
2.1. Cod

Total nominal landings of Atlantic cod (*Gadus morhua*) in 2010 were 169 000 t, compared to 181 000 t in 2009. Based on domestic advice, the national TAC for cod in the quota year 2010/2011 was set, prior to the fishing season, at 160 000 t.

Mean weight at age in landings in 2010 was higher than predicted. Mean weight at age in the survey in 2011 was higher than in recent years and similar to the average from 1985–2010. Those data are used to predict mean weight at age in the landings and spawning stock 2011 –2012.

Biomass indices in the spring survey have increased during the last 4 years, mostly due to increased abundance of large cod. Indices of fish below minimum landing size have not increased. The autumn survey indices show more increase than the spring survey.

In 2011, the reference biomass is estimated as 970 000 t and the spawning stock 362 000 t compared to Blim=125 and B trigger=220 000 t. The stock has been increasing in recent years and the reference biomass is the largest since 1989 and the spawning stock since 1964.

Recruitment during the last decade has been around 68% of the long-term average. The exploitation rate has been declining in recent years and is now similar to what would be expected from the management plan adopted by the Icelandic authorities last year. Decreased harvest rate is the main reason for the recent increase in stock size.

Based on the present assessment, the TAC in 2011/2012 should be set at 177 000 t according to the management plan. Following the HCR will most likely lead to increasing SSB and TAC in the next 4–5 years. The TAC is predicted to increase to 200–250 000 t but recruitment would need to return to pre-1985 levels for the TAC to increase more.

The Marine Research Institute emphasizes the importance of managers subtracting all other expected catches prior to allocating the ITQ catches to the fishing fleet. Furthermore, it is recommended that regulations on mesh size of gillnets and area closures on spawning grounds remain in effect.

2.2. Haddock

In 2010, 64 000 t of haddock (*Melanogrammus aeglefinus*) were landed, compared with 82 000 t in 2009. The advice for the fishing year 2010/11 was 45 000 t and the TAC was set at 50 000 t.

The biomass of age 3 and older haddock is estimated 145 000 t at the beginning of 2011. The mean fishing mortality is estimated as 0.46 in 2010 and 0.37 in 2011, given the landings will be 50 000 t. Short and medium term predictions show that the stock size of haddock will decrease in coming years, when the very large 2003 year class disappears from the stock and small to medium size year classes replace it. In the medium term there is some risk of the spawning stock going below historical minimum, depending on fishing effort and individual growth. Growth has been very slow in recent years but improved in 2010 and is expected to improve further in coming years with reduced stock size.

Taking those factors into account the MRI recommends that the TAC for the quota year 2011/2012 should not exceed 37 000 t which corresponds to F=0.3.

2.3. Saithe

In 2010, landings of saithe (*Pollachius virens*) were 54 000 t, a decrease of approximately 12% compared to 2009. Mean weight at age was low in 2005–2008, but has increased since then, and is now close to the long-term average.

Spawning stock biomass at the beginning of 2011 is estimated as 88 000 t and fishing mortality in 2010 as 0.37. In recent years, increased targeting of small saithe has been observed, which reduces yield and spawning stock biomass per recruit. In short-term projections, landings in 2011 are assumed to be 50 000 t. Estimated spawning stock biomass at the beginning of 2012 is 88 000 t the same as in 2011.

In early 2010, ICES organized a benchmark review for the Icelandic saithe stock assessment. A key result from this benchmark was a simulation study where F*MSY* was estimated as 0.28. Furthermore, a proposed 20% harvest control rule (HCR) was evaluated.

The Marine Research Institute recommends that the fishing mortality (F 4–9) should not exceed 0.28, corresponding to a TAC for the quota year 2011/2012 of no more than 45 000 t.

2.4. Golden redfish and *Sebastes viviparus*

In 2010, approximately 36 000 t of golden redfish (*Sebastes marinus*) were landed, around 2 000 t less than in 2009. The spring survey index of the fishable stock size declined from 1987 to a record low level in the mid 1990s, but increased to 2003 because of two large year classes from 1985 and
from the East Greenland, Iceland and Faeroese waters. The catches declined rapidly until 2000, and between 2001 and 2009 only a few tonnes were landed. In 2010 a direct fishery started again and total landings were 2 600 tonnes. Very little is known about the stock size and sustainable yield. Therefore, the MRI recommends that the precautionary approach is adopted in the management of *Sebastes viviparus* fishery in order to ensure sustainability of the resource and recommends a TAC of no more than 1 500 tonnes for the quota year 2011/2012.

