



# ISSF's Scientist Advisors Reflect on a Decade of Discovery

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Publisher, SeafoodNews  
March 15, 2019

The ISSF (International Seafood Sustainability Foundation) has been the single most effective non-governmental organization in improving tuna stock management around the world. It was founded by the major tuna purse seine companies, and now accounts for approximately 80% of global tuna production. The idea was simple: in a situation where regional management sank to the lowest common denominator with individual countries able to veto almost any decision, the ISSF was formed to use industry clout to force use of science by tuna managers.

The implied threat was that the global purchasers would not accept tuna from regions where the managers refused to agree to science based management.

The result has been a series of improvements, not perfection, which have now include closed seasons, registration of FAD's, research on FAD's and bycatch, registration of tuna vessels, blacklists of vessels that defy closures or management requirements, plus a host of more specific studies on how to bring tuna fisheries in line with FAO and MSC fisheries standards.

At the heart of this process have been the tuna scientists recruited by ISSF to advise and make their case to the various regional tuna management bodies. On the tenth anniversary of the founding of the organization, the members of the scientific advisory committee wrote the following blog post, which we think is worth reprinting in full.

## **"Why we do it, and how we're making a difference"**

**Posted by the members of the ISSF Scientific Advisory Committee (SAC)**

*[Meryl Williams, Jerry Scott, John Hampton, Alejandro Anganuzzi, Andrew Rosenberg, Dale Squires, Josu Santiago, Laurent Dagorn, Jerry Scott, Keith Sainsbury, Alexandre Aires-da-Silva]*

Tuna fisheries are vital global sources of food and nutrition, employment and economic benefit. About 5 million tonnes of these highly migratory fish are caught annually in our oceans, making up just over 5% of the world-wide wild fish catch, and employing thousands of workers in the value chain which is estimated to be worth \$42 billion. Tuna production is an important global endeavour and its sustainability cannot be left to piecemeal efforts.

For the last ten years, the Scientific Advisory Committee (SAC) of the International Seafood Sustainability Foundation has worked to advance sustainable tuna fisheries through the three pillars of ISSF: science-based knowledge for sustainability; exercising influence among stakeholders; and contributing to verifying action. The first pillar is the Committee's main area of focus, but we also contribute expert advice to the others because we believe firmly that science must work in collaboration.

Sustainability often means taking hard decisions based on solid evidence and transparent advice on the options, where they may be uncertainty in the evidence and gaps in knowledge. And this is where our Committee contributes. We do not give industry-bought scientific opinion nor position-driven advocacy, as our membership and *modus operandi* show.

Who are we? We work for the science providers and Regional Fisheries Management Organisations (RFMO) managing tuna, or for international and national government agencies, or we are independent scientists. We bring expertise on tuna fish stock assessment, certification practices, bycatch and fish aggregating devices (FAD), fishing technology, fishing and catch data to aid in preventing IUU, and expert knowledge of complex fisheries management concepts like harvest control rules, management strategy evaluation and economic offsets. Our primary duty is to use science to uncover workable,

practical solutions, resolving conflicts over different points of view, and alerting ISSF to emerging needs.

The SAC is able to identify priorities in knowledge gaps, and to fill these gaps through scientific research, as well as work with vessel skippers on technical matters like FAD design, fishing strategies that reduce bycatch, and pre-certification assessments of tuna fisheries regarding the MSC standard.

How is our scientific work making a difference? Here are five ways.

1. **Status of the Stocks and better data for better stock assessments**

We make the most comprehensive summary of global tuna stock status possible based on the best available reports. The SAC's regular [status of the stocks overviews](#) and assistance to the [MSC pre-certification assessments](#), plus work with canneries, ISSF participating companies and the United Nations Food and Agriculture Organization (FAO) towards improving global tuna statistics, result in the most complete and current overview of the status of the world's tuna stocks. While this summary relies absolutely on the work of the tuna RFMOs and their science bodies, the SAC's syntheses and overlays of assessments is a value-add and is leading to harmonisation of data and assessments. We have used our perspective and expertise as SAC members to identify bottlenecks that, if resolved, can improve stock assessments. And we have convened specialist workshops that push the frontiers of tuna science for sustainability. Workshops on tuna science "hot topics", where specialists from different ocean regions come together to share their experience and agree on recommendations have been an ISSF flagship for years. These workshops offer a rich forum where great minds join forces to tackle difficult issues of tuna stock evaluation and management. The SAC provides input to ISSF identifying workshop topics, helps conduct the workshops, often participating directly as tuna science experts. The result is successful exchanges from which all participants benefit, and which, most importantly, advance tuna science supporting sustainability.

