Sustainable Fisheries
PARTNERSHIP

Strengthening Mahi-mahi Management in the Tropical Eastern Pacific

December 2025

Mahi-mahi, or common dolphinfish *(Coryphaena hippurus)*, is a highly migratory pelagic species found in the tropical and subtropical waters of the Pacific, Atlantic, and Indian oceans.

For coastal countries in the Eastern Pacific Ocean (EPO), mahi-mahi is a key resource supporting commercial fisheries, mainly small-scale artisanal and semi-industrial operations, as well as sport fishing in some countries.

In 2013, SFP published a report showing that no comprehensive assessment of the Pacific-wide mahi-mahi population had been conducted, and regional fisheries management organizations had not established catch control measures to ensure the conservation and sustainable management of this resource. In response, SFP proposed several actions:

- **Encouraging management authorities** to invest in the research needed to improve understanding of Pacific mahi-mahi stock and population structure at a regional scale, given the species' highly migratory behavior.
- **Requesting that both national and regional** management authorities carry out population assessments and set biological reference points and catch control rules for Pacific mahi-mahi.
- **Inviting companies within the supply chains** of all mahi-mahi fisheries in the region that require advances to implement fishery improvement projects (FIPs) and adopt best practices and sound governance systems.
- **Urging the authorities responsible** for mahi-mahi fisheries in the region to gradually incorporate ecosystem-based management principles.

Over the past 12 years, with financial support from the Walton Family Foundation, the Global Environment Facility (GEF), the United States Agency for International Development (USAID), and the United Nations Development Program (UNDP), SFP has implemented an effective stakeholder engagement strategy across the entire mahi-mahi value chain, to drive changes that enhance the sustainability of this fishery.

Significant conservation efforts have been initiated, particularly in Ecuador and Peru, the two main mahi-mahi producing countries in the EPO, and in the broader discussion on the need for regional fisheries management. The future appears promising with the recent news of the creation of the Working Group on Dorado *(Coryphaena hippurus)* (WGD) within the Inter-American Tropical Tuna Commission (IATTC).

Mobilizing mahi-mahi buyers

SFP leverages the influence of retailers, seafood buyers, and their supply chains to drive change in fisheries worldwide.

One of the most dynamic mechanisms is the Supply Chain Roundtable (SR). SRs are pre-competitive forums where processors, importers, and other direct buyers from a given fishery coordinate to promote improvements across the supply chain.

Another tool promoted by SFP to address environmental challenges is the fishery improvement project (FIP).

FIPs bring together retailers, processors, producers, and fishers to support improved fisheries management by implementing priority actions that tackle the root causes of fishery decline.

Both mechanisms have been successfully applied in mahi-mahi fisheries. SR participants engage with industry, national authorities, and research institutions on the scientific and management improvements needed for mahi-mahi; advocate for policy and governance changes; support efforts to reduce and mitigate bycatch of endangered, threatened, and protected species; and encourage suppliers to join FIPs and adopt best practices.

2012

SFP began discussions with U.S. importers to create a private-sector collaboration space to promote improvements in Central American fisheries and to engage companies in supporting new FIPs, building on work started in Ecuador and Peru with mahi-mahi FIPs launched by the World Wildlife Fund (WWF) in 2010 and 2013.

2014

The first meeting of the South and Central American Mahi-Mahi Supply Chain Roundtable brought together supply chain companies to share progress, coordinate efforts, and define priority areas for improvement.

2015-2018

SFP consolidated and expanded its work on large pelagics in the EPO; the regional roundtable evolved into the Eastern Pacific Ocean Large Pelagics SR.

New FIPs were promoted in Costa Rica and Panama, a regional mahi-mahi strategy was developed, and technical assessments advanced, providing a solid foundation for sustainability and policy influence.

2019

The Global Mahi Supply Chain Roundtable is established to oversee the development of large-pelagics FIPs, with objectives to achieve global coverage of mahi-mahi fisheries; promote national FIPs to improve policies and practices; influence regional policy to meet sustainability goals; and connect key national suppliers with sustainability targets.

SFP supports the creation of the Comité Regional de Productores y Procesadozres de Mahi (COREMAHI) as part of a process to strengthen fishing organizations and promote their legitimate participation in regional management.

