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In Villa Alemana, IFOP's Exhibition Guardians of the Sea Exhibition will have its start point

THIS ACTIVITY OBJECTIVE IS TO RAISE AWARENESS AMONG VALPARAÍSO REGION POPULATION ABOUT THE IMPORTANCE OF THE OCEANS, THEIR NATURAL RESOURCES AND TO SHOW RESEARCH WORK CARRIED OUT BY IFOP; IT IS FREE AND INTENDED FOR ALL TYPES OF SPECTATORS. IT OPENS TOMORROW VILLA ALEMANA IN PLAZA BELÉN.

Fisheries Development Institute, together with Valparaíso Regional Government, has organized an interactive, itinerant exhibition that will allow visitors to learn how marine resources are protected through scientific research. The exhibition is contained in two containers of 40 feet each plus a welcome tent and specialized staff.

Luis Parot Donoso, IFOP Executive Director explained "in a simple language and privileging images and iconography the exhibition will introduce the viewer to the importance of the oceans for huma-



nity as a source of food, recreation, transportation, climate regulation, and threats that it faces like excessive fishing, pollution, and effects of climate change.

It will have a container dedicated to fishing and another to aquaculture. There the attendees will be able to know how to recognize and study fish age, how is it calculated how many fish of a certain species can be captured? What is the red tide? How do the fish get sick? How is the migration of seabirds and sharks investigated?"

José Sabat, Villa Alemana Mayor added "every visit to our community that involves bringing culture and knowledge to the neighbors, is welcome



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for this municipality. We have been managing this meeting for some time with the Fisheries Development Institute, to make known in our community the work that IFOP carries out in the protection of the Chilean maritime territory, because we want our people to be sensitive to the importance of the oceans in our region. own quality of life. You are all invited, you can not miss this opportunity to learn even more about our sea and its care”

The project has GORE financing of \$ 24,518,371 and will be presented in the following cities and dates: January 15-20: Villa Alemana (Plaza Belén) January 22-27: Con Con (Shopping Mall Con Con) 29-03 February: Los Andes (downtown) 05-10 February: Valparaíso (Regional Intendence Frontis)

The containers were delivered in commodatum by the Chile Maritime Heritage Corporation, to the Fisheries Development Institute with the purpose of developing the traveling exhibition aimed at disseminating the activities of IFOP, in the maritime field.

Mauricio Gálvez, IFOP Technical Specialties and Infrastructure for Research head of the Division said “the spectator will be able to walk outside the containers following a chronological line (through a graph) where he will recognize the main milestones associated with our sea, dates of: important tsunamis, created by IFOP, Sernapesca, Subpesca, the first Chilean research vessel, 200 nautical miles promulgation, etc.

After that, the viewer can go through an exhibition of marine and fishing resources that will be displayed in showcases (dry aquariums).

Virtual effects will also be present. First with interactive games inside the containers, which can be used by visitors on touch screens, where the participant who wishes may be a marine researcher for a few minutes, either recognizing the trophic plot of marine animals, or taking samples of sea water aboard the Abate Molina. There will also be augmented reality, where guests can look through a scientific magnifying glass water samples or otoliths (fish structures where their age is recognized), and through augmented reality they can scrutinize the microscopic details of these samples.

The exhibition will conclude with the possibility that the spectators can take photos in a large panel with marine animals, simulating that they are part of the aquatic ecosystem. This without first taking the message that like IFOP, they can also be Chilean sea. Guardians.

IFOP researcher Luis Adasme completed an internship in New Zealand

INTERNSHIP WAS ON SOUTH PACIFIC SEABIRDS INCIDENTAL CAPTURE IN FISHERIES ANALYSIS: SOLUTIONS FOR MIGRATORY CORRIDOR CHILE -NEW ZEALAND

During the months of October and November of 2018 in Wellington (New Zealand) city Luis Adasme Fisheries Evaluation Department professional participated in an ACAP (Agreement on the conservation of Albatrosses and Petrel) internship at the Conservation Department (Department of Conservation te Papa Atawhai) and in the offices of the Ministry of Primary Industries (Manatu Ahu matua) of

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that country, highlighting IFOP work carried out by the study of seabirds incidental capture.

Luis Adasme explained “Since 2013, Chile has presented a sustained advance in the study and recording of seabirds incidental capture in different fisheries that are monitored by national fisheries developed monitoring programs carried out by (IFOP) as well as by the discard research programs, the foregoing, product of the momentum that current Fisheries Law has generated, incorporating ecosystemic approach as fisheries management strategy.

The internship work is part of the activities planned by ACAP to encourage and promote the work developed by Seabird Bycatch Working Group. The internship “Analysis of incidental capture of seabirds in fisheries of the South Pacific: solutions for the migration corridor Chile – New Zealand, seeks to initiate and develop scientific and technical cooperation between both countries, in order to standardize and integrate information from Chile and New Zealand through the application of the methodology to the set of incidental capture data recorded in both countries, which could eventually allow the elaboration of integrated and consensual solutions regarding the existing seabird migratory corridor in the Pacific”.

