Discard matrix

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: North Sea					
Cod in Subarea IV (North Sea), Division VIId (Eastern Channel), and IIIa West (Skagerrak)	Quota species Haddock Whiting Saithe Hake Ling Tusk Non quota species Dogfish	Trawl Pair seine Seine net twin rig trawl	Around 20% discard rate - ICES estimates total removals (2010) at around 69,000 t, with 14,400 t estimated discards. Proportion of total numbers caught that are discarded in total and at age. In 2010, 91% of 1-year-old, 57% of 2-year-old, 21% of 3-year-old, and 3% of 4-year-old cod were discarded. Recent work tracking Scottish vessels in 2009 has concluded that vessels did indeed move from areas of higher to lower cod concentration following real-time closures during the first and third quarters (there was no significant effect during the second and fourth quarters (Needle and Catarino, 2011).	Scotland implemented in February 2008 a national scheme known as the 'Conservation Credits Scheme'. In 2010 there were 165 closures, and from July 2010 the area of each closure increased (from 50 square nautical miles to 225 square nautical miles). The expansion of the Closed Circuit TV (CCTV)/ fully documented fisheries programmes in 2010 (and subsequently in 2011) in Scotland, Denmark, and England is expected to have reduced cod mortality; vessels carrying CCTV systems are not permitted to discard cod. It was estimated that the single-species management targets for North Sea cod cannot be achieved unless substantial reductions in TACs of all other stocks and corresponding effort reductions are applied (Ulrich et al, 2011).	**Larger mesh sizes in trawl and codend to reduce discards already being used as a result of CCTV trials Take up of Orkney / eliminator style trawls to reduce cod catches.** **Improved net design in the small mesh fisheries to reduce the capture of cod and other commercial species.** **Removal of the catch composition regulations which amounts to an unnecessary additional regulatory burden in selective fisheries.**

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: North Sea					
STOCK: Plaice in Division IV (North Sea)	Quota species Cod, Haddock Whiting Dover sole Dab sole Non quota Species Squid Gurnard	Beam trawl in S. N Sea (mixed fishery with sole) Anchor seiners Dutch / Danish Gill nets Dutch / Danish Seine net Twin Rig trawl	43% discard rate. Recent discard estimates indicate fluctuations around 50% discards in catch by weight.	Technical measures applicable to the mixed flatfish beam-trawl fishery affect both sole and plaice. The minimum mesh size of 80 mm selects sole at the minimum landing size. However, this mesh size generates high discards of plaice with a larger minimum landing size than sole. Mesh enlargement would reduce the catch of undersized plaice, but would also result in loss of marketable sole. A self-sampling programme by the Dutch beam-trawl fleet has been in place since 2004. This indicates spatial and temporal trends in discarding (higher discards are observed in coastal regions and late summer. In 2009, a new self-sampling programme was launched . For the 2009 and 2010 assessments, discarded numbers-at-age for the Netherlands have been estimated using data from both the self-sampling and the observer programmes. It is noted that estimates of discard numbers in 2010 differed considerably between the two programmes.	**Trials with electric beam trawls (Holland).**
STOCK: Plaice in Division VIId (Eastern Channel)	Quota Cod, Whiting, S&R Non Squid Cuttlefish Red mullet	Multi rig trawl Single trawl Gill net	Discards up to 50% - since the 80 mm mesh size does not match the minimum landing size for plaice (27 cm), a large number of undersized plaice are discarded, but no discard time-series is available yet.	The 80 mm mesh size for sole is not matched to the minimum landing size of plaice. Measures to reduce discarding of plaice in the sole fishery would greatly benefit the plaice stock and future yields of plaice, but would also result in loss of marketable sole landings.	**Fishermen initiated use of square mesh codends, bigger diamond mesh sizes, low headline trawls.**

