

Notification of intent to participate in the exploratory fishery for *Dissostichus* spp. in CCAMLR subarea 48.6 during the 2016/17 season

Delegation of Uruguay

Fisheries Operation Plan¹ (CM 21-02, paragraphs 6(ii)(a) to 6(ii)(f))

- (a) The nature of the exploratory fishery, including target species, methods of fishing, proposed region and maximum catch levels proposed for the forthcoming season:

CCAMLR Sub-area 48.6 lies in the SE Atlantic sector of the Southern Ocean, south of 50°S and extending from 30°E to 20°W (Figure 1). The area includes Bouvet Island and the area to the south, extending as far as the Antarctic continent.

A fishery began in the area in 1997 as a “new” fishery under CCAMLR classification, but was reclassified as an exploratory fishery in 2000. Since 2004, CCAMLR licensed longline vessels have fished in Subarea 48.6 for *Dissostichus* spp., originally targeting Patagonian toothfish (*Dissostichus eleginoides*), but more recently Antarctic toothfish (*D. mawsoni*) has dominated the catches. Reported catches of *Dissostichus* spp. in Subarea 48.6 peaked at 383 tonnes in 2012. Despite regular fishing in the area, there has been no stock assessment of either *D. eleginoides* or *D. mawsoni* in the sub-area. In response to this Japan and South Africa developed a joint research plan for the area, which has seen the creation of five Research Blocks, each with a separate catch limit. As part of the research requirement, tagging has been conducted at 5 fish per tonne caught and all caught fish carefully scanned for tags. Despite the high tagging rate the number of recaptures has been small, which has made it difficult to develop as tag-based assessment. The low number of tag returns are, at least in part, due to the fishing effort in the area being less than anticipated.

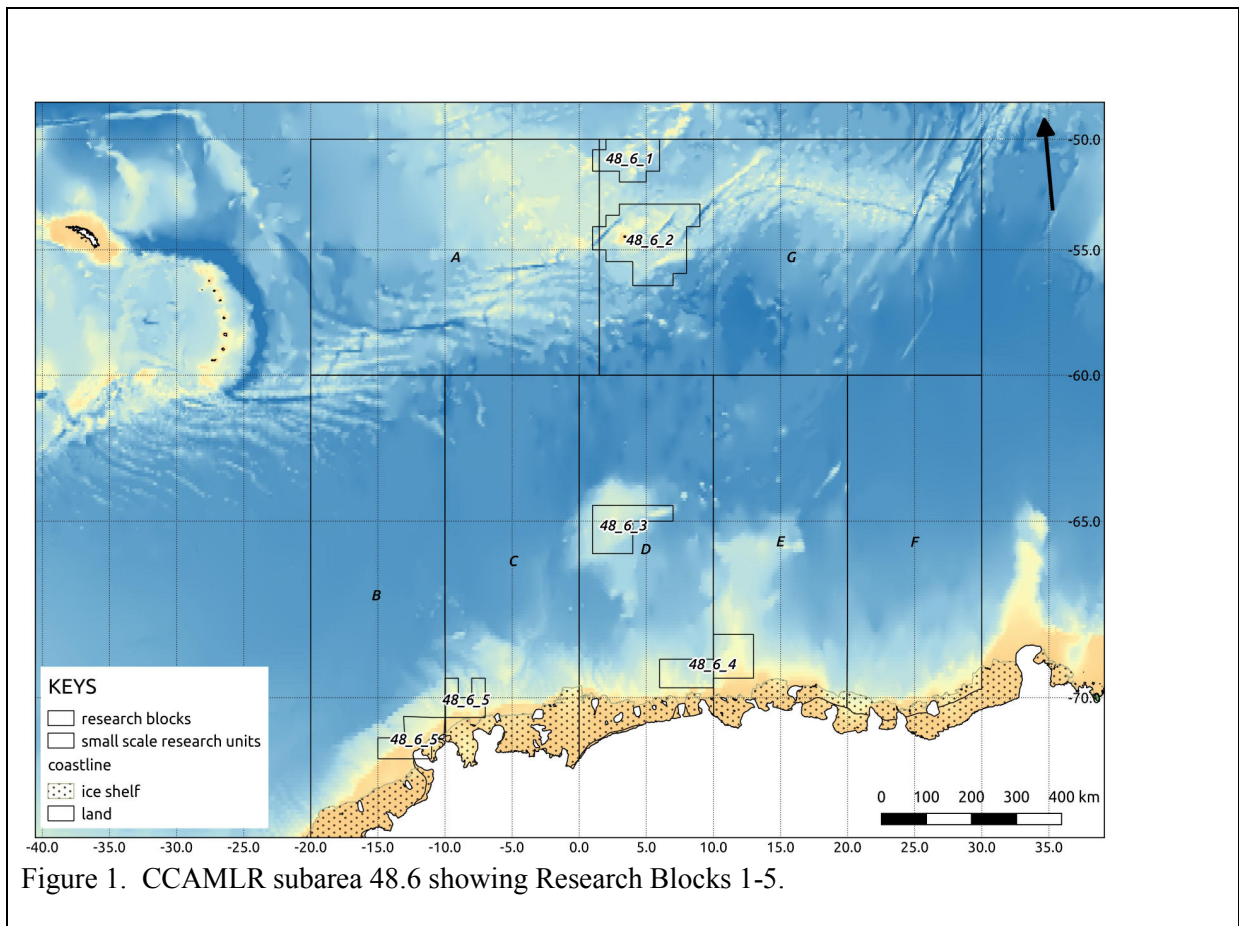
To rectify the situation the addition of Uruguayan longliner *Rambla* is proposed to compliment the existing programme of work being undertaken by South Africa and Japan. The addition of a Uruguayan vessel to the research fishery should help ensure that research targets are met and, through cooperation with scientists from other Member states, will help develop greater research knowledge and capacity in Uruguay.

