CCAMLR

COMM CIRC 08/134
SC CIRC 08/62

Friday, 10 October 2008

Notification for Scientific Research in 2008/09 - Japan

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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

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TO ALL MEMBERS OF THE COMMISSION AND THE SCIENTIFIC COMMITTEE

COMM CIRC 08/134
SC CIRC 08/62

10 October 2008

Notification for Scientific Research in 2008/09 – Japan

In accordance with Conservation Measure 24-01, Members are advised that Japan has submitted a notification to continue scientific research in Division 58.4.4 in 2008/09 (attached). The notification is to conduct research on the distribution and population structure of *Dissostichus* spp., and the survey will use a commercial fishing vessel to deploy longlines. The vessel is expected to take no more than 120 tonnes of *Dissostichus* spp. The notification was received on 29 September 2008, and was submitted to WG-FSA (WG-FSA-08/39).

This notification falls under paragraph 3 of Conservation Measure 24-01 and Members' attention is drawn to subparagraph 3(a). Comments on this proposal, including requests for the Scientific Committee to review the research plan, should be lodged with the Secretariat prior to SC-CAMLR-XXVII or provided directly to the Scientific Committee.

Dr D.G.M. Miller
Executive Secretary

Attch.

Research Plan for toothfish by Shinsei Maru No. 3 in 2008/09

Format 2

FORMAT FOR REPORTING PLANS FOR FINFISH SURVEYS
IN ACCORDANCE WITH PARAGRAPH 3 OF
CONSERVATION MEASURE 24-01

CCAMLR MEMBER _Japan

SURVEY DETAILS

A statement of the planned research objectives *The first survey has been undertaken by a commercial fishing vessel, Shinsei Maru No.3, in 07/08 season covering the whole SSRUs (Small Scale Research Units). In the course of this first year survey, important information, including information on distribution of toothfish , size composition of toothfish, and by-catch species, has been obtained. However, the information obtained by just a single year survey is not sufficient in order to quantitatively assess the stock abundance and consider possibility of re-opening the area for a new and/or exploratory fishery . Therefore, it is essential to continue the scientific research to accumulate scientific information on toothfish in this area. Furthermore, the presence of legal operators in this area could contribute to monitor and deter the activity of IUU vessels. In addition, tagging activities and sampling during the survey will particularly contribute to the future study on the distribution and population structure of Dissostichus spp..*

Survey Area/Subarea/Division: *58.4.4a & 58.4.4b*

Geographical Boundaries: SSRU A (Lat: 51°S - 54°S, Long: 40°E - 42°E)
SSRU B (Lat: 51°S - 54°S, Long: 42°E - 46°E)
SSRU C (Lat: 51°S - 54°S, Long: 46°E - 50°E)
SSRU D (Whole division excluding SSRUs A, B and C)

Is a map of area surveyed (preferably including bathymetry and positions of sampling stations/hauls) appended to the format ? *Yes*

Proposed dates of survey: *from 2009 May to Jul (1.5 - 2 months)*

Name(s) and address of the chief scientist(s) responsible for planning and coordinating the research:

Mr. Shigeyuki Kawahara
Director, Project Management Division
National Research Institute of Far Seas Fisheries
5-7-1, Orido, Shimizu, Shizuoka, Shizuoka prefecture 424-8633, JAPAN
TEL: +81-54-336-6011, E-mail: kawahara@fra.affrc.go.jp

Number of scientists *2* and crew *30* to be aboard the vessel.

Is there opportunity for inviting scientists from other Members? *No due to space limitation*
If so, indicate a number of such scientists *0*

DESCRIPTION OF VESSEL

Name of vessel: *Shinsei Maru No.3*

Name and address of vessel owner Name : *TAIYO A&F CO.,LTD.*
Address: 4-5, Toyomi-cho, Chuo-ku, Tokyo, Japan 104-0055

Vessel type (dedicated research or chartered commercial vessel): *Voluntary commercial fishing vessel*
Port of registration: *Yaizu, Shizuoka* Registration number: *128862*
Radio call sign: *JAAL* Overall length: *47.2 (m)* Tonnage: *495 ton*
equipment used for determining position: GPS FURUNO GP500MK2