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: North Sea					
STOCK: Nephrops in Division IV North Sea	Quota Cod Haddock Whiting Plaice Lmon sole Megrim Non quota Gurnard Skates and rays	Trawl, Twin rig trawl, multi rig trawl,	80 mm is the predominant mesh size used in *Nephrops* fisheries and the resulting proportion of discarded fish can be high.	Trawling for *Nephrop*s results in bycatch and discards of other species, including cod, haddock, and whiting. Initiatives are in place to reduce discarding.	**Square mesh panels using larger mesh sizes, larger and additional square mesh panels. Fishermen initiated trials with coverless and low headline trawls, a few trials with Swedish style grids. Removal of catch composition regulation.**
STOCK: Nephrops in Division IIIa	Quota species Cod Sole Plaice	Trawl Creel	39% undersized/discards. As a consequence of the current minimum landing size of 40 mm carapace length, the amount of discards is large.	Part of the trawl fisheries is operated with species-selective gears (sorting grids or SELTRA 300). Creel fisheries take place mainly on locations where trawling is impossible or difficult, along the Swedish and Norwegian coasts.	**Swedish grid.**
STOCK: Whiting in Subarea IV (North Sea) and Division VIId (Eastern Channel)	Quota Cod Haddock Hake Saithe Non Quota Squid, Red mullet Cuttlefish Bream Dogfish	Trawl, Pair seine, Seine net, Twin rig trawl	The total number of fish discarded appears to have been reduced since 2003, from around 60% in 2003 to around 47% in 2009. However, because of the restrictive TACs discard rates have increased in 2010 and are expected to be high again in 2011.The minimum mesh size was increased to 120 mm in the northern area in 2002 and this may have contributed to the substantial decrease in landings.	Move from 100mm to 120mm in 2002 greatly assisted the selectivity of whiting. The setting of the TAC for 2011 using a target fishing mortality of F= 0.3. This set a greater level of TAC with the effect that it reduced the regulatory impact on the level discards. Greater selectivity in small mesh fisheries	**Further technical developments in the small mesh fisheries should continue to reduce the capture of juvenile whiting.**

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Division VIIa (Irish Sea)					
STOCK: Cod in VIIa (Irish Sea)	Quota species Haddock Whiting Plaice Lemon sole Hake Non quota species	Semi pelagic trawl, Single demersal trawl	Available data indicates that until 2009 discarding was mainly a function of minimum landing size (MLS) and largely restricted to catches of 0 and 1 years old cod. In 2010 there appears to be a shift towards also discarding 2 years old fish.		**Restrictions on use of semi pelagic gear to target cod already in place.**
STOCK: Haddock in Division VIIa (Irish Sea)	Quota species Cod Whiting Plaice Lemon sole Hake Non quota species	Twin rig trawl Single demersal trawl	Discard estimates are very variables and estimates are large in some years. Discarding is a serious problem for this stock. The discard rates for all fleets in 2010 were 92-100% for one-year-olds; 22–96% for two-year-olds and 3–68% for three-year-olds by number.	Discarding is high and additional technical measures should be introduced, for example the use of sorting grids or large square mesh (>120 mm) panels in *Nephrops* fisheries. An increase in mesh size to reduce discarding will be beneficial to this stock and could increase future yield. Reduced selectivity on younger ages would reduce discarding and promote stock increase when strong year classes occur. Some fleets are using 80 mm mesh to target *Nephrops*, 90 mm mesh in mixed fisheries and 100+ mm to target gadoids and other species. Recent gear trials have shown that square mesh panels can significantly reduce discards of undersized haddock (BIM, 2009). In order to minimise discards, a square mesh panel of at least 120 mm should be introduced for all fleets or selectivity devices that achieve equivalent or better improvements.	

