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International Workshop on Swordfish Data and Scientific Research

The International Workshop on Swordfish Data and Scientific Research was held at the FAO office in Santiago, Chile, from June 17 to 19. Organized by the Undersecretariat of Fisheries and the Fisheries Development Institute (IFOP), representatives from the Inter-American Tropical Tuna Commission (IATTC), the European Union, the United States, Ecuador, and Chilean professionals from Sernapesca, Subpesca, IFOP, artisanal fishers, shipowners, and industrial fisheries participated.

Gonzalo Pereira, Executive Director of IFOP, explained, "This workshop is being held in compliance with an IATTC initiative, in which Chile has observer status, but we actively work with our IFOP researchers and professionals from the Undersecretariat of Fisheries. This workshop was created as an initiative to standardize data collection capabilities for swordfish. Representatives from the United States, Ecuador, and Chile, who are the main stakeholders in this fishery and also the largest contributors to the research and data for this work, are participating in the workshop."

Dr. Patricia Zárate, Head of the IFOP Fisheries Assessment Department, said, "This workshop represents a fundamental opportunity to strengthen scientific knowledge and the sustainable management of this species of high ecological and fishery value. Through this collaborative workspace, researchers, technicians, and managers will exchange key information on

Editorial committee
Gonzalo Pereira P. / Executive Director
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Graphic design
Mario Recabal M. / Senior graphic designer

monitoring methodologies, biological and fishery data analysis, and recent results on aspects of the biology and ecology of this species. This type of event allows for standardizing criteria, identifying information gaps, and fostering the development of joint research that contributes to both swordfish conservation and decision-making based on scientific evidence."

"Mg. Camila Bustos, from the Undersecretariat of Fisheries and Aquaculture, expressed that this Scientific Data Workshop, within the framework of the IATTC swordfish stock assessment in the Eastern South Pacific, represents a milestone for the fishery. At the workshop, countries reaffirmed their commitment to improving their monitoring and data collection systems, thus strengthening international cooperation toward more sustainable fisheries management. She also highlighted the active participation of countries and the fishing sector (both artisanal and industrial), whose agreements reflect the shared will to advance this important task."

Mg. Patricio Barria, senior researcher at IFOP, spoke about the importance of the workshop, saying, "It brings together countries such as Ecuador, the European Union, and IATTC researchers. Together, we are working to improve sampling systems in all fisheries in the Eastern South Pacific Ocean, estimate swordfish life cycle parameters, and improve the fishery's biological and biochemical indicators, in order to strengthen swordfish stock assessments. We hope to generate regional projects with the participating countries—the United States, Ecuador, the European Union, and Chile—as a result of this meeting, and thus obtain relevant information for this fishery."

Dr. Carolina Minte of the Inter-American Tropical Tuna Commission added, "I'm part of the stock assessment team. This workshop is very important for integrating countries into the scientific and research sectors. This will allow us to have better information, and thus, with a better assessment and data collected jointly and in a standardized manner, we can advise the commission to make better decisions for the sustainable management of this fishery."

Marcos Herrera, from Ecuador and leader of the vulnerable fish and swordfish programs, said, "The governments of Ecuador and Chile, along with Patricio Barría, have been discussing holding a regional workshop for some time, since swordfish is a resource exploited by both Ecuador and Chile, and its capture is very important, and that is materialized today in this workshop."

IFOP Participates in MuseOcéano 2025 with Zooplankton Exhibition

In the context of World Oceans Day, the MuseOcéano event, organized by the Valparaíso Natural History Museum, was held on Saturday, June 7th. The team from the plankton laboratory of the Department of Oceanography and Environment (DOMA) of IFOP participated as exhibitors.

The event featured various stands and talks by experts in different areas of ocean research. The IFOP group was made up of marine biologists Constanza Sandoval, Débora Albornoz, and Yanara Figueroa, who actively participated in disseminating the work carried out at both the DOMA laboratory and the Institute, bringing the museum's many visitors closer to the fascinating and diverse world of zooplankton.

At the IFOP stand, magnifying glasses and real samples of ichthyoplankton and zooplankton collected in Chilean waters were used. Some of the oceano-

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graphic equipment used in the sampling process was also on display.

Through its three enthusiastic exhibitors, the IFOP thanks the Valparaíso Natural History Museum for its warm invitation to participate, as well as all those who attended and took the time to learn a little more about the ocean.

