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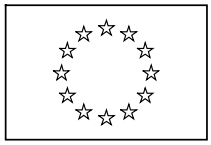

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 26.11.2002
COM(2002)656 final

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

On a Community Action Plan to reduce discards of fish

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1. SCOPE AND PURPOSE OF THIS COMMUNICATION

This Communication deals with the problem of discarding of fish by the Community's fishing fleets in all areas of operation but with particular emphasis on Community waters of the north-east Atlantic, the Baltic and the Mediterranean.

Its purpose is:

– to provide a general overview of the magnitude of discarding,

– to analyse reasons for discarding,

– to indicate the biological and economic consequences of discarding,

– to indicate possibilities for reducing quantities discarded and future action by the Commission and Council.

Discards can be defined as fish[1] retained by a fishing gear which have been brought on board a fishing vessel and are thrown back into the sea.

The Commission deals with by-catches and discarding of organisms other than fish in its Action Plan for the integration of environmental policy into the Common Fisheries Policy which was included in the first set of proposals for the reform of the CFP[2].

2. THE MAGNITUDE OF THE PROBLEM

All estimates of quantities of fish discarded arise from scientific sampling programmes, which exist since the 1930's. At that time the estimates were provided for a few very localised fisheries and indicated that up to 20% by number of the catches were routinely discarded. In Community waters, routine sampling of discards started in 1973 in Scotland, primarily for haddock and whiting but also taking account of many other species, in the North Sea and since 1975 in waters off the west of Scotland. Since that time, the Commission has increasingly funded scientific sampling of discards.

The scientific sampling programmes have usually been directed at demersal species often taken in "mixed fisheries" where several species are taken simultaneously by each deployment of the fishing gear. In such fisheries, each operation of the gear will almost always catch some fish which are discarded. Other fisheries, including those for pelagic fish, also incur discards but have been less routinely sampled since discarding tends to be episodic within a fishing voyage and, on a given voyage, may not occur at all.

The Scottish sampling scheme indicates that the proportion discarded of each year class of haddock or whiting has not changed significantly since the early 1970's, despite increases in mesh size of towed demersal nets and an increasing panoply of additional technical measures intended to reduce catches of small, often juvenile fish.

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1 Throughout this text, reference to "fish" should be considered as a reference also to crustaceans, molluscs and any other organisms which are commercially exploited by fisheries.

2 Communication from the Commission setting out a Community Action Plan to integrate environmental requirements into the Common Fisheries Policy, COM (2002) 186 final, 28.5.2002.

2.1. Estimates of total quantities discarded by all fleets by geographical area

The International Council for the Exploration of the Sea (ICES) has made estimates of total quantities of haddock and whiting discarded in the North Sea (ICES Sub-area IV) and to the west of Scotland (ICES Division VIa) and of cod in the eastern and western Baltic Sea. These estimates are incorporated into the data used in routine stock assessments and are updated each year. For haddock and whiting, the sampling programmes were initiated in the mid-1970's. Estimates for Baltic cod first became available in 1996 and have only recently been included in routine stock assessments. Discarding of cod in the eastern Baltic is low and no further reference is made to it in this document.

The time series of data available for discards of these stocks is summarised below.

Species	Area	Reference Period	Percentage discarded				Average weight in gram			
			By weight		By number		discards		landings	
			Min	Max	Min	Max	Min	Max	Min	Max
Haddock	North Sea	1963 – 1999	20	50	20	60	150	220	380	550
Haddock	W.Scotland	1978 – 1999	10	20	30	80	150	210	480	650
Whiting	North Sea	1960 – 1999	20	63	15	55	150	220	250	350
Whiting	W.Scotland	1978 – 1999	15	60	20	80	100	190	280	320
Cod	West Baltic	1996 – 2000	5	10	25	30	180	260	680	800

A more detailed presentation of these data is provided in Annex I.

2.2. Other estimates of discards.

Other estimates of quantities discarded can be found in reports of studies often part-funded by the Commission. In the last two years, ICES has held three meetings of a study group on discards[3] [4] [5]which referred to the findings of studies conducted in the Community waters of the north Atlantic and Baltic. There are also numerous reports on discarding in the Mediterranean. Further reference to these reports is provided in Annex II.

The reports are not exhaustive as they refer only to discarding of one or more species by the fleet of a Member State or, more usually, only by a sector of a Member State's fleet. If the existing estimates were extrapolated to the total international level, it can be concluded that considerable quantities are routinely discarded . Trawl fisheries in the Mediterranean, for example, appear to discard a minimum of 20 per cent of the biomass caught, with an upper limit of between 40 and 70 per cent, depending on the depth at which fishing takes place (see Annex II).

The reports of discarding in the north Atlantic confirm that mostly small fish, which are below their minimum landing sizes are discarded.

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[3] Report of the Study Group on Discard and By-Catch Information, ICES CM 2000/ACFM:11

[4] Report of the Study Group on Discard and By-Catch Information, ICES CM 2001/ACFM:13

[5] Report of the Study Group on Discard and By-Catch Information, ICES CM 2002/ACFM:09 Ref. D,G

The results of these sampling programmes are summarised in the table below.

