



Northwest Atlantic

Fisheries Organization

Serial No. N4734

NAFO SCR Doc. 02/113

## SCIENTIFIC COUNCIL MEETING – SEPTEMBER 2002

By-catch of Rays in the Dutch Flatfish Fishery  
(Elasmobranch Fisheries – Poster)

by

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### Abstract

The poster describes the first results of market sampling of rays landed as by-catch in the Dutch beam trawl fishery for flatfish in the North Sea. Rays are landed unsorted and the species composition was not known. Three species (*Raja montagui*, *R. clavata* and *R. brachyura*) made up 99% of the landings in 2000 and 2001. The market sampling was part of the DELASS project (CFP 99/055) which is partly funded by the EU.

### Introduction

In the Netherlands, rays are landed only as a by-catch in the fishery for flatfish. Market sampling of rays was carried out in 2000 and 2001, as part of the EU funded DELASS project (CFP 99/055). Landings are unsorted, and species composition was unknown. In 2000 a total of 49 landings were sampled and 41 in 2001.

#### *The fishery*

The Dutch demersal fleet consists mainly of beam trawlers, targeting plaice (*Pleuronectes platessa*) and sole (*Solea vulgaris*). Fishing grounds for beam trawlers are located in the southern and central North Sea, but rays are predominantly reported from the southern North Sea (Fig. 1). The by-catch of rays shows a clear seasonal pattern (Fig. 2). This seasonality is also seen in the effort in the most important ICES rectangles where rays are caught, but less pronounced

#### *Species composition*

Three species made up for 99% of the landings in both years: spotted ray (*Raja montagui*), thornback (*R. clavata*) and blonde ray (*R. brachyura*) (Fig. 3). Some starry (*R. radiata*) and cuckoo ray (*R. naevus*) were found.

#### *Size composition*

Most specimens were less than 70 cm in length (Fig. 4). No difference in length composition between males and females was observed, except for the largest size classes, which consisted predominantly of females.

#### *Catch statistics*

The amount of rays landed in the Netherlands (Fig. 5) was much higher before than after World War II. Until the 1970s landings were at a low level. Since then they seem to increase, although data for recent years are incomplete. Total international landings of North Sea rays decrease since WW II (Fig. 6).

## Discussion

- Blonde rays occur in commercial landings but not in survey catches. This is possibly due to the lighter gear used in research surveys.
- The seasonality in landings may partly be due to inshore migration during quarters 2 and 3.
- In the southern North Sea rays mainly occur off the English east coast. Commercial catches are reported from further off-shore than survey catches (Walker and Heessen 1996).

## References

Walker P.A., and H.J.L. Heessen 1996. Long-term changes in ray populations in the North Sea. *ICES Journal of Marine Science* 1085-1093.

