

11.2 Answers to Requests

11.2.1 EC DGMARE

11.2.1.1 Status of fish stocks managed by the Community in the Northeast Atlantic

The indicator chosen is the quantity of fish caught in 2008 that was taken from stocks grouped according to whether they were within or outside safe biological limits at the end of the year, i.e. 2009. In general terms, it is considered that a stock is within safe biological limits if its spawning stock biomass is above the value corresponding to a precautionary approach (B_{pa}) advocated by ICES. Further details on the way ICES formulates advice in precautionary terms can be obtained from the ICES website <http://www.ices.dk>.

1. BASIS FOR THE CALCULATION:

- 1) Source of data: 2009 ICES Advice report.
- 2) Selection of stocks: all those for which ICES gives management advice and that are managed by the Community, autonomously or jointly with other partners. This excludes, for example, Arctic stocks managed by Norway or by Russia and Norway.
- 3) Catch data: taken as the total catch as estimated by ICES for assessment purposes. Sometimes this includes catch taken by third countries.
- 4) Criteria to judge stock status: If data exist, then a stock is considered within safe biological limits if its spawning stock biomass (SSB) estimated at the end of the year is higher than the SSB corresponding to the precautionary approach level, as recommended by ICES (B_{pa}). Sometimes these estimates are missing, but ICES gives other types of indication:
 - Estimates of fishing mortality (F) in the terminal year and F levels corresponding to the precautionary approach or (F_{pa}) or other desired levels of F serving as a guide for management. If F is higher than F_{pa} , then the stock is considered outside safe biological limits¹.
 - Estimates of catch per unit effort (U) and some desired level of U (U_{pa}). For redfish this has been taken as half the maximum observed value. The reasoning goes on as for SSB²
 - If no warning signals are given by ICES in its advice, then it is assumed that the stock is within safe biological limits.
 - If ICES states, with no precise reference values, that the stock is outside safe biological limits, this is taken as a fact.
- 5) Type of fish: this is a classification intended to reflect both the biology of the species and the type of fishery realised. To some extent, this breakdown serves also purposes of economic analysis, since it brings together types of fish of comparable commercial value, although important differences still occur within each type. The possibility was examined to use prices per kg by species, but this part of the work is still going on. The difficulty is to obtain uniform price indices by stock.
 - Benthic: *Nephrops*, prawns, flatfish, anglerfish
 - Demersal: roundfish as cod, haddock, whiting, hake, etc
 - Diadromous: salmon, sea trout (eel is classified in other category)
 - Pelagic: herring, anchovy, sardine, horse mackerel (North Sea and southern stocks), redfish
 - Industrial: sprat, sandeel, Norway pout
 - Widely distributed: blue whiting, western mackerel, western horse mackerel, eel, deepwater fish.
- 6) Region: The NEAFC regions, also defined in our technical measures legislation (Regulation 850/98). Essentially, Region 1 is ICES Subareas I, II, V, XII and XIV, Region 2 is the Baltic, North Sea and western approaches (ICES Subareas III, IV, VI and VII) and Region 3 is the Bay of Biscay and the Iberian peninsula (ICES Subareas VIII, IX and X).

¹ It should be noted that F values do not reflect the size of the stock in the precautionary context, but rather whether the stock is being exploited at precautionary levels. However, one may presume that in the long term, exploiting beyond precautionary levels will lead stocks outside biological limits.

² In this case, U does reflect the size of the stock and may be used as a proxy for SSB.

2. RESULTS AND DISCUSSION

The table below shows the values found for the whole set of stocks examined, broken down by region, type of fish and year. It should be noted that the precautionary reference points chosen (B_{pa} and F_{pa}) are not management targets; they rather reflect a stock status that should trigger management action. In other words, maintaining a stock at B_{pa} values is not necessarily desirable or advisable.

Moreover, it should be noted that stock status as indicated by the relative values of SSB and B_{pa} cannot always be used to judge whether the stock is being exploited at a sustainable level. As an example, SSB₂₀₀₆ for blue whiting is above B_{pa} , but the levels of exploitation in recent years are well above sustainable levels and will lead the stock to unsafe levels if no drastic management action is taken.

Table showing catch of stocks (managed by the Community) within and outside safe biological limits (SBL).

2009	2008 Catches	Within SBL		Outside SBL		TOTAL		
REGION	FISH TYPE	CATCH, '000 t	Dominant species	CATCH, '000 t	Dominant species	CATCH, '000 t	% within SBL(catch)	% outside SBL(catch)
1	Pelagic	1545,66	Redfish Herring	32,10		1577,76	97,97	2,03
2	Benthic	182,10	Nephrops Sole Flounder Pandalus	20,28	Plaice Anglerfish	202,38	89,98	10,02
2	Demersal	303,09	Haddock Saithe Whiting	134,79	Cod Whiting Hake	437,89	69,22	30,78
2	Diadromous	0,00		1,68	Salmon Sea trout	1,68	0,00	100,00
2	Industrial	811,11	Sprat	0,00	Sandeel Norway Pout	811,11	100,00	0,00
2	Pelagic	340,99	Herring (North Sea and Baltic) Horse mackerel	287,26	Herring VIa	628,25	54,28	45,72
2	All	1637,28		444,02		2081,30	78,67	21,33
3	Benthic	10,82	Megrim	3,84	Sole Nephrops Anglerfish	14,65	73,82	26,18
3	Demersal	0,00		16,74	Hake	16,74	0,00	100,00
3	Pelagic	127,97	Sardine Anchovy Horse mackerel	0,00	Anchovy Biscay	127,97	100,00	0,00
3	All	138,79		20,58		159,36	87,09	12,91
1,2 and 3	Pelagic	2002,66	Horse mackerel Blue whiting	0,00	Mackerel	2002,66	100,00	0,00
1,2 and 3	Demersal	0,00		145,86	Deep water fish	145,86	0,00	100,00
1,2 and 3	All	2002,66		145,86		2148,52	93,21	6,79
All	Benthic	192,91		24,12		217,03	88,89	11,11
	Demersal	303,09		297,39		600,49	50,47	49,53
	Diadromous	0,00		1,68		1,68	0,00	100,00
	Industrial	811,11		0,00		811,11	100,00	0,00
	Pelagic	4017,27		319,37		4336,64	92,64	7,36
All	All	5324,38		642,56		5966,94	89,23	10,77