IFOP Researcher Presents Paper at the World Conference on Aquaculture, Fisheries, and Seafood in Rome

Semi-Senior Researcher María Fernanda Jiménez Reyes, who works on the project "Research and Monitoring Program on Discards and Bycatch in Pelagic Fisheries," participated virtually and received a scholarship at the 5th Edition of the World Aquaculture, Fisheries, and Seafood Conference, held from June 9-11, 2025, in Rome, Italy.

Fernanda presented "Causes of Discards in the Industrial Purse Seine Fishery of Anchovy (Engraulis ringens) in Northern Chile" on behalf of the Fisheries Development Institute. This presentation also served as a means of disseminating information for the project, given that it is important to monitor the causes of discards in order to update mitigation measures and discard reduction plans.

Furthermore, the researcher notes that this opportunity, In addition, it fosters professional growth for her. She emphasizes that these types of events are important for positioning Chile globally and also allows her to interact with colleagues from other latitudes to generate potential contacts.

Finally, we would like to thank Project Leader Rodrigo Vega, who provided oral support and encouragement for this presentation, as well as the team members who collaborated in its preparation.

Benthic Crustacean Monitoring Program Presents Results of its Studies in Los Lagos and Aysén

On Saturday, May 31, researchers Paulo Mora and Andrés Olguín presented the results of the Benthic Crustacean Fisheries Monitoring Program in the Los Lagos and Aysén regions at the monthly meeting of the Ancud crab fishing production committee.

On this occasion, Paulo presented results from the king crab fishery, and Andrés presented results from the marble crab fishery in the Los Lagos Region.

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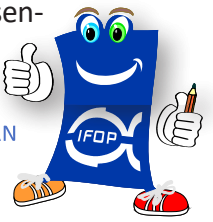

Course on the Application of the Ecosystem Approach to Fisheries in the Management of Management Areas

The course “Application of the Ecosystem Approach to Fisheries in the Management of AMERB” was held at the Faculty of Marine Sciences of the University of Valparaíso. This course was held within the framework of the 2025 Congress of Marine Sciences and was attended by professionals, students, and artisanal fishers.

It was taught by researchers from the IFOP Management Areas Section: Gabriela Arenas, Bryan Bularz, Catherine González, and Pedro Romero.

This course provided participants with a conceptual and methodological framework for the development of Management Plans with an Ecosystem Approach, aimed at the administration of Management Areas or other local management areas. This course strengthened local and technical capacities for the design and implementation of these plans, taking into account current economic and technical constraints, and promoting the use of local ecological knowledge of fishers as a fundamental input in planning.

The course had a theoretical and practical approach, based on active and participatory learning methodologies. Through applied exercises, case studies, and group dynamics (such as role-playing and simulations), participants were encouraged to exchange experiences and acquire skills for solving ecosystem problems in the fishing organizations that manage AMERB.

Claudio Pichaud, President of the Ancud Jaiberos Committee, stated, “The results presented by IFOP are relevant to the knowledge of artisanal fishers who extract these resources and help us understand what we are doing well and where we can improve.”

Paulo Mora, Head of the Monitoring Project, said, “These opportunities are crucial both for the fishers, who can see their contribution of information translated into these results, and for us as researchers, who can receive validation and feedback on the knowledge generated around these fisheries.”

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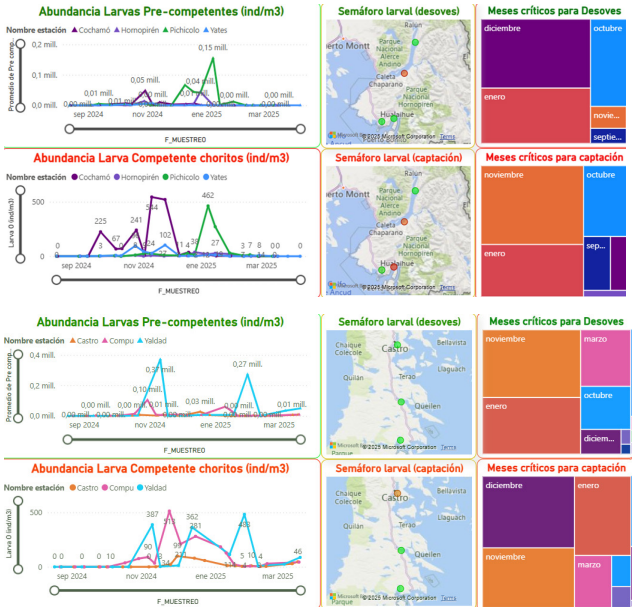
IFOP Executive Report on Larval Abundance and Mussel Seed Collection, End of the 2024-2025 Season

With the close of the 2024-2025 mussel seed collection season, the Mussel Seed Collection and Larval Monitoring Program, led by the Fisheries Development Institute (IFOP), provided a detailed analysis of the larval dynamics observed in the main farming areas. This information is available through the interactive platform "Endemic Seed."

