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# ABNJ Tuna Harvest Strategy Capacity Building Workshop Design: Final Project Evaluation Report

*A WWF-Led Component of the*



**Project for Sustainable Management of Tuna Fisheries  
and Biodiversity Conservation in the ABNJ**

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## 1. Overview

The Global Environment Facility (GEF) approved ‘*Common Oceans global sustainable fisheries management and biodiversity conservation in the Areas Beyond National Jurisdiction program*’ (Common Oceans ABNJ Program) is coordinated by the Food and Agriculture Organization of the United Nations (FAO) and represents a close collaboration with two other GEF implementing agencies, the United Nations Environment Program (UNEP) and the World Bank. Other executing partners include Regional Fisheries Management Organizations (RFMOs), national governments, the private sector, and various NGOs, notably the World Wildlife Fund (WWF). The Program’s initial five-year implementation consists of four complementary projects, whose multifaceted activities began in 2014 and focus on three component areas:

- Supporting implementation of sustainable and efficient fisheries management and fishing practices
- Reducing illegal, unreported and unregulated fishing through strengthened and harmonized monitoring, control and surveillance
- Reducing ecosystem impacts from tuna fishing, including bycatch and associated species

The first component is designed to improve governance in general and includes a number of outputs. WWF is the lead agency for a number of the ABNJ Program outputs, including supporting the improved understanding of the application of the precautionary approach through harvest strategies (HSs) by tuna RFMOs (Output 1.1.1).

The objective for Output 1.1.1 states:

*“At least ten developing coastal states support (i.e. actively lobby at the Commission level and/or co-propose) the successful adoption of a Conservation and Management Measure (CMM) or CMMs at the RFMO-level that implement the elements of a Harvest Strategy for regional stock management, following capacity building of least 160 national fisheries personnel.”*

Therefore, Output 1.1.1 training is aimed at increasing capacity of scientists and managers from tuna-RFMO (t-RFMO) member countries to participate effectively in these fora, leading to the adoption of HSs (or management procedures) through a management strategy evaluation. This was identified as an important step in the development of management advice and decision-making based on, *inter alia*: accepted good fisheries management practices; obligations associated with relevant international fisheries instruments; best scientific evidence; and the implementation of the precautionary approach. The training was intended to address all elements of HSs (reference points, harvest control rules, data and assessment methods) and the use of Management Strategy Evaluation (MSE) to evaluate the performance of the HSs in fulfilling the management objectives.

WWF’s approach to meeting this objective was to hold a series of eight workshops - two for member or participating territory and cooperating non-member countries of each t-RFMO. After the conduct of an initial two workshops (Indian Ocean (IO), April 2014 and Eastern Pacific Ocean (EPO), February 2015), WWF issued a Request for Proposal for the curriculum design of the remaining six workshops, the result of which was a contract between WWF and Ocean Outcomes (O2) in late 2015 for O2 to perform the remaining design work, which

included developing and delivering:

- curriculum on the precautionary approach, HS and management strategy evaluation tailored for each workshop, highlighting and clarifying the concepts most important for the capacity building objectives;
- working with topic experts in developing agendas and presentation materials;
- pre-workshop briefings to presenters and WWF staff for each workshop; and
- preparing workshop summary reports to include effectiveness review toward workshop learning objectives.

WWF identified an objective for the workshops to use generic modules where possible across the oceans in order to provide continuity in content, language and presentation throughout the t-RFMO landscape. Further, WWF highlighted the importance of O2 working closely with WWF, the workshop facilitators and expert science communicators to help ensure effective presentations and interactive discussion sessions and training modules to achieve workshop learning objectives.

In addition to preparing individual workshop summary reports, which were previously submitted to WWF after each workshop's completion, the WWF-O2 contract specified a final evaluation report to provide WWF input and feedback on degree to which the workshop series supported accomplishment of WWF's project objectives along with any related recommendations. The report herein is intended to fulfill this intent relative to O2's design objectives outlined above so WWF can include relevant information in its final project evaluation report to FAO. While O2 was only involved with the design process for the final six workshops (in an advisory capacity on the last), we have endeavored to include information in this report for the entire series where possible.

This report is not intended to provide a detailed recapitulation of evaluation results previously provided in individual workshop completion reports. Instead we offer a higher level summary of information and evaluation of the workshops, along with insights and recommendations that should be useful in assessing further potential work toward accomplishing the Common Oceans project's objectives in the area of t-RFMO harvest strategy participant capacity building and effectiveness.

## 2. Adaptive 2016 workshop design modifications

The O2 design team of Rich Lincoln, Andre Punt and Chris Grieve met in London in January 2016 with the WWF project team (Daniel Suddaby and Kathryn Read) and FAO Global Coordinator for the Common Oceans Tuna Project (Alejandro Anganuzzi), plus Jerry Scott (International Seafood Sustainability Foundation - ISSF) and Ana Parma (CONICET) via internet. This meeting was a follow-up to teleconferences in late 2015 to review lessons learned from the initial Sri Lanka and Panama workshops in 2014 and 2015, respectively, and for the O2 team to present new design ideas that could enhance meeting the project's learning objectives.

