Food and Agriculture Organization of the United Nations

Indian Ocean Tuna Commission
Commission des Thons de l'Ocean Indien
iotc ctoi

INDIAN OCEAN TUNA COMMISSION
STRATEGIC SCIENCE PLAN
2025-2029

THE INDIAN OCEAN TUNA COMMISSION

The Indian Ocean Tuna Commission (IOTC) is an intergovernmental organization responsible for the management of tuna and tuna-like species in the Indian Ocean. The IOTC was established in 1993. The Commission comprises Contracting Parties (Members) and Cooperating Non-Contracting Parties, together referred to as CPCs.

The Commission has four key science-based functions and responsibilities which enable it to achieve its objectives of sustainable development and optimal utilization of tuna and tuna-like resources. Briefly these include: gathering, analyzing, disseminating scientific information (including catch and effort statistics and other relevant data) and reviewing the status of the stocks; supporting research and development activities in respect of the stocks and fisheries; adopting, on the basis of scientific evidence, conservation and management measures to ensure the conservation of the stocks; and reviewing the economic and social aspects of its fisheries.

MISSION

The IOTC Commission's Rules of Procedure details the functions and mode of operation of the Scientific Committee as an advisory body to the Commission. Each Member of the Commission will have the right to be represented, and the Committee is responsible for:

- *recommending policies and procedures for the collection, processing, dissemination and analysis of fishery data*
- *developing and coordinating cooperative research programmes among IOTC Members*
- *assessing and reporting to the Commission on the status of the stocks, formulating recommendations concerning conservation, fisheries management and research, including consensus, majority and minority views.*

VISION OF THE SCIENTIFIC COMMITTEE

To be a dynamic and responsive Scientific body with the participation of highly competent scientists from all member countries of the Commission, working cooperatively in an efficient and transparent way, to provide clear, objective and reliable scientific advice to the Commission in support of its mandate.

WHY DO WE HAVE A STRATEGIC SCIENCE PLAN?

The activities and goals contained in this strategic science plan reflect the current scientific needs of the Commission. This plan provides a stable framework with which the working parties and Scientific Committee can develop their respective work plans and ensure consistency and relevance from year to year. The Scientific Committee and its working parties, however, will continue to prioritize their activities in accordance with changing circumstances and the changing needs and requirements of the Commission**.** Therefore this strategic plan provides general guidance to the priorities and activities of the SC and WPs but does not over-ride the activities and priorities identified in the working party workplans, which necessarily evolve over time as gaps in data and research, or risks to species, are identified

This strategic plan is designed to provide guidance for the period 2025-2029. Three specific goals are envisioned, each with objectives, activities and performance indicators.