The season was characterized by an earlier start to the collection period, which began on September 25, 2024. This phenomenon was evident at the Cochamó station, where 225 competent larvae per cubic meter were recorded. This trend quickly spread to the rest of the Reloncaví Fjord, reaching a maximum of 544 larvae/m³ at the same station, indicating an earlier release of gametes compared to previous seasons. In this area, recruitment extended until the end of November.

In Hualaihué, on the other hand, larval abundances were later than in previous years, with the Pichicolo station reaching its peak only in mid-January.

In the Reloncaví Sound, a decrease in the presence of competent larvae was observed. The Metri station did not exceed 33 larvae/m³ throughout the season, while Ilque Bay showed moderate increases in November and December, with peaks of 141 and 71 larvae/m³, respectively.



One of the season's most significant milestones occurred at the Yaldad station (Southern Chiloé), where three significant peaks in larval abundance were recorded: on November 11, December 16, 2024, and January 31, 2025. These events reached levels above 362 larvae/m³, with a maximum of 481 larvae/m³. This performance represents not only an advance in the collection season in Southern Chiloé, but also a historic record within the program's nearly 13 years of monitoring, considering that this station historically had very low abundances, despite its intensive use for collection and grow-out.

In Central Chiloé, the Castro station recorded a single peak in early December with 99 larvae/m³, followed by an autumn event in March with 50 larvae/m³. Meanwhile, the Compu station showed a significant peak on November 16, with 517 larvae/m³, then began a progressive decline starting on December 18 (282 larvae/m³).

These results provide a comprehensive and up-to-date view of mussel larval dynamics, providing key information for decision-making in the mussel farming sector, which continues to rely heavily on natural seed collection to sustain production.

Collector collection: results consistent with larval dynamics

The behavior of competent larvae was directly reflected in the collection levels in the collectors. In the Reloncaví Fjord, collection was tangible, with averages close to 30,000 units per collector and peaks exceeding 100,000 units in some areas, from Cochamó to Chaparano.

In the Reloncaví Sound, in line with the low larval abundance, catches were very low, with records not exceeding 1,000 units per collector.

Finally, the Hualaihué area showed irregular behavior, with reports of spat shedding and highly variable results, ranging from good to low catches, depending on the sector.

It should also be noted that the Mussel Larval Monitoring Program, implemented by IFOP, is part of the ongoing

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research program of the Undersecretariat of Fisheries and Aquaculture.

IFOP participated in the 6th Sea Fair organized by PAR Explora Los Lagos and the Austral University of Chile

On May 28, the Fisheries Development Institute (IFOP) actively participated in the 6th Sea Fair, an event organized by the Regional Associative Project (PAR) Explora Los Lagos of the Ministry of Science, Technology, Knowledge, and Innovation, together with the Scientific Outreach Unit of the Austral University of Chile, Puerto Montt campus.

The fair brought together more than 700 participants from 18 educational institutions in the municipalities of Puerto Montt, Calbuco, Osorno, Puerto Octay, Los Muermos, and San Pablo. Children and young people from preschool to high school, along with teachers and the general public, participated in this scientific outreach event focused on the ocean and its resources.

IFOP Participation

IFOP featured four thematic booths, which showcased various aspects of the scientific work of the various departments of the Aquaculture Research Division. From the Department of the Environment, two projects participated, exhibiting small organisms using observation facilities with optical instruments. Representing the study in question, professionals Pamela Ramírez and Sandra Silva exhibited a space dedicated to benthic macroinfauna, organisms that go unnoticed by most people because they live buried in marine sediment and are indicators of environmental quality. Attendees were able to observe fixed and dissected marine organisms using stereoscopic magnifying glasses and a guide on environmental monitoring in aquaculture. On the other hand, researchers José Videla and Macarena Herrera offered an interactive booth, presenting the Endemic Seed Digital Platform. This platform focused on the scope of mussel mussel farming, a bivalve of great commercial interest at the local and national levels. This platform included an educational experience that explored the macro and microscopic world of this benthic resource, using an aquarium and a microscopy station.