FIPs proved to be effective tools to address environmental and national governance challenges, but they were insufficient to tackle issues at the regional stock level. Accordingly, COREMAHI was formed to coordinate regional actions that strengthen the science, management, and enforcement needed for the sustainability of the fishery in the EPO.

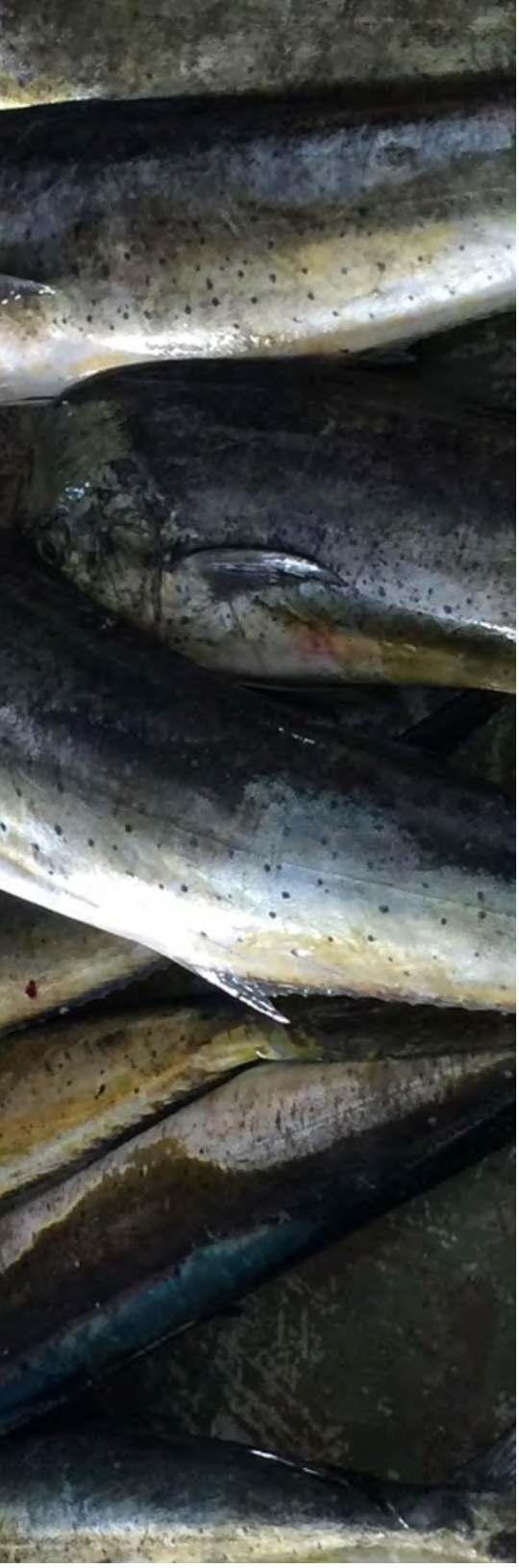
The committee began with processing plants and producer associations from Ecuador, Peru, and Costa Rica; Panama and Guatemala joined later. Today, COREMAHI comprises 20 members who have adopted a Code of Conduct to:

1. Ensure the long-term sustainability of the mahi-mahi resource.
2. Generate priority scientific information for resource management.
3. Reduce bycatch of non-target species.
4. Contribute to the protection of biodiversity and the ecosystem's structure and function.
5. Strengthen and modernize mahi-mahi fishing and processing through better practices, technology, and innovation.

Promoting scientific research to improve understanding of mahi-mahi

Scientific research on a species can be complex and expensive, especially when the species is as highly migratory as mahi-mahi. Nevertheless, SFP's strategy to reduce information gaps on mahi-mahi population structure and behavior by strengthening the scientific teams at national fisheries research institutes IPIAP (Ecuador) and IMARPE (Perú) has produced significant results in a short time.

Stock assessment, tagging studies, and genomic research are key contributors to mahi-mahi fishery management in the EPO, building a coherent scientific foundation to guide more sustainable mahi-mahi management. Genomics clarifies stock structure and connectivity, ensuring management units match biological reality. Tagging reveals movement, growth, and linkages across fleets and jurisdictions, informing spatial and seasonal measures as well as gear-use practices. Comparative stock assessments translate data into actionable harvest control rules and reference points at national and regional scales.



