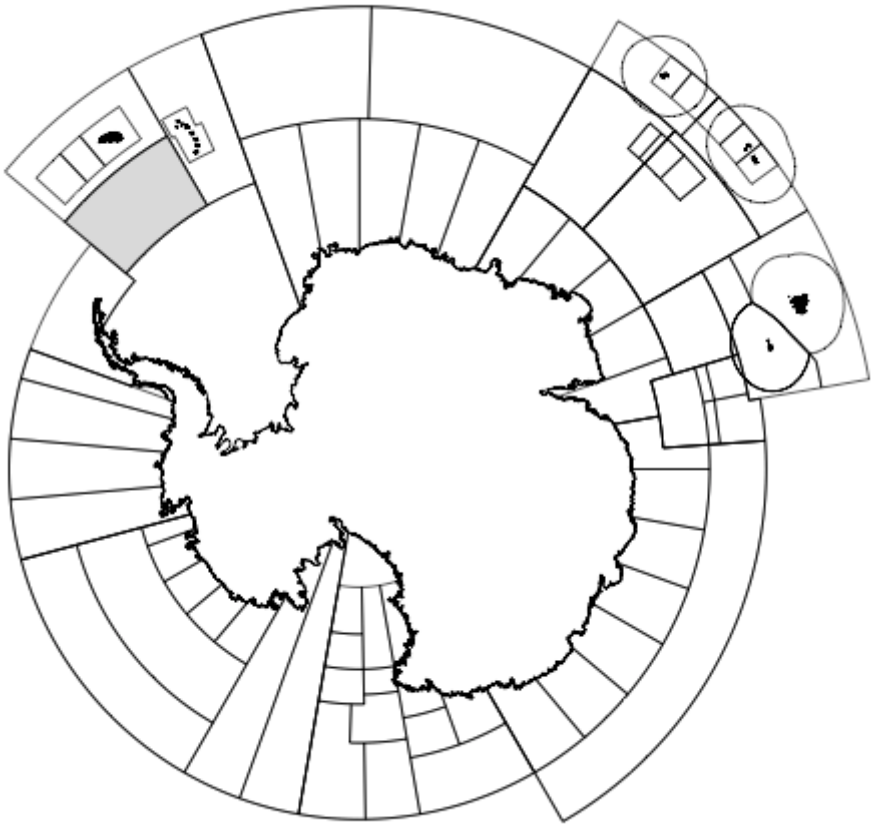
CCAMLR

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 2018: *Dissostichus* spp. (Subarea 48.2)



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 2018: *Dissostichus* spp.
Subarea 48.2

Introduction

1. Research fishing for *Dissostichus* spp. in Subarea 48.2 was first conducted by Chile in 1998, when seven hauls were conducted and 36 kg of Patagonian toothfish (*Dissostichus eleginoides*) were caught. In 2015, Ukraine began a multi-year research program and conducted 29 hauls with a total catch of 31 tonnes of Antarctic toothfish (*D. mawsoni*) and 4 tonnes of *D. eleginoides*. Research has continued in 2016 to 2018 in two research blocks (see Figure 1) and as part of a multi-year research program in the east of Subarea 48.2.

