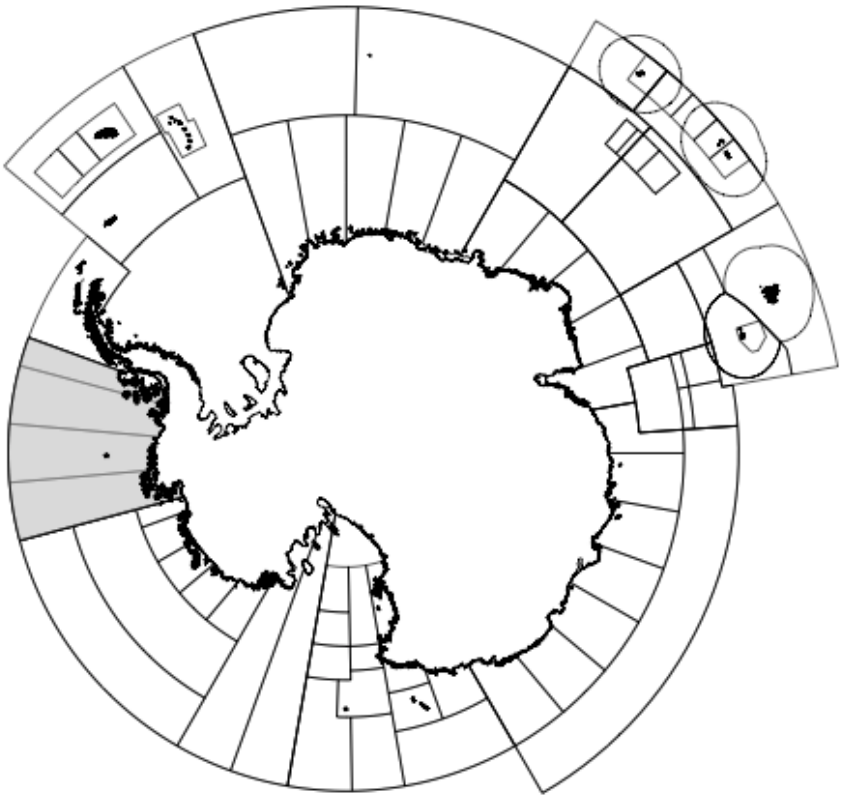
CCAMLR

Commission for the Conservation of Antarctic Marine Living Resources
Commission pour la conservation de la faune et la flore marines de l'Antarctique
Комиссия по сохранению морских живых ресурсов Антарктики
Comisión para la Conservación de los Recursos Vivos Marinos Antárticos

FISHERY REPORT

Fishery Report 2015: *Dissostichus* spp. (Subarea 88.3)



The map above shows the management areas within the CAMLR Convention Area, the specific region related to this report is shaded.

Throughout this report the CCAMLR fishing season is represented by the year in which that season ended, e.g. 2015 represents the 2014/15 CCAMLR fishing season (from 1 December 2014 to 30 November 2015).

Fishery Report 2015: *Dissostichus* spp.
Subarea 88.3

Introduction

1. Research fishing in Subarea 88.3 has been conducted by Chilean, New Zealand and Russian flagged vessels since 1998 and will be conducted by a Korean flagged vessel in 2016.

Description of the fishery

Catch and CPUE

2. The total catch and catch-per-unit-effort (CPUE) reported from the research surveys that have been conducted in Subarea 88.3 are comparatively low (Table 1).

Table 1: Catch and CPUE of *Dissostichus mawsoni* and *D. eleginoides* in Subarea 88.3

Year	*D. mawsoni*		*D. eleginoides*	
	Catch	CPUE	Catch	CPUE
1998	288	0.01	14	0.00
2005	1639	0.04	37	0.00
2011	5230	0.06	-	-
2012	4066	0.05	144	0.00

Tag releases and recaptures

3. A total of 131 Antarctic toothfish (*D. mawsoni*) have been tagged and released; there have been no recaptures of tagged fish (Table 2).

Table 2: Number of tagged and released and recaptured *D. mawsoni* in Subarea 88.3.

Year	Tagging and release	Recapture
2005	8	0
2011	30	0
2012	93	0

Length distributions of catches

4. The length-frequency distributions of *D. mawsoni* caught during research in this subarea in 2011 and 2012 are presented in Figure 1.