As results are integrated, managers and stakeholders can:

1. Calibrate catch limits, seasons, and fishing areas
2. Tailor bycatch mitigation and handling protocols
3. Prioritize data collection to reduce key uncertainties
4. Coordinate measures regionally through the IATTC, advancing science-based co-management that safeguards stocks, reduces ecosystem impacts, and supports the long-term viability of artisanal fishers' livelihoods.

Another notable effect has been the empowerment of boat owners, captains, and crews from small-scale artisanal and semi-industrial fleets to participate in fishery monitoring, data collection, and knowledge generation. Their participation in research initiatives is recognized and valued, noting that when fishers tag a fish or donate a biological sample they forgo the sale of that individual and, therefore, an income.

2022

Today, all stakeholders in the mahi-mahi value chain understand the importance of studying the resource so that decisions can be made with greater certainty.

2021-2023

2019

Within the IATTC framework, COREMAHI and the Global Mahi SR promoted a recommendation for the Commission to continue working with member countries on research into the population status of mahi-mahi in the EPO.

2021

Ecuador and Peru submitted a regional scientific plan for mahi-mahi to the IATTC Scientific Advisory Committee. The plan reflected research needs identified by COREMAHI members regarding three workstreams: genomics, tagging, and stock assessment; leadership for implementation rests with IPIAP and IMARPE.

2022

IPIAP and IMARPE presented the first binational stock assessment for mahi-mahi to the IATTC Scientific Advisory Committee at its 13th meeting. The assessment concluded that the mahi-mahi stock was in a healthy condition.

Implementation of the mahi-mahi tagging project in two phases:

Phase 1: Conducted from a sport-fishing vessel with technicians from IPIAP, IMARPE, and the Dolphinfish Research Program to test the feasibility of deploying a tagging program within the artisanal fleet; funded by members of the Global Mahi SR.

Phase 2: Conducted aboard vessels of the Asociación de Producción Pesquera de Armadores de Manta (ASOAMAN) in Ecuador under the project Alianza por la Pesca (formerly Por la Pesca). Recovered tag data are available on IPIAP's website.

2021-2023

Publication of the scientific article "A genomic approach for the identification of population management units for the dolphinfish (Coryphaena hippurus) in the eastern Pacific" in Frontiers in Marine Science, authored by researchers from IPIAP, IMARPE, INCOPESCA, UNAM, and CICIMAR.

The study (2021–2023) suggests at least three independent genetic groups in the region: a northern group, a southern group, and a group connected with international waters (primarily exploited by the tuna fleet). The authors recommended management strategies that account for environmental drivers and fishing impacts.

2024

IPIAP and IMARPE, with support from CICIMAR and UNAM, are conducting the second phase of the genetic study using samples collected in 2022–2025 from within the Exclusive Economic Zones (EEZs) of Peru and Ecuador and from international waters. The objective is to identify potential genetic differences between individuals caught by the fisheries of each country; results are expected to be published in 2026.

2025

2024

Fishery improvements through collaborative management

Governments across the region face constraints in ensuring effective, sustainable management of the mahi-mahi fishery. Policies that rely solely on governmental action have proven insufficient; consequently, SFP promotes collaborative management as a more effective approach.

This approach engages the fishing sector in processes such as data collection, the design of management plans, and the definition of conservation measures. For SFP, collaborative management secures the legitimacy and compliance needed for fishery improvement measures and, over the long term, the sustainability of the resource. Within this framework, SFP focused on strengthening the capacities of fishing organizations in Ecuador and Peru so they can lead and promote concrete improvements in mahi-mahi management.

2021

SFP supports the launch of the first FIP led by a producer organization in Latin America: FIP de Dorado de Palangre Responsable (FIP DPR) by ASOAMAN.

ASOAMAN's fleet consists of 78 longline mother vessels, representing approximately 35% of Ecuador's mahi-mahi fishing fleet and including a significant artisanal component.

The FIP DPR is implemented in partnership with governmental and private institutions such as IPIAP, Universidad Laica Eloy Alfaro de Manabí (ULEAM), and the Undersecretariat of Fishing Resources (SRP), as well as processing plants and organizations like the Asociación de Patrones y Timoneles de Manta (ASOPTMANTA), all playing a key role in strengthening the value chain.

