



Agenda Item: CEP 4

Presented by: New Zealand

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# **Annual Report of New Zealand pursuant to Article 17 of the Protocol on Environmental Protection to the Antarctic Treaty 2007/2008**



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## **Information Paper Submitted by New Zealand**

### ***1. Notification of measures taken pursuant to Articles 13(1) and 13(2) of the Environmental Protocol***

New Zealand enacted legislation to implement the Protocol in the Antarctica (Environmental Protection) Act 1994, which came into force on 1 February 1995. Since that time New Zealand has worked to fully implement the Protocol, including into the activities of the national Antarctic programme managed by the New Zealand Antarctic Institute (Antarctica New Zealand).

The Antarctica (Environmental Protection) Regulations 2006 came into force in mid-2006 and are intended to improve the implementation of Measures under Annex V to the Environmental Protocol. They specify under the Antarctica (Environmental Protection) Act 1994 certain areas designated by the ATCM as ASMAs, ASPAs and Historic Sites and Monuments. Further regulations specifying all other areas so designated are being developed.

A list of approvals and permits issued under the Antarctica (Environmental Protection) Act 1994 during the 2007/2008 season is attached as Appendix 1.

### ***2. Contingency Plans established in accordance with Article 15 of the Protocol***

Antarctica New Zealand has in place the following contingency plans to cover its activities in Antarctica:

- Health, Safety and Environment System
- Oil Spill Contingency Plan
- Disaster Recovery Plan

Information regarding these plans can be obtained from:

Manager: Environment  
Antarctica New Zealand  
Private Bag 4745  
Christchurch  
NEW ZEALAND  
Tel: +64 3 358 0200

### ***3. Circulation of information pursuant to Annex I, Article 6(1) of the Protocol***

#### **3.1 Environmental Impact Assessment Procedures**

The Antarctica (Environmental Protection) Act 1994 implements the Protocol on Environmental Protection

to the Antarctic Treaty. Under the Act, all activities must undergo an Environmental Impact Assessment (EIA) as set out in Part III of the Act (ss17-24). Under section 24 of the Act, it is an offence to carry out an activity without completing this process.

The Ministry of Foreign Affairs and Trade (MFAT) administers this Act and the Minister of Foreign Affairs makes the final determination as to whether or not an activity should proceed. EIAs are submitted to the Antarctic Policy Unit of MFAT, which then seeks expert advice on the potential environmental impacts of the proposed activities from Antarctica New Zealand and the Ministry for the Environment.

Antarctica New Zealand coordinates the provision of EIAs for any activities it supports. The preparation of other EIAs is the responsibility of the proponent, although MFAT can provide a model IEE on request, as well as advice and guidance on the type and content of the EIA that is needed.

The Minister of Foreign Affairs gives final approval of the EIA on the basis of MFAT recommendations which take into account the expert advice received. The Minister also has discretion under the Act to set conditions and make directions regarding the proposed activities in order to protect the environment. Conditions and directions are often imposed to manage issues such as compliance and environmental monitoring and post-activity reporting. Non-compliance with a direction given by the Minister is an offence carrying liability to imprisonment for a term not exceeding one year or to a fine not exceeding \$100,000 (ss 10(2) and (3)).

Further information on New Zealand's EIA procedures can be obtained from:

Antarctic Policy Unit  
Ministry of Foreign Affairs and Trade  
Private Bag 18-901  
Wellington  
NEW ZEALAND  
Telephone (64) (4) 439-8000  
Facsimile (64) (4) 439-8103

### **3.2 List of Initial Environmental Evaluations**

A list of Initial Environmental Evaluations for the 2007/2008 season prepared in accordance with Annex I, Article 2 of the Protocol is included in Appendix 1.

### **3.3 Significant information obtained, and any action taken in consequence thereof, from procedures put in place in accordance with Annex I Articles 2(2) and 5 of the Protocol**

During the 2007/2008 season, no significant information has been obtained from monitoring procedures put in place in accordance with the provisions of Annex I.

