

**SCHEDULE OF
CONSERVATION MEASURES
IN FORCE
1994/95 SEASON**

(As amended by the Commission at the Thirteenth Meeting,
26 October to 4 November 1994)

This schedule lists Conservation Measures adopted by the Commission in accordance with Article IX of the Convention for the Conservation of Antarctic Marine Living Resources.

Conservation Measures are numbered in simple consecutive order in Arabic numerals with a roman numeral identifying the number of the meeting of the Commission at which they were adopted. For example, Conservation Measure 3/IV denotes the third Conservation Measure adopted by the Commission, and indicates that the Measure was adopted at the Fourth Meeting of the Commission, i.e. in 1985.

The map depicts the CCAMLR Convention Area and its Statistical Areas, Subareas and Divisions.

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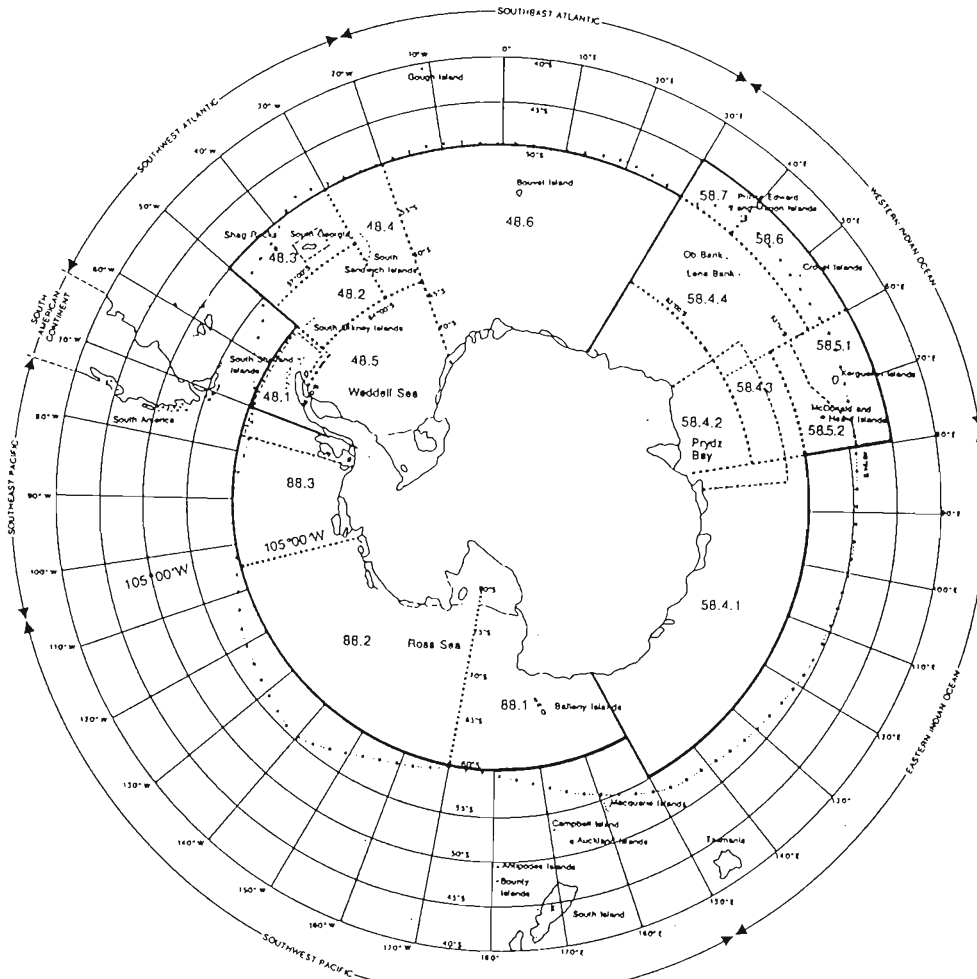


CCAMLR

Boundaries of the
Statistical Reporting
Areas in the
Southern Ocean

LEGEND

- STATISTICAL AREA
 ZONE STATISTIQUE
 СТАТИСТИЧЕСКИЙ РАЙОН
 AREA ESTADISTICA
- STATISTICAL SUBAREA
 SOUS-ZONE STATISTIQUE
 СТАТИСТИЧЕСКИЙ ПОДРАЙОН
 SUBAREA ESTADISTICA
- ANTARCTIC CONVERGENCE
 CONVERGENCE ANTIARCTIQUE
 АНТАРКТИЧЕСКАЯ КООРВЕГЕНЦИЯ
 CONVERGENCIA ANTARCTICA
- CONTINENT, ISLAND
 CONTINENT, ILE
 МАТЕРИК, ОСТРОВ
 CONTINENTE, ISLA
- INTEGRATED STUDY REGION
 ZONE D'ETUDE INTEGREEE
 РАЙОН КОМПЛЕКСНЫХ ИССЛЕДОВАНИЙ
 REGION DE ESTUDIO INTEGRADO



CONSERVATION MEASURES AND RESOLUTIONS RELATING TO FISHERIES

CONSERVATION MEASURE 2/III

Mesh Size

(as amended in accordance with Conservation Measure 19/IX)

1. The use of pelagic and bottom trawls having the mesh size in any part of a trawl less than indicated is prohibited for any directed fishery for:

Notothenia rossii, *Dissostichus eleginoides* - 120 mm
Notothenia gibberifrons, *Notothenia kempfi*,
Notothenia squamifrons - 80 mm
2. It is prohibited to use any means or device which would obstruct or diminish the size of the meshes.
3. This Conservation Measure does not apply to fishing conducted for scientific research purposes.
4. This Measure will apply as of 1 September 1985.

CONSERVATION MEASURE 3/IV

Prohibition of Directed Fishery on *Notothenia rossii* around South Georgia (Statistical Subarea 48.3)

1. Directed fishing on *Notothenia rossii* around South Georgia (Statistical Subarea 48.3) is prohibited.
2. By-catches of *Notothenia rossii* in fisheries directed to other species shall be kept to the level allowing the optimum recruitment to the stock.

CONSERVATION MEASURE 4/V

Regulation on Mesh Size Measurement

This Conservation Measure supplements Conservation Measure 2/III

Regulations on Mesh Size Measurement

ARTICLE 1

Description of Gauges

1. Gauges to be used for determining mesh sizes shall be 2 mm thick, flat, of durable material and capable of retaining their shape. They shall have either a series of parallel-edged sides connected by intermediate tapering edges with a taper of one to eight on each side, or only tapering edges with the taper defined above. They shall have a hole at the narrowest extremity.

2. Each gauge shall be inscribed on its face with the width in millimetres both on the parallel-sided section, if any, and on the tapering section. In the case of the latter the width shall be inscribed every 1 mm interval and the indication of the width shall appear at regular intervals.

ARTICLE 2

Use of the Gauge

1. The net shall be stretched in the direction of the long diagonal of the meshes.
2. A gauge as described in Article 1 shall be inserted by its narrowest extremity into the mesh opening in a direction perpendicular to the plane of the net.
3. The gauge shall be inserted into the mesh opening either with a manual force or using a weight or dynamometer, until it is stopped at the tapering edges by the resistance of the mesh.

ARTICLE 3

Selection of Meshes to be Measured

1. Meshes to be measured shall form a series of 20 consecutive meshes chosen in the direction of the long axis of the net.
2. Meshes less than 50 cm from lacings, ropes or codline shall not be measured. This distance shall be measured perpendicular to the lacings, ropes or codline with the net stretched in the direction of that measurement. Nor shall any mesh be measured which has been mended or broken or has attachments to the net fixed at that mesh.
3. By way of derogation from paragraph 1, the meshes to be measured need not be consecutive if the application of paragraph 2 prevents it.
4. Nets shall be measured only when wet and unfrozen.

ARTICLE 4

Measurement of Each Mesh

The size of each mesh shall be the width of the gauge at the point where the gauge is stopped, when using this gauge in accordance with Article 2.

ARTICLE 5

Determination of the Mesh Size of the Net

1. The mesh size of the net shall be the arithmetical mean in millimetres of the measurements of the total number of meshes selected and measured as provided for in Articles 3 and 4, the arithmetical mean being rounded up to the next millimetre.
2. The total number of meshes to be measured is provided for in Article 6.

ARTICLE 6

Sequence of Inspection Procedure

1. The inspector shall measure one series of 20 meshes, selected in accordance with Article 3, inserting the gauge manually without using a weight or dynamometer.

The mesh size of the net shall then be determined in accordance with Article 5.

If the calculation of the mesh size shows that the mesh size does not appear to comply with the rules in force, then two additional series of 20 meshes selected in accordance with Article 3 shall be measured. The mesh size shall then be recalculated in accordance with Article 5, taking into account the 60 meshes already measured. Without prejudice to paragraph 2, this shall be the mesh size of the net.

2. If the captain of the vessel contests the mesh size determined in accordance with paragraph 1, such measurement will not be considered for the determination of the mesh size and the net shall be remeasured.

A weight or dynamometer attached to the gauge shall be used for remeasurement.

The choice of weight or dynamometer shall be at the discretion of the inspector.

The weight shall be fixed to the hole in the narrowest extremity of the gauge using a hook. The dynamometer may either be fixed to the hole in the narrowest extremity of the gauge or be applied at the largest extremity of the gauge.

The accuracy of the weight or dynamometer shall be certified by the appropriate national authority.

For nets of a mesh size of 35 mm or less as determined in accordance with paragraph 1, a force of 19.61 newtons (equivalent to a mass of 2 kilograms) shall be applied and for other nets, a force of 49.03 newtons (equivalent to a mass of 5 kilograms).

For the purposes of determining the mesh size in accordance with Article 5 when using a weight or dynamometer, one series of 20 meshes only shall be measured.

CONSERVATION MEASURE 5/V¹ **Prohibition of Directed Fishery on *Notothenia rossii* in the Peninsula Area (Statistical Subarea 48.1)**

The Commission hereby adopts the following Conservation Measure in accordance with Article IX of the Convention:

Directed fishing on *N. rossii* in the Peninsula Area (Statistical Area 48.1) is prohibited.

By-catches of *N. rossii* in fisheries directed to other species shall be kept to the level allowing the optimum recruitment to the stock.

¹ This Conservation Measure remains in force, but is currently encompassed within the provisions in Conservation Measure 72/XII.

CONSERVATION MEASURE 6/V¹
Prohibition of Directed Fishery on *Notothenia rossii*
around South Orkneys (Statistical Subarea 48.2)

The Commission hereby adopts the following Conservation Measure in accordance with Article IX of the Convention:

Directed fishing on *N. rossii* around South Orkneys (Statistical Subarea 48.2) is prohibited.

By-catches of *N. rossii* in fisheries directed to other species shall be kept to the level allowing the optimum recruitment to the stock.

¹ This Conservation Measure remains in force, but is currently encompassed within the provisions in Conservation Measure 73/XII

CONSERVATION MEASURE 7/V
Regulation of Fishing around South Georgia
(Statistical Subarea 48.3)

Without prejudice to other Conservation Measures adopted by the Commission, for species upon which fisheries are permitted around South Georgia (Statistical Subarea 48.3), the Commission shall, at its 1987 Meeting, adopt limitations on catch, or equivalent measures, binding for the 1987/88 season.

Such limitations of catch or equivalent measures shall be based upon the advice of the Scientific Committee, taking into account any data resulting from fishery surveys around South Georgia.

For each fishing season after 1987/88, the Commission shall establish such limitations or other measures, as necessary, around South Georgia on a similar basis at the meeting of the Commission immediately preceding that season.

CONSERVATION MEASURE 19/IX²
Mesh Size for *Champocephalus gunnari*

1. The use of pelagic and bottom trawls having the mesh size in any part of a trawl less than 90 mm is prohibited for any directed fishery for *Champocephalus gunnari*.
2. The mesh size specified above is defined in accordance with the regulations on mesh size measurement, Conservation Measure 4/V.
3. It is prohibited to use any means or device which would obstruct or diminish the size of the meshes.
4. This Conservation Measure does not apply to fishing conducted for scientific research purposes.
5. This Measure will apply as of 1 November 1991.
6. Conservation Measure 2/III is amended accordingly.

² Except for waters adjacent to the Kerguelen and Crozet Islands

CONSERVATION MEASURE 29/XIII^{1,2}
**Minimisation of the Incidental Mortality of Seabirds in the Course of
Longline Fishing or Longline Fishing Research in the Convention Area**

The Commission,

Noting the need to reduce the incidental mortality of seabirds during longline fishing by minimising their attraction to the fishing vessels and by preventing them from attempting to seize baited hooks, particularly during the period when the lines are set,

Agrees to the following measures to reduce the possibility of incidental mortality of seabirds during longline fishing.

1. Fishing operations shall be conducted in such a way that the baited hooks sink as soon as possible after they are put in the water. Only thawed bait shall be used.
2. Longlines shall be set at night only (i.e., between the times of nautical twilight). During longline fishing at night, only the minimum ship's lights necessary for safety shall be used.
3. Trash and offal should not be dumped while longlines are being set or hauled; if discharge of offal is unavoidable, this discharge shall take place as far as possible and/or on the opposite side of the vessel from the area of the vessel where longlines are set or hauled.
4. Every effort should be made to ensure that birds captured alive during longlining are released alive and that wherever possible hooks are removed without jeopardising the life of the bird concerned.
5. A streamer line designed to discourage birds from settling on baits during deployment of longlines shall be towed. Specification of the streamer line and its method of deployment is given in the Appendix to this Measure. Details of the construction relating to the number and placement of swivels may be varied so long as the effective sea surface covered by the streamers is no less than that covered by the currently specified design. Details of the device dragged in the water in order to create tension in the line may also be varied.
6. Other variations in the design of streamer lines can be tested on vessels carrying two observers, at least one appointed in accordance with the CCAMLR Scheme of International Scientific Observation, providing that all other elements of this Conservation Measure are complied with³.

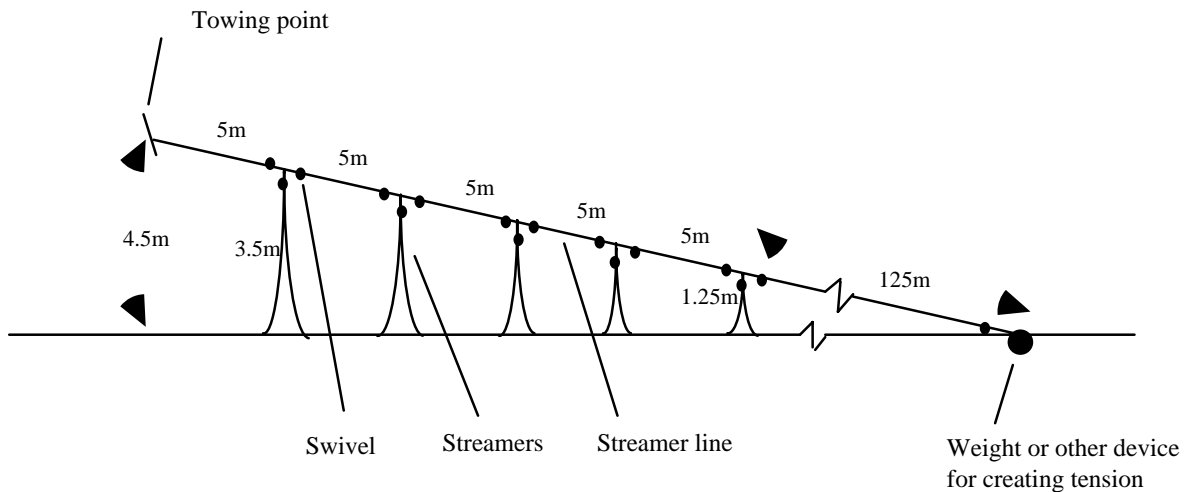
¹ Except for waters adjacent to the Kerguelen and Crozet Islands

² Except for waters adjacent to the Prince Edward Islands

³ The streamer lines under test should be constructed and operated taking full account of the principles set out in WG-IMALF-94/19 and available from the CCAMLR Secretariat.

APPENDIX TO CONSERVATION MEASURE 29/XIII

1. The streamer line is to be suspended at the stern from a point approximately 4.5 m above the water and such that the line is directly above the point where the baits hit the water.
2. The streamer line is to be approximately 3 mm diameter, have a minimum length of 150 m and have a device at the end to create tension so that the main line streams directly behind the ship even in cross winds.
3. At 5 m intervals commencing from the point of attachment to the ship five branch streamers each comprising two strands of approximately 3 mm diameter cord should be attached. The length of the streamer should range from approximately 3.5 m nearest the ship to approximately 1.25 m for the fifth streamer. When the streamer line is deployed the branch streamers should reach the sea surface and periodically dip into it as the ship heaves. Swivels should be placed in the streamer line at the towing point, before and after the point of attachment of each branch streamer and immediately before any weight placed on the end of the streamer line. Each branch streamer should also have a swivel at its attachment to the streamer line.



CONSERVATION MEASURE 30/X¹
Net Monitor Cables

The use of net monitor cables on harvesting vessels in the CCAMLR Convention Area is prohibited from the 1994/95 fishing season.

¹ Except for waters adjacent to the Kerguelen and Crozet Islands

CONSERVATION MEASURE 31/X^{1,2}
**Notification that Members are Considering
Initiating a New Fishery**

The Commission,

Recognising that in the past, Antarctic fisheries have been initiated in the Convention Area before sufficient information was available upon which to base management advice,

Noting that in recent years new fisheries have started without adequate information being available to evaluate either the fishery potential or the possible impacts on the target stocks or species dependent on them,

Believing that without prior notification of a new fishery, the Commission is unable to fulfil its function under Article IX,

hereby adopts the following Conservation Measure in accordance with Article IX of the Convention:

1. A new fishery, for the purposes of this Conservation Measure, is a fishery on a species using a particular fishing method in a statistical subarea for which:
 - (i) information on distribution, abundance, demography, potential yield and stock identity from comprehensive research/surveys or exploratory fishing have not been submitted to CCAMLR;
or
 - (ii) catch and effort data have never been submitted to CCAMLR;
or
 - (iii) catch and effort data from the two most recent seasons in which fishing occurred have not been submitted to CCAMLR.
2. A Member intending to develop a new fishery shall notify the Commission not less than three months in advance of the next regular meeting of the Commission, where the matter shall be considered. The Member shall not initiate a new fishery pending the process specified in paragraphs 4 and 5 below;
3. The notification shall be accompanied by as much of the following information as the Member is able to provide:
 - (i) the nature of the proposed fishery including target species, methods of fishing, proposed region and any minimum level of catches that would be required to develop a viable fishery;
 - (ii) biological information from comprehensive research/survey cruises, such as distribution, abundance, demographic data and information on stock identity;

- (iii) details of dependent and associated species and the likelihood of them being affected by the proposed fishery; and
 - (iv) information from other fisheries in the region or similar fisheries elsewhere that may assist in the valuation of potential yield;
4. The information provided in accordance with paragraph 3, together with any other relevant information, shall be considered by the Scientific Committee, which shall then advise the Commission;
 5. After its review of the information on the proposed new fishery, taking full account of the recommendations and the advice of the Scientific Committee, the Commission may then take such action as it deems necessary.