Species	Average Length (cm) of fish discarded		Percentage discarded by weight		Percentage discarded by number	
	Min	Max	Min	Max	Min	Max
Angler	19	24	1	13	-	-
Cod	20	38	1	97	3	44
Haddock	11	33	3	10	9	99
Hake	18	26	3	12	11	35
Megrim	17	30	-	-	-	-
Plaice	19	29	100	100	100	100**
Saithe	22	46	1	77	5	-***
Sole	20	24	4	25	16	28
Whiting	17	30	13	100	36	100

**Only 2 samples give information on percentages by weight and number.
***Only one sample gives information on percentage by number.

It is clear that there is a relationship between the selectivity of the fishing gears and the percentage of catch discarded. The use of gears of large mesh size incurs less discarding (10-15% by weight) than the use of gears of small mesh size (50% or more in some cases). There is also considerable geographical and temporal variation in quantities discarded (Examples of this variation are provided in Annex II).

3. REASONS FOR DISCARDING

The reasons for discarding are both legislative and economic. In many instances both reasons operate simultaneously.

3.1. Legislative reasons.

Legislation makes discarding compulsory in a number of instances, affecting both juvenile and adult fish.

Community legislation requires discarding of fish, molluscs and crustaceans for:

(i) individuals less than defined minimum landing sizes;

(ii) catches in excess of defined percentage compositions of catches taken with nets of a given mesh size;

(iii) catches in excess of quotas.

National legislation may also lead to discarding. Some Member States allocate their national quotas between sectors of the fleet or producer's organisations. These may be further broken down into allocations to individual vessels. When a sector of the fleet or individual vessel has taken its quota, and if no further quota becomes available, catches in excess of quota cannot be landed but must be discarded, even if a national quota is not exhausted.

On rare occasions, a Member State may also prohibit sale of a species for public health reasons (e.g. bivalve molluscs). Catches of this species will also be discarded.

Discards by Community vessels fishing in the waters of third countries may also be determined by the rules of the country concerned or by the unavailability or exhaustion of quotas for certain species within the terms of fisheries agreements.

3.2. Economic reasons

Discarding for economic reasons occurs under two general cases:

(a) commercially less valuable individuals of species acceptable to markets are discarded to keep storage space for fish which are of higher commercial value and

(b) individuals of species of low or zero commercial value, at least in the market targeted by the vessel in question, will be discarded.

Large individuals of a given species usually attract a higher market price than smaller individuals. This can lead to so-called "high grading" whereby large fish are retained in preference to smaller fish.

The large differences of taste in the market can also induce discarding. Some species are not acceptable to consumers in the local market. For example, whiting is unpopular in some Member States and consequently fishermen from those Member States discard almost all of the whiting which they catch. Similarly, sardines are unpopular in some Member States and are routinely discarded.

It is sometimes the case that fish caught towards the end of a voyage may be in excess of the remaining storage capacity of the ship and may therefore be discarded, following high grading.

During long fishing voyages that can last several weeks fish stored on a vessel may deteriorate to the point at which they are discarded.

4. CONSEQUENCES OF DISCARDING

4.1. Biological consequences

The majority of the individuals discarded are dead or moribund. However, the survival of discarded molluscs, crustaceans and flatfish is higher than that of roundfish.

The vast majority of fish discarded are much smaller than the maximum size to which they can grow and are usually sexually immature. Killing them implies that the potential spawning stock biomass is constantly decreased. If many small individuals are killed, the spawning stock biomass may be reduced to a point at which it cannot replenish the stock.

Discarding of adult individuals also occurs. This is a direct removal from the spawning stock.

Discarding returns biomass directly to the ecosystem but the effects of so doing are poorly understood. Some species of seabirds are believed to have increased in abundance as a result of augmentation of their food supply *via* discards.

4.2. Economic consequences

The loss of growth potential incurred by the capture of small fish, irrespective of whether or not they are discarded, reduces the potential yield from a fishery. The obvious economic consequence is that profits are smaller than they would be if the fish were left in the sea to grow, to reproduce and be caught at a mature age. Reduction in yield may in the short run be compensated economically by an increase in prices. In the long run, however, if the fish stock cannot replenish itself due to a too small spawning stock, there is a risk that profits will be lost for good.

4.3. Consequences for stock assessments and fisheries management

As the real quantities of discards are often unknown, the real fishing mortality rates exerted on stocks, especially on young fish, are uncertain. This has a number of repercussions, especially for the evaluation of measures intended to improve selectivity in order to reduce catches of young fish. At least some of the reasons for discarding provided in Section 3 will always prevail. Therefore scientific monitoring of discards will continue to be required and, preferably, should be enhanced.

5. POSSIBILITIES TO REDUCE DISCARDING

The Commission is convinced that Community's fisheries management must aim at responsible and sustainable fishery and "make the best use of harvested resources and avoid waste".[6] Reducing the level of discards in Community fisheries is a key element in achieving that aim.