The current catch limits (2015/16), catch taken in 2014/15 and proposed maximum catches by the *Rambla* in 2016/17 are detailed below:

	Research Blocks	2015/16 Catch Limit	Catch in 2014/15	Proposed maximum catch by FV <i>Rambla</i>
<i>D. eleginoides</i>	48.6_1 & 48.6.2	28	0.5	28
<i>D. mawsoni</i>	48.6_2	170	82	60
<i>Dissostichus</i> sp.	48.6_3	50	49	50
<i>Dissostichus</i> sp.	48.6_4	100	58	50
<i>Dissostichus</i> sp.	48.6_5	190	0	95

Fishing will be undertaken in accordance with the Research Plan submitted in accordance with CM 24-01.

¹ Members are required to submit a single Fisheries Operation Plan for all vessels for each exploratory fishery notification.



(b) Specification and full description of the types of fishing gear to be used:

A Spanish (double-line) longline system (Figure 2) will be used by the FV *Rambla* in the fishery. The Spanish longline system consists of a hauling line and a hook line, from which snoods with hooks attached are suspended (Figure 2). The hauling line is 18 mm polysteel rope.

The hook line is 5 mm polysteel line and the snoods are 2mm braided nylon twine. The hooks are Mustad/Stell J-type (Figures 3 & 4).

All lines will be research lines with 3,500 to 5,000 hooks per line (51 - 72 magazines). There are 63 hooks per magazine: a magazine consists of three sections of line 38.5 m long, each section with 21 hooks. The mean distance between the hooks is 160 cm. They are attached to the hook line by snoods, which are 70 cm long (Figure 3).

Hydrodynamic solid steel weights of 5 kg are used to weigh down the line (Figure 4). They are placed 38.5 m apart, in between each 23 hooks section.

80 kg anchors are attached at both ends of the line with 30 kg iron chains (Figure 5). One radio buoy and one to three floats are joined to the cable of each anchor at both ends of the line. The length of the anchor cable depends on the depth fished.

Both the hauling line and the hook line have positive buoyancy.