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Division VIIa (Irish Sea)					
STOCK: Nephrops in Division VIIa (Irish Sea)	Quota species Plaice Whiting Cod Haddock Non quota species	Twin rig trawl Single trawl,	The minimum landing size for *Nephrops* is 20 mm carapace length (CL), and less than 5% of the animals landed are under sized. Highgrading of *Nephrops* from FU15 since 2009 has increased. Annual effort baselines in *Nephrops* trawl fisheries (Effort group TR2 OTB 70–99 mm) in Division VIIa has been reduced by 25% in 2009 and a further 25% in 2010. Irish effort in 2010 decreased by 23% relative to 2008, UK-NI effort in 2010 is similar to 2008.	Selectivity of this fishery needs to be improved to reduce bycatches of cod, whiting and undersized plaice. The cod long-term plan was introduced in 2009 (EC 1342/2008). Since 2009, four Irish vessels have been using "Swedish grids" in the fishery to reduce bycatches of cod, whiting and haddock.	**South Ireland *Nephrops* twin riggers- Swedish style grid introduced in February 2010. Three boats working them and are therefore exempt from effort restrictions.** **All twin rig *Nephrops* trawlers larger mesh top panels and wings (160 -200mm). Larger mesh size in square mesh panels.**
STOCK: Plaice in Division VIIa (Irish Sea)	Quota species Cod Haddock Nephrops Non quota species	Beam trawl Outrig trawl Belgium Twin rig trawl Single trawl	Discarding rates very high – 87%. Discard sampling studies have indicated variable discarding rates up to 80% by number. Up to 2010 ICES carried out an assessment using landings-at-age data. This year, an assessment model that includes discard data since 2004, was used, and considered appropriate to assess SSB and fishing mortality trends. The discard data are noisy and the 2010 estimate will be revised when complete age data from	The high level of discarding (typically up to 80% in number) in this fishery indicates a mismatch between the minimum landing size and the mesh size of the gear being used. Measures, such as the introduction of grids to *Nephrops* trawlers, which reduce discardings will result in increased future yield potentials. Gear selectivity trials and monitoring from four Irish *Nephrops* trawlers using grids since 2009 indicate a potential 75% drop in fish bycatch (BIM, 2009). Technical measures in force are minimum mesh sizes and minimum landing size (27 cm). Considering the high level of discarding observed in this stock, gear selectivity regulations have had little effect. The closures of cod spawning-grounds that have	

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Division VIIa (Irish Sea)					
STOCK: Plaice in Division VIIa (Irish Sea) contd			observer trips become available. The high discard and catch estimates for 2007 and 2010 are downscaled by the assessment model. Estimation of partial fishing mortalities due to the landed and discarded component indicates that the fraction of F due to discarding has increased since 2004.	been in force since 2000 are unlikely to have had a significant impact on catches by the plaice fishery. In 2000, the closure covered the western and eastern Irish Sea. Since then, the closure has been mainly in the western part, whereas the majority of the plaice fishery has taken place in the eastern part of the Irish Sea.	
STOCK: Whiting in Division VIIa	No targeted fishing for whiting <u>Quota species</u> <u>Non quota species</u>		There is no targeted whiting fishery in the Irish Sea. Whiting are bycatch (and discarded) within in the main Irish Sea fisheries. Otter trawlers utilising 70–90 mm mesh sizes are the primary gear associated with whiting landings. This incorporates the *Nephrops* fishery, which shows high discard rates of whiting. Discard rates are very high likely due to the low market value of this species, particularly for smaller sizes. Discarding remains a substantial problem for this stock, with almost all whiting caught being discarded. Of the onboard observer trips carried out in 2010 by the UK (E&W), UK (NI) and Ireland,	Management by TAC is inappropriate for this stock because landings, not catches, are controlled. Catches have substantially reduced from 1980s. Any measure to reduce discarding and to improve the fishing pattern should be actively encouraged: spatial and temporal changes in fishing practises or technical measures such as increased codend mesh size, square mesh panels, separator trawls, and increased top sheet mesh in towed gears. Measures would also need to be evaluated in the context of other species caught in these mixed fisheries. In late 2009, a number of Irish vessels operating within the Irish Sea *Nephrops* fishery incorporated a Swedish grid into otter trawls, as part of the cod long term management plan. Expected t this will reduce the whiting catches of these vessels by 60% in weight. Small number of vessels began utilising an inclined separator panel expected to reduce whiting catch by 76% in weight.	**South Ireland *Nephrops* twin riggers- Swedish style grid introduced in February 2010. Three boats working them and are therefore exempt from effort restrictions.** **All twin rig *Nephrops* trawlers larger mesh top panels and wings (160 -200mm). Larger mesh size in square mesh panels.**

