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Diversifying the uses of the Danish discard data collection programme

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Since 1995 Denmark has collected comprehensive data on catches and discards. The programme aims at collecting all biological information from the catch, and in addition, vessel, gear, geographical and environmental attributes. Currently in Denmark these data are used very seldom for scientific analysis. Here we scrutinise the data and reveal pitfalls and possible additional information that can improve the data quality and diversify its use into other fields of research.

There is great possibility to collect additional information through onboard observers and linking with other databases. This information can be collected at very little extra cost and effort while at the same time diversifying its uses. It would help provide a better understanding of the amounts, reasons and spatial dispersal of discards, the effectiveness of current selection methods, lead to more accurate input to stock assessments, and make it possible to assess fisheries from an ecosystem perspective. Below are some suggestions that can obtain these objectives.

Additional data to be collected onboard:

- Further information on selection devices would provide knowledge as to which devices work best during actual fishing scenarios (Fig. 1). At present this information is only collected through expensive gear trials (Fig. 2).
- Gear information such as door spread, trawl height and mesh type/thickness would help to understand the progress of technical creep and selectivity properties better.



Fig. 2. Catch from an unselective trawl (left) and a catch from a selective trawl using a sorting panel (right).

Why do fishers discard?

- Fish caught are under minimum landing size
- Species have no/ low market value
- Catch is damaged
- High grading
- No quota / quota exhausted
- Species closure

Additional data that can be collected through external databases:

- Management information such as quota restrictions, and minimum landing sizes. If quota restrictions apply, individuals (just) above MLS may be discarded more. Quota restrictions may differ between vessels and can be more influential depending whether or not vessels are active in a FishPool*.
- Market price. Can influence target species.
- Length-weight relationships. Can be used to estimate stock losses as a result of discarding.
- Different discards per unit effort can occur due to differences in year class strength (YCS).
- Positioning as well as vessel information can furthermore be extracted from databases (VMS and vessel register) resulting at greater accuracy and reduced work load at sea.

With the reform of the common fisheries policy looming there has been much discussion on the implementation of a discard ban. While a discard ban might reduce the problem it will not eliminate discards. A loss of juveniles will still occur resulting in a loss to the spawning stock biomass and future stock size. Rather, a better understanding of the issues affecting discarding is needed. This would provide for much better management of the overall system whereby a discard ban could eventually be implemented supplementary.

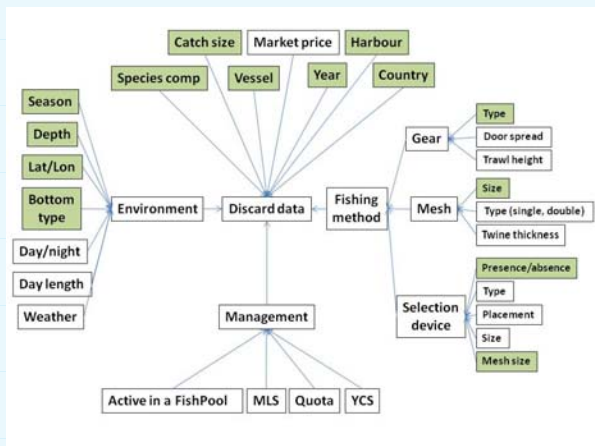


Fig. 1. Additional information that can strengthen the Danish discard data collection programme (clear) and data currently collected (green).

*a FishPool is where fishers may lease and swap quota allocations even after having landed the fish.