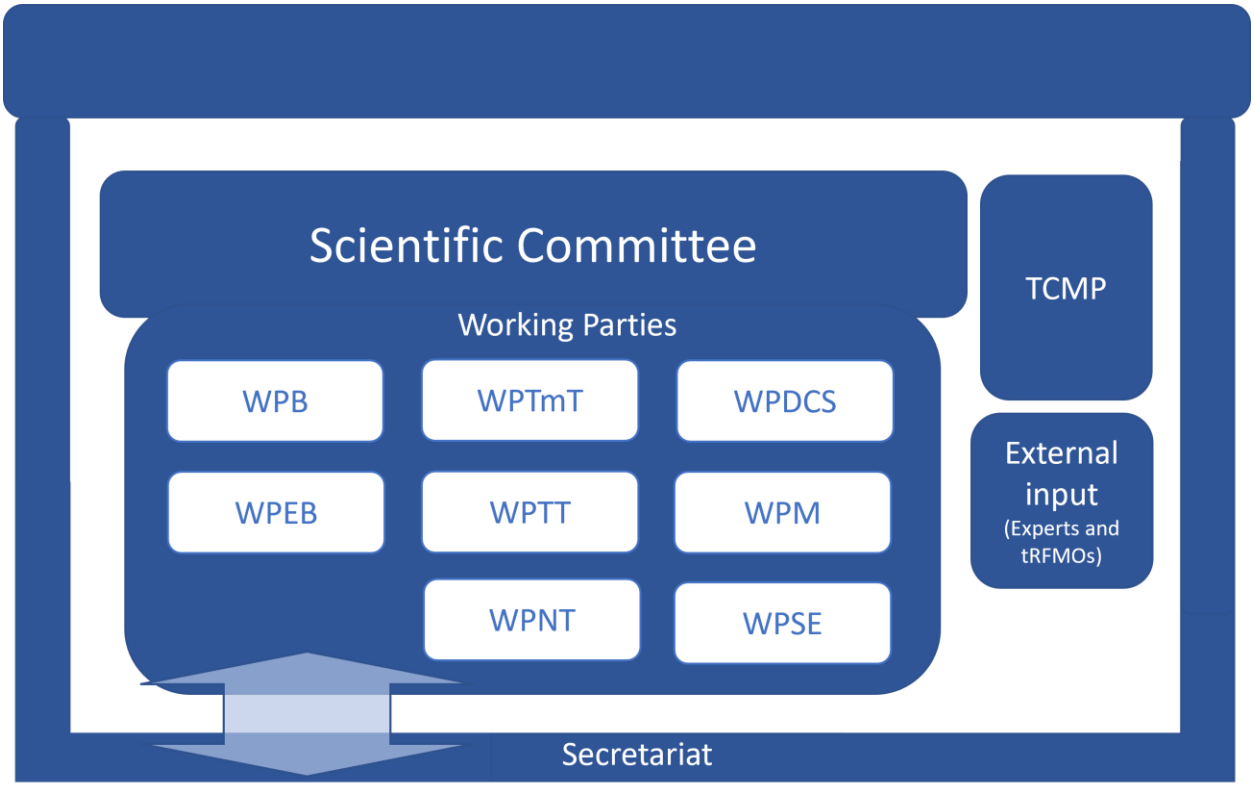
HOW THE SCIENCE PROCESSES WORK IN IOTC

The primary functions of the Scientific Committee and its working parties are to provide the Commission with the information it needs to manage fish stocks under the IOTC mandate and any adverse impacts on the ecosystems in which the fisheries operate.

The Scientific Committee is supported by five species scientific working parties: on billfish (WPB), ecosystems and bycatch (WPEB), neritic tunas (WPNT), temperate tunas (WPTmT), tropical tunas (WPTT). In addition, the working parties on methods (WPM), data collection and statistics (WPDCS), and social-economics (WPSE) have important (cross cutting) roles in ensuring that the data and methods used by working parties and the Scientific Committee are of the highest quality. Each working party comprises national science experts and other external experts from stakeholder groups. The Scientific Committee comprises scientists from IOTC Members.

The IOTC Secretariat also plays an important role in organizing meetings and ensuring that fisheries statistics and technical papers are made available to IOTC's working parties and Scientific Committee. The Secretariat also has a range of in-house expertise, including a stock assessment expert, which also provides technical support. The calendar of working party meetings planned for the period 2025-2029 is provided below.

The IOTC Secretariat, CPCs and affiliated stakeholder organizations manage a range of research activities that contribute to the goals of the Scientific Committee. This science strategy will also assist in the direction and formulation of these and future research initiatives.



