EILIF GAARD: CHAMPION OF THE HOLISTIC APPROACH TO SCIENCE

Under its new management, the Faroe Marine Research Institute looks to further develop its knowledge of marine ecosystems, as well as finding new ways to bridge the gap between fisheries science and commercial fishing.

DR. EILIF GAARD, the newly appointed director of the Faroe Marine Research Institute (Havstovan), is not known as a man of many words. When he speaks, however, people tend to listen; and make no mistake, he is articulate and concise like a scientific dictionary. Internationally recognized for his research in biological oceanography and plankton ecology, Dr. Gaard has demonstrated with unique clarity the link between, on the one hand, growth and recruitment of commercial fishes on the Faroese Continental Shelf and, on the other, plankton production within the same area.

MARIA OLSEN

"Food chain relations is generally a well-known theme and has long been a subject of scientific research around the world," Dr. Gaard said.

"Our contribution has been to point out in detail the particular nature of key relationships in the marine ecosystem of the Faroese Continental Shelf, ultimately to show how fish depend on plankton.

"The Faroese Continental Shelf is very well suited for ecosystem research inasmuch as it is limited in size and has relatively homogenous conditions, which makes it manageable for analysis—while at the same time sufficiently large and biologically rich to be of interest and relevance for researchers who study the dynamics of marine ecosystems."

Hinting a shift in the direction of how the Faroe Marine Research Institute may want to develop its ties with stakeholders such as the Faroese Government and the commercial fishing sector, Dr. Gaard made reference to a "more holistic" approach to fisheries science.

"I do not wish to speculate or opine about fisheries policy matters to the extent that it may constitute political meddling," he said.

"This institute's job is to offer scientific advice; politicians should be allowed to do their part."

PHD PROJECTS: On the other hand, he added, improving communication will form a core part of his management strategy. One way to achieve this will be through holding regular briefings and meetings, he said, placing emphasis on good listening skills.

"As the times change sciences are becoming more holistic and interdisciplinary. Today we live in an age of communication. We need to present our findings clearly and effectively whether it's for our own staff, government officials, people representing the fishing industry, or the general populace.

"But communication also means taking time to listen to observations, concerns, and viewpoints of other people, including those at the receiving end of whatever measures we might be recommending in our advisory role, which is only fair. So we will be holding more receptions, briefings, and meetings to make this process easier and generally build trust and improve understanding and appreciation. The more you're able to learn from various sources of knowledge, the better you'll be equipped to understand, and give advice on, complex issues."

What the Faroe Marine Research Institute works with indeed often involves complex issues, including questions of ecosystem interactions and oceanographic processes. And while since the 1990s, in this context, much knowledge has been gained at the leading scientific organization of the Faroe Islands, there is still an immense amount to explore.

"We must be constantly learning and our approach to it should be humble and progressive. But this is a scientific institute and there has to be a scientific basis for all of the information and advice that we offer. So we have to adhere to recognized methodologies. This is part of my predecessor's legacy—he established international ties and developed good cooperation with a number of organizations including ICES [International Council for the Exploration of the Sea], and made every effort to ensure that our work would be on an international scientific level. So we'll continue this legacy as we apply some important, complementary concepts."

Traditional stock assessments will not be abandoned, Dr. Gaard underscored. However, he added, the holistic approach and its emphasis on multiple influences on ecosystems will increasingly become part of fisheries science.

"It's gradually become clear that fishing effort is far from the only factor that influences a fishery ecosystem. But that doesn't mean we should underestimate it—just as we should not underestimate any other important factors."

The growing prominence of the holistic approach is further reflected in the fact that the bulk of the six PhD projects currently conducted at the Faroe Marine Research Institute relate to oceanographic and ecosystem conditions on the Faroese Continental Shelf.

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The Faroe Marine Research Institute (FAMRI) is a governmental institute which conducts various marine research and provides the Government of the Faroe Islands with scientific advice based on its research on marine resources and the environment.

FAMRI's main tasks are to carry out research of the marine resources harvested by Faroese fishermen and the environment governing their distribution and production. This includes fish biology, physical and biological oceanography, fish behaviour, gear technology, and seabird biology. Furthermore to advise the authorities and the industry, and to report on the research results.

The aim of the research is to provide a basis for a responsible exploitation of the marine resources around the Faroe Islands. Assessments are made of the most important fish stocks. These assessments are based on investigations, independent of the industry, which are carried out by the research vessel, Magnus Heinason, e.g. 0-group surveys, bottom trawls surveys and acoustic surveys, in addition to catch and effort statistics from the commercial fleet.

The biology of the various species of fish is studied, including fluctuations in the stocks, growth, spawning and feeding.

Experimental fisheries are conducted on fish and benthic invertebrates, which have not traditionally been fished. Consideration is then given to whether these could be fished commercially, and experiments are carried out to find the best fishing gear.

The oceanography and the living organisms in the waters around the Faroes are studied; e.g. temperatures, currents, and the conditions for living organisms to grow and reproduce are examined. In particular climatic changes likely to affect the reproductive success of various species of fish in Faroese waters are investigated.