2.5. Deep sea redfish

At the beginning of 2009, ICES concluded that there are three biological stocks and hence three management units of deep sea redfish (*Sebastes mentella*) in the Irminger Sea and adjacent waters: a ‘Deep Pelagic’ stock below 500 m, a ‘Shallow Pelagic’ stock above 500 m, and an ‘Icelandic Slope’ stock on the continental shelf of Iceland. The East Greenland Shelf is most likely a common nursery area for the three stocks.

In 2010, 17 700 t of *Icelandic slope redfish* were landed, or about 2 000 t less than in 2009. The state of the stock is considered stable at a low level. ICES and MRI recommend that effort should be kept low and that the TAC in Icelandic waters should not exceed 10 000 t for the quota year 2011/2012.

In 2010, an estimated 2 400 t of *shallow pelagic redfish* were caught, which is similar to 2008 and 2009. Little fishing was conducted on the main fishing grounds south and southeast of Greenland. Some of the catches were taken in the same area as the deep pelagic redfish. Annual landings were highest at about 100 000 t in 1993–1995. The Icelandic fleet has fished very little from this stock in recent years. Given the very low state of the stock, ICES advises no directed fishery.

In 2010, the estimated landings of *deep pelagic redfish* were about 62 000 t, compared to 52 000 t in 2009. Annual landings were between 80 000 and 140 000 t in 1995–2004. The Icelandic fleet caught about 14 500 t in 2010, which is similar as in 2009. ICES will not give advice on the pelagic redfish stocks for 2012 until the autumn 2011, and will base the advice on the results from the international acoustic/trawl redfish survey conducted in the Irminger Sea and adjacent waters in June–July 2011.

2.6. Greenland halibut

In 2010, approximately 26 000 t of Greenland halibut (*Reinhardtius hippoglossoides*) were landed from the East Greenland, Iceland and Faeroese waters. Landings of the Icelandic fleet were 13 000 t in 2010. CPUE of the Icelandic trawler fleet has been at a historical low in recent years. Biomass indices from the Icelandic autumn groundfish survey in 1996–2010 show a similar pattern. There is no agreement on sharing of the stock between nations. Due to that, and the longevity of the species, ICES advises that there should be no direct fishery in 2012. The MRI recommends that effort should be reduced to a level corresponding to long-term maximum sustainable yield. According to preliminary calculations, such effort corresponds to a total catch in 2012 of no more than 12 000 t for the East Greenland, Icelandic and Faeroese waters.

2.7. Halibut

In 2010, 580 t of halibut (*Hippoglossus hippoglossus*) were landed. From 1996 onwards, annual landings have been less than 1 000 t, the lowest observed since 1905. Halibut has mainly been taken as bycatch in the bottom trawl and longline fisheries. In recent years, the biomass indices from the groundfish survey has declined sharply. Currently, the halibut stock seems to be severely depleted, with very little recruitment into the spawning stock in recent years.

The Ministry of Fisheries has issued a regulation where a ban is set on directed fishery for halibut. This is an important step in protecting the stock.

2.8. Plaice

In 2010, 6 000 t of plaice (*Pleuronectes platessa*) were landed, a decrease of 300 t from 2009. Survey indices have increased somewhat in recent years, and recruitment measurements from the groundfish survey suggest some improvement in the last few years. Stock assessment results show increasing biomass since 2000 and fishing mortality has also been decreasing since then. The MRI recommends that the catch should not exceed 6 500 t in the quota year 2011/2012, and that regulations regarding area closures on spawning grounds remain in effect.

2.9. Dab

In 2010, 610 t of dab (*Limanda limanda*) were landed. Between 1987 and 1997, landings of dab increased from 1 200 to 8 000 t, but have since decreased considerably. CPUE is now at a historical low. The MRI recommends that the TAC for the quota year 2011/2012 should not exceed 500 t. Considering the state of the stock, this could amount to about 500 t for the 2011/2012 quota year.

2.10. Long rough dab

In 2010, 220 t of long rough dab (*Hippoglossoides platessoides*) were landed, compared to the record high of 6 400 t in 1996. Survey indices have decreased in recent years and CPUE is at a historical low. The MRI recommends that the TAC for the quota year 2011/2012 should not exceed what is expected to be landed as bycatch in other fisheries.
Considering the state of the stock, this could amount to around 200 t for the 2011/2012 quota year.