Fishing capacity (limited to scientific sampling activities only or commercial capacity):
10 (tonnes/day)
Fish processing capacity (if vessel type is commercial): *10 (tonnes/day)*
Fish storage capacity (if vessel type is commercial): *553 (m3)*

DESCRIPTION OF FISHING GEAR TO BE USED

Longline: *Shinsei Maru Trot line system*

Other sampling gear as plankton nets, CTD probes, water samplers, etc. (specify):

DESCRIPTION OF ACOUSTIC GEAR TO BE USED

Type: *JRC JFV-250* Frequency: *28KHZ/50KHZ*

SURVEY DESIGN AND METHODS OF DATA ANALYSES

Survey design (random, semi-random): *Detailed in the appended `APPLICATION TO UNDERTAKE SCIENTIFIC RESEARCH IN CCAMLR DIVISION 58.4.4 IN THE 2008/09 SEASON'*

Target species: *Dissostichus spp. (Dissostichus eleginoides and Dissostichus mawsoni)*

Stratification (if any) according to:
Depth zones (list) N/A
Fish density (list) N/A
Other (specify) N/A

Duration of standard sampling stations/hauls (preferably 30 min): *Soak time of not less than six hour*s
Proposed number of hauls: *200hauls*

Proposed sample size (total): *120,000 kg in total / 30tons per SSRU as a guideline*
Proposed methods of survey data analyses (i.e. swept area method, acoustic survey)

DATA TO BE COLLECTED

Haul-by-haul catch and effort data in accordance with CCAMLR Form C4 for reporting results of fishing for research purposes: *Dissostichus spp.*

Fine-scale biological data in accordance with CCAMLR Forms B1, B2 and B3:
B2 and Longline observer data: Dissostichus spp.

Other data (as applicable) (see application for more details)

(Macrourus spp.): 30fish / line for length and weight measurement
(Other by-catch species): 10 fish/line for length and weight measurement
Tagging of *Dissostichus spp.*: 3 fish / ton caught
Dissostichus spp.: Genetic data
Information of benthos

APPLICATION TO UNDERTAKE SCIENTIFIC RESEARCH IN CCAMLR DIVISION 58.4.4 IN THE 2008/09 SEASON

CCAMLR MEMBER : JAPAN

Abstract

A proposal to undertake scientific research in CCAMLR Subarea 58.4.4 over the 2008-2009 seasons is introduced. The first survey has been undertaken by a commercial fishing vessel, Shinsei Maru No.3, in 07/08 season covering the whole SSRUs (Small Scale Research Units). In the course of this first year survey, important information, including information on distribution of toothfish , size composition of toothfish, and by-catch species, has been obtained. However, the information obtained by just the single year survey is not sufficient in order to quantitatively assess the stock abundance and consider possibility of re-opening the area for new and/or exploratory fishery. Therefore, it is essential to continue the scientific research to accumulate scientific information on toothfish in this area. Furthermore, the presence of legal operators in this area could contribute to monitor and deter the activity of IUU vessels. In addition, tagging activities during the survey will particularly contribute to the future study on the distribution and population structure of Dissostichus spp..

Introduction

Subarea 58.4.4 is divided into four SSRUs (Small Scale Research Unit) by CCAMLR as follows: (Figure.1)

SSRU A: Area between 51°S-54°S and 40°E-42°E;
SSRU B: Area between 51°S-54°S and 42°E-46°E;
SSRU C: Area between 51°S-54°S and 46°E-50°E; and
SSRU D: Whole division excluding SSRUs A, B and C.

SSRU A consists of a single small seamount named Ob bank, and contains 4,031km^2 of seabed less than 2000 m. SSRU B consists of a large flat top seamount named Lena bank and contains 14,187km^2 of seabed less than 2000 m. The western side of SSRU C consists of a single pinnacle shaped unnamed seamount, and the eastern side consists of a larger bumpy seamount, totaling 7,749km^2 of seabed less than 2000 m in this area. According to the bathymetric chart around SSRU D, fishable area is located close to the south eastern side of the bumpy seamount in SSRU C.

