



IN THIS NUMBER

The Scientific Vessel Dra. Barbieri set sail from Valparaíso for the Aysén region to study the southern sardine, the common sardine, and the anchovy	1
Chile Participates in Important International Meeting on Harmful Algae in France	2
Unprecedented in Chile, two IFOP scientific vessels set sail to investigate anchovy	3
They form the first regional network of sustainable women and launch the Environmental and Climate Action Guide	4
Chile's work in reducing seabird bycatch is highlighted in England	6
Knowledge Exchange between INVEMAR and IFOP: Strengthening Fisheries and Aquaculture Research in the Pacific Alliance	8
Dr. Yesenia Olaya, Minister of Science, Technology and Innovation of Colombia visits IFOP Punta Arenas Headquarters	9

The Scientific Vessel Dra. Barbieri set sail from Valparaíso for the Aysén region to study the southern sardine, the common sardine, and the anchovy

On March 17, the Scientific Vessel Dra. Barbieri set sail from the Port of Valparaíso to conduct acoustic-fishing and oceanographic surveys to assess the biomass, using hydroacoustic methods, of small pelagic resources, the southern sardine, the common sardine, and the anchovy present in the inland waters of the Aysén region of General Carlos Ibáñez del Campo.

The cruise leader is Javier Legua and the vessel's captain is Jorge Acevedo. They, along with a team of 17 professionals, technicians, and the vessel's crew, will tour the Aysén region to collect data that will allow them to meet the objectives and expected results of the project, which was commissioned by the IFOP by the



Undersecretariat of Economy and Small Businesses and the Undersecretariat of Fisheries and Aquaculture.

The specific objectives of the study are:

- To conduct an acoustic survey in the study area to estimate the stock size of the southern sardine, common sardine, and anchovy resources, as well as their spatial distribution during the peak recruitment period.
- To conduct a fisheries survey to characterize and analyze, using biological indica-



Editorial committee

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

Graphic design

Mario Recabal M. / Senior graphic designer



tors, the demographic composition and inter-annual variation of the assessed stocks.

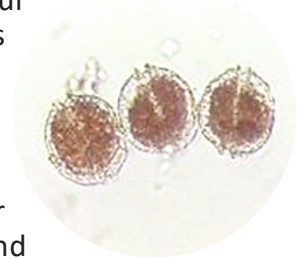
- To conduct a bio-oceanographic survey to characterize and analyze the environmental conditions in the study area and period and their relationship with the spatial distribution of the resources.

Jorge Castillo, senior researcher at IFOP and project leader, discussed the expected results of this cruise, noting that the importance and relevance of this study lies in the fact that the estimates of species biomass and demographics are a fundamental element in stock modeling, which allows for establishing their status and defining the levels of resource exploitation required by the Undersecretariat of Fisheries and Aquaculture. The oceanographic information will allow for the characterization of the species' environment, and will allow for historical monitoring of the physical environmental conditions and the food supply available to fisheries resources in the region. The results obtained from this cruise are added to the data series created since 2014. A similar study is also being conducted in the inland sea of the Los Lagos region during the same period. This will provide estimates of stock size and environmental characteristics in the Aysén and Los Lagos regions. It is noteworthy that the acoustic, oceanographic, and fishing equipment of the BC Dra. Barbieri meets the highest scientific standards required for this type of research, in addition to the facilities for preprocessing data on board, which facilitates and speeds up the delivery of final results to the requesting parties.

Chile Participates in Important International Meeting on Harmful Algae in France

Dr. Leonardo Guzmán Méndez, senior researcher at the Fisheries Development Institute, reported that the seventeenth meeting of the Intergovernmental Panel on Harmful Algae (IPHAB) was held between March 18 and 20. It has been in operation since the 1990s as a way to stimulate cooperative work among the various countries that make up the Intergovernmental Oceanographic Commission (IOC), an agency of UNESCO and therefore of the United Nations (UN). The IPHAB has two executive secretariats, one headed by the IOC and the other by the Food and Agriculture Organization of the United Nations (FAO).

The focal point in our country, which mediates with the IOC Executive Secretariat, is the National Oceanographic Committee (CONA), chaired by the Director of the Hydrographic and Oceanographic Service of the Navy (SHOA). Since its inception, Chile has been a member of IPHAB, represented by a researcher from the Fisheries Development Institute (IFOP), given the Institute's role as a permanent advisor to the State on matters of fisheries and aquaculture, including environmental and health issues, including harmful algal blooms (HABs). IFOP has a recognized capacity in the field of HAB research, monitoring, and dissemination.