It will not be possible to reduce discarding significantly by applying only one or two simple rules. The complexity of the problem requires action on several frontsIn this section the Commission identifies the most promising avenues to reduce discarding and action that it intends to take to promote this objective. Some of the action points will also require decisions by the Council on current Commission proposals. A timetable for implementation of these actions is provided in Annex III.

5.1. Overall approach

The Commission can foresee a number of measures which are, to a greater or lesser extent, applicable to all fish stocks. However, the Commission recognises that some fishing practices and/or management measures may give rise to significant discarding while others may give rise to no serious problems. The Commission will engage in discussion with Member States to define the most problematic areas and will give these priority when proposing amendments to or augmentation of regulations.

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6 Commission Communication on the reform of the Common Fisheries Policy ("Roadmap"), Section 3.1

5.1.1. General improvement in the state of fish stocks

The first and most important contribution that the Community can make towards reducing discards of fish is to achieve a general improvement in the state of fish stocks. At present, many Community fish stocks predominantly consist of small, juvenile individuals which consequently make up the main component of the catch. It is therefore necessary to reduce the fishing effort on such stocks and to implement appropriate technical measures to allow increased recruitment into the spawning stock biomass. Limitation of fishing effort as a key element of the management of major fish stocks is, however, already the subject of Commission proposals[7] and will, therefore, not be further dealt with in this paper. Further comment on technical measures and on prohibition of discarding are provided in Sections 5.2 and 5.3 respectively.

With regard to technical measures, it is clear that for each fishing method for which improvement in selectivity of the gear employed can be envisaged, the degree to which such improvement can be implemented is often limited. This is particularly the case for fishing methods which are deployed in mixed fisheries where the degree of improvement of selectivity to bring about significant reduction in discarding of one of the species caught is such that catches of the other species would be much reduced or entirely nullified. In such cases, improvements in selectivity *via* technical measures can be implemented and can bring about a reduction in discarding but the remaining requirement to sufficiently improve the state of the stocks concerned can only be achieved by control of fishing effort exerted on these stocks.

5.1.2. Voluntary departure from fishing grounds

In Norwegian and other legislation, there is a requirement for fishermen to depart from fishing grounds where high quantities of small fish are being caught. The Commission will consider application of the same principle in Community waters.

Any such legal requirement is, in practical terms, difficult to enforce and therefore its successful application depends on the voluntary compliance of fishermen. The Commission has already invited its Advisory Committee for Fisheries and Aquaculture to develop, before the end of 2002, a code of conduct for responsible fishing. This could provide an appropriate framework for the development of this concept.

Proposed action: The Commission will ask the Advisory Committee to include this point in its code of conduct.

5.1.3. Making better use of low-value fish

Since a certain quantity of currently low-value species are inevitably caught, increasing their commercial value can reduce discards. Some interesting examples already exist. Community tuna purse-seiners land, free of charge, non-tuna catches in developing countries where this fish is used for direct human consumption. In Spain, rather than being discarded, low value species obtained from local trawling are used as feed for farming octopus.

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[7] Proposal for a Council Regulation establishing measures for the recovery of cod and hake stocks COM(2001)734 final; Proposal for a Council Regulation on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy, COM(2002)185 final

Furthermore, fish discarded by some fleets due to the lack of local demand would be highly acceptable in other markets. For example, sardines are routinely discarded by Italian fishermen targeting anchovy but would be welcomed in Spanish markets .

Action by the Commission: By March 2003, the Commission will initiate a study on the potential use of discarded fish for direct or indirect human consumption, together with possible consequences for the conservation of the fish species concerned.

5.1.4. Reduction of TAC/quota-related discards

Some possibilities exist to reduce discarding due to exhausted quotas. These include:

– establishing in appropriate cases by-catch quotas, against which Member States with no quota for the species concerned but with fishing rights for other species in the same area can land limited quantities of fish which would otherwise have to be discarded;

– consulting Member States to determine whether national quota allocation systems within each Member State can be made more flexible to avoid discards;

– periodically revising quota allocation keys to take greater account of recent fisheries practice, by incorporating a dynamic allocation process whereby the allocation key is adjusted to take account of recent uptake of quotas rather than being fixed;

– implementing a system whereby fishing effort is the main element in controlling fishing pressure, with TAC's and quotas assuming a less important role over time;

– multi-species TAC's: in principle, it is possible to set catch limits for a group of different species taken in mixed fisheries, rather than individual TAC's for each species.

Some of these possibilities are more politically sensitive than others and several have drawbacks. For example, the creation of by-catch quotas can lead to deliberate fishing of the by-catch quota by some fishing vessels; it would in any case be necessary to ensure that the quantities of by-catch permitted to be retained remains small for any single fishing trip. Similarly, while multi-species TAC's appear attractive at first sight, they would not necessarily prevent fishermen from continuing to discard lower-value species (such as whiting) and retaining higher-value ones (such as cod or haddock). Nevertheless the Commission considers that measures to reduce discarding necessarily involve consideration of a change of approach in respect of setting catch limits.

Proposed action : Before June 2003, the Commission will consult with Member States on the practicability and desirability of enacting some combination of these proposals.

