis of biological data)
- Review of historical and new data on bigeye biology (including analysis of AOTTP data)
  - *Age and growth*
  - *Natural mortality*
  - *Reproduction and sex-ratio*
  - *Length-weight relationship and its variability*
  - *Movement and stock structure*
- Review of fishery statistics
  - *Task 1 (catches) data*
  - *Task 2 (catch-effort and size samples) data*

- Fishery indicators
  - *Average weight by gear type*
  - *Spatial distribution of catches with special attention to FAD closures*
- Estimation of catch-at-size and catch-at-age
- Indices of relative abundance
  - *For individual fleets*
  - *Combined indices*
- Specifications of data inputs required for the different assessment models and advice framework
- Research recommendations





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## Working Group on Stock Assessment Methods

- Harvest Control Rules, Limit Reference points and Management Strategy Evaluation
- Recommended standard diagnostics for stock assessment models.
- CPUE standardization/incorporation of oceanographic and environmental changes into the assessment process
  - *Results of study on Investigation into decadal changes in swordfish habitat distribution*
  - *Results of study of the addition of a second fishery to a longline simulator*
  - *Using LLSIM to evaluate CPUE methods and estimation of bycatch*
  - *Technological and gear changes affecting the capture of billfish between 1973-2019*





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# Meeting of the Sub-Committee of Ecosystems

## Objectives

### Pertaining to ecosystems

In conjunction with the proposal to develop an Ecosystem report card for ICCAT, the Sub-committee will review progress on the inter-sessional exercise to update the status of the 11 ecosystem components that were identified. The indicators described in the assessments are to form the basis for a revised prototype report card that will be presented to the Commission in 2022. As in 2020, the Sub-committee aims to continue the work required to assess the feasibility of and provide information towards implementing ecosystems-based fisheries management (EBFM) in agreement with Resolution 15-11 and Article IV of the recently amended ICCAT Convention.

### Pertaining to by-catch

- Continue the ongoing collaborative work related to seabirds and marine turtles.
- Develop a list of by-catch species that are not retained and select the species to be used as indicators.
- Support the development of indicators for the ecosystem report card and the recommendations of other Working Groups (e.g. Billfishes).





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## Small Tunas Species group Intersessional meeting

### Objectives

In 2020 the SCRS elaborated a work plan for 2021 which included an intersessional meeting of the Small Tunas Species Group, including applying data limited assessment methods.

The additional specific objectives of this meeting are summarized as follow:

- National scientists should develop and analyze simple fisheries indicators on small tunas (e.g. CPUE, mean size, proportion of juveniles, estimating fishing mortality, etc.);
- Update the life history metadata base of SMT, with new information collated during the recent years under the SMTYP and/or other research initiatives;
- Present, to the extent possible, preliminary results on stock assessment for small tunas species for one of the 5 geographical areas adopted by ICCAT, based on data limited methods





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| January 12-14   | Atlantic Ocean tropical Tuna Tagging Programme (AOTTP) Final Symposium |
| March 8-12      | Intersessional meeting of the Billfish Species Group                   |
| March 29-31     | Tropical Tuna MSE Technical Group meeting                              |
| April 5-13      | Bluefin Tuna Species Group (including W-BFT data preparatory)          |
| April 22-30     | Bigeye tuna data preparatory meeting                                   |
| May 5-10        | Working Group on Stock Assessment Methods                              |
| May 5-10        | Meeting of the Sub-Committee of Ecosystems                             |
| May 17-21       | Small Tunas Species group Intersessional meeting                       |
| May 31 - June 7 | Swordfish Species Group (including MSE)                                |
| June 21-30      | Albacore Species Group (including MED assessment)                      |
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| July 19-29      | Bigeye Tuna Stock Assessment Meeting                                   |
| Aug 30 - Sept 1 | Western Bluefin Tuna Stock Assessment Meeting                          |
| September 2-9   | 2nd Intersessional Meeting of the Bluefin Tuna Species Group           |
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**Date**

**SCRS Workshops Scheduled for 2021**

|                      |   |
|----------------------|---|
| <b>February 8-9</b>  | <b>GBYP Close-Kin workshop</b>          |
| <b>March 15-16</b>   | <b>GBYB Electronic Tagging workshop</b> |
| <b>March 22-26</b>   | <b>ICCAT Swordfish Biology workshop</b> |
| <b>October 25-29</b> | <b>Billfishes ageing workshop</b>       |



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## To request participation in SCRS meetings/workshops as a member of the U.S. Scientific Delegation:

- Submit request the Head of the U.S. Scientific Delegation to the ICCAT SCRS at least two weeks prior to the start of the meeting/workshop

Craig Brown

[craig.brown@noaa.gov](mailto:craig.brown@noaa.gov)

- Describe the nature of your potential contribution to the scientific work of the SCRS
- Provide advance drafts of any materials to be presented at the SCRS meeting to the Head of the U.S. Scientific Delegation, to allow opportunity for review and feedback from the Delegation.

