

Session K: Fuel consumption as a proxy for the assessment of nominal effort and variable costs: application to the French West Indies small-scale fleets

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Problem

In many data collection system, total effort is often inferred from sampling schemes at landing points or calculated from fishing forms or log-books which do not provide accurate information on the vessels fishing activity.

This problem is especially significant in small scale fleets where fishermen behaviour and related fishing activity is heterogeneous. The Mains explanations for the reported level of activity of small scale coastal vessels at E.U. level are :

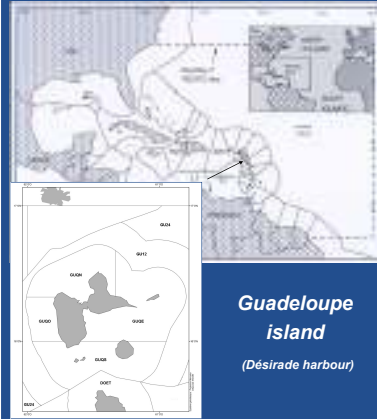
Availability of the stocks, fisheries management regulations (area, seasonal closures, ...), meteorological conditions due to the size of the vessels, environmental constraints in coastal areas, economic incentives especially marketing, other economic opportunities, ... (Guyader et al. 2007)

Linked to these constraints, fishers may develop a part-time fishing activity

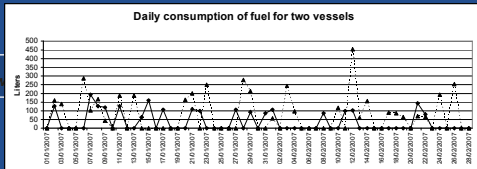
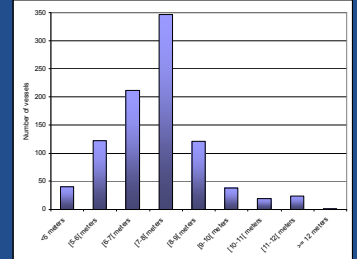
→ As fuel consumption by fishermen is often subject to tax relief, it is registered by administration and can be used to improve and cross checked nominal effort measures (hours at sea, days at sea).

Application

Lesser Antilles



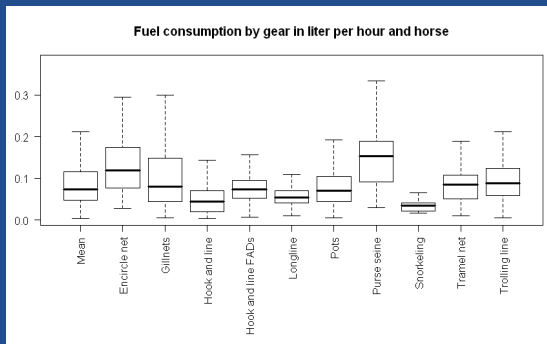
Small Scale Fleet, 7 m av. length



Fuel purchases per vessel and per day (population)

Vessel engines power and types (fuel / diesel and strokes) for the population

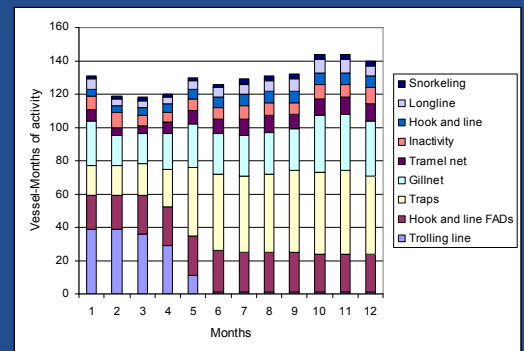
Fuel consumption per trip and gear used (sample)



Objectives

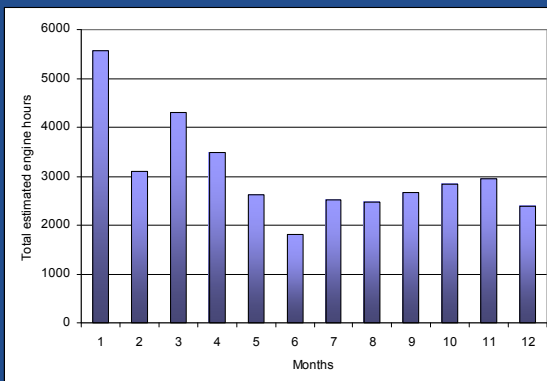
- Engine hours at sea per vessel
- Number of trips per vessel

Monthly fishing calendar per vessel of the population (gear-target species-areas)

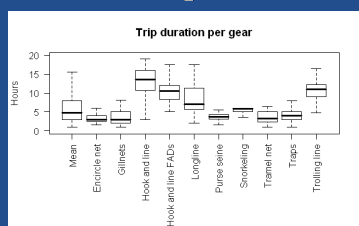


Results and perspectives

Estimated engine hours per month (Désirade fleet)



Develop an algorithm to assess the number of trips per vessel



Heterogeneity of fishing activity