5.1.5. Pilot projects to reduce discards in fishing operations

One way of stimulating change of fishing tactics would be for the Community to encourage and to monitor innovative fishing practices designed to reduce discarding. For example, the Commission could offer a financial incentive for fishing voyages, with scientific observers on board, where fishermen would be at liberty to engage in any fishing activity which they believe would significantly reduce discards while maintaining an economically viable catch, even if such fishing activity was not in conformity with the requirements of current legislation.

The Commission will also offer financial incentives for participation by fishermen in pilot projects involving scientific observers to commence in 2003, in which all potential discards will be returned to shore.

Action by the Commission: During 2003, following consultation with the fishing industry, the Commission will establish pilot projects of the type indicated.

5.1.6. Monitoring discard levels

Proposed action : Acting within the framework of Council Regulation 1543/2000[8] and Commission Regulation 1639/2001[9], the Commission will continue to support the collection of data concerning discards, particularly in those fisheries which are not covered or are inadequately covered at present.

5.2. Improving technical measures

Technical measures are established mainly to protect juvenile fish. These measures cover four major aspects:

– Structure of nets

– Minimum landing sizes

– Species composition to be taken with nets of defined mesh size

– Closed or controlled areas and/or seasons.

5.2.1. - Structure of nets

The use of fishing gears constructed in such a way that unwanted fish are not retained (or their retention is reduced) will automatically diminish discarding. The Community must take steps to improve the selectivity of fishing gear beyond the significant changes introduced recently under emergency measures to protect cod and hake.

The possibility of improving the structure of nets depends upon the type of net. These possibilities are discussed below.

Towed demersal nets

Recent changes in technical measures as a part of the cod and hake recovery plans considerably improved selectivity, particularly for towed demersal nets . They include general increases in mesh size, incorporation into towed nets of square-mesh panels and panels of diamond mesh of large mesh size, definition of maximum thickness of twine from which netting materials are made and definition of the shape of meshes permitted to be used. The Commission will therefore soon bring forward a proposal for a revised text of the Council Regulation concerning technical measures for the north-east Atlantic which incorporates all of the recently-adopted innovations.

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[8] Council Regulation (EC) n° 1543/2000 establishing a Community framework for the collection and management of the data needed to conduct the Common Fisheries Policy, OJ L 176, 15.7.2000

[9] Commission Regulation (EC) n° 1639/2001 establishing the minimum and extended Community programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) n° 1543/2000

These improvements are not, however, all consistent with the most up-to-date scientific advice and further increases in mesh sizes to improve selectivity have to be foreseen.

There is room for improvement in the short term in some areas, by introducing higher mesh sizes in some fisheries, such as the mixed fishery using towed nets of 80mm mesh size in the southern North Sea, and by further developing separator trawls or similar devices in other fisheries.

In the medium term, although it is still too early to assess the effects of recently adopted general increases in mesh sizes in relation to cod and hake recovery, the Commission considers it likely that a further general increase in mesh size will be necessary. It will therefore review the situation in 2004 and make appropriate proposals.

Proposed action: The Commission will explore how to improve selectivity and, in particular, encourage trials of more selective gears. The Commission will also in the first half of 2003 review existing research findings on alternative fishing gear.

The Commission will encourage further research into selectivity of fishing gears as a priority under the 6th Framework Programme for Community research and will consider proposing amendments of Community legislation as soon as the results of these research activities become available.

The Commission will report during 2004 on the impact of existing technical measures and will consider the need for a further increase in mesh sizes for demersal fisheries at that time.

Static nets

If properly used, such gears are highly selective and produce few discards. It might, therefore, be desirable to encourage more widespread use of static nets, provided that they are equipped with proper devices to prevent bycatch of cetaceans and seabirds.

However, static gears are not without potential problems. If they are left unattended for too long, fish retained in them are attacked by scavengers or are otherwise damaged and are subsequently discarded. Lost static nets may continue fishing even though unattended (ghost fishing).

Existing Community measures on static nets must be reviewed. Even if static gears are, in general, more selective than towed gears, it will nevertheless be necessary to limit and, in some cases, reduce fishing effort from this source as part of a general contribution to the recovery of depleted fish stocks. Some progress has been made recently with respect to static gears in the Baltic where the International Baltic Sea Fisheries Commission and hence the Community have agreed upon limitation of immersion time and physical dimensions of such gears. In the Mediterranean, similar conditions have, in some cases, been put in place by national legislation. However, it may be desirable to initiate further improvement in the Baltic and to bring similar conditions into Community legislation for the Mediterranean.

Proposed action: As part of the forthcoming proposal for a revision of the Community's technical measures for the north-east Atlantic, the use of static nets of mesh size less than 100 or 120mm will be reviewed. The Commission will propose prohibition of static nets of smaller mesh sizes except in restricted time periods and limited geographical areas.

This process will also be extended progressively and where desirable or appropriate to technical measures in the Baltic and in the Mediterranean.

The Commission will propose to limit the maximum physical dimensions of static nets.

The Commission will also consult with the fishing industry and national authorities on means of limiting the immersion time of static gears.