### **3.4 Comprehensive Environmental Evaluations (Annex 1, Article 3(6))**

No Comprehensive Environmental Evaluations were received for the 2007/2008 season.

## **4. Report pursuant to Annex II, Article 6 of the Protocol**

### **4.1 Number and nature of permits issued under Annex II of the Protocol during the 2007/2008 season**

Permits issued under Annex II for the 2007/2008 season are noted in the table in Appendix 2.

### **4.2 Records and statistics concerning flora and fauna taken in the 2007/2008 season**

A record is provided in the table in Appendix 3.

## **5. Report pursuant to Annex III, Article 9 of the Protocol**

Antarctica New Zealand's overall statement on waste management is:

*“Antarctica New Zealand will **minimise, reuse and recycle** waste generated by its activities as far as practicable and will ensure that waste is disposed of with minimal environmental impacts. Waste management planning will examine the use, where appropriate, of alternative technologies, materials and disposal options, and identify areas of past activity which require future clean up and/or remediation.”*

Antarctica New Zealand has a waste management handbook that provides national programme personnel with practical procedures for the day-to-day implementation of waste management, including waste handling, storage and disposal. The handbook is reviewed every year at the close of the summer season and aids planning of Antarctica New Zealand waste management activities.

The waste management handbook, reports on its implementation, and inventories of past activities can be obtained from:

Manager: Environment  
Antarctica New Zealand  
Private Bag 4745  
Christchurch  
NEW ZEALAND

## **6. Report pursuant to Annex IV of the Protocol**

### **6.1 Notice of activities undertaken in case of emergency (Article 7(2))**

There have been no cases of emergency relating to the safety of a ship and those on board or saving life at sea involving New Zealand flagged vessels in the 2007/2008 season.

### **6.2 Implementation of Sovereign Immunity (Art 11(2))**

New Zealand state owned and operated vessels are subject to the Marine Protection Rules applicable to Antarctica issued under the Maritime Transport Act 1994. These rules implement both MARPOL 73/78 and Annex IV of the Protocol.

## **7. Report pursuant to Annex V, Article 10 of the Protocol**

**7.1 Number and nature of permits issued under Annex V of the Protocol during the 2007/2008 Season**

Permits issued under Annex V for the 2007/2008 season are noted in the table in Appendix 1.

## 7.2 Significant Change or Damage to any ASMA, ASPA or Historic Site or Monument

ASPA 155: Cape Evans Hut: Snow drift and ice build up continues to threaten the southern wall of Scott's Terra Nova Hut and contributes to the issue of ice-heave under the building. An estimated 100 cubic metres of snow and ice was removed from on and around the hut early in the season. A water proof membrane was installed in the southern and eastern exterior walls to protect the hut from melt water ingress. The food store on the southern side of the hut "Bowers Annex" was excavated to allow access to undertake this work. The drainage around the hut was improved to assist melt water flow away from the site. A "modern" window on the southern wall was replaced with the conserved original window

## 7.3 Measures taken to implement the provisions of Annex V

None this year.

## Appendix 1: Initial Environmental Evaluations

The following Initial Environmental Evaluations (IEEs) were completed by the following parties, and were addressed and approved by the Minister of Foreign Affairs. Permits were issued as noted for the 2007/2008 season.

Holder	Activity	Permit Notes
Heritage Expeditions ( <i>Spirit of Enderby/Professor Khromov</i> )	Tourism : Cruise	ASPAs 106, 155, 157, 158, 159, 162
Aurora Expeditions ( <i>Marina Svetaeva</i> )	Tourism : Cruise	ASPAs 106, 155, 157, 158, 159
Greenpeace ( <i>Esperanza</i> )	NGO expedition	Visits to ASPAs were not permitted
<i>SY Northanger</i>	Tourism : Adventure Tourism	Visits to ASPAs were not permitted
<i>SY Vision</i>	Tourism: Adventure Tourism	Visits to ASPAs were not permitted
Antarctic Heritage Trust	Historic Hut restoration	ASPA 155
National Institute of Water and Atmospheric Research ( <i>RV Tangaroa</i> )	Scientific Research	Visits to ASPAs were not permitted
Antarctica New Zealand	Annual programme of events	ASPAs 105, 106, 116, 121, 122, 124, 130, 131, 138, 154, 155, 157, 158, 161
Antarctica New Zealand	Wind monitoring tower installation	ASPA 122