The key focus of design modifications discussed in London was the need for more interactive learning. While some presentation material at the first two workshops was deemed to be at the right target audience level (non-technical decision makers), a heavy reliance on lecture style, classroom format and overall technical focus of topics at the first two workshops was felt to deter engagement and learning. The O2 team presented two linked concepts to create an

emphasis on participant interaction geared to improve effectiveness through an interesting workshop environment and shared learning.

First, O2 suggested emphasizing use of interactive, small group breakout sessions, taking advantage of game concepts and tools to actively engage participants in exercises of shared learning. Considerable literature exists regarding the benefits of cooperative learning (e.g., Johnson et al. 2014<sup>1</sup>), and specific engagement strategies were proposed to support breakout sessions on the following topics: stakeholder perspectives, reinforcing harvest strategy concepts, and hands on application of MSE to create harvest control rules (HCRs) and understand principles of precautionary management.

The second key idea was the development of a higher level MSE model by Andre Punt that could be used interactively by workshop participants. The approach was designed to have high demonstration value with respect to understanding the relationship between reference points, harvest control rules, decision triggers and precautionary management and also was tailored to the overall active engagement and interactive learning concept.

While there were some questions about whether cultural settings in all workshops would consistently lend themselves to highly interactive small group sessions, these design ideas resonated with the London meeting participants - basic human nature supported testing the approaches that would be framed by context setting presentations and implemented with the use of resource experts to support breakout groups. The O2 team proceeded to refine the ideas and integrate them into an agenda for the next workshop scheduled for the International Commission for the Conservation of Atlantic Tunas (ICCAT) management area. After testing these ideas at this August 2016 workshop in Ghana, they were refined and adapted through the next four workshops, as further discussed below. The final workshop, where O2 played an advisory role to WWF Ecuador and IATTC rather than design lead, used a hybrid approach with some of the preceding design features, but without the use of small group breakouts.

## 3. Workshop convening summary

### 3.1 Participant numbers and geographic profile

The eight ABNJ harvest strategy capacity building workshops held from 2014-2018 engaged an impressive and diverse array of participants. In total, 232 individuals from 66 member, participating territory or cooperating non-member states attended the workshops with an average of 29 individuals per workshop from 14 countries/territories (Table 1; also see Appendix A for the country list and Appendix B for group participant photos).

In addition to member<sup>2</sup> state participants, the workshops benefited from significant participation from: RFMO secretariat staff; FAO; scientific and management experts serving as facilitators, presenters and resource support members for small group breakout sessions; industry and NGO observers; and the workshop design/organizing teams. These groups contributed another 134 attendees across eight workshops, and adding seven additional countries of origin, for a total participation of 366 individuals across 73 countries for the entire workshop series.

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<sup>1</sup> Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014). Cooperative learning: improving university instruction by basing practice on validated theory. *Journal on Excellence in College Teaching*, 25(3&4): 85-118.

<sup>2</sup> Member states should be read as: member, participating territory or cooperating non-members/cooperating non-contracting parties.

## 3.2 Gender

The gender of participants was noted as part of workshop registration process to meet overall ABNJ Program reporting metrics. The percentage of female member state participants at the eight workshops ranged from 18-38%, with an average of 27%.

Table 1. Dates, locations and participant summary data for WWF-led ABNJ tuna harvest strategy capacity building workshops conducted from 2014-2018. Hyperlinks for each workshop are provided to the individual workshop completion reports for more detailed information.

Workshop	Date	Location	Number of member state participants	Number of member states represented	Number of observers, resource experts and workshop organizers
<a href="#">Indian Ocean 1</a>	April 2014	Beruwala, Sri Lanka	44	18	15
<a href="#">Eastern Pacific Ocean 1</a> <sup>3</sup> ( <a href="#">video</a> )	February 2015	Panama City, Panama	28	10	18
<a href="#">Atlantic Ocean 1</a>	August 2016	Accra, Ghana	31	19	16
<a href="#">Indian Ocean 2</a>	March 2017	Columbo, Sri Lanka	26	14	25
<a href="#">Western Central Pacific Ocean 1</a>	August 2017	Bali, Indonesia	25	10	17
<a href="#">Atlantic Ocean 2</a>	January 2018	Dakar, Senegal	33	17	10
<a href="#">Western Central Pacific Ocean 2</a>	February 2018	Nadi, Fiji	23	11	16
<a href="#">Eastern Pacific Ocean 2</a>	August 2018	San Diego, US	22	11	17
<b>Totals across all workshops</b>			<b>232</b>	<b>66</b>	<b>134</b>

## 4. Key workshop approaches and context

As introduced in Section 2, workshops 3-7 emphasized the use of small group interactive exercises, assisted by context setting presentations and expert resource person support, to meet project learning objectives. Key aspects of these are described below to help frame analysis and recommendations.