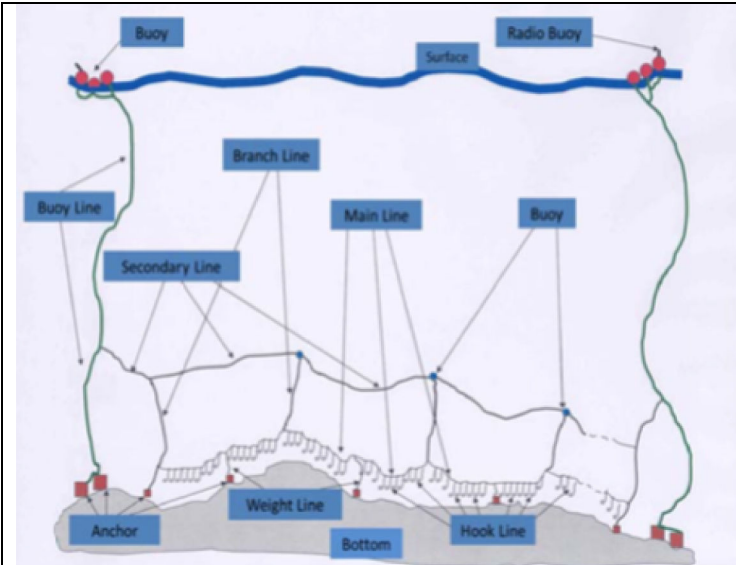


Figure 2. Schematic diagram of the Spanish longline system.



Figure 3. Hook attached to nylon multifilament snood.

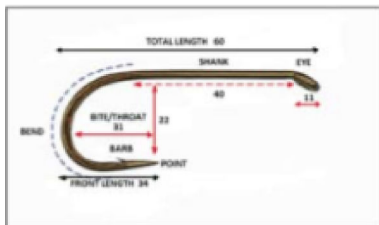
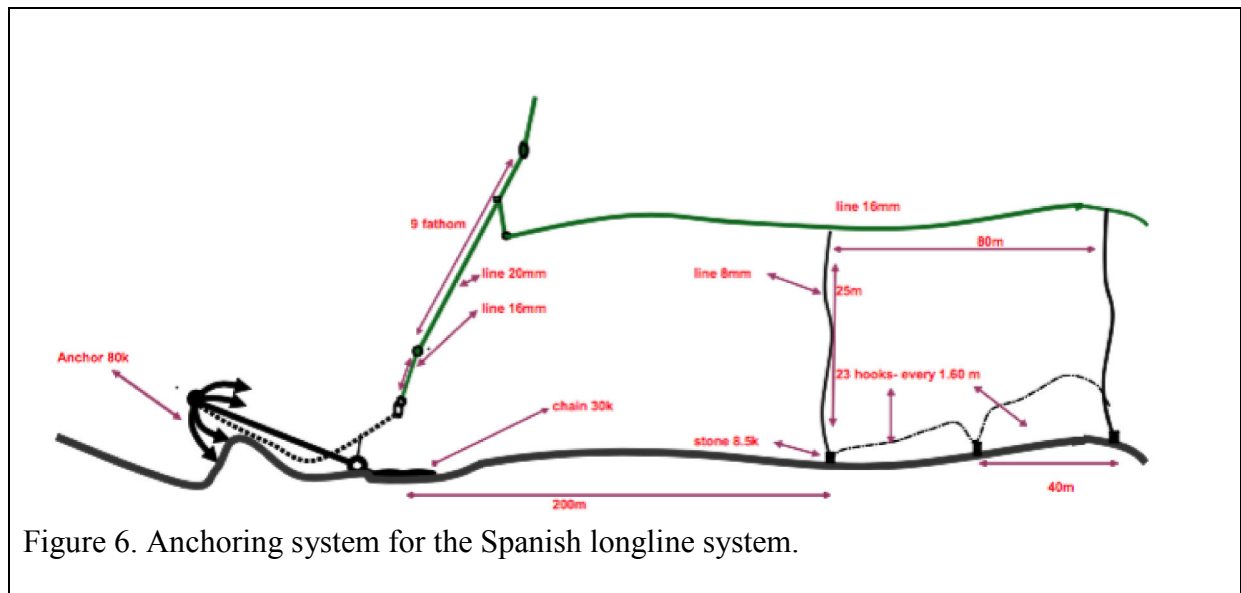


Figure 4. Hook characteristics to be used on the FV *Rambla*.