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Division VIIa (Irish Sea)					
STOCK: Whiting in Division VIIa contd			negligible fish were retained on board while thousands of small fish were discarded. Raised discards from the main national fleets landing whiting show over 22 million whiting, greater than 1000 t in weight, were discarded in 2010. This focused on the two youngest ages, and to a lesser extent age 2. In some years up to age 4 fish are discarded.	Various technical measures have been introduced in the past to mitigate bycatch of whiting, particularly in the *Nephrops* fishery, which operates on the whiting nursery grounds. It has proven difficult to evaluate the success of measures, such as the mandatory use of square mesh panels in *Nephrops* trawls since 1994. A minimum landing size of ≥ 27 cm is applied to this stock, however, discard data shows that individuals in excess of that size are also discarded. In addition to area and species related minimum mesh size restrictions applicable to mixed demersal fisheries.	
ECOREGION: Celtic Sea and West of Scotland. Celtic Sea					
STOCK: Cod in VIIe-k (Celtic Sea)	Quota species ??? Non quota species ???		It is known that discard rates have increased in some fleets in 2010, but discard estimates are >500 t in 2010. Recent sampling programmes in countries exploiting this stock indicate that discarding is high and variable. They may account for 40–60% by number of all fish caught. These discards were mainly under the MLS until recently, when high-grading became more prominent in the fishery.	Technical measures are a minimum mesh size for beam and otter trawlers and a minimum landing size (MLS) of 35 cm. For Belgian trawlers that land in Belgium the MLS has been 50 cm since 2008. Minimum landing sizes do not prevent cod from being discarded, but might prevent the targeting of juvenile cod. The most pertinent changes to the fishing pattern for cod have been the increased high-grading and discarding in response to restrictive quotas since 2002.	**Question whether there is a targeted fishery - most cod caught as bycatch in other fisheries.**

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Celtic Sea					
STOCK: Haddock in Divisions VIIb-k	Quota species ??? Non quota species ???		Discarding is a serious problem for this stock; over the last 10 years 70% of the catch has been discarded (45% by weight). An analysis of Irish landings and discards by metier (Anon., in prep.) indicates that although the *Nephrops* fleets have very high discarding rates of haddock (>70% by weight), in absolute terms these fleets only contribute 10% of the Irish haddock discards in the Celtic Sea. The demersal otter bottom trawl (OTB) and Scottish seine (SSC) fleets in Divisions VIIgj contribute 82% of the haddock discards.	Management by TAC is inappropriate for this stock because landings, and not catches, are controlled. Haddock are caught in a mixed fishery, so TAC management can lead to discarding of over-quota fish in addition to the already considerable discarding of undersized fish. The TAC has not been restrictive in recent years, but since 2009 the national quotas of Ireland and Belgium appear to have become restrictive. The catches are increasing as the 2009 year class enters the fishery; and despite a moderate increase in TAC in 2011, the quota are likely to become restrictive for all countries, resulting in increased levels of discarding. Technical measures can reduce discarding and could increase the yield considerably. Improved selectivity on younger ages will reduce discarding and promote stock increase when strong year classes occur. ICES recommends that an escape panel and minimum mesh size for the demersal fleet should be increased substantially and an analysis should be performed to estimate appropriate mesh size.	
STOCK: Plaice in Division VIIf and g (Celtic Sea)	Quota species ??? Non quota species ???		Discards are substantial and have ranged from 30% to 70% in number (mainly below the minimum landing size). There is a high rate of discarding in both beam and otter trawl fisheries (62%).	Discards exceed landings and technical measures should be introduced to reduce discard rates. In 2011 discards were been included in the assessment for the first time, although the time series of discard data available is short and consequently the revised assessment estimates are considered relative. Estimation of partial fishing mortalities due to the landed and	