¹ Except for waters adjacent to the Kerguelen and Crozet Islands

² Except for waters adjacent to the Prince Edward Islands

CONSERVATION MEASURE 32/X
Precautionary Catch Limitations on *Euphausia superba*
in Statistical Area 48

The total catch of *Euphausia superba* in Statistical Area 48 shall be limited to 1.5 million tonnes in any fishing season. A fishing season begins on 1 July and finishes on 30 June of the following year.

This limit shall be kept under review by the Commission, taking into account the advice of the Scientific Committee.

Precautionary limits to be agreed by the Commission on the basis of advice of the Scientific Committee shall be applied to subareas, or on such other basis as the Scientific Committee may advise, if the total catch in Statistical Subareas 48.1, 48.2 and 48.3 in any fishing season exceeds 620 000 tonnes.

For the purpose of implementing this Conservation Measure the catches shall be reported to the Commission on a monthly basis.

CONSERVATION MEASURE 40/X
Monthly Catch and Effort Reporting System

This Conservation Measure is adopted in accordance with Conservation Measure 7/V where appropriate:

1. For the purposes of this Catch and Effort Reporting System the reporting period shall be defined as one calendar month.
2. At the end of each reporting period, each Contracting Party shall obtain from each of its vessels its total catch and total days and hours fished for that period and shall, by cable or telex, transmit the aggregated catch and days and hours fished for its vessels so as to reach the Executive Secretary not later than the end of the next reporting period.
3. Such reports shall specify the month to which each report refers.

4. Immediately after the deadline has passed for receipt of the reports for each period, the Executive Secretary shall notify all Contracting Parties of the total catch taken during the reporting period, the total aggregate catch for the season to date together with an estimate of the date upon which the total allowable catch is likely to be reached for that season. The estimate shall be based on a projection forward of the trend in daily catch rates, obtained using linear regression techniques from a number of the most recent catch reports.
5. In the case of finfish, if the estimated date of completion of the TAC is within one reporting period of the date on which the Secretariat received the report of the catches, the Executive Secretary shall inform all Contracting Parties that the fishery will close on that estimated day or on the day on which the report was received, whichever is the later.

CONSERVATION MEASURE 45/XI
Precautionary Catch Limitation on *Euphausia superba*
in Statistical Division 58.4.2

The total catch of *Euphausia superba* in Statistical Division 58.4.2 shall be limited to 390 000 tonnes in any fishing season. A fishing season begins on 1 July and finishes on 30 June of the following year.

This limit shall be kept under review by the Commission, taking into account the advice of the Scientific Committee.

For the purposes of implementing this Conservation Measure, the catches shall be reported to the Commission on a monthly basis.

CONSERVATION MEASURE 51/XII
Five-day Catch and Effort Reporting System

This Conservation Measure is adopted in accordance with Conservation Measure 7/V where appropriate:

1. For the purposes of this Catch and Effort Reporting System the calendar month shall be divided into six reporting periods, viz: day 1 to day 5, day 6 to day 10, day 11 to day 15, day 16 to day 20, day 21 to day 25 and day 26 to the last day of the month. These reporting periods are hereinafter referred to as periods A, B, C, D, E and F.
2. At the end of each reporting period, each Contracting Party shall obtain from each of its vessels its total catch and total days and hours fished for that period and shall, by cable, telex or facsimile, transmit the aggregated catch and days and hours fished for its vessels so as to reach the Executive Secretary not later than the end of the next reporting period. In the case of longline fisheries, the number of hooks shall also be reported.
3. A report must be submitted by every Contracting Party taking part in the fishery for each reporting period for the duration of the fishery even if no catches are taken.
4. The catch of all species, including by-catch species, must be reported.
5. Such reports shall specify the month and reporting period (A, B, C, D, E or F) to which each report refers.

6. Immediately after the deadline has passed for receipt of the reports for each period, the Executive Secretary shall notify all Contracting Parties engaged in fishing activities in the area, of the total catch taken during the reporting period, the total aggregate catch for the season to date together with an estimate of the date upon which the total allowable catch is likely to be reached for that season. The estimate shall be based on a projection forward of the trend in daily catch rates, obtained using linear regression techniques from a number of the most recent catch reports.
7. At the end of every six reporting periods, the Executive Secretary shall inform all Contracting Parties of the total catch taken during the six most recent reporting periods, the total aggregate catch for the season to date together with an estimate of the date upon which the total allowable catch is likely to be reached for that season.
8. If the estimated date of completion of the TAC is within five days of the date on which the Secretariat received the report of the catches, the Executive Secretary shall inform all Contracting Parties that the fishery will close on that estimated day or on the day on which the report was received, whichever is the later.

CONSERVATION MEASURE 52/XI
Monthly Effort and Biological Data Reporting System
for Trawl Fisheries

This Conservation Measure is adopted in accordance with Conservation Measure 7/V, where appropriate:

1. Specification of “target species” and “by-catch species” referred to in this Conservation Measure shall be made in the Conservation Measure to which it is attached.
2. At the end of each month each Contracting Party shall obtain from each of its vessels the data required to complete the CCAMLR fine-scale catch and effort data form for trawl fisheries (Form C1, latest version). It shall transmit those data to the Executive Secretary not later than the end of the following month.
3. The catch of all species, including by-catch species, must be reported.
4. At the end of each month each Contracting Party shall obtain from each of its vessels representative samples of length composition measurements of the target species and by-catch species from the fishery (Form B2, latest version). It shall transmit those data to the Executive Secretary not later than the end of the following month.
5. Failure by a Contracting Party to provide the fine-scale catch and effort data or length composition data for three consecutive months shall result in the closure of the fishery to vessels of that Contracting Party. If the Executive Secretary has not received length composition data for two consecutive months he shall notify the Contracting Party that the fishery will be closed to that Contracting Party unless those data (including arrears of data) are provided by the end of the next month. If at the end of the next month those data have still not been provided, the Executive Secretary shall notify all Contracting Parties of the closure of the fishery to vessels of the Contracting Party which has failed to supply the data as required.
6. For the purpose of implementing this Conservation Measure;
 - (i) length measurements of fish should be of total length to the nearest centimetre below;

- (ii) representative samples of length composition should be taken from a single fishing ground¹. In the event that the vessel moves from one fishing ground to another during the course of a month, then separate length compositions should be submitted for each fishing ground.

¹ Pending the provision of a more appropriate definition, the term fishing ground is defined here as the area within a single fine-scale grid rectangle (0.5° latitude by 1° longitude).

CONSERVATION MEASURE 54/XI
Biological Data Reporting System for *Electrona carlsbergi*
in Statistical Subarea 48.3

This Conservation Measure is adopted in accordance with Conservation Measure 7/V.

Each month the length composition of a minimum of 500 fish, randomly collected from the commercial fishery, will be measured and the information passed to the Executive Secretary not later than the end of the month following.

CONSERVATION MEASURE 61/XII
Ten-day Catch and Effort Reporting System

This Conservation Measure is adopted in accordance with Conservation Measure 7/V where appropriate:

1. For the purposes of this Catch and Effort Reporting System the calendar month shall be divided into three reporting periods, viz: day 1 to day 10, day 11 to day 20, day 21 to the last day of the month. These reporting periods are hereinafter referred to as periods A, B and C.
2. At the end of each reporting period, each Contracting Party shall obtain from each of its vessels its total catch and total days and hours fished for that period and shall, by cable, telex or facsimile, transmit the aggregated catch and days and hours fished for its vessels so as to reach the Executive Secretary not later than the end of the next reporting period. In the case of longline fisheries, the number of hooks shall also be reported.
3. A report must be submitted by every Contracting Party taking part in the fishery for each reporting period for the duration of the fishery even if no catches are taken.
4. The retained catch of all species and by-catch species, must be reported.
5. Such reports shall specify the month and reporting period (A, B and C) to which each report refers.
6. Immediately after the deadline has passed for receipt of the reports for each period, the Executive Secretary shall notify all Contracting Parties engaged in fishing activities in the area, of the total catch taken during the reporting period, the total aggregate catch for the season to date together with an estimate of the date upon which the total allowable catch is likely to be reached for that season. The estimate shall be based on a projection forward of the trend in daily catch rates, obtained using linear regression techniques from a number of the most recent catch reports.

7. At the end of every three reporting periods, the Executive Secretary shall inform all Contracting Parties of the total catch taken during the three most recent reporting periods, the total aggregate catch for the season to date together with an estimate of the date upon which the total allowable catch is likely to be reached for that season.
8. If the estimated date of completion of the TAC is within ten days of the date on which the Secretariat received the report of the catches, the Executive Secretary shall inform all Contracting Parties that the fishery will close on that estimated day or on the day on which the report was received, whichever is the later.

CONSERVATION MEASURE 63/XII
Reduction in Use of Plastic Packaging Bands

The Commission,

Recollecting that for many years it has received evidence from the Scientific Committee that substantial numbers of Antarctic fur seals have been entangled and killed in plastic packaging bands in the Convention Area.

Noting that, despite the recommendations of CCAMLR and the provisions of the MARPOL Convention and its Annexes which prohibit the jettisoning of all plastics at sea, substantial entanglement of fur seals is still continuing.

Recognising that the bait boxes used on fishing vessels in particular and other packages in general need not be secured by plastic packaging bands because suitable alternatives exist.

Agrees to adopt the following Conservation Measure, to reduce the incidental mortality of seals due to entanglement, in accordance with Article IX of the Convention.

1. As a general practice all packaging bands, once removed from packages, shall be cut, so that they do not form a continuous loop.
2. The use on fishing vessels of plastic packaging bands to secure bait boxes shall be prohibited from the 1995/96 season.
3. The use of such packaging bands for other purposes on fishing vessels which do not use on-board incinerators shall be prohibited from the 1996/97 season.

CONSERVATION MEASURE 64/XII^{1, 2}
The Application of Conservation Measures
to Scientific Research

This Conservation Measure governs the application of conservation measures to scientific research and is adopted in accordance with Article IX of the Convention.

1. General application.
 - (a) Catches taken by any vessel for research purposes will be considered as part of any catch limits in force for each species taken, and shall be reported to CCAMLR as part of the annual STATLANT returns.

- (b) The CCAMLR within season catch and effort reporting systems shall apply whenever the catch within a specified reporting period exceeds five tonnes, unless more specific regulations apply to the particular species.
2. Application to vessels taking less than 50 tonnes of catch for any purpose.
- (a) Any Member planning to use a vessel for research purposes when the estimated catch is expected to be less than a total of 50 tonnes shall notify the Secretariat of the Commission which in turn will notify all Members immediately, according to the format provided in Annex 64/A. This notification shall be included in the Members' Activities Reports.
- (b) Vessels to which the provisions of paragraph 2(a) above apply, shall be exempt from conservation measures relating to mesh size regulations, prohibition of types of gear, closed areas, fishing seasons and size limits, and reporting system requirements other than those specified in paragraphs 1(a) and (b) above.
3. Application to vessels taking more than 50 tonnes of finfish.
- (a) Any Member planning to use any type of vessel to conduct fishing for research purposes when the estimated catch is expected to be more than 50 tonnes, shall notify the Commission and provide the opportunity for other Members to review and comment on its research plan. The plan shall be provided to the Secretariat for distribution to Members at least six months in advance of the planned starting date for the research. In the event of any request for a review of such plan being lodged within two months of its circulation, the Executive Secretary shall notify all Members and submit the plan to the Scientific Committee for review. Based on the submitted research plan and any advice provided by the appropriate Working Group, the Scientific Committee will provide advice to the Commission where the review process will be concluded. Until the review process is complete the planned fishing for research purposes shall not proceed.
- (b) Research plans shall be reported in accordance with the standardised guidelines and formats adopted by the Scientific Committee, given in Annex 64/A.
- (c) A summary of the results of any research subject to these provisions shall be provided to the Secretariat within 180 days of the completion of the research fishing. A full report shall be provided within 12 months.
- (d) Catch and effort data resulting from the research fishing in accordance with paragraph (a) above, should be reported to the Secretariat according to the haul-by-haul reporting format for research vessels (C4).

¹ Except for waters adjacent to the Kerguelen and Crozet Islands

² Except for waters adjacent to the Prince Edward Islands

FORMATS FOR NOTIFICATION OF RESEARCH VESSEL ACTIVITY

Format 1

**NOTIFICATION OF RESEARCH VESSEL ACTIVITY WHEN THE
TOTAL CATCH IS EXPECTED TO BE LESS THAN 50 TONNES**

Name and registration number of vessel _____

Division and subarea in which research is to be carried out _____

Estimated dates of entering and leaving CCAMLR Convention Area _____

Purpose of research _____

Fishing equipment likely to be used:

Bottom trawl _____

Midwater trawl _____

Longline _____

Crab pots _____

Other fishing gear (specify) _____

Format 2

**FORMAT FOR REPORTING PLANS FOR FINFISH SURVEYS
IN THE CONVENTION AREA WHEN THE TOTAL CATCH
IS EXPECTED TO BE MORE THAN 50 TONNES**

CCAMLR MEMBER _____

SURVEY DETAILS

A statement of the planned research objectives _____

Survey Area/Subarea/Division _____

Geographical Boundaries: Latitude from _____ to _____

Longitude from _____ to _____

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

Proposed dates of survey: from _____ / _____ / _____ (Y/M/D)

to _____ / _____ / _____ (Y/M/D)

The name(s) and address of the chief scientist(s) responsible for planning and coordinating the research _____

Number of scientists _____ and crew _____ to be aboard the vessel.

Is there opportunity for inviting scientists from other Members: _____

If so, indicate a number of such scientists _____

DESCRIPTION OF VESSEL

Name of vessel _____

Name and address of vessel owner _____

Vessel type (dedicated research or chartered commercial vessel) _____

Port of registration _____ Registration number _____

Radio call sign _____ Overall length _____ (m)

Tonnage _____

Equipment used for determining position _____

Fishing capacity (limited to scientific sampling activities only or commercial capacity) _____ (tonnes/day)

Fish processing capacity (if vessel type is commercial) _____ (tonnes/day)

Fish storage capacity (if vessel type is commercial) _____ (m³)

DESCRIPTION OF FISHING GEAR TO BE USED:

Trawl type (i.e. bottom, midwater): _____

Mesh shape (i.e. diamond, square) and mesh size in codend (mm) _____

Longline _____

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

DESCRIPTION OF ACOUSTIC GEAR TO BE USED

Type _____ Frequency _____

SURVEY DESIGN AND METHODS OF DATA ANALYSES

Survey design (random, semi-random) _____

Target species _____

Stratification (if any) according to -

Depth zones (list) _____

Fish density (list) _____

Other (specify) _____

Duration of standard sampling stations/hauls (preferably 30 min) _____ (min)

Proposed number of hauls _____

Proposed sample size (total): _____ (number) _____ (kg)

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: _____

Fine-scale biological data in accordance with CCAMLR Forms B1, B2 and B3:

Other data (as applicable)

CONSERVATION MEASURE 65/XII^{1,2}
Exploratory fisheries

The Commission,

Recognising that in the past, some Antarctic fisheries had been initiated and subsequently expanded in the Convention Area before sufficient information was available upon which to base management advice, and

Agreeing that exploratory fishing should not be allowed to expand faster than the acquisition of information necessary to ensure that the fishery can and will be conducted in accordance with the principles set forth in Article II,

hereby adopts the following Conservation Measure in accordance with Article IX of the Convention:

1. For the purposes of this Conservation Measure, exploratory fisheries are defined as follows:
 - (i) an exploratory fishery shall be defined as a fishery that was previously classified as a New fishery, as defined by Conservation Measure 31/X;
 - (ii) an exploratory fishery shall continue to be classified as such until sufficient information is available:
 - (a) to evaluate the distribution, abundance, and demography of the target species, leading to an estimate of the fishery's potential yield,
 - (b) to review the fishery's potential impacts on dependent and related species, and
 - (c) to allow the Scientific Committee to formulate and provide advice to the Commission on appropriate harvest catch levels, as well as effort levels and fishing gear, where appropriate.
2. To ensure that adequate information is made available to the Scientific Committee for evaluation, during the period when a fishery is classified as exploratory:
 - (i) the Scientific Committee shall develop (and update annually as appropriate) a Data Collection Plan, which will identify the data needed and describe the actions necessary to obtain the relevant data from the exploratory fishery;
 - (ii) each Member active in the fishery shall annually (by the specified date) submit to CCAMLR the data specified by the Data Collection Plan developed by the Scientific Committee;
 - (iii) each Member active in the fishery or intending to authorise a vessel to enter the fishery shall annually prepare and submit to CCAMLR by a specified date a Research and Fishery Operations Plan for review by the Scientific Committee and the Commission;
 - (iv) prior to any Member authorising its vessels to enter an exploratory fishery that is already in progress, that Member shall notify the Commission not less than three months in advance of the next regular meeting of the Commission, and the Member shall not enter the exploratory fishery until the conclusion of that meeting;

- (v) if the data specified in the Data Collection Plan have not been submitted to CCAMLR for the most recent season in which fishing occurred, continued exploratory fishing by the Member which failed to report its data shall be prohibited until the relevant data have been submitted to CCAMLR and the Scientific Committee has been allowed an opportunity to review the data;
 - (vi) fishing capacity and effort shall be limited by a precautionary catch limit at a level not substantially above that necessary to obtain the information specified in the Data Collection Plan and required to make the evaluations outlined in paragraph 1(ii);
 - (vii) the name, type, size, registration number, and radio call sign of each vessel participating in the exploratory fishery shall be registered with the CCAMLR Secretariat at least three months in advance of starting fishing each season; and
 - (viii) each vessel participating in the exploratory fishery shall carry a scientific observer to ensure that data are collected in accordance with the agreed Data Collection Plan, and to assist in collecting biological and other relevant data.
3. The Data Collection Plan to be formulated and updated by the Scientific Committee shall include, where appropriate:
- (i) a description of the catch, effort, and related biological, ecological, and environmental data required to undertake the evaluations described in paragraph 1(ii), and the date by which such data are to be reported annually to CCAMLR;
 - (ii) a plan for directing fishing effort during the exploratory phase to permit the acquisition of relevant data to evaluate the fishery potential and the ecological relationships among harvested, dependent, and related populations and the likelihood of adverse impacts; and
 - (iii) an evaluation of the time-scales involved in determining the responses of harvested, dependent and related populations to fishing activities.
4. Research and Fisheries Operations Plans to be prepared by Members participating or intending to participate in the exploratory fishery shall include as much of the following information as the Member is able to provide:
- (i) a description of how the Member's activities will comply with the Data Collection Plan developed by the Scientific Committee;
 - (ii) the nature of the exploratory fishery, including target species, methods of fishing, proposed region and maximum catch levels proposed for the forthcoming season;
 - (iii) biological information from comprehensive research/survey cruises, such as distribution, abundance, demographic data, and information on stock identity;
 - (iv) details of dependent and related species and the likelihood of them being affected by the proposed fishery; and
 - (v) information from other fisheries in the region or similar fisheries elsewhere that may assist in the evaluation of potential yield.