Representing the Department of Hydrobiological Health, technologist María Paz Navarrete demonstrated the work carried out on parasites in wild fish.

The Department of Repopulation and Culture was represented by professionals Daniela Uribe and Karla Álvarez, who explained the operation of a hatchery for bivalve culture and discussed larval development, seed production, and growth in the laboratory and at sea of bivalves such as the northern oyster and the Japanese oyster.

A Contribution to Scientific Education

IFOP's participation was highlighted by the event organizers, as it significantly contributed to enriching the students' educational experience through scientific content presented in a fun, accessible, and relatable manner.

This work is part of the Permanent Research Program of the Undersecretariat of Fisheries and Aquaculture, which funds a large part of the studies and monitoring conducted by IFOP.

The Institute appreciates the invitation from PAR Explora Los Lagos and values the large turnout and interest shown by the educational community. Events like

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this strengthen the shared commitment to a scientific culture oriented toward the conservation and understanding of our oceans.

IFOP reaffirms its commitment to scientific outreach and environmental education and hopes to continue participating in initiatives that promote knowledge of marine ecosystems throughout the country.

Nancy Barahona Toledo and Paulo Mora Vásquez participated in the Marine Sciences Congress

THEY ARE RESEARCHERS FROM THE IFOP BENTHIC FISHERIES MONITORING AND BENTHIC CRUSTACEAN FISHERIES PROJECT.

The 44th Marine Sciences Congress was held in Viña del Mar, an event that, as usual, attracted the interest of students, academics, and researchers in the Marine Sciences. This event featured various symposia, including sessions covering a range of topics related to research conducted primarily at the national level.

In Session 1: Fisheries and Fisheries Oceanography, IFOP senior researcher Nancy Barahona Toledo presented the work she developed with semi-senior researcher Pablo Araya Castillo entitled "Proposal for performance or operational indicators for the management of benthic fisheries in Chile." In Session 2, semi-senior researcher Paulo Mora Vásquez presented the work entitled "Study of the morphometric maturity of Lithodes santolla for the sustainable management of the fishery in southern Chile." Researchers Nancy Barahona Toledo and Andrés Olguín Ibacache participated in the study presented by academic and researcher Carlos Molinet Flores of the Austral University of Chile, entitled "Monitoring the spread of the invasive anemone Metridium senile and its effect on local sea urchin (Loxechinus albus) populations." This study was presented in Session 1: Marine Ecology: Dynamics of Marine Ecosystems. As is traditional, the congress offered opportunities for knowledge and the exchange of ideas among the various attendees. The next organizer of this important event, in 2026, will be the University of Concepción.

IFOP participated in the 1st Marine Science Fair, held at the "Capitán Williams" Marine Institute in Chonchi

The event, aimed at promoting scientific outreach in schools, introduced students to the marine world through interactive exhibits and educational experiences with a local focus.

On June 2, the Aquaculture Research Division of the Fisheries Development Institute (IFOP) participated in the 1st Marine Science Fair, held at the "Capitán Williams" Marine Institute (IDEMAR) in the city of Chonchi, Chiloé. The event, which began at 10:00 a.m., brought together researchers, teachers, and students in a meeting focused on marine knowledge, with a strong territorial and educational component.

The initiative was organized by AmiChile, coordinated by Camila Barría Cárdenas, head of R&D&I at the Mussel Farming Technological Institute in Castro, along with the IDEMAR academic team. The purpose of the event was to foster the interest of new generations in marine sciences, promoting knowledge from a practical, collaborative, and situated ap-

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proach. Specifically, the event sought to highlight the importance of mussel farming in the region and the development opportunities this productive activity represents for local communities.

Representing IFOP were Dr. Cristian Segura, M.Sc. (c.) Óscar Ramírez, and Macarena Herrera, who set up an educational stand that addressed three main topics. First, the Endemic Seed Digital Platform was presented, an interactive educational tool that explains the mussel farming process in southern Chile, with special emphasis on the monitoring stations located in Chiloé. This platform demonstrated how seed collection, the first link in the aquaculture production chain, is recorded, explaining its importance for the sustainability of the sector. The development of this public and interactive platform can be viewed at https://www.ifop.cl/monitoreo-larvas-de-mitilidos/ and is implemented by the "Larval and Environmental Monitoring Program for Mussel Farming," led by IFOP and funded by the Permanent Research Program of SUBPESCA.