The meeting began on Tuesday, March 18, at UNESCO offices in Paris, France. Chile was represented by Dr. Guzmán, who commented that, as in previous meetings, global and regional work strategies will be addressed, considering three core aspects: scientific research, training of researchers and professionals from member countries working on HABs and their

RETURN





effects, and capacity building among coastal populations in countries affected by harmful blooms and aquatic toxins (public education and preparation of individuals regarding HABs and their effects). Therefore, the intention of these meetings is to develop knowledge that will, among other things, provide the capacity to address scientific questions such as the relevance of early warnings, forecasting systems, and harmful bloom control systems. But in general, this knowledge not only achieves a better understanding of blooms and their effects, but also allows us to understand how climate change, for example, interacts with harmful algae, affecting the distribution and abundance of microalgae and, of course, the biological processes that occur at the cellular and molecular levels of microalgae. The IPHAB meetings address the work developed between two sessions of the panel. This year, 2025, the work carried out since the last meeting, held in 2023, will be addressed. To this end, these meetings are structured with various working groups, in addition to the collaboration of international organizations within the United Nations system.

Finally, Dr. Guzmán reported that the conclusions and recommendations of the IPHAB 2025 meeting report will be presented to the IOC-I Assembly, which will be held in June at UNESCO offices. In Chile, they must also be reported to the CONA Assembly, both because of the importance of HABs at a global level and because they affect public health and certain productive activities, such as fishing, aquaculture, and tourism, in Chile. In Latin America, Chile is one of the countries that has managed to develop globally recognized ca-

pacities, and this has allowed the 21st International Conference on Harmful Algae (ICHA 2025) to be held in our country, which will take place between October 19 and 24 of this year, in the city of Punta Arenas. At least 500 researchers from at least forty countries are expected to attend the event.

Unprecedented in Chile, two IFOP scientific vessels set sail to investigate anchovy

The Abate Molina and Dra. Barbieri vessels set sail from the Port of Valparaíso on February 15 and for 27 days will travel along the coasts of the Atacama and Coquimbo regions to conduct a hydroacoustic prospecting cruise to assess the anchovy stock present in the study area.

A team of 43 IFOP professionals and technicians made up of researchers, biological samplers, scientific observers, acoustic and electronic observers, operators of scientific equipment, crew members, pilots, captain, and cooks will be in charge of collecting the data that will allow us to know the state of the resource.

The captain of the Abate Molina is Takashi Abe and the captain of the Dra. Barbieri is Jorge Acevedo. The head of the scientific cruise is the fisheries engineer, Francisco Leiva.

Jorge Castillo, senior researcher at IFOP, referred to the participation of the two vessels in this cruise: "On this occasion, the characteristics of the BC Dra. Barbieri will be tested to prospect with acoustic equipment in the coastal sectors, where a significant fraction of the anchovy is located, assuming the function that was performed until now by artisanal purse seiners leased and equipped by IFOP."





This vessel, built at ASENNAV-Valdivia and put into operation in 2024, was designed to evaluate with acoustic equipment the biomass of pelagic fish located in the coastal fraction that the Abate Molina cannot normally navigate, due to its maneuvering and draft limitations. We are confident and optimistic that the test will be successfully passed, since this vessel has very good maneuverability and an adequate draft to approach the coast with safe navigation. We will use all its acoustic detection capabilities, composed of state-of-the-art digital scientific echo sounders with five frequencies (38, 120, 200, 70 and 333 kHz) in addition to an omni-directional sonar, which allow us to study the biomass, distribution and behavior of fish and plankton. Its silent vessel characteristics, complying with international standards, cause the least alteration in the behavior of fish located near the surface. It also has oceanographic equipment for sampling the physical conditions of the sea and zooplankton.

Also noteworthy is the capacity to transmit significant volumes of data between the two ships through satellite systems, which will allow for improved post-processing times.

In this way, the BC Dra. Barbieri is fully integrated into the functions for which it was designed and built, fully justifying the investment made by the country, complementing the Abate Molina in the scientific, fishing and oceanographic research required by the fishing authority.”

They form the first regional network of sustainable women and launch the Environmental and Climate Action Guide

THE GUIDE COMPILES THE TESTIMONIES AND EXPERIENCES OF ENVIRONMENTAL ACTIONS FROM 15 WOMEN WHO ARE PART OF THE MICELIO NETWORK

As part of the Climate Month activities, and also in commemoration of International Women’s Day, the Regional Secretary of the Ministry of Women and Gender Equality, Yoal Díaz, officially launched the Micelio Network and, along with them, launched the Environmental and Climate Action Guide.