¹ Except for waters adjacent to the Kerguelen and Crozet Islands

² Except for waters adjacent to the Prince Edward Islands

CONSERVATION MEASURE 72/XII
Prohibition of Directed Fishing for Finfish
in Statistical Subarea 48.1

Taking of finfish, other than for scientific research purposes, is prohibited in Statistical Subarea 48.1 from 6 November 1993 until at least such time that a survey of stock biomass is carried out, its results reported to and analysed by the Working Group on Fish Stock Assessment and a decision that the fishery be re-opened is made by the Commission based on the advice of the Scientific Committee.

CONSERVATION MEASURE 73/XII
Prohibition of Directed Fishing for Finfish
in Statistical Subarea 48.2

Taking of finfish, other than for scientific research purposes, is prohibited in Statistical Subarea 48.2 from 6 November 1993 until at least such time that a survey of stock biomass is carried out, its results reported to and analysed by the Working Group on Fish Stock Assessment and a decision that the fishery be re-opened is made by the Commission based on the advice of the Scientific Committee.

CONSERVATION MEASURE 75/XII
Experimental Harvest Regime for the Crab Fishery in
Statistical Subarea 48.3 for Seasons 1993/94 to 1995/96

The following measures apply to all crab fishing within Statistical Subarea 48.3 for the 1993/94, 1994/95, and 1995/96 fishing seasons. Every vessel participating in the crab fishery in Subarea 48.3 shall conduct fishing operations in accordance with an experimental fishing regime as outlined below:

1. The experimental regime shall consist of three phases. Each vessel participating in the fishery shall complete all three phases. Phase 1 shall be conducted during the first season that a vessel participates in the experimental regime. Phases 2 and 3 shall be completed in the next season of fishing.
2. Vessels shall conduct Phase 1 of the experimental regime at the start of their first season of participation in the experimental regime. For the purposes of Phase 1, the following conditions shall apply:
 - (i) Phase 1 shall be defined as a vessel's first 200 000 pot hours of effort at the start of its first fishing season.
 - (ii) Every vessel conducting Phase 1 shall expend its first 200 000 pot hours of effort within a total area delineated by twelve 0.5° latitude by 1° longitude blocks. For the purposes of this Conservation Measure, these blocks shall be numbered A through L. The blocks are illustrated in Figure 1, and the northeast corner of each block is listed in Table 1 of Annex 75/A. For each string, pot hours shall be calculated by taking the total number of pots on the string and multiplying by the soak time (in hours) for that string.

- (iii) Vessels shall not fish outside the area delineated by the twelve 0.5° latitude by 1° longitude blocks prior to completing Phase 1.
 - (iv) During Phase 1, vessels shall not expend more than 30 000 pot hours in any single 0.5° latitude by 1° longitude block.
 - (v) If a vessel returns to port before it has expended 200 000 pot hours in Phase 1, the balance of remaining pot hours shall be expended before the vessel can consider Phase 1 to be completed.
 - (vi) After completing 200 000 pot hours of experimental fishing, vessels shall consider Phase 1 to be completed and commence fishing in a normal fashion.
3. Normal fishing operations shall be conducted in accordance with the regulations set out in Conservation Measure 74/XII.
 4. For the purposes of implementing normal fishing operations after Phase 1 of the experimental regime, the 10-day catch and effort reporting system set out in Conservation Measure 61/XII shall apply.
 5. Vessels shall conduct Phase 2 of the experimental regime at the start of their second season of participation in the experimental regime. For the purposes of Phase 2, the following conditions shall apply:
 - (i) Every vessel conducting Phase 2 shall fish in three small squares measuring approximately 26 square nautical miles in area (the dimensions of these squares shall be 6° latitude by 7.5° longitude). These squares shall be subdivisions of the blocks delineated in Phase 1 of the experimental regime and numbered A1 through L40. The squares are illustrated in Figure 2 and the northeast corner of each square is listed in Table 2 of Annex 75/A.
 - (ii) Vessels shall fish continuously (except in emergencies or foul weather conditions) within a single square until the average catch per pot has been reduced to 25 percent or less of its initial value and then continue fishing for an additional 7 500 pot hours. Not more than 50 000 total pot hours shall be expended in each square. For the purposes of Phase 2, the initial catch rate for a particular square shall be defined as the average catch per pot calculated from the first five sets made in that square. Soak times for these initial sets shall be at least 24 hours.
 - (iii) Vessels shall finish fishing in one square before starting operations in another square.
 - (iv) Vessels shall attempt to distribute effort throughout the entire square and not fish the gear in the same location on every set.
 - (v) Vessel captains shall decide which three squares will be fished, but selected squares may not be contiguous.
 - (vi) After completing fishing operations in the third square, fishing vessels shall consider Phase 2 to be completed and commence fishing in a normal fashion.
 6. For the purposes of implementing normal fishing operations after Phase 2 of the experimental regime, the 10-day catch and effort reporting system set out in Conservation Measure 61/XII shall apply.

7. Vessels shall conduct Phase 3 of the experimental regime at the end of their second season of participation in the experimental regime. For the purposes of Phase 3, the following conditions shall apply:
 - (i) A vessel shall begin conducting Phase 3 of the experimental regime approximately one week prior to the conclusion of its second fishing season. A vessel's fishing season shall be concluded if the vessel leaves the fishery voluntarily or if the fishery is closed because the TAC has been attained.
 - (ii) If a vessel captain voluntarily concludes fishing operations, the vessel shall begin implementing Phase 3 approximately one week prior to the conclusion of its fishing operations.
 - (iii) The CCAMLR Secretariat shall notify (according to the guidelines set out in Conservation Measure 61/XII) all Contracting Parties that are conducting operations in their second experimental fishing season to begin Phase 3 when approximately one week remains before the TAC is attained and the fishery is closed.
 - (iv) To conduct Phase 3, every vessel shall return to the three squares it depleted during Phase 2 of the experimental regime and expend between 10 000 and 15 000 pot hours of effort in each square.
8. To facilitate analysis of data collected during Phases 2 and 3, vessels shall report the number (A1 through L40) of the square where fishing occurred, date, fishing effort (number and spacing of pots and soak time), and catch (numbers and weight) for each haul.
9. Data collected during the experimental regime shall be submitted to CCAMLR by 31 August of the prevailing split-year.
10. Vessels that complete all three phases of the experimental regime shall not be required to conduct experimental fishing in future seasons. However, these vessels shall abide by the guidelines set forth in Conservation Measure 74/XII.
11. Fishing vessels shall participate in the experiment independently (e.g., vessels may not cooperate to complete phases of the experiment).
12. Crabs captured during the experimental regime shall be considered part of the prevailing TAC for the current fishing season (e.g., for 1993/94, experimental catches shall be considered part of the 1 600 tonne TAC outlined in Conservation Measure 74/XII).
13. The experimental regime shall be instituted for a period of three split-years (1993/94 to 1995/96), and the details of the regime may be revised by the Commission during this period of time. Fishing vessels that begin experimental fishing in the 1995/96 split-year must complete the regime during the 1996/97 split-year.

**LOCATIONS OF FISHING AREAS FOR THE EXPERIMENTAL
REGIME OF THE EXPLORATORY CRAB FISHERY**

Table 1: Northeast corners for twelve 0.5° latitude by 1° longitude blocks that are considered to be the operational area for fishing vessels conducting Phase 1 of the experimental crab fishery regime (Conservation Measure 75/XII).

Block Number	Coordinates of Northeast Corner	
	Latitude	Longitude
A	53 30.0 S	39 00.0 W
B	53 30.0 S	38 00.0 W
C	53 30.0 S	37 00.0 W
D	53 30.0 S	36 00.0 W
E	53 30.0 S	35 00.0 W
F	54 00.0 S	36 00.0 W
G	54 00.0 S	35 00.0 W
H	54 30.0 S	35 00.0 W
I	54 30.0 S	34 00.0 W
J	55 00.0 S	36 00.0 W
K	55 00.0 S	35 00.0 W
L	55 00.0 S	34 00.0 W

Table 2: Northeast corners for 6° latitude by 7.5° longitude squares that are to be considered the operational area for fishing vessels conducting Phases 2 and 3 of the experimental crab fishery regime (Conservation Measure 75/XII). Vessels shall not conduct fishing operations in areas listed as “CLOSED”.

Square Number	Coordinates of Northeast Corner		Square Number	Coordinates of Northeast Corner	
	Latitude	Longitude		Latitude	Longitude
A1	53 30.0 S	39 52.5 W	A26	53 48.0 S	39 45.0 W
A2	53 30.0 S	39 45.0 W	A27	53 48.0 S	39 37.5 W
A3	53 30.0 S	39 37.5 W	A28	53 48.0 S	39 30.0 W
A4	53 30.0 S	39 30.0 W	A29	53 48.0 S	39 22.5 W
A5	53 30.0 S	39 22.5 W	A30	53 48.0 S	39 15.0 W
A6	53 30.0 S	39 15.0 W	A31	53 48.0 S	39 07.5 W
A7	53 30.0 S	39 07.5 W	A32	53 48.0 S	39 00.0 W
A8	53 30.0 S	39 00.0 W	A33	53 54.0 S	39 52.5 W
A9	53 36.0 S	39 52.5 W	A34	53 54.0 S	39 45.0 W
A10	53 36.0 S	39 45.0 W	A35	53 54.0 S	39 37.5 W
A11	53 36.0 S	39 37.5 W	A36	53 54.0 S	39 30.0 W
A12	53 36.0 S	39 30.0 W	A37	53 54.0 S	39 22.5 W
A13	53 36.0 S	39 22.5 W	A38	53 54.0 S	39 15.0 W
A14	53 36.0 S	39 15.0 W	A39	53 54.0 S	39 07.5 W
A15	53 36.0 S	39 07.5 W	A40	53 54.0 S	39 00.0 W
A16	53 36.0 S	39 00.0 W	B1	53 30.0 S	38 52.5 W
A17	53 42.0 S	39 52.5 W	B2	53 30.0 S	38 45.0 W
A18	53 42.0 S	39 45.0 W	B3	53 30.0 S	38 37.5 W
A19	53 42.0 S	39 37.5 W	B4	53 30.0 S	38 30.0 W
A20	53 42.0 S	39 30.0 W	B5	53 30.0 S	38 22.5 W
A21	53 42.0 S	39 22.5 W	B6	53 30.0 S	38 15.0 W
A22	53 42.0 S	39 15.0 W	B7	53 30.0 S	38 07.5 W
A23	53 42.0 S	39 07.5 W	B8	53 30.0 S	38 00.0 W
A24	53 42.0 S	39 00.0 W	B9	53 36.0 S	38 52.5 W
A25	53 48.0 S	39 52.5 W	B10	53 36.0 S	38 45.0 W

Square Number	Coordinates of Northeast Corner		Square Number	Coordinates of Northeast Corner	
	Latitude	Longitude		Latitude	Longitude
B11	53 36.0 S	38 37.5 W	C36	53 54.0 S	37 30.0 W
B12	53 36.0 S	38 30.0 W	C37	53 54.0 S	37 22.5 W
B13	53 36.0 S	38 22.5 W	C38	53 54.0 S	37 15.0 W
B14	53 36.0 S	38 15.0 W	C39	53 54.0 S	37 07.5 W
B15	53 36.0 S	38 07.5 W	C40	53 54.0 S	37 00.0 W
B16	53 36.0 S	38 00.0 W	D1	53 30.0 S	36 52.5 W
B17	53 42.0 S	38 52.5 W	D2	53 30.0 S	36 45.0 W
B18	53 42.0 S	38 45.0 W	D3	53 30.0 S	36 37.5 W
B19	53 42.0 S	38 37.5 W	D4	53 30.0 S	36 30.0 W
B20	53 42.0 S	38 30.0 W	D5	53 30.0 S	36 22.5 W
B21	53 42.0 S	38 22.5 W	D6	53 30.0 S	36 15.0 W
B22	53 42.0 S	38 15.0 W	D7	53 30.0 S	36 07.5 W
B23	53 42.0 S	38 07.5 W	D8	53 30.0 S	36 00.0 W
B24	53 42.0 S	38 00.0 W	D9	53 36.0 S	36 52.5 W
B25	53 48.0 S	38 52.5 W	D10	53 36.0 S	36 45.0 W
B26	53 48.0 S	38 45.0 W	D11	53 36.0 S	36 37.5 W
B27	53 48.0 S	38 37.5 W	D12	53 36.0 S	36 30.0 W
B28	53 48.0 S	38 30.0 W	D13	53 36.0 S	36 22.5 W
B29	53 48.0 S	38 22.5 W	D14	53 36.0 S	36 15.0 W
B30	53 48.0 S	38 15.0 W	D15	53 36.0 S	36 07.5 W
B31	53 48.0 S	38 07.5 W	D16	53 36.0 S	36 00.0 W
B32	53 48.0 S	38 00.0 W	D17	53 42.0 S	36 52.5 W
B33	53 54.0 S	38 52.5 W	D18	53 42.0 S	36 45.0 W
B34	53 54.0 S	38 45.0 W	D19	53 42.0 S	36 37.5 W
B35	53 54.0 S	38 37.5 W	D20	53 42.0 S	36 30.0 W
B36	53 54.0 S	38 30.0 W	D21	53 42.0 S	36 22.5 W
B37	53 54.0 S	38 22.5 W	D22	53 42.0 S	36 15.0 W
B38	53 54.0 S	38 15.0 W	D23	53 42.0 S	36 07.5 W
B39	53 54.0 S	38 07.5 W	D24	53 42.0 S	36 00.0 W
B40	53 54.0 S	38 00.0 W	D25	53 48.0 S	36 52.5 W
C1	53 30.0 S	37 52.5 W	D26	53 48.0 S	36 45.0 W
C2	53 30.0 S	37 45.0 W	D27	53 48.0 S	36 37.5 W
C3	53 30.0 S	37 37.5 W	D28	53 48.0 S	36 30.0 W
C4	53 30.0 S	37 30.0 W	D29	53 48.0 S	36 22.5 W
C5	53 30.0 S	37 22.5 W	D30	53 48.0 S	36 15.0 W
C6	53 30.0 S	37 15.0 W	D31	53 48.0 S	36 07.5 W
C7	53 30.0 S	37 07.5 W	D32	53 48.0 S	36 00.0 W
C8	53 30.0 S	37 00.0 W	D33	53 54.0 S	36 52.5 W
C9	53 36.0 S	37 52.5 W	D34	53 54.0 S	36 45.0 W
C10	53 36.0 S	37 45.0 W	D35	53 54.0 S	36 37.5 W
C11	53 36.0 S	37 37.5 W	D36	53 54.0 S	36 30.0 W
C12	53 36.0 S	37 30.0 W	D37	53 54.0 S	36 22.5 W
C13	53 36.0 S	37 22.5 W	D38	53 54.0 S	36 15.0 W
C14	53 36.0 S	37 15.0 W	D39	53 54.0 S	36 07.5 W
C15	53 36.0 S	37 07.5 W	D40	53 54.0 S	36 00.0 W
C16	53 36.0 S	37 00.0 W	E1	53 30.0 S	35 52.5 W
C17	53 42.0 S	37 52.5 W	E2	53 30.0 S	35 45.0 W
C18	53 42.0 S	37 45.0 W	E3	53 30.0 S	35 37.5 W
C19	53 42.0 S	37 37.5 W	E4	53 30.0 S	35 30.0 W
C20	53 42.0 S	37 30.0 W	E5	53 30.0 S	35 22.5 W
C21	53 42.0 S	37 22.5 W	E6	53 30.0 S	35 15.0 W
C22	53 42.0 S	37 15.0 W	E7	53 30.0 S	35 07.5 W
C23	53 42.0 S	37 07.5 W	E8	53 30.0 S	35 00.0 W
C24	53 42.0 S	37 00.0 W	E9	53 36.0 S	35 52.5 W
C25	53 48.0 S	37 52.5 W	E10	53 36.0 S	35 45.0 W
C26	53 48.0 S	37 45.0 W	E11	53 36.0 S	35 37.5 W
C27	53 48.0 S	37 37.5 W	E12	53 36.0 S	35 30.0 W
C28	53 48.0 S	37 30.0 W	E13	53 36.0 S	35 22.5 W
C29	53 48.0 S	37 22.5 W	E14	53 36.0 S	35 15.0 W
C30	53 48.0 S	37 15.0 W	E15	53 36.0 S	35 07.5 W
C31	53 48.0 S	37 07.5 W	E16	53 36.0 S	35 00.0 W
C32	53 48.0 S	37 00.0 W	E17	53 42.0 S	35 52.5 W
C33	53 54.0 S	37 52.5 W	E18	53 42.0 S	35 45.0 W
C34	53 54.0 S	37 45.0 W	E19	53 42.0 S	35 37.5 W
C35	53 54.0 S	37 37.5 W	E20	53 42.0 S	35 30.0 W