Calendar of proposed working party meetings for 2025-2029

	2025	2026	2027	2028	2029
Neritic Tunas	Intersessional meeting	Assessment meeting (KAW[1], LOT[1], COM[1])	Assessment meeting (BLT[1], FRI[1], GUT[1])	Intersessional meeting	Assessment meeting (KAW[1], LOT[1], COM[1])
Billfish	Assessment meeting (BUM*, SFA[1])	Assessment meeting (SWO*)	Assessment meeting (BLM*, MLS*)	Assessment meeting (BUM*, SFA[1])	Assessment meeting (SWO*)
Ecosystems and Bycatch	Data Prep meeting Assessment meeting (BSH*, OCS[2], Marine turtles[2], Marine mammals[3], Seabirds[3])	Assessment meeting (SPL[1], FAL[1], BTH[1], PTH[1], Shark research plan)	Data Prep meeting Assessment meeting (SMA*, POR[1], Mobuild ray[2])	Data Prep meeting Assessment meeting (BSH*, FAL[1], Marine turtles[2])	Intersessional Meeting (Mobuild ray[2])
Temperate Tunas	Data Prep meeting Assessment meeting (ALB*)			Data Prep meeting Assessment meeting (ALB*)	
Methods	Annual meeting Run SKJ MP	Annual meeting	Annual meeting Run BET MP Run SWO MP	Annual meeting Run SKJ MP	Annual meeting
Tropical Tunas	Data Prep meeting Assessment meeting (BET)	Data Prep meeting Assessment meeting (SKJ)	Data prep meeting Assessment meeting (YFT)	Data prep meeting Assessment meeting (BET)	Data Prep meeting Assessment meeting (SKJ)
Data Collection and Statistics	Annual meeting	Annual meeting	Annual meeting	Annual meeting	Annual meeting

* Full assessment

[1] Data poor methods
[2] Indicators
[3] Review of mitigation measures

OVERARCHING GOAL OF THE IOTC SCIENTIFIC COMMITTEE

To provide the best possible scientific advice to the Commission

SPECIFIC GOALS

1. **Strengthening data collection and analysis by**
   - Improving the collection, validation and reporting of fisheries data for IOTC species and their associated and dependent species
   - Increasing the availability and quality of biological data
   - Increasing the availability and quality of data on associated and dependent species
   - Improving data storage, management and sharing

2. **Improving the scientific advice provided to the Commission by**
   - Developing robust assessments of the status of IOTC species and their associated and dependent species
   - Improving fisheries-dependent abundance indices
   - Investigating and developing fisheries-independent abundance indices
   - Evaluating Management Procedures through Management Strategy Evaluation
   - Advancing ecosystems-based management advice including scientific advice on management options to reduce IOTC fishery impacts on vulnerable bycatch species
   - Advancing advice on the economic and social aspects of fisheries
   - Improving the processes for the provision of scientific advice

3. **Increasing participation in scientific processes by**
   - Improving the scientific capabilities of the Scientific Committee
   - Enhancing and improving participation in the Scientific Committee
   - Promoting gender equality and raising gender awareness
   - Preserving and promoting the independence and quality of the Scientific Committee and its working parties
   - Increasing the collaboration of the Scientific Committee with the broader scientific community, communicating and promoting the value of IOTC's scientific outputs

ELABORATION OF THE GOALS, OBJECTIVES, ACTIVITIES AND PERFORMANCE INDICATORS OF THE STRATEGIC PLAN

GOAL 1. STRENGTHENING DATA COLLECTION AND ANALYSIS

Objective 1.1 Improving the collection, validation and reporting of fisheries for IOTC species and their associated dependent species by:

Strengthening the collection of nominal catch, effort and size frequency information and addressing data gaps.

Activities

- Improving and adapting databases in support of changing scientific requirements.
- Collaborating with other tuna RFMOs, research institutes and experts with tuna interests to assure that best practices for data collection are in place.
- Refining protocols for data collection and species identification for IOTC species and their associated and dependent species from all fishing fleets, in particular artisanal fisheries.
- Conducting focused data evaluation meetings with data providers to review data quality, spatial resolution and misreporting of catches, landings, discards and size compositions.
- Providing capacity building to improve both the quantity and quality of the collected data to ensure representability of fishing activities.
- Reconstructing historical catch series for CPCs with persistent data quality issues and improving time series of catches and other scientific data for science and management purposes

Performance indicators

- Percentage reduction in data gaps in the Secretariat's databases by 2029.
- A list of data gaps and missing data elements over a 5-year period.

