Fisheries Data Collection:

A public good for food security, competitiveness, and healthy seas

Sustained, high-quality fisheries and marine-ecosystem data collection is a public good that underpins food security, economic resilience, and the protection of marine ecosystems. Without reliable data, it is not possible to manage fisheries sustainably, support a competitive sector, or safeguard the long-term productivity of the seas that coastal communities depend upon. The combined collection of fisheries data along with ecosystem data is a key enabler of ecosystem-based fisheries management. It also enables ecosystem-based management more generally, e.g. in assessing the health of marine habitats, the ecosystem impacts of offshore wind farms, and the effectiveness of marine protected areas and restoration.

For more than a century, the International Council for the Exploration of the Sea (ICES) has provided independent scientific evidence based on data collected through national programmes and regional collaboration. This system has delivered tangible results: reduced overfishing, more resilient fish stocks, and improved understanding of the links between fisheries and the wider ecosystem, as well as the state of the marine ecosystem more generally (cf. Marine Strategy Framework Directive and Good Environmental Status). These advances were achieved because the EU and national governments invested consistently in long-term monitoring programmes and scientific research capacity, coordinated through regional scientific cooperation.

Data collection is essential to a competitive fisheries sector

Fisheries data collection is often viewed as a cost, rather than as the strategic investment it in fact represents. Reliable data reduces uncertainty in management decisions, helping to avoid sudden shocks, unstable advice, and disruptive management changes. Trustworthy science-based management is essential for fishers, processors, and investors who need confidence to plan, innovate, and remain competitive in an increasingly challenging operating environment.

Robust data pipelines and systems enable more targeted and adaptive management approaches, reduce unnecessary restrictions, and support innovation in fishing practices and technologies. Weakening data collection risks increasing uncertainty; undermining trust in advice and the fisheries management systems; and, ultimately, damaging the competitiveness of the sector it seeks to protect.

Food security depends on knowledge, not guesswork

Fisheries and aquaculture are a vital source of nutritious, low-carbon-footprint food. Protecting this contribution requires early detection of declining productivity, recruitment reductions, and ecosystem change. Comprehensive and continuous data collection allows scientists to identify risks in time, advise on appropriate responses, and help ensure that today's harvesting does not compromise tomorrow's food supply—all of which require sufficient data to project likely outcomes and risks.

In a context of climate change, geopolitical instability, and increasing pressure on global food systems, reducing investment in fisheries and ecosystem data collection would increase uncertainty in both current statuses and future projections. This in turn would increase the risks of inappropriate management measures, precisely when certainty and resilience are most needed.

ICES International Council for the Exploration of the Sea
CIEM Conseil International pour l'Exploration de la Mer
H. C. Andersens Boulevard 44-46,
1553 Copenhagen V, Denmark
+45 33 38 67 00
info@ices.dk | www.ices.dk

Fisheries data collection as a core component of ecosystem-based management, ocean observation, and digital decision support

Coordinated fisheries data collection is an essential component of the wider ocean observation system. Biological, environmental, fisheries-dependent, and socio-economic data collected through fisheries monitoring programmes provide information that cannot be replaced by remote sensing or autonomous platforms alone. These data are critical for understanding biological processes, ecosystem functioning, human–ocean interactions, cumulative pressures, and bycatch—as well as ecosystem-based fisheries management (a commitment under the Common Fisheries Policy). They also underpin the development of modern decision-support tools, including such emerging initiatives as the Digital Twin of the Ocean (DTO), that depend on high-quality, sustained, and interoperable observations. Without robust fisheries and marine-ecosystem data, such tools risk being incomplete, biased, or disconnected from real-world management needs. Continued investment in coordinated fisheries data collection is therefore fundamental not only to fisheries management but to the credibility and effectiveness of Europe's broader ocean observation and digital policy ambitions.

Healthy ecosystems require informed management

Sustainable fisheries depend on healthy marine ecosystems. Data on biodiversity, habitats, environmental conditions, food-web interactions, and cumulative pressures are essential to understand how ecosystems are changing and how fisheries interact with them. This knowledge supports an ecosystem-based approach and helps to balance conservation and use. It ensures that both environmental and fisheries objectives are pursued in a way that is effective, proportionate, and informed by sufficient data, evidence, and scientific knowledge.

The importance of long-term data time-series cannot be overstated for understanding both fisheries and ecosystem changes, especially in the context of accelerating climate change. Most fisheries and ecosystem analyses depend on data time-series that allow an understanding of change—both trends and sudden changes—and that are needed to evaluate the effectiveness of management measures. Once broken, such time-series cannot be easily re-established and will result in increasing long-term environmental and economic costs.

Regional collaboration multiplies the value of investment

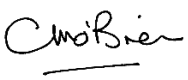
Fish stocks and marine ecosystems cross national boundaries. Regional cooperation in data collection and assessment allows countries to share costs, pool expertise, and produce advice that is credible, consistent, and internationally trusted. Investment in coordinated regional systems delivers far greater value than isolated national efforts and strengthens the legitimacy of management decisions.

A clear message

Reducing investment in fisheries and associated ecosystem data collection would weaken the scientific foundation of management, increase uncertainty for the sector, and threaten the significant progress made towards sustainable fisheries and healthy ecosystems. Sustained and coordinated funding is essential to maintain credible advice, support a competitive and innovative sector, ensure food security, and protect marine ecosystems for future generations.

ICES stands ready to continue working with governments, regional organizations, and stakeholders to ensure that fisheries and ecosystem data collection remains robust, efficient, and fit for the challenges ahead. Continued investment in data is an investment in healthy seas, thriving communities, and sustainable seafood systems.

ICES President Carl O'Brien



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