### 4.1 Workshop structure

The individual workshop evaluation reports provide an agenda for each two-day workshop

<sup>3</sup> Workshop evaluation report not completed by design consultant.

during 2016-2018, which all utilized similar design plans. Beyond an opening session consisting of standard introductions and project framing, we used a ‘bookend approach’ to present, discuss and reinforce key harvest strategy concepts and to connect them to the current tuna management processes and work planning status in the subject RFMO. The components of this approach included the elements identified below, with the exception of the final workshop (EOP-2, August 2018) that didn’t utilize small group interactive breakout sessions<sup>4</sup>.

### Pre-workshop

- Material distributed to participants before the workshop, including agenda, glossary of key concepts and in some cases other background information

### Day 1

- Two stage setting, introductory presentations:
  - Key process context for the specific t-RFMO
  - An overview of key harvest strategy concepts (e.g., ‘Harvest Strategy 101’)
- Small group breakout 1: stakeholder perspective sharing on key aspects of the management process, serving secondarily as an ice-breaking engagement to activate cooperative learning
- Small group breakout 2: conceptual mapping of key harvest strategy concepts
- Reinforcing or case study presentation on key components within the overall harvest strategy

### Day 2

- Management strategy evaluation stage setting overview
- Small breakout 3: series of presentation guided small breakout exercises incorporating hands on use of ‘tuna MSE’ model
- Wrap-up presentation and discussion on t-RFMO management process and work plan status, bookending first Day 1 presentation

#### 4.1.1 Harvest strategy concepts

The basic ‘Harvest Strategy 101’ presentations on Day 1 contained similar content across the workshops and was designed to tie in closely with Day 2 material. The presentations that used common ‘life analogies’ (e.g., family vacations and driving safety) seemed to help with uptake by non-technical audience members, who were key targets for the workshops.

As the workshop series progressed a standard harvest strategy schematic was used during the workshop agenda

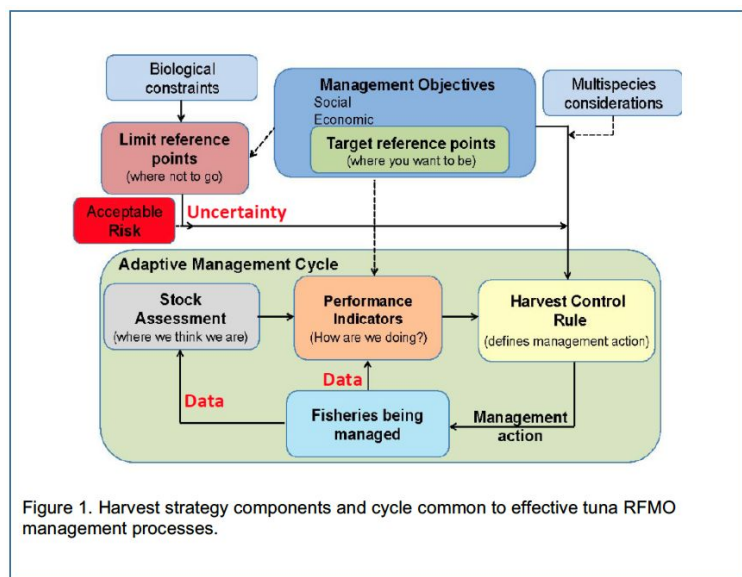


Figure 1. Harvest strategy components and cycle common to effective tuna RFMO management processes.

<sup>4</sup> For EPO-2, WWF Ecuador, IATTC staff and consultant/facilitator, Juan Valero, led workshop design/conduct. O2 played a collaborative advisory role in the planning process to share lessons learned from and promote continuity with previous workshops.

to help reinforce essential concepts/elements that are essential to an effective HS, including the importance of an adaptive planning, decision-making and evaluation cycle. Similar versions of Fig. 1 were used across all workshops.

#### 4.1.2 Stakeholder perspective sharing

Breakout session 1 was variously used during the workshop series to share different stakeholder perspectives on key topics. Initially, in Ghana, we used the breakout to explore roles different stakeholders play in the t-RFMO process. Each individual in the respective small groups described how a specific stakeholder representative might view a key harvest strategy concept, with the objective being to (1) help participants clearly understand decision making responsibilities in the RFMO process and (2) to appreciate how differences in stakeholder perspectives contribute to the process and the need to consider trade-offs in the context of different stakeholder values.

This breakout exercise evolved in subsequent workshops to where each individual in a small group typically selected a tuna fishery harvest management objective and then described to colleagues how different stakeholder groups (i.e., RFMO participants/roles) might view the importance of that objective. This provided a useful way to get participants thinking about the need to prioritize objectives and the need to find optimal ways to meet them through the RFMO decision process. For all variations of this exercise across the workshops, individuals used the ‘game prop’ of rolling a

large die to select a topic to discuss, which was simply a fun engagement tool (Fig. 2). A perspective sharing exercise early in the workshop was an important foundation building for other workshop topics and set the tone for an active engagement and cooperative learning approach. The facilitators played an important role in providing direction and energy for this and other breakouts, including

bringing small groups back together to share and compare highlights of discussions.



Figure 2. Dice used to facilitate small group Breakout Session 1 in ABNJ harvest strategy capacity building workshops (AO-1 through WCPO-2).

