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Chilean researcher attends Sharks, Stingrays, and Chimaeras Latin American Congress

Between March 25-29, in Playa del Carmen, Mexico, the First Sharks, Stingrays, and Chimaeras Latin American Congress was held. From Chile attended María Cristina Pérez Cuesta Fisheries Development Institute (IFOP).

The scientist explained, "My presentation "Raya volantín fishery (*Zearaja chilensis*) in Chile, fisheries management evaluation approaches" focused both on the kola skate fishery history in Chile and on different approaches that have been used to evaluate this resource in order to be able to define its exploitation status, currently, available information for this type of species is scarce or uncertain (compared to bony fish) due to the complexity of its sampling and handling, which makes both striped stripped sharks and sharks difficult resources to evaluate. It is important to understand that to protect and care for a species it is not only necessary to know the biology of this species, but also the his-



tory of the fishery and how this history has changed over time. This is where the importance of sharing information and experiences with neighboring countries in which even chondrichthyan fishing is an important part of their culture."

María Cristina Pérez is a Marine Biologist and Master in Fisheries. Her areas of interest are of stocks fishery resources evaluation and fisheries recovery. The last three years at IFOP, she has worked as Department of Resource Evaluation researcher, particularly in stock assessment projects for kelp and southern hake.



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IFOP develops a workshop on “Sampling Protocols for by-catch”, for scientific observers

FOR BIRDS, MAMMALS AND SEA TURTLES

On Friday, April 12th in Valparaíso, a workshop for scientific observers was held to review sampling protocols of species present in incidental capture of birds, mammals and marine turtles.

The workshop's objective was focused on current species sampling protocols revision present as incidental capture in national fisheries (birds, mammals and marine turtles), with the aim of being able to improve existing procedures, articulate them and / or review eventual gaps in the subject.

Scientific Observers are technicians and professionals trained on data collection on fishing activities and biological sampling of captured species, on board vessels or at landing ports. Based on this information, IFOP scientists can generate knowledge and provide scientific advice required by fishing or aquaculture institutions of the country; in particular, the one required by the Fisheries and Aquaculture Undersecretariat, for sustainable management of our fisheries. They are designated, by resolution, by the Undersecretary of the branch and must be accredited year after year according to current regulations.

Erick Gaete Alfaro, Sampling Management Department Head, explained “the workshop we are organizing, is directly focused on data collection processes improvement, advancing both its standardization and its articulation, mainly in relation to sampling protocols, linking with electronic forms and protocolizing what is actually done on board. With regard to the scientific observers role, they are fundamental in our processes chain in order to provide comprehensive advice to the authority, in terms of being the first link in this chain that finally culminates with reports or delivered information given by the institution's researchers to the Fisheries and Aquaculture Undersecretary as part of the provided comprehensive advice given by our institution, which is IFOP's main mission. Carried out activities performed by our observers are diverse and are physically distributed from Arica to Puerto Williams. They are responsible for generating data to perform many of present and future research required by the institution. Currently, IFOP has 200 observers distributed throughout Chile ”



Cristián Villouta, IFOP Field Coordinator , referred to the workshop in terms of indicating that “ This activity central theme is to create or validate existing protocols in different fisheries, especially in the focus on birds and mammals incidental capture. This activity is fundamental to agree on how we are going to gather projects necessary information and to do it in a standardized way ”

The activity had Heads of Division active participation, Department Heads, Project Managers, Researchers, Statisticians, Coordinators (General and Field) and IFOP Scientific Observers , which allowed an integral and transversal view of considered topics, enriching analyzes and finally raised conclusions.

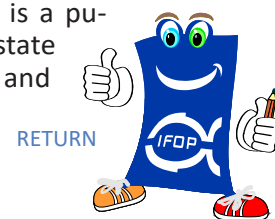
Collaboration agreement is signed by IFOP and WCS Chile

RESEARCH AND INNOVATION FOR SUSTAINABLE AUSTRAL SEAS DEVELOPMENT

Ad portas the month of the sea, Wildlife Conservation Society (WCS) and Fisheries Development Institute (IFOP) signed a collaboration agreement, wich aims to favor and promote the southern seas of Magallanes Region and Chilean Antarctic scientific, academic and communicational activities, to value and promote biodiversity knowledge..

Within the two-year agreement framework it is intended to promote artisanal fisheries sustainable development innovation and research on marine conservation, protected areas and territory, through scientific publications and through material for pre and post-graduate students .

Luis Parot, IFOP Executive Director, declares: “For IFOP, Fisheries Development Institute it is very important to establish these strategic alliances with organizations that share our concern for caring for and protecting the environment, natural resources and, in particular in the case of IFOP, fishing resources. Although IFOP's task is a public role, which allows Chilean state to take fisheries management and



“We know that human beings live on resources and in our region artisanal fishing is one of the most important economic activities, that is why we are interested in carrying out actions that enhance its sustainability over time and this agreement is a way to strengthen those actions”, Droguett concludes-.

“Cephalopods Biology and Ecology” course offered by IFOP

FOR SCIENTIFIC OBSERVERS

On April 23rd and 24th at IFOP Talcahuano base, was held “Cephalopod Biology and Ecology” course-workshop. The activity’s objective; to review, update and standardize cuttlefish fishery and discard monitoring program Scientific Observers criteria and knowledge acquired by the program.

Topics:

To know about cephalopods worldwide biology and ecology emphasizing on those belonging to Ommastrephidae Family.

Update theoretical and practical knowledge about *Dosidicus gigas* species.

Unify biological sampling criteria.

Karen Belmar, IFOP researcher explained “Cephalopods are marine invertebrates, they are characterized by presenting; head, arms and tentacles. octopus, cuttlefish, squid and cuttlefish are within this group.