Improving support for the fulfilment of data reporting obligations

Activities

- Developing, training and promoting the use of the new data validation and reporting templates to facilitate the reporting of fishery data by of CPCs.
- Encouraging the provision of high quality data by (i) clearly identifying and communicating best practices for data collection and reporting (ii) providing report cards to data providers and the Commission to highlight areas for improvement in data reporting (iii) as needed, work directly with CPCs to identify ways to address data collection and reporting inadequacies and make strategic investments at the national level to overcome inadequacies.
- Further developing e-MARIS application and other e-reporting tools to facilitate and assist the CPCs to report statistical data and improving the integration eMARIS with the existing IOTC information and data management systems.
- Developing a register system for both drifting and anchored fishing aggregated devices (FAD) to improve the collection and analysis of detailed information on FAD deployments, movements, and interactions with marine species.

Performance indicators

- Improved data collection and reporting templates made available
- A functional FAD register in operation
- Better understanding of the feasibility of integrating eMARIS with existing IOTC database systems

Improving the precision of official data

Activities

- Identifying through simulation modelling, the degree to which improvements in data resolution improve the precision of estimates of exploitation. Including a cost-benefit analysis for collecting such data.
- Accessing high resolution data on fishery operations; in particular data on fish aggregation devices (FADs) and associated buoys, by (i) identifying and proposing revisions to data confidentiality protocols (ii) collaborating with industry partners to access confidential fishing operation data (historical and present) for all gears.

Performance indicators

- Fishery catch/effort maps at 1x1^{o} resolution, by month by major gear type by 2029
- Confidentiality protocols for accessing information on fishery operations on FADs and associated buoys.

Applying e-monitoring technologies to increase data collection and coverage

Activities

- Pursuing broad-based application of electronic monitoring systems and other automated data collection methods which provide real-time data.
- Implementing regional electronic monitoring program as per the objectives, purpose and roles and responsibilities in the IOTC electronic monitoring system and data standards.
- Using vessel monitoring systems (e.g. VMS, AIS and mobile-GPS based tools) data to provide information at the highest temporal resolution.

Performance indicators

- Proportion of CPCs applying EM to collect data from fisheries with previously low data reporting.
- Increasing EM based ROS data from fisheries where human observer implementation not feasible.
- Additional information on fishing operations.
- Fishery catch/effort maps at 1x1^{o} resolution, by month by major gear type by 2029.

Objective 1.2 Increasing the availability and quality of biological data by:

Increasing the availability of biological data to investigate structure, movement life history and status for IOTC stocks

Activities

- Promoting collaborative analyses of biological datasets and evaluating spatio-temporal patterns in biological data.
- Identifying gaps in biological knowledge by species working groups and undertake regular collections of biological samples as necessary to determine age/size, maturity/fecundity and stock structure.
- Cooperate with CPCs and other research/data collection initiatives to design and execute biological sampling programs for IOTC stocks.
- Improving an electronic exchange format to facilitate the sharing of raw morphometric data, and the biological database to increase sample size and to identify the main sources of variability.
- Determining feasibility of the development of a coordinated IOTC biological sampling program and permanent central biological sampling storage and management facility

Performance indicators

- The number of joint analyses of biological information presented to working parties.
- The number of peer review publications on a novel biological data analysis in the region.
- The number of collaborative sampling programs.

Objective 1.3 Increasing the availability of data on associated and dependent species by:

Developing a comprehensive bycatch database

Activities

- Improving the bycatch data in IOTC fisheries database.
- Working with CPCs and partners to highlight the importance of collecting and reporting relevant data on associated and dependent species.
- Encouraging the submission of relevant data on associated and dependent species in accordance with IOTC Resolutions.
- Improving estimates of CPC interactions with associated and dependent species including vulnerable species and collection of information relevant to assessing the influence of different gears/fishing methods on their capture and survival.
- Compiling and maintaining meta-data from observer programs and observer data collected by CPCs and partners.
- Facilitate and contribute to bycatch data collection workshops to improve species identification and sampling.
- Improve the precision and accuracy of relevant data on associated and dependent species.