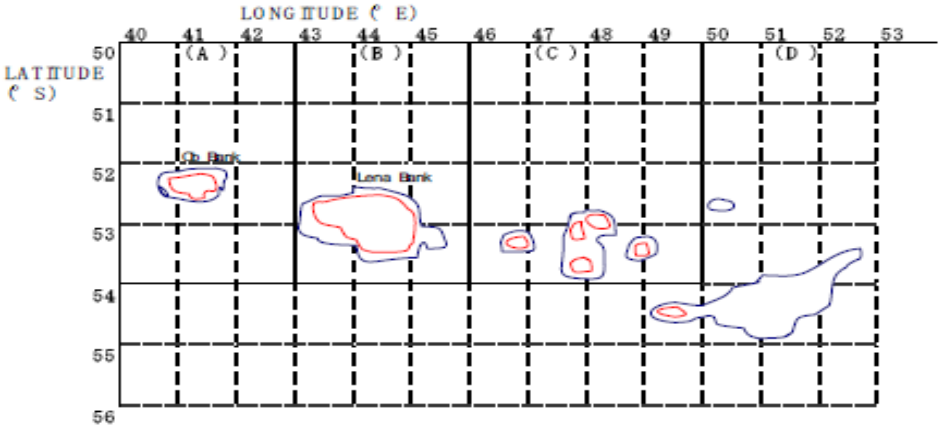


Figure. 1 Map of the Division 58.4.4. Bathymetry: 1,000m contour in red and 2,000m in blue, refer to Seabed Mapping

New longline fishery in this area started in 1997/98 season by South Africa and Ukraine. The catch limit for Dissostichus spp. for that season was 580 tonnes and remained almost the same for the next season (1998/99). For the 1999/00 and 2000/01 seasons, this catch limit was reduced to 370 tonnes, and for the 2001/02 season this limit was further reduced to 103 tonnes. Finally in 2002/03 season, the direct fishing of *Dissostichus spp.* was prohibited in this area due to the Scientific Committee's concern regarding the low levels of the stock and the high levels of IUU fishing in this area (SC-CAMLR-XXI, paragraphs 4.106 and 4.108).

Research proposal

1) Objective

The main objective of this research is to collect various biological and physical data on *Dissostichus spp.* in this area which is important information for assessing the status of these stocks. No information related to recent stock size exists in this area due to the prohibition of direct fishing since 2002. It has been six years since this prohibition, and it is of great interest to know the current stock size. Also, tagging activities during this survey will contribute to the future investigation on the distribution and population structure of *Dissostichus spp.*.

2) Methods

The research will be conducted by a commercial fishing vessel, Shinsei Maru No. 3, using bottom longline gear (Shinsei Maru Trot line system) from May to Jul, 2009 (1.5 - 2 months) in the area between 500m and 2000m depth in the 4 SSRUs in Subarea 58.4.4.

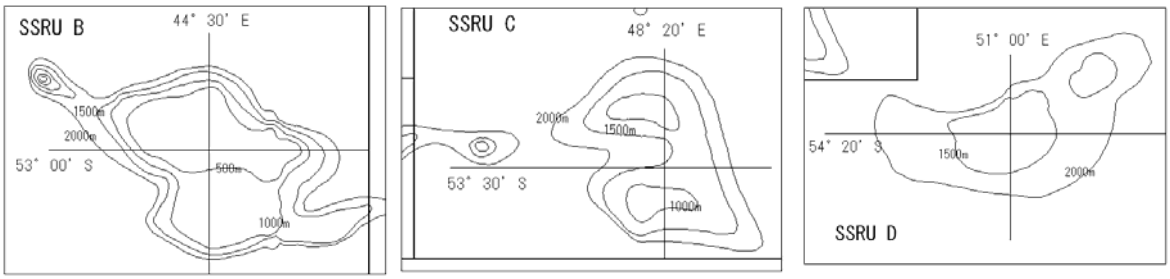
2-1) Phasing

In order to cover all SSRUs of Subarea 58.4.4, which are divided into four, and to get more information on higher density area for *Dissostichus spp.*, we propose two phases of survey in each SSRU.

[Phase 1]

Research area in each SSRU B, C and D is divided into 4 survey-areas by horizontal and vertical lines (see below). SSRU A is not divided into survey-areas due to its smallness. As a general rule, 5 hauls will be set in each survey-area, thus the total number of research hauls during this phase will be 65. In order to obtain data for post-stratification by depth, the research area would cover from shallow water to deep water as much as practicable.