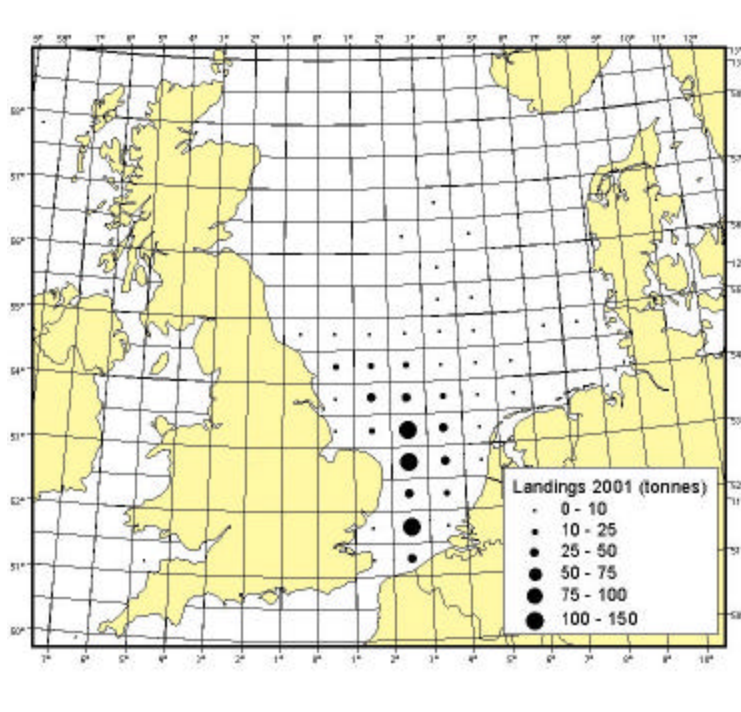


Fig. 1. Reported catches of rays in 2001 by ICES rectangle.

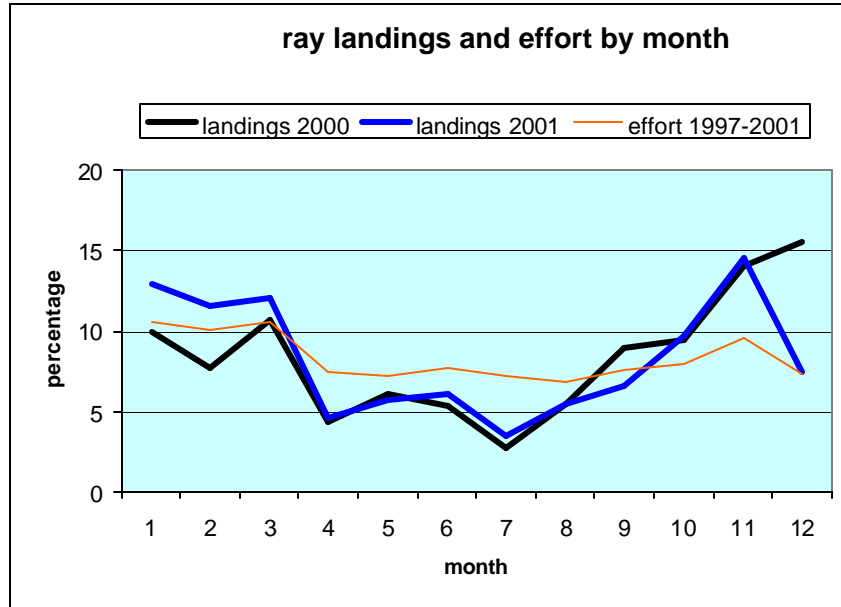


Fig. 2. Monthly landings of rays in the Netherlands and average beam trawl effort in the most important ICES rectangles.

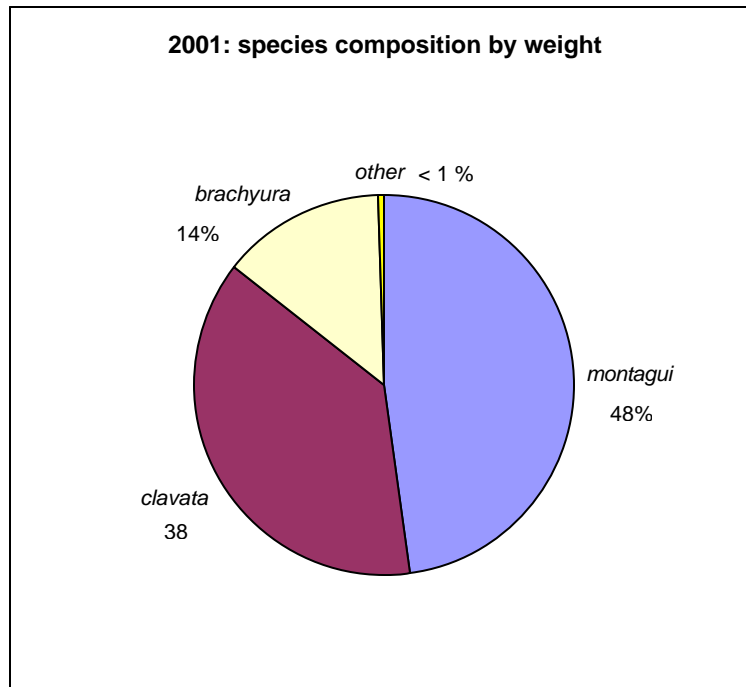


Fig. 3. Species composition of landings by weight in 2001.