Figure 5. Solid steel weights, which are used on the



- (c) Biological information on the target species from comprehensive research/survey cruises, such as distribution, abundance, demographic data and information on stock identity:

Fishing has been conducted in subarea 48.6 since 1997. Wiff et al. (2012) summarised data from the fishery until 2012 and Leslie et al. (2015a) summarised the data from the recent joint South Africa / Japan research. In the early years the fishery targeted Patagonian toothfish (*D. eleginoides*) in the north of the subarea, but in recent years the fishery has mainly caught Antarctic toothfish (*D. mawsoni*).

Patagonian toothfish are caught in the northern part of the area (48.6_1 and 48.6_2), with Antarctic toothfish caught in the south, although the two species overlap in 48.6_2. Occasional *D. eleginoides* have been caught in the southern research blocks (3-5) and similarly *D. mawsoni* has been occasionally caught in small numbers in research block 1.

The relationship between stocks of *D. eleginoides* and *D. mawsoni* in sub-area 48.6 and stocks in adjacent subareas (e.g. 48.4, 48.3 58.4.4) has not been fully established. Studies in other areas indicate a high degree of isolation in *D. eleginoides* populations (Collins et al., 2010). Rogers et al. (2006) found that samples from 48.6 were genetically different from 48.3 (South Georgia) and 48.4 (South Sandwich Islands) but were identical to samples from 58.4.4, but the sample size was small. It is thus possible that there is some mixing of *D. eleginoides* between 48.6 and 58.5.4. To date all the tagged fish recaptured in 48.6 were tagged in that area, which suggests limited movement between subareas.

As part of the on-going research programme data on length-frequency, sex and maturity of of *Dissostichus* sp. has been collected and otoliths used for age determination.

- (d) Details of dependent and related species and the likelihood of their being affected by the proposed fishery:

There is very low likelihood of any impacts on dependent or related species. Toothfish are a higher trophic level predator and the only likely natural predators are elephant seals and sperm whales (Collins et al., 2010; Hanchet et al., 2015).

- (e) Information from other fisheries in the region or similar fisheries elsewhere that may assist in the evaluation of potential yield:

Following preliminary research fishing, the biomass of *D. eleginoides* and *D. mawsoni* has been estimated using a modification of the Petersen estimator from tag returns, with estimates also made using the CPUE /seafloor area method (following Agnew et al., 2009), although the two are not consistent in all research areas. The latest data from the fishery is summarised by Leslie et al. (2015a) and in the Fishery Report (WG-FSA, 2015).

Research catch limits have been established for each of the research blocks under CM 41-04. These catch limits were set at a level intended to provide sufficient information (including sufficient recaptures of tagged fish) to achieve a stock assessment within a time period of 3 to 5 years and at a level that provides reasonable certainty that exploitation rates at the scale of the stock or research unit will not negatively impact the stock. Appropriate exploitation rates are based on estimates from areas with assessed fisheries and are not more than 3–4% of the estimated stock size. These may be modified in 2016 in light of new data (particularly tag returns) during the 2015/16 season. Current limits are shown above (section (a)).

- (f) If the proposed fishery will be undertaken using bottom trawl gear, information on the known and anticipated impacts of this gear on vulnerable marine ecosystems, including benthos and benthic communities:

n/a

References

- Agnew, D.J., Edwards, C.E., Hillary, R., Mitchell, R. & López Abellán, L.J. 2009. Status of the coastal stocks of *Dissostichus* spp. in east Antarctica (Divisions 58.4.1, 58.4.2). CCAMLR Science, Vol. 16: 71-100.
- Collins MA, Brickle P, Brown J & Belchier M, 2010. The Patagonian toothfish: Biology, ecology and fishery. *Advances in Marine Biology* 58, 227-300.
- Hanchet S, Dunn A, Parker S, Horn P, Stevens D & Mormede S. 2015. The Antarctic toothfish (*Dissostichus mawsoni*): biology, ecology, and life history in the Ross Sea region. *Hydrobiologia*, 361, 374-414.
- Leslie R, Taki K, Ichii T & Somhlaba S. 2015a. Progress report for the third year of the research fishery for

Dissostichus spp. in Subarea 48.6 being jointly undertaken by Japan and South Africa: 2013 - 2015. CCAMLR WG-SAM-15/50.

