

COMMISSION FOR THE CONSERVATION
OF ANTARCTIC MARINE LIVING RESOURCES



CCAMLR

COMMISSION POUR LA CONSERVATION
DE LA FAUNE ET LA FLORE MARINES
DE L'ANTARCTIQUE

КОМИССИЯ ПО СОХРАНЕНИЮ
МОРСКИХ ЖИВЫХ РЕСУРСОВ АНТАРКТИКИ

COMISIÓN PARA LA CONSERVACIÓN DE
LOS RECURSOS VIVOS MARINOS
ANTÁRTICOS

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NOTIFICATION OF VULNERABLE MARINE ECOSYSTEMS IN STATISTICAL AREA 58.4.1

Delegation of Australia

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Notification of Vulnerable Marine Ecosystems in Statistical Area 58.4.1

Submitted by Australia

Contact: Australian Antarctic Division, Department of the Environment, Water, Heritage and the Arts, Channel Highway, Kingston, Tasmania 7050, Australia.

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Abstract

Conservation Measure 22-06 was adopted to ensure that significant adverse impacts of bottom fishing gear on Vulnerable Marine Ecosystems (VMEs) are avoided. In order to satisfy the requirements of CM 22-06 a method is proposed to notify CCAMLR of the presence of VMEs and their location using a simple pro-forma. Two VMEs identified during the Australian CEAMARC-CASO cruise are notified using this form from Statistical Area 58.4.1, SSRU H. The use of 5 nm buffer zones around the location of the observations is proposed to mitigate the risk of spatial uncertainty in the notified position and the deployment of bottom-fishing gear.

Introduction

CCAMLR, as a conservation organization with the attributes of an RFMO, has implemented measures to deal with the impacts of bottom fishing on Vulnerable Marine Ecosystems (VMEs). In 2007, noting the requirements of UNGA Resolution 61/105, the Scientific Committee of CCAMLR identified intersessional work needed to meet the requirements of the UNGA Resolution including identifying the method for specifying areas in which evidence of VMEs is detected (SC-CAMLR-XXVI paragraph 4.165(ii)) which was subsequently endorsed by the Commission (CCAMLR-XXVI paragraph 5.13(ii, iv)).

This paper presents a method for notifying VMEs as required in Conservation Measure 22-06 and provides two examples of VMEs identified during the CEAMARC-CASO cruise conducted in Dec 2007-Jan 2008.

The CEAMARC (Collaborative East Antarctic Marine Census) program was a joint effort by Australian, Belgian, French and Japanese institutions contributing to the Census of Antarctic Marine Life (CAML). Three cruises were undertaken by Australian, French and Japanese vessels to study plankton, fish and benthic biodiversity (see <http://meraustrales.mnhn.fr/>). One of the three cruises, the CEAMARC-CASO voyage, was undertaken by the *Aurora Australis* from 16-Dec-2007 to 27-Jan-2008. Eighty-nine stations were sampled using various methods on the continental shelf and slope off George V and Terre Adélie Lands (see maps in Appendices 1 and 2 for details). Using trawl gear with associated digital video and/or stills cameras VMEs were identified at Stations 65 and 79-81. Notification of these VMEs is provided through a simple proforma in Appendices 1 and 2 respectively.

The evidence of these VMEs is limited to scientific sampling by cameras on transects <2 nm in linear extent. There is a small degree of uncertainty associated with the location and extent of these VMEs because of the difficulty associated with determining the position of the trawl relative to the *Aurora Australis*. It is proposed that a buffer zone of 5 nm around the observational area will be used to mitigate the effect of spatial inaccuracy, particularly if there is also spatial inaccuracy in the known position of bottom-fishing gear when it is deployed.

