

catches have averaged 1.7 million tonnes. Jack mackerel catches by all but one of the fleets continued to decline in 2011, with overall 2011 catches being 69% of 2010 catches.

SOURCE OF MANAGEMENT ADVICE: The advisory body for the Chilean jack mackerel is the South Pacific Regional Fisheries Management Organisation (SPRFMO). The stock status and management advice below are based on the scientific working group of the SPRFMO.

REFERENCE POINTS: The South Pacific Regional Fisheries Management Organisation⁶ has determined that, for the Chilean stock in 2005, a fishing mortality reference point of $F_{40\%BDR}$, F/F_{ref} was 1.25. No precautionary reference points have been proposed for the other stocks. Reference points have not yet been revised, but the new assessment suggests a biomass reference point of around 30% of virgin biomass with and F_{MSY} of around 0.25.

STOCK STATUS: The ratio of estimated total biomass to the biomass that would have existed had no fishing occurred has declined steadily throughout most of the history of this fishery. Under the JJM assessment model base case, the 2011 ratio of total biomass relative to the potential unfished biomass is estimated to be 14%, ranging from 10% (model 3) to 19% (model 2) in sensitivity analyses.

The 2011 assessments results indicate a continuing decrease in fishing mortality and a slight increase in estimated total biomass over 2010, but a continuing decrease in spawning biomass. There continue to be indications of slightly improved recruitment in recent years, although the updated assessment indicates that the apparently strong recruitment observed by a number of fleets in 2010 was actually lower than the recruitment in 2009, and well below longterm average levels.

With respect of the currently accepted reference points the stock status cannot be evaluated. According to the projections of the new assessment the stock is overfished and overfishing is occurring.

RECENT MANAGEMENT ADVICE:

Projection results under the assumption of average recruitment at the levels estimated for the recent five year period 2006 – 2010 indicate that catches should be maintained below 520,000 t to maintain spawning biomass at least at current levels. Catches below 390,000 t are projected to have a high probability of resulting in spawning stock rebuilding under most projections.

In 2007, the South Pacific Regional Fisheries Management Organisation noted that with the exception of Chilean vessels, there are no management measures in place for jack mackerel fisheries in the high seas (New Zealand and Australian vessels that may take this species as an occasional by-catch are regulated by a high seas permitting regime).

Due to the nature of the straddling Chilean stock, the same regulatory controls that apply within the Chilean EEZ also apply on the high seas: these controls include maximum catch limits per vessel owner and size limits.

STECF COMMENTS: STECF agrees with the advice provided by scientific working group of SPRFO and hopes that the reference point issue caused by the change in the assessment can be resolved at the first commission meeting.

18 Resources in the Antarctic

Resources in the Antarctic are managed under a convention administered by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The 2012/13 fishing season started on 1 December 2012 and ended on 30 November 2013. Members' fishing vessels operated in the fisheries targeting mackerel icefish (*Champsocephalus gunnari*), toothfish (*Dissostichus eleginoides* and/or *D. mawsoni*) and krill (*Euphausia superba*) during the fishing season. The reported data are the totals up to 20 September 2013, but some fisheries were at that time fishing still in progress in some areas.

The WG-FSA 2013 focused on the assessment of finfish fisheries in the Convention Area, including the biennial assessments for the fisheries for Patagonian toothfish (*D. eleginoides*) in Subareas 48.3, 48.4, and 48.6 and Divisions 58.4.1, 58.4.2, 58.4.3a&b and 58.5.2, and the fisheries for *Dissostichus* spp. in Subareas 88.1 and 88.2, the annual assessments for mackerel icefish (*C. gunnari*) in Subarea 48.3 and Division 58.5.2, and the

⁶ SPRFMO-III-SWG-16

development of advice on precautionary catch limits and other issues relevant to management of CCAMLR fisheries. The Fishery Reports will be made available on the CCAMLR website by 20 February 2014.

18.1 Toothfish (*Dissostichus* spp.)

The reported total catch of toothfish (*Dissostichus* spp.) for the fishing season 2012/13 to 20 September was 12,565 tonnes.

18.1.1 Patagonian toothfish (*Dissostichus eleginoides*) in Subarea 48.3, South Georgia

FISHERIES: Longline fishing for Patagonian toothfish (*Dissostichus eleginoides*) in Subarea 48.3 began in the late 1980s and expanded rapidly during the 1990s. Annual catches are in generally in the range of 3,000 to 5,000 tonnes, with a peak in 2002/03 at 7,500 tonnes. In the mid to late 1990s there was significant illegal fishing, exceeding the catch of the legal fishery in some years. In 2004, the Commission agreed to subdivide Subarea 48.3 into one area containing the South Georgia–Shag Rocks (SGSR) stock and other areas, to the north and west, that do not include the SGSR stock. Within the SGSR area, the Commission defined three Management Areas (A, B and C) (CM 41-02/A).

The fishery in 2012/13 for *D. eleginoides* in Subarea 48.3 operated in accordance with CM 41-02 and associated measures, with a catch limit of 2,600 tonnes. Six vessels, using longlines, reported a total catch of 2,098 tonnes up to 20 September 2013. There has been no significant IUU catch since the 2000/01 season.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. A preliminary assessment based on an integrated assessment (CASAL) was used with catch-at-length, CPUE, tagging and survey abundance data. The assessment results were consistent with those of 2011. The 2-fleet model estimated B_0 at 87,665 tonnes, with the spawning stock biomass status in 2013 at 0.52 of B_0 . The average recruitment and CV from 1992 to 2006 were used for the stock projections with a lognormal empirical randomisation method of recruitment. Cetacean depredation on longlines was estimated in 2011/12 and 2012/13 to be 4.2% and 5.4% respectively. The stock assessment was based on estimates of total removals that were determined from the reported catches adjusted by the depredation correction factor. The precautionary catch limit was set at 2,400 tonnes.

REFERENCE POINTS: $SSB_{t+35\text{years}} \geq 50\% SSB_0$; probability of SSB dropping below 20% of $SSB_0 < 0.1$.

STOCK STATUS: There is genetic separation between Subarea 48.3 and the Patagonian Shelf (FAO Area 41). The SGSR stock, occurring within management areas A, B and C is genetically separate from fish taken in the extreme north and west of Subarea 48.3. All assessments consider only the SGSR stock. The stock in Subarea 48.3 is considered fully exploited.

RECENT MANAGEMENT ADVICE: The catch limit for *D. eleginoides* in Subarea 48.3 was set at 2,400 tonnes for 2013/14 and 2014/15, subdivided for the Management Areas: 0 tonnes in A, 720 tonnes in B and 1,680 tonnes in C, in each season. By-catch limits and move-on rules are included in the annual conservation measure established for this fishery (CM 41-02).

STECF COMMENTS: STECF has no comments.

18.1.2 Patagonian toothfish (*Dissostichus eleginoides*) in Subarea 48.4, South Sandwich Islands

The assessment and management of *Dissostichus* spp. fisheries in Subarea 48.4 has always been based on separate assessments for the northern and southern management area, in which the assessment for the Northern Area was carried out for *D. eleginoides*, using CASAL, whilst for the Southern Area a Petersen biomass estimate was calculated for *D. eleginoides* and *D. mawsoni* combined. In 2012 it was decided that species-specific assessments should be developed for the subarea to provide more appropriate assessments and management of the fisheries.