#### 4.1.3 Concept mapping of harvest strategy concepts

Breakout session 2 consisted of a very engaging, interactive exercise where each small group was provided 24 harvest strategy principles, which they arranged/mapped on the floor in a way that seemed logical with respect to their meaning and interrelationships (Fig. 3). The intent was to help reinforce and increase an understanding of these principles and their relationship in the management process by sharing ideas and rationale, which built on the ‘Harvest Strategy 101’ presentation and pre-workshop material. A resource person fluent in the group’s language



assisted each group to answer questions about particular concepts as the need arose, but with the simple purpose to provide helpful information and not guide or direct the exercise. The exercise generated significant energy/discussion and helped identify gaps in understanding, which the facilitator and design team could use to adapt subsequent presentation and discussion during the workshop.



Figure 3. Mapping harvest strategy principles during small group breakout sessions during ABNJ harvest strategy capacity building workshops (from upper left, clockwise: AO-1, WCPO-1, AO-2 and WCPO-2).

#### 4.1.4 Hands-on management strategy evaluation

The third series of breakout exercises was designed to more fully introduce HCRs and MSE aspects of tuna HSs. This comprised a mix of presentation material supporting small group, breakout sessions where participants got hands-on experience running and exploring a simplified MSE model, coined the ‘tuna MSE’ developed by Andre Punt. The intent was to transform a highly technical and analytical process used in RFMOs for evaluating and agreeing upon optimal HCRs into a conceptual, computer simulation ‘game’ where participants could learn by doing, in order to better understand potential trade-offs between simultaneously meeting important yet sometimes competing conservation and fishery objectives (Fig. 4).

Friendly contests and small prizes were used to frame various optimization exercises. The participants were consistently animated and enthusiastically engaged during these exercises. Key to this enthusiasm was to have each group’s answers to question visible on a main screen during plenary reconvening to compare and discuss results.



Figure 4. Hand-on application of tuna MSE demonstration model by participants in small groups during ABNJ harvest strategy capacity building workshops (from upper left, clockwise: AO-2, WCPO-2, and IO-2).

## 4.2 Workshop ‘institutional context’

Design planning and workshop conduct importantly occurred within an overall project institutional context, or ‘operating environment’, which affected success toward meeting workshop objectives. These context factors were not constant over the lengthy duration of the workshop series from its initial planning in 2013 to its completion in 2018. While workshop planning consciously considered these interrelated factors, a process that benefited from close collaboration among WWF, FAO and O2, the factors created certain challenges to ideally meeting project objectives. We review key aspects below since they are relevant to the overall evaluation of the harvest strategy capacity building effort.

### 4.2.1 NGO lead role

Some initial ‘external apprehension’ existed regarding WWF’s lead role in organizing the workshop series, particularly in the context of the relationship between the effort and ongoing processes surrounding harvest strategies in the t-RFMO fora. This included strong views from some parties that ABNJ capacity building should have been directly implemented within the

RFMO process. Recognizing this context, the WWF project team smartly visited with the various RFMO secretariats in concert with the project's launch to understand the then current status of HS-HCR planning and implementation within each forum, so the planned workshops could serve an optimal, complementary role. Nevertheless, RFMO secretariat receptivity and engagement was variable, which in some cases made collaborative integration of the capacity building workshops with RFMO work planning difficult.

Additionally, there was initial project guidance to take some care regarding WWF's lead role and the project's inherent objective to 'balance the playing field' by helping developing world member states become more knowledgeable and able to represent their interests. This specifically led to some focus on keeping workshop capacity building at a conceptual level so as not to be viewed as trying to influence specific outcomes within the RFMOs' respective decision processes. This initial caution seemed to create an impediment to more active integration and engagement between the workshop series and RFMO processes, though the actual conduct of the workshops served to dispel this 'external apprehension' as the project progressed.

#### *4.2.2 Target audience*

Workshop concept and design was centered around the objective of building capacity among decision makers and their technical advisors so they could be more knowledgeable, confident and effective within respective RFMO processes. This clearly defined the ideal target audience for the workshops. However, the required process of formally inviting member states to send their chosen participants to each workshop precluded the opportunity to target specific individuals who might benefit most from the capacity building efforts.

A complementary challenge encountered was the dynamic nature of member state representatives within each RFMO process, with appointee roles within countries often fluid and changing. The practical consequence of this fact, when combined with the formal invitation process noted above, was that there was little continuity in workshop participants within each RFMO area between the first and second workshops. While project design originally conceptualized the second workshop round building on the first, the FAO-WWF-O2 oversight team recognized the reality of a more constant capacity building need at both workshops geared toward basic HS-HCR concepts to account for ongoing personnel turnover.

#### *4.2.3 Workshop scheduling challenges*

The incredibly busy and often competing meeting schedules within each RFMO presented considerable practical challenges to optimally planning and finding dates for the workshops. In addition, the project team received consistent advice that piggy backing the workshops with planned RFMO meetings would lead to participant fatigue (long combined meetings) and create potential subject conflict (i.e., a focus on conceptual capacity building vs. being potentially distracted by specific critical 'issues of the day' within each RFMO). The project team also had a natural interest in wanting to stage its capacity building efforts in advance of annual decision meetings to provide member states the potential for taking advantage of new learning and capacity to prepare for the RFMO meetings. There was also some interplay between this question of adjoined vs. separated meetings with respect to the likelihood of realizing target audience objectives. There appeared to be no magic answer to this meeting scheduling and workload conflict challenge, which is commonly shared within the RFMO processes themselves. The approach taken within the project was simply to be as opportunistic as possible in meeting

workshop objectives.

