Territorial governance and economic performance of fishing SMEs: analysis of a successful trajectory of scallop fishing in the Seine Bay (2000-2025)

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The harmful effects of climate change (warming, deoxygenation, and acidification of the oceans) impact the sustainability of marine ecosystems just as much as overfishing. According to the European Environment Agency (EEA, 2023), more than 90% of European marine areas are now affected by multiple anthropogenic pressures, leading to the progressive degradation of ecosystems[1]. The Food and Agriculture Organization of the United Nations (FAO) estimates that the catch potential of the world's Exclusive Economic Zones (EEZs) is expected to decline by 2.8 to 5.3% by 2050 compared to 2000 in the best-case scenario, and by 7 to 12.1% in the business-as-usual scenario (Claudet et al., 2020).

Research articles implement bioeconomic models to demonstrate the impacts of one or more management measures on the status of the scallop **(***Pecten maximus***)** stock and on the economic performance of fishing enterprises (Frésard, 2014). These studies start from measures already applied in a fishery and aim to show that a new measure will, in turn, produce an impact on both stock levels and SMEs revenues. Most of these works are prospective and serve as relevant decision-support tools to guide fisheries managers in designing new management measures. Restrictive measures intended to limit fishing effort are absolutely necessary to trigger a virtuous cycle, as has been demonstrated for the king scallop fishery in Saint-Brieuc Bay (Le Gallic et al., 2010).

The objective of our article is to link the implementation of collectively decided management measures with improvements in the economic performance of fishing SMEs. Specifically, we retrospectively examine a 25-year period (2000–2025), during which measures were gradually implemented in the scallop fishery in Seine Bay. We also aim to show that collaboration among stakeholders allowed these management measures to be imposed on fishers. This cooperation has altered the economic trajectory of the fishery, substantially improving stock status and, consequently, the economic performance of fishing SMEs.

The French fleet is managed through multiple tools, such as Total Allowable Catches (TACs) and quotas by fishing area and stock**,** fishing licenses, and multiannual management plans under national regulations (Carvalho et al., 2020). Each fishing license, assigned to a vessel, is species-specific, gear-specific, or area-specific. The license specifies the scope of application and all corresponding technical requirements, including gear type and dimensions

[1] The EEA also notes that the degradation of marine ecosystems is accelerating, with the rate of degradation increasing by 1.5 times between 1990 and 2020.

(number and size of meshes), vessel length class, and spatial or seasonal closures. The labelling of a fishery can also have a positive impact on the management of the fishery (Bonnet et al., 2025).

At the beginning of the 21st century, the scallop population was overexploited (Hardin, 1968), to the extent that fishers had to work 15 hours per day, seven days a week, just to earn a living. Twenty years later, thanks to territorial governance involving the Regional Fisheries Committee, a production valorization organization, and scientific researchers, scallop biomass increased more than tenfold (from 10,000 tons to 105,000 tons in 2025), and hourly fishing productivity increased one hundredfold. Data from FranceAgriMer show that annual landings rose from approximately 5,500 tons in 2010 to nearly 15,000 tons in 2025, representing an almost continuous increase over the period.

The success of the Normandy model relies on a coherent set of management measures aimed at limiting fishing pressure and ensuring resource sustainability: licensing systems, limits on fishing days, minimum catch sizes, and annual scientific monitoring. The rotational fallow system introduced in 2012 is the key measure for stock recovery (IFREMER, 2025). Management of the king scallop fishery in Seine Bay is thus based on strict access controls, fleet capacity management, and regular monitoring of fishing effort, founded on consultation among authorities, fishers, and scientific researchers.

Our research draws on multiple data sources. First, we trace the implementation of various management measures in the Seine Bay scallop fishery (2000–2005). Then, using a mixed-method approach (Rice & Gondwe, 2023), we exploit: (i) a FranceAgriMer database derived from transactions in fish markets in Normandy over a 25-year period (2000–2025), and (ii) three semi-structured interviews with key fishery stakeholders. The methodological value of this approach lies in combining official transaction data with access to information on the economic performance of fishing SMEs.

We show that management measures implemented at the territorial level have significantly contributed to improving the economic performance of fishing SMEs. By establishing clear rules for resource access, limiting fishing effort, and organizing co-management between public authorities, researchers, and professional actors, these mechanisms have promoted more sustainable exploitation of fish stocks. Local communities are capable of developing their own rules, monitoring resource use, and sanctioning opportunistic behavior, thereby ensuring the sustainable management of common-pool resources (Ostrom, 1990). Furthermore, territorial regulation has reduced excessive competition and informal practices, strengthening the sector's average profitability. Improvements in product quality and better organization of marketing channels have also increased local value added. These combined effects have translated into higher revenues and profit margins for formally established SMEs. Additionally, participatory governance has strengthened trust among stakeholders, reducing transaction costs. Thus, rather than constituting a constraint, management measures appear as a strategic lever for economic performance (Le Floch et al., 2008).

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