FISHERIES: The fishery for *Dissostichus eleginoides* in Subarea 48.4 was initiated as a new fishery in 1992/93 following notifications from Chile and the USA, and the adoption of CM 44/XI, which set a precautionary catch limit for *D. eleginoides* of 240 tonnes for that season. Subsequently, the USA withdrew from the fishery and the Chilean longline vessel abandoned fishing after one week due to poor catches. In addition, a Bulgarian-flagged longliner fished in November and December 1992 and reported a catch of 39 tonnes of *D. eleginoides*. Haul-by-haul data from the Chilean and Bulgarian vessels were submitted to

CCAMLR and on basis of these data the Commission adopted a precautionary catch limit for *D. eleginoides* of 28 tonnes per season. In addition, targeting of *D. mawsoni* was prohibited, other than for scientific research purposes. These limits remained in force until 2004. In 2004/05, the UK conducted a pilot tagging program using a fishing vessel. This tagging program was carried forward till 2007/08. The experiment resulted in a CASAL assessment of toothfish in the northern part of Subarea 48.4 in 2009. In 2008, the Commission agreed to a continuation of the tagging experiment initiated in 2004/05 and to dividing Subarea 48.4 into a northern area (Subarea 48.4 North) and a southern area (Subarea 48.4 South), with a directed longline fishery on *D. eleginoides* in Subarea 48.4 North and *Dissostichus* spp. in Subarea 48.4 South. The fishery for *Dissostichus* spp. in Subarea 48.4 in 2012/13 operated in accordance with CM 41-03 and associated measures. The catch limit for *D. eleginoides* in the Northern Area was 63 tonnes and in the Southern Area 52 tonnes. Two vessels using longlines in the Northern Area reported a total reported catch of 62 tonnes, after which the management area was closed on 4 April 2013. The total reported catch up in the Southern Area to 20 September 2013 was 50 tonnes.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. A preliminary age based CASAL assessment for *D. eleginoides* was performed and incorporated catch-at-length data from 2004/05 to 2012/13, with the exception of catch-at-age data of 2008/09.

REFERENCE POINTS: $SSB_{t+35years} \geq 50\% SSB_0$; probability of SSB dropping below 20% of $SSB_0 < 0.1$.

STOCK STATUS: *D. eleginoides* biomass was estimated using CASAL with 1,600 tonnes and the Petersen method with 1,400 tonnes. The resulting long-term catch that satisfied the CCAMLR harvest control rules was 45 tonnes.

RECENT MANAGEMENT ADVICE: The area open to fishing are defined as that portion of Statistical Subarea 48.4 that lies within the area bounded by latitudes 55°30'S and 57°20'S and by longitudes 25°30'W and 29°30'W, and by latitudes 57°20'S and 60°00'S and by longitudes 24°30'W and 29°00'W. For the portion of Statistical Subarea 48.4 open for fishing a catch limit of 45 tonnes for *D. eleginoides* was set for 2013/14, with a limit on by-catch for macrourids of 11 tonnes and a limit for rajids of 3.5 tonnes and the maintenance of a move-on rule for by-catch species (CM 41-03). If the catch limit of *D. eleginoides* is reached prior to the closure of the fishery, the area north of 58°00'S shall be closed. The portion of Statistical Subarea 48.4 outside the defined area open to fishing (see above) is closed to directed fishing for *Dissostichus* spp.

STECF COMMENTS: STECF has no comments.

18.1.3 Antarctic toothfish (*Dissostichus mawsoni*) in Subarea 48.4, South Sandwich Islands

The assessment and management of *Dissostichus* spp. fisheries in Subarea 48.4 has always been based on separate assessments for the northern and southern management area, in which the assessment for the Northern Area was carried out for *D. eleginoides*, using CASAL, whilst for the Southern Area a Petersen biomass estimate was calculated for both *D. eleginoides* and *D. mawsoni* combined. In 2012 it was decided that species-specific assessments should be developed for the subarea to provide more appropriate assessment and management of the fisheries.

FISHERIES: The fishery for *Dissostichus eleginoides* in Subarea 48.4 was initiated as a new fishery in 1992/93 following notifications from Chile and the USA, and the adoption of CM 44/XI, which set a precautionary catch limit for *D. eleginoides* of 240 tonnes for that season. Subsequently, the USA withdrew from the fishery and the Chilean longline vessel abandoned fishing after one week due to poor catches. In addition, a Bulgarian-flagged longliner fished in November and December 1992 and reported a catch of 39 tonnes of *D. eleginoides*. Haul-by-haul data from the Chilean and Bulgarian vessels were submitted to CCAMLR and on basis of these data the Commission adopted a precautionary catch limit for *D. eleginoides* of 28 tonnes per season. In addition, targeting of *D. mawsoni* was prohibited, other than for scientific research purposes. These limits remained in force until 2004. In 2004/05, the UK conducted a pilot tagging program using a fishing vessel. This tagging program was carried forward till 2007/08. The experiment resulted in a CASAL assessment of toothfish in the northern part of Subarea 48.4 in 2009. In 2008, the Commission agreed to a continuation of the tagging experiment initiated in 2004/05 and to dividing Subarea 48.4 into a northern area (Subarea 48.4 North) and a southern area (Subarea 48.4 South), with a directed longline fishery on *D. eleginoides* in Subarea 48.4 North and *Dissostichus* spp. in Subarea 48.4 South. The fishery for *Dissostichus* spp. in Subarea 48.4 in 2012/13 operated in accordance with CM 41-03 and associated measures. The catch limit for *D. eleginoides* in the Northern Area was 63 tonnes and in the Southern Area 52 tonnes. Two vessels using longlines in the Northern Area reported a total reported catch of 62 tonnes, after which the management

area was closed on 4 April 2013. The total reported catch up in the Southern Area to 20 September 2013 was 50 tonnes.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. The first species-specific biomass estimates for *D. mawsoni* in Subarea 48.4. were performed using a tag-based Petersen estimator.

REFERENCE POINTS: $SSB_{t+35\text{years}} \geq 50\% SSB_0$; probability of SSB dropping below 20% of $SSB_0 < 0.1$.

STOCK STATUS: The biomass of Antarctic toothfish (*D. mawsoni*) in Subarea 48.4 was estimated using as Petersen method as 640 tonnes. The catch limit for 2013/14 was estimated by applying the same catch rate as in previous years which is based on the harvest rate of *D. eleginoides* in Subarea 48.3 ($\gamma = 0.038$).

RECENT MANAGEMENT ADVICE: The area open to fishing are defined as that portion of Statistical Subarea 48.4 that lies within the area bounded by latitudes 55°30'S and 57°20'S and by longitudes 25°30'W and 29°30'W, and by latitudes 57°20'S and 60°00'S and by longitudes 24°30'W and 29°00'W. For the portion of Statistical Subarea 48.4 open for fishing a catch limit of 24 tonnes for *D. mawsoni* was set for 2013/14, with a limit on by-catch for macrourids of 11 tonnes and a limit for rajids of 3.5 tonnes and the maintenance of a move-on rule for by-catch species (CM 41-03). If the catch limit for *D. mawsoni* is reached prior to the closure of the fishery, the area south of latitude 57°20'S shall be closed. The portion of Statistical Subarea 48.4 outside the defined area open to fishing (see above) is closed to directed fishing for *Dissostichus* spp.

STECF COMMENTS: STECF has no comments.