## Appendix 2: Preliminary Environmental Evaluations

The following New Zealand Antarctic Institute supported activities were issued with permits for the 2007/2008 season after completion of preliminary stage Environmental Impact Assessment and approval by the Minister of Foreign Affairs.

Event	Permit	Principal Holder	Event Title
K018 07/08	07/K018	Mary Sewell	Latitudinal Patterns in the Ross Sea Meroplankton
K021A 07/08	07/K021A	Roberta Farrell	Cold Adaptation & Proliferation of Antarctic Fungi
K021B 07/08	07/K021B	Roberta Farrell	Cold Adaptation & Proliferation of Antarctic Fungi
K023 07/08	07/K023	Craig Cary	Resolving Environmental Drivers for Microbial Biodiversity in Antarctic Dry Valley Mineral Soils
K024A 07/08	07/K024A	Allan Green	Terrestrial Biodiversity in Southern Victoria Land
K024B 07/08	07/K024B	Allan Green	Terrestrial Biodiversity in Sth Victoria Land
K024C 07/08	07/K024C	Tracey Jones	HNZ Scholarship Winner - Antarctic Lichen
K024D 07/08	K024D	Ashley Sparrow	IPY - Terrestrial Biodiversity
K025 07/08	07/K025	Angela McGaughran	Determining evolutionary patterns for Antarctic terrestrial invertebrates
K043A 07/08	07/K043A	Ken Ryan	Antarctic Sea Ice and Pelagic Microbial Communities
K043B 07/08	07/K043B	Ken Ryan	Antarctic Sea Ice and Pelagic Microbial Communities
K049A 07/08	07/K049	Nancy Bertler	NZ ITASE- Climate Variability along the Victoria Land Coast
K049B 07/08	07/K049B	Nancy Bertler	NZ ITASE- Climate Variability along the Victoria Land Coast
K051 07/08	07/K051	Kari Bassett	The Heimdall Erosion Surface
K055 07/08	07/K055	Adrian McDonald	Dynamics & Ionisation in the Antarctic Middle Atmosphere
K056A 07/08	07/K056	Bryan Storey	Dynamics & change of the Darwin Hatherton Glacial System
K057 07/08	07/K057	Bill Davison	Temperature Change & Cardiovascular Physiology of Antarctic Fish
K058 07/08	07/K058	Victoria Metcalf	Lipid Metabolism & Temperature Adaptation in Antarctic Fish
K061 07/08	07/K061	James White	Clues from Ferrar Province Dikes and sills in the Transantarctic Mtns about Interaction of Flood-basalt Magmas with Tectonics at the time of Gondwana
K064 07/08	07/K064	Sean Fitzsimons	Thermal & Mechanical Processes Beneath Cold Ice
K066 07/08	07/K066	Craig Marshall	Latitudinal Gene Drift in Marine and Terrestrial Organisms from the Ross Sea Region
K068 07/08	07/K068	Miles Lamare	DNA Photo-repair in Antarctic Invertebrate Embryos and Larvae