Square Number	Coordinates of Northeast Corner		Square Number	Coordinates of Northeast Corner	
	Latitude	Longitude		Latitude	Longitude
E21	53 42.0 S	35 22.5 W	G6	54 00.0 S	35 15.0 W
E22	53 42.0 S	35 15.0 W	G7	54 00.0 S	35 07.5 W
E23	53 42.0 S	35 07.5 W	G8	54 00.0 S	35 00.0 W
E24	53 42.0 S	35 00.0 W	G9	54 06.0 S	35 52.5 W
E25	53 48.0 S	35 52.5 W	G10	54 06.0 S	35 45.0 W
E26	53 48.0 S	35 45.0 W	G11	54 06.0 S	35 37.5 W
E27	53 48.0 S	35 37.5 W	G12	54 06.0 S	35 30.0 W
E28	53 48.0 S	35 30.0 W	G13	54 06.0 S	35 22.5 W
E29	53 48.0 S	35 22.5 W	G14	54 06.0 S	35 15.0 W
E30	53 48.0 S	35 15.0 W	G15	54 06.0 S	35 07.5 W
E31	53 48.0 S	35 07.5 W	G16	54 06.0 S	35 00.0 W
E32	53 48.0 S	35 00.0 W	G17	54 12.0 S	35 52.5 W
E33	53 54.0 S	35 52.5 W	G18	54 12.0 S	35 45.0 W
E34	53 54.0 S	35 45.0 W	G19	54 12.0 S	35 37.5 W
E35	53 54.0 S	35 37.5 W	G20	54 12.0 S	35 30.0 W
E36	53 54.0 S	35 30.0 W	G21	54 12.0 S	35 22.5 W
E37	53 54.0 S	35 22.5 W	G22	54 12.0 S	35 15.0 W
E38	53 54.0 S	35 15.0 W	G23	54 12.0 S	35 07.5 W
E39	53 54.0 S	35 07.5 W	G24	54 12.0 S	35 00.0 W
E40	53 54.0 S	35 00.0 W	G25	54 18.0 S	35 52.5 W
F1	54 00.0 S	36 52.5 W	G26	54 18.0 S	35 45.0 W
F2	54 00.0 S	36 45.0 W	G27	54 18.0 S	35 37.5 W
F3	54 00.0 S	36 37.5 W	G28	54 18.0 S	35 30.0 W
F4	54 00.0 S	36 30.0 W	G29	54 18.0 S	35 22.5 W
F5	54 00.0 S	36 22.5 W	G30	54 18.0 S	35 15.0 W
F6	54 00.0 S	36 15.0 W	G31	54 18.0 S	35 07.5 W
F7	54 00.0 S	36 07.5 W	G32	54 18.0 S	35 00.0 W
F8	54 00.0 S	36 00.0 W	G33	54 24.0 S	35 52.5 W
F9	CLOSED		G34	54 24.0 S	35 45.0 W
F10	CLOSED		G35	54 24.0 S	35 37.5 W
F11	54 06.0 S	36 37.5 W	G36	54 24.0 S	35 30.0 W
F12	54 06.0 S	36 30.0 W	G37	54 24.0 S	35 22.5 W
F13	54 06.0 S	36 22.5 W	G38	54 24.0 S	35 15.0 W
F14	54 06.0 S	36 15.0 W	G39	54 24.0 S	35 07.5 W
F15	54 06.0 S	36 07.5 W	G40	54 24.0 S	35 00.0 W
F16	54 06.0 S	36 00.0 W	H1	CLOSED	
F17	CLOSED		H2	54 30.0 S	35 45.0 W
F18	CLOSED		H3	54 30.0 S	35 37.5 W
F19	CLOSED		H4	54 30.0 S	35 30.0 W
F20	54 12.0 S	36 30.0 W	H5	54 30.0 S	35 22.5 W
F21	54 12.0 S	36 22.5 W	H6	54 30.0 S	35 15.0 W
F22	54 12.0 S	36 15.0 W	H7	54 30.0 S	35 07.5 W
F23	54 12.0 S	36 07.5 W	H8	54 30.0 S	35 00.0 W
F24	54 12.0 S	36 00.0 W	H9	CLOSED	
F25	CLOSED		H10	54 36.0 S	35 45.0 W
F26	CLOSED		H11	54 36.0 S	35 37.5 W
F27	CLOSED		H12	54 36.0 S	35 30.0 W
F28	CLOSED		H13	54 36.0 S	35 22.5 W
F29	CLOSED		H14	54 36.0 S	35 15.0 W
F30	CLOSED		H15	54 36.0 S	35 07.5 W
F31	54 18.0 S	36 07.5 W	H16	54 36.0 S	35 00.0 W
F32	54 18.0 S	36 00.0 W	H17	CLOSED	
F33	CLOSED		H18	54 42.0 S	35 45.0 W
F34	CLOSED		H19	54 42.0 S	35 37.5 W
F35	CLOSED		H20	54 42.0 S	35 30.0 W
F36	CLOSED		H21	54 42.0 S	35 22.5 W
F37	CLOSED		H22	54 42.0 S	35 15.0 W
F38	CLOSED		H23	54 42.0 S	35 07.5 W
F39	CLOSED		H24	54 42.0 S	35 00.0 W
F40	54 24.0 S	36 00.0 W	H25	54 48.0 S	35 52.5 W
G1	54 00.0 S	35 52.5 W	H26	54 48.0 S	35 45.0 W
G2	54 00.0 S	35 45.0 W	H27	54 48.0 S	35 37.5 W
G3	54 00.0 S	35 37.5 W	H28	54 48.0 S	35 30.0 W
G4	54 00.0 S	35 30.0 W	H29	54 48.0 S	35 22.5 W
G5	54 00.0 S	35 22.5 W	H30	54 48.0 S	35 15.0 W

Square Number	Coordinates of Northeast Corner		Square Number	Coordinates of Northeast Corner	
	Latitude	Longitude		Latitude	Longitude
H31	54 48.0 S	35 07.5 W	J16	55 06.0 S	36 00.0 W
H32	54 48.0 S	35 00.0 W	J17	55 12.0 S	36 52.5 W
H33	54 54.0 S	35 52.5 W	J18	55 12.0 S	36 45.0 W
H34	54 54.0 S	35 45.0 W	J19	55 12.0 S	36 37.5 W
H35	54 54.0 S	35 37.5 W	J20	55 12.0 S	36 30.0 W
H36	54 54.0 S	35 30.0 W	J21	55 12.0 S	36 22.5 W
H37	54 54.0 S	35 22.5 W	J22	55 12.0 S	36 15.0 W
H38	54 54.0 S	35 15.0 W	J23	55 12.0 S	36 07.5 W
H39	54 54.0 S	35 07.5 W	J24	55 12.0 S	36 00.0 W
H40	54 54.0 S	35 00.0 W	J25	55 18.0 S	36 52.5 W
I1	54 30.0 S	34 52.5 W	J26	55 18.0 S	36 45.0 W
I2	54 30.0 S	34 45.0 W	J27	55 18.0 S	36 37.5 W
I3	54 30.0 S	34 37.5 W	J28	55 18.0 S	36 30.0 W
I4	54 30.0 S	34 30.0 W	J29	55 18.0 S	36 22.5 W
I5	54 30.0 S	34 22.5 W	J30	55 18.0 S	36 15.0 W
I6	54 30.0 S	34 15.0 W	J31	55 18.0 S	36 07.5 W
I7	54 30.0 S	34 07.5 W	J32	55 18.0 S	36 00.0 W
I8	54 30.0 S	34 00.0 W	J33	55 24.0 S	36 52.5 W
I9	54 36.0 S	34 52.5 W	J34	55 24.0 S	36 45.0 W
I10	54 36.0 S	34 45.0 W	J35	55 24.0 S	36 37.5 W
I11	54 36.0 S	34 37.5 W	J36	55 24.0 S	36 30.0 W
I12	54 36.0 S	34 30.0 W	J37	55 24.0 S	36 22.5 W
I13	54 36.0 S	34 22.5 W	J38	55 24.0 S	36 15.0 W
I14	54 36.0 S	34 15.0 W	J39	55 24.0 S	36 07.5 W
I15	54 36.0 S	34 07.5 W	J40	55 24.0 S	36 00.0 W
I16	54 36.0 S	34 00.0 W	K1	55 00.0 S	35 52.5 W
I17	54 42.0 S	34 52.5 W	K2	55 00.0 S	35 45.0 W
I18	54 42.0 S	34 45.0 W	K3	55 00.0 S	35 37.5 W
I19	54 42.0 S	34 37.5 W	K4	55 00.0 S	35 30.0 W
I20	54 42.0 S	34 30.0 W	K5	55 00.0 S	35 22.5 W
I21	54 42.0 S	34 22.5 W	K6	55 00.0 S	35 15.0 W
I22	54 42.0 S	34 15.0 W	K7	55 00.0 S	35 07.5 W
I23	54 42.0 S	34 07.5 W	K8	55 00.0 S	35 00.0 W
I24	54 42.0 S	34 00.0 W	K9	55 06.0 S	35 52.5 W
I25	54 48.0 S	34 52.5 W	K10	55 06.0 S	35 45.0 W
I26	54 48.0 S	34 45.0 W	K11	55 06.0 S	35 37.5 W
I27	54 48.0 S	34 37.5 W	K12	55 06.0 S	35 30.0 W
I28	54 48.0 S	34 30.0 W	K13	55 06.0 S	35 22.5 W
I29	54 48.0 S	34 22.5 W	K14	55 06.0 S	35 15.0 W
I30	54 48.0 S	34 15.0 W	K15	55 06.0 S	35 07.5 W
I31	54 48.0 S	34 07.5 W	K16	55 06.0 S	35 00.0 W
I32	54 48.0 S	34 00.0 W	K17	55 12.0 S	35 52.5 W
I33	54 54.0 S	34 52.5 W	K18	55 12.0 S	35 45.0 W
I34	54 54.0 S	34 45.0 W	K19	55 12.0 S	35 37.5 W
I35	54 54.0 S	34 37.5 W	K20	55 12.0 S	35 30.0 W
I36	54 54.0 S	34 30.0 W	K21	55 12.0 S	35 22.5 W
I37	54 54.0 S	34 22.5 W	K22	55 12.0 S	35 15.0 W
I38	54 54.0 S	34 15.0 W	K23	55 12.0 S	35 07.5 W
I39	54 54.0 S	34 07.5 W	K24	55 12.0 S	35 00.0 W
I40	54 54.0 S	34 00.0 W	K25	55 18.0 S	35 52.5 W
J1	55 00.0 S	36 52.5 W	K26	55 18.0 S	35 45.0 W
J2	55 00.0 S	36 45.0 W	K27	55 18.0 S	35 37.5 W
J3	55 00.0 S	36 37.5 W	K28	55 18.0 S	35 30.0 W
J4	55 00.0 S	36 30.0 W	K29	55 18.0 S	35 22.5 W
J5	55 00.0 S	36 22.5 W	K30	55 18.0 S	35 15.0 W
J6	55 00.0 S	36 15.0 W	K31	55 18.0 S	35 07.5 W
J7	55 00.0 S	36 07.5 W	K32	55 18.0 S	35 00.0 W
J8	55 00.0 S	36 00.0 W	K33	55 24.0 S	35 52.5 W
J9	55 06.0 S	36 52.5 W	K34	55 24.0 S	35 45.0 W
J10	55 06.0 S	36 45.0 W	K35	55 24.0 S	35 37.5 W
J11	55 06.0 S	36 37.5 W	K36	55 24.0 S	35 30.0 W
J12	55 06.0 S	36 30.0 W	K37	55 24.0 S	35 22.5 W
J13	55 06.0 S	36 22.5 W	K38	55 24.0 S	35 15.0 W
J14	55 06.0 S	36 15.0 W	K39	55 24.0 S	35 07.5 W
J15	55 06.0 S	36 07.5 W	K40	55 24.0 S	35 00.0 W

Square Number	Coordinates of Northeast Corner	
	Latitude	Longitude
L1	55 00.0 S	34 52.5 W
L2	55 00.0 S	34 45.0 W
L3	55 00.0 S	34 37.5 W
L4	55 00.0 S	34 30.0 W
L5	55 00.0 S	34 22.5 W
L6	55 00.0 S	34 15.0 W
L7	55 00.0 S	34 07.5 W
L8	55 00.0 S	34 00.0 W
L9	55 06.0 S	34 52.5 W
L10	55 06.0 S	34 45.0 W
L11	55 06.0 S	34 37.5 W
L12	55 06.0 S	34 30.0 W
L13	55 06.0 S	34 22.5 W
L14	55 06.0 S	34 15.0 W
L15	55 06.0 S	34 07.5 W
L16	55 06.0 S	34 00.0 W
L17	55 12.0 S	34 52.5 W
L18	55 12.0 S	34 45.0 W
L19	55 12.0 S	34 37.5 W
L20	55 12.0 S	34 30.0 W
L21	55 12.0 S	34 22.5 W
L22	55 12.0 S	34 15.0 W
L23	55 12.0 S	34 07.5 W
L24	55 12.0 S	34 00.0 W
L25	55 18.0 S	34 52.5 W
L26	55 18.0 S	34 45.0 W
L27	55 18.0 S	34 37.5 W
L28	55 18.0 S	34 30.0 W
L29	55 18.0 S	34 22.5 W
L30	55 18.0 S	34 15.0 W
L31	55 18.0 S	34 07.5 W
L32	55 18.0 S	34 00.0 W
L33	55 24.0 S	34 52.5 W
L34	55 24.0 S	34 45.0 W
L35	55 24.0 S	34 37.5 W
L36	55 24.0 S	34 30.0 W
L37	55 24.0 S	34 22.5 W
L38	55 24.0 S	34 15.0 W
L39	55 24.0 S	34 07.5 W
L40	55 24.0 S	34 00.0 W

CONSERVATION MEASURE 76/XIII
**Prohibition of Directed Fishery on *Notothenia gibberifrons*,
Chaenocephalus aceratus, *Pseudochaenichthys georgianus*,
Notothenia squamifrons and *Patagonotothen guntheri*, in
Statistical Subarea 48.3 for the 1994/95 and 1995/96 Seasons**

This Conservation Measure is adopted in accordance with Conservation Measure 7/V:

Directed fishing on *Notothenia gibberifrons*, *Chaenocephalus aceratus*, *Pseudochaenichthys georgianus*, *Notothenia squamifrons* and *Patagonotothen guntheri* in Statistical Subarea 48.3 is prohibited in the 1994/95 and 1995/96 seasons, defined as the period from 5 November 1994 to the end of the Commission meeting in 1996.

CONSERVATION MEASURE 77/XIII
**Catch Limit on *Dissostichus eleginoides* in
Statistical Subarea 48.4 for the 1994/95 Season**

1. The total catch of *Dissostichus eleginoides* in Statistical Subarea 48.4 caught in the 1994/95 season shall be limited to 28 tonnes.
2. For the purposes of the fishery for *Dissostichus eleginoides* in Statistical Subarea 48.4, the 1994/95 fishing season is defined as the period from 15 December 1994 to the end of the Commission meeting in 1995, or until the TAC is reached, whichever is sooner.
3. For the purpose of implementing this Conservation Measure:
 - (i) the Five-day Catch and Effort Reporting System set out in Conservation Measure 51/XII shall apply in the 1994/95 season, commencing on 15 December 1994; and
 - (ii) the Effort and Biological Data Reporting System set out in Conservation Measure 81/XIII shall apply in the 1994/95 season, commencing on 15 December 1994.

CONSERVATION MEASURE 78/XIII
**Precautionary Catch Limits on *Champocephalus gunnari*
and *Dissostichus eleginoides* in Division 58.5.2**

1. In accordance with the management advice of the 1994 meeting of the Scientific Committee:
 - (i) a precautionary TAC of 311 tonnes in any one season shall be set for *Champocephalus gunnari* in Division 58.5.2; and
 - (ii) a precautionary TAC of 297 tonnes in any one season shall be set for *Dissostichus eleginoides* in Division 58.5.2. This TAC may only be taken by trawling.
2. The Five-day Catch and Effort Reporting System set out in Conservation Measure 51/XII and the Monthly Effort and Biological Data Reporting System set out in Conservation Measure 52/XI shall apply.

3. The fishing season shall commence in each year at the close of the annual meeting of the Commission and shall continue until the respective precautionary catch limits are reached, or until 30 June, whichever comes first.
4. For the purposes of implementing this Conservation Measure, the catches shall be reported to the Commission on a monthly basis.
5. Those limits shall be kept under review by the Commission, taking into account the advice of the Scientific Committee.

CONSERVATION MEASURE 79/XIII
Limits on the Exploratory Crab Fishery in
Statistical Subarea 48.3 in the 1994/95 Season

The following Conservation Measure is adopted in accordance with Conservation Measure 7/V:

1. The crab fishery is defined as any commercial harvest activity in which the target species is any member of the crab group (Order *Decapoda*, Suborder *Reptantia*).
2. The crab fishery shall be limited to one vessel per Member.
3. The total catch of crab from Statistical Subarea 48.3 shall not exceed 1 600 tonnes during the 1994/95 fishing season.
4. Each Member intending to participate in the crab fishery shall notify the CCAMLR Secretariat at least three months in advance of starting fishing of the name, type, size, registration number, radio call sign, and research and fishing operations plan of the vessel that the Member has authorised to participate in the crab fishery.
5. All vessels fishing for crab shall report the following data to CCAMLR by 31 August 1995 for crabs caught prior to 31 July 1995:
 - (i) the location, date, depth, fishing effort (number and spacing of pots and soak time), and catch (numbers and weight) of commercially sized crabs (reported on as fine a scale as possible, but no coarser than 0.5° latitude by 1° longitude) for each 10-day period;
 - (ii) the species, size, and sex of a representative subsample of crabs sampled according to the procedure set out in Annex 79/A (between 35 and 50 crabs shall be sampled every day from the line hauled just prior to noon) and by-catch caught in traps; and
 - (iii) other relevant data, as possible, according to the requirements set out in Annex 79/A.
6. For the purposes of implementing this Conservation Measure, the 10-day Catch and Effort Reporting System set out in Conservation Measure 61/XII shall apply.
7. Data on catches taken between 31 July 1995 and 31 August 1995 shall be reported to CCAMLR by 30 September 1995 so that the data will be available to the Working Group on Fish Stock Assessment.
8. Crab fishing gear shall be limited to the use of crab pots (traps). The use of all other methods of catching crabs (e.g., bottom trawls) shall be prohibited.