18.1.4 Patagonian toothfish (*Dissostichus eleginoides*) in Division 58.5.1., Kerguelen Islands

FISHERIES: The fishery for *Dissostichus eleginoides* operates in the French EEZ around the Kerguelen Islands in Division 58.5.1. The fishery began in 1984/85 as a trawl fishery targeting *D. eleginoides*, however, trawling targeting other species between 1979 and 1984 caught small amounts of toothfish as by-catch. Trawling continued to 2000/01; a longline fishery began in 1991/92 and continues to the present. The fishery is active throughout most of the year and only longlining is currently permitted in this fishery and operates in the French EEZ around the Kerguelen Islands (outside the 12 n mile zone and down to the 500 m isobath) in Division 58.5.1. The catch limit of *D. eleginoides* set by France in its EEZ in Division 58.5.1 for 2012/13 was 5,100 tonnes, and this was allocated to seven longliners. The catch for the current season reported to October 2013 was 3,239 tonnes. The estimated IUU catch for the 2012/13 season was zero inside the French EEZ. Some IUU fishing may have occurred outside the EEZ.

SOURCE OF MANAGEMENT ADVICE: The fishery inside the EEZ of the Kerguelen Islands is managed by France. CCAMLR provides general management advice for Division 58.5.1. France informed that the development of a stock assessment model using CASAL is ongoing, and it intends to present the model to a future meeting of WG-FSA. It reviewed a preliminary assessment (CASAL, with catch, CPUE and length-frequency data from the commercial fishery from 1979 onwards). In 2013 France finished the POKER 3 survey and is in process of updating the stock assessment in the coming year.

REFERENCE POINTS: Assessment of appropriate levels of future catch has not been based on the CCAMLR decision rules.

STOCK STATUS: *D. eleginoides* occurs throughout the Kerguelen Islands shelf, from shallow waters (<10 m) to at least 2,000 m depth. As fish grow, they move to deeper waters, and are recruited to the trawl fishery on the slopes of the shelf and subsequently to the longline fishery in deeper waters. A general east-west deep-sea movement of adult fish occurs and spawning is restricted to the westerly zone early in winter each year. Tagging experiments at Heard Island (Division 58.5.2) show long-distance movements of sub-adult/adult fish between zones (Heard to Kerguelen and also Crozet), but the proportion of exchange between stocks is unknown.

RECENT MANAGEMENT ADVICE: Due to the absence of new data, no stock assessment could be carried out, therefore the Scientific Committee recalled last year's advice: "5,100 tonnes of *D. eleginoides* in the French EEZ in Division 58.5.1 could be used as management advice for 2012/13". No new information was available on the state of fish stocks in Division 58.5.1 outside areas of national jurisdiction and it was therefore recommended that the prohibition of directed fishing for *D. eleginoides*, described in CM 32-13, remains in force.

STECF COMMENTS: STECF has no comments.

18.1.5 Patagonian toothfish (*Dissostichus eleginoides*) in Subarea 58.5.2., Heard and McDonald Islands

FISHERIES: From 1996/97 to 2001/02 the fishery was a trawl fishery, only in recent seasons the fishery has been prosecuted by trawl, longline and pot. The fishery in 2012/13 for *D. eleginoides* in Division 58.5.2 operated in accordance with CM 41-08 and associated measures. The catch limit was 2,730 tonnes and fishing was conducted by four vessels using bottom trawls, longlines and pots. The total reported catch up to 20 September 2013 was 2,413 tonnes. There has been no evidence of IUU fishing in Division 58.5.2 since 2006/07.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. There is also a 200 mile EEZ around Heard and McDonald Islands administered by Australia. An updated assessment for *D. eleginoides* in Division 58.5.2 was performed with data until the start of August 2013 and based on a CASAL model, with catches, tag releases/recaptures data, commercial catch-at-length data and orca depredation. This assessment resulted in an update of the growth model and compared the effects of a range of alternative fishery structures and model assumptions for year-class strength (YCS) on stock assessment estimates and projected catch limits that satisfy the CCAMLR decision rules.

REFERENCE POINTS: $SSB_{t+35years} \geq 50\% SSB_0$; probability of SSB dropping below 20% of SSB_0

STOCK STATUS: *D. eleginoides* occurs throughout the Heard Island and McDonald Islands Plateau, from shallow depths near Heard Island to at least 1,800 m depth around the periphery of the plateau. Genetic studies have demonstrated that the population at Heard Island and McDonald Islands is distinct from those at distant locations such as South Georgia and Macquarie Island, but that within the Indian Ocean sector there appears to be no distinction between fish at Heard, Kerguelen, Crozet or Marion/Prince Edward Islands. This, combined with results from tagging data which show movement of some fish from Heard Island to Kerguelen and Crozet Islands suggests that a metapopulation of *D. eleginoides* may exist in the Indian Ocean sector. Preliminary results show different estimates for the initial and current biomass.

RECENT MANAGEMENT ADVICE: The catch limit for *D. eleginoides* in Division 58.5.2 west of 79°20'E was set at 2,730 tonnes for 2013/14 (CM 41-08).

STECF COMMENTS: STECF has no comments.

18.1.6 Patagonian toothfish (*Dissostichus eleginoides*) in Subarea 58.6, Crozet Islands inside French EEZ

FISHERIES: The fishery for *Dissostichus eleginoides* operated in the French EEZ around the Crozet Islands in Subarea 58.6. The fishery has been conducted using longlines from 1996/97 to the present. The catch limit set by France in its EEZ in Subarea 58.6 for 2010/11 was 700 tonnes, and this was allocated to six longliners. The catch for the current season reported to 20 September 2013 was 504 tonnes. A high level of depredation on *D. eleginoides* catches from killer whales (*Orcinus orca*) is the main reason why fishers avoid the area. There was no evidence of IUU fishing in 2012/13.

SOURCE OF MANAGEMENT ADVICE: The fishery inside the EEZ of the Crozet Islands is managed by France, which performed a first stock assessment for this species.

REFERENCE POINTS: Assessment of appropriate levels of future catch are based on the CCAMLR decision rules.

STOCK STATUS: Tagging has been carried out since 2006, so far 4 353 fish have been tagged from commercial longliners at Crozet. Of the tagged fish, 197 were recaptured; 182 from French tagging and 15 from tagging at Heard Island. A range of 55,000 to 115,000 tonnes was observed for B_0 and SSB never falls below 70% of the initial biomass considering the actual level of catches.

RECENT MANAGEMENT ADVICE: The catch limit for *D. eleginoides* in Subarea 58.6 (French EEZ) was set at 2,500 tonnes (including 10% orca depredation). No new information was available on the state of fish stocks in Subarea 58.6 outside areas of national jurisdiction. Therefore the prohibition of directed fishing for *D. eleginoides*, described in CM 32-11, remains in force.

STECF COMMENTS: STECF has no comments.

18.1.7 Patagonian toothfish (*Dissostichus eleginoides*) in Subarea 58.6 and 58.7, Prince Edward and Marion Islands inside South Africa EEZ

FISHERIES: A licensed fishery within the South African EEZ at the Prince Edward Islands started in October 1996. Part of the South African EEZ is outside the CCAMLR Convention Area (Area 51) and part falls within Subareas 58.6 and 58.7 and Division 58.4.4. Most fishing in the South African EEZ takes place to the north and the east of the Prince Edward Islands in Subareas 58.6 and 58.7 and Area 51, and this Fishery Report focuses on Subareas 58.6 and 58.7. An interim catch limit of *D. eleginoides* in the South African EEZ for 2011/12 was 320 tonnes, of which 200 tonnes were set aside to conduct an experiment to calibrate CPUE between and was retained for 2012/13. The total reported catch of two vessels was 234 tonnes up to 15 October 2013 and were still operating. There was no evidence of IUU catch in recent seasons.

