

SCAR

SPECIAL COMMITTEE ON ANTARCTIC RESEARCH

BULLETIN

ARGENTINA AUSTRALIA BELGIUM
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NORWAY SOUTH AFRICA UNITED KINGDOM
UNION OF SOVIET SOCIALIST REPUBLICS.
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No. 8, May 1961

Conservation of Nature in Antarctica

At the fourth meeting of SCAR a report on the Conservation of Nature in Antarctica, prepared by the Working Group on Biology, was provisionally accepted subject to approval by National Committees. National Committees were given the opportunity of expressing their views on the document to the Executive Committee of SCAR by the end of 1960. Comments from nine National Committees have been received. Seven National Committees expressed general approval of the document although detailed alterations were suggested by two committees. The two remaining National Committees informed the Executive Committee of the general principles which they considered should form the basis of the Conservation of Nature in Antarctica. These principles did not differ in their major essentials from those set out at the fourth meeting of SCAR.

After considering the views of National Committees, and bearing in mind the need to avoid unnecessary delay in circulating a statement on the Conservation of Nature in Antarctica, the Executive Committee, in consultation with the Secretary of the SCAR Working Group on Biology, have approved the statement which appears in the following pages. They believe it represents the opinion of the majority of the National Committees, and is a reasonable compromise between the view that the statement should be confined to setting out general principles and the opinion of those who would prefer more detailed recommendations.

The most important sections of the following document are those headed "General Principles" and "Recommendations". It is hoped that these sections will provide a basis on which the nations active in Antarctic research can develop a common policy on the conservation of nature in Antarctica. The introduction and annexes are intended to clarify the document and to suggest one possible way by which the General Principles and Recommendations could be implemented. Attention is drawn to the last two paragraphs under recommendations which read:

"The necessary systems of authorization must remain a matter for discussion between the responsible authorities. Some preliminary suggestions are given in Annex D.

It is suggested that nations should draft applicable regulations."

SUGGESTED FORM OF MEASURES TO PROMOTE CONSERVATION OF NATURE
IN THE ANTARCTIC

Introduction

(a) These recommendations refer only to the region south of lat. 60° S., i.e. the area covered by the Antarctic Treaty. This treaty provides an un-

paralleled opportunity for international co-operation in the conservation of nature throughout one of the most scientifically important biogeographical regions of the world.

(b) The biological importance of the sub-Antarctic islands north of 60° S., and their affinities with the Antarctic, make it highly desirable that nature conservation in these two areas should be closely integrated. It is hoped that the nations exercising sovereignty over these islands, while taking account of the special problems involved, may consider the introduction of measures to ensure that the sub-Antarctic flora and fauna has comparable protection to that recommended for the area south of lat. 60° S.

(c) It is recognized that the biological resources of the Antarctic are an important source of supply for human needs, and that conservation measures based upon scientific research are essential to preserve and enhance these assets for the future.

(d) Existing national laws or regulations protect wild life in many parts of the Antarctic. Annex A is a list of the information available to the working group. When the Antarctic Treaty comes into force the region south of lat. 60° S. will be open to all nations for scientific purposes, and it is clearly desirable that conservation legislation should be consistent. It is hoped that Antarctic Treaty Powers will introduce measures on the lines recommended.

(e) The necessity for conservation of the flora and fauna of the high seas in the Antarctic regions is recognized, both for their own scientific value and because many animals, such as seals and sea birds, are entirely dependent upon them for food. However, for administrative reasons it would be difficult to apply these recommendations outside coastal waters. It is urged that the key importance of plankton in the biological economy of the Antarctic be recognized by all nations, and that activities which might impair it, such as harvesting or the introduction of alien species, should be scientifically assessed before being put into practice.

(f) The working group recognizes that the willing co-operation of the individual will do more to promote effective conservation in the Antarctic than any restrictive measures. An informative leaflet prepared by SCAR for issue to all persons who visit the region would be valuable, and a draft is attached (Annex B).