K069 07/08	07/K069	Brian Fraser	Monitoring Space Weather in the Southern Polar Region
K081A 07/08	07/K081A	Brian Sorrell	Antarctic Inland Aquatic Ecosystems
K081B 07/08	07/K081B	Brian Sorrell	Antarctic Inland Aquatic Ecosystems
K082 07/08	07/K082	Vonda Cummings	Structure & Function of Ross Sea Coastal Marine Ecosystems
K084 07/08	07/K084	Karin Kreher	Tropospheric Ozone Depletion & Bromine Explosions
K085 07/08	07/K085	Stephen Wood	Drivers of Global Change in the Antarctic Atmosphere
K087 07/08	07/K087	Gordon Brailsford	Drivers of Global Change in the Antarctic Atmosphere
K089 07/08	07/K089	Andrew Harper	Climate data acquisition, Scott Base & Arrival Heights
K122 07/08	07/K122	Phil Lyver	Adelie Penguin Population Responses Mediated by Climate Change
K123A 07/08	07/K123A	Jackie Aislabie	Environmental Protection of Soils of the Ross Sea Region
K123B 07/08	07/K123B	Jackie Aislabie	Environmental Protection of Soils of the Ross Sea Region
K131 07/08	07/K131	Tim Haskell	Sea Ice & Southern Ocean Processes
K141A 07/08	07/K141A	Chuah Hean Teik	Model Development and Application of Microwave Remote sensing in Antarctica
K141B 07/08	07/K141B	Azizan Samah	Observations of gravity waves and its role in the dynamics of stable Antarctic Boundary Layer
K150 07/08	07/K150	Graeme Blick	LINZ
K170 07/08	07/K170	Nigel Watson	Antarctic Heritage Trust
K211 07/08	07/K211	Lou Sanson	Film for The Antarctic Attraction
K211A 07/08	K211A	Lou Sanson	Winfly Film for Antarctic Attraction
K220 07/08	07/K220	Bryan Storey	GCAS
K400A	K400A	Erik Barnes	Winfly Operations Staff visits
K515A	K515A	Neil Gilbert	Winfly Fly Eradication
KA12 07/08	07/KA12	Paul Scofield	Canterbury Museum
KNA 07/08	07/KNA	Lindsay Johnston	Antarctic Centre

**Appendix 3. Records concerning flora and fauna taken in the 2007/2008 season**

Event	Site	Species	Nature of Interference	Quantity	Unit
K018 07/08					
	Gerlache Inlet	Zooplankton	Removal of water samples from water column	258.00	SMPL
	Gerlache Inlet	<i>Pleurogramma antarcticum</i>	Removal of eggs from platelet ice and plankton samples	60.00	SMPL
K024A 07/08					
	Botany Bay ASPA 154	Endolithic lichens and algae	Sampling	54.00	SMPL
	Suess, Mt	<i>Gomphiocephalus hodgsoni</i>	Sampling	40.00	INDV
	Suess, Mt	Collembola (springtails)	Sampling (Neocryptopygus nivicolus)	20.00	INDV
	Suess, Mt	Acari (mites)	Sampling	30.00	INDV
	Suess, Mt	Nematoda	Sampling	100.00	INDV
K024B 07/08					
	Smith Valley	<i>Stereotydeus mollis</i>	Removed soil (500gm) and individuals	250.00	INDV
	Smith Valley	<i>Scottnema sp</i>	Removed soil (500gm) and individuals	5,000.00	INDV
	Smith Valley	Rotifers	Removed soil (500gm) and individuals	5,500.00	INDV
	Smith Valley	Tradigrades	Removed soil (500gm) and individuals	862.00	INDV
	Smith Valley	Lichen	Part individual removed	8.00	SMPL
	Smith Valley	Algae	Soil sample and algae from soil and under rock	2.00	SMPL
	Wellman, Lake	Rotifers	Removed soil (500gm) and individuals	11,179.00	INDV
	Wellman, Lake	Tardigrades	Removed soil (500gm) and individuals	20.00	INDV
	Wellman, Lake	Lichens	Part of individual removed	60.00	SMPL
K024C 07/08					