SOURCE OF MANAGEMENT ADVICE: The fishery in the waters adjacent to Prince Edward and Marion Islands is managed by the Republic of South Africa. Subarea 58.6 also includes the Crozet Islands to the east of the Prince Edward Islands. The assessment was reviewed in 2007. The adoption of the operational management procedure (OMP) as a basis for management is currently being considered by South Africa, but is being hampered by the fact that the fishery has moved from Spanish to troll gear since 2009 and only trot-line gear was used in 2011. A revised operational management procedure to form the basis for a management advice is under development by South Africa, with CPUE comparisons between Spanish and trotlines and the continuation of historic CPUE series that is based on Spanish longline gear.

REFERENCE POINTS: Assessment of appropriate levels of future catch has not been based on the CCAMLR decision rules.

STOCK STATUS: The South African EEZ around the Prince Edward Islands is mainly in Subarea 58.7, but extends east into Subarea 58.6, south into Division 58.4.4, and north of the Convention Area into Area 51. However, there are currently no fishing grounds in the southern half of the South African EEZ. The majority of the fishery occurs down to about 1,500 m, but fishing depths in excess of 2,000 m have been recorded. Subarea 58.6 also includes the Crozet Islands to the east of the Prince Edward Islands. The current stock assessments did not consider the possibility that these island groups share the same toothfish stock.

RECENT MANAGEMENT ADVICE: The catch limit of *D. eleginoides* in the South African EEZ for 2013/14 was not yet determined at the time of the meeting, but is likely to be higher than 400 tonnes. No new information was available on the state of fish stocks in Subareas 58.6 and 58.7 and Division 58.4.4 outside areas of national jurisdiction. Therefore, the prohibition of directed fishing for *D. eleginoides*, described in CM 32-02 remains in force.

STECF COMMENTS: STECF has no comments.

18.1.8 Patagonian toothfish (*Dissostichus eleginoides*) and Antarctic toothfish (*D. mawsoni*) exploratory fishery in Subarea 48.5, Weddell Sea

FISHERIES: Directed fishing on Patagonian toothfish (*D. eleginoides*) and Antarctic toothfish (*D. mawsoni*) in Subarea 48.5 was prohibited in 1997. Russia had performed research in Subarea 48.5 in 2012/13 and has notified for research fisheries in 2013/14.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: The fishery is currently conducted as a CCAMLR Exploratory Fishery. Catch limits are therefore set at a level not substantially above that necessary to obtain the information specified in the Exploratory Fishery's Data Collection Plan. The Commission agreed that it could provide no new advice on catch limits for this subarea. Directed fishing for *Dissostichus* spp. in Subarea 48.5 is prohibited in 2013/14 (CM 32-09). Russia is allowed to conduct research that depending on the ice condition, the order of priority was the completion of this research in 2014 was first the research block in Option 1 (inside research block a maximum catch of 60 tonnes with 50% of lines separated by a minimum of 3 n miles), then the prospecting sets in Option 1 (outside the research block a maximum of 213 tonnes and 40 longline sets with no more than 3,600 hooks per set and separated by a minimum of 5 n miles), and last the completion of Options 2 (a maximum catch of 48 tonnes and 40 longline sets with no more than 3,600 hooks per set and separated by a

minimum of 5 n miles) and 3 (a maximum catch of 112 tonnes and 80 longline sets with no more than 3,600 hooks per set and separated by a minimum of 5 n miles), when possible.

STECF COMMENTS: STECF has no comments.

18.1.9 Patagonian toothfish (*Dissostichus eleginoides*) and Antarctic toothfish (*D. mawsoni*) exploratory fishery in Subarea 48.6

FISHERIES: The longline fishery for *Dissostichus* spp. in Subarea 48.6 began as a new fishery in 1996/97 (CM 114/XV). In 1999, the Commission agreed that high levels of IUU fishing for *Dissostichus* spp. in the Convention Area had rendered it unrealistic to consider this fishery as 'new', and the fishery was re-classified as exploratory. Licensed longline vessels have fished the exploratory fishery for *Dissostichus* spp. in Subarea 48.6 since 2003/04, and the dominant species in the catches in recent seasons was *D. mawsoni*. For the season 2013/14, a combined research notification from Japan and South Africa was received.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: The fishery is currently conducted as a CCAMLR Exploratory Fishery. Catch limits are therefore set at a level not substantially above that necessary to obtain the information specified in the Exploratory Fishery's Data Collection Plan. The Commission agreed that it could provide no new advice on catch limits for this subarea and noted the recommendations for increasing the research requirements in this fishery. It therefore recalled the continuation of the research by Japan and South Africa using longlines only. Catch limits for research in 2013/14 in Subarea 48.6 was set at 28 tonnes in SSRUs A and G for *D. eleginoides* and 170 tonnes for *D. mawsoni*, 190 tonnes in SSRUs B and C, 50 tonnes in SSRU D, 100 tonnes in SSRU E and 0 tonnes in SSRU F all for *Dissostichus* spp. (CM 41-04).

STECF COMMENTS: STECF has no comments.

18.1.10 Patagonian toothfish (*Dissostichus eleginoides*) and Antarctic toothfish (*D. mawsoni*) exploratory fishery Division 58.4.1.

FISHERIES: The exploratory longline fishery for *Dissostichus* spp. in Division 58.4.1 was first agreed by the Commission in 1998/99 (CM 166/XVII), and licensed longline vessels first operated in this fishery in 2004/05. In 2012, the fishery was limited to Japanese, Korean, New Zealand, Russian, South African and Spanish vessel using longlines only. Spain performed a combined depletion experiment and tag recapture approach in Division 58.4.1 in 2013. Also Japan and South Korea performed research in 2013. Total reported catch for 2012/13 was 48 tonnes. IUU fishing in Division 58.4.1 was first detected in 2005/06, and high levels of IUU fishing in 2005/06, 2006/07 and 2009/10 resulted in the total removals being well in excess of the catch limits.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: Data show that juvenile fish inhabit mostly the shelf, while larger fish live on the slope and pre-spawning fish are found either on their northward spawning migration or inhabit the deeper slope. Further unknown.

RECENT MANAGEMENT ADVICE: The fishery is currently conducted as a CCAMLR Exploratory Fishery. Catch limits are therefore set at a level not substantially above that necessary to obtain the information specified in the Exploratory Fishery's Data Collection Plan. The Commission agreed that it could provide no new advice on catch limits for this subarea and noted the recommendations for increasing the research requirements in this fishery. It therefore recalled the continuation of the research by Japan and Spain using longlines only. The precautionary catch limit for *Dissostichus* spp. in 2013/14 set at 724 tonnes: 0 tonnes in SSRUs A-B, 257 tonnes in SSRU C, 42 tonnes in SSRU D, 315 tonnes in SSRU E, 0 tonnes SSRU F, 68 tonnes in SSRU G and 42 tonnes in SSRU H. The exploratory fishery shall be conducted by Japan (one vessel), Republic of Korea (one vessel) and Spain (one vessel) using longlines only (CM 41-11).

STECF COMMENTS: STECF has no comments.

18.1.11 *Patagonian toothfish (Dissostichus eleginoides) and Antarctic toothfish (D. mawsoni) exploratory fishery in Division 58.4.2.*

FISHERIES: The exploratory fishery for *Dissostichus* spp. in Division 58.4.2 was first agreed by the Commission in 2000, with a trawling fishery which was permitted in association with a new fishery for *Chaenodraco wilsoni*, *Lepidonothothen kempfi*, *Trematomus eulepidotus* and *Pleurogramma antarcticum*. The exploratory trawl fishery was also permitted in 2001/02 in association with a new fishery for *Macrourus* spp. Licensed longline vessels have fished the exploratory fishery for *Dissostichus* spp. in Division 58.4.2 since 2003/04, and the target species is *D. mawsoni*. Total reported catch for 2012/13 was 4 tonnes.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. In 2010, the Commission required each vessel catching more than 2 tonnes of *Dissostichus* spp. in an exploratory fishery to achieve a minimum tag overlap statistic of 50% in 2010/11 and of 60% from 2011/12 onwards (Annex 41-01/C).

