

Fishery

Hake is a very important resource for many demersal fisheries in the northeast Atlantic. It is landed as targeted or incidental catch by a wide variety of gears and is present in many fisheries operating in ICES Sub-areas VII and VIII.

ICES assumes two stock units of hake, namely the northern stock in Sub-areas II, IV, VI and VII, and Divisions IIIa and VIIIa,b,d, and the southern stock in Divisions IIIc and IXa. In 2007, 86% of northern stock landings came from Sub-areas VII (62%) and VIII (24%). Spain accounted for about 59% of landings, France 27%, UK 7%, Denmark 3% and Ireland 3%, with small amounts taken by Norway, Belgium, the Netherlands, Germany and Sweden.



Merluccius merluccius

Hake movements have been studied by analysing the seasonal distribution of catches. Adult hake are present in the North of the Bay of Biscay from the beginning of the year until March/April. They appear on the shelf edge in the Celtic Sea in June and July. Between August and December a large hake fishery is centred to the west and southwest of Ireland. Hake belongs to an extended and diverse community of commercial species and the relative importance of these species in the hake fishery depends on gear type, sea area and country involved. The northern hake fishery is managed by a TAC and quotas with associated technical measures. The minimum legal size for fish caught in Sub areas IV, VI, VII and VIII is set at 27 cm total length (30cm in Division IIIa). An Emergency Plan was implemented from June 2001 for the recovery of the northern hake stock. First a 100 mm minimum mesh size was implemented for otter-trawlers when hake comprised

more than 20% of the total amount of marine organisms retained onboard. This measure did not apply to vessels less than 12m in length, or to those that returned to port within 24 hours of their most recent departure. Second, two areas were defined (one each in Sub-areas VII and VIII) where a 100 mm minimum mesh size is required for all otter-trawlers.

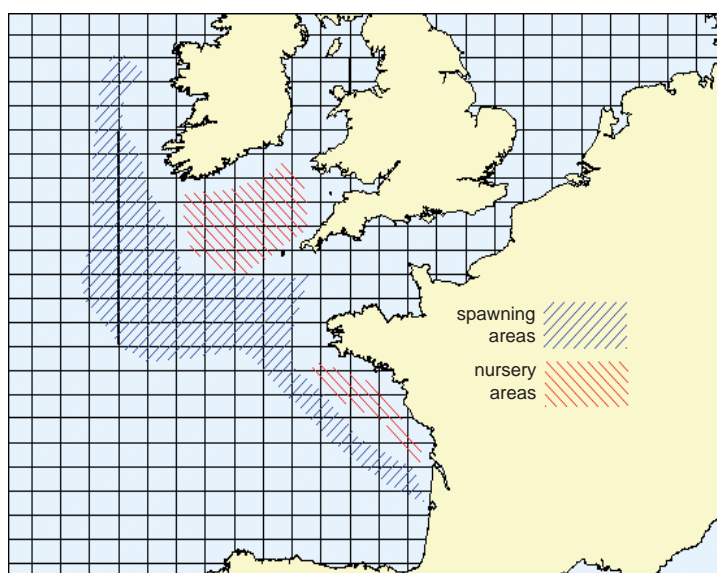
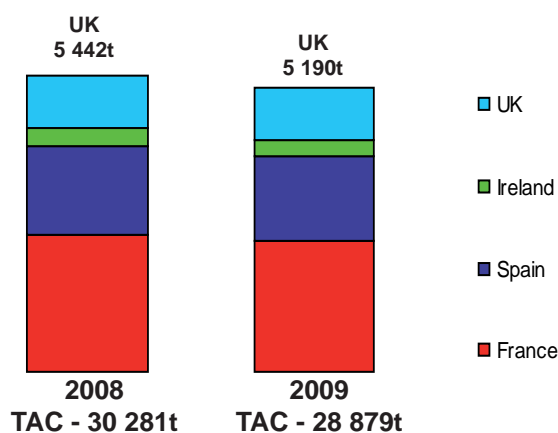
Biology

Hake is widely distributed over the northeast Atlantic shelf, from Norway to Mauritania, with a larger density from the British Islands to the south of Spain and in the Mediterranean and Black Sea. It is a demersal species of medium-large size, with a maximum size and weight of about 140cm and 15kg. Hake reach a maximum age of about 12 years, and are found mostly between 70 and 370m, although hake are also found in shallower and deeper waters. They are usually found close to the bottom during the day and move vertically in the water column during the night.

Hake spawn in several batches from February to July along the shelf edge, the main areas extending from north of the Bay of Biscay to the south and west of Ireland. After a pelagic larval stage, 0-group descend to the seabed at depths of more than 200 m, then move to shallower water (75–120 m) with a muddy seabed by September. There are two major nursery areas: the Bay of Biscay and off southern Ireland. As hake approach maturity (39cm, around 3 years for males, and 47cm, around 4 years for females), they disperse to offshore regions of the Bay of Biscay and Celtic Sea.

Adult hake feed on fish (mainly blue whiting and other gadoids, sardine, anchovy and other small pelagic fish), while juvenile hake feed mainly on planktonic crustaceans (euphausiids, copepods and amphipods). Cannibalism on juveniles by adults is known to occur.