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Appendix 1: CEAMARC 65 VME Notification

Name of Site: CEAMARC 65 **Date of Submission** 6-Jul-2008
Submitting Organization: Australian Antarctic Division
Review Body **Date of Review**

Type of VME:

Habitat-forming organisms	Presence	Identified Taxa
Large/erect sponges	<input checked="" type="checkbox"/>	
Small/low sponges	<input type="checkbox"/>	
Stalked crinoids	<input type="checkbox"/>	
Gorgonians	<input checked="" type="checkbox"/>	
Seawhips	<input type="checkbox"/>	
Seapens	<input type="checkbox"/>	
Hydrocoral (stylasterinid)	<input checked="" type="checkbox"/>	Errina sp.
Black coral (antipatharian)	<input type="checkbox"/>	
Hard coral (scleractinian)	<input type="checkbox"/>	
Low encrusting (bryozoans, ascidians)	<input type="checkbox"/>	
Erect bryozoan	<input checked="" type="checkbox"/>	
Tubeworms	<input type="checkbox"/>	
Bivalve bed	<input type="checkbox"/>	
Brachiopod bed	<input type="checkbox"/>	
Bioturbators	<input type="checkbox"/>	
Other (please state): 	<input type="checkbox"/>	

Substratum	Presence	Geomorphology	Presence
Mud (<0.1 mm)	<input type="checkbox"/>	Unrippled/flat	<input type="checkbox"/>
Fine sediments (0.1-1 mm)	<input type="checkbox"/>	Current rippled/directed scour	<input type="checkbox"/>
Coarse sediments (1-4 mm)	<input type="checkbox"/>	Wave rippled	<input type="checkbox"/>
Gravel/pebble (4-60 mm)	<input type="checkbox"/>	Irregular	<input type="checkbox"/>
Cobble/boulder/slab (60 mm-3 m)	<input checked="" type="checkbox"/>	Debris flow/rubble banks	<input type="checkbox"/>
Igneous metamorphic rock (>3 m)	<input type="checkbox"/>	Subcrop	<input type="checkbox"/>
Sedimentary rock (>3 m)	<input type="checkbox"/>	Low outcrop (<1 m)	<input checked="" type="checkbox"/>
Biogenic	<input checked="" type="checkbox"/>	High outcrop (>1 m)	<input type="checkbox"/>

Associated with seamount	<input type="checkbox"/>	Associated with canyon system	<input checked="" type="checkbox"/>
Associated with hydrothermal vent	<input type="checkbox"/>	Other association (please state):	<input checked="" type="checkbox"/>
Associated with cold seep	<input type="checkbox"/>	Antarctic bottom water	

Evidence:

When was evidence collected?

6 Jan 2008

How was evidence collected?

Vessel Aurora Australis

Cruise CEAMARC-CASO

Sampling gear Benthic trawl with mounted video

camera

Other comments

Type of evidence

Visual presence of VME (video, photographs, diver observation)	<input checked="" type="checkbox"/>
Acoustic presence of VME	<input type="checkbox"/>
Presence of VME-forming organisms	<input checked="" type="checkbox"/>
Which organisms? stylasterinid coral	
Collection method trawl	
Presence of surrogate e.g. VME-associated organisms	<input type="checkbox"/>
Which organisms?	
Collection method	
Presence of habitat feature	<input type="checkbox"/>
Which habitat feature?	
Other (please state):	<input type="checkbox"/>

Attach photographic evidence if available:

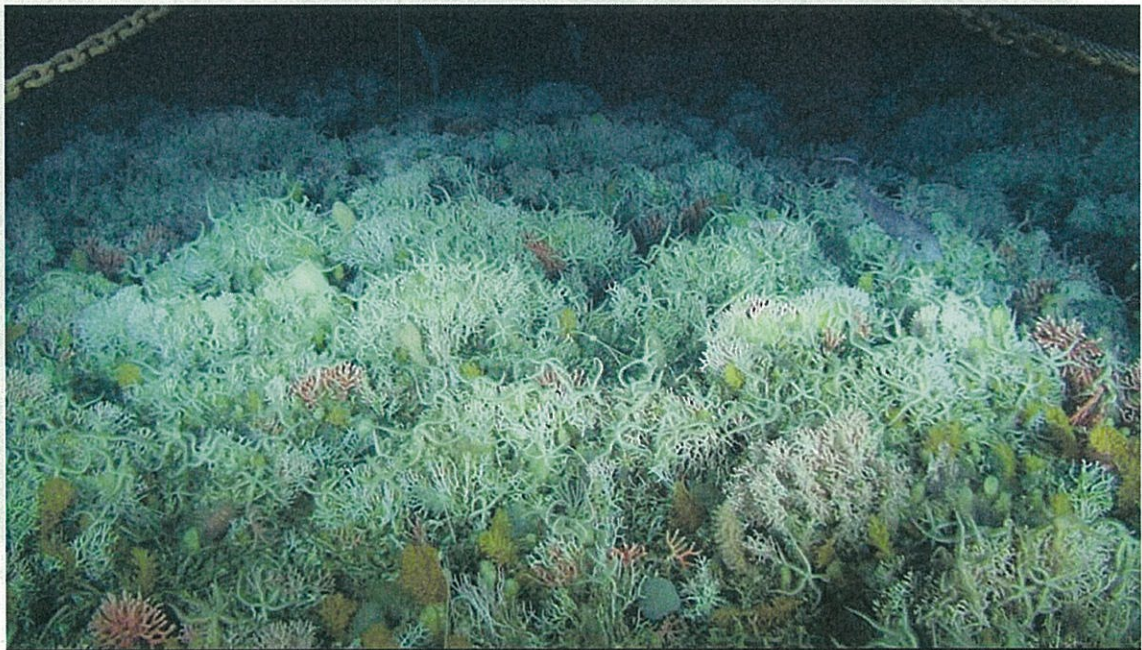


Figure 1. Screen grab from towed video at CEAMARC Station 65, 6 Jan 2008. Extensive hydrocorals



Figure 2. Screen grab from towed video at CEAMARC Station 65, 6 Jan 2008. Extensive hydrocorals and low sponges



Figure 3. Screen grab from towed video at CEAMARC Station 65, 6 Jan 2008. Extensive hydrocorals and some sponges.

Location of Observations

Position	Latitude (°S)	Longitude (+°E, -°W)	Precision	Depth (m)	Precision (m)
1 Start of trawl	65.82783	142.995613		523	
2 End of trawl	65.771243	142.985232		837	
3					
4					
5					
6					
7					
8					

Map of Location of Observations

Map datum WGS84

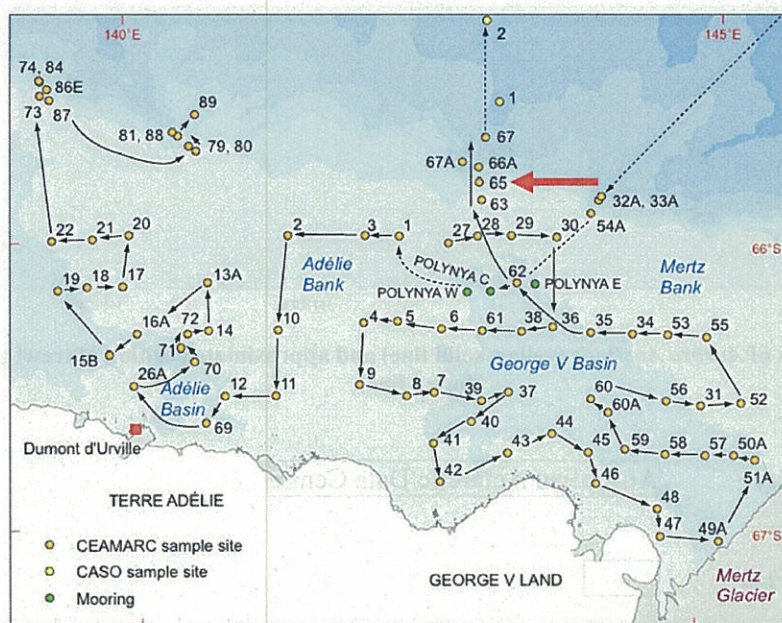


Figure 4. Map of CEAMARC-CASO cruise indicating Station 65.