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: Data show that juvenile fish inhabit mostly the shelf, while larger fish live on the slope and pre-spawning fish are found either on their northward spawning migration or inhabit the deeper slope. Further unknown.

RECENT MANAGEMENT ADVICE: The fishery is currently conducted as a CCAMLR Exploratory Fishery. Catch limits are therefore set at a level not substantially above that necessary to obtain the information specified in the Exploratory Fishery's Data Collection Plan. The precautionary catch limit for *Dissostichus* spp. in 2013/14 for research by Japan (one vessel) and Spain (one vessel) was set at is set at 30 tonnes for SSRU A and 35 tonnes in SSRU E (CM 41-05).

STECF COMMENTS: STECF has no comments.

18.1.12 *Patagonian toothfish (Dissostichus eleginoides) and Antarctic toothfish (D. mawsoni) exploratory fishery in Division 58.4.3a, Elan Bank outside areas of national jurisdiction*

FISHERIES: Longline fishery for *Dissostichus* spp. In Division 58.4.3 began as a new fishery in 1997, but was reclassified as exploratory in 2000. In 2001, the boundaries of Division 58.4.3 were rearranged on the basis of ecological considerations, and two new divisions were formed: Division 58.4.3a (Elan Bank) and Division 58.4.3b (BANZARE Bank). The Commission agreed to exploratory fisheries for *Dissostichus* spp. in each of these new divisions, outside areas of national jurisdiction. During 2013/13 France and Japan carried out exploratory fisheries using longlines only, with a total reported catch of 16 tonnes.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: The fishery is currently conducted as a CCAMLR Exploratory Fishery. Catch limits are therefore set at a level not substantially above that necessary to obtain the information specified in the Exploratory Fishery's Data Collection Plan. No new advice could be provided on catch limits for this division for 2013/14 and the Commission endorsed the continuation of research with the requirement that each vessel set a minimum of five research sets, separated by at least 3 n miles, east of the 70°E meridian, after which research sets (CM 41-01) can continue within the research block defined in 2012. The precautionary catch limit for *Dissostichus* spp. outside areas of national jurisdiction was set at 32 tonnes in 2013/14, with a minimum for each vessel of 10 tonnes. The exploratory fisheries shall be conducted by France (one vessel) and Japan (one vessel), using longlines only (CM 41-06).

STECF COMMENTS: STECF has no comments.

18.1.13 *Patagonian toothfish (Dissostichus eleginoides) and Antarctic toothfish (D. mawsoni) exploratory fishery in Division 58.4.3b, Banzare Bank outside areas of national jurisdiction*

FISHERIES: Longline fishery for *Dissostichus* spp. In Division 58.4.3 began as a new fishery in 1997, but was reclassified as exploratory in 2000. In 2001, the boundaries of Division 58.4.3 were rearranged on the basis of ecological considerations, and two new divisions were formed: Division 58.4.3a (Elan Bank) and Division 58.4.3b (BANZARE Bank). The Commission agreed to exploratory fisheries for *Dissostichus* spp. in each of these new divisions, outside areas of national jurisdiction. In 2007, the division was subdivided into small-scale research units (SSRUs) A (north of 60°S) and B (south of 60°S). In 2008, SSRU A was further subdivided into SSRUs A,C,D and E. Since 2009/10, operations in this fishery have been limited to research fishing only, in accordance with CM 24-01. In 2010/11, there was limited to research fishing for *Dissostichus* spp. in Division 58.4.3b and was conducted by one Japanese vessel using longlines only, in accordance with CM 24-01 (CM 41-07), and reported a total catch of 11 tonnes of *Dissostichus* spp (2 tonnes of *D. eleginoides* and 9 tonnes of *D. mawsoni*). The IUU catch of *Dissostichus* spp. in 2010/11 was not estimated

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: The fishery is currently conducted as a CCAMLR Exploratory Fishery. Catch limits are therefore set at a level not substantially above that necessary to obtain the information specified in the Exploratory Fishery's Data Collection Plan. No new advice could be provided on catch limits outside areas of national jurisdiction on Banzare Bank, SSRUs A-E is set at 0 tonnes for 2013/14 and (CM 41-07).

STECF COMMENTS: STECF has no comments.

18.1.14 *Patagonian toothfish (Dissostichus eleginoides) and Antarctic toothfish (D. mawsoni) exploratory fisheries in Subareas 88.1 and 88.2, Ross Sea*

FISHERIES: In 2005 the Subareas 88.1 and 88.2 were split into two areas for the purposes of stock assessment: (i) the Ross Sea (Subarea 88.1 and SSRUs 882A–B), and (ii) SSRU 882E. The catch limits for the Subarea 88.1 and 88.2 SSRUs in the Ross Sea were changed as part of a three-year experiment starting in 2005/06. The SSRUs between 150°E and 170°E (881A, D, E, F) and between 170°W and 150°W (882A–B) were closed to fishing to ensure that effort was retained in the area of the experiment. To assist administration of the SSRUs, the catch limits for SSRUs 881B, C and G were amalgamated into a 'north' region and those for SSRUs 881H, I and K were amalgamated into a 'slope' region. Within Subarea 88.2, SSRU 882E was treated as a separate SSRU with its own catch limit, whilst SSRUs 882C, D, F and G were amalgamated with a single catch limit. However, in each of the closed SSRUs and prior to 2008/09, a nominal catch of up to 10 tonnes of *Dissostichus* spp. remained permissible under the research fishing exemption; these fishing research catch limits were removed in 2008. SSRU J was subdivided into two SSRUs (SSRU J and SSRU M) in 2008, and the catch limits for SSRUs 881J and L were amalgamated to assist administration. New Zealand, Norway, Republic of Korea, Russia, Spain, UK and Ukraine carried out exploratory fisheries in 2012/13 using longlines only, with a reported catch of 3,185 tonnes of Antarctic toothfish (*D. mawsoni*) in Subarea 88.1. New Zealand, Norway, Republic of Korea, Russia, UK and Ukraine conducted exploratory fisheries in 2012/13 using longlines only, with a reported catch of 476 tonnes of Antarctic toothfish (*D. mawsoni*) in Subarea 88.2.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. The assessment is based on an integrated assessment (CASAL) that uses catch at age by sex, CPUE and tagging data. CASAL model structure and assumptions are detailed in the WG-FSA Report 2011.

REFERENCE POINTS: $SSB_{t+35\text{years}} \geq 50\% SSB_0$; probability of SSB dropping below 20% of $SSB_0 < 0.1$.