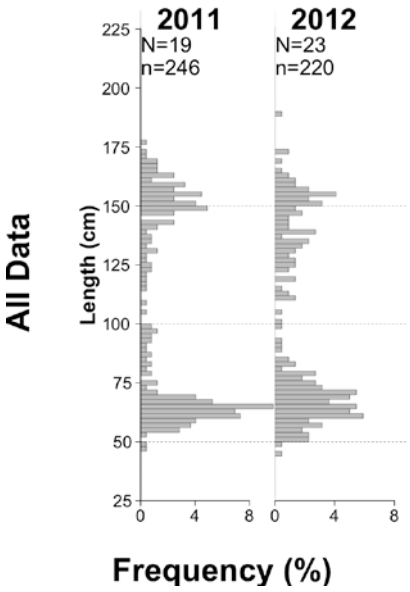


Figure 1: Annual length-frequency distributions of *Dissostichus mawsoni* caught in Subarea 88.3 in 2011 and 2012. The number of hauls from which fish were measured (N) and the number of fish measured (n) in each year are provided.

Inventory of age data

5. No age data are available for this subarea.

Model parameters available

6. No specific parameters are available for this subarea other than length–weight relationship for *D. mawsoni* and Patagonian toothfish (*D. eleginoides*).

Other sources of mortality

7. No specific parameters are available for this subarea.

Research plan summary

8. There have been a total of 95 research hauls and 131 tagged fish as part of surveys conducted by Chilean, New Zealand and the Russian flagged vessels since 1998. This level of research activities means that there is insufficient data to assess the toothfish stock in this subarea. It is clear that the previous surveys were influenced by sea-ice, however, the ice

concentration in the west of the Antarctic is reducing and this has led the Republic of Korea to propose a multi-year research plan for Subarea 88.3 starting in 2016. This research plan is in the prospecting phase and the specific objectives are:

(i) to explore fishable habitat and sample toothfish in the northern slope and southern shelf

(ii) to increase the number of tagged and released fish in the fishable habitat

(iii) to assess biomass of *Dissostichus* spp.

9. As well as providing these key data on the toothfish stock in Subarea 88.3, the research will also provide data with which to understand how the stock in this region is linked with the stocks in other management areas, in particular in Subareas 88.1, 88.2 and in Area 48.

Data collection plan

10. The location and depth of the start and end of every set, soaking and hauling times, number and species of fish lost at surface, number of hooks set, length of the set line, bait type, baiting success (%) and hook type will be collected according to the requirements of Conservation Measure (CM) 41-01, Annex 41-01/A. Vulnerable marine ecosystem (VME) indicator unit data and effort reports will be provided to the Secretariat in accordance with CM 22-07.

11. The length, weight, sex and maturity stage of up to 30 toothfish and all by-catch species will be measured from each haul. Otoliths will be collected from all toothfish sampled and will be returned to the Republic of Korea to be processed for age determination and estimates of growth rates.

12. In addition to the above, a conductivity temperature depth probe (CTD) recording device will be attached to the longline fishing gear each set to collect water temperature and salinity with depth data. The CTDs and the data collected will be returned to Korea for data processing. Environmental data such as wind direction, wind speed, sea-ice condition, air temperature and weather will also be collected (see Table 3).

13. The research will be conducted by the Korean-flagged vessel *Greenstar*.

Table 3: Summary of research.

Category	Items
Current research phase	Prospecting
Catch limit estimation	CPUE analogy with Subarea 88.2
Stock area	Subarea 88.3 is from 70°W to 105°W
Fishery data	Catch, effort, VME
Biological data	Length, weight, sex, maturity, otolith,
Environmental data	Water temperature, salinity, wind direction, wind speed, sea-ice condition, air temperature

Advice by the Scientific Committee

14. The advice from the Scientific Committee on this research proposal is in SC-CAMLR-XXXIV, paragraphs 3.288 to 3.290. In particular, the Scientific Committee recommended that the priority for research should be research blocks 883_3 and 883_4 given the previous tagging in those areas. Research block 883_5 would be a secondary priority, with research blocks 883_1 and 883_3 having a tertiary priority, should ice conditions allow. The location of the research blocks and the research catch allocations are provided in Figure 2 and Table 4 respectively.

