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Chile and the capture of Jack mackerel in the South Pacific: Opportunity for a responsible increase

GONZALO PEREIRA PUCHY / EXECUTIVE DIRECTOR OF THE INSTITUTE FOR FISHERIES DEVELOPMENT (IFOP)

Fisheries management in the Exclusive Economic Zone (EEZ) of Chile and in the high seas of the South Pacific is governed by solid principles established in the United Nations Convention on the Law of the Sea (UNCLOS).

This international treaty grants coastal States, such as Chile, sovereign rights for the exploration, exploitation, conservation and administration of living marine resources in said zone. It also gives them the obligation to make decisions based on solid scientific data and to cooperate with high seas fishing States that extract the same resource.

In this sense, the Regional Organization for Fisheries Management of the South Pacific (ORP-PS)



– created in 2009 on the initiative of Chile, Australia and New Zealand – has had Jack mackerel as the protagonist of one of the most successful stories of fishery recovery in the region. After being on the verge of collapse in the 1990s, it is now undergoing an impressive recovery process, reaching a biomass of 17.7 million tonnes (Mt) in 2024, far from the 4.5 Mt recorded in 1997. All of this is the result of responsible and collaborative management, where the ORP-PS has played a key role.

A fundamental principle of the General Law of Fisheries and Aquaculture of Chile is that resources must be exploited based on the



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Gonzalo Pereira P. / Executive Director
Gabriela Gutiérrez V. / Journalist

Graphic design

Mario Recabal M. / Senior graphic designer

Fisheries Development Institute conducts “Training sessions for Scientific Observers” in the Atacama Region

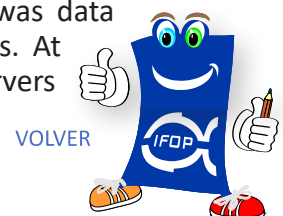
Caldera, From January 7 to 9, IFOP held training sessions for Scientific Observers who carry out their information gathering tasks in the monitoring centers located in the Atacama Region. The activity is related to the “Monitoring of Benthic Fisheries” Program, led by IFOP senior researcher Andrés Olguín Ibacache.



12 people attended the activity, including observers, field coordinators, general coordinator, researchers and exhibitors.

“The objective of these work sessions was to inform the Scientific Observers who participate in the data collection of the project, the different activities that are carried out within the program, the main data requirements for the 2025 fishing season and the unification of criteria in data collection, entry and transmission,” explained Andrés Olguín Ibacache, head of the IFOP benthic monitoring program.

A theoretical part was carried out, which was led by researchers Pablo Araya and Andrés Olguín in everything related to data collection, while the person responsible for the training related to data entry and transmission was data manager José Manuel Fuentes. At the time, the Scientific Observers



Maximum Sustainable Yield (MSY). This recovery of the Jack mackerel, above expectations, has generated a difference between the catch quota allowed by the ORP-PS and the available biomass that allows it to approach the MSY.

Currently, the Jack mackerel catch quota within the ORP-PS framework continues to increase by 15% annually. For this year, a quota of 1,428 Mt has been established, which represents only 28.5% of the MSY of the resource. However, Chile’s Scientific and Technical Committee has proposed a quota range of between 1,428 and 1,785 Mt for the same period, reflecting a precautionary stance, but in line with biomass projections and scientific estimates that validate the sustainability of increased catches.

Chile’s legitimate interest in proposing an increase in the jack mackerel catch quota not only responds to the state of the resource, but also to ensuring its long-term sustainability and seeking to maximize economic benefits for fishing communities. Given that nearly 90% of jack mackerel catches are made within the Chilean EEZ, it is entirely valid for the country to advocate for an increase at the next meeting of the ORP-PS Commission, based on the available scientific data.

This is a crucial moment for Chile, for the future of its fishing, artisanal and industrial activity and to ensure that the benefits of the recovery of this resource are distributed equitably. It is also an economic opportunity that must be taken advantage of with prudence and a long-term vision.