Performance indicators

- The number of bycatch workshops in the Indian Ocean region.
- The percentage increase in bycatch information in the IOTC databases by 2029.

Continuing the development of an observer database

Activities

- Increasing the implementation of the regional observer scheme (ROS) amongst CPCs.
- Providing updated observer manuals for data collection and best practice.
- Capacity building and training activities for observer programmes
- Improving estimation of dead and live discards.
- Continuing to assess the utility of electronic monitoring and port sampling for data collection, complementing the ROS data with EMS, port sampling, or other data collection methods approved by the Commission, to ensure minimum mandatory ROS data reporting standards are met.
- Developing and using electronic tools to improve and strengthen the collection, reporting, and integration of observer data that align with the IOTC regional observer scheme (ROS) standards and to facilitate the ROS regional data exchange workflow between national focal points and IOTC Secretariat.
- Continued development of the ROS Database hosted by the IOTC Secretariat.

Performance indicators

- The number of CPCs that have implemented the ROS by 2029.
- The production and distribution of updated manuals for the ROS.
- The percentage increase in discards/releases information in the IOTC databases by 2029.

Objective 1.4 Improving data storage, management, and sharing by:

Developing and implementing Integrated data management system

Activities

- Implementing a state-of-the-art integrated IOTC Fisheries Statistical and Biological Data System and extending the management system for IOTC Regional Observer database.
- Upgrading from the current system to a new system consisting of a suite of databases using the PostgreSQL/PostGIS database management system.

Performance indicators

- Optimised fisheries data processing workflow
- Enhanced data quality control procedure

Reviewing and making recommendations to existing data exchange mechanisms and procedures for data access

Activities

- Developing common data collection formats to enable the compilation of data from different collection initiatives.
- Reviewing existing data confidentiality protocols including CPC specific non-disclosure agreement to take into consideration new data streams and needs.

Performance indicators

- An appropriate data confidentiality agreement for the requesting and sharing of confidential data.

GOAL 2. IMPROVING OBJECTIVE, ROBUST, SCIENTIFIC ADVICE TO THE COMMISSION

Objective 2.1 Developing robust assessments of the status of IOTC species and their associated and dependent species by

Identifying the major sources of uncertainty affecting management advice

Activities

- Compiling meta-datasets on biological and fisheries data that will allow the evaluation of the quality of data as well as identification of knowledge gaps.
- Conducting meta-analyses and reviews on biological parameters, fishery data, data processing and assumptions during the assessment process.

Performance indicators

- A meta-database for fishery, biological and tagging data.
- Stock assessments and MSE Operating Models explore and represent the main uncertainties in the scientific advice provided to managers.

Providing scientific advice using appropriate methods of analysis

Activities

- Ensuring that appropriate expertise and resources are available to conduct the assessments
- Conducting assessments and management procedure evaluations using the most appropriate models and techniques.
- .
- Investigating and applying (when required) data poor, data moderate, and integrated methods for assessing stocks.
- Developing guides for the provision of management advice derived from different model structures.

Performance indicators

- The number of stocks for which new assessments or stocks status summaries are available.
- The number of stocks for which quantitative assessments and projections are conducted.

Improving stock assessments and management strategy evaluation by incorporating the latest information

Activities

- For assessments, incorporating improved/updated information on fisheries activities and life history characteristics, as soon as possible.
- For stocks to be managed by management procedures, acknowledging that continuously reconditioning operating models with new information may derail the development/adoption timeline (reconditioning should only be undertaken if there is clear evidence that the current level of uncertainty is great).
- Ensuring Indian Ocean data and parameters are used to the extent possible.

Performance indicators

- The number of assessments in which revised/updated fishery data and/or life history information is incorporated.