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Celtic Sea					
STOCK: Plaice in Division VIIf and g (Celtic Sea) contd				discarded component indicates that the fraction of F due to discarding has increased since 2004. Discard rates are high for this stock in some seasons/fleets. The high level of discarding indicated in this mixed fishery would suggest a mismatch between the mesh size employed and the size of the fish landed. Increases in the mesh size of the gear will result in fewer discards and in increased yield from the fishery. The use of larger-mesh gear should be encouraged in this fishery in instances where mixed fishery issues allow for it.	
STOCK: Whiting in Divisions VIIe-k	Quota species ??? Non quota species ???		Discard rates are very high due to the low market value of this species, particularly for smaller sizes. Discard estimates are high (8–82% by weight depending on metier). Discarding of this stock for different fleets is substantial and highly variable (9–82% by weight and 18–90% by number of total catch).	Taken in mixed species fisheries. Otter trawlers are the primary gear associated with whiting landings from the Celtic Sea. Any measure to reduce discarding and to improve the fishing pattern for haddock in Divisions VIIb–k would be beneficial to whiting stock: spatial and temporal changes in fishing practises or technical measures such as increased cod-end mesh size, square mesh panels, separator trawls, and increased top sheet mesh in towed gears. These measures would also need to be evaluated in the context of other species caught in these mixed fisheries. ICES suggest that a square mesh panel of at least 120 mm should be introduced for the *Nephrops* fleet and a minimum mesh size of at least 100 mm with a square mesh panel of at least 110 mm for all other fleets or selectivity devices that achieve equivalent or better improvements.	

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Division VIa (West of Scotland)					
STOCK: Cod in Division VIa (West of Scotland)	Quota species Haddock Whiting Saithe Ling Tusk Non quota Squid Dogfish Deep water species	Single demersal trawl, Pair seine Twin rig trawl	The >100 mm otter trawl gear vessels targeting finfish (TR1) take roughly 80% of the cod catch and the 70–99 mm *Nephrops* fleet (TR2) takes 15–20% of the catch. A proportion of landings come from vessels using TR1 gear, fishing west of the line defined in cod long-term management plan. Discards reported to ICES are five times greater than landings, making catch (landings + discards) six times greater than landings.	In 2008, Scotland introduced "Conservation Credits", (involved seasonal closures, real-time closures (RTCs), and various selective gear options). This was designed to reduce mortality and discarding of cod. The number of RTCs west of Scotland were 4 in 2008, 20 in 2009, and 19 in 2010, representing 27%, 14%, and 12% of the total RTCs in each year. Early indications are that the scheme has not so far been as effective as in the North Sea, with discard rates remaining high in Division VIa.	**Development of fully documented fisheries.**
STOCK: Haddock in Division VIa (West of Scotland)	Quota species Cod Whiting Monkfish Megrims Ling Tusk Non quota species Deep water species Squid	Bottom trawl Single demersal trawl Twin rig trawl	Total catch for haddock is estimated to be 5,830 t; 51% of these are discards. By fleet *Nephrops* vessels (TR2) are responsible for ~88% of all discards while landing only 21 tonnes, less than 1% of the total landings (2,882 t). In recent years around 50% of total catch in weight has been discarded, restricting landings alone may not achieve the necessary increase in SSB. One-year-olds comprised the largest proportion (~82%) of total numbers of haddock caught in 2010 - majority of these were discarded in the *Nephrops* fleet (TR2).	Caught mainly by Scottish and Irish bottom trawlers, which target mixed demersal fish assemblages. Catches are widely distributed and are concentrated in several areas. ICES recommends a management plan which would offer maximum protection to the haddock, recognizing that it is caught in a mixed fishery. Special attention needs to be given to the sporadic nature of the haddock recruitment and how to manage periods of low recruitment interspersed with large, occasional pulses. Any measure to reduce discarding and to improve the fishing pattern should be actively encouraged. Such measures should include the adoption of a sorting grid as well as appropriately located square-meshed panels.	**Larger cod end mesh sizes already being used by many skippers.**

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Division VIa (West of Scotland					
STOCK: Nephrops in VIa	Quota species Cod Haddock Whiting Non quota Species Dogfish		The minimum landing size for *Nephrops* is 20 mm carapace length (CL), and usually very few of the landed animals are under this size. The average discard rate of *Nephrops* by number over the last five years is 20%. In 2009 the mesh size was increased from 70 mm to 80 mm.	Under the Scottish Conservation Credits Scheme and the west coast emergency measures, *Nephrops* trawlers are required to use more selective gears. However, these gears are designed to release fish and do not significantly improve selectivity of *Nephrops*. Under the EU Cod Recovery Plan, trawl effort in Division VIa has declined significantly. So far this has mainly affected effort in the larger mesh gears (>100 mm) and effort in the *Nephrops* fisheries has been relatively stable. In FU11 (North Minch) the discard rate has been highly variable in recent years and a large decline in discard rates in 2010 was observed.	**Larger mesh sizes in square mesh panels and additional panels already being used by some *Nephrops* boats.**
STOCK: Whiting in Division VIa	Quota species Cod Haddock Megrim Saithe Non quota Species Dogfish		The proportion of fish discarded is very high and appears to have increased in recent years. More than half of the annual catch weight comprises undersized or low-value whiting which are discarded. 83% of these discards come from the TR2 (*Nephrops*) fishery.	There are strong indications that management control is not effective in limiting the catch. Measures to reduce discards and to improve the exploitation pattern would be beneficial to the stock and to the fishery, particularly when there are indications that the 2009 year class is relatively strong. Such measures should include the adoption of a sorting grid as well as appropriately located square-meshed panels.	**The movement in 2009 from 100mm mesh from 120mm will have significant bearing on the selective pattern of the fishery.** **The development of a LTMP based on the same principles as the one being currently being evaluated in area IV North Sea**