Alejandra Born



Miriam Chible Contreras



Carolina Vega Hoebel



Nathalie Brito Vergara



Karen Sandoval Imbert



Florencia Benítez Yávar



Catalina Silva Díaz



Alejandra Lafón Vilugrón



Dinelly Soto



Natalia Olave Pérez



Laura Sánchez Jardón



Hayley Durán Bocaz



Deisy Avendaño Avendaño



Alicia Haro Mardones



Inés Chabalgoity Larrosa

Historically, for #8M, the Regional Secretary of the Ministry of the Environment has recognized Sustainable Women, highlighting year after

RETURN





year the work of various women who, from different parts of Patagonia, carry out and lead environmental actions. During 2024, the Regional Secretary of the Environment began a strong effort to connect these women recognized for their environmental and climate work and commitment in the Aysén region, thus forming the first regional network of Sustainable Women, called “Red Micelio.”

“Today we officially launch the Red Micelio, a network that brings together the recognition given to various sustainable women. To achieve this, we took a concrete step forward, ensuring that this guide, through their testimonies, inspires more women so that climate action, territorial action, and environmental action are part of a project that advances sustainably and radiates throughout the Aysén region,” stated the Regional Secretary of the Environment.

The Red Micelio is a supportive space of sisterhood, respect, dialogue, and participation, which seeks to strengthen the knowledge and expertise contributed by each member, promoting local action to address environmental and climate challenges in the region. Thus, the Micelio Network is made up of women from across the region, and the Guide captures the experiences of 15 of them in Coyhaique, Raúl Marín Balmaceda, Puerto Guadal, Puerto Aysén, Villa O’Higgins, and Valle Mirta. They promote environmental actions as diverse as research, environmental education, activism, outreach, the circular economy, entrepreneurship, and sustainable tourism, among others.

During the ceremony, which included in-person and online participation, the guide was

unveiled and a group project was held, where participants mapped climate and environmental action to reflect on the challenges facing the Aysén region.

“I think it’s important to try to inspire, through small actions that each of us can take, to encourage other women, and not just women, who have an idea and want to pursue it, something that means caring for the environment. Nowadays, I mean, it’s always the case that we’re certainly bored of hearing about sustainability and everything else, but it’s extremely important that we take action,” said local businesswoman and member of the Micelio Network, Inés Chabalgoiti. For her part, Alejandra Lafont, a civil servant, researcher, and photographer, also part of the network, emphasized, “It’s an important moment because it means we’ve matured over time, and it’s not just about women expressing our opinions more forcefully. We already see ourselves more represented in different spheres, but we’re also developing an environmental awareness that is very necessary for the times we are living in and those to come, in which our care must become increasingly greater due to the global change that is occurring.”

The Guide is a product of the Micelio Network, which recognizes the work and actions of the network as important role models, motivational drivers, and lights for a better-prepared and more responsible Aysén region in the face of the climate, environmental, and biodiversity crises.

This guide has been managed by members of the Micelio Aysén Network and funded by the Regional Ministry of the Environment of Aysén. 50 copies have been printed for free distribution. It is also available in digital format at <https://bit.ly/RedMicelio>.

Photo and news from the Ministry of the Environment

<https://mma.gob.cl/conforman-primera-red-regional-de-mujeres-sustentables-y-lanzan-guia-de-accion-ambiental-y-climatica/>



Chile's work in reducing seabird bycatch is highlighted in England

Dr. Jo Gilbert, international director of the Royal Society for the Protection of Birds of the United Kingdom, highlighted Chile's progress in this area through the work of Subpesca, Sernapesca, and IFOP.

At the offices of the Undersecretariat of Fisheries and Aquaculture (Subpesca), the international director of the Royal Society for the Protection of Birds of the United Kingdom (RSPB), Dr. Jo Gilbert, accompanied by Esteban Frere, representative of Birdlife International's Marine Program at the Latin American level, met with professionals from Subpesca, Sernapesca, and IFOP to exchange information on strategies for monitoring and reducing seabird bycatch and to highlight the work Chile has been doing in this area.

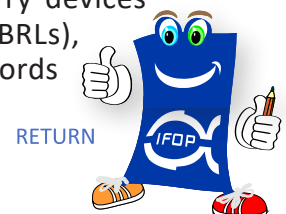
"Many species of albatrosses and petrels depend on Chile's highly productive waters, sharing abundant marine resources with fishing activities operating along Chile's Exclusive Economic Zone... Bycatch of seabirds in fisheries remains the most impactful threat facing these birds, and for this reason, the adoption and implementation of bycatch mitigation measures to reduce this impact is crucial in all areas where there is an overlap between seabirds and fisheries," explained Dr. Jo Gilbert, RSPB International Director.