Other fishing gears

Modifying the structure of some fishing gears such as purse seines is unlikely, *per se*, to improve selectivity. Similar considerations apply to pelagic trawls except, perhaps, in some specialised fisheries. Greater possibilities for reduction of catches by these gears of small, subsequently discarded fish appear to lie in implementing conditions to control seasons and/or geographical areas where such gears may be deployed and of encouraging within codes of conduct improved methods of deployment of these gears.

Greater possibilities of improving selectivity may exist with respect to dredges, lines and traps..

Proposed action: The Commission will organise meetings in the first half of 2003 with scientists and industry to discuss and define possibilities and will follow up with legislative proposals as appropriate.

5.2.2. Minimum landing sizes

Minimum landing sizes are an important line of defence against the capture of small fish and many parties advocate retaining the current minimum sizes or even increasing them.

Scientific sampling programmes tell us, however, that undersized fish constitute the majority of discards. Regulations fixing minimum sizes for fish can therefore significantly influence the volume of discards.

The Commission considers that, in principle, either minimum landing sizes should be established in the light of a pre-decided selectivity of fishing gears or the selectivity of fishing gears should be adjusted in the light of pre-decided minimum landing sizes. In either case, minimum landing sizes and selectivity must be concordant.

Current minimum landing sizes are in many cases not consistent with the selectivity of the gears used to catch the fish, even after the improvements in selectivity which are expected from the recent changes in technical measures. The fishing gears still retain fish smaller than the minimum landing sizes. If the Community does not further improve selectivity from its present levels keeping the current minimum sizes will continue to lead to discarding, in some cases on a large scale. Only a greater consistency between minimum landing sizes and mesh sizes, i.e. a reduction of minimum landing sizes, can reduce discards for this reason.

Proposed action: The Commission will propose appropriate changes in minimum landing sizes in association with any future proposals for the improvement of selectivity of fishing gears.

5.2.3. Revising the rules associated with the use of specified mesh sizes

For each range of mesh size permitted for use in a given geographical area, the Community's technical measures fix a minimum percentage of target species (or a maximum percentage of non-target species) which may be retained on board having been caught with the specified mesh size. Some of these "catch composition" conditions lead to obligatory discarding.

These conditions must be reconsidered, while recalling that removal or dilution of such conditions opens the possibility that fish which can potentially grow to large size could increasingly become the targets of small mesh sizes.

Proposed action: These conditions will be re-examined in parallel with the adoption by the Council of the proposed Council Regulation for technical measures.

5.2.4. Closed or controlled areas

Preventing fishing in areas with a high concentration of juvenile fish can help to reduce discards.

Closed or controlled areas for the protection of juvenile fish are already in place under Community legislation. The Commission considers that other areas should be added if there is a biological reason for doing so. In addition, most closed areas are not fully closed since there are often derogations which allow certain types of fishing which are likely to catch the juveniles that should be protected.

Proposed action: Before June 2003, the Commission will carry out a critical examination of derogations on access to closed areas and will also consider establishment of additional or augmented closed areas.

5.2.5. Real time closures

A real-time closure to fishing within a defined area for a limited time period must be enacted when dense concentrations of juvenile fish occur unpredictably.

The Commission has proposed to provide for real-time closures in the Community legislation for the recovery of cod and hake stocks.

Proposed action: The Council is urged to decide on the Commission proposal for a regulation establishing recovery measures for cod and hake, which includes provisions on real-time closures. Once the regulation has entered into force, the Commission will monitor the application and effectiveness of such measures.

5.3. Institution of a discard ban

Norway has implemented a legal prohibition of discarding. It has often been suggested that the Community might introduce a similar ban or a ban on discarding fish above legal landing size [OK]The Commission believes that these options should be seriously considered as a medium-term objective and that a Community-level work programme should be started to examine the practical implications of such a measure.

While a discard ban might be attractive at first sight not least as it conveys a clear signal to change fishing practice to avoid large catches of small fish, it poses a number of problems and questions which would need to be addressed if such a system were to be effectively implemented.

– The existence of a discard ban enshrined in law may simply hide the fact that discarding continues largely unaffected. Such a ban is very difficult to enforce. No fisherman will discard fish in the presence of an on-board observer or if an enforcement vessel is in the vicinity of the fishing vessel but fish may be discarded at other times.

– A discard ban only prevents fish from being thrown back in the sea. A potential benefit, however, is that the small fish caught are accessible to scientific monitoring which improves knowledge about mortality rates, particularly of young fish.

– If compliance with a discard ban is assumed such that all potential discards are returned to land, there will be large quantities of such fish landed. The problem then arises of what to do with these fish. Most of them will be undersized individuals. Community legislation on minimum landings sizes would have to be changed if the fish is to be landed or sold. Such landings might be allowed for sale for human consumption. Fish that is not suitable for human consumption might be permitted to be sold to fishmeal plants for the production of fish meal and oil. Such plants are, however, rare in some Member States.

– In the discard ban currently implemented by Norway, the landings of potential discards are deducted from quotas for the respective species. The same procedure might be applied by the Community. However, the quantities referred to as Total Allowable Catches are, in most cases, Total Allowable Landings in which no account is taken of discards. Before establishing a discard ban it would be necessary to establish a true Total Allowable Catch (including discards) against which discards would be counted. To do this, it would be necessary to predict potential discards on a scientific basis. While this is possible in principle, the necessary data do not exist except for the few instances mentioned in Section 2.1, based on estimates of discarding by the total international fleet.