2.11. Witch

Since 1988, landings of witch (Glyptcephalus cynoglossus) have been between 1 000 and 3 000 t, with landings in 2010 amounting to 1 300 t. The abundance index for the fishable stock (larger than 30 cm) more than tripled from 1997 to 2005, but has since been declining. The size of the witch stock remains uncertain, but all data indicate that both the fishable stock and recruitment have declined in recent years. The MRI recommends a TAC of 1 100 t for the quota year 2011/2012.

2.12. Lemon sole

In 2010, 2 000 t of lemon sole (Microstomus kitt) were landed. Indices of fishable stock from the groundfish survey have been high in recent years and recruitment indices have also been high since the early 2000s. CPUE in the Danish seine fishery off southwest Iceland has doubled from the period 1993–1998 to the present. Preliminary stock assessment indicates a very high fishing mortality rate. Therefore, the MRI recommends the effort to be reduced and a TAC no higher than 1 800 t for the quota year 2011/2012.

2.13. Megrim

Megrim (Lepidorhombus whiffiagonis) is caught as bycatch in the Danish seine and Nephrops fisheries off South Iceland. In 2010, 252 t of megrim were landed. The MRI does not recommend a TAC for the quota year 2011/2012.

2.14. Wolffish

Landings of Atlantic wolffish (Anarhichas lupus) in 2010 were 12 600 t, around 2 500 t less than in 2009. Recruitment indices are now at a historical low level and the index of fishable biomass is decreasing. According to the stock assessment, the fishable part of the stock has been decreasing since 2006 and further decline is foreseen, as recruitment to the fishable stock will be low in the coming years. MRI recommends a TAC according to the management strategy of $F_{\text{max}} = F_{\text{MSY}} = 0.29$. It is furthermore recommended that the catches be no more than 6 900 t in the quota year 2011/2012, including catches of foreign vessels. This advice is based on the assumption that $F_{\text{max}} = F_{\text{MSY}} = 0.29$. It is furthermore recommended that the closure of nursery areas off the southeast and south coasts is continued.

2.15. Blue ling

In 2010, 6 900 t of blue ling (Molva dypterygia) were landed. In recent years, blue ling has mainly been taken as bycatch in the bottom trawl fishery. In 2008–2010, the proportion caught by longliners increased considerably as a result of targeting of blue ling by that fleet. Longlines now account for 60% of landings. Indices from the autumn survey indicate an increase in biomass and recruitment since 2005. However, survey results from autumn 2010 and spring 2011 indicate a decrease in stock size. MRI considers the current high exploitation level unsustainable and recommends that landings be constrained to no more than 4 000 tonnes in the fishing year 2011/2012. The advice is to bring exploitation levels down to similar levels as observed in 2006–2009. Furthermore, a continued closure of known spawning grounds from 15 February–30 April should be maintained.

2.16. Ling

In 2010, 11 000 t of ling (Molva molva) were landed, the highest catch since 1972. Survey indices of harvestable biomass have remained at similar levels since 2008, near the historical maximum. Since 2007, the exploitation level has increased, and in 2010 it was close to its highest level observed in 1994–2004. MRI recommends a TAC of no more than 8 800 t in the quota year 2011/2012, including catches of foreign vessels which have been about 15% of total landings in recent years. The advice is to bring exploitation levels down to similar levels as observed in 2004 to 2008. Preliminary assessment indicate that these catches would decrease fishing mortality to $F_{0.1}$.

2.17. Tusk

Landings of tusk (Brosme brosme) from Icelandic waters were almost 9 000 t in 2010. Indices of fishable biomass in the spring survey increased between 2001 and 2005, but have not changed significantly since then. However, recruitment indices peaked in 2006 but have decreased since then, and were in 2011 close to the lowest observed value. The tusk stock assessment is based on the Gadget model as recommended by ICES. The MRI recommends that the catches be no more than 6 900 t in the quota year 2011/2012, including catches of foreign vessels. This advice is based on the assumption that $F_{\text{max}} = F_{\text{MSY}} = 0.29$. It is furthermore recommended that the closure of nursery areas off the southeast and south coasts is continued.