Targeted fishery	Signif. likely bycatch/ discard	Gear type	Figures and ICES commentary	What is being done (taken from ICES) and ICES suggestions	Suggested changes that are necessary to comply with legislation
ECOREGION: Celtic Sea and West of Scotland. Division VIb (Rockall)					
Haddock in Division VIb (Rockall) Haddock are caught in a directed fishery and as a bycatch in demersal and gillnet fisheries.	Quota species Cod Non quota species ???	Otter trawls Pair trawl Gillnets Single demersal trawl Twin rig trawl	8% discards. Last years the discards are significantly reduced as a result of the small number of young haddock in the population. The discard ratio was around 47% in 1991–2009 and 34% in the recent period (1999–2009). Some countries land the whole catch while others discard part of the catch. For countries which discard part of the catch the discard rate in the past was as high as 52–87% by numbers by results of discards trips.	An improved time-series of landings and discard is needed for this assessment. The survey area coverage has been reviewed and will be extended into deeper waters in 2011. The survey used in the assessment was not carried out in 2010 and therefore the only additional data used this year compared to last year are catch-at-age data for 2010. This makes this year's assessment more uncertain than in the past years. It would be beneficial to develop and introduce measures aimed at preventing discards of haddock. Such measures comply with recommendations under the UNGA Resolution 61/105 urging MS to take action to reduce/eliminate discards.	**Larger cod end mesh sizes already being used by many skippers.**
ECOREGION: Baltic Sea					
STOCK: Cod in Subdivisions 25-32 and 22-24	Quota species ??? Non quota species ???		Discards estimated at 6.6%. Marked decline in the fishing mortality on this stock. Measures have contributed to the marked decline in the fishing mortality on this stock.	The stock is managed through TAC, effort, and seasonal fisheries restrictions. Cod fisheries regulated by a seasonal closure during 1 July to 31 August. Since 2006, area closures have been implemented from 1 May to 31 Oct. High-grading prohibited since 1 Jan 2010 in all Baltic fisheries. To decrease discards, a 'Bacoma' codend with a 120 mm mesh was introduced in 2001 in parallel with an increase in diamond mesh size to 130 mm in traditional codends. Oct 2003, regulation was changed to a 110 mm Bacoma window. Mar 2010 the Bacoma 120 mm was re-introduced along with an extended Bacoma window (5.5 m) to further decrease discarding. MLS was kept at 38 cm.	

Selectivity measures

1. Square mesh panels

Discard Reduction Device	Released pre-capture or post capture	Species	How effective	Size of fish it is effective for	Areas used in UK
Regulatory square mesh panels	Post	Haddock,	Very good	Smaller fish, size dependant on mesh size	All around UK
		Whiting	Very good	Smaller fish, size dependant on mesh size	All around UK
		Cod	Poor	Smaller fish, size dependant on mesh size	All around UK
		Flats	Minimal effect		All around UK
Extra square mesh panels	Post	Similar to above			West coast and NE *Nephrops* fishery
Larger mesh square mesh panels	Post	Similar to above			West coast and NE *Nephrops* fishery
Large diamond mesh panels	Post	Similar to above			West coast and NE *Nephrops* fishery

Prepared by:
Karen Green
Industry Environmental Communications
T: 07515 993499 **E:** k_green@seafish.co.uk

16 September 2011