## 5. Workshop evaluation

### 5.1. Participant evaluation form highlights

Fairly consistent evaluation forms were used across the eight workshops to query participants about their before and after ranking of various performance metrics and the detailed results of these evaluations are available in the individual workshop summary reports. However, the reporting of these evaluation results for individual workshops by the various design consultants involved did not provide a uniform level of detail or summary statistics. As a result we only summarize here the key evaluation highlights for the five workshops whose design was led by O2, where directly comparable workshop agendas, approaches and evaluation analyses were available (i.e., AO-1, IO-2, WCPO-1, AO-2, and WCPO-2). A summary of these results is presented in Table 2.

We first queried participants at each workshop about how important they considered harvest strategies to be in improving sustainable tuna management. Participants assigned a fairly high level of importance coming into the workshops (70% important or very important) while, from a post-workshop perspective, that percentage increased to 90%.

Table 2. ABNJ tuna harvest strategy capacity building workshop evaluation highlights from participant surveys, related to key dimensions of workshop objectives. Ranges represent per workshop averages for each topical area and means are the averages across all workshops. Note the results here are for five of eight workshops where O2-led design and had access to consistent, comparable data (AO-1, IO-2, WCPO-1, AO-2 and WCPO-2).

TOPICAL AREA	BEFORE		AFTER	
	Percentage of response rankings of 4 or 5 <sup>5</sup>		Percentage of response rankings of 4 or 5	
	Range	Mean	Range	Mean
Importance assigned to harvest strategies (HS, AKA management procedures) to improve sustainability of tuna management	58-80%	70%	83-97%	90%
Knowledge of the use of HS and reference points for management of tuna stocks	0-32%	21%	64-81%	74%
Knowledge of the RFMO processes to further development and implementation of HS and conservation measures	0-51%	24%	52-80%	70%
Knowledge of Management Strategy Evaluation (MSE) to compare trade offs among achieving different fishery objectives	0-46%	22%	44-79%	64%
Confidence in ability to engage in dialogues about sustainable tuna management toward adoption of HS	8-41%	24%	40-81%	66%

<sup>5</sup> Definitions of rankings of 4 or 5 in Table 2 by topical area are as follows: Row 1: important or very important; Rows 2-4: good and very good; Row 5: confident or very confident.

Second, we asked workshop participants how they would rank their level of knowledge about three key topical areas important to workshop learning objectives and associated improvement of tuna-RFMO management outcomes, i.e: HSs and reference points, RFMO processes, and management strategy evaluation (MSE). As can be seen from Table 2, the percentage of participants' rating their 'before workshop' knowledge of these topics as either good or very good was quite low, with the mean across all workshops less than 25%, and with a fairly wide range of 0-51%. On an 'after workshop' basis the mean ranking of key knowledge across all workshops for these categories had increased from 2.9 to 3.5 times.

Finally from a capacity building context, improving the ability of participants to engage effectively in t-RFMO management deliberations was an important purpose for the workshops. Participants rated their confidence as good or very good in being able to do so at only 24% from a 'before-workshop' standpoint, while the mean of these high confidence categories across all workshops had increased to 66% on an 'after workshop' basis, a factor of 2.8 times.

In addition to these key topical areas, participants were asked whether their understanding of nine detailed aspects of HSs and the t-RFMO management had improved or remained the same. Most mean workshop responses for all categories indicated high levels of improved understanding (i.e., 70-90+ %), though there were a minor number of outcomes in the 60-65% range.

The final evaluation questions addressed the quantity (too much, good, not enough) and level (too simplistic, good, too complex) of information presented and discussed at the workshops. Across the five workshops 89-97% of the participants felt the quantity and level of information was good, with one outlier being the second Atlantic Ocean workshop in Senegal where 81% rated the quantity of information as good while 11% rated it as too much and 8% not enough.

## 5.2 Additional observations and discussion

The ABNJ project workshop teams received additional feedback from workshop participants and had debrief sessions after completion of each workshop. Key insights and conclusions, which include these additional observations and feedback are summarized below.

### 5.2.1 Interactive, cooperative learning

Participant feedback and workshop organizing team observations confirmed the great energy and engagement created through use of interactive small groups, a key indication of their positive contributions towards achieving workshop objectives. Key elements of optimum success of this interactive approach across the workshops occurred when:

- design was not overly complicated
- instructions were clear
- facilitation was active and motivating
- the breakout group resource support person and participants spoke a common language
- concise presentation material was used in conjunction with exercises to set the stage
- expert resource support individuals were assigned to assist, not direct each small group
- group composition was assigned and or adjusted to encourage some diversity of individuals (geographic and expertise)
- groups that happened to have fewer naturally interactive people - though the exception -

had additional support

- sharing/discussion small group highlights occurred within plenary session

Some initial questions about whether cultural differences across workshops might inhibit active engagement by participants or make certain ‘game tactics’ less useful did not bear out. In fact, small groups seemed to provide better opportunities for individual expression and engagement of quiet or reserved individuals as compared to large plenary settings.