2.18. Anglerfish

In 2010, about 3 300 t of anglerfish (Lophius piscatorius) were landed from Icelandic waters, which is the second highest recorded catch. Results from surveys and CPUE indicate a large fishable stock due to very good recruitment during the period 1998–2007. Survey indices indicate, however, poor recruitment for year classes 2008, 2009 and 2010. With current fishing effort and the reduced recruitment in the last three years, the fishable stock will decline considerably in the coming years. The MRI recommends 2 500 t as the TAC for the quota year 2011/2012, and an effort should be made to reduce the bycatch of juvenile anglerfish in trawl fisheries.
2.19. Lumpfish

In 2010, 8 700 t of female lumpsucker (Cyclopterus lumpus) were landed in Iceland, which is above the annual average landings in 1971–2009 of 6 100 t. It is characterized by large variation in annual catches. The fishery is partially managed by stakeholders, but increasing licencing, increasing effort, declining female index and continually declining male index in the spring bottom trawl survey are causes for concern. For the quota year 2011/2012, the MRI recommends that the landings of female lumpsucker not exceed 3 700 t, which corresponds to keeping the relative exploitation rate close to the average of the period 1985–2010. This advice should be revisited following the groundfish survey in March 2012. Furthermore, it is recommended that all living spent females be released alive as they have little commercial value, and that both the fishery for male lumpsucker and lumpsucker as bycatch in other fisheries be monitored.

2.20. Herring

Landings of summer-spawning herring (Clupea harengus) in Icelandic waters during the fishing season 2010/2011 amounted to 44 000 t. The spawning stock is estimated as 218 000 t in the beginning of the 2011/2012 fishing season. In 2010, the stock was heavily infected by Ichthyophonus for the third year in a row. It is estimated that roughly 30% of the stock has died because of the infection during the 2010/2011 quota year. During the 2011/2012 fishing season the status of the infection will be assessed with a survey in July 2011 and again in the early autumn. MRI will base its advice on the findings of the autumn survey.

In 2010, around 206 000 t of Norwegian spring-spawning herring were landed by Icelandic vessels, with total international landings of 1 480 000 t. ICES has recommended a TAC of 988 000 t for the 2011 season, corresponding to a weighted F = 0.125. According to the international agreement reached in January 2007, Iceland will have a quota of 143 000 t in 2011. ICES will not recommend a TAC for 2012 until autumn 2011.

2.21. Capelin

In the quota year 2010/2011, 390 000 t of capelin (Mallotus villosus) were landed, of which Icelandic vessels landed 327 000 t. The fishable capelin stock has been at a low level during recent years. In order to predict the fishable stock size for the 2011/2012 quota year, survey data on immature capelin of the 2008 and 2009 year classes in autumn 2010 are used. The autumn assessment survey of juvenile capelin in 2010 gave a large estimate for the 2009 year class. MRI recommends a TAC that is 50% of the predicted catch, instead of 2/3 as in the past. This results in a starting quota of 366 000 t. Furthermore, the MRI advises that the summer/autumn fishery should not open until October, and the final TAC should be set after the autumn/winter surveys 2011/12, with the usual target remaining spawning stock of 400 000 t in spring 2012.

2.22. Blue whiting

International landings of blue whiting (Micromesistius poutassou) in the Northeast Atlantic in 2010 are estimated to be around 540 000 t. Icelandic landings were 88 000 t. Results from an acoustic survey in the spawning area west of the British Isles in spring 2011 showed about 45% higher biomass than in 2010. The analytical assessment in 2010 indicates a steady decrease in the spawning stock of about 80% between 2003 and 2010. ICES will assess the stock in September and release its advice for 2012 in October 2011.

2.23. Mackerel

International landings of mackerel (Scomber scombrus) in the Northeast Atlantic in 2010 are estimated at 900 000 t. Icelandic landings were 121 000 t. The analytical assessment in 2010 indicates continued increase in the spawning stock biomass from 2003 to 2010. ICES will assess the stock in the autumn and release its advice for 2012 in October 2011. A multilateral agreement on sharing the mackerel quotas has not been reached among the nations that participate in the fishery.

2.24. Pearlside

Experimental pelagic trawl fishery for pearlside (Maurolicus muelleri) started in late 2008 with a catch of only a few tonnes. In 2009, the catch was about 46 000 t and about 18 000 t in 2010. Very little is known about the biology and stock size of the pearlside and its position in the ecosystem. The MRI recommends that the catch should not exceed 30 000 t in the quota year 2011/2012.

2.25. Greater silver smelt

In 2010, 16 400 t of greater silver smelt (Argentina silus) were landed, which is the historical maximum. Autumn survey indices of exploitable biomass decreased by 40% from 2009 to 2010. The stock is assessed with limited data and must therefore be harvested with caution. The MRI recommends a precautionary TAC of 6 000 t for the quota year 2011/2012. The basis for the advice is to bring the harvest rate to similar levels as observed in 2007–2009, a period when the stock was at a stable high level. MRI further reiterates last year’s advice that the precautionary approach be adopted in management of the greater silver smelt fishery in order to ensure sustainability of the resource.