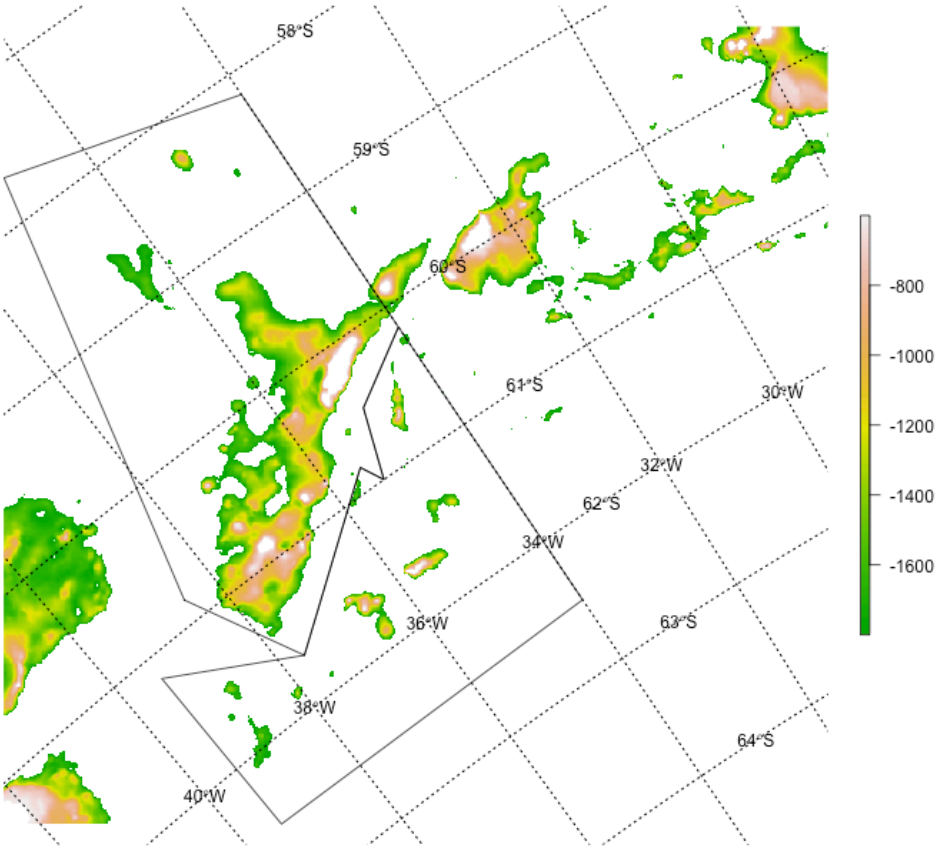


Figure 1: Spatial extent and fishable bathymetry (600–1 800 m) for research blocks 482_S and 482_N.

Description of the fishery

Catch and CPUE

2. The total catch reported from research surveys that have been conducted in Subarea 48.2 are comparatively low (Table 1).

Table 1: Catch (tonnes) of *Dissostichus mawsoni* and *D. eleginoides* in Subarea 48.2 (Source: fine-scale data).

Year	*D. mawsoni*	*D. eleginoides*
1998		<1
2015	31	4
2016	72	4
2017	67	7
2018	61	3

Illegal, unreported and unregulated (IUU) fishing

3. Illegal, unreported and unregulated (IUU) gear was recovered from Subarea 48.2 in March 2016 (CCAMLR-XXXV/10). There has been no other recorded evidence of IUU activities in this region between 2006 and 2018.

Tag releases and recaptures

4. Since 2015 a total of 1 163 *D. mawsoni* and 83 *D. eleginoides* have been tagged and released. There have been 12 *D. mawsoni* recaptured of which 11 were tagged in Subarea 48.2, the other was tagged in Subarea 48.6 (research block 486_5) in 2012.

Length-frequency distributions of catches

5. The length-frequency distributions of *D. mawsoni* caught during research in this subarea from 2015 to 2018 are presented in Figure 2.