9. The crab fishery shall be limited to sexually mature male crabs - all female and undersized male crabs caught shall be released unharmed. In the case of *Paralomis spinosissima* and *P. formosa*, males with a minimum carapace width of 102 mm and 90 mm, respectively, may be retained in the catch.
10. Crab processed at sea shall be frozen as crab sections (minimum size of crabs can be determined using crab sections).

ANNEX 79/A

**DATA REQUIREMENTS ON THE EXPLORATORY
CRAB FISHERY IN STATISTICAL SUBAREA 48.3**

Catch and Effort Data:

Cruise Descriptions

cruise code, vessel code, permit number, year.

Pot Descriptions

pot shape, dimensions, mesh size, funnel attitude, number of chambers, presence of an escape port.

Effort Descriptions

date, time, latitude and longitude of the start of the set, compass bearing of the set, total number of pots set, spacing of pots on the line, number of pots lost, depth, soak time, bait type.

Catch Descriptions

retained catch in numbers, by-catch of all species, incremental record number for linking with sample information.

Biological Data:

For these data, crabs are to be sampled from the line hauled just prior to noon, by collecting the entire contents of a number of pots spaced at intervals along the line so that between 35 and 50 specimens are represented in the subsample.

Cruise Descriptions

cruise code, vessel code, permit number.

Sample Descriptions

date, position at the start of the set, compass bearing of the set, line number.

Data

species, sex, length of at least 35 individuals, presence/absence of rhizocephalan parasites, record of the destination of the crab (kept, discarded, destroyed), record of the pot number from which the crab comes.

**CONSERVATION MEASURE 80/XIII
Limits on the Fishery for *Dissostichus eleginoides*
in Statistical Subarea 48.3 for the 1994/95 Season**

This Conservation Measure is adopted in accordance with Conservation Measure 7/V:

1. The total catch of *Dissostichus eleginoides* in Statistical Subarea 48.3 caught during the 1994/95 season shall be limited to 2 800 tonnes.
2. For the purposes of the fishery for *Dissostichus eleginoides* in Statistical Subarea 48.3, the 1994/95 fishing season is defined as the period from 1 March to 31 August 1995, or until the TAC is reached, whichever is the sooner.

3. Each vessel participating in the *Dissostichus eleginoides* fishery in Statistical Subarea 48.3 in the 1994/95 season shall have a scientific observer, appointed in accordance with the Scheme of International Scientific Observation of CCAMLR, on board throughout all fishing activities within the fishing period.
4. For the purpose of implementing this Conservation Measure:
 - (i) the Five-day Catch and Effort Reporting System set out in Conservation Measure 51/XII shall apply in the 1994/95 season, commencing on 1 March 1995; and
 - (ii) the Effort and Biological Data Reporting System set out in Conservation Measure 81/XIII shall apply in the 1994/95 season, commencing on 1 March 1995.

CONSERVATION MEASURE 81/XIII
Effort and Biological Data Reporting System for *Dissostichus eleginoides*
in Statistical Subareas 48.3 and 48.4 for the 1994/95 Season

This Conservation Measure is adopted in accordance with Conservation Measure 7/V:

1. At the end of each month each Contracting Party shall obtain from each of its vessels the haul-by-haul data required to complete the CCAMLR fine-scale catch and effort data form for longline fisheries (Form C2, latest version). These data shall include numbers of seabirds or marine mammals of each species caught and released or killed. It shall transmit those data to the Executive Secretary not later than the end of the following month.
2. At the end of each month, each Contracting Party shall obtain from each of its vessels a representative sample of length composition measurements from the fishery (Form B2, latest version). It shall transmit those data to the Executive Secretary not later than the end of the following month.
3. For the purpose of implementing this Conservation Measure:
 - (i) length measurements of fish should be of total length to the nearest centimetre below; and
 - (ii) representative samples of length composition should be taken from a single fishing ground¹. In the event that the vessel moves from one fishing ground to another during the course of a month, then separate length compositions should be submitted for each fishing ground.
4. Should a Contracting Party fail to transmit the fine-scale catch and effort data or length composition data to the Executive Secretary by the deadline specified in paragraph 2, the Executive Secretary shall issue a reminder to the Contracting Party. If at the end of a further two months those data have still not been provided the Executive Secretary shall notify all Contracting parties of the closure of the fishery to vessels of the Contracting Party which has failed to supply the data as required.

¹ Pending the provision of a more appropriate definition, the term fishing ground is defined here as the area within a single fine-scale grid rectangle (0.5° latitude by 1° longitude).

CONSERVATION MEASURE 84/XIII
Precautionary TAC for *Electrona carlsbergi*
in Statistical Subarea 48.3 for the 1994/95 Season

This Conservation Measure is adopted in accordance with Conservation Measure 7/V:

1. For the purposes of this Conservation Measure the fishing season for *Electrona carlsbergi* is defined as the period from 5 November 1994 to the end of the Commission meeting in 1995.
2. The total catch of *Electrona carlsbergi* in the 1994/95 season shall not exceed 200 000 tonnes in Statistical Subarea 48.3.
3. In addition, the total catch of *Electrona carlsbergi* in the 1994/95 season shall not exceed 43 000 tonnes in the Shag Rocks region, defined as the area bounded by 52°30'S, 40°W; 52°30'S, 44°W; 54°30'S, 40°W and 54°30'S, 44°W.
4. In the event that the catch of *Electrona carlsbergi* is expected to exceed 20 000 tonnes in the 1994/95 season, a survey of stock biomass and age structure shall be conducted during that season by the principal fishing nations involved. A full report of this survey including data on stock biomass (specifically including area surveyed, survey design and density estimates), age structure and the biological characteristics of the by-catch shall be available for discussion at the 1995 meeting of the Working Group on Fish Stock Assessment.
5. The directed fishery for *Electrona carlsbergi* in Statistical Subarea 48.3 shall close if the by-catch of any of the species named in Conservation Measure 85/XIII reaches its by-catch limit or if the total catch of *Electrona carlsbergi* reaches 200 000 tonnes, whichever comes first.
6. The directed fishery for *Electrona carlsbergi* in the Shag Rocks region shall close if the by-catch of any of the species named in Conservation Measure 85/XIII reaches its by-catch limit or if the total catch of *Electrona carlsbergi* reaches 43 000 tonnes, whichever comes first.
7. If, in the course of the directed fishery for *Electrona carlsbergi*, the by-catch of any one haul of any of the species named in Conservation Measure 85/XIII exceeds 5%, the fishing vessel shall move to another fishing ground within the subarea.
8. For the purpose of implementing this Conservation Measure:
 - (i) the Catch Reporting System set out in Conservation Measure 40/X shall apply in the 1994/95 season; and
 - (ii) the Data Reporting System set out in Conservation Measure 54/XI shall apply in the 1994/95 season.

CONSERVATION MEASURE 85/XIII
**Limitation of the By-catch of *Notothenia gibberifrons*,
Chaenocephalus aceratus, *Pseudochaenichthys georgianus*,
Notothenia rossii and *Notothenia squamifrons*,
in Statistical Subarea 48.3 for the 1994/95 Season**

This Conservation Measure is adopted in accordance with Conservation Measure 7/V:

In any directed fishery in Statistical Subarea 48.3, during the 1994/95 season commencing 5 November 1994, the by-catch of *Notothenia gibberifrons* shall not exceed 1 470 tonnes; the by-catch of *Chaenocephalus aceratus* shall not exceed 2 200 tonnes; and the by-catch of *Pseudochaenichthys georgianus*, *Notothenia rossii* and *Notothenia squamifrons* shall not exceed 300 tonnes each.

CONSERVATION MEASURE 86/XIII
**Prohibition of Directed Fishery on *Champscephalus gunnari*
in Statistical Subarea 48.3 in the 1994/95 Season**

The Commission adopted this Conservation Measure in accordance with Conservation Measure 7/V:

Directed fishing on *Champscephalus gunnari* is prohibited in Statistical Subarea 48.3 in the 1994/95 season, defined as the period from 5 November 1994 to the end of the Commission meeting in 1995.

CONSERVATION MEASURE 87/XIII
**Limitation of Total Catch of *Notothenia squamifrons*
in Statistical Division 58.4.4 (Ob and Lena Banks)
in the 1994/95 and 1995/96 Seasons**

1. The total catch of *Notothenia squamifrons* for the entire two year period shall not exceed 1 150 tonnes, which shall be made up of 715 tonnes on Lena Bank and 435 tonnes on Ob Bank.
2. The two year period shall be from 5 November 1994 to the end of the Commission meeting in 1996.
3. For the purpose of implementing this conservation measure:
 - (i) the Five-day Catch and Effort Reporting System set out in Conservation Measure 51/XII shall apply in the period 1994 to 1996 commencing on 5 November 1994;
 - (ii) the Monthly Effort and Biological Data Reporting System set out in Conservation Measure 52/XI shall apply for the target species *Notothenia squamifrons*, and the by-catch species *Dissostichus eleginoides* commencing on 5 November 1994;
 - (iii) data on the numbers of seabirds of each species killed or injured in incidents involving the net monitor cable shall also be reported to the Commission;

- (iv) age frequency, length frequency and age/length keys for *Notothenia squamifrons*, *Dissostichus eleginoides* and any other species forming a significant part of the catch shall be collected and reported to each annual meeting of the Working Group on Fish Stock Assessment for each Bank separately on forms B2 and B3; and
 - (v) the fishery for *Notothenia squamifrons* will be subject to review at the 1995 annual meetings of the Scientific Committee and the Commission.
4. Each vessel participating in the fishery in Statistical Division 58.4.4 in the 1994/95 and 1995/96 seasons shall have a scientific observer, appointed in accordance with the Scheme of International Scientific Observation of CCAMLR, on board throughout all fishing activities within the fishing period.

RESOLUTION 10/XII
Resolution on Harvesting of Stocks Occurring
Both Within and Outside the Convention Area

The Commission,

Recalling the principles of conservation in Article II of the Convention and in particular that of the maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources,

Recalling the requirement under Article XI of the Convention for the Commission to seek to cooperate with Contracting Parties which may exercise jurisdiction in marine areas adjacent to the area to which the Convention applies in respect of the conservation of any stock or stocks of associated species which occur both within those areas and the area to which the Convention applies, with a view to harmonising the Conservation Measures adopted in respect of such stocks,

Emphasising the importance of further research on any stock or stocks of species which occur both within the area of the Convention and within adjacent areas,

Noting the concerns expressed by the Scientific Committee on the substantial exploitation of such stocks inside and outside the Convention Area,

reaffirmed that Members should ensure that their flag vessels conduct harvesting of such stocks in areas adjacent to the Convention Area responsibly and with due respect for the Conservation Measures it has adopted under the Convention.

CONSERVATION MEASURES AND RESOLUTIONS RELATING TO CEMP SITES

CONSERVATION MEASURE 62/XI Protection of the Seal Islands CEMP Site

1. The Commission noted that a program of longterm studies is being undertaken at Seal Islands, South Shetland Islands, as part of the CCAMLR Ecosystem Monitoring Program (CEMP). Recognising that these studies may be vulnerable to accidental or wilful interference, the Commission expressed its concern that this CEMP site, the scientific investigations, and the Antarctic marine living resources therein be protected.
2. Therefore, the Commission considers it appropriate to accord protection to the Seal Islands CEMP site, as defined in the Seal Islands management plan.
3. Members are required to comply with the provisions of the Seal Islands CEMP site management plan, which is recorded in Annex B of Conservation Measure 18/XIII.
4. To allow Members adequate time to implement the relevant permitting procedures associated with this measure and the management plan, Conservation Measure 62/XI shall become effective as of 1 May 1993.
5. In accordance with Article X, the Commission shall draw this Conservation Measure to the attention of any State that is not a Party to the Convention and whose nationals or vessels are present in the Convention Area.

CONSERVATION MEASURE 82/XIII Protection of the Cape Shirreff CEMP Site

1. The Commission noted that a program of longterm studies is being undertaken at Cape Shirreff and the San Telmo Islands, Livingston Island, South Shetland Islands, as part of the CCAMLR Ecosystem Monitoring Program (CEMP). Recognising that these studies may be vulnerable to accidental or wilful interference, the Commission expressed its concern that this CEMP site, the scientific investigations, and the Antarctic marine living resources therein be protected.
2. Therefore, the Commission considers it appropriate to accord protection to the Cape Shirreff CEMP site, as defined in the Cape Shirreff management plan.
3. Members shall comply with the provisions of the Cape Shirreff CEMP site management plan, which is recorded in Annex B 'Cape Shirreff' of Conservation Measure 18/XIII.
4. To allow Members adequate time to implement the relevant permitting procedures associated with this measure and the management plan, Conservation 82/XIII shall become effective as of 1 May 1995.
5. In accordance with Article X, the Commission shall draw this Conservation Measure to the attention of any State that is not a Party to the Convention and whose nationals or vessels are present in the Convention Area.

RESOLUTION 11/XIII
Cape Shirreff CEMP Protected Area

1. The Commission noted that a program of longterm studies is being undertaken and is planned at Cape Shirreff and the San Telmo Islands, Livingston Island, South Shetland Islands, as part of the CCAMLR Ecosystem Monitoring Program (CEMP). Recognising that these studies may be vulnerable to accidental or wilful interference, the Commission expressed its concern that this CEMP site, the scientific investigations, and the Antarctic marine living resources therein be protected.
2. Therefore, the Commission considers it appropriate to accord protection to Cape Shirreff and the San Telmo Islands by establishing the 'Cape Shirreff CEMP Protected Area'.
3. Members are requested to comply, on a voluntary basis, with the provisions of the management plan for the Cape Shirreff CEMP Protected Area, until such time as Conservation Measure 82/XIII comes into effect.
4. It was agreed that, in accordance with Article X, the Commission would draw this Resolution to the attention of any State that is not a Party to the Convention and whose nationals or vessels are present in the Convention Area.

CONSERVATION MEASURE 18/XIII
Procedure for According Protection to CEMP Sites

The Commission,

Bearing in mind that the Scientific Committee has established a system of sites contributing data to the CCAMLR Ecosystem Monitoring Program (CEMP), and that additions may be made to this system in the future;

Recalling that it is not the purpose of the protection accorded to CEMP sites to restrict fishing activity in adjacent waters;

Recognising that studies being undertaken at CEMP sites may be vulnerable to accidental or wilful interference;

Concerned, therefore, to provide protection for CEMP sites, scientific investigations and the Antarctic marine living resources therein, in cases where a Member or Members of the Commission conducting or planning to conduct CEMP studies believes such protection to be desirable;

hereby adopts the following Conservation Measure in accordance with Article IX of the Convention:

1. In cases where a Member or Members of the Commission conducting, or planning to conduct, CEMP studies at a CEMP site believe it desirable that protection should be accorded to the site, it, or they, shall prepare a draft management plan in accordance with Annex A to this Conservation Measure.
2. Each such draft management plan shall be sent to the Executive Secretary for transmission to all Members of the Commission for their consideration at least three months before its consideration by WG-EMM.

3. The draft management plan shall be considered in turn by WG-EMM, the Scientific Committee and the Commission. In consultation with the Member or Members of the Commission which drew up the draft management plan, it may be amended by any of these bodies. If a draft management plan is amended by either WG-EMM or the Scientific Committee, it shall be passed on in its amended form either to the Scientific Committee or to the Commission as the case may be.
4. If, following completion of the procedures outlined in paragraphs 1 to 3 above, the Commission considers it appropriate to accord the desired protection to the CEMP site, the Commission shall adopt a Resolution calling on Members to comply, on a voluntary basis, with the provisions of the draft management plan, pending the conclusion of action in accordance with paragraphs 5 to 8 below.
5. The Executive Secretary shall communicate such a Resolution to SCAR, the Antarctic Treaty Consultative Parties and, if appropriate, the Contracting Parties to other components of the Antarctic Treaty System which are in force.
6. Unless, before the opening date of the next regular meeting of the Commission, the Executive Secretary has received:
 - (i) an indication from an Antarctic Treaty Consultative Party that it desires the resolution to be considered at a Consultative Meeting; or
 - (ii) an objection from any other quarter referred to in paragraph 5 above;the Commission may, by means of a conservation measure, confirm its adoption of the management plan for the CEMP site and shall include the management plan in Annex B to Conservation Measure 18/XIII.
7. In the event that an Antarctic Treaty Consultative Party has indicated its desire for the Resolution to be considered at a Consultative Meeting, the Commission shall await the outcome of such consideration, and may then proceed accordingly.
8. If objection is received in accordance with paragraphs 6(ii) or 7 above, the Commission may institute such consultations as it may deem appropriate to achieve the necessary protection and to avoid interference with the achievement of the principles and purposes of, and measures approved under, the Antarctic Treaty and other components of the Antarctic Treaty System which are in force.
9. The management plan of any site may be amended by decision of the Commission. In such cases full account shall be taken of the advice of the Scientific Committee. Any amendment which increases the area of the site or adds to categories or types of activities that would jeopardise the objectives of the site shall be subject to the procedures set out in paragraphs 5 to 8 above.
10. Entry into a CEMP site included in Annex B shall be prohibited except for the purposes authorised in the relevant management plan for the site and in accordance with a permit issued under paragraph 11.
11. Each Contracting Party shall, as appropriate, issue permits authorising its nationals to carry out activities consistent with the provisions of the management plans for CEMP sites and shall take such other measures, within its competence, as may be necessary to ensure that its nationals comply with the management plans for such sites.
12. Copies of such permits shall be sent to the Executive Secretary as soon as practical after they are issued. Each year the Executive Secretary shall provide the Commission and the Scientific Committee with a brief description of the permits that have been issued by the

Parties. In cases where permits are issued for purposes not directly related to the conduct of CEMP studies at the site in question, the Executive Secretary shall forward a copy of the permit to the Member or Members of the Commission conducting CEMP studies at that site.

13. Each management plan shall be reviewed every five years by WG-EMM and the Scientific Committee to determine whether it requires revision and whether continued protection is necessary. The Commission may then act accordingly.