STOCK STATUS: The stocks in Subarea 88.1 is considered fully exploited. A new stock assessment was undertaken in 2012. MCMC estimates of initial (equilibrium) spawning stock abundance (B_0) were 73,870 tonnes (95% credible interval (CI) 69,070–78,880 tonnes), and current biomass (B_{current}) was estimated as 80% B_0 (95% CI 76.8–81.3%). The projected biomass trajectory assumes a future constant catch of 3,282 tonnes. For Subarea 88.2 (SSRUs 882C–H) the MCMC estimates of initial (equilibrium) spawning stock abundance (B_0)

were 11,720 tonnes (95% CI 9,960–13,720 tonnes), and current (B_{current}) biomass was estimated as 84% B_0 (95% CI 80–86%). The projected biomass trajectory assumes a future constant catch of 530 tonnes

RECENT MANAGEMENT ADVICE: The precautionary catch limits for *Dissostichus* spp. in Subarea 88.1 is 3,044 tonnes and that the allocation used to set the 2009/10 catch limits for SSRUs in Subarea 88.1 be continued for 2013/2014. The exploratory fisheries shall be conducted by Japan (1 vessel), Republic of Korea (4 vessels), New Zealand (4 vessels), Norway (1 vessel), Russia (6 vessels), Spain (1 vessel), Ukraine (3 vessels) and UK (2 vessels) using longlines only. The total catch of *Dissostichus* spp. in Subarea 88.1 in 2013/14 was divided over the SSRUs: 0 tonnes in SSRUs A,D-F&M, 397 tonnes in SSRUs B,C&G (total), 2,247 tonnes in SSRUs H-J (total) and 357 tonnes in SSRUs in J&L (total) (CM 41-09). A discrete research catch of 43 tonnes was set aside for the prerecruit research survey by New Zealand. The total catch of *Dissostichus* spp. in Subarea 88.2 in 2013/14 shall not exceed a precautionary catch limit of 390 tonnes, divided over the SSRUs: 0 tonnes in SSRUs A, B & I, 124 tonnes in SSRUs C, D, E, F & G (total) and 266 tonnes and (CM 41-10). The exploratory fisheries shall be conducted by Republic of Korea (4 vessels), New Zealand (4 vessels), Norway (1 vessel), Russia (6 vessels), Spain (1 vessel), Ukraine (3 vessels) and UK (2 vessels) using longlines only.

STECF COMMENTS: STECF has no comments.

18.1.15 *Patagonian toothfish (Dissostichus eleginoides) and Antarctic toothfish (D. mawsoni) closed fisheries in Divisions 58.4.4a and 58.4.4b, Ob and Lena Bank*

FISHERIES: The longline fishery for *Dissostichus* spp. in Divisions 58.4.4a and 58.4.4b began as a new fishery in 1997/98 (CM 138/XVI). These divisions were managed as a single area and a catch limit for *Dissostichus* spp. applied to fishing north of 60°S, and in waters outside areas of national jurisdiction. Following the Commission's recognition that high levels of IUU fishing for *Dissostichus* spp. in the Convention Area had rendered it unrealistic to consider this fishery as 'new', the fishery was reclassified as exploratory in 1999. In 1999, the divisions were subdivided into SSRUs A, B, C and D. In 2002, the Commission expressed concern regarding the low levels of stocks of *Dissostichus* spp. in Divisions 58.4.4a and 58.4.4b and the high levels of IUU fishing in that region. Consequently, the Commission prohibited directed fishing for *Dissostichus* spp. in these divisions and the fishery for *Dissostichus* spp. was closed (CM 32-10). In 2012/13, a Japanese-flagged longliner conducted research fishing in accordance with a research plan submitted under CM 24-01. The vessel caught 31 tonnes of *D. eleginoides*.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: The fishery is currently conducted as part of exploratory fisheries with overall catch limits greater than zero.

STOCK STATUS: Unknown

RECENT MANAGEMENT ADVICE: The Japanese research on BANZARE Bank may proceed in 2013/14 with a total catch limit of 60 tonnes: 25 tonnes in SSRU C and 35 tonnes in SSRU D.

STECF COMMENTS: STECF has no comments.

18.1.16 *Patagonian toothfish (Dissostichus eleginoides) and Antarctic toothfish (D. mawsoni) closed fisheries in Subarea 88.3.*

FISHERIES: There is a prohibition of directed fisheries on toothfish (*Dissostichus* spp.) in Subarea 88.3 (CM 32-16), other than for scientific research purposes in accordance with Conservation Measure 24-01, from 1 December 2003 until the fishery is reopened by the Commission based on the advice of the Scientific Committee. In 2010/11, a Russian-flagged longliner conducted research fishing in accordance with a research plan submitted under CM 24-01. The vessel caught 5 tonnes of *D. mawsoni*. No research was conducted in 2012/13.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: The fishery is currently conducted as part of exploratory fisheries with overall catch limits greater than zero.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: The fishery is closed (CM 32-02).

STECF COMMENTS: STECF has no comments.

18.1.17 *Patagonian toothfish (*Dissostichus eleginoides*) in other closed fisheries*

FISHERIES: There is a prohibition of directed fisheries Patagonia toothfish (*Dissostichus eleginoides*) in:

- Division 58.6 except for waters adjacent to the Prince Edward Islands and the Crozet Islands (CM 32-11), other than for scientific research purposes in accordance with Conservation Measure 24-01, from 1 December 2002 until the fishery is reopened by the Commission based on the advice of the Scientific Committee.
- Division 58.7 except for waters adjacent to the Prince Edward Islands (CM 32-12), other than for scientific research purposes in accordance with Conservation Measure 24-01, from 7 November 1998 until the fishery is reopened by the Commission based on the advice of the Scientific Committee.
- Division 58.5.1 outside areas of national jurisdiction (CM 32-13), other than for scientific research purposes in accordance with Conservation Measure 24-01, from 1 December 2003 until the fishery is reopened by the Commission based on the advice of the Scientific Committee.
- Division 58.5.2 east of 79°20'E and outside the EEZ to the west of 79°20'E (CM 32-14), other than for scientific research purposes in accordance with Conservation Measure 24-01, from 1 December 2003 until the fishery is reopened by the Commission based on the advice of the Scientific Committee.
- Subarea 88.2 north of 65°S (CM 32-15), other than for scientific research (10 tonnes of *Dissostichus* spp. in 2011/12 by Russia) purposes in accordance with Conservation Measure 24-01, from 1 December 2003 until the fishery is reopened by the Commission based on the advice of the Scientific Committee.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: For these fish species and subsequent areas there was no new advice.

STECF COMMENTS: STECF has no comments

18.2 Mackerel icefish (*Champsocephalus gunnari*)

In 2012/13, four Members fished for icefish by trawling in Subarea 48.3 and Division 58.5.2 with a total reported catch on 20 September of 2003 tonnes (1011 tonnes in 2011/12, 11 tonnes in 2010/11, 378 tonnes in 2009/2010 and 1,916 tonnes in 2008/09).

18.2.1 Icefish (*Champsocephalus gunnari*) in Division 58.5.2, Heard and McDonald Islands

FISHERIES: The fishery for *C. gunnari* in Division 58.5.2 was operated in accordance with CM 42-02 and associated measures. In 2012/13, the catch limit for *C. gunnari* was 679 tonnes. Fishing was conducted by one vessel using a semipelagic trawl and the total reported catch up to 20 September 2013 was 644 tonnes. There has been no evidence of IUU activity in this fishery.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. A short-term assessment was conducted in the generalised yield model (GYM), using the one-sided bootstrap lower 95% confidence bound of total biomass of 6,098 tonnes from the 2013 survey and fixed model parameters. The length–weight relationship was updated using the 2013 survey data, other parameters were unchanged from previous assessments. The best fit of CMIX to the data was achieved when the population was estimated to consist of four year classes from 1+ to 4+, with a large 3+ cohort.

REFERENCE POINTS: $SSB_{t+3years} \geq 75\% SSB_{current}$.