2.26. Nephrops

In 2010, 2 540 t of Nephrops norvegicus were landed, compared to 2 464 t in 2009. The stock index has been decreasing since 2008, but is still over the long term average. CPUE (kg/hour, single rigged)
2.28. Iceland scallop

The Iceland scallop (*Chlamys islandica*) fishery remained closed during the 2010/2011 fishing season.

Survey indices declined drastically between 2001 and 2008, with the exception of the Snæfellssnes area and Arnarfjörður. MRI recommends a preliminary TAC of 850 t for the Snæfellssnes area for the quota year 2011/2012. Furthermore MRI recommends a continued closure of other areas until surveys have shown a significant increase in the abundance of northern shrimp.

In 2010, the offshore catch of northern shrimp was 6 404 t, compared to its highest level of 65 000 t between 1995 and 1997. MRI recommends a TAC of 7 000 t for northern shrimp in the offshore areas (excluding the Dohrn Bank area) for the quota year 2011/2012.

2.29. Ocean quahog

In 2009, the fishery for ocean quahog (*Arctica islandica*) with a hydraulic dredge stopped, and since then a dry dredge has been used. In 2010 only 1 t of ocean quahog was landed, compared to the maximum of 14 400 t in 2003. Since 1987, a fishery for human consumption has been developing, but annual landings have been variable for market reasons. MRI recommends a harvesting policy of 2.5% of the estimated stock size, corresponding to no more than 31 500 t for the quota year 2011/2012.

2.30. Whelk

Pot fishing for whelk (*Buccinum undatum*) started in Breiðafjörður in 1996. In 2010, the total catch amounted to 142 t, compared to 116 t in 2009. Due to uncertainty about the stock size, a precautionary exploitation approach is recommended.

2.31. Sea cucumber

In 2010, about 2 250 t of sea cucumber (*Cucumaria frondosa*) were landed. A fishery for human consumption has been developing since 2003, but annual landings were minimal until 2008. MRI recommends a harvesting policy of 10% of estimated stock size in each subarea, within each of the three fishing areas off Iceland, and a limited number of fishing licenses.

2.32. Sea urchin

Harvesting of sea urchin (*Strongylocentrotus droebachiensis*) commenced in 1993. Total landings reached a maximum of 1 500 t in 1994 but declined rapidly and were negligible in the years 1997–2003. The fishery was resumed in 2004 with landings amounting to 140 t and 146 t in 2009 and 2010, compared to around 130 t in the years 2007–2008. CPUE was 405 kg/hour in 2010, having fluctuated between 380 and 480 since 2006. Areas with good quality sea urchins are limited in size, which requires a precautionary management strategy.

2.33. Whales

In 1986, the International Whaling Commission’s (IWC) resolution on a temporary closure of commercial whaling came into effect. In 2006, Iceland resumed commercial whaling on fin whales (*Balaenoptera physalus*) and common minke whales (*Balaenoptera acutorostrata*).

The minke whale stock around Iceland is considered to be close to pre-exploitation abundance, and historic catches are not thought to have affected the stock appreciably.

Based on a new stock assessments conducted by the Scientific Committees of NAMMCO and the IWC, the MRI recommends that annual catches of common minke whales from the Central North Atlantic stock do not exceed 216 animals in the Icelandic continental shelf area and 121 animals in the CM area. This advice applies for the calendar years 2011 and 2012.

Results from a fin whale sightings survey in 2007 indicate a total population size of 20 600 animals in the East Greenland, Iceland, and Jan Mayen stock area (EGI stock area), which is similar to the 1995 and 2001 surveys.

On the basis of a recent assessment conducted within the Scientific Committees of the IWC and NAMMCO, the MRI recommends annual catches of up to 154 fin whales as sustainable and precautionary for the calendar years 2011 and 2012.
2.34. Seals

In 2010, the reported seal catch and bycatch in Iceland was 147 grey seals (*Halichoerus grypus*), 190 harbour seals (*Phoca vitulina*), 35 harp seals (*Phoca groenlandica*), one bearded seal (*Erignathus barbatus*), one hooded seal (*Cystophora cristata*) and 77 seals of unidentified species. Grey seal surveys were conducted in 2008 and 2009, where 6 100 (95% CL: 4 600–7 600) animals were estimated along the Icelandic coast. The stock was estimated as 12 000 animals in 1990. According to a survey conducted in 2008 and 2009, the stock of harbour seals was around 6 000 animals. After continuous decline from 1980 to 2002 the stock seems to have started to increase again.