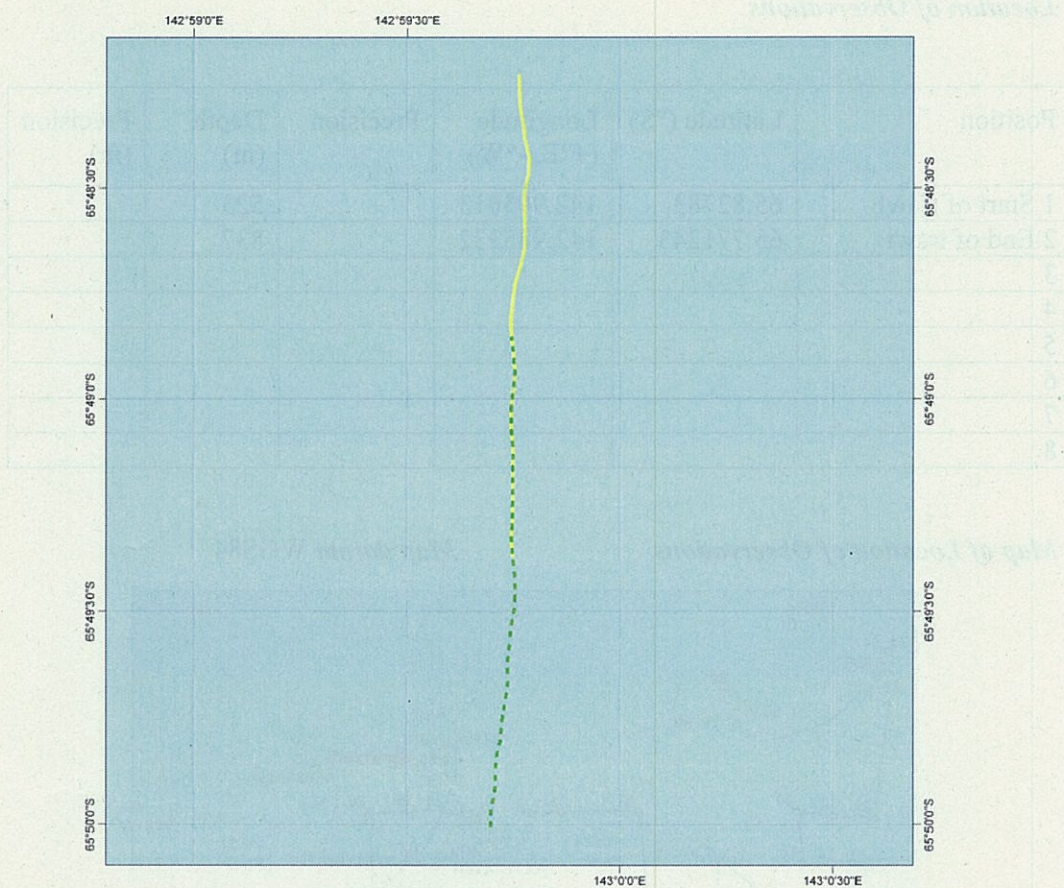


Figure 5. Track of *Aurora Australis* (yellow solid line) and approximate position of trawl gear (green dotted line).

Data Repository

Australian Antarctic Data Centre

Other Comments

**Appendix 2: CEAMARC 79-81 VME Notification
Vulnerable Marine Ecosystem Notification**

Name of Site: CEAMARC 79-81 **Date of Submission** 6-Jul-2008
Submitting Organization: Australian Antarctic Division
Review Body **Date of Review**

Type of VME:

<i>Habitat-forming organisms</i>	<i>Presence</i>	<i>Identified Taxa</i>
Large/erect sponges	<input checked="" type="checkbox"/>	
Small/low sponges	<input type="checkbox"/>	
Stalked crinoids	<input type="checkbox"/>	
Gorgonians	<input checked="" type="checkbox"/>	
Seaweeds	<input type="checkbox"/>	
Seapens	<input type="checkbox"/>	
Hydrocoral (stylasterinid)	<input checked="" type="checkbox"/>	Errina sp.
Black coral (antipatharian)	<input type="checkbox"/>	
Hard coral (scleractinian)	<input type="checkbox"/>	
Low encrusting (bryozoans, ascidians)	<input type="checkbox"/>	
Erect bryozoan	<input checked="" type="checkbox"/>	
Tubeworms	<input type="checkbox"/>	
Bivalve bed	<input type="checkbox"/>	
Brachiopod bed	<input type="checkbox"/>	
Bioturbators	<input type="checkbox"/>	
Other (please state): <u> </u>	<input type="checkbox"/>	