The final EPO-2 workshop provided an interesting contrast in workshop design when comparing the use of the tuna MSE model. EOP-2 organizers made a decision not to use a small group interaction approach, relying instead on instructor engagement with a full plenary format. Using the MSE learning module as a comparison, the five workshops preceding EPO-2 generated lively engagement, while in the last workshop this MSE energy wasn’t as evident. At the same time the level of expert facilitator interaction with individuals in the use of the tuna MSE model at EPO-2 provided a good instruction platform. The absence of objective evidence to compare the two approaches make it difficult to conclude the level of learning between the two was materially different, even though the qualitative observation of differing energy was clear.

One positive indication of benefits from the interactive design approach and tools developed for the ABNJ capacity building workshops has been Pacific Community’s (SPC) subsequent use of some of these tools in their in-country HS-MSE capacity building efforts to implement the WCPFC work plan. Specifically they have incorporated the Breakout 2 HS concept mapping and Breakout 3 hands-on MSE approaches into their associated workshops.

### *5.2.2 Pre-workshop material and case studies*

We had recurring feedback beginning with AO-1 in Ghana that case study examples would be helpful and practical assists to workshop learning. While good tuna management best practice examples are not readily available for ‘plug and play’ use, we did include presentations of southern bluefin tuna (rebuilding) and southern Pacific albacore during the WCPO workshops to reinforce important HS-HCR-MSE concepts. Such material, if simply prepared, would be a key learning resource looking forward, if available online or in workshop settings.

### *5.2.3 In-country capacity building*

Somewhat tied to the target audience challenge discussed in Section 4.2.2, we received some consistent feedback that more in depth ‘in-country’ training would enhance the depth of understanding and allow more tailored capacity building that could have greater country and institutional durability. The planning and conduct of AO-2 in Senegal was in direct response to this idea, where a specific request at at AO-1 had been made to target a deeper in-country workshop for French speaking countries in Africa. SPC’s aforementioned effort now underway in the WCPO area to deliver in-country training is another example. Our experience suggests understanding and responding to varying circumstances and capacity building needs in more tailored ways would be beneficial to achieving objectives identified for the ABNJ workshop series.

### *5.2.4 Languages*

Considerable time and associated costs were spent having the workshops in different languages, which participants highly appreciated. Despite being upfront in invitations, there was pressure and expectation in the Atlantic in particular to cater to the three official languages of

the relevant tuna RFMO, the International Commission for Conservation of Atlantic Tunas. The team sought to address the need for multiple languages at the AO-1 workshop by providing the written material in three languages and grouping the breakout groups by language spoken, led by a resource person fluent in the breakout group language. Nevertheless, the workshops were most easily managed and successfully organized when there was one language per workshop, particularly because funding wasn't available for multi-language interpretation for plenary presentations and discussions. The delivery of the workshops in different t-RFMO languages further supports the need for multiple future workshops for each region.

### 5.2.5 Tuna MSE user interface

The tuna MSE model developed by Andre Punt for hands-on use by workshop participants was clearly engaging and a very directed approach to learning about the value of decision rule based management and the use of MSE by RFMOs for evaluating trade-offs among harvest policies for optimal decision making. With that said, the user interface and 'mechanical use' of the tool could be significantly enhanced to make it an improved learning tool moving forward.

### 5.2.5 Access to key tuna harvest strategy information and learning tools

The ABNJ capacity building workshops have reinforced the need and value for continuing and easy-access to key information by non-technical audiences who are important for RFMO decision making. Providing and maintaining a mechanism to access such materials, like the tuna MSE, would preserve an important legacy opportunity for the project, which would continue to support capacity building needs in the future. To date there appears to be no strategy or effort in place to address these needs.

## 6. Recommendations - legacy and continued impact

Increasing understanding to improve dialogue and consequently 'level the playing field' on otherwise technically dense management discussions is a proven method to increase the uptake of more sustainable management practices. For example, it was one of the approaches that hastened the adoption of HCRs in the Indian Ocean and the Eastern Pacific. WWF and O2 have demonstrated their ability to have an impactful partnership in global tuna sustainability efforts, both through these ABNJ capacity building efforts and more recently in a powerful collaboration to engage the East Asian tuna industry to leverage improved outcomes with respect to influencing Chinese, Taiwanese and Japanese decision makers.

Below we summarize key topical areas where we believe a strong, continued WWF-O2 partnership to support FAO and the global tuna community could have a significant continuing benefit to improve tuna harvest strategy capacity and sustainable management in t-RFMO fora. Each of these ideas has some element of creating and maintaining some lasting ABNJ legacy that can continue to serve ABNJ project objectives.