Luis Adasme, IFOP researcher, chair of the Chilean seabird working group and Chile's official representative to ACAP, said: "Receiving recognition from important international organizations, highlighting the work carried out by Chile and its clear progress in reducing seabird bycatch in fisheries, is inspiring and clearly demonstrates the fruits of the effort and commitment of our fisheries institutions—the Undersecretariat of Fisheries, the Fisheries Development Institute (IFOP), and the National Fisheries Service (SERNAPESCA)—to advance, understand, and find solutions to the challenges posed by mitigating bycatch in fishing operations."



During the meeting, Luis Cocas and Marcelo García, Subpesca professionals, highlighted the work being carried out by Chile, a country considered one of the pioneers in comprehensively addressing this problem (discards and bycatch) and a global leader in the field, due to its progressive approach. Prior to adopting reduction measures, a research phase was conducted to gather technical information using IFOP scientific observers on board the various fishing fleets. Furthermore, modern mechanisms for monitoring these practices at sea, such as onboard camera systems and electronic logbooks, have recently been implemented, along with specific plans and the maintenance of observer programs for scientific purposes.

Currently, Chile has implemented measures to prevent or minimize incidental catches of seabirds in trawl and longline fisheries by making it mandatory to use and carry devices such as bird scaring lines (BRLs), which are two ropes or cords





deployed from the stern of vessels to which distinctively colored garlands are attached. These cords prevent birds from approaching the set cables (the cables that drag the net). In the case of medium-sized or smaller vessels, the BRL can be replaced with a “bird buffer,” a folding structure or grid that, similar to BRLs, also prevents birds from approaching the set cable. Some vessels also have a snatch block, which minimizes the risk of birds striking the third cable or the net sounding cable.

“Subpesca and Sernapesca have demonstrated how scientific evidence can facilitate decision-making and the creation of effective regulations that benefit birds and ensure the safety of fishing crews. The steps taken by Chile to introduce seabird regulations and the expanded monitoring of fishing operations through electronic systems represent concrete actions for the conservation of vulnerable seabird populations. This is extremely positive,” Dr. Gilbert emphasized.

Additionally, at the event, Esteban Frere, representative of Birdlife International’s Marine Program for Latin America, explained how this program supports international efforts to reduce seabird bycatch through the coordination of activities, information sharing, and convening of discussions that contribute to gradual changes in collective capacity. He emphasized that doing so benefits local ini-

tiatives between NGOs, industry, and governments.

The Royal Society for the Protection of Birds is Europe’s largest non-profit organization dedicated to the protection of birds and wildlife.

The Albatross Working Group launched by the RSPB

The Royal Society for the Protection of Birds (RSPB) launched the Albatross Working Group (ATF) in the 2000s to bridge the gap between the best available science and the practical implementation of bycatch mitigation measures in high-priority fisheries.

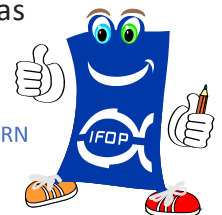
“In Chile, we have supported conservation action through collaboration with teams like ATF-Chile since 2007. We celebrate the country’s progress made through collaboration between local professionals, the fishing industry, and the government to develop and critically evaluate mitigation measures, which in turn has informed the working groups of the Agreement on the Conservation of Albatrosses and Petrels (ACAP) and informed national frameworks, such as the National Action Plan to Reduce Seabird Catches,” Gilbert stated.

Both the United Kingdom and Chile are members of ACAP, which provides expert scientific advice on best practices for seabird catch mitigation measures. This advice helps equip governments and industry with solutions to reduce the impact of fishing operations without affecting the catch of target species.

“It was very important for me to visit Chile and learn about the progress being made, so I could bring back to the UK examples of how government and industry have adopted and implemented positive conservation measures that could be transferred to our own national context,” said the RSPB international director.

<https://www.subpesca.cl/portal/difusion/Noticias/125062:Desde-Inglaterra-destacan-el-trabajo-de-Chile-en-la-reduccion-de-la-captura-incidental-de-aves-marinas>

Fotos y noticia Subpesca



RETURN

Knowledge Exchange between INVEMAR and IFOP: Strengthening Fisheries and Aquaculture Research in the Pacific Alliance

In March 2023, the city of Santa Marta, Colombia, was the setting for the meeting of the Network of National Fisheries and Aquaculture Research Institutions of the Pacific Alliance (IIPA/AP Network), where significant links were established between the Institute for Marine and Coastal Research (INVEMAR) and the Fisheries Development Institute (IFOP). This collaboration seeks to develop information exchange processes that benefit both institutions in their areas of mutual interest.