**INFORMATION TO BE INCLUDED IN MANAGEMENT
PLANS FOR CEMP SITES**

Management plans shall include:

A. GEOGRAPHICAL INFORMATION

1. A description of the site, and any buffer zone within the site, including:
 - (a) geographical coordinates;
 - (b) natural features;
 - (c) boundary markers;
 - (d) natural features that define the site;
 - (e) access points (pedestrian, vehicular, airborne, sea-borne);
 - (f) pedestrian and vehicular routes in the site;
 - (g) preferred anchorages;
 - (h) location of structures within the site;
 - (i) areas or zones within the site, described in generic or geographical terms, or both, in which activities are prohibited or otherwise constrained;
 - (j) location of nearby scientific stations, research or refuge facilities; and
 - (k) location of areas or sites, in or near the site, which have been accorded protected status in accordance with measures adopted under the Antarctic Treaty or other components of the Antarctic Treaty System which are in force.
2. Maps showing:
 - (a) the location of the site in relation to major surrounding features; and
 - (b) where applicable, the geographical features listed in paragraph 1 above.

B. BIOLOGICAL FEATURES

1. A description of the biological features of the site, in both space and time, which it is the purpose of the management plan to protect.

C. CEMP STUDIES

1. A full description of the CEMP studies being conducted or planned to be conducted, including the species and parameters which are being or are to be studied.

D. PROTECTION MEASURES

1. Statements of prohibited activities:
 - (a) throughout the site at all times of the year;
 - (b) throughout the site at defined parts of the year;

- (c) in parts of the site at all times of the year; and
 - (d) in parts of the site at defined parts of the year.
- 2. Prohibitions regarding access to and movement within or over the site.
- 3. Prohibitions regarding:
 - (a) the installation, modification, and/or removal of structures; and
 - (b) the disposal of waste.
- 4. Prohibitions for the purpose of ensuring that activity in the site does not prejudice the purposes for which protection status has been accorded to areas or sites, in or near the site, under the Antarctic Treaty or other components of the Antarctic Treaty System which are in force.

E. COMMUNICATIONS INFORMATION

- 1. The name, address, telephone, telex and facsimile numbers of:
 - (a) the organization or organizations responsible for appointing national representative(s) to the Commission; and
 - (b) the national organization or organizations conducting CEMP studies at the site.

Notes:

- 1. A code of conduct. If it would help towards achieving the scientific objectives of the site, a code of conduct may be annexed to the management plan. Such a code should be written in hortatory rather than mandatory terms, and must be consistent with the prohibitions contained in Section D above.
- 2. Members of the Commission preparing draft management plans for submission in accordance with this Conservation Measure should bear in mind that the primary purpose of the management plan is to provide for the protection of CEMP studies at the site through the application of the prohibitions contained in Section D. To that end, the management plan is to be drafted in concise and unambiguous terms. Information which is intended to help scientists, or others, appreciate broader considerations regarding the site (e.g., historical and bibliographic information) should not be included in the management plan but may be annexed to it.

MANAGEMENT PLANS FOR CEMP SITES

MANAGEMENT PLAN FOR THE PROTECTION OF SEAL ISLANDS,
SOUTH SHETLAND ISLANDS, AS A SITE INCLUDED IN THE
CCAMLR ECOSYSTEM MONITORING PROGRAM

A. GEOGRAPHICAL INFORMATION

1. Description of the site:

- (a) Geographical coordinates. The Seal Islands are composed of small islands and skerries located approximately 7 km north of the northwest corner of Elephant Island, South Shetland Islands. The Seal Islands CEMP Protected Area includes the entire Seal Islands group, which is defined as Seal Island plus any land or rocks exposed at mean low tide within a distance of 5.5 km of the point of highest elevation on Seal Island. Seal Island is the largest island of the group, and is situated at 60°59'14"S, 55°23'04"W (coordinates are given for the point of highest elevation on the island - see Figures 1 and 2).
- (b) Natural features. The Seal Islands cover an area approximately 5.7 km from east to west and 5 km from north to south. Seal Island is approximately 0.7 km long and 0.5 km wide. It has an altitude of about 125 m, with a raised plateau at about 80 m, and precipitous cliffs on most coastlines. There is a raised, sandy beach on the western shore and several coves on the northern and eastern shores. Seal Island is joined to the adjacent island to the west by a narrow sand bar that is approximately 50 m long; the bar is rarely passable on foot, and only when seas are calm and the tide is very low. Other islands in the group are similar to Seal Island, with precipitous cliffs, exposed coasts, and a few sand beaches and protected coves. There is no permanent ice on any of the islands. Seal Island is mainly composed of poorly consolidated sedimentary rocks. Rocks crumble and fracture easily, resulting in prevalent erosion from water runoff and coastal wave action. Geologists have characterised the bedrock as "pebbly mudstone". No fossils have been reported from the site. Because colonies of penguins are present in virtually all sectors of Seal Island (including the summit), the soil in many areas as well as several vertical rock faces are enriched by guano.
- (c) Boundary markers. As of 1991, no man-made boundary markers indicating the limits of the protected area had been established. The boundaries of the site are defined by natural features (i.e., coastlines).
- (d) Natural features that define the site. The Seal Islands CEMP Protected Area includes the entire Seal Islands group (see Section A.1(a) for definition). No buffer zones are defined for the site.
- (e) Access points. The site may be accessed by boat or aircraft at any point where pinnipeds and seabirds will not be adversely affected (see Sections D.1 and D.2). Access by small boat is recommended in most circumstances because the number of beach landing spots for helicopters (which must approach these spots by flying over water rather than over land) is very limited. There are no landing sites for fixed-winged aircraft.

- (f) Pedestrian and vehicular routes. Pedestrians should follow the advice of the local scientists in selecting pathways which will minimise disturbance to wildlife (see Section D.2(d)). Land vehicles are not permitted except in the immediate vicinity of the field camp and the beach (see Section D.2(c)).
- (g) Preferred anchorages. Numerous shoals and pinnacles are known to exist in the vicinity of the Seal Islands, and navigation charts of the area are incomplete. Most ships visiting the area recently have preferred an anchorage spot approximately 1.5 km to the southeast of Seal Island (Figure 2), which has a rather consistent depth of approximately 18 m. A second anchorage utilised by smaller vessels is located approximately 0.5 km to the northeast of Seal Island (Figure 2) at a depth of about 20 m. Organisation(s) conducting CEMP studies at the site can provide further details about sailing instructions pertaining to these anchorages (see Section E.2).
- (h) Location of structures within the site. As of 1991 there were structures at four locations on Seal Island: a research camp and three observation blinds (Figure 2 insert). The temporary field camp, established in December 1986, is located near the sand beach on the western coast of Seal Island. The camp is comprised principally of four structures: the main living quarters, two storage sheds, and an outhouse. In addition, three small blinds are located at various spots on Seal Island (two near penguin and fur seal colonies, and one at the top of the island) to facilitate scientific observations and to house research equipment.
- (i) Areas within the site where activities are constrained. The protection measures specified in Section D apply to all areas within the Seal Islands Protected Area, as defined in Section A.1(d).
- (j) Location of nearby scientific, research or refuge facilities. The nearest research facility to the site is the scientific field camp maintained by the Brazilian government at Stinker Point, Elephant Island (61°04'S, 55°21'W), which is approximately 26 km south of Seal Island. Numerous scientific stations and research facilities are located on King George Island, which is approximately 215 km southwest of Seal Island.
- (k) Areas or sites protected under the Antarctic Treaty System. No areas or sites within or near (i.e., within 100 km) the Seal Island Protected Area have been accorded protected status in accordance with measures adopted under the Antarctic Treaty or other components of the Antarctic Treaty System which are in force.

2. Maps of the site:

- (a) Figure 1 shows the geographical position of the Seal Islands in relation to major surrounding features, including the South Shetland Islands and adjacent bodies of water.
- (b) Figure 2 illustrates the location of the entire Seal Islands archipelago and preferred vessel anchorages. The detailed insert of Seal Island in Figure 2 shows the location of structures associated with CEMP studies and the location of the point of highest elevation (indicated by a cross).

B. BIOLOGICAL FEATURES

1. Terrestrial. There is no information on soil biology at Seal Island but it is likely that similar types of plants and invertebrates are found as at other sites in the South Shetland Islands. Lichens are present on stable rock surfaces. There is no evidence of well-developed moss or grass banks being present on Seal Island.
2. Inland waters. There are no known lakes or ephemeral ponds of significance on Seal Island.
3. Marine. No studies on littoral communities have been carried out.
4. Birds and seals. Seven species of birds are known to breed on the Seal islands: chinstrap penguins (*Pygoscelis antarctica*), macaroni penguins (*Eudyptes chrysolophus*), cape petrels (*Daption capensis*), Wilson's storm petrels (*Oceanites oceanicus*), southern giant petrels (*Macronectes giganteus*), southern black-backed gulls (*Larus dominicanus*), and American sheathbills (*Chionus alba*). The chinstrap penguin population on Seal Island numbers approximately 20 000 breeding pairs, nesting in about 60 colonies throughout the island. About 350 pairs of macaroni penguins nest on Seal Island in five separate colonies. The nesting and chick-rearing period for chinstrap and macaroni penguins at Seal Island extends from November through March. No surveys have been made of cape petrel or storm petrel populations, however, both species are numerous; the cape petrels nest on cliff faces and the storm petrels nest in burrows in the talus slopes. Brown skuas (*Catharacta lönnerbergi*) are common. Blue-eyed shags (*Phalacrocorax atriceps*), Adélie penguins (*Pygoscelis adeliae*), gentoo penguins (*Pygoscelis papua*), king penguins (*Aptenodytes patagonicus*) and rockhopper penguins (*Eudyptes crestatus*) are among the avian visitors to the area.
5. Five species of pinnipeds have been observed at Seal Island: Antarctic fur seals (*Arctocephalus gazella*), southern elephant seals (*Mirounga leonina*), Weddell seals (*Leptonychotes weddellii*), leopard seals (*Hydrurga leptonyx*) and crabeater seals (*Lobodon carcinophagus*). Of these fur seals are the only confirmed breeders on the island, although small numbers of elephant seals probably breed on the island early in the spring. Nearly 600 fur seal pups were born in the Seal Islands group in December 1989, with approximately half of these born on Seal Island and half on Large Leap Island (Figure 2). The fur seal pupping and pup-rearing period at Seal Island extends from late November to early April. During the austral summer, elephant seals are ashore during their moult period; Weddell seals regularly haul out on the beaches; crabeater seals are infrequent visitors; and leopard seals are common both ashore and in coastal waters where they prey on penguins and fur seal pups.

C. CEMP STUDIES

1. The presence at the Seal Islands of both Antarctic fur seal and penguin breeding colonies, as well as significant commercial krill fisheries within the foraging range of these species, make this an excellent site for inclusion in the CEMP network of sites established to help meet CCAMLR objectives.
2. The following species are of particular interest for CEMP routine monitoring and directed research at this site: Antarctic fur seals, chinstrap penguins, macaroni penguins and cape petrels.

3. Longterm studies are underway to assess and monitor the feeding ecology, growth and condition, reproductive success, behaviour, vital rates, demography and abundance of pinnipeds and seabirds that breed in the area. Since an initial survey and pilot field program at Seal Island during the 1986/87 austral summer, United States scientists have conducted monitoring and directed research annually. It is intended that this program will continue for at least another 10 years (through 2000).
4. A program of routine monitoring using CEMP Standard Methods is being carried out by US scientists. Penguin parameters being monitored include trends in population size (A3), demography (A4), duration of foraging trips (A5), breeding success (A6), chick fledging weight (A7), chick diet (A8) and breeding chronology (A9). Fur seal parameters being monitored include duration of foraging/attendance cycles (C1) and pup growth rates (C2). As new CEMP Standard Methods are approved, additional pinniped and seabird parameters may be included in future monitoring efforts.
5. Directed research relevant to CEMP is also being undertaken on fur seals and seabirds. Research topics include foraging behaviour, foraging areas, energy requirements, seasonal movements, penguin chick growth rates and relationships between monitored parameters and the physical environment.

D. PROTECTION MEASURES

1. Prohibited activities and temporal constraints:

- (a) Throughout the site at all times of the year. Any activities which damage, interfere with, or adversely affect the planned CEMP monitoring and directed research at this site are not permitted.
- (b) Throughout the site at all times of the year. Any non-CEMP activities are not permitted which result in:
 - (i) killing, injuring, or disturbing pinnipeds or seabirds;
 - (ii) damaging or destroying pinniped or seabird breeding areas; or
 - (iii) damaging or destroying the access of pinnipeds or seabirds to their breeding areas.
- (c) Throughout the site at defined parts of the year. Human occupation of the site during the period 1 June to 31 August is not permitted except under emergency circumstances.
- (d) In parts of the site at all times of the year. Building structures within the boundaries of any pinniped or seabird colony is not permitted. For this purpose, colonies are defined as the specific locations where pinniped pups are born or where seabird nests are built. This prohibition does not pertain to placing markers (e.g., numbered stakes, posts, etc.) or situating research equipment in colonies as may be required to facilitate scientific research.
- (e) In parts of the site at defined parts of the year. Entry into any pinniped or seabird colonies during the period 1 September to 31 May is not permitted except in association with CEMP activities.

2. Prohibitions regarding access to and movement within or over the site:

- (a) Entry of the site at locations where pinniped or seabird colonies are present in the immediate vicinity is not permitted.
- (b) Aircraft overflight of the site is not permitted at altitudes less than 1 000 m unless the proposed flight plan has been reviewed in advance by the organisation(s) conducting CEMP activities at the site (see Section E.2).
- (c) The use of land vehicles is not permitted except to transport equipment and supplies to and from the field camp.
- (d) Pedestrians are not permitted to walk through areas used regularly by pinnipeds and seabirds (i.e., colonies, resting areas, pathways) or to disturb other fauna or flora, except as necessary to conduct authorised research.

3. Prohibitions regarding structures:

- (a) Building structures other than those directly supporting CEMP directed scientific research and monitoring activities or to house personnel and/or their equipment is not permitted.
- (b) Human occupation of these structures is not permitted during the period 1 June to 31 August (see Section D.1(c)).
- (c) New structures are not permitted to be built within the site unless the proposed plans have been reviewed in advance by the organisation(s) conducting CEMP activities at the site (see Section E.2).

4. Prohibitions regarding waste disposal:

- (a) Landfill disposal of non-biodegradable materials is not permitted; non-biodegradable materials brought to the site are to be removed when no longer in use.
- (b) Disposal of waste fuels, volatile liquids and scientific chemicals within the site is not permitted; these materials are to be removed from the site for proper disposal elsewhere.
- (c) The burning of any non-organic materials or the open burning of any materials is not permitted (except for properly used fuels for heating, lighting, cooking or electricity).

5. Prohibitions regarding the Antarctic Treaty System:

It is not permitted to undertake any activities in the Seal Islands CEMP Protected Area which are not in compliance with the provisions of: (i) the Antarctic Treaty, including the Agreed Measures for the Conservation of Antarctic Fauna and Flora; (ii) the Convention on the Conservation of Antarctic Seals; and (iii) the Convention on the Conservation of Antarctic Marine Living Resources.

E. COMMUNICATIONS INFORMATION

1. Organisation(s) appointing national representatives to the Commission:

Bureau of Oceans and International Environmental and Scientific Affairs
US Department of State
Washington, DC 20520 USA

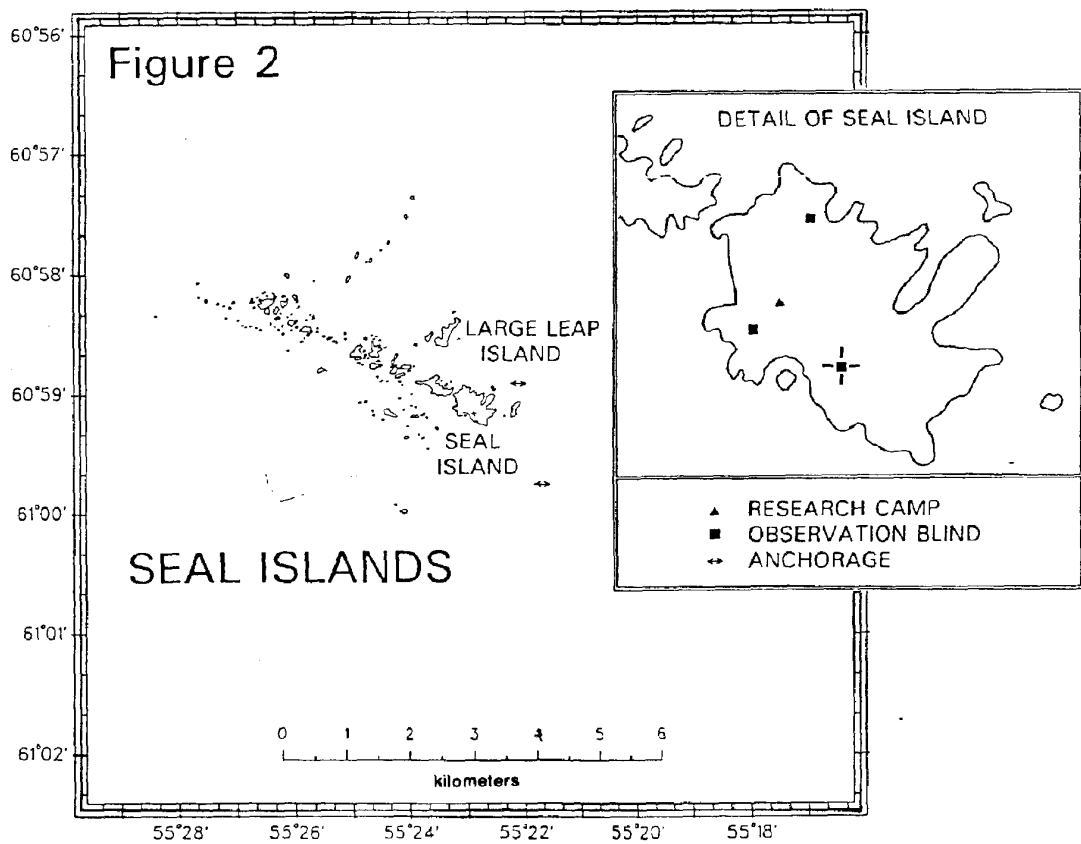
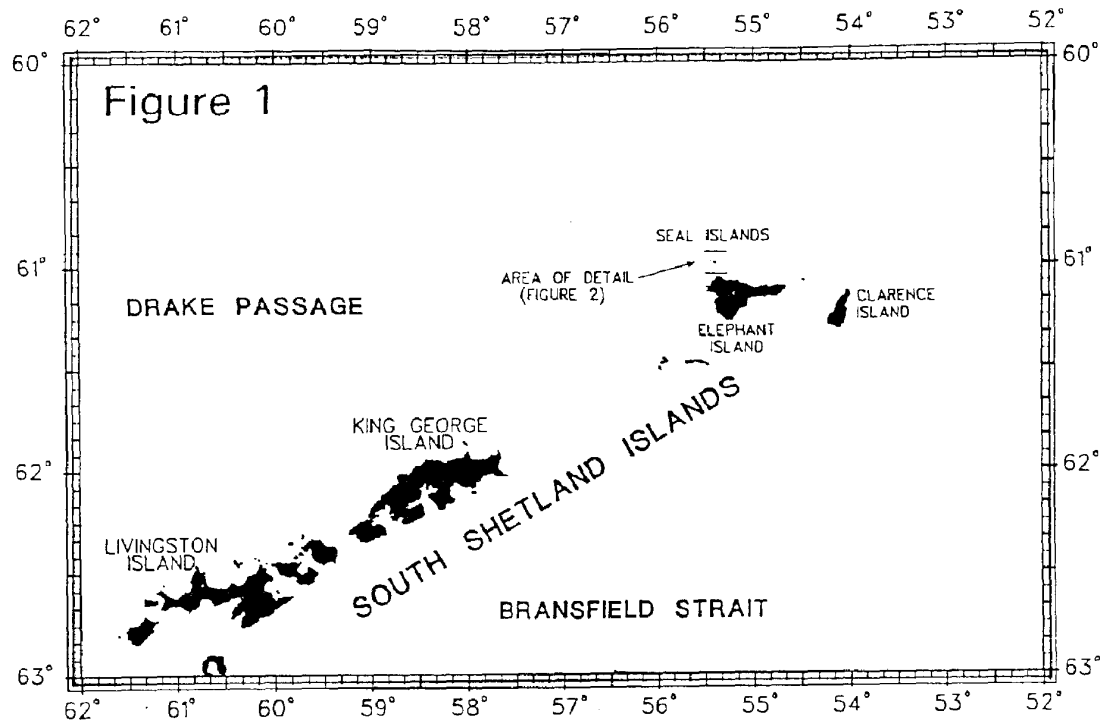
Telephone: (202) 647-3262
Facsimile: (202) 647-1106
Telex: not available