The recently introduced improvements of technical measures and additional measures to be introduced over the next three years will, presumably, bring about a reduction in catches of unwanted or undersized fish and this should alleviate at least some of the problems indicated above. Nevertheless, the Commission believes that, while the scale of catches of juveniles may be reduced in coming years, it will be necessary to explore the problems indicated above before moving to a full-scale discard ban.

This can be achieved by detailed discussion with Member States and industry and by establishing pilot projects in which fishermen engage to return all potential discards to shore.

The Commission will also consult with Norway about the practical operation of their system.

Action by the Commission: During 2003, the Commission will consult with Member States and with the fishing industry to examine ways of reducing the problems indicated above, in anticipation of a Community ban on discards which the Commission might consider to propose in 2005 for implementation from 2006. The Commission will also consult with Norway about the practical operation of the Norwegian system.

6. SUMMARY AND CONCLUSION

There is a range of action that could be adopted in reducing bycatch and discards. For any given fishery or method of fishing a particular combination of actions may be necessary, but not all actions will be applicable to all fisheries. The Commission envisages that for all major fisheries or methods of fishing where discards are known or perceived to be a problem actions needs to be developed, probably within forthcoming multi-annual management processes. These actions should be developed in close co-operation with the industry and relevant stakeholders and also within the proposed framework of Regional Advisory Committees.

These plans could include:

- development of a requirement for voluntary departure from fishing grounds when and/or where large quantities of discards are being generated;
- development of conditions to increase the commercial value of fish of currently low value
- adoption of measures intended to reduce discarding incited by TAC/quota restrictions
- development of pilot projects to investigate innovative fishing practices which avoid or reduce discarding
- support for continuation of collection of data on quantities of fish discarded
- developed of improved technical measures including :
    - adoption of measures to ensure improved structure of fishing gears
    - review of minimum landing sizes
    - review of conditions defining species composition of catches to be taken with nets of specified mesh size
    - review and or augmentation of closed or controlled areas and/or seasons including real-time closures
- consideration of the institution of a discard ban following the consultation process indicated in Section 5.2.2.

The problem of discards, particularly in mixed fisheries, is a long-standing one and will be difficult to resolve. Although different models exist inside and outside the Community no satisfactory solution has yet been found. The Community must nevertheless take up this challenge, as part of its efforts to achieve sustainable fisheries in Europe. We can and must improve the present situation.

By this Communication, the Commission invites Member States, fisheries scientists and industry to join it in a collaborative effort to reduce discards.

ANNEX I: Estimates of total international discards

Estimates of the total international quantities of fish discarded exist only for haddock and whiting in the North Sea and to the west of Scotland and for the western cod stock in the Baltic.

Haddock

North Sea

The estimated absolute quantities in weight discarded have decreased since 1975. In the period 1976 – 1998, between 50,000 and 100,000 tonnes were discarded each year. These quantities represented between 20% and 50% by weight and 20% and 60% by number of the total catch. Since 1981, there has been a tendency for the percentage discarded, both by weight and by number, to increase. The average weight of individuals discarded has fluctuated between 150 and 220g since 1963 whereas the average weight landed has fluctuated between 380 and 550g.

West of Scotland

Since 1978, between 5,000 and 20,000 tonnes were discarded each year, representing between 10% and 20% by weight and 30% and 80% by number of the total international catch. During this period, the average weight of individuals discarded has fluctuated between 150 and 210g and the average weight landed has fluctuated between 480 and 650g.

Whiting

North Sea

Between 1960 and 1987, the weight discarded fluctuated between 50,000 and 100,000 tonnes per year. In more recent years, 50,000 tonnes or less per year were discarded. The percentage by weight landed has increased from 20% in 1962 and in the period 1995 to 2000 has fluctuated between 50% and 63%. Since 1960, the average weight of an individual discarded has fluctuated between 150 and 220g while the average weight landed has fluctuated between 250 and 350g.

West of Scotland

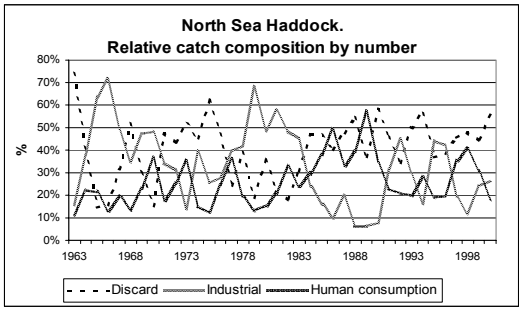
Between 1978 and 1999, the weight discarded fluctuated between 25,000 and 12,000 tonnes. The percentage by weight has increased from 15% in 1979 to more than 60% in 1999. The numbers discarded have often exceeded those landed and the percentage discarded by number has increased from 20% in 1979 to more than 80% in 1999. The average weight of an individual discarded has varied between 100 and 190g while the average weight of an individual landed has fluctuated between 280 and 320g.