	Battleship Promontory	<i>Buellia frigida</i>	Collection	4.00	SMPL
	Battleship Promontory	<i>Umbilicaria aprina</i>	Collection	3.00	SMPL
	Garwood Valley	<i>Buellia frigida</i>	Collection	9.00	SMPL
	Garwood Valley	<i>Umbilicaria aprina</i>	Collection	5.00	SMPL
	Gondwana Station	<i>Buellia frigida</i>	Collection	62.00	SMPL
	Gondwana Station	<i>Buellia species</i>	Collection	1.00	SMPL
	Gondwana Station	<i>Umbilicaria aprina</i>	Collection	32.00	SMPL
	Gondwana Station	<i>Umbilicaria descussata</i>	Collection	50.00	SMPL
	Hut Point	<i>Buellia frigida</i>	Collection	5.00	SMPL
	Hut Point	<i>Umbilicaria aprina</i>	Collection	1.00	SMPL
	Hut Point	<i>Umbilicaria descussata</i>	Collection	2.00	SMPL
	Mario Zucchelli Station (Italy)	<i>Buellia frigida</i>	Collection	19.00	SMPL
	Mario Zucchelli Station (Italy)	<i>Buellia species</i>	Collection	1.00	SMPL
	Mario Zucchelli Station (Italy)	<i>Umbilicaria descussata</i>	Collection	6.00	SMPL
K025 07/08					
	Cape Bird ASPA 116	<i>Gomphiocephalus hodgsoni</i>	Growth and metabolic rate measurements and ultimate collection. Some samples captured and released.	1,000.00	INDV
K043A 07/08					
	Gondwana Station	Sea ice algae, phytoplankton	Collection	5.00	GDW
K043B 07/08					
	McMurdo Sound	Sea ice algae, phytoplankton	Collection - negligible	5.00	G
K057 07/08					
	McMurdo Sound	<i>Pagothenia borchgrevinki</i>	Capture, transport to SB, physiology work	62.00	INDV
	McMurdo	<i>Pagothenia</i>	Collected for	10.00	INDV

	Sound	<i>borchgrevinki</i>	Antarctic Attraction		
K058 07/08					
	Armitage, Cape	<i>Sterechinus neumayeri</i>	Caught, maintained live, killed, frozen, returned to NZ	10.00	INDV
	Armitage, Cape	<i>Odontaster validus</i>	Caught, maintained live, killed, frozen, returned to NZ	3.00	INDV
	Armitage, Cape	<i>Parbolasia (Lineus) corrugatus</i>	Caught, maintained live, killed, frozen, returned to NZ	4.00	INDV
	Evans, Cape	<i>Pagothenia borchgrevinki</i>	Caught, maintained live, sampled, frozen, returned to NZ	174.00	INDV
	Evans, Cape	<i>Trematomus bernachii</i>	Caught, maintained live, sampled, frozen, returned NZ	2.00	INDV
	Evans, Cape	<i>Trematomus nicolai</i>	Caught, maintained live, sampled, frozen, returned NZ	4.00	INDV
	Evans, Cape	<i>Trematomus newnesi</i>	Caught, maintained live, sampled, frozen, returned NZ	3.00	INDV
	Evans, Cape	<i>Trematomus penellii</i>	Caught, maintained live, sampled, frozen, returned NZ	3.00	INDV
	Evans, Cape	<i>Gymnodraco acuticeps</i>	Caught, maintained live, sampled, frozen, returned NZ	7.00	INDV
	Evans, Cape	<i>Trematomus hansonii</i>	Caught, maintained live, sampled, frozen, returned NZ	3.00	INDV
	Ice Runway	<i>Pagothenia borchgrevinki</i>	Caught, maintained live, sampled, frozen, returned to NZ	116.00	INDV
	Ice Runway	<i>Trematomus bernachii</i>	Caught, maintained live, sampled, frozen, returned to NZ	3.00	INDV
	Royds, Cape	<i>Trematomus bernachii</i>	Caught, maintained live, sampled, frozen returned NZ	6.00	INDV
	Winter Quarters Bay	<i>Trematomus hansonii</i>	Caught, maintained live, sampled, frozen returned NZ	4.00	INDV
	Winter Quarters Bay	<i>Trematomus bernachii</i>	Caught, maintained live, sampled, frozen returned NZ	183.00	INDV
K066 07/08					