Cuttlefish or Humboldt squid is endemic to the Pacific Ocean eastern region and is found from Alaska to Aysén Region in our country. It is a large voracious and opportunistic predator, feeds on fish such as common hake, jack mackerel, lantern fish, some crustaceans, other squid, and cannibalism. IFOP follows up on this fishery since 2014, and analyzes biological-fishery indicators of artisanal and industrial fleets, in Coquimbo, Valparaíso and Biobío regions.”

The workshop was dictated by Christian Ibáñez, Doctor of Sciences with mention in ecology and evolutionary biology, currently a Universidad Andrés Bello professor. Ibáñez has extensive experience working with cephalopods and currently his research is focused on marine animals ecology and evolution with special attention to marine invertebrates.



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resources protection measures, in order to ensure its long term subsistence, we are also interested in developing research initiatives and to generate knowledge regarding the state in which there are zones that are part of our environmental and genetic heritage, such as Chilean southern sea, in this case Seno Almirantazgo “.

Daniela Droguett, WCS Chile Director for Magallanes, comments: “All our conservation decisions and what we do in Karukinka Park have scientific basis, it is part of our way of proceeding. For its part, the ecosystemic services line and fisheries resources management handled by IFOP is completely aligned to what we do and the vision we want to promote for marine protected areas. That is why having IFOP as a strategic and support partner for the development of our marine conservation program at the regional and national levels is of the utmost importance.”

The agreement also seeks to promote cooperation for organization of various instances that will promote knowledge and science appreciation, southern sea biodiversity and conservation “Together with WCS, we will work collaboratively to strengthen both organizations and to strengthen our local involvement in heritage care tasks,” adds Parot.



IFOP leads the first scientific expedition for satellite marking of swordfish in Chile

RESEARCH ON THE SPECIES IS CARRIED OUT BY FISHERIES DEVELOPMENT INSTITUTE (IFOP) TOGETHER WITH CONSERVATION NGOS THE NATURE CONSERVANCY (TNC) AND THE PFLEGER INSTITUTE OF ENVIRONMENTAL RESEARCH (PIER) (USA)

A researchers team formed by Dr. Patricia Zárate from IFOP, Scott Aalbers and Chugey Sepulveda of The Pflieger Institute of Environmental Research (United States) embarked on Taltal to install satellite transmitters on swordfish in order to monitor them and thus learn about his movements.

Dr. Patricia Zárate from IFOP referred to the study "Swordfish fishery in Chile is carried out with gillnets and longlines. It has a high incidental capture of turtles, birds and marine mammals, most of these animals are endangered species. And included in IUCN Red List. One of the Monitoring of Highly Migratory Resources – Ecosystem Approach of IFOP project objectives, is to know about swordfish horizontal and vertical movements and subsequently be able to recommend incidental capture mitigation measures in this fishery.

Given our interest in this topic, TNC Chile and the United States, created alliances so that we could collaborate with researchers from The Pflieger Institute of Environmental Research (PIER) (USA), who have vast experience in this subject. PIER researchers have been pioneers in swordfish marking in United States and have advanced in fishing gear experimentation that reduces bycatch.

Alexis Jackson, TNC United States Fisheries Director mentioned "Our institution works with oceanic research, therefore supports science-based initiatives that allow the existence of sustainable fisheries with the ecosystem, today our study will focus on swordfish, highly migratory resource of great value and very important for foreign markets, such as USA and European Union. The incidental capture in longlines and gillnets is frequent and that is why this is an opportunity to study swordfish movements, in comparison with these other species".

Jesús Chugey A. Sepúlveda from PIER comments: "We in the USA have been capturing and marking swordfish since 2004, these fish move a lot because they migrate to eat and to reproduce. With this marking we can learn about the behavior of this resource in Chile"

Luis Parot Donoso IFOP Executive Director added "This research is developed in a comprehensive agreement that IFOP has with The Nature Conservancy (TNC). The researchers who visit us are Scott Aalbers and Jesus Chugey A. Sepulveda, US specialists who work with Dr. Patricia Zárate. This study focuses on recommending fisheries management measures through research, which is why we partner with international organizations and scientists that have led projects in these areas in order to reduce the effects caused by fishing gear on resources that are not target species"

During this expedition the researchers team managed to successfully mark a total of 3 swordfish with satellite transmitters that will provide information on the depth, temperature and trajectory traveled during the displacement. In each of the areas where these specimens were marked, the information provided by the satellite transmitters with profilers (CTD) that recorded the specific characteristics of the water column was supplemented.



In the coming months, a second expedition is expected to increase the number of marked swordfish.



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IFOP will offer Culture + Science Fridays talks, learn more about the ocean!

THEY ARE FREE FOR ALL PUBLIC, SCHEDULED TO BE HELD AT 18:00 HOURS, AT FONCK MUSEUM

IFOP researchers Úrsula Cifuentes and Andrés Olguín will make presentations at Viña del Mar's Fonck Museum. This initiative is an effort from Valparaíso PAR CONICYT Explora and Fonck Museum located at 4 Norte 784, 1 Oriente corner, Viña del Mar, in the framework of the Museum alliance as an integral part of the Scientific Culture Network. This place has been more than six years inviting the community to know the impact of science through a conversation with scientists and scientists.

On May 10th , Úrsula Cifuentes Ojeda, presents "Garbage in the ocean". The exhibition will analyze the impact of human activity on the planet and the effects of garbage on the food chain of living beings in the ocean, in addition to providing information on what we can do to reduce this impact.

On May 24th , Andrés Olguín Ibacache will dictate "Myths and realities of the jellyfish", in an entertain-



ing conversation that will try to change the negative image that these marine animals usually had, with interesting data about their main characteristics, their way of life and the contribution they make to our ecosystem.