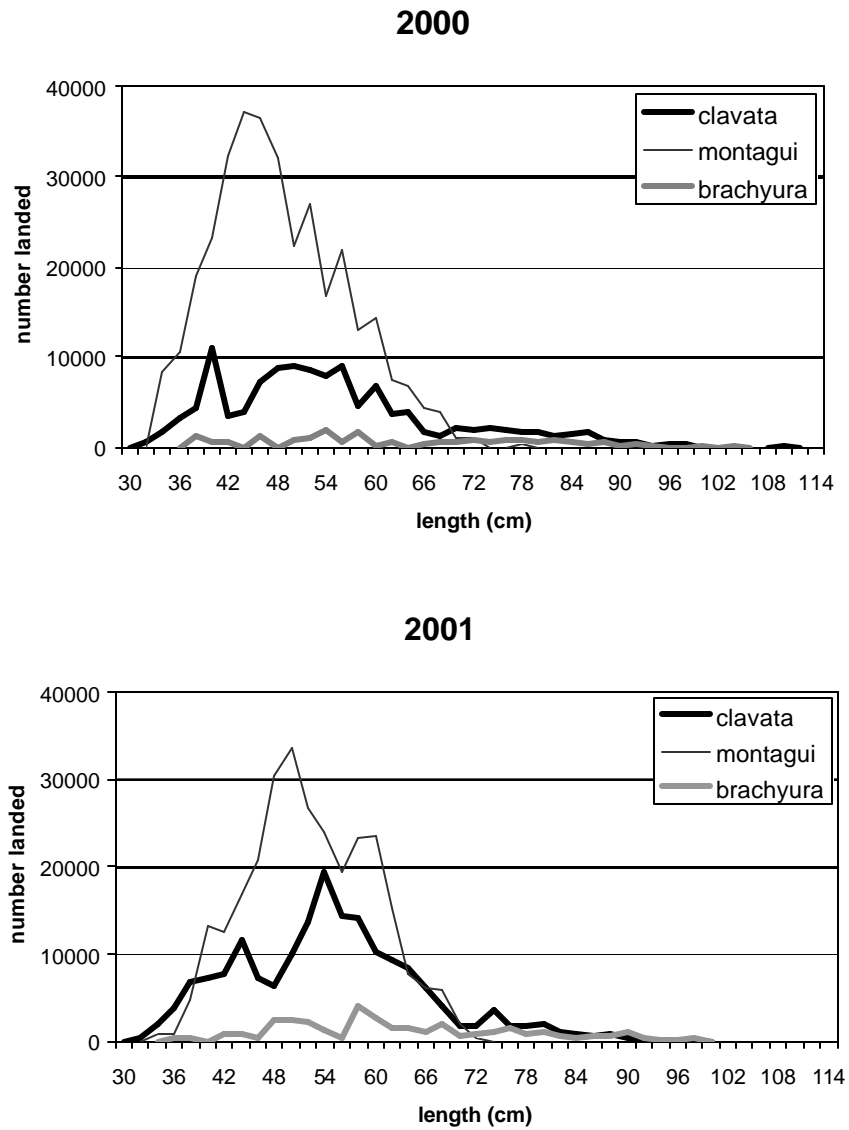


Fig. 4. Length composition of rays in 2000 and in 2001.