These research hauls shall be 5 miles apart from any other research line and shall strictly fulfill the requirements of CM41-01/B paragraphs 4 and 6. Lines will be spread in the depth between 500 m and 2,000m. On completion of these 65 research hauls of phase 1, the vessel may proceed to phase 2 or cease the survey and leave the area.



[Phase 2]

After completion of phase 1 in all SSRUs (i.e. 65 hauls), the vessel may undertake additional research hauls within any of the SSRUs. The research hauls will be set in a same way as phase 1 except the 5 miles spacing requirement to get more information on higher density area for *Dissostichus spp.*. The total number of research hauls during this phase will be 135 at maximum.

2-2) Operation (Phases 1 and 2)

The depth data of each set will be recorded at a certain interval when hauling the longline so that the depth of the branch line with catch can be recorded.

In order to collect a certain amount of sample size, the catch limit will be set to 120 tonnes of *Dissostichus spp.* (30tonnes / SSRU as a guideline). If this limit is reached or a total of 200 research hauls are completed, whichever is sooner, the vessel shall cease the research and leave the area.

2-3) Collection of Data and Specimen (Phases 1 and 2)

Fine-Scale Biological B2 data will be recorded. For toothfish, length and biological measurements, tagging, and tissue sampling will be implemented. In addition, environmental information on the habitat around toothfish will be collected. For by-catch species, length data will be collected. Photographic recording will be conducted, especially for benthos species.

[Length measurement (toothfish)]

In each haul, length and species identification of randomly selected fish up to 100 will be recorded and weight of 30 fish among the selected 100 fish will also be recorded. The catch will be grouped by depth caught with 100 m interval, and the selected 100 fish should be spread as evenly as practicable to each group.

[Biological measurement (toothfish: specie, length, weight, sex, sexual maturity, stomach contents, otolith, etc.]

Thirty fish will be measured for each haul except otolith. Fifteen otoliths per each haul will be collected. The sample would be selected, covering widely the size range of the fish caught.

[Tagging (toothfish)]

The current exploratory fishery tagging regime requires one tag per tonne of *Dissostichus spp.* caught. However, in order to increase the sample size, we propose that the tagging rate shall be 3 fish per ton. This will result in a maximum of 450 fish tagged. This number of tagged fish will provide valuable information for conducting mark-recapture analysis in the future.

[Stock structure (toothfish)]

In order to collect information on the stock structure of *Dissostichus spp.* in this region, tissue samples will be collected for genetic analysis. The genetic information will be useful to examine a possibility of mixing of the stock in the area with those of other area and to develop future investigation plans in this region. In this regard, Japan will be able to supply the genetic information of *Dissostichus spp.* in other areas such as Subareas 48.6 and 58.4.3 which was collected previously.

Tissue sample of up to 200 toothfish will be collected and preserved during the research. The sample should be collected from all SSRUs as evenly as possible.

[Environmental data]

We are trying to source oceanographic equipment applicable to the depth of 2000m for the survey. The detailed bottom configuration, which is essential to abundance estimation by post-stratification, will be recorded with the navigation marine software (MaxSea).

[By-catch species]

Major by-catch species is expected to be *Macrourus spp.*. Length and weight of 30 *Macrourus spp.* per haul shall be measured throughout the research period. Regarding any other by-catch species, length and weight of maximum 10 fish per haul shall be measured throughout the research period.

Macrourus spp.: Up to 30 fish will be measured for each haul. The coordinates and depth of the center of the line will be recorded.

Other by-catch species: Up to 10 fish will be measured for each haul. The coordinates and depth of the center of the line will be recorded.

Benthos: species identification (Scleractinia, Alcyocea, Phylum Porifera, Class Holothuroidea, Asteroidea, Ophiuroidea, Bryozoa), volume, coordinates, and depth will be recorded and photographic image will be taken as many as possible.

3) Effects on seabirds

This area has been assessed by CCAMLR as having a low to average risk of potential interaction between seabirds and longline fisheries. Every effort will be taken during the survey to reduce any negative effect on seabirds and marine mammals in this area.

4) Reports and analysis

Various biological data as well as haul-by-haul catch and effort (C4) data will be provided to CCAMLR for evaluation of toothfish resources. Also, the summary cruise report will be presented to the SC-CAMLR 2009.

Reference

SC-CAMLR-XXI, 2002. Report of the twenty-first meeting of the Scientific Committee.