2. Organisation(s) conducting CEMP studies at the site:

US Antarctic Marine Living Resources Program
Southwest Fisheries Science Centre
National Marine Fisheries Service, NOAA
PO Box 271
La Jolla, CA 92038 USA

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CODE OF CONDUCT FOR THE SEAL ISLANDS, ANTARCTICA

Investigators should take all reasonable steps to ensure that their activities, both in implementing their scientific protocols as well as in maintaining a field camp, do not unduly harm or alter the natural behaviour and ecology of wildlife in the Seal Islands. Wherever possible, actions should be taken to minimise disturbance of the natural environment.

Capturing, handling, killing, photographing and taking eggs, blood or other biological samples from pinnipeds and seabirds should be limited to that necessary to provide essential background information or to characterise and monitor individual and population parameters that may change in detectable ways in response to changes in food availability or other environmental factors. Sampling should be done and reported in accordance with: (i) the Antarctic Treaty, including the Agreed Measures for the Conservation of Antarctic Fauna and Flora; (ii) the Convention for the Conservation of Antarctic Seals; and (iii) the Convention on the Conservation of Antarctic Marine Living Resources.

Geological and other studies which can be done inside of the pinniped and seabird breeding seasons in such a way as they do not damage or destroy pinniped or seabird breeding areas, or access to those areas, would be permitted as long as they would not adversely affect the planned assessment and monitoring studies. Likewise, the planned assessment and monitoring studies would not be affected adversely by periodic biological surveys or studies of other species which do not result in killing, injuring or disturbing pinnipeds or seabirds, or damage or destroy pinnipeds or seabird breeding areas or access to those areas.

**BACKGROUND INFORMATION CONCERNING THE SEAL ISLANDS,
ANTARCTICA**

Prior to the discovery of the South Shetland Islands in 1819, there were substantial colonies of fur seals, and possible elephant seals, throughout the archipelago. Commercial exploitation began shortly after discovery and, by the mid-1820s, fur seal breeding colonies had been completely destroyed throughout the South Shetland Islands (Stackpole, 1955; O’Gorman, 1963). Antarctic fur seals were not observed again in the South Shetland Islands until 1958, when a small colony was discovered at Cape Shirreff, Livingston Island (O’Gorman, 1961). The original colonisers probably came from South Georgia where surviving fur seal colonies had substantially recovered by the early 1950s. At present, the fur seal rookeries in the Seal Islands group are the second largest in the South Shetland Islands, with the largest rookeries being at Cape Shirreff and Telmo Islands, Livingston Island (Bengtson *et al.*, 1990).

During the past three decades, the population of Antarctic fur seals in the South Shetland Islands grew to a level at which tagging or other research could be undertaken at selected locations without threatening the population’s continued existence and growth.

During the 1986/87 austral summer, researchers from the United States surveyed areas on the South Shetland Islands and the Antarctic Peninsula to identify fur seal and penguin breeding colonies that might be suitable for inclusion in the network of CEMP monitoring sites being established. The results of that survey (Shuford and Spear, 1987; Bengtson *et al.*, 1990), suggested that the Seal Island area would be an excellent site for longterm monitoring of fur seal and penguin colonies that might be affected by fisheries in the Antarctic Peninsula Integrated Study Region.

To safely and effectively carry out a longterm monitoring program, a temporary, multi-year field camp for a small group of researchers was established on Seal Island. This camp has been occupied annually by US scientists during the austral summer (approximately December to February) since 1986/87.

To protect the site from damage or disturbance that could adversely affect the longterm CEMP monitoring and directed research currently being conducted and planned for the future, in 1991 the Seal Islands were proposed as a CEMP Protected Area.

**MANAGEMENT PLAN FOR THE PROTECTION OF CAPE SHIRREFF
AND THE SAN TELMO ISLANDS, SOUTH SHETLAND ISLANDS,
AS A SITE INCLUDED IN THE CCAMLR
ECOSYSTEM MONITORING PROGRAM**

A. GEOGRAPHICAL INFORMATION

1. Description of the site:

(a) Geographical coordinates. Cape Shirreff is a low, ice-free peninsula towards the western end of the north coast of Livingston Island, South Shetland Islands, situated at latitude 62°29'S, longitude 60°47'W, between Barclay Bay and Hero Bay. San Telmo Island is the largest of a small group of ice-free rock islets, approximately 2 km west of Cape Shirreff.

(b) Natural features. Cape Shirreff is approximately 3 km from north to south and 0.5 to 1.2 km from east to west. The site is characterised by many inlets, coves and cliffs. Its southern boundary is bordered by a permanent glacial ice barrier, which is located at the narrowest part of the cape. The cape is mainly an extensive rock platform, 46 to 53 m above sea level, the bedrock being largely covered by weathered rock and glacial deposits. The eastern side of the base of the cape has two beaches with a total length of about 600 m. The first is a boulder beach, the second of sand. Above this is a raised beach with mosses and lichens, crossed by melt-streams from the snow above. The extremity of the cape has a rocky barrier about 150 m long. The western side is formed by almost continuous cliffs 10 to 15 m high above an exposed coast with a few protected beaches. Near the southern base of the cape on the western side is a small sandy beach approximately 50 m long.

The San Telmo Islands are located approximately 2 km west of Cape Shirreff, and are a group of ice-free, rocky islets. The east coast of San Telmo Island (the largest of the group) has a sandy and pebble beach (60 m) at the south end, separated from the northern sandy beach (120 m) by two irregular cliffs (45 m) and narrow pebble beaches.

(c) Boundary markers. The boundaries of the Cape Shirreff CEMP Protected Area are identical to the boundaries of the Site of Special Scientific Interest No. 32, as specified by ATCM Recommendation XV-7. As of 1993, no man-made boundary markers indicating the limits of the SSSI or protected area had been established. The boundaries of the site are defined by natural features (i.e., coastlines, glacial margins) described in Section A.1(d).

(d) Natural features that define the site. The Cape Shirreff CEMP Protected Area includes the entire area of the Cape Shirreff peninsula north of the glacier ice tongue margin, and most of the San Telmo Island group. For the purposes of the CEMP protected area, 'the entire area' of Cape Shirreff and the San Telmo Island group is defined as any land or rocks exposed at mean low tide within the area delimited by the map (Figure 3).

(e) Access points. The Cape Shirreff part of the site may be entered at any point where pinniped or seabird rookeries are not present on or near the beach. Access to the island in the San Telmo group is unrestricted but should be at the least densely populated areas and cause minimal disturbance to the fauna. Access for other than CEMP research should avoid disturbing pinnipeds and seabirds (see Sections D.1 and D.2). Access by small boat or helicopter is recommended in most circumstances. Four areas recommended as helicopter landing sites include: (i) the

south plain of Playa Yamana, which is situated on the west coast of the cape; and (ii) on the west coast of the cape, on the top plain of Gaviota Hill (10 x 20 M), near the monument erected to commemorate the officers and crew of the Spanish ship *San Telmo*; (iii) the wide plain situated to the east of Condor Hill; and (iv) the plain located at the foot of Condor Hill, on the east coast of the cape. Recommended sites for landing small boats include: (i) the northern end of Half Moon beach, on the east coast of the cape; (ii) on the east coast, 300 m north of El Mirador, there is a deep channel which permits easy disembarkation, and (iii) the northern end of Playa Yamana on the west coast of the cape (during high tide conditions). There are no landing sites for fixed-wing aircraft.

- (f) Pedestrian and vehicular routes. Boats, helicopters fixed-wing aircraft and land vehicles should avoid the site except for operations directly supporting authorised scientific activities. During these operations, boats and aircraft should travel routes that avoid or minimise disturbance of pinnipeds and seabirds. Land vehicles should not be used except to transport needed equipment and supplies to and from the field camp to be established. Pedestrians should not walk through wildlife population areas, especially during the breeding season, or disturb other fauna or flora except as necessary to conduct authorised research.
- (g) Preferred anchorages. Numerous shoals and pinnacles are known to exist in the vicinity of Cape Shirreff and the San Telmo Islands, and navigation charts of the area are incomplete. Therefore, navigators inexperienced with the local conditions at Cape Shirreff are advised to approach the area with caution. Three anchorages that have been used in the past are: (i) northwest coast - situated between Easter Island Point (Punta Rapa-Nui) on Cape Shirreff and the northern extremity of the San Telmo Islands; (ii) east coast - 2.5 km to the east of El Mirador, being alert for icebergs drifting in the area, and (iii) south coast - located about 4 km off the southern coast of Byers Peninsula to support ship-based helicopter operations. Organisation(s) conducting CEMP studies at the site can provide further details about sailing instructions pertaining to recommended anchorages (see Section E.2).
- (h) Location of structures within the site. During the 1991/92 austral summer, a fibreglass cabin for four people was installed by the Instituto Antártico Chileno (Anonymous, 1992) in the El Mirador area. This area is on the cape's east coast, at the base of Condor Hill (near the site of the previous installation of the former Soviet Union). This site was chosen because of its accessibility by helicopter and boat, shelter from winds, good water supply, and absence of seal or bird colonies. There are some minor remains of a hut used in the past by the former Soviet Union as well as sparse evidence of a 19th century sealers' camp.
- (i) Areas within the site where activities are constrained. The protection measures specified in Section D apply to all areas within the Cape Shirreff CEMP Protected Area, as defined in Section A.1(d).
- (j) Location of nearby scientific, research, or refuge facilities. The nearest research facility to the site is Juan Carlos I Station (summer only) maintained by the Spanish government at South Bay, Livingston Island, (62°40'S, 60°22'W), approximately 30 km southeast of Cape Shirreff. Numerous scientific stations and research facilities (e.g., Argentina, Brazil, Chile, China, Korea, Poland, Russia, Uruguay) are located on King George Island, approximately 100 km northeast of Cape Shirreff. The largest of these facilities is Base Presidente Eduardo Frei Montalva (also formerly referred to as Base Teniente Rodolfo Marsh Martin), maintained by the Chilean government on the western end of King George Island (62°12'S, 58°55'W).

- (k) Areas or sites protected under the Antarctic Treaty System. Cape Shirreff and the San Telmo Islands are protected as a Site of Special Scientific Interest (No. 32) under the Antarctic Treaty System (see Section A.1(c)). Several other sites or areas within 100 km of Cape Shirreff are also protected under the Antarctic Treaty System: SSSI No. 5, Fildes Peninsula (62°12'S, 58°59'W); SSSI No. 6, Byers Peninsula (62°38'S, 61°05'W); SSSI No. 35, Ardley Island, Maxwell Bay, King George Island (62°13'S, 58°56'W); Marine SSSI No. 35, Western Bransfield Strait (63°20'S to 63°35'S, 61°45'W to 62°30'W); and SPA No. 16, Coppermine Peninsula, Robert Island (62°23'S, 59°44'W). The Seal Islands CEMP Protected Area (60°59'14''S, 55°23'04''W) is located approximately 325 km northeast of Cape Shirreff.

2. Maps of the site

- (a) Figures 1 and 2 show the geographical position of Cape Shirreff and the San Telmo Islands in relation to major surrounding features, including the South Shetland Islands and adjacent bodies of water.
- (b) Figure 3 identifies the boundaries of the site and provides details of specific locations within the vicinity of Cape Shirreff and the San Telmo Islands, including preferred vessel anchorages.

B. BIOLOGICAL FEATURES

1. Terrestrial. There is no information on soil biology of Cape Shirreff but it is likely that similar types of plants and invertebrates are found as at other sites in the South Shetland Islands (e.g., see Lindsey, 1971; Allison and Smith, 1973; Smith, 1984; Somme, 1985). A moderate lichen cover (e.g., *Polytrichum alpestre*, *Usnea fasciata*) is present on rocks located in the higher geological platforms. In some valleys there are patches of moss and grass (e.g., *Deschampsia antarctica*).
2. Inland waters. There are several ephemeral ponds and streams located on Cape Shirreff. These form from melting snow, especially in January and February. Hidden Lake is the only permanent body of water on the cape. The lake's drainage supports the growth of moss banks along its northeast and southwest slopes. From the southwest slope a stream flows to the western coast at Playa Yamana. The lake's depth is estimated at two to three meters and it is approximately 12 m long when fullest; the lake diminishes considerably in size after February (Torres, unpublished). There are no known lakes or ephemeral ponds of significance on the San Telmo Islands.
3. Marine. No studies on littoral communities have been carried out. There is abundant macroalgae present in the intertidal zone. The limpet *Nacella concinna* is common, as elsewhere in the South Shetland Islands.
4. Seabirds and pinnipeds. In January 1958, 2 000 pairs of chinstrap penguins (*Pygoscelis antarctica*) and 200 to 500 pairs of gentoo penguins (*P. papua*) were reported (Croxall and Kirkwood, 1979). In 1981 two unspecified penguin colonies had 4 328 and 1 686 individuals, respectively (Sallaberry and Schlatter, 1983). A census in January, 1987, produced estimates of 20 800 adult chinstrap penguins and 750 adult gentoo penguins (Shuford and Spear, 1987). Dominican gulls (*Larus dominicanus*), brown skuas (*Catharacta lönnerbergi*), Antarctic terns (*Sterna vittata*),

blue-eyed shags (*Phalacrocorax atriceps*), cape petrels (*Daption capense*), and Wilson's storm petrels (*Oceanites oceanicus*) are also reported to nest on the cape. Giant petrels (*Macronectes giganteus*) are regular visitors during the austral summer (Torres, unpublished).

5. Cape Shirreff is presently the site of the largest known breeding colony of the Antarctic fur seal (*Arctocephalus gazella*) in the South Shetland Islands. The first post-exploitation record of fur seals at Cape Shirreff was reported by O'Gorman (1961) in mid-February 1958 when 27 non-breeding adults were seen. In early February 1959 a group of seven adult males, one female and one male pup were observed; there was also a dead male pup. Over the past 30 years, the colony has continued to increase in size (Aguayo and Torres, 1967, 1968, 1993; Aguayo, 1970, 1978; Laws, 1973; Aguayo *et al.*, 1977; Cattan *et al.*, 1982; Oliva *et al.*, 1987; and Bengtson *et al.*, 1990. Data from 1992 confirm that this trend is continuing: 2 973 pups at Cape Shirreff (Aguayo *et al.*, 1992) and 2 340 pups at the San Telmo Islands (Bengtson, unpublished). Groups of non-breeding southern elephant seals (*Mirounga leonina*), Weddell seals (*Leptonychotes weddelli*), leopard seals (*Hydrurga leptonyx*), and crabeater seals (*Lobodon carcinophagus*) have been observed on the cape (O'Gorman, 1961; Aguayo and Torres, 1967; Bengtson *et al.*, 1990; Gajardo *et al.*, 1988; Oliva *et al.*, 1988; Torres unpublished).

C. CEMP STUDIES

1. The presence at Cape Shirreff of both Antarctic fur seal and penguin breeding colonies, and of krill fisheries within the foraging range of these species, make this a critical site for inclusion in the ecosystem monitoring network established to help meet the objectives of the Convention on the Conservation of Antarctic Marine Living Resources. The purpose of the designation is to allow planned research and monitoring to proceed, while avoiding or reducing, to the greatest extent possible, other activities which could interfere with or affect the results of the research and monitoring programme or alter the natural features of the site.
2. The following species are of particular interest for CEMP routine monitoring and directed research at this site: Antarctic fur seals, chinstrap penguins, and gentoo penguins.
3. Long-term studies are being planned and are underway to assess and monitor the feeding ecology, growth and condition, reproductive success, behaviour, vital rates, and abundance of pinnipeds and seabirds that breed in the area. The results of these studies will be compared with environmental data, offshore sampling data, and fishery statistics to identify possible cause-effect relationships.
4. Although Chilean scientists have been active at the site for many years, in recent seasons they have begun developing studies specifically designed to contribute to CEMP. These studies have mainly focused on Antarctic fur seals, but may be expanded to include seabirds in the near future. US scientists have conducted surveys of marine mammals and birds at the site sporadically since 1987, and are interested in conducting CEMP studies if appropriate logistic and funding arrangements can be made.
5. A number of priority CEMP studies are very well suited for implementation at Cape Shirreff and the San Telmo Islands. Penguin parameters for routine monitoring include trends in populations size (A3), demography (A4), duration of foraging trips (A5), breeding success (A6), chick fledging weight (A7), chick diet (A8), and breeding chronology (A9). Fur seal parameters being monitored include duration of

foraging/attendance cycles (C1) and pup growth rates (C2). As new CEMP Standard Methods are approved, additional pinniped and seabird parameters may be included in future monitoring efforts.