### 6.1 Adjunct management assistance team

**Recommendation:** *Create an adept WWF-O2 management assistance team through an FAO funded and directed ABNJ project or subproject that can provide FAO with the equivalent of adjunct staff support to maximize the effectiveness of FAO's leadership and coordination role.*

A key element of project success in the conduct of the ABNJ workshop series has been the close collaboration among WWF, O2 and FAO - the latter being in the form of Alejandro

Anganuzzi, FAO's global coordinator for the ABNJ tuna project. A key limitation in this collaboration has been Alejandro's limited capacity and availability given an endless competitive demand for his time and him being 'spread too thinly', partially do to FAO being unable to maintain/provide him with quality and consistent staff support. When combined with the fact that prevailing management needs and opportunities in global tuna forums are continually changing, there would seem to be a large need and benefit for a practical and effective approach to provide FAO with flexible and nimble support in helping identify and meet emerging needs within a continuing ABNJ program, whatever its specific form.

Creating an adjunct management assistance team to flexibly support FAO's leadership and coordination of the project would not require a large staff or financial investment. WWF-O2 have demonstrated a deep understanding of global tuna management issues and needs, have a wide range of international management, academic, industry and NGO relationships, an ability to work collaboratively, and expertise in identifying expert resources and teams to engage in various capacity building and practical problem solving. The idea would be to provide the FAO ABNJ tuna project coordinator with strategic and tactical assistance to successfully orchestrate overall project outcomes, and do so in a neutral manner - 'taking off organizational hats' - and flexibly making things happen from the outside in a variety of practical ways at FAO's direction.

## 6.2 Online training material

**Recommendation:** *Collate, review and re-format this material, then transition it online to create a repository of training material.*

The ABNJ project created a wealth of presentations and documents in various languages. This material would need to be carefully curated to enhance usability, and revolve around the concept of a central harvest strategy framework concept providing an outline with clear narrative. The content would be delivered through manageable soundbites, animations and colourful graphics to supplement the more technically heavy reference material showing the dynamics of the process. This material could be provided in a core set of languages, and could also include video content (see below).

## 6.2 Video content

**Recommendation:** *Create short ABNJ project videos which focus on the the key concepts put forward by workshop presenters, complementing existing online material created by partners such as ISSF.*

These videos could target managers and fishers, and could contain interviews with managers who have experience with harvest strategies and their adoption and benefits.

## 6.3 Management System Evaluation (MSE) visualization workbench

**Recommendation:** *Develop a general purpose user interface - 'MSE visualization workbench' - which could be connected to both "toy" simulation results (e.g., for future workshops) and full-scale MSE simulation results (e.g., SPC's work in support of WCPFC).*

As noted above, a key aspect of the workshop series has been the tuna or 'toy MSE' demonstration tool. This tool allowed managers to road test potential management decisions such as HCRs and it could greatly enhance the uptake of MSE results by managers and



decision makers by building more captivating and standardised ways of communicating t-RFMO MSE results.

The aim would be to create an accessible (self-explanatory), efficient, and enjoyable (user-friendly) resource that will allow users to ‘play’ with HCRs in a way that produces the desired learning results. The process of development would involve collective input from t-RFMO experts as well as external experts, in order to ensure buy-in and a common approach.

## 6.4 In-country capacity building missions

**Recommendation:** *Carry out in-country tuna harvest strategy training missions in target countries in collaboration with t-RFMO scientific staff.*

Although the ABNJ workshops were successful in improving participant’s understanding of the concepts, as noted above, one of the challenges has been to ensure this information was then distributed internally at the relevant country’s ministry/department. Repeat workshops in the same region or country did not necessarily demonstrate learning from the first workshop. This is particularly problematic for countries with high staff turnover or ineffective dissemination channels. In addition, participants may not feel comfortable to pass on learnings. Again, the availability of the toy MSE on a user-friendly platform would help in the expansion of knowledge and cementing of learning of those who participate in workshops.

One successful way to overcome this challenge would be to carry out in-country missions in target countries in collaboration with t-RFMO scientific staff. Running an internal training session in a department/ministry of fisheries would provide a wider reach and increased longevity of the concepts. Delivery would involve collaboration with t-RFMO scientific staff. The need, priority and approach for such efforts would be tailored around simple needs assessments.

## Acknowledgements

The individual workshop summary reports have provided specific acknowledgements to the participants, facilitators, presenters, resource people and WWF organizing teams that made each workshop a success. We will not endeavor to repeat individual acknowledgements here except to express our profound gratitude for so many individuals that selflessly contributed their time.

We would like to express our extreme appreciation and gratitude for the close partnership and collaboration that O2 and WWF have enjoyed with FAO in implementing this project. Specifically Alejandro Anganuzzi’s strategic engagement and advice in helping direct this work was instrumental and enriching.

ISSF played a strong supporting role in the workshop series, and in particular, Dr. Jerry Scott’s key contributions to overall planning and specific workshop delivery was a valuable asset.

As far as design work beginning with the third workshop, the creative contributions of Andre Punt (University of Washington) and Chris Grieve (Meridian Prime) created learning approaches that materially improved project delivery and will have lasting impact.