<i>Substratum</i>	<i>Presence</i>	<i>Geomorphology</i>	<i>Presence</i>
Mud (<0.1 mm)	<input type="checkbox"/>	Unrippled/flat	<input type="checkbox"/>
Fine sediments (0.1-1 mm)	<input type="checkbox"/>	Current rippled/directed scour	<input type="checkbox"/>
Coarse sediments (1-4 mm)	<input type="checkbox"/>	Wave rippled	<input type="checkbox"/>
Gravel/pebble (4-60 mm)	<input type="checkbox"/>	Irregular	<input type="checkbox"/>
Cobble/boulder/slab (60 mm-3 m)	<input checked="" type="checkbox"/>	Debris flow/rubble banks	<input type="checkbox"/>
Igneous metamorphic rock (>3 m)	<input type="checkbox"/>	Subcrop	<input type="checkbox"/>
Sedimentary rock (>3 m)	<input type="checkbox"/>	Low outcrop (<1 m)	<input checked="" type="checkbox"/>
Biogenic	<input checked="" type="checkbox"/>	High outcrop (>1 m)	<input type="checkbox"/>

Associated with seamount	<input type="checkbox"/>	Associated with canyon system	<input checked="" type="checkbox"/>
Associated with hydrothermal vent	<input type="checkbox"/>	Other association (please state):	<input checked="" type="checkbox"/>
Associated with cold seep	<input type="checkbox"/>	Antarctic bottom water	

Evidence:

When was evidence collected? 17-Jan-2008

How was evidence collected? Vessel Aurora Australis Cruise CEAMARC-CASO

Sampling gear Benthic trawl with mounted digital

stills camera

Other comments

Type of evidence

Visual presence of VME (video, photographs, diver observation)	<input checked="" type="checkbox"/>
Acoustic presence of VME	<input type="checkbox"/>
Presence of VME-forming organisms	<input checked="" type="checkbox"/>
Which organisms? stylasterinid coral	
Collection method trawl	
Presence of surrogate e.g. VME-associated organisms	<input type="checkbox"/>
Which organisms?	
Collection method	
Presence of habitat feature	<input type="checkbox"/>
Which habitat feature?	
Other (please state):	<input type="checkbox"/>

Attach photographic evidence if available:

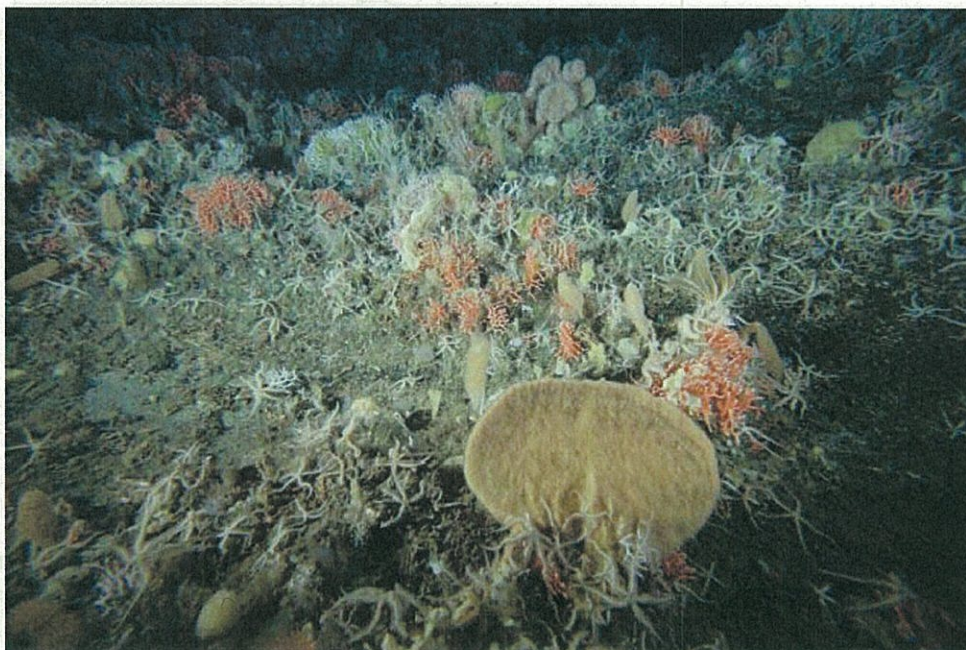


Figure 6. Digital photograph from CEAMARC Station 79-81, 17 Jan 2008. Hydrocorals and sponges.