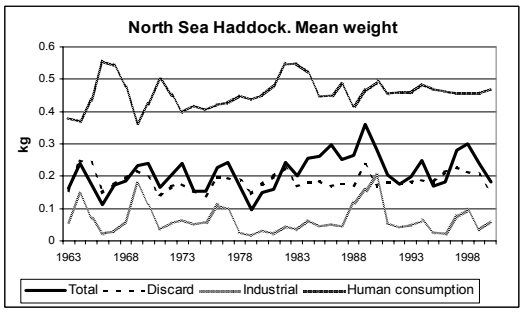
Cod

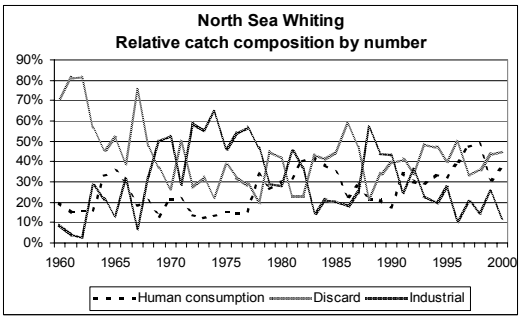
Western Baltic

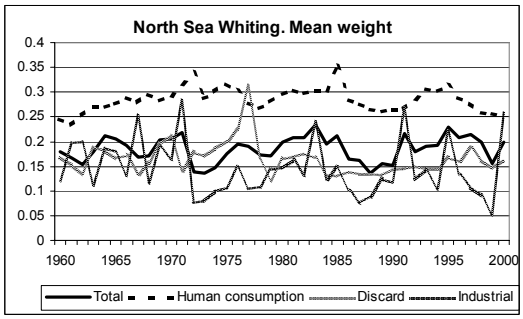
Since 1996, a maximum of 5000 tonnes was discarded each year. In the same period, the percentage discarded by weight was, in 1998, slightly greater than 10% while the percentage discarded by number fluctuated between 20% and 32%. The average weight of an individual discarded fluctuated between 180 and 220g.

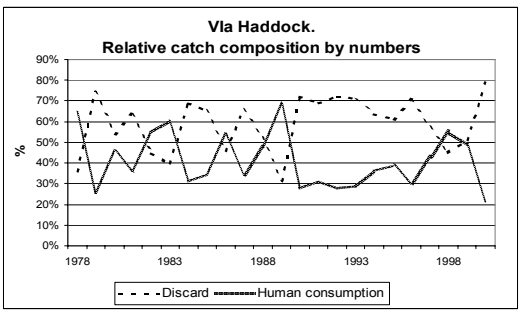
The following figures summarise recent trends in the proportion of fish by number that are discarded from the above-mentioned stocks, and of the average weights of individual fish that are discarded or retained.