STOCK STATUS: Stock level is highly variable and dependent on recruitment. A responsive management strategy, using a short term (2 year) assessment approach based on the results of groundfish surveys has been used since 2000. There is evidence of cyclic behaviour in adult population size, with a peak in the fishery every

three years. Because the abundant 3+ year class (5,610 tonnes, 92% of the initial biomass of 6,098 tonnes) is unlikely to be present in 2014/15, a catch of 1,267 tonnes could be taken in 2013/14 (less than the aggregate catch across the two-year projection of 1,335 tonnes), ensuring 75% escapement of the 3+ cohort prior to them disappearing, with the expectation that there will be no commercial fishery in 2014/15. Fishery catches of 400 tonnes after the survey were also included in the model, assumed to have been taken from the 2+ and 3+ cohort in proportion to their relative abundance in the survey.

RECENT MANAGEMENT ADVICE: The catch limit for *C. gunnari* in 2013/14 was set at 1,267 tonnes (CM 42-02).

STECF COMMENTS: STECF has no comments.

18.2.2 Icefish (*Champsocephalus gunnari*) in Subarea 48.3, South Georgia

FISHERIES: The fishery for *C. gunnari* in Subarea 48.3 operated in accordance with CM 42-01 and associated measures. For the fishing season from 1 December 2012 to 30 November 2013, the catch limit for *C. gunnari* was 2,933 tonnes. Early in the season fishing was conducted by two vessels using midwater trawls and the total reported catch was 1,354 tonnes as of 20 September 2013. The fishery resumed in October 2013. There has been no evidence of IUU activity in this fishery.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. In 2013 a preliminary assessment was performed, based on a random stratified bottom trawl survey (January 2013) of the South Georgia and Shag Rocks shelves by the UK. A total catch of 42.9 tonnes was reported from the research survey, with an exceptionally large catch of 22 tonnes of *C. gunnari* taken in a single haul in the northwest stratum. A bootstrap procedure was applied to the survey data to estimate the demersal biomass, but the station with the exceptionally large catch was omitted from the analysis as a precautionary approach to biomass estimation.

REFERENCE POINTS: $SSB_{t+2years} \geq 75\% SSB_{current}$.

STOCK STATUS: The procedure for the length-based assessment estimated the median demersal biomass at 106,548 tonnes, with a one-sided lower 95% confidence interval of 49,640 tonnes. The harvest control rule, which ensures 75% biomass escapement after a two-year projection period, was applied to determine catch limits for *C. gunnari* in Subarea 48.3.

RECENT MANAGEMENT ADVICE: The catch limit for *C. gunnari* in Subarea 48.3 was set at 4,635 tonnes for 2013/14 and should be carried out in accordance with CM 42-01 (move-on-rule and others) and associated measures.

STECF COMMENTS: STECF has no comments.

18.3 Other finfish species in the Convention Area

18.3.1 Other finfish species closed fisheries

FISHERIES: There is a prohibition of directed fisheries on finfish, other than toothfish (*Dissostichus* spp.) and mackerel icefish (*Champsocephalus gunnari*):

- for finfish in Subarea 48.1, the Peninsula area (CM 32-02), other than for scientific research purposes, from 7 November 1998 until the fishery is by the Commission based on the advice of the Scientific Committee.
- for finfish in Subarea 48.2, around South Orkneys (CM 32-03), other than for scientific research purposes, from 7 November 1998 until the fishery is reopened by the Commission based on the advice of the Scientific Committee.
- on *Notothenia rossii* in Subarea 48.1, the Peninsula area (CM 32-04), by-catches in fisheries directed to other species shall be kept to the level allowing the optimum recruitment to the stock.
- on *Notothenia rossii* in Subarea 48.2, around South Orkneys (CM 32-05), by-catches in fisheries directed to other species shall be kept to the level allowing the optimum recruitment to the stock.
- on *Notothenia rossii* around Subarea 48.3, South Georgia Islands (32-06), by-catches in fisheries directed to other species shall be kept to the level allowing the optimum recruitment to the stock.

- on *Gobionotothen gibberifrons*, *Chaenocephalus aceratus*, *Pseudochaenichthys georgianus*, *Lepidonotothen squamifrons* and *Patagonotothen guntheri* in Subarea 48.3, South Georgia Islands (CM 32-07) until the fishery is reopened by the Commission based on the advice of the Scientific Committee.
- for *Lepidonotothen squamifrons* in Division 58.4.4, Ob and Lena Banks (CM 32-08), other than for scientific research purposes, from 8 November 1997 until the fishery is reopened by the Commission based on the advice of the Scientific Committee.
- for *Electrona carlsbergi* in Subarea 48.3, South Georgia Islands (CM 32-17), other than for scientific research purposes, from 1 December 2003 until the fishery is reopened by the Commission based on the advice of the Scientific Committee; or a research plan for an exploratory fishery is submitted and approved by the Scientific Committee consistent with Conservation Measure 24-01.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: Not applicable.

STOCK STATUS: Not applicable.

RECENT MANAGEMENT ADVICE: For these fish species and subsequent areas there was no new advice.

STECF COMMENTS: STECF has no comments.

18.4 Elasmobranchs

18.4.1 Skates and Rays (*Rajidae*) in Subarea 48.3, South Georgia

FISHERIES: No data on bycatch of skates and rays were provided at the Scientific Committee 2011 for the fishing season 2011/12. STATLANT data shows that bycatch of skates and rays in Subarea 48.3 during fishing season was less than 10 tonnes.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. A preliminary assessment of rajid populations in Subarea 48.3 using a surplus production model implemented in a Bayesian framework was presented in 2007. A rajid tagging program has been under way in Subarea 48.3. The Working Group noted that there were currently insufficient data to inform the assessment and that the results were strongly dependent on the informative priors for the two catchability parameters, and the intrinsic rate of increase, r .

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: No new advise on skates and rays in Subarea 48.3 due to insufficient information.

STECF COMMENTS: STECF has no comments.

18.4.2 Skates and Rays (*Rajidae*) in Division 58.5.2, Heard and McDonald Islands

FISHERIES: There was no directed fishing allowed for any species other than *Dissostichus eleginoides* and *Champocephalus gunnari* in Statistical Division 58.5.2 in the 2010/11 fishing season. No data on bycatch of skates and rays were provided at the Scientific Committee 2011 for the fishing season 2012/13. STATLANT data shows that bycatch of skates and rays in Division 58.5.2 during fishing season 2011/12 was less than 15 tonnes.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: No new information and no new advise for skates and rays in Division 58.5.2.

STECF COMMENTS: STECF has no comments.

18.4.3 Sharks in the Convention Area

FISHERIES: Directed fishing on shark species in the Convention Area, for purposes other than scientific research, is prohibited (32-18). This prohibition shall apply until such time as the Scientific Committee has investigated and reported on the potential impacts of this fishing activity and the Commission has agreed on the basis of advice from the Scientific Committee that such fishing may occur in the Convention Area. Any by-catch of shark, especially juveniles and gravid females, taken accidentally in other fisheries, shall, as far as possible, be released alive. No data on bycatch of sharks were provided at the Scientific Committee for the fishing season 2010/11. STATLANT data show that bycatch of sharks during 2011/12 was less than 3 tonnes.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: For these fish species and subsequent areas there was no new advice and CM 32-18 is retained until sufficient information is acquired for its revision.

STECF COMMENTS: STECF has no comments.

18.5 Crabs (*Paralomis* spp.)

During the fishing season 2012/13 there were no directed fisheries on crabs within the Convention Area, and no notifications of intention to fish for crabs in 2013/14 have been received by CCAMLR.