New Zealand since 2009 has been using and refining the spatially explicit risk assessment methodology in fisheries applied to seabird bycatch (Spatially Explicit Fisheries Risk Assessment, SEFRA), scientifically demonstrating the risk faced by these species product of commercial fishing.

Binational cooperation agreement

During the activities progress directly related to the internship specific objectives in direct relation to the interests proposed by ACAP for its member states and as a result of joint work among New Zealand Department of Conservation, (Igor Debski), Ministry for Primary Industries NZ, (Nathan Walker), Subsecretary of Fisheries of Chile (Marcelo García), Albatross Task Force (Cristián Suazo) and the Fisheries Development Institute (Luis Adasme), together with the support of different people who contributed their Contributions to this initiative, a bilateral cooperation agreement was achieved, which was signed in Auckland city by the respective foreign affairs ministers in a ceremony where the highest authorities of both countries were present.



DInvestigator Luis Adasme

Scientific vessel Abate Molina sailed to investigate anchovy and common sardine

IN 2018 THERE WERE 7 RESEARCH CRUISES WITH A TOTAL OF 226 DAYS OF ANNUAL OPERATION.

Valparaíso: On January 4th at 11 pm and for 31 days, a team of 27 professionals and technicians from Institute of Fisheries Development left from Valparaíso, aboard the B / C Abate Molina, to evaluate and characterize anchoveta resources stock and common sardine present among the V and X Regions.

The considered study area is between (Pichidangui) and north of Caleta Mansa

Leading the scientific expedition is Álvaro Saavedra fishing engineer, the captain of the boat is Enrique Quiero

The general objective of the study is; to evaluate and characterize anchoveta and sardine resources stock present between Valparaíso region and Region de Los Lagos, during maximum recruitment period and in the immediate fall.

With the information obtained in the scientific cruise a report is made in order to have a state of the resources information.



959 kilograms of garbage were collected at IFOP Puerto Montt clean point

THE RECYCLING ACTIVITY WAS RECOGNIZED BY MUNICIPALITY OF PUERTO MONTT ENVIRONMENT DEPARTMENT WHOSE REPRESENTATIVES VISITED "CLEAN POINT"

IFOP Puerto Montt base implemented a new initiative, where all workers set out the objective of recycling garbage in order to reduce the impact it generates on the environment. Thus, for 6 months, they managed to collect 439 kg of cardboard and paper, 124 kg of white paper, 7.5 kg of tetra packs, 222 kg of plastics, 3 kg of organic bottles, 13.2 kg of foamy cardboard, 102 kg of glass, 26.8 kg of metals, 15 kg of electronic waste, 5.7 kg of various materials.

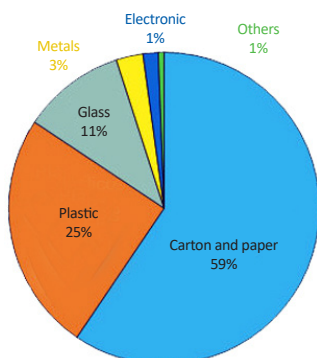
Luis Henríquez, one of this initiative participating researchers commented "we work with a compost bin and 3 containers for the selection and subsequent recycling of plastic waste, glass and cardboard / paper. Waste separation was received with great enthusiasm by the community, proving that IFOP workers majority; have incorporated recycling concepts in their daily work. Today at our base, there is a daily routine of organic waste to the composter and the weekly delivery of recyclable waste at two clean points that operate in Puerto Montt City.

The recycling and composting activity managed to integrate the community into a common project that also demonstrates how to approach and integrate good waste management practices generated by the Institute's research activities.

RECYCLING PROGRAM DIA & CREAN PUERTO MONTT, 2018

959,3

Carton and paper	439 kg
White paper	124 kg
Tetra packs	7.5 kg
Plastic	222 kg
Ecological bottles	3 kg
Penitentiary	13,2 kg
Glass	102,7 kg
Metals	26.8 kg
Electronic	15 kg
Others	5,7kg



These "green" practices are very important given the large amount of recyclable waste produced to-day.



Concón hosts fun IFOP marine exhibition until Sunday

THE EXHIBITION CALLED "SEA GUARDIANS" WAS INAUGURATED ON TUESDAY AT CONCÓN SHOPPING CENTER WITH THE VISIT OF STUDENTS FROM ORO NEGRO SCHOOL

An interesting and educational summer activity, arrived at the City of Concón. This is the interactive exhibition "Sea Guardians" that travels through 4 cities of Valparaíso Region explaining visitors about the Ocean, its resources and how to take care of it. In this activity, attendees can learn about IFOP's research carried out in fisheries and aquaculture; There are also interactive games so that children can be IFOP scientists for a few minutes.

The opening of this exhibition was held on Tuesday at the Concón Shopping Center, located at 1050 Magallanes Avenue, where it will remain open from January 22nd to 27th, from 10:30 and 18:30, free of charge.