Secondly, an aquarium display with benthic species was offered, allowing visitors to observe marine organisms directly and sensorially. Students were shown how the particle filtration system works and how mussels feed using their gills, which captivated both students and teachers due to its visual clarity and educational value. This experience helped reinforce biological concepts through an accessible and immersive methodology.

Finally, the IFOP team set up a microscopy station that allowed attendees to observe live microscopic organisms, such as bivalve larvae, particularly mussels, through a stereoscopic microscope. This activity sparked great interest among the students, who were able to appreciate the life cycle of these organisms and better understand the ecological and economic role they play in the region.

This science fair fostered a close and enriching dialogue between the scientific community and the school community, consolidating Chiloé as a strategic territory for the development of scientific careers linked to the sea. It also promoted the recognition of local knowledge and the strengthening of scientific culture in coastal areas, with a focus on sustainability and collaborative work.

At IFOP, we deeply value these types of events, which strengthen the link between science, education, and the region. We thank IDEMAR and Ami-Chile for the invitation, and we reiterate our commitment to educating new generations interested in the knowledge and conservation of the marine ecosystem.

IFOP participates in a seminar on fishery resources in Puerto Aysén

SENIOR RESEARCHER NANCY BARAHONA AND INTER-SENIOR RESEARCHER PAULO MORA ATTENDED.

Since 2023, the Artisanal Fishing and Aquaculture Unit of the Patagonian Ecosystem Research Center (CIEP) has been studying some benthic marine species in the Aysén Region, which are important for artisanal fishing, such as crab, sea urchin, marble crab, and king crab. The purpose of this research, funded by the Aysén Regional Government and its Council through the studies "Research on indicators to evaluate crab and king crab fisheries in the Aysén Region"

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and the study "Research on the distribution and abundance of sea urchin and crab on the Aysén coast," was to obtain information on the abundance of resources in fishing areas, along with their sizes, reproductive status, and habitat characteristics.

The seminar, organized by the CIEP research center, consisted of three working days. The first session was held with national and international researchers specializing in benthic resources, held on June 10 and 11 in Coyhaique. The results and methodologies used were reviewed. The Advisory Committee for both studies was subsequently convened, comprised of IFOP, Sernapesca, Subpesca, the Regional Government, the Regional Ministry of the Environment, and CONAF.

The seminar concluded on June 12 in the city of Puerto Aysén, with the participation of more than 80 people, including a large representative population: students from the Polytechnic High School, representatives of public and private services such as IFOP, Sernapesca, the Chilean Navy, the Regional Government of Aysén, and the Aysén CFT (Central Fisheries Commission of Aysén), among others; researchers from various centers, foundations, private organizations, and representatives of the sea urchin and spider crab fisheries.

This event invited attendees to express their connection to the sea through art, in an activity led by the organization Pulso Austral. Following the event, the results of both studies were presented by CIEP researchers. A panel discussion also provided a space for listening to scientists and fishermen, who shared their experience and knowledge about marine ecosystems, the species under study, and the current context of artisanal fishing at the local and national levels.

Nancy Barahona Toledo emphasized that "in Chile, we often conduct research from very closed spaces and then want to bring it to the public. But that can't be achieved without interaction. With CIEP, we have worked on methodologies, data analysis, and highlighting the local over the national. This connection between science and territory is key to resource management."

For his part, Paulo Mora emphasized that "The importance of these studies is that they complement the information we have obtained from the programs we develop at IFOP regarding the monitoring of these fisheries, which are very important for the Aysén Region. Therefore, we must work in cooperation with the CIEP team so that the data and results can be comparable, meet the standard, and can be sources of information for indicators and biological reference points, in order to have a correct assessment of the objective resources of crab, spider crab, sea urchin, and sea bream in this region."

IFOP Researchers Attend the 11th International Fisheries Observer and Monitoring Conference in Reykjavik, Iceland

More than 220 specialists from 30 countries gathered in Iceland to exchange experiences, challenges, and advances in scientific observation and fisheries monitoring programs.