	Adelie Cove, Gondwana Station, Mario Zucchelli Station	Nematodes	Removed from soil & cultured, used in experiments	42.00	KG (Soil)
	Gondwana Station	<i>Gresseticantha terranova</i>	Removed and collected by aspirator and paintbrush	3.00	MG
K068 07/08					
	Armitage, Cape	<i>Strechinus neumyeri</i>	Removal by ROV	16.00	INDV
	Evans, Cape	<i>Strechinus neumyeri</i>	Removal by divers	40.00	INDV
K081A 07/08					
	Bratina Island	Mixed microbial mats	Sampling	40.00	
	Bratina Island	Microbial mats	Sampling	180.00	CM2
K081B 07/08					
	Wilson, Lake	Cyanobacterial mat	Collection by syringe of sediment and mat	120.00	G
K082 07/08					
	Granite Harbour	<i>Strechinus neumayeri</i>	Removed, dissected, frozen, preserved in ethanol	4.00	INDV
	Granite Harbour	<i>Odontaster validus</i>	Removed, dissected, frozen	13.00	INDV
	Granite Harbour	<i>Laternula elliptica</i>	Removed, dissected, frozen	45.00	INDV
	Granite Harbour	<i>Ophionotus victoriae</i>	Removed, dissected, frozen, preserved in ethanol	3.00	INDV
	Granite Harbour	<i>Coralline algae</i>	Removed, dissected, frozen	3.00	INDV
	Granite Harbour	<i>Nemertine worm</i>	Removed, dissected, frozen	3.00	INDV
	Granite Harbour	<i>Adamussium colbecki</i>	Removed, dissected, frozen	4.00	INDV
	Granite Harbour	<i>Phyllophora spp</i>	Removed, frozen	20.00	G
	Granite Harbour	<i>Nudibranch</i>	Removed, frozen	1.00	INDV
	Granite Harbour	<i>Diplasterias brucei</i>	Removed, dissected, frozen	6.00	INDV
	Granite Harbour	Pycnogonid	Removed, dissected, frozen	3.00	INDV
	Granite	<i>Neobuccinum</i>	Removed, dissected,	3.00	INDV

	Harbour		frozen		
	Granite Harbour	Macrofauna cores	Removed, preserved	15.00	INDV
	Granite Harbour	Ice algae	Removal, filtered, frozen	10.00	
K122 07/08					
	Bird, Cape	<i>Pygoscelis adeliae</i>	Install weighbridge and fencing, breeding pairs	119.00	PRS
	Bird, Cape	<i>Pygoscelis adeliae</i>	Catch and insert PIT subcutaneously	30.00	INDV
	Bird, Cape	<i>Pygoscelis adeliae</i>	Catch and flipper band chicks	1,000.00	CHICKS
	Bird, Cape	<i>Pygoscelis adeliae</i>	Attach SPLASH devices	45.00	INDV
	Bird, Cape	<i>Pygoscelis adeliae</i>	Attach TDR devices, take blood sample, measure weight and flipper length	35.00	INDV
	Bird, Cape	<i>Pygoscelis adeliae</i>	Catch, weigh and measure chicks	250.00	CHICKS
	Bird, Cape	<i>Pygoscelis adeliae</i>	Catch, weigh and measure BREF chicks	80.00	CHICKS
	Bird, Cape	<i>Pygoscelis adeliae</i>	Temporarily attach Velcro tag (all Velcro tags removed)	14.00	INDV
	Bird, Cape	<i>Pygoscelis adeliae</i>	Temporarily attached T-bar anchor tag. (All tags, except 1, removed, eventually wear and break)	26.00	INDV
	Bird, Cape	<i>Pygoscelis adeliae</i>	Removal of 4-5 feathers from 45 samples	225.00	INDV
K220 07/08					
	Hutton Cliffs	<i>Leptonychotes weddelli</i>	Seal census, viewing no closer than 10 m,	100.00	