Leslie R, Taki K, Ichii T & Somhlaba S. 2015b. Summary of data collected by Japan and South Africa in Subarea 48.6 between 2013 and 2015, and other statistics available for assessment of *Dissostichus* spp. in Subarea 48.6. CCAMLR WG-FSA 15/66.

Rogers AD, Morley S, Fitzcharles E, Jarvis K & Belchier M, 2006. Genetic structure of Patagonian toothfish (*Dissostichus eleginoides*) populations on the Patagonian Shelf and Atlantic and western Indian Ocean Sectors of the Southern Ocean. *Marine Biology* **149**, 915–924.

Data Collection Plan (CM 21-02, para 6 iv)

In accordance with CM 21-02 (para 6 (iv)) the vessel operator and flag-state (Uruguay) are committed to implement any Data Collection Plan developed by the Scientific Committee for the fishery.

Vessel Notification Details (CM 10-02: para 3)

Requirement	Details
(i) name of fishing vessel (any previous names if known), registration number, IMO number, external markings and port of registry	Name of vessel: Rambla Previous name: Novo Airinos Reg.: 8585 IMO: 9024621 External markings: Dark orange hull and white superstructure. Vessel marked with name, registration number, port of registry and international callsign. Port of registry: Montevideo
(ii) nature of the authorisation to fish granted by Flag State, specifying the date issued, time periods authorised for fishing (start and end dates), area(s), subareas or divisions of fishing, species targeted and gear used;	Not required at this stage
(iii) previous flag (if any);	Spain
(iv) international radio call sign;	CXSB
(v) vessel communication types and numbers (e.g. INMARSAT A, B and C numbers);	IRIDIUM: +881631850676 STANDARD C: 422425220
(vi) name and address of vessel's owner(s), and any beneficial owner(s) if known;	Pesqueras Georgias SL MUELLE SUR, 21 CP 27863 CELEIRO-VIVEIRO LUGO SPAIN
(vii) name and address of licence owner (if different from vessel owner(s));	Riljer SA CALLE SORIANO 1124 MONTEVIDEO URUGUAY CP 11100
viii) type of vessel;	Longliner
(ix) where and when built;	Spain, 2003
(x) length (m);	41,72 m
(xi) high-resolution colour photographs of the vessel of appropriate brightness and contrast, which shall consist of: - one photograph not smaller than 12 x 7 cm showing the starboard side of the vessel displaying its full overall length and complete structural features; - one photograph not smaller than 12 x 7 cm showing the port side of the vessel displaying its full overall length and complete; - one photograph not smaller than 12 x 7 cm showing the stern taken directly from astern;	Available on CCAMLR website
(xii) in accordance with paragraph 13 of Conservation Measure 10-04, Annex 10-04/C, details of the implementation of the tamper-proof requirements for all Automatic Location Communicators (ALCs) installed on board the vessel.	Serial Number 13129856. Terminal Inmarsat-C Transceiver type. Mobile Phone number 477 000 116. TT3027M Mobile type. ISN number 4TT097dd09b3. The ship will participate in the centralized VMS system according to CCAMLR CM 10-04.

Vessel Notification Details (CM 10-02: para 4)

Requirement	Details
(i) name and address of operator, if different from vessel owners	Riljer SA CALLE SORIANO 1124 MONTEVIDEO URUGUAY CP 11100
(ii) names and nationality of master and, where relevant, of fishing master	Master: Hernes Rodriguez Chandari - Uruguay, Fishing master: Andres Muniz - Spain
(iii) type of fishing method or methods	Spanish bottom longline
(iv) beam (m)	10.20m
(v) gross registered tonnage	852t
(vi) normal crew complement	38
(vii) power of main engine or engines (kW)	1075kW
(viii) carrying capacity (tonnes), number of fish holds and their capacity (m.)	453.50t
(ix) details of ice classification (if any);	-
(x) any other information in respect of each licensed vessel they consider appropriate for the purposes of the implementation of the conservation measures adopted by the Commission	