Fisheries Development Institute (IFOP) senior researchers Erick Gae-

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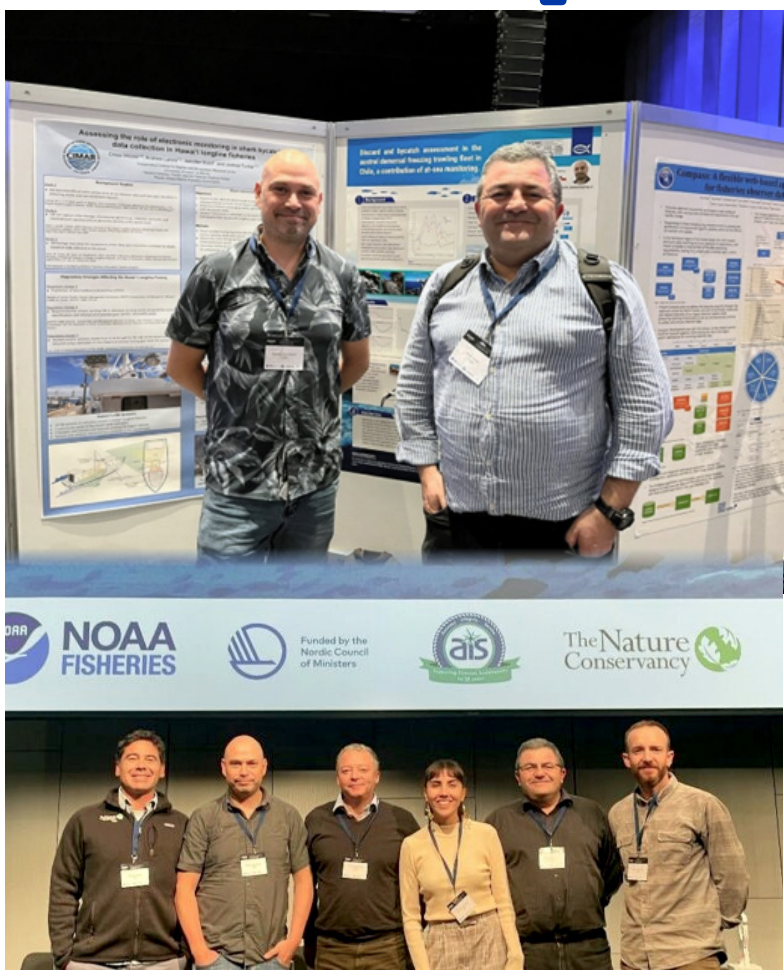
te and Marcelo San Martín, both members of the Fisheries Assessment Department, participated in the 11th International Fisheries Observer and Monitoring Conference (IFOMC), held at the Harpa Convention Center in Reykjavik, Iceland. This forum is recognized as the leading international forum for strengthening scientific observation and fisheries monitoring systems globally.

Erick Gaete spoke at the thematic session "Standardization of at-sea Monitoring Programs," with the presentation "Some definitions to consider in the implementation and operation of scientific observer programs: Chilean experience." He addressed key conceptual and operational elements for the effective implementation of scientific observer programs, highlighting the importance of clear and consistent technical definitions, based on the experience accumulated by IFOP in Chile and the fisheries being monitored.

Marcelo San Martín presented the poster "Evaluation of discards and bycatch in the southern Chilean demersal freezer trawl fleet: a contribution of on-board monitoring," where he shared results of on-board monitoring in the southern Chilean demersal freezer trawl fleet. The paper highlighted the contribution of these data in characterizing discards and bycatch, which are essential for fisheries management based on quantitative evidence.

The conference brought together more than 220 participants from over 30 countries, including government agencies, research centers, universities, NGOs, observer programs, and representatives of the fishing industry. As in previous editions, the event combined keynote sessions, technical presentations, panels, workshops, and open discussion spaces, with a cross-cutting focus on the well-being of scientific observers and the incorporation of new technologies such as artificial intelligence, video systems, remote sensing, and electronic monitoring.

IFOP's presence at this prominent international event reaffirms its commitment to the technical and scientific development of monitoring and observation programs and consolidates its role as a benchmark in fisheries monitoring at the regional and international levels.



The Direct Evaluations Department of the Fisheries Development Institute presented its research at the Congress of Marine Sciences

The University of Valparaíso, in conjunction with the Chilean Society of Marine Sciences, organized the 44th Congress of Marine Sciences, which took place from May 26 to 30, 2025, at the Enjoy Hotel in Viña del Mar.

This prominent scientific meeting brought together experts, researchers, and professionals from the marine field,

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focusing on current and future challenges related to sustainability, technological innovation, and the responsible management of marine ecosystems.