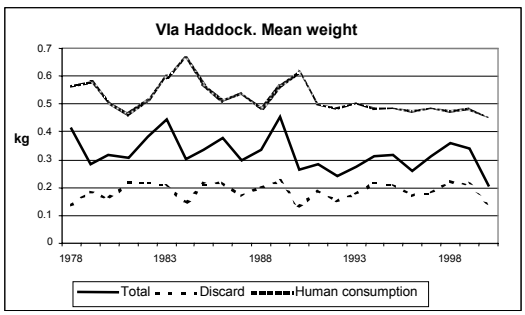


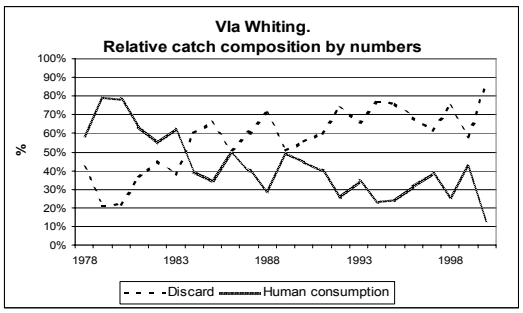


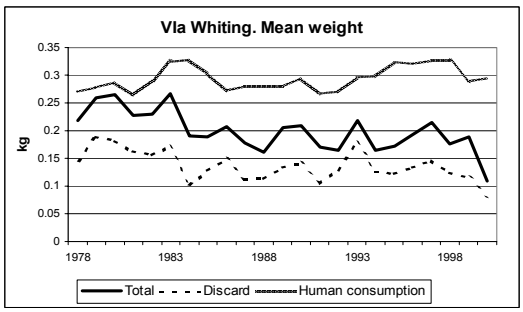


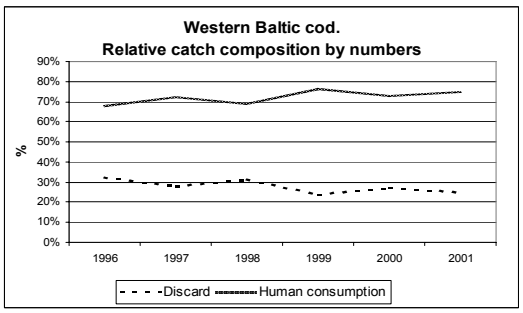


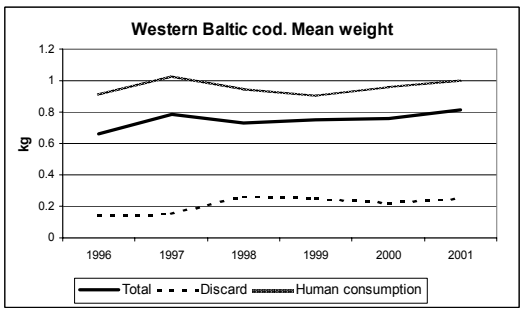












ANNEX II: Discards of fleets or sectors of fleets

North Atlantic

The information presented by the ICES study group on discards referred to in Section 2.2 confirms that the majority of fish discarded are small individuals and are predominantly less than their respective minimum landing sizes.

Information is provided for the species indicated in the following list. The average length of fish discarded and, in most cases, estimates of the percentage of the total catch of each species discarded by weight and by number are also available.

Species	Average Length (cm) of fish discarded		Percentage discarded by weight		Percentage discarded by number	
	Min	Max	Min	Max	Min	Max
Angler	19	24	1	13	-	-
Cod	20	38	1	44	3	97
Haddock	11	33	3	10	9	99
Hake	18	26	3	12	11	35
Megrim	17	30	-	-	-	-
Plaice	19	29	100	100	100	100**
Saithe	22	46	1	77	5	-***
Sole	20	24	4	25	16	28
Whiting	17	30	13	100	36	100

**Only 2 samples give information on percentages by weight and number.

***Only one sample gives information on percentage by number.

Mediterranean Sea

Mediterranean fisheries are characterised as being typically multi-species and multi-gear. The number of marketed species is very high.

Trawl fisheries

Estimates of the percentage of the total biomass caught and subsequently discarded by several trawl fleets of the Mediterranean vary between 15% and 70%.

The percentage of total biomass discarded by trawlers depends on the depth at which trawling takes place. The percentage of discards of biomass caught by trawlers fishing at depths of less than 150m ranges from a minimum of 20% to a maximum of 70%. At depths between 150m

and 350m, between 20 and 60% of biomass is discarded while at depths in excess of 350m, discarding lies between 20 and 40%.

Artisanal fisheries

One of the major artisanal fisheries is carried out by static gill nets for which the main target species is common sole (*Solea vulgaris*) together with rays (*Raja asterias*), gurnards (*Trigla lucerna*) and crustaceans (*Squilla mantis*). Approximately 8-9% of the total catch of all biomass is discarded.

Gill nets are also employed to catch large specimens of European hake (*Merluccius merluccius*) and approximately 6 to 8% of the total catch of biomass is represented by this species.

Another important fishing method is the trammel net with cuttlefish (*Sepia officinalis*) as the main target species. Quantities discarded vary between 16 and 35% and consist predominantly of damaged specimens of commercial species. The majority of discards in this fishery consist of horse mackerel (*Trachurus trachurus*)

Small pelagic fisheries

The fishing gears deployed are pelagic pair trawls and purse seines with fish attracted to them by light. The catch is comprised mostly of anchovy (*Engraulis encrasicolus*) and sardines (*Sardina pilchardus*) which often occur in mixed shoals.

Discards occur of up to 80%, especially when large catches of sardine are taken in the anchovy fishery.

ANNEX III: Timetable for actions

2002

Rules associated with use of specified mesh sizes: Possibly modify to be changed (after consulting ms)when discussing the new Technical Measures Regulation.

Voluntary departure from fishing grounds: Inclusion in Code of Conduct to be developed by the Commission's Advisory Committee on Fisheries and Aquaculture.

2003

Better use of low-value fish : Initiate study on potential use.

Towed demersal nets: Review of existing knowledge on selectivity, meeting(s) with industry and scientists, perhaps initiation of trials of more selective gears.

Static nets : Proposal on permitted mesh sizes, geographical areas for use of such nets and physical dimensions of nets. Discussion with industry concerning limitation of immersion time.

Other fishing gears: Meeting(s) with industry and scientists. Follow up with legislative proposals and/or trials of more selective gears.

Augmentation of closed or controlled areas: Critical examination of derogation and consideration of additional and/or augmented closed areas.

TAC/quota-induced discards: Consultations with Member States on adjustments to existing rules in order to minimise effects of discards.

Pilot projects on reduction of discards: Initiate following discussion with industry, scientists and Member States.

Collection of data on discards : To be encouraged in implementation of national programmes under Council Regulation 1543/2000 and Commission Regulation 1639/2001.

Implications of a discard ban : Consultations with Member States and the fishing industry to try to reduce potential problems arising from a discard ban.

2004

Report on the impact of general mesh size increases implemented in 2001 as part of cod and hake emergency measures. Possible proposals for further general increase, within effect from 2005.

2005

Possible proposal for a legal ban on discarding from 2006.

Other possible actions after 2003

Real time closures: More widespread application.

Amendment of minimum landing sizes: Possibly in conjunction with 2004 proposals for further mesh size increases.