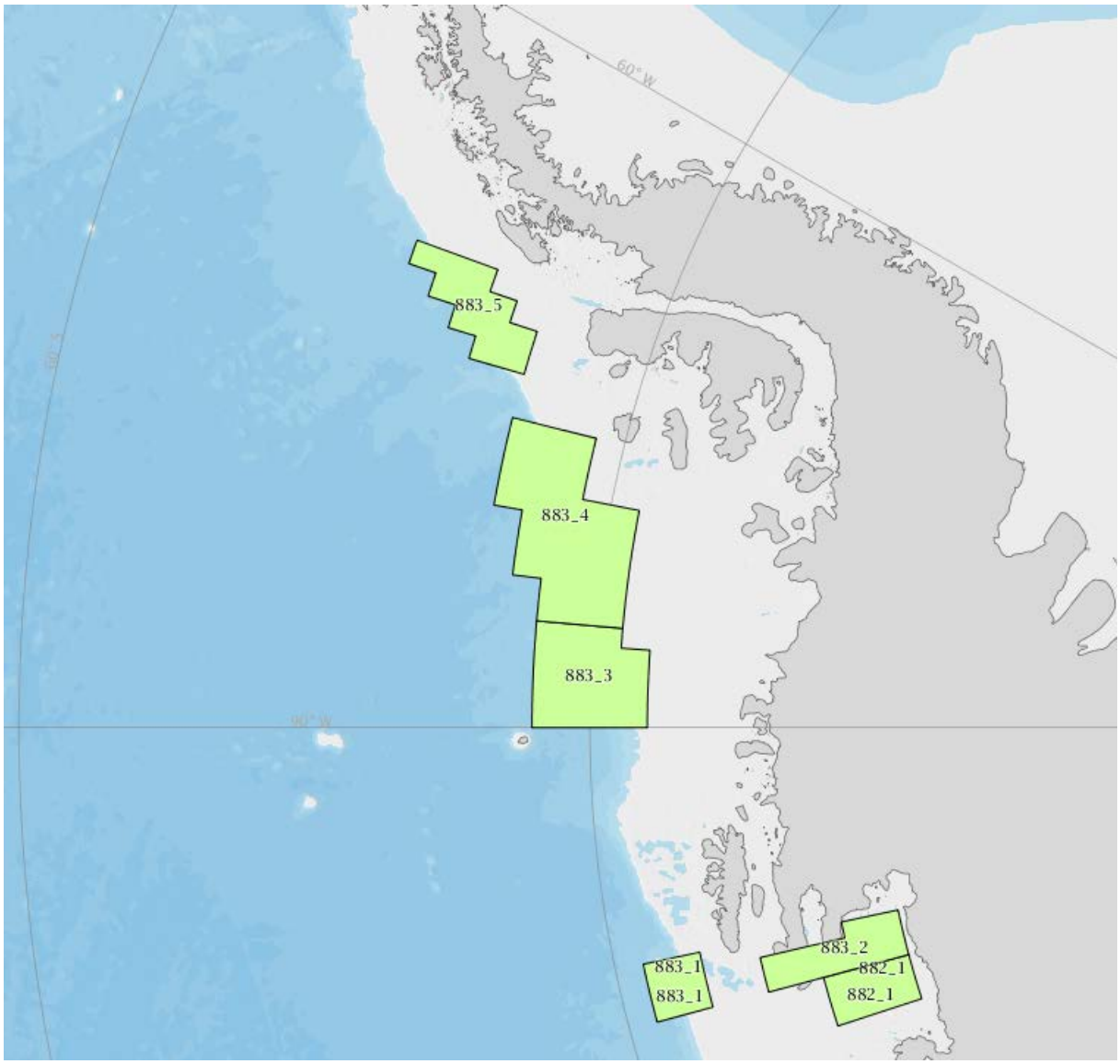


Figure 2: Location of research blocks in Subarea 88.3.

Table 4: Catch limits in Subarea 88.3.

Research block	Catch allocation (tonnes)	Comment
883_1	21	High priority
883_2	29	High priority
883_3	31	Secondary priority
883_4	52	Tertiary priority
883_5	38	Tertiary priority