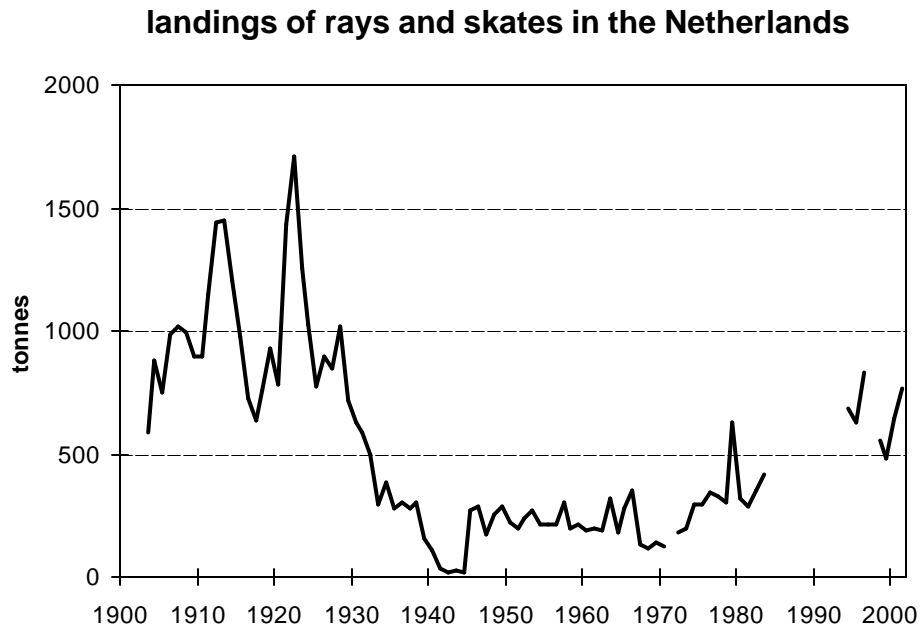


Fig. 5. Landings of rays and skates in the Netherlands.

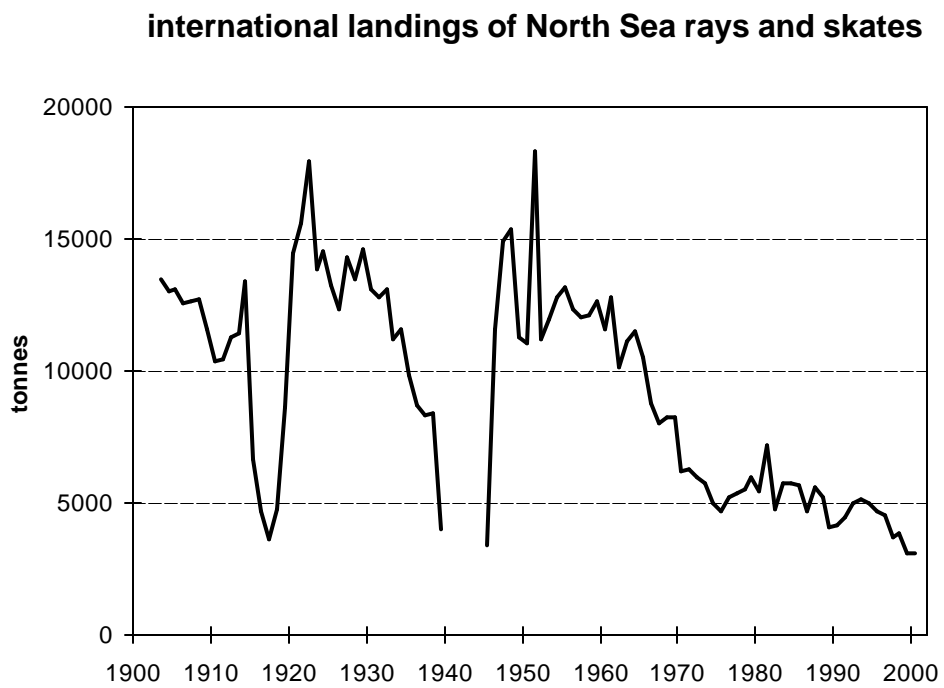


Fig. 6. Total international landings of rays and skates from the North Sea.