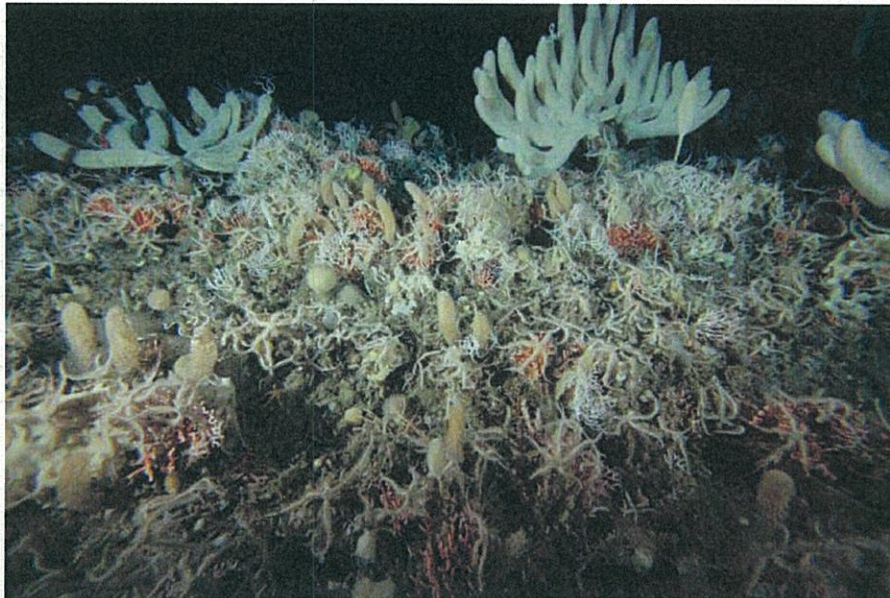


Figure 7. Digital photograph from CEAMARC Station 79-81, 17 Jan 2008. Hydrocorals, sponges and sea pens.



Figure 8. Digital photograph from CEAMARC Station 79-81, 17 Jan 2008. Extensive hydrocorals and some sponges.

Location of Observations

Position	Latitude (°S)	Longitude (+°E, -°W)	Precision	Depth (m)	Precision (m)
1 Start of trawl	65.706372	140.593527		436	
2 End of trawl	65.61407	140.33654		844	
3					
4					
5					
6					
7					
8					

Map of Location of Observations

Map Datum WGS84

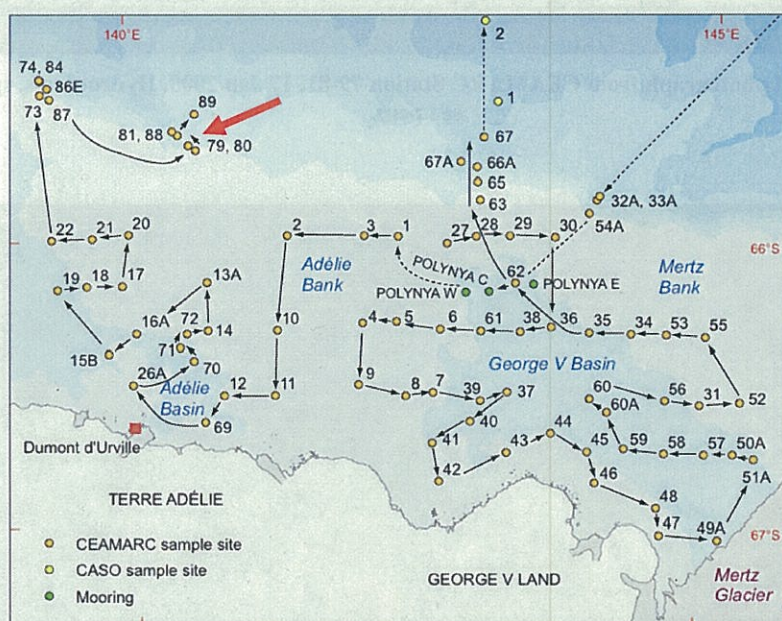


Figure 9. Map of CEAMARC-CASO cruise indicating Stations 79-81.