Integrating uncertainty in stock status assessments (including projections) and management strategy evaluation testing of management procedures

- Determining and characterizing major sources of scientific uncertainty in assessment model structure, data and parameters.
- For stocks undergoing management procedure development, ensuring that operating models encompass the main uncertainties identified in the stock assessments and other plausible robustness tests that time allows.
- For stocks managed with traditional stock assessments, using effective methods to integrate the sources of uncertainties into the stock assessment process and results, including projections.
- More thorough presentation of diagnostics to evaluate the fit of model to data, identify conflicts in input data sources, and address plausibility criteria.

Performance indicators

- An assessment or management procedure process that uses a suite of models that incorporates a wide range of plausible uncertainty.
- Appropriate presentation of the uncertainty in the model results and projections.
- Development of a best practice guidelines for presenting appropriate model diagnostics.

Objective 2.2 Improving fisheries-dependent abundance indices by

Increasing the quality and number of abundance indices available for stock assessments

Activities

- Developing guidelines for the best practice of developing indices of abundance including the presentation of model diagnostics.
- Developing standardized indices of abundance for previously unassessed fleets and gears.
- Supporting efforts to perform collaborative analyses across national fleets using a consistent statistical framework
- Providing capacity building for developing country scientists on the best techniques to standardize abundance indices.
- Assessing the relative reliability of fishery-dependent abundance indices.

Performance indicators

- A guide for scientists on the standardization and presentation of abundance indices.
- An increase in the number and coverage of standardized abundance indices.

Objective 2.3 Investigating fisheries-independent abundance indices by

Investigating and developing fisheries-independent indices of abundance

Activities

- Identifying and assessing the feasibility of providing abundance estimates from fisheries independent data sources.
- Organizing dedicated workshops on the development and analysis of fisheries-independent information.
- Encouraging CPCs to undertake fishery-independent surveys.

- Developing absolute or relative abundance estimates using novel techniques such as close kin mark recapture, genetic tagging, and acoustic buoys data

Performance measure

- The number of working party papers describing analyses of fisheries-independent abundance indices.
- The number of fisheries-independent indices of abundance included in assessment models by 2029.
- The number of workshop reports dedicated to analyzing fisheries-independent information.

Objective 2.4 Evaluating management procedures through management strategy evaluation by

Continuing to evaluate Management Procedures through management strategy evaluations (MSE)

Activities

- Developing operating models to examine the impacts of sources of uncertainty on management advice.
- Conducting management strategy evaluations to identify management procedures (in particular, harvest control rules) that are robust to the identified sources of uncertainty.
- Testing management procedures using management strategy evaluation and make recommendations regarding the most appropriate harvest control rules to meet IOTC objectives.
- Creating the platform that enable the running management procedures to be conducted in a transparent and reproducible manner.
- Determining rules and procedures for identifying and addressing exceptional circumstances.

Performance indicators

- The number of documents on management strategy evaluation presented at working parties.
- The number of stocks for which management strategy evaluation simulations are being conducted and management procedures are tested.
- The number of adopted management procedures.

Objective 2.5 Advancing ecosystems-based management advice by

Identifying and assessing the data available for ecosystems based management advice

Activities

- Developing ecosystem indicators and reporting cards, taking into account all relevant information and including data and indicators used by other bodies, via a delicated workplan.
- Characterizing and identifying ecoregions for supporting ecosystem-based research and the development of advice product.
- Developing robust estimates of bycatch and species interactions assessing the ecosystem risks to these species to determine the impact of fisheries on at risk

species, including endangered, threatened, or protected species including sharks, rays, marine turtles, seabirds, and cetaceans.
- Developing advice to the Commission on management options to reduce risks and impacts on these species.
- Collecting data and carrying out experimental trials and research to evaluate the effectiveness and impact of different mitigation measures on both target and bycatch species.

Performance indicators

- The development of ecosystem indicators and report cards.
- Number of risk assessments performed for bycatch species
- Proposed ecoregions (relevant for ecosystem-based management) by 2029.
- Recommendations to the Commission on mitigation measure options.

Assessing the impacts of climate change and any potential risks to IOTC fisheries.