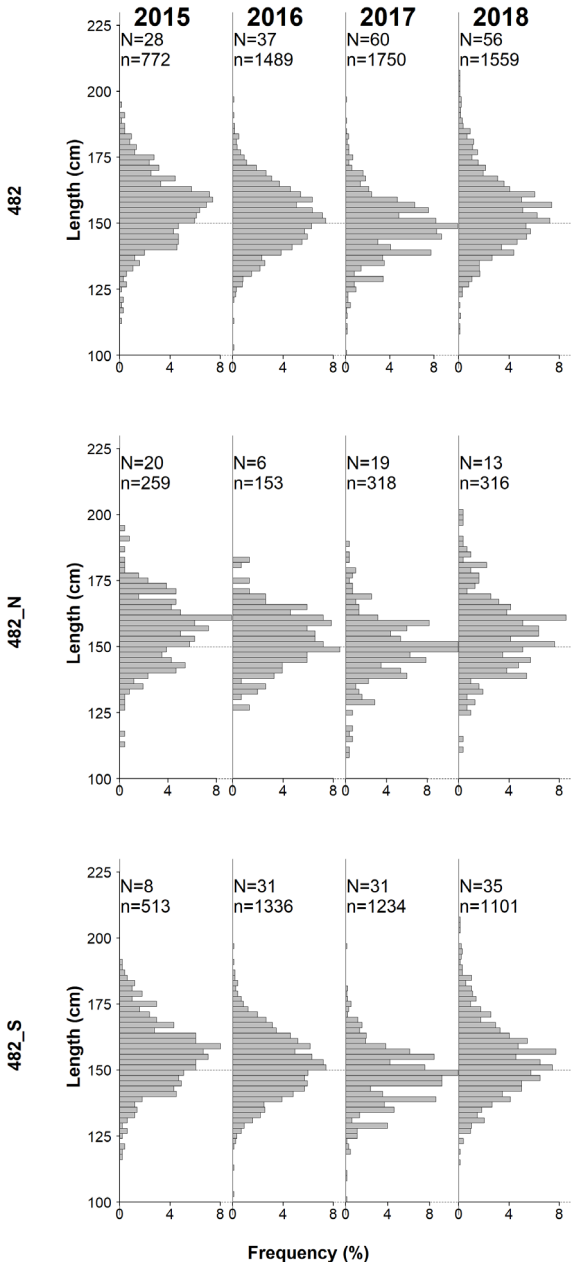


Figure 2: Annual length-frequency distributions of *Dissostichus mawsoni* caught in research blocks 482_N and 482_S from 2015 to 2018. The number of hauls from which fish were measured (N) and the number of fish measured (n) in each year are provided.

Inventory of age data

6. No age data are available for this subarea.

Model parameters available

7. No specific parameters are available for this subarea.

Other sources of mortality

8. No specific parameters are available for this subarea.

Research plan summary

Data collection plan

9. In 2014, the Scientific Committee endorsed the advice of the Working Group on Fish Stock Assessment (WG-FSA) (SC-CAMLR-XXXIII, Annex 7, paragraph 5.48) that the research plan of Ukraine in Subarea 48.2 proceed in 2015 with an effort limit of 30 lines and catch limit of 75 tonnes of *Dissostichus* spp. and a tagging rate of 5 toothfish per tonne. This research program was continued in 2016 with the following specific objectives:

(i) to utilise the expertise and experience of crew aboard vessels to explore and locate fishable habitat and sample toothfish in Subarea 48.2

(ii) to document the spatial distribution of toothfish species in the area to east of the South Orkney Islands, thus providing catch and biological observations to test and develop the functionality of spatial population models of the north Weddell Sea region

(iii) to tag toothfish and collect biological samples to further understand toothfish movement, migration, spawning and stock linkages within Area 48 and adjacent waters.

10. Ukraine initiated a three year (2015–2017) research plan using longline gear (trotline) to sample the toothfish populations in Subarea 48.2. The purpose of the research is to characterise the toothfish populations found in that region to better understand stock structure, movement patterns and improve estimation of population characteristics in the northern Weddell/Scotia Sea which is an overlap area in the distribution of the two species of *Dissostichus*. Additional outcomes of the research relate to mapping of the fishable area, documenting relative abundance of *D. eleginoides* and *D. mawsoni*, tagging toothfish for biomass estimation and for stock linkage studies, input into spatial population models and collecting information on distribution, relative abundance and life history of by-catch species.

11. The Ukrainian research was continued after 2017 and the vessel *Simeiz* undertook research fishing in 2018.

12. In 2016, the United Kingdom proposed to undertake a 3-year research survey in the eastern part of Subarea 48.2 (also extending into Subarea 48.4). The aim of the UK study is to understand the connectivity of toothfish stocks between Subareas 48.2 and 48.4. The specific objectives of the survey are:

(i) determine population connectivity of *D. eleginoides* and *D. mawsoni* between Subareas 48.2 and 48.4 adjacent to the established fishery in Subarea 48.4

(ii) expand information on population structures of *D. eleginoides* and *D. mawsoni* in Subareas 48.2 and 48.4 adjacent to established fishery in Subarea 48.4

(iii) improve data on bathymetry and associated distributions of target and benthic by-catch species, improve data available to CCAMLR on bathymetric features.

13. The UK vessel *Argos Froyanes* and the New Zealand vessel *San Aspiring* undertook research fishing in 2018 for the UK research survey.

Conservation measures and advice from the Scientific Committee for research fishing 2019

14. Research fishing in Subarea 48.2 is conducted under CM 24-01 and the research catch limits that apply to this research are set out in Table 2. Research blocks for the Ukrainian and Chilean research fishery are given in Figure 1; the effort-limited UK survey took place in the eastern part of Subarea 48.2 and southern part of Subarea 48.4 in locations given in WG-FSA-17/45 as well as WG-FSA-16/40 Rev. 1.

Table 2: Catch limits agreed by the Scientific Committee for 2019.

Research block/research area	Member	Research catch limit (tonnes)
482_N and 482_S	Ukraine Chile	75
482 E	UK	23
484 S	UK	18