18.5.1 Crabs (*Paralomis* spp.) Subarea 48.3

FISHERIES: Crabs were not harvested during 2012/13 in Subarea 48.3, and no notifications of intention to fish for crabs in 2013/14 have been received by CCAMLR.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. The WG-FSA 2011 reviewed the information currently available on the biology and ecology of the lithodid crabs at South Georgia and provided an overview of the development of a management regime for them. Considerable gaps in knowledge of the biology, ecology and demography of the lithodid species at South Georgia are highlighted with uncertainty surrounding estimates of biomass, growth rates and survivorship of discards of the targeted species. The review reported that recent analyses suggest that the current precautionary catch limit of 1,600 tonnes may not be sustainable in the long term if it were reached consistently. It was noted that apart from 2009/10, there has been very little commercial interest in the fishery. Low market value and interest, coupled with the very high level of discarding, are likely to render the fishery commercially unviable.

REFERENCE POINTS: No precautionary reference points have been proposed for this stock.

STOCK STATUS: Unknown; unexploited.

RECENT MANAGEMENT ADVICE: Reflecting on the high level of discarding and uncertainty surrounding discard mortality, it was decided that the crab fishery in Subarea 48.3 be closed.

STECF COMMENTS: STECF has no comments.

18.5.2 Crabs (*Paralomis* spp.) exploratory fishery in Subarea 48.2

FISHERIES: An exploratory fishery for crabs in Subarea 48.2 was carried out for the first time during the 2009/10 season. The fishery was prosecuted in accordance with the requirements of CM 52-02, and a total of 79,140 pot hours and 17 sets were completed. Only three *Paralomis formosa* were captured, and it was concluded that the crab fishery in Subarea 48.2 was not likely to be viable. Crabs were not harvested during 2012/13 in Subarea 48.2, and no notifications of intention to fish for crabs in 2013/14 have been received by CCAMLR.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: No precautionary reference points have been proposed for this stock.

STOCK STATUS: Unknown; unexploited.

RECENT MANAGEMENT ADVICE: CM 52-02 stays in force with a catch limit of 250 tonnes.

STECF COMMENTS: STECF has no comments.

18.6 Krill (*Euphausia superba*)

The krill fishery operated only in Area 48 during the 2012/13 season. Different fishing gears were used: conventional trawls and continuously pumped trawls. The reported total catch to the end of October was 212,000 tonnes.

18.6.1 Krill (*Euphausia superba*) Area 48

FISHERIES: In 2012/13, five Members with a total of 12 vessels fished for krill in Area 48. The final reported catch was not available, since the fishing season for krill was still under way. The reported total catch to 20 September 2013 was 154,000 tonnes in Subarea 48.1, 30,000 tonnes in Subarea 48.2 and 28,000 tonnes in Subarea 48.3. In accordance with CM 51-07, the krill fishery was closed in 48.1 on 14 June 2013.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR. Advice on the overall catch limit is based on a long term (10 year) Generalised Yield Model (GYM) projection using survey-derived estimates of current biomass and recruitment variability. An integrated assessment method has been proposed as alternative assessment method.

REFERENCE POINTS: The probability of SSB dropping below 20% of $SSB_0 > 0.1$ (even in the absence of fishing). This would result in a γ being equal to 0 and hence a modification of this part of the decision rule may be required provided that the objectives in Article II can still be met. Given also the potential impact of climate change on recruitment variability, that both the recruitment variability and the specification of the current decision rule relating to the maintenance of stable recruitment should be investigated.

STOCK STATUS: The B_0 estimate using the full SDWBA model for Subareas 48.1, 48.2, 48.3 and 48.4 was 60.3 million tonnes with a sampling CV of 12.8%, and this represented the best estimate of krill biomass derived from the CCAMLR-2000 Survey.

RECENT MANAGEMENT ADVICE: In the absence of additional information, the advice remains to be consistent with the precautionary approach and to void concentration of the catch as the trigger level is approached, a spatial allocation of the trigger level (620,000 tonnes) by subarea is required. Until new information is available CM 51-01 and CM 51-07 are retained until sufficient information is acquired for their revisions.

STECF COMMENTS: STECF has no comments.

18.6.2 Krill (*Euphausia superba*) Area 58.4.1

FISHERIES: The total catch limit for *Euphausia superba* in Division 58.4.1 is 440 000 tonnes in any fishing season. The total catch is further subdivided into two subdivisions within Division 58.4.1 as follows: west of 115°E, 277 000 tonnes; and east of 115°E, 163 000 tonnes. There was no directed fishing on krill in Division 58.4.1 in 2012/13.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: Unknown.

RECENT MANAGEMENT ADVICE: There was no new advice for *Euphausia superba* in Division 58.4.1 and CM 51-02 is retained until sufficient information is acquired for its revision.

STECF COMMENTS: STECF has no comments.

18.6.3 Krill (*Euphausia superba*) Area 58.4.2

FISHERIES: The total catch limit for *Euphausia superba* in Division 58.4.2 is 2,645 million tonnes in any fishing season. The total catch limit is further subdivided into two subdivisions within Statistical Division 58.4.2 as follows: west of 55°E, 1,448 million tonnes; and east of 55°E, 1,080 million tonnes. Until the Commission has defined an allocation of this total catch limit between smaller management units, as the Scientific Committee may advise, the total catch in Division 58.4.2 is limited to 260,000 tonnes west of 55°E and 192 000 tonnes east of 55°E in any fishing season (CM 51-03). The fishing season begins on 1 December and finishes on 30 November of the following year. There was no directed fishing on krill in Division 58.4.2 in 2012/13.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: In 2012 an update of the estimates of krill biomass for Division 58.4.2 was made and was estimated at 24.48 million tonnes (CV 0.20), with 14.87 million tonnes (CV 0.22) in the western area, and 8.05 million tonnes (CV 0.33) in the eastern area.

RECENT MANAGEMENT ADVICE: There was no new advice formed for *Euphausia superba* in Division 58.4.2 and CM 51-03 is retained until sufficient information is acquired for its revision. Until the Commission has defined an allocation of this total catch limit between smaller management units, shall be limited to 260,000 tonnes west of 55°E and 192,000 tonnes east of 55°E in any fishing season.

STECF COMMENTS: STECF has no comments.

18.6.4 Krill (*Euphausia superba*) Area 88

FISHERIES: There was no directed fishing on krill in Area 88 in 2012/13.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: Catch limits have not been set in Area 88 and the Scientific Committee recommended that the development of krill fishing in Area 88 should be considered exploratory fisheries, since only limited information exists on the distribution and abundance of krill or predators.

RECENT MANAGEMENT ADVICE: There was no new advice formed for *Euphausia superba* in Area 88 and CM 51-04 is retained until sufficient information is acquired for its revision.

STECF COMMENTS: STECF has no comments.

18.7 Squid (*Martialia hyadesi*)

During the fishing season 2012/13 there were no directed fisheries on squid within the Convention Area, and no notifications of intention to fish for squid in 2013/14 have been received by CCAMLR.

18.7.1 Squid (*Martialia hyadesi*) Subarea 48.3

FISHERIES: No target fishery for squid (*Martialia hyadesi*) was carried out in the last seasons and no new request has been submitted to CCAMLR for exploratory fishing in the 2012/13 season.

SCOURCE OF MANAGEMENT ADVICE: The main management advisory body is CCAMLR.

REFERENCE POINTS: None available for this fishery.

STOCK STATUS: No data are available on the stock structure of fish in this fishery.

RECENT MANAGEMENT ADVICE: The CCAMLR advice is that the existing Conservation Measure 61-01 on *M. hyadesi* should remain in force.

STECF COMMENTS: STECF has no comments