Activities

- Supporting further scientific research into the relationship between climate change, IOTC fisheries and stocks, bycatch, and ecosystem, including research to inform potential measures to mitigate and/or adapt to climate change impacts
- Analysing how climate change affects the distribution and migration patterns of target stocks, examining changes in ocean temperatures, currents, and habitats to predict shifts in target populations.
- Evaluating how changing environmental conditions impact fishing activities including effort and catch efficiency by analysing data on catch rates, changes in fishing locations, and the economic implications for fisheries.
- Developing an online digital ocean atlas for the Indian Ocean Ocean to make climate information more readily available to the IOTC scientific community

Performance indicators

- A work plan to advance fisheries research taking climate change into account.
- Policy products (e.g., Conservation management measures) that mitigate and/or adapt to climate change impacts

Objective 2.6 Advancing advice on economic and social aspects of fisheries by

Incorporating fisheries socioeconomics into IOTC science and management

Activities

- Identifying likely needs for providing advice on social economic aspects of IOTC fisheries
- Obtaining clarity from the Commission on its economic and social goals and data requirements.
- Make recommendations on the collection and reporting of socio-economic information to inform management decisions and measure the socio-economic impacts of tuna fisheries on local communities and local economies
- Applying fisheries economic and social science research to assess social and economic significance of IOTC fisheries and their impact on impacts of the IOTC processes

Performance indicators

- Agreed protocols for the collection of socio-economic information.

Objective 2.7 Improving the processes for provision of scientific advice by

Revising current assessment processes to meet changing needs, including the initiative to develop and adopt Management Procedures

Activities

- For stocks that are to be managed by management procedures, adopting a meeting schedule or process, that ensures sufficient time is allocated to:
  - providing collaborative constructive feedback on operating models and candidate management procedures during their development phase
  - monitoring exceptional circumstances while the management procedure is in effect
  - reviewing management procedure performance.
- Organizing data preparatory meetings ahead of stock assessment meetings to prepare all the inputs for stock assessment.
- For stocks that are to be managed with the traditional stock assessment approach, adopting a meeting schedule or process that ensures sufficient time is dedicated to discussing assessment model inputs and specifications, initial model runs, diagnostics and projections.
- Including relevant operational fishing data in assessments, to the extent possible.

Performance indicators

- The existence of data preparatory meetings for species being assessed.
- A protocol for addressing an external review of an assessment or management strategy evaluation.

Strengthening the peer review process

Activities

- Identifying and inviting external, independent experts to participate in technical activities, particularly for stock assessments and management strategy evaluation.
- Encouraging the publication of scientific outputs.
- Using external peer-review panels or meetings for reviewing IOTC scientific outputs; in particular, stock assessments and management strategy evaluation. Setting these as a requirement every e.g. three assessment cycles

Performance indicators

- The number of external experts contributing to IOTC technical processes.
- The number of external peer-review reports.

Improving dialogue between working parties

Activities

- Encouraging working party chairs to attend the annual Scientific Committee meeting, and if possible the WPDCS.
- Encourage working party chairs to communicate directly with each other on cross cutting issues.

Performance indicators

- The number of working party chairs that attend the Scientific Committee.
- The number ofworking party chairs that attend the WPDCS.

Improving dialogue between the Scientific Committee and the Commission

Activities

- Encouraging participation of scientists and managers at the Technical Committee on Management Procedures (TCMP);
- Identify capacity building opportunities for the Commission to better understand the terminology and advice provided by the TCMP and the Scientific Committee.
- Recommending to the Commission, the need to broaden the mandate of TCMP as management procedures become standard management tool..

Performance indicators

- The number of scientists and managers attending the TCMP and/or other science-manager meetings.
- The number of capacity development initiatives held to improve the understanding and communication of technical advice.