This activity is organized by Fisheries Development Institute, together with Regional Valparaíso Government. IFOP, is a nonprofit private law corporation that has the mission of producing

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information and knowledge about the country's marine resources for better management and care. This exhibition is part of "MARITIME AND HYDROLOGICAL HERITAGE THAT WALKS THE REGION OF VALPARAÍSO" project with GORE financing for \$ 24,518,371

The exhibition is articulated in two containers, one dedicated to fishing and the other to aquaculture, the containers were delivered by the Chilean Maritime Heritage Corporation to the Fisheries Development Institute in order to spread IFOP's activities, in the maritime field.

Luis Parot Donoso IFOP Executive Director referred to the presentation "the Fisheries Development Institute is dedicated to carrying out research on sea resources that are commercial exploitation subject, with the aim of advising the political authority, so that they take administration necessary measures that allow that; these resources are sustained over time, rationally exploited in order to ensure their sustainability in the long term, hence in a very simple concept we define ourselves as the guardians of the sea, we are in charge through scientific research to protect the resources so that they continue contributing to the development of the country in the long term "

Manuel Millones Regional Counselor explained "this exhibition has already been presented at Villa Alemana and it was a success, it is a joint effort of the Regional Government, Fisheries Development Institute and participating municipalities, today we are in Concón and it is expected to have the same success we had in Villa Alemana, is an absolutely free alternative for the family and the message you want to deliver is to be the guardian of the sea; our nature is threatened by man, by pollution and here what is taught is to take care of our sea, to take care of our species and to have relevant information with state-of-the-art technology, therefore it is a very good

activity so that children can attend and enjoy of knowledge, the sample has already been visited by more than 1500 people."

Monica Correa, itinerant exhibition's monitor, stressed that "this exhibition aims to publicize the activities carried out by the IFOP with scientific and entertaining knowledge for the whole family".



IFOP holds "Qualitative Modeling workshop: Theoretical-practical introduction to Loops análisis"

Between January 24th and 25th at IFOP Valparaíso headquarters, "Qualitative Modeling: Theoretical-practical introduction to Loops analysis" Course-Workshop was carried out. It is part of "SEAFISHMAN: Advancing towards the sustainability of fisheries based on the Ecosystem Approach to Fisheries Management through scientific research and capacity building in four Bentonic Resource Management Committees project "which is funded by the Walton Family Foundation (WFF)

Carlos Montenegro Head of Fisheries Assessment Department explained "this course is part of ecosystemic modeling fisheries research line. It is a qualitative approach for understanding and description of socio-ecological components functioning system associated with a fishery, that is, the relationships that exist both in the system's hu-



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attendees, also contains Chile's maritime history, fishing and aquaculture interactive games. Upon arrival, the visitor is received by expert monitors who will answer all their questions, and will be accompanying all through the tour, in an unmissable panorama for the entire family.

The exhibition is part of the "Maritime and Hydrological Heritage that runs through the Valparaíso Region" project; with GORE financing for \$ 24,518,371. The exhibition is divided into two containers, one dedicated to fishing and the other to aquaculture. The containers were delivered in comodatum by the Maritime Heritage Corporation of Chile to the Fisheries Development Institute, with the purpose of disseminating the actions of IFOP in the maritime field.

Luis Parot, IFOP Executive Director, referred to the exhibition: "This is the third week, we were already in Villa Alemana and in Concón; tomorrow it begins in Los Andes city, it is a very interesting exhibition from its objective point of view which is to spread and inform about the activities carried out by Fisheries Development Institute, particularly under the slogan that we are the Guardians of the Sea so that the community and particularly children can appreciate the importance of research, in the care of fish and aquaculture resources, are explained topics such as climatic change, red tide, there are games that playfully teach and clarify to children how research is done by Fisheries and aquaculture in Chile

Manuel Rivera Los Andes city Mayor extended the invitation to both Andean and families of neighboring communities, to visit this fun exhibition that becomes an interesting and educational summer panorama that explains about the ocean, its resources and how to take care of them.

The exhibition will be available free of charge to the public from Tuesday January 29th to February 3rd in the Ambrosio O'Higgins Park, from Tuesday to Friday between 3:00 and 8:15 pm, while Saturday and Sunday will be extended from 12:00 at 20:15.

man dimension and ecological dimension. Relationships are studied between both dimensions. The technique of loop analysis is used, which allows to describe the functioning of a system using diagrams of its components and the relationships between them (positive, negative or neutral). From this we can study the stability of the systems and the responses to perturbations on components of it.

Mysteries of the ocean reach Los Andes city

"GUARDIANS OF THE SEA" EXHIBITION – ORGANIZED BY IFOP – WILL BE LOCATED AT AMBROSIO O'HIGGINS PARK, SANTA TERESA AVENUE 911, WHERE IT WILL REMAIN OPEN BETWEEN JANUARY 29TH AND FEBRUARY 3RD IS FREE OF CHARGE

Educational, and interactive, this exhibition had been prepared by IFOP Institute of Fisheries Development, together with the Regional Government, it will be held this summer with the aim of teaching in an entertaining way how to take care of the ocean. The exhibition has aquariums that amaze