2024

The FIP DPR achieved a “B” rating (good progress) on Fishery Progress and evolved into a comprehensive FIP that could achieve MSC certification in the near future. Progress is attributed to actions by ASOAMAN boat owners, skippers, and crews, including:

- Generating scientific knowledge on the resource at national and regional levels through the donation of biological samples for genomic studies and the implementation of mahi-mahi tagging.
- Implementing best practices onboard, such as the release of protected species, helping to mitigate biodiversity impacts.
- Implementing the Onboard Participatory Monitoring and Conservation Program in collaboration with IPIAP.
- Strengthening the capacities of skippers and crews in biological and ecosystem-related aspects of mahi-mahi and other species interacting with the fishery.

The FIP DPR represents a case study of collaboration integrating government and public institutions, the private sector, academia, NGOs, and international organizations. In its new phase, ASOAMAN's FIP DPR aims to encourage greater participation from the processing and exporting industry.

Multi-country coordination for the regional management of mahi-mahi

The IATTC is responsible for managing tuna and associated species, including mahi-mahi, in the eastern Pacific Ocean. Around 20 member nations, including Ecuador, Peru, Costa Rica and Guatemala, are committed to following the Commission's recommendations and management measures.

Consequently, SFP has placed special emphasis on encouraging the participation of key stakeholders in this fishery, such as artisanal fishing organizations, which now have a voice in this international forum.

2021

COREMAHI and IATTC signed a Memorandum of Understanding to implement joint research projects aimed at improving scientific knowledge of the mahi-mahi population.

2023

At its 101st Meeting, the IATTC approved Resolution C-23-09, Research for the Management of Dolphinfish (Dorado). The resolution urges Members to collect and submit to the IATTC biological, catch, interaction, and fishing effort data related to dolphinfish from fleets for which this species constitutes more than 5% of their entire annual catch.

The IATTC also committed its scientific staff to update, to the extent possible, the dolphinfish stock assessment conducted between 2012 and 2016, and to present the update to the Scientific Advisory Committee in 2026.

2025

Approval of the proposal IATTC-103 K-1 submitted by Ecuador with COREMAHI's technical input and support, to create a Working Group on Dorado (WGD) during IATTC's 103rd Commission Meeting.

This represents a major achievement for mahi-mahi producers in the eastern Pacific, fulfilling a long-standing aspiration to establish a formal mechanism within the IATTC to coordinate research and management efforts at the regional level.

The delegations of Peru, Costa Rica, and Guatemala supported Ecuador's proposal. Delegations of the European Union member states, the United States, Japan, China and others recognized the importance of mahi-mahi fisheries for Latin America countries and emphasized the need for external funding to enable the WGD to achieve its goals.

Through Resolution C-25-05, the IATTC formally established the Working Group on Dorado (Coryphaena hippurus) (WGD). This institutionalized a multi-sector platform that brings together scientists from member countries, technical staff from fisheries authorities, representatives of artisanal and industrial fishing sectors, as well as managers and observers involved in mahi-mahi fisheries in the region.

Perspectives and challenges

The future of the mahi-mahi fishery in the EPO faces several challenges.

Although the new knowledge generated through genomic studies motivated Peru to conduct its own stock assessment, the binational cooperation that has yielded significant results must not cease; on the contrary, it should be expanded to other countries sharing stocks or fishing areas.

Ecuador and other countries in the region need to focus on developing stronger harvest strategies, like Peru's, that incorporate reference points, catch control rules (quotas), management objectives, and regulatory measures (closures and minimum catch sizes) to prevent overfishing.

Artisanal fleets in the region will require technical and financial support to achieve their certification goals and ensure that the Onboard Participatory Monitoring and Conservation Program reaches 100% of boat owners, captains, and crews.

COREMAHI faces the challenge of driving the implementation of the IATTC Working Group on Dorado to:

1. Continue scientific research efforts on mahi-mahi
2. Promote science-based management
3. Propose conservation measures for the resource
4. Strengthen artisanal sector participation in decision-making processes.

SFP will continue working with all stakeholders in this fishery to ensure that mahi-mahi populations remain healthy and their exploitation is sustainable.

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If you'd like to learn more about SFP's work with the Mahi-mahi Fishery in Latin America, please email: info@sustainablefish.org.