GOAL 3. INCREASING PARTICIPATION IN THE SCIENTIFIC PROCESSES

Objective 3.1 Improving the scientific capabilities of the Scientific Committee by

Increasing the participation of Scientific Committee members in the analyses that support scientific management advice

Activities

- Evaluating the efficacy of the scientific training activities conducted by the Secretariat.
- Working with CPCs to support undergraduate and graduate level students in quantitative fishery science.
- Enhancing participation of researchers from different disciplines (oceanography, climate, socioeconomics, etc.) in the scientific processes (especially in the Working Party on Ecosystem and Bycatch) by invitation and appointment of specific tasks.

- Organizing training courses, workshops for particular topics.

Performance indicators

- The number of courses conducted and the training materials available.
- The number of papers presented by CPC scientists to the Scientific Committee and its associated working parties.

Objective 3.2 Enhancing and improving participation in the Scientific Committee by

Ensuring the participation of scientists from CPCs that harvest significant portions of the stock

Activities

- Making recommendations to the Commission on ways to increase participation for CPCs that catch >10% of the total catch of a given stock.
- Using technical networks to reach out to CPCs that have not attended IOTC meetings in recent years and encouraging their participation.
- Clearly noting in meeting reports when no scientists from CPCs that catch significant portions of a given stock are present at relevant meetings.

Performance indicators

- Percentage participation of the CPCs that harvest significant portions of the stock.
- Percentage increase in the number of CPCs with scientific representation at scientific meetings.

Ensuring the participation of scientists from developing countries

Activities

- Raising awareness of the Meeting Participation Fund and its procedures, to encourage scientists to attend meetings.
- Supporting long-term training at one or more national laboratories.
- Initiating collaborative research projects with scientists leading to co-authorships on scientific documents presented at scientific meetings or submitted for publication.

Performance indicators

- The percentage increase in the number of developing country scientists participating in scientific meetings.
- The number of papers presented by developing country scientists at scientific meetings.

Objective 3.3 Promoting gender equality and raising gender awareness by

Promoting gender equality and women's empowerment in ecosystem and fisheries resources management

Activities

- Encouraging participation by women in IOTC scientific processes.
- Promoting female leadership in the IOTC scientific processes.
- Communicating the positive contribution by women in fisheries resource management.

Performance indicators

- Percentage of women attending IOTC scientific meetings.

- The number of authorships and co-authorships by women on IOTC documents and peer review journal articles
- The number of women undertaking the role of chairperson and/or vice-chairperson.

Objective 3.4 Preserving and promoting the independence and quality of the Scientific Committee and its working parties by

Avoiding conflict of interests and ensuring the independence of the scientific process

Activities

- Developing a code of conduct for scientists and for observers.

Performance indicators

- A Code of conduct for the Scientific Committee.

Objective 3.5 Increasing the collaboration of the Scientific Committee with the broader scientific community, communicating and promoting the value of IOTC's scientific outputs by

Strengthening the linkages and collaboration with other tuna RFMOs

Activities

- Increasing the scientific exchange between the IOTC and other tuna RFMOs
- Considering the participation of scientists from other tuna-RFMOs as guest experts or as peer reviewers.
- Promoting inter-tuna-RFMO meetings on areas of common interest (e.g. species, assessment methods, data acquisition).
- Taking advantage of other fora in which relevant fisheries science is being discussed.
- Supporting the processes arising from the Kobe process (e.g. Bycatch, MSE and FAD technical groups).

Performance indicators

- The number of external experts from other tuna-RFMOs participating in IOTC scientific meetings.
- The number of IOTC experts participating in other tuna-RFMO scientific meetings.
- The number of joint tuna-RFMO meetings organized and attended.

Strengthening the linkages and collaboration with other regional bodies

Activities

- Identifying regional initiatives that are relevant to the IOTC science processes.
- Communicating with those regional initiatives to determine possible avenues of collaboration.
- Encouraging participation of scientists at meetings and workshops held by other regional bodies which are of relevance to the work of the IOTC.

Performance indicators

- A working document describing the regional initiatives that are relevant to IOTC.
- The number of agreements for collaboration with regional initiatives.