Without a doubt, the next meeting of the ORP-PS that will take place in February in our country will be a key space for Chile to defend its interests and continue leading the sustainable management of fishery resources in the region.

to talk and exchange knowledge with colleagues from Sernapesca, who carry out important work on a daily basis in the fishing coves of the area, where the work of each one of them leaves them with lessons, knowledge and experiences.”



Paulina Rojas Whipple, Head of the Sernapesca Castro Office, indicated that instances like these are very important for the officials of the National Fisheries and Aquaculture Service, especially for those who are in the field, giving greater meaning to the inspection actions carried out at the different points of the value chain (landing points, marketers, processing plants) and exchanging experiences on fishing issues with relevant species such as the southern octopus and which are in line with the connection with the environment and strengthening the management of people (learning and continuous improvement).

ON THE WAY TO ICHA2025! Chile, Punta Arenas

With the welcome remarks of Dr. Leonardo Guzmán, president of the local (national) organizing committee of the international conference on harmful algae (ICHA2025), published on the Conference website (www.icha2025.org), registrations for this important world event, the most im-

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also had their space to talk about their work and make suggestions and recommendations in order to strengthen the collection of information. The activities culminated with a field trip, where all attendees were able to appreciate the way of working and collecting brown algae by the seaweed collectors in the area.

It should be noted that this training is part of the institutional policy of continuous improvement, which is necessary for scientific observers in order to transmit new knowledge, develop new skills and new tools to optimize the quality of information gathering.

IFOP holds a talk on southern octopus to Sernapesca Castro officials

Within the framework of the work carried out by IFOP in the context of the Benthic Fisheries Monitoring Program, that is, maintaining effective communication with institutional and private agents of the benthic artisanal fishing sector to disseminate the results of the project, the talk “Biological, fishing and reproductive aspects of the southern octopus resource (*Enteroctopus megalocyathus*)” was held on Friday, January 17 at Sernapesca Castro facilities, given by senior researcher and Master in aquatic resource management, Andrés Olguín Ibacache. The event was attended by officials from said office. In this regard, researcher Andrés Olguín highlighted “The activity allowed to present the main aspects of the biology of a resource as important for artisanal fishing as the southern octopus. It was really enriching

portant on harmful algae and aquatic toxins, in which these topics are addressed from different perspectives, began. In this new version, the twenty-first, which will be held at the Dreams del Estrecho Hotel, Punta Arenas, Chile, there will be keynote lectures by prominent international researchers, workshops and presentation of cutting-edge techniques on the study of HABS at the stands that will be located depending on the hotel and adjacent to the space where the conference will be held.

Some new features

Parents who travel with their children will have access to a nursery so that their children can be cared for and can participate in the development of the Conference without worries. In addition, for the first time, there will be activities to connect with the environment, through a discussion (scientific café) open to the general community and to high school students from schools that have scientific workshops within their activities, where they will be able to share with expert researchers in various areas of harmful algae.

Important dates

For those who attend and want to present their work in one of its three modalities (oral, posters and/or lightning presentations), the closing date for submitting abstracts is June 1, 2025. The topics are very varied, with 17 thematic areas in which you can register your different contributions, ranging from social sciences to the latest technologies in studies of harmful algae and their effects on ecosystems, productive activities and public health.

Regarding the cost of registration, members of the International Scientific Society (ISSHA) will have reduced rates, as opposed to those researchers who are not members of the Society. Advance payment will be until May 16, 2025, which also has a lower value than if the registration fee is paid after that date. All these details and others can be reviewed on the Conference page.

Sponsors

ICHA 2025 is open to support that the private and public sectors can provide. Our first sponsor will be IMENCO, a Norwegian company establis-



hed in 1979 as an engineering firm. Its subsidiary in Chile has been working in the aquaculture sector for 20 years, with a series of technological products and services.