6. Directed research relevant to CEMP will also be undertaken on fur seals and seabirds. Research topics include foraging behaviour, foraging areas, energy requirements, seasonal movements, penguin chick growth rates, and relationships between monitored parameters and the physical environment.

D. PROTECTION MEASURES

1. Prohibited activities and temporal constraints.

- (a) **Throughout the site at all times of the year:** Any activities which damage, interfere with, or adversely affect the planned CEMP monitoring and directed research at this site are not permitted.
- (b) **Throughout the site at all times of the year:** Any non-CEMP activities are not permitted which result in:
 - (i) killing, injuring, or disturbing pinnipeds or seabirds;
 - (ii) damaging or destroying pinniped or seabird breeding areas; or
 - (iii) damaging or destroying the access of pinnipeds or seabirds to their breeding areas.
- (c) **Throughout the site at defined parts of the year:** Human occupation of the site during the period 1 June to 31 August is not permitted except under emergency circumstances.
- (d) **In parts of the site at all times of the year:** Building structures within boundaries of any pinniped or seabird colony is not permitted. For this purpose, colonies are defined as the specific locations where pinniped pups are born or where seabird nests are built. This prohibition does not pertain to placing markers (e.g., numbered stakes, posts, etc.) or situating research equipment in colonies as may be required to facilitate scientific research.
- (e) **In parts of the site at defined parts of the year:** Entry into any pinniped or seabird colonies during the period 1 September to 31 May is not permitted except in association with CEMP activities.

2. Prohibitions regarding access to and movement within the site.

- (a) Entry of the site at locations where pinniped or seabird colonies are present in densely populated areas is not permitted.
- (b) Aircraft overflight of the site is not permitted at altitudes less than 1 000 m unless the proposed flight plan has been reviewed in advance by the organisation(s) conducting CEMP activities at the site (see Section E.2). Aircraft overflight at altitudes below 200 m is not permitted.
- (c) The use of land vehicles is not permitted except to transport needed equipment and supplies to and from the field camp.

- (d) Pedestrians are not permitted to walk through wildlife population areas (e.g., colonies, resting areas, pathways), or to disturb other fauna or flora, except as necessary to conduct authorised research.

3. Prohibitions regarding structures.

- (a) Building structures other than those directly supporting authorised scientific research and monitoring programmes or to house research personnel and their equipment is not permitted.
- (b) Human occupation of these structures is not permitted during the period 1 June to 31 August (see Section D.1(c)).
- (c) New structures are not permitted to be built within the site unless the proposed plans have been reviewed in advance by the organisation(s) conducting CEMP activities at the site (see Section E.2).

4. Prohibitions regarding waste disposal.

- (a) Landfill disposal of any materials is not permitted; all materials brought to the site are to be removed when no longer in use.
- (b) Disposal of waste fuels, volatile liquids, and scientific chemicals within the site is not permitted; these materials are to be removed from the site for proper disposal elsewhere.
- (c) The open burning of any materials is not permitted (except for properly used fuels for heating, lighting or cooking).

5. Prohibitions regarding the Antarctic Treaty System.

It is not permitted to undertake any activities in the Cape Shirreff CEMP Protected Area which are not in compliance with the provisions of: (i) the Antarctic Treaty, including the Agreed Measures for the Conservation of Antarctic Fauna and Flora, and, when it comes into force, the Protocol on Environmental Protection, (ii) the Convention for the Conservation of Antarctic Seals, and (iii) the Convention for the Conservation of Antarctic Marine Living Resources.

E. COMMUNICATIONS INFORMATION

1. Organisation(s) appointing national representatives to the Commission.

- (a) Ministerio de Relaciones Exteriores
Dirección de Política Especial
Morandé 441, 2° Piso
Santiago
Chile

Telephone: +56 (2) 698 0301
Facsimile: +56 (2) 699 1202
Telex: not available

- (b) Bureau of Oceans and International Environmental
and Scientific Affairs
US Department of State
Washington D.C. 20520
USA

Telephone: +1 (202) 647 3262
Facsimile: +1 (202) 647 1106
Telex: not available

2. Organisation(s) conducting CEMP studies at the site.

- (a) Ministerio de Relaciones Exteriores
Instituto Antártico Chileno
Luis Thayer Ojeda 814
Casilla 16521, Correo 9
Santiago
Chile

Telephone: +56 (2) 232 2617
Facsimile: +56 (2) 232 0440
Telex: 346261 INACH CK

- (b) US Antarctic Marine Living Resources Program
National Marine Fisheries Service, NOAA
Southwest Fisheries Science Center
PO Box 271
La Jolla CA 92038
USA

Telephone: +1 (619) 546 7600
Facsimile: +1 (619) 546 7003
Telex: 910 337 1271

**CODE OF CONDUCT FOR THE CAPE SHIRREFF
CEMP PROTECTED AREA**

Investigators should take all reasonable steps to ensure that their activities, both in implementing their scientific protocols as well as in maintaining a field camp, do not unduly harm or alter the natural behaviour and ecology of wildlife. Wherever possible, actions should be taken to minimise disturbance of the natural environment.

Geological, glaciological, and other studies which can be done outside of the pinniped and seabird breeding season, and which will not damage or destroy pinniped or seabird breeding areas, or access to those areas, would not adversely affect the planned assessment and monitoring studies. Likewise, the planned assessment and monitoring studies would not be affected adversely by periodic biological surveys or studies of other species which do not result in killing, injuring, or disturbing pinnipeds or seabirds, or damage or destroy pinnipeds or seabird breeding areas or access to those areas.

Killing, capturing, handling, photographing, and taking eggs, blood, or other biological samples from pinniped and seabirds should be limited to that necessary to characterise and monitor individual and population parameters that may change in detectable ways in response to changes in food availability or other environmental factors. Sampling should be done and reported in accordance with: (i) the Agreed Measures for the Conservation of Antarctic Fauna and Flora, and, when it comes into force, the Protocol on Environmental Protection, (ii) the Convention for the Conservation of Antarctic Seals, and (iii) the Convention for the Conservation of Antarctic Marine Living Resources.

BACKGROUND INFORMATION CONCERNING CAPE SHIRREFF

Prior to the discovery of the South Shetland Islands in 1819, there were substantial colonies of fur seals, and possibly elephant seals, throughout the archipelago. Within a few months of discovery, Cape Shirreff was the scene of intensive sealing activities until about 1825. Sealers' refuges were erected all around the western shores of Livingston Island, with those on the south coast being occupied mainly by American sealers and those on the north coast by British sealers. There were about 60 to 75 men living ashore at Cape Shirreff in January 1821 (Stackpole, 1955) and 95 000 skins were taken during the 1821/22 season (O'Gorman, 1963). There are ruins of at least one sealers' hut on the cape and the shoreline in several bays is littered with timbers and sections of wrecked sealers' vessels. The outcome of the sealing of the early 1820s was the extermination of fur seals from the entire region.

Antarctic fur seals were not observed again on the South Shetland Islands until 1958, when a small colony was discovered at Cape Shirreff, Livingston Island (O'Gorman, 1961). The original colonisers probably came from South Georgia, where surviving fur seal colonies had substantially recovered by the early 1950s. At present, the fur seal rookeries at Cape Shirreff and the San Telmo Islands are the largest in the South Shetland Islands (Bengtson *et al.*, 1990).

During the past three decades, the population of Antarctic fur seals in the South Shetland Islands grew to a level at which tagging and other research could be undertaken at selected locations without threatening the population's continued existence and growth. Chilean studies on Cape Shirreff began in 1965 (e.g., Aguayo and Torres, 1967; Aguayo, 1978), and have been continuous from 1981 to the present. In 1982 Chilean investigators initiated field studies of fur seals, including an ongoing tagging program (Cattan *et al.*, 1982; Torres, 1984; Oliva *et al.*, 1987). United States investigators have conducted occasional pinniped and seabird surveys at Cape Shirreff and the San Telmo Islands since 1986/87 (Shuford and Spear, 1987; Bengtson *et al.*, 1990).

HISTORY OF PROTECTION AT CAPE SHIRREFF

Cape Shirreff was designated in 1966 as Specially Protected Area (SPA) No. 11 by ATCM Recommendation IV-11 'on the grounds that the cape supports a considerable diversity of plant and animal life, including many invertebrates, that a substantial population of elephant seals (*Mirounga leonina*) and small colonies of Antarctic fur seals are found on the beaches and that the area is of outstanding interest'. The protection conferred on this site was successful in ensuring that Antarctic fur seals were not disturbed during the important early phases of their recolonisation. Subsequent to the site's designation as a SPA, the locally breeding population of Antarctic fur seals increased to a level at which biological research activities could be undertaken without threatening the continued recolonisation and population increase of this species.

Surveys during the mid 1980s to locate study sites for long-term monitoring of fur seal and penguin populations as part of the CCAMLR Ecosystem Monitoring Program (CEMP) indicated that Cape Shirreff would be an excellent site within the Antarctic Peninsula Integrated Study Region. To carry out such a monitoring program safely and effectively, a multi-year field camp for four to six researchers was needed within the area previously designated as SPA No. 11. This might have been considered inappropriate within a SPA and hence a proposal was made in 1988 to redesignate Cape Shirreff as a Site of Special Scientific Interest (SSSI). Additionally, it was proposed substantially to enlarge the site by the inclusion of the San Telmo Islands group, presently the location of the largest fur seal colony in the Antarctic Peninsula region.

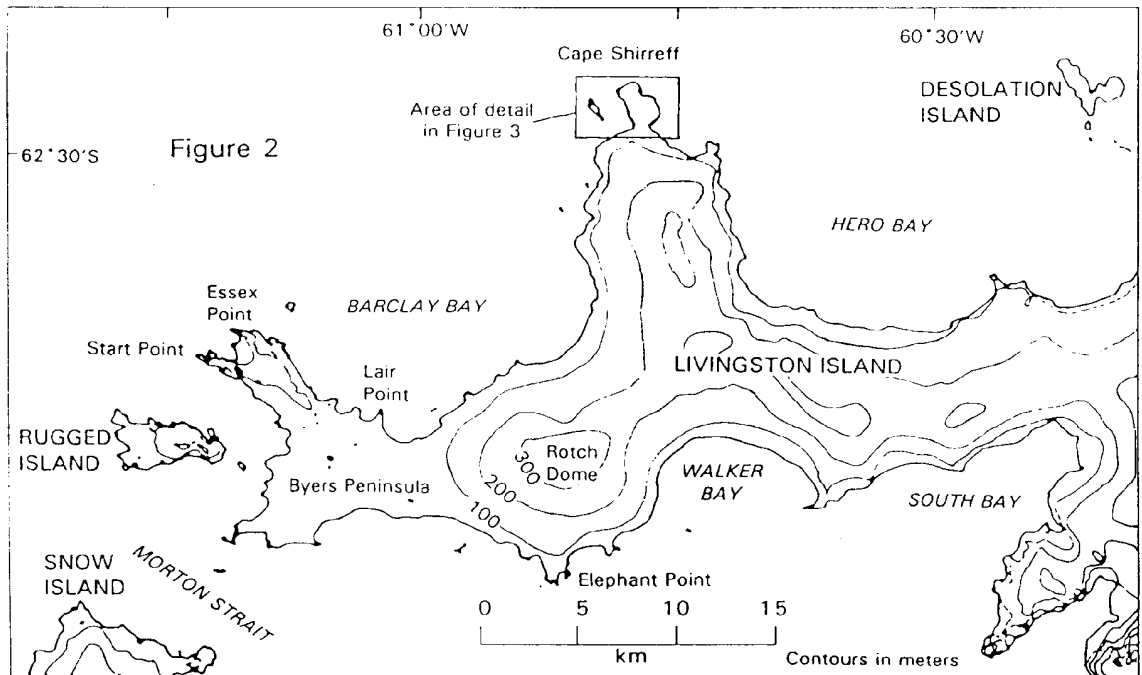
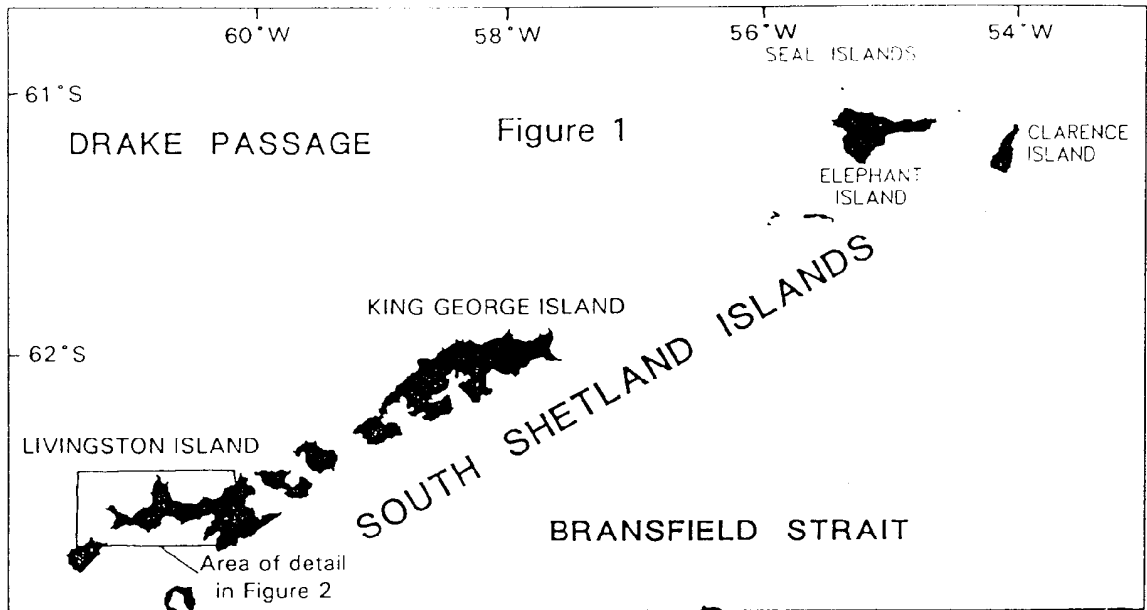
Cape Shirreff was redesignated in 1990 as SSSI No. 32 by Recommendation XV-7, which was adopted by the XVth Consultative Meeting of the Antarctic Treaty. It was understood that SSSI No. 32, Cape Shirreff, should be redesignated an SPA (in its enlarged form) if and when the longterm monitoring of fur seals and seabirds at the site should be ended.

Chilean and US scientists initiated CEMP studies at Cape Shirreff during the late 1980s, and there are plans to continue these studies in the future. To further protect the site from damage or disturbance that could adversely affect the longterm CEMP monitoring and directed research, in 1991 Cape Shirreff was proposed as a CEMP Protected Area.

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Figures 1 and 2: These maps show the general position of Cape Shirreff and the San Telmo Islands CEMP Protected Area (Figure 1) and the location of the CEMP Protected Area in relation to the northwestern portion of Livingston Island.

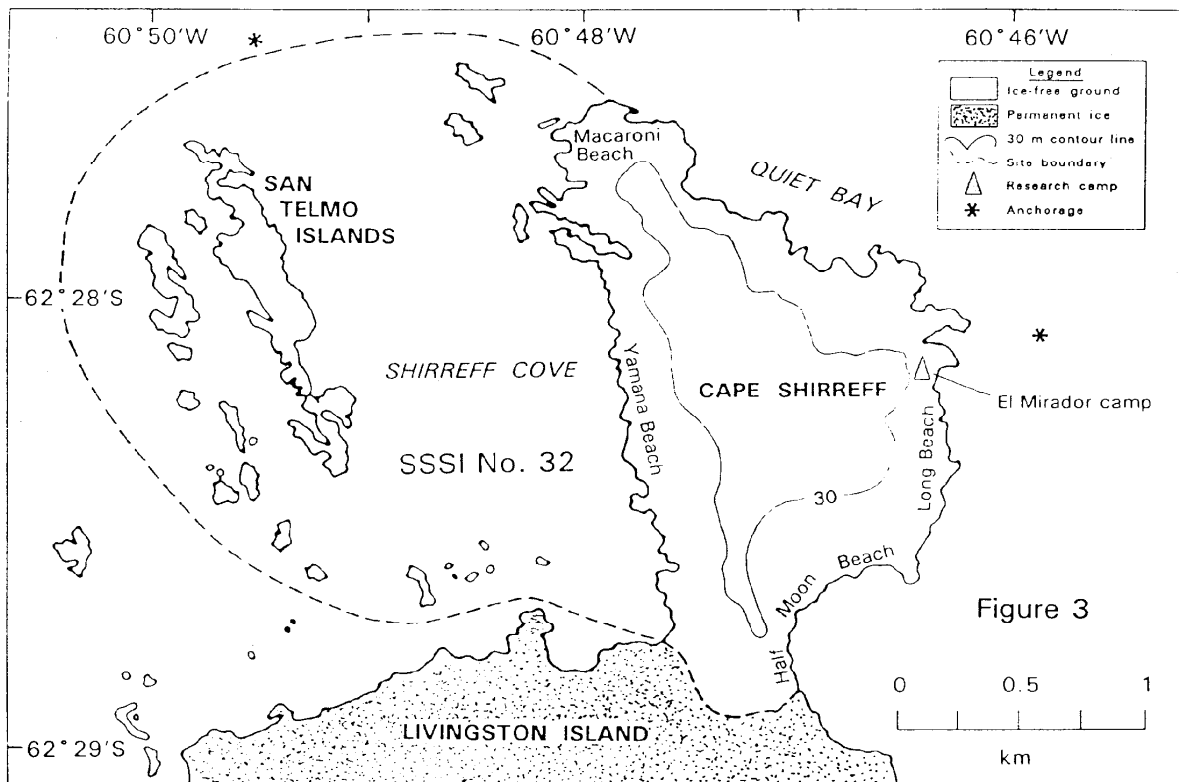


Figure 3: This map shows a detailed view of the Cape Shirreff and the San Telmo Islands CEMP Protected Area. Note that the boundaries of the CEMP Protected Area are identical to the boundaries of Site of Special Scientific Interest No. 32, which is protected under the Antarctic Treaty.