UK quota and other member states' share of the TAC as decided by the EU Council: Hake in ICES Division Vb and Sub-areas VI, VII, XII and XIV.



Classification of Stock Status

Spawning biomass in relation to precautionary limits	Fishing mortality in relation to precautionary limits	Fishing mortality in relation to highest yield	Fishing mortality in relation to agreed target (=0.25)
Full reproductive capacity	Harvested sustainably	Overfished	F is at about the level agreed in the recovery plan

State of stock/exploitation:

Based on the most recent estimates of SSB and fishing mortality ICES classifies the stock as being at full reproductive capacity and being harvested sustainably.

SSB is estimated to be about B_{pa} in 2008, and F has been around F_{pa} since 2001. Recruitment has been relatively stable over the last decade.

Precautionary Approach reference points (updated in 2003):

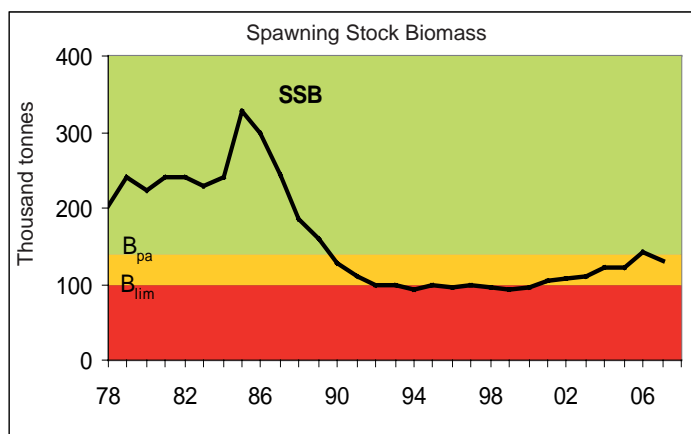
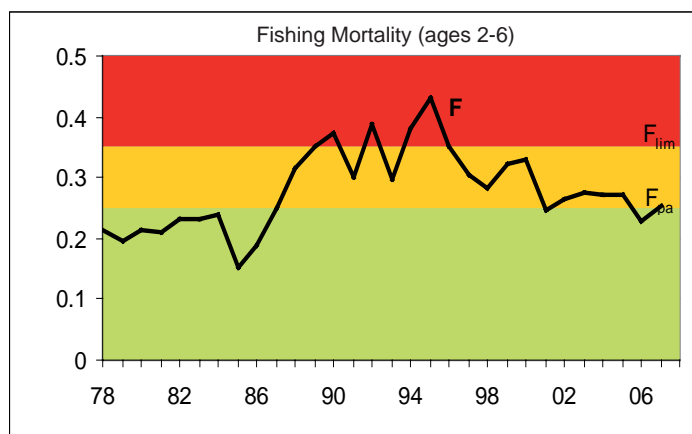
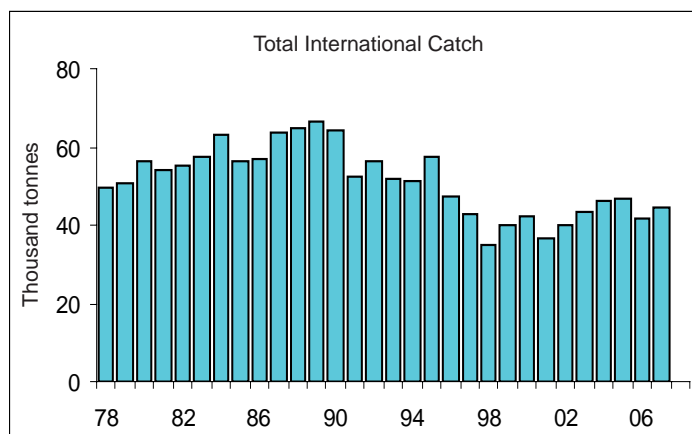
B_{lim} is 100 000 t, the lowest observed SSB in the 2003 assessment.

B_{pa} is 140 000 t. SSB above this affords a high probability of maintaining SSB above B_{lim} , taking into account the uncertainty in assessments.

F_{lim} is set at 0.35, the fishing mortality estimated to lead to potential stock collapse.

F_{pa} is 0.25. This F is considered to have a high probability of avoiding F_{lim} and a high probability of maintaining SSB above B_{pa} in the next 10 years, taking into account the uncertainty in assessments.

NORTHERN HAKE



Exploitation boundaries in relation to precautionary limits

ICES recommended that a fishing mortality of $F_{pa} = 0.25$ is expected to lead to landings of 51 500 t in 2009 and an SSB of 156 700 t in 2010, which is above B_{pa} .

The TAC agreed for northern hake for 2009 is 1 552 t for Divisions IIIa and IIIbcd, 1 808 t for Division IIa and Sub-area IV, 28 879 t for Sub-areas VI, VII, XII, XIV and Division Vb, and 19 261 t for Divisions VIIIa, b, d, e giving a total TAC for northern hake of 51 500 t.