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Colombia is a country with successful experiences of Fishing Projects with an Ecosystem Approach. In addition to this, it has different Management Plans for Endangered Species and an exercise of Formulation of a Management Plan for Aquatic Resources. Hence, for the country, this is an opportunity to adopt this type of initiative.

It is worth mentioning that the Ministry of Environment, in the comments projected to the "Project to Update the Fishing Law" (Law 13 of 1990), recommended integrating the Ecosystem Approach in Fishing Activity.

On the other hand, the mission of the Marine and Coastal Research Institute "Jose Benito Vives de Andrés" (INVEMAR) to carry out basic and applied research on the country's marine and coastal resources of interest, has been implementing the Ecosystem Approach in several of its research projects and activities, aimed to evaluate populations and fishing management. Specifically, it is conducting multidisciplinary fisheries research, combining biological, ecological, economic and social aspects. This is Three illustrative cases of application of the Ecosystem Approach to fisheries are described

the one hand, prototype trawls were designed, built and validated, which contributed to reducing discards (the impact on the biodiversity of fish) by more than 20% compared to traditional nets. The prototype nets also have less erosive effect on the marine benthos and consume less fuel in their



operation, as they are made of a lightweight material and use larger mesh sizes compared to traditional nets. The above responds to reducing the environmental impact by offering a fishing technology that reduces CO₂ emissions. Combined with this technology, spatio-temporal closures were designed together with the fishermen to regulate access to fishing areas, in such a way that the fishing effort is controlled, and sensitive habitats are protected by trawling without reducing the income of the fishermen. These technological and operational management measures are being implemented through co-administrative and co-management actions, signing fishing agreements between artisanal fishermen, industrialists, NGOs, the academy and institutions such as the National Aquaculture and Fisheries Authority (AUNAP) and INVEMAR. On several occasions these agreements have been elevated to the rank of Resolutions of the Ministry of Agriculture, introducing evidence of the application of the Ecosystem Approach where the goals of resource conservation and productivity are balanced. This project has had an important political impact and has contributed to modifying the institutional structure for fisheries management in Colombia.

- A long-term research activity is the monitoring of artisanal fishing in the Ciénaga Grande of Santa Marta (CGSM), an estuarine lagoon Biosphere reserve and Ramsar wetland. For 25 years, INVEMAR has been conducting research not only on fisheries monitoring, but also on the environment by monitoring the quality of the waters, the structure and coverage of the mangrove swamp, and more recently the hydrodynamics of the system. This scenario allows to acquire the knowledge on the environmental and biotic effects that occur in the system, affecting the life histories of fauna populations, especially fish in the CGSM. Fishery monitoring is carried out under participatory research, that is, trained local fishermen are the field collectors of fishery information. The results of this research are: to know the variability of fishery production, its effect on biodiversity, how to reduce it, as well as to generate human intervention scenarios to maintain a productive ecosystem that ensures the provision of fishery resources to the human population dependent on the ecosystem service. INVEMAR with this information generates management measures so that the fishing and environmental authorities exercise the policy to conserve this ecosystem.
- The declarations of marine protected areas in the regions, taking advantage of existing national legislation to declare coastal territories under the figure of Regional Integrated Management Districts (DRMI), INVEMAR has been identifying conservation gaps for species of economic interest and has related these to areas susceptible to be declared as DRMI by the environmental authorities of the coastal regions (Autonomous Regional Corporations and those of Sustainable Development). For their implementation, these DRMIs must structure management plans that include fisheries management actions with an Ecosystem Approach, focusing especially on the sustainability of the traditional livelihoods of human populations, promoting food security, while simultaneously aiming at environmental sustainability and the well-being of the communities that inhabit these territories.

2. SPECIFIC COMMENTS

Pages (s)	Observation
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Regarding

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