Representing the Direct Evaluations Department of the Fisheries Development Institute were Luis La Cruz, Cristián Henríquez-Pastene, and Francisco Leiva, who presented their research and contributions in various areas of marine sciences.

The conference featured keynote addresses, oral presentations, poster sessions, and opportunities for exchange between science, industry, and civil society, establishing itself as one of the most relevant scientific events in the country in its field.

The conference offered keynote addresses, oral presentations, and poster sessions, as well as opportunities for exchange between science, industry, and civil society, establishing itself as one of the most relevant scientific gatherings in the country in its field.

Summary of their presentations at the conference

Session 1: Fisheries and Fisheries Oceanography

Luis La Cruz[1], Javier Legua[1], Cristián Henríquez-Pastene[1] and Francisco Leiva-Dietz[1]

[1]Fisheries Development Institute (IFOP), Valparaíso, Chile

Oral presentation **"Comparative Evaluation of Echosounders for Estimating the Anchovy Stock: An Approach from Artisanal and Scientific Vessels in Chilean Coastal Zones"**

Acoustic technology and collaboration with artisanal fisheries allow for accurate estimation of anchovy biomass in Chile.

In a recent study, we successfully validated the joint use of the scientific vessel Abate Molina and artisanal vessels equipped with high-precision echosounders to assess the anchovy stock in northern and central Chile from 2022 to 2024.

Our acoustic measurements showed high agreement, with differences of less than 3.8% between the two platforms, demonstrating the reliability and accuracy of biomass estimates obtained with different technologies.

This approach strengthens fisheries monitoring by integrating different types of platforms and promotes direct and effective collaboration between science and artisanal fisheries.

Session 2: Fisheries and Fisheries Oceanography

Luis La Cruz[1]; Chacón, G[2]; Cornejo, R[2]; Legua, J[1]; & Castillo R[2]

[1]Direct Assessment Department (DED). Fisheries Research Division, Fisheries Development Institute, Valparaíso, Chile

[2]Hydroacoustics Functional Area (AFH). General Directorate of Research in Hydroacoustics, Remote Sensing, and Fishing Gear, Peruvian Marine Institute, Lima, Peru.

Oral presentation: **"Identification of adult and juvenile anchovy (Engraulis ringens) schools using broadband acoustics in the Northern Humboldt Current System"**

In our study, we successfully applied broadband acoustic technology (35–360 kHz) to differentiate juvenile and adult anchovies (Engraulis ringens) in the northern Humboldt Current system. This acoustic discrimination capability is essential for protecting the most vulnerable groups of the resource, improving the accuracy of biomass estimates, and reducing bycatch.

We observed clear differences in the acoustic response between juveniles and adults, and we were also able to identify other cohabiting species in the ecosystem, such as plankton, munids, salps, and vinciguerrias. This information allows us to better characterize the marine environment and optimize fishery management decisions.

We believe that this technological advancement represents an important step toward more sustainable, selective fishing based on solid scientific evidence.

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Session 3: Physical, Chemical, and Geological Oceanography

Cristián Henríquez-Pastene, Javier Legua[1], Alejandro Cárdenas[2], Jairo Gutierrez[1], Adrián Ibieta[1], Manuel Rojas[1], René Vargas[1], Víctor Catasti[1], and Jorge Castillo[1]

[1] Department of Direct Assessments, Fisheries Development Institute, Valparaíso, Chile. cristian.henriquez@ifop.cl

[2] Department of Sampling Management, Fisheries Development Institute, Aysén, Chile.

Oral presentation **"Hydrographic Variability in Northern Chilean Patagonia and its Impact on the Distribution of Small Pelagics, between 2018 and 2024"**

This study analyzes hydrographic variability in Northern Chilean Patagonia between 2018 and 2024 and its influence on the distribution of pelagic fish such as anchovy, common sardine, and southern sardine. The work is based on abundance data obtained from hydroacoustic echosounders and oceanographic profiles collected between the Los Lagos and Aysén regions, as part of the PELAGUIN (Hydroacoustic Assessment of Small Pelagics in Inland Waters) campaign.

Time-domain analyses identified significant changes in the vertical structure of water masses and the presence of modified Equatorial Subsurface Water. In parallel, spectral analysis revealed spatiotemporal patterns in temperature and salinity that help understand the effect of these variables on the distribution of pelagic species.

The study highlights the importance of integrating multiple sources of information and scales of analysis to understand how environmental variability influences the dynamics of a key ecosystem for national fisheries.

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