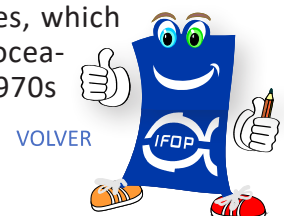
Contact us

If you have questions and/or queries, you can write to info@icha2025.org

IFOP Workshop “Study of the spatiotemporal variability of microplastics in the Chilean sea using automated methodologies”

In January 2025, we had the visit of Dr. Ana Catarino at the Institute for Fisheries Development (IFOP), Valparaíso headquarters. Dr. Catarino is a leading international researcher at the Flemish Marine Institute (VLIZ). She is a specialist in the study of microplastics in seawater, sediments and biota, and their effect on marine biological communities.

During their visit, the zooplankton team from the IFOP Oceanography Section, made up of Dr. Jessica Bonicelli, Dr. Katty Donoso, Francisca Osorio, Débora Albornoz and Yanara Figueroa, organized the workshop “Study of the spatiotemporal variability of microplastics in the Chilean sea using automated methodologies”, with the aim of developing a research proposal for the study of microplastics in historical zooplankton samples, which have been collected on IFOP oceanographic cruises since the 1970s





and cover almost the entire Chilean sea. One of the advantages of having historical zooplankton samples is being able to see spatio-temporal trends of microplastics in the marine environment and establish the eco-toxicological risk they could have on marine species.

During the week, collaboration networks were established within the institute, as well as with other institutions and study centers in Chile. We counted on the participation of Carolina Aguirre (IFOP – DMA), Dr. Juan Faundez (IFOP-DOMA), Karen Walker (IFOP – DEP), Mabel Albornoz (IFOP – DEP), Dr. Johanna Medellín (UV) and Dr. Carlos Garrido Leiva (UMCE). Together with them, the IFOP zooplankton group and Dr. Ana Catarino proposed 4 lines of research, aimed at the study of microplastics in zooplankton samples in the Chilean sea and their variability in space and time. In addition, the digestion protocols for zooplankton samples were reviewed, to degrade the organic content and keep the microplastics, and microplastic samples were scanned in the ZooScan to strengthen the recognition trainer.

We also visited the Faculty of Marine Sciences and Natural Resources at the University of Valparaíso, where we were welcomed by Dr. Johanna Medellín and her team, and Dr. Catarino presented the lines of research on microplastics that she is working on within VLIZ. In addition, we had the opportunity to meet Dr. Susanne M. Brander, associate professor at the University of Oregon, who is also a specialist in the study of microplastics and shared her experience in this area with us.

The workshop was a success in terms of collaboration, learning and future projections, and we intend to continue the collaboration bet-

ween researchers from IFOP and other institutions in Chile and VLIZ, to carry out the lines of research proposed during the workshop. It should be noted that this workshop is a start to establish a line of research aimed at studying microplastics in the marine environment, which are a threat to the health of our oceans and the fishing resources that inhabit them.

IFOP Promotes Sustainable Management of Fisheries Resources in Los Vilos

The Fisheries Development Institute (IFOP) organized a dissemination workshop in Caleta San Pedro, Los Vilos, aimed at leaders and partners of the main local artisanal fishermen organizations. The activity, entitled “Connecting knowledge for sustainable fisheries management”, sought to strengthen the sustainability of the Benthic Resources Management and Exploitation Areas (AMERB), integrating scientific results with local knowledge, in the management and administration practices of the main species in these areas.

Opening of the workshop: Context and objectives

The event began with welcoming remarks from IFOP, which highlighted the institute’s commitment to the dissemination of results generated by the AMERB Fisheries Monitoring Program. This program, which has been running since 2009, aims to evaluate the performance, the state of resources and the sustainability of the AMERBs, and to promote co-responsibility between the Undersecretariat of Fisheries and Aquaculture and artisanal fishermen.

AMERB Indicator Platform

Gabriela Arenas, IFOP researcher, presented a digital platform specially developed for the OPAs that own the AMERBs, which allows them to access historical information from the studies carried out



by the consultants. This tool, which gathers key information on biofishery, ecological and socio-economic aspects, allows users to access information on each of their AMERBs, and thus make informed management and handling decisions.

