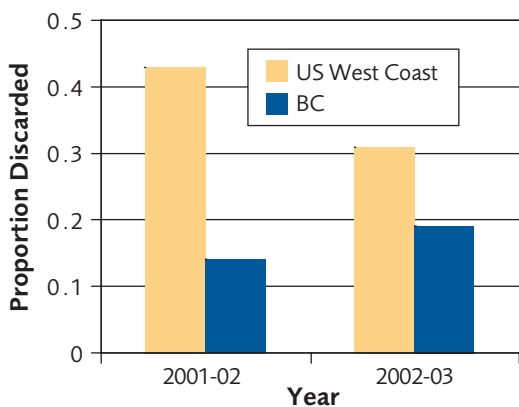




## Individual Quota Fisheries and the Discarding of Fish

*British Columbia fisheries are global leaders in the design and implementation of Individual Quota fisheries that address discard issues.*

**Under ITQ management the BC trawl fleet has a lower proportion of catch discarded than the US fishery catching the same species and managed by limiting the amount of fish caught on each fishing trip.**



ADAPTED FROM BRANCH ET AL. 2005

### WHAT IS THE CONCERN?

**Individual Transferable Quota (ITQ)** fisheries are managed by allocating a fixed quantity of fish (a quota) to licenced harvesters. Licence holders can transfer some or all of their quota to other licence holders, but all fish landed must be accounted for and penalties apply when quotas are exceeded. Concerns have been raised that this quota-based way of managing fisheries can increase the discarding of poorer quality or lower valued fish at sea (a practice known as high-grading) or the discarding of fish that exceed the allotted quota.

### WHY IS IT IMPORTANT?

Discarding of fish at sea is an important issue for the sustainability of the world's fisheries. Almost all fisheries discard some fish due to the unmarketability of some species or sizes caught. It is estimated that fisheries around the globe currently discard about 20 million tonnes of fish every year (over 20% of the total global catch), much of it dead and poorly accounted for. Uncounted catch and discard mortality undermines proper stock assessment and could result in over harvesting. Traditional efforts to regulate catch by specifying the species that may be retained or the amount of fish caught per trip often result in the discard of fish that could otherwise be marketed.

### WHAT ARE WE DOING ABOUT IT?

In British Columbia seven fisheries came under Individual Transferable Quota management between 1989 and 1997. Four of these, the geoduck, red and green sea urchin, and sea cucumber fisheries, are highly selective invertebrate dive fisheries with few discard issues.

Three others, the groundfish **trawl**, halibut and sablefish **longline** fisheries, catch a mix of species and consequently have the potential for discarding both marketable and non-marketable fish. Where this is the case, the design and management of an ITQ program must identify where discarding may occur and develop measures to reduce or eliminate it. Proper monitoring of catch and landings is essential. If ITQ management includes regulations such as prohibiting all discarding or discarding of certain species, on-board catch monitoring is required.

In addition, well planned "market based" measures, such as a quota transfer market, permit licence holders to exchange parts of their quota among themselves, thus reducing the risk of exceeding allocated quota and increased discards.



FISHERIES OBSERVERS MONITOR  
100% OF GROUND FISH CAUGHT  
BY THE BC TRAWL FLEET

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All fish caught in British Columbia's groundfish fisheries, including discarded fish, are accounted for by management biologists to determine fishing quotas. Under these conditions discarded fish can be more accurately described as at-sea released fish.

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IN 2006 INTEGRATED GROUND FISH  
MANAGEMENT WILL ELIMINATE  
DISCARDING OF YELLOWEYE  
ROCK FISH BY BC HOOK AND LINE  
AND TRAP FISHERIES

Since 1997 the BC trawl fishery has been managed by ITQs placed on catch, not landings. This requires independent fisheries observers on trawl vessels who account for all fish caught. The BC trawl fishery was one of the first fishing fleets in the world with 100% observer coverage. In addition, the trawl fleet operates a well functioning quota market with about 2700 trades annually among 67 vessels. Quota for certain species can be bought or sold on a trip-by-trip basis to provide an appropriate allocation for the next planned fishing trip. In this way vessel owners manage their complex species quotas to minimize discards and maximize economic return.

## WHAT MORE CAN BE DONE?

British Columbia's [trawl](#) and [hook and line](#) fisheries catch a mix of fish, including some species for which there are conservation concerns such as yelloweye rockfish. In the trawl fishery these fish are accounted for but in the hook and line fisheries they may have been discarded in order to remain within catch limits. In order to better manage the catch of groundfish, in 2006 all sectors of the BC groundfish fleet are participating in an [integrated groundfish management program](#) that includes:

- full retention (no discarding) of all rockfish by hook and line and trap vessels.
- accounting for 100% of fish caught using on-board observers or [electronic catch monitoring](#) on all groundfish vessels, and
- a flexible system of quota transfer among all groundfish quota holders in order to better manage rockfish catch and reduce discarding by all sectors of the fishing fleet.

This innovative, integrated groundfish management program envisions the harvesting of groundfish in a sustainable manner using a variety of fishing gears. The program will use new forms of information technology, including video monitoring, to account for all fish caught and minimize the need to discard marketable fish.

## FURTHER READING

*Discarding of Commercial Catch: implications for Commonwealth fisheries managed by ITQs.* L. Elliston, T. Kompas and C. Basch. Australian Bureau of Agricultural and Resource Economics Report 05.8. 2005.

[www.abareconomics.com/publications\\_html/fisheries\\_05/er\\_commercial\\_catch.pdf](http://www.abareconomics.com/publications_html/fisheries_05/er_commercial_catch.pdf)

*Replacing trip limits with individual transferable quotas: implications for discarding.* T.A. Branch, K. Rutherford and R. Hilborn. Marine Policy. March, 2005. <http://vishnu.mth.uct.ac.za/maram/papers/Branch.etal.pdf>