One example is our recent [global review of current RFMO practice](#) in determining stock status, describing uncertainty and communicating the advice to managers. The review workshop looked into the different practices of the five tuna RFMOs and found best practices that all RFMOs could consider following. By reducing the differences in assessment approaches, the status of different stocks can be more easily compared.

2. **Expert advice for fisheries management policy and practice – harvest control rules and harvest strategies**

The Committee is advancing the use of harvest control rules and harvest strategies across tuna RFMOs. SAC-led workshops on these fisheries management concepts have helped ISSF and tuna stakeholders progress the fisheries management agenda towards well-designed harvest control rules (HCRs) and harvest strategies. The Committee is pleased to see that the efforts of the tuna RFMO on harvest strategies and management strategy evaluation have grown exponentially in recent years. In 2013, none of the 23 tuna stocks had harvest control rules. Now, 6 stocks are managed with harvest control rules, 8 have frameworks for developing the rules, and processes are underway to establish the rules for a further 6 stocks.

But more work is needed so that the HCRs are directly linked to management actions, rather than more focused on the scientific side of the process alone.

3. **Getting to the facts on bycatch and FADs**

We're gathering and sharing the facts of bycatch in tuna fisheries—and we're working to eliminate its occurrence. SAC's at sea work on bycatch and FADs bring science and fishing practice together, revealing the complexities of bycatch of tuna purse seiners working with FADs—and developing workable methods for all stages of fishing, from the ocean to the deck, to avoid and reduce catch of oceanic sharks. Most excitingly, this work has been taken into regular fishers workshops in more than 30 countries, where knowledge sharing between scientists and skippers has developed a knowledge base of sustainable tuna fishing practices.

One extraordinary success is helping to save sharks and other incidentally caught non-tuna species. ISSF-organized scientists working on tuna vessels discovered that sharks could get entangled in old nets underneath traditional FADs, leading to high and previously unknown mortalities of sharks. Through collaboration among scientists, skippers, fleet owners and RFMOs, new non-entangling FADs were designed to prevent sharks from being entangled. Importantly, fleets all around the world have progressively adopted these updated designs. And hundreds of thousands of sharks and other species are saved every year thanks to these scientific findings and resulting changes in fishers' practices.

4. **Revolutionary changes in electronic data capture and surveillance**

We're leading the way on putting technology to good use for science-based sustainability. New electronic monitoring and electronic reporting systems are creating revolutionary changes in the capture of data and the surveillance of fishing vessel practices—thus giving greater confidence in and transparency of global tuna fishing operations.

ISSF has been supporting the trialling and implementation of these technologies in various ocean regions, notably in Western and Central Pacific Ocean longline fisheries and in the Ghanaian purse seine fishery. Operational-level logbook data are increasingly being reported electronically across a number of Pacific Island fleets, and several fleets, like those based in French Polynesia and Fiji, will soon move to 100% electronic reporting.

In addition, video-based electronic monitoring of both longliners and purse seiners is under active development. These systems will augment the currently low level of fisheries observer coverage in some gears and areas. And they provide new tools for compliance as well as the estimation of catch composition and verification of vessel-reported data.

5. **Communicating the science advice to suit different audiences**

SAC has tailored its advice and outputs to different audiences in ISSF, the tuna RFMOs, the industry and the science community. We target our outputs:

- Skippers' Workshops that serve as two-way streets for learning from and training fishers;
- Infographics and key messages for wide public audiences;
- Technical and assessment workshop reports and papers for scientists, underpinned by a strong partnership with the ISSF communication experts.

SAC members get to interact with their colleagues working in other tuna regions to their home organisations and share insights and innovations in science for tuna fisheries management.

In closing, we would like to thank our Chair, Victor Restrepo and Secretary Ana Justel for their excellent and untiring leadership and support. We'd like to recognise our two departed SAC colleagues, Jim (James) Joseph and Robin Allen, without whom we would not have come so far.

Jim was a giant of the tuna scientific community and industry. At the time of his death in 2009, he was our Chairman. Jim was instrumental in establishing the International Seafood Sustainability Foundation, an institution that manifested his lifelong commitment to resolving problems in marine resource conservation by having all parties work together.

Robin, who died just before our 2015 SAC meeting, was another remarkable person as colleague and friend and a great loss to the fisheries community. He was instrumental in establishing a global list of vessels authorized to fish for tunas. He led key ISSF projects on capacity management and rights based tuna fisheries management and worked closely with the Food and Agriculture Organization of the United Nations, particularly with the design of the ABNJ Tuna project and with its project on the management of tuna fishing capacity.

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