Larval dispersal and connectivity between management areas

Catherine González delved into the study of larval dispersal and connectivity between AMERBs, highlighting the importance of understanding how larvae move in the marine environment. Biophysical modeling and connectivity analyses have shown that the length of the larval phase directly influences dispersal, being essential for species such as the loco, the sea urchin, and the macha. González emphasized that management decisions must consider not only adults, but also the early phases of the life cycle and interactions with their environment. This approach helps to identify critical productive areas that require greater care and allows for the design of specific strategies for each species.

Assessment of the status of the loco resource

Álvaro Wilson presented the results of the assessment of the loco resource, emphasizing that, although the AMERBs have been effective in certain areas of the country, the resource remains in a state of overexploitation in much of the Chilean coast. This raises the need to strengthen and expand co-management practices between the state and the OPAs that own the AMERBs, suggesting that these should be adapted to spatial scales consistent with the ecological and social dynamics involved. Wilson shared the proposal to create public-private management committees that integrate scientific knowledge, local experiences and current regulations, ensuring management that is more adapted to the characteristics of each subpopulation of the resource.

Benthic Law and its impact on management

Cristian López, regional manager of artisanal fishing at SERNAPESCA, closed the workshop by explaining the changes introduced by the new Benthic Law, which establishes stricter traceability criteria and sanctions for non-compliance with the AMERB. These modifications include the expiration of management plans in cases of repeated violations and reinforce the need for shared responsibility between resource users and authorities. In addition, the Law introduces measures to ensure regularity in fishing activities, which contributes to more transparent and effective management.

Conclusions and projections

The workshop highlighted the importance of participatory instances to strengthen the relationship between applied science, the Undersecretariat of Fisheries and Aquaculture, Sernapesca and fishermen's organizations. The active participation of the attendees underlined the importance of continuing to promote these initiatives, which not only improve resource management, but also reinforce the commitment to sustainability and conservation of these resources in the AMERBs.

This effort is a clear example of how applied science can be effectively integrated into fisheries management, moving towards more responsible management adapted to the complex realities of marine ecosystems.

First scientific cruise of 2025 of the Abate Molina Vessel

Yesterday, January 6, the Abate Molina scientific vessel set sail from the Port of Valparaíso and for 28 days, IFOP professionals and technicians will be dedicated to characterizing and evaluating the stock of anchovy and common sardine



resources present between the Regions of Valparaíso and Los Lagos, using hydroacoustic methods, during the period of maximum recruitment and in the immediate fall.

The captain of the vessel is José Echeverría and the head of the cruise is the fisheries engineer Álvaro Saavedra.

IFOP conducts Active Break for workers of the Abate Molina Scientific Vessel

On Thursday, January 2, and within the framework of the start of the 2025 Prevention Plan, an “Active Break” activity was held on board the Abate Molina Scientific Vessel. This initiative aimed to reinforce the physical and mental well-being of people working at sea.

This activity included the participation of the ACHS, part of the ship’s crew and the HR Department. During the day, attendees participated in physical exercises, relaxation and game dynamics, designed especially for the maritime environment.

The activity was organized by the Risk Prevention area of the Human Resources Department of IFOP, together with the Chilean Safety Association (ACHS). These types of initiatives reinforce the commitment of both institutions to health and safety at work, promoting healthy habits among those people whose work is essential for maritime research in our country.

The specific objectives of the cruise are:

- To estimate the size of the stock of anchovy and common sardine resources and their spatial distribution in the period of maximum recruitment to the fishery present in the study area.
- To characterize and analyze in a space-time context, the demographic composition and its interannual variation of the stocks evaluated through biological indicators.
- Characterize and analyze the bio-oceanographic conditions present in the study area and their relationship with the spatial distribution of resources.
- Characterize the aggregations of anchovy and common sardine resources in the study area.
- Implement the Continuous Improvement Plan for hydroacoustic assessment studies of pelagic resources: anchovy, common sardine, southern sardine and horse mackerel, as appropriate, in accordance with the priorities identified in the preparation of the plan and the available budget.