Finally, the close teamwork of Daniel Suddaby, Kathryn Read and Rich Lincoln in coordinating design and delivery of the workshops described above reflected a dedicated and impactful effort

to deliver outstanding project results, enabled and supported by the extremely strong WWF teams that made implementation a success on the ground regionally.

## Appendices

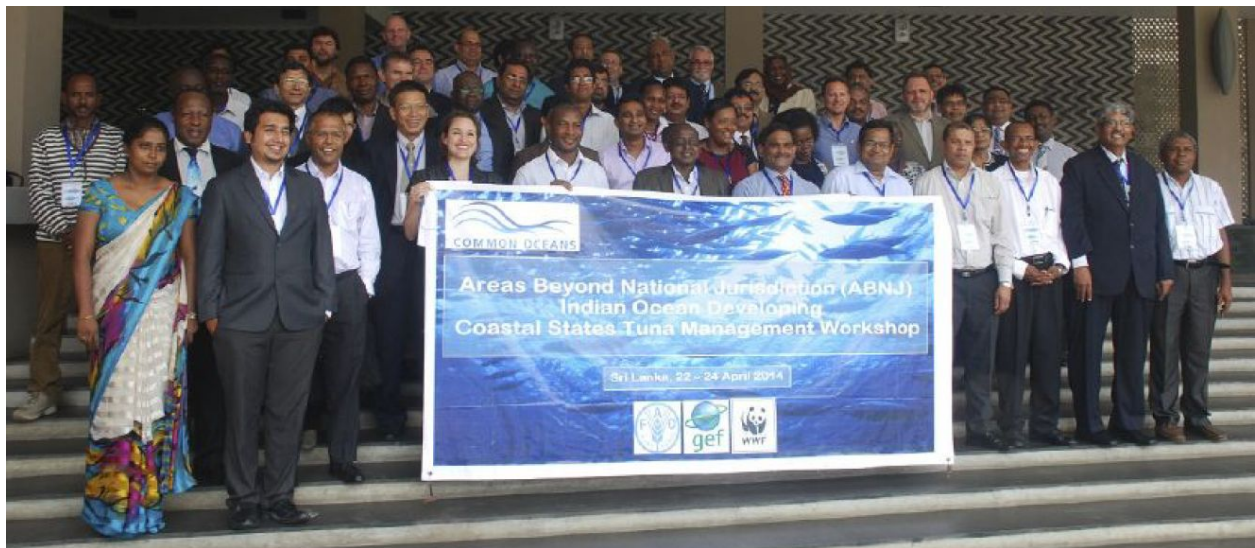
### Appendix A: Country representation

Countries represented by member, participating territory or cooperating non-member state participants for the 2014-2018 ABNJ tuna harvest strategy capacity building workshop series.

Country name	Country name	Country name
Algeria	Honduras	Panama
Angola	India	Peru
Australia	Indonesia	Republic of Equatorial Guinea
Bangladesh	Iran	Republic of Guinea Bissau
Belize	Japan	Republic of Guinea
Brasil	Kenya	Samoa
Chile	Kiribati	São Tomé
Chinese Taipei	Liberia	Senegal
Columbia	Libya	Seychelles
Comoros	Malaysia	Sierra Leone
Cook Islands	Maldives	Solomon Islands
Costa Rica	Mauritius	Somalia
Côte d'Ivoire	Mauritania	South Africa
Djibouti	Mexico	Spain
Ecuador	Morocco	Sri Lanka
El Salvador	Mozambique	Sudan
Federated States of Micronesia	Nauru	Tanzania
Fiji	New Zealand	Thailand
French Polynesia	Nicaragua	USA
Gabon	Nigeria	Venezuela
Ghana	Niue	Vietnam
Guatemala	Pakistan	Wallis and Futuna

## Appendix B: Group photos

2014-2018 ABNJ tuna harvest strategy capacity building workshops: group participant photos.  
Note: hyperlinks provided to summary report for each workshop.



[Figure Appendix B-1. Indian Ocean 1: ABNJ tuna harvest strategy capacity building workshop participants, April 2014, Sri Lanka.](#)



[Figure Appendix B-2. Eastern Pacific Ocean 1: ABNJ tuna harvest strategy capacity building workshop participants, February 2015, Panama.](#)



[Figure Appendix B-3. Atlantic Ocean 1: ABNJ tuna harvest strategy capacity building workshop participants, August 2016, Ghana.](#)



[Figure Appendix B-4. Indian Ocean 2: ABNJ tuna harvest strategy capacity building workshop participants, March 2017, Sri Lanka.](#)



[Figure Appendix B-5. Western Central Pacific Ocean 1: ABNJ tuna harvest strategy capacity building workshop participants, August 2017, Bali.](#)



[Figure Appendix B-6. Atlantic Ocean 2: ABNJ tuna harvest strategy capacity building workshop participants, January 2018, Senegal.](#)



[Figure Appendix B-7. Western Central Pacific Ocean 2: ABNJ tuna harvest strategy capacity building workshop participants, August 2017, Fiji.](#)



[Figure Appendix B-8. Eastern Pacific Ocean 2: ABNJ tuna harvest strategy capacity building workshop participants, February 2015, US.](#)