In this context, the visit of the DAF Division, headed by Jorge Miranda, together with the ICT Department and the Systems Section, represented by Jaime González and Graciela Manquehual, respectively, took place in the last week of January. The objective of this visit was to identify opportunities for improvement in the administrative, financial, technological, and data and information management processes at INVEMAR. During this interaction, crucial issues were addressed such as financing models, the impact of processes on institutional management and the proper administration of scientific data.

During our visit, the Fisheries Development Institute (IFOP) was received in a protocolary and cordial manner by the Director General of INVEMAR, Francisco Arias Isaza. The IFOP delegation had the opportunity to hold various meetings with part of the INVEMAR staff, made up of members of the strategic, support and mission groups, namely:



- **Mario Enrique Rueda Hernández** / COORDINATOR OF THE PROGRAM FOR THE VALUATION AND USE OF MARINE AND COASTAL RESOURCES - HOST OF THE VISIT
- **Isabela Katime Arroyave** / HEAD OF SCIENTIFIC COMMUNICATION AT INVEMAR
- **Diana Patricia Carvajal Martínez** / MANAGEMENT SYSTEMS PROFESSIONAL
- **Catherine Alexandra Beltrán Cruz** / IN THE COMMUNICATIONS COORDINATION
- **Laura Andrea Correa Rodríguez** / IN THE ACADEMIC COORDINATION
- **Liseth Carolina Castillo Mahecha** / SUPPORT PROFESSIONAL – SCIENTIFIC COMMUNICATION
- **Oswaldo De Jesús Zúñiga Escalante** / FROM THE FINANCIAL GROUP
- **Raúl Nicolás Carrera Valencia** / FROM THE SYSTEMS AND TELEMATICS GROUP
- **Paula Cristina Sierra Correa** / COORDINATION OF RESEARCH AND INFORMATION FOR MARINE AND COASTAL MANAGEMENT – GEZ



RETURN

Dr. Yesenia Olaya, Minister of Science, Technology and Innovation of Colombia visits IFOP Punta Arenas Headquarters

On Tuesday, January 28, Dr. Yesenia Olaya, Minister of Science of Colombia, met at IFOP Headquarters in Punta Arenas with Head of Regional Headquarters MSc. Erik Daza, professional and technical staff of the Headquarters and the Heads of Division Dr. Carlos Montenegro and Dr. Gastón Vidal.

Dr. Olaya's visit to Punta Arenas extended from January 28 to February 3, in addition to IFOP, she also met with the Center for Dynamic Research of High Latitude Marine Ecosystems (IDEAL), the Chilean Antarctic Institute (INACH), the Regional Government, the Regional Delegation and the SEREMIS of Sciences, Environment and Transport. Her visit also had the purpose of accompanying the XI Antarctic Expedition of Colombia and the VII FAC Air Campaign in Fildes Bay.



The Minister's interest in the region was aimed at the exchange of experiences on Subantarctic and Antarctic research and the possibility of cooperation on issues related to climate change, marine conservation and biodiversity. The promotion of strategies for scientific collaboration, exchange of students and researchers, coordination for Antarctic research and the possibility of developing joint projects between Colombia and Chile.



- **Jhony Humberto Garcés Ortega** HEAD OF THE INFORMATION SERVICES LABORATORY – LABSIS

Although both institutions share a similar purpose in promoting scientific research in their respective countries, distinctions also emerge that highlight their organizational singularities. However, the exchange of ideas and experiences during the visit was enriching, allowing the identification of tools and methods that can be adopted by IFOP to optimize its procedures and practices.

A relevant aspect of the meeting was the observation of operating paradigms based on modern technology, as well as the emphasis on the continuous improvement of procedures and the custody of scientific data. These elements are crucial in the framework of efficient management and are aligned with IFOP's current efforts. Specific areas of interest were also outlined, such as the adoption of innovative technologies and the strengthening of information management, indicating the formulation of corresponding action plans.

The exchange of experiences and benchmarking is essential for the development of IFOP, since its organizational structure and financing model deviate from traditional approaches, presenting both challenges and opportunities. This process of collaboration and mutual learning promises to generate significant advances in the mission of both institutions, thus consolidating their commitment to fisheries and aquaculture research in the Pacific Alliance. In short, the progress made indicates that, although progress has been made, there are still considerable areas for improvement that will be a priority in IFOP's future efforts.



RETURN