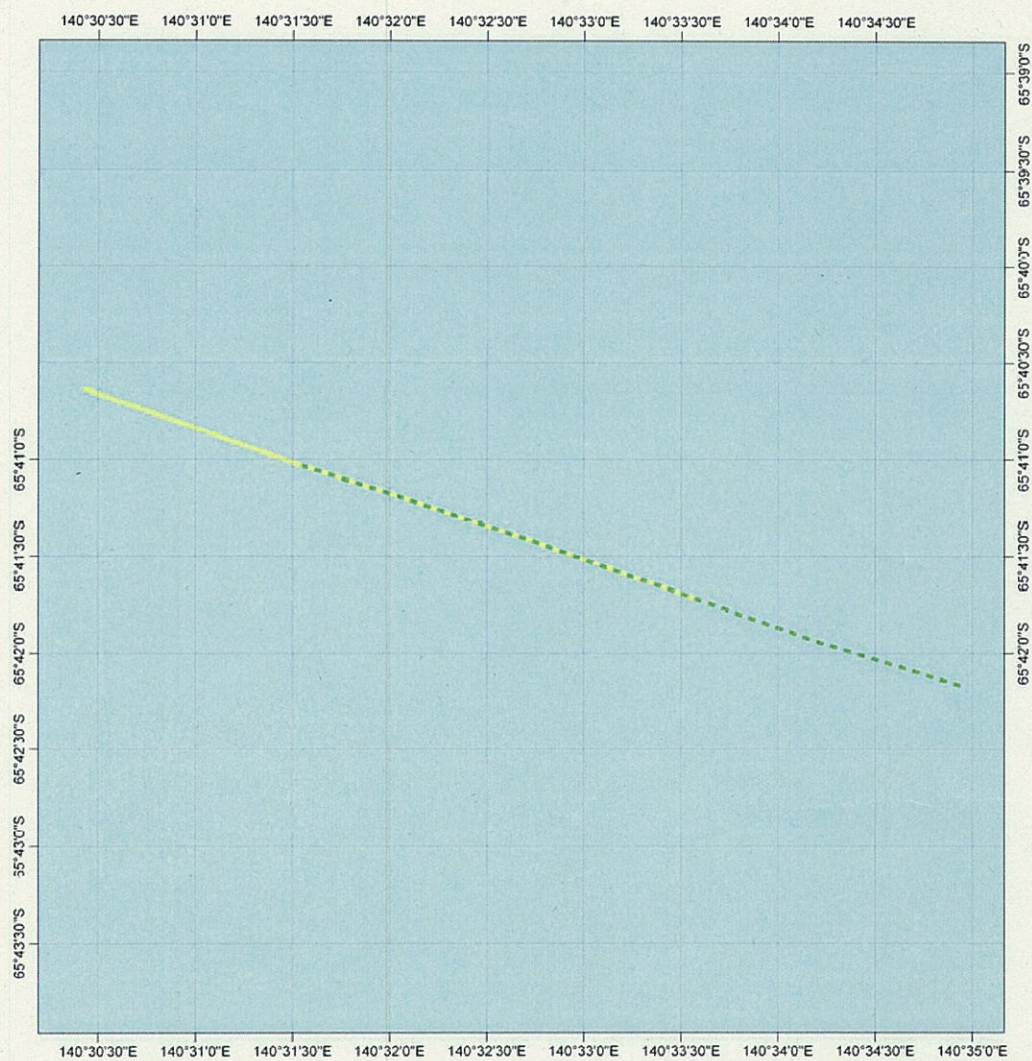


Figure 10. Track of Aurora Australis (yellow solid line) and approximate position of trawl gear (green dotted line).

Data Repository

Australian Antarctic Data Centre

Other Comments