(g) Definitions of the terms used in these recommendations are given in Annex C.

General principles

1. The Antarctic flora and fauna are of outstanding scientific importance and every effort should be made to minimize interference by man. The region supports many forms of life which have no parallel elsewhere in the world, and which display some of the most perfect biological adaptations to an extreme environment. Scientific study requires that such fauna and flora be retained as far as possible in a natural state.

2. The Antarctic fauna contains species which are of world-wide appeal and interest, existing in an environment of great scenic beauty which has so

far been little impaired by man. This situation, which is now unique among the great land masses, merits preservation as a world heritage.

3. These fauna and flora are particularly vulnerable to interference. Marine forms which breed on land have no defences against unaccustomed predators. The high specialization of Antarctic life precludes ready adaptation to changes in the environment; these tend to have irreversible effects, hence conservation measures should precede expansion of human activity in the Antarctic.

4. Appreciation of the inter-dependence of all forms of Antarctic life is fundamental to effective conservation. The vertebrate animals depend ultimately upon invertebrate plankton foods, and interference at any point in this balanced biological system can have far-reaching repercussions.

5. It is recognized that scientific and economic needs make justifiable demands on the Antarctic flora and fauna, and that some disturbance due to human activities is not only unavoidable, but may be desirable in the interests of conservation. Biological research is the essential basis for rational management and utilization of Antarctic life, and for educational measures which seek to eliminate unnecessary wastage. Unnecessary pollution and contamination of atmosphere, land and water (including ice areas) should be prohibited.

6. International co-operation is essential. The restricted and discontinuous distribution of some species, the circumpolar range of others, and the widespread migratory movement of many forms extend the responsibility for conservation beyond national boundaries.

Recommendations

1. All areas of land and fresh water, including fast ice and ice shelves, and all coastal waters south of lat. 60° S. should be recognized internationally as a nature reserve. Within this region, it should be prohibited to kill, capture or interfere with all animals (including indigenous predators) and plants, with the exceptions stated in para. 5 below.

2. Species or habitats which are especially important or vulnerable should be further protected by the designation of selected areas as sanctuaries within which no form of disturbance should be permitted.

3. The deliberate introduction of alien forms of flora and fauna (excluding domestic species, which should be rigidly controlled at the lowest possible number considering their chances of survival, capacity of reproduction and utilization by man) should be prohibited.

4. The attention of expedition leaders, ship masters and other persons in authority should be drawn to the necessity for control of activities which can cause serious harm to wildlife.

These include:

- (a) Allowing dogs to run free.
- (b) Flying helicopters or other aircraft in a manner which would disturb bird colonies, or landing near (e.g. within 200 yd.) such colonies.

- (c) Driving vehicles unnecessarily close to breeding colonies of birds.
 - (d) Use of explosives or discharge of fire-arms close to breeding colonies of seals.
 - (e) Disturbance to bird and seal colonies by persistent attention from people on foot.
 - (f) The discharge of oil from ships in coastal waters.
5. The complete protection of all species envisaged in para. 1 above should be relaxed only in the following cases, which should be controlled by proper authorization on a scale that will not deplete the local stock.
- (a) Collections and studies for scientific purposes.
 - (b) Food (meat, eggs) for men and dogs.
 - (c) Living specimens for zoological gardens.
 - (d) Taking of a strictly limited number of specimens, especially natural casualties, for private purposes.
 - (e) Exploitation of fauna for commercial gain, on terms which accord with sound conservation principles.

The necessary systems of authorization must remain a matter for discussion between the responsible authorities. Some preliminary suggestions are given in Annex D.

It is suggested that nations should draft applicable regulations.

ANNEX A

Wild life protection in Antarctica

The following laws, regulations or principles are in force at the present time (September 1960). This list is based on information supplied in response to the application in the circular SCAR 4/1/60, and verbally by delegates and is certainly not complete.

Argentina

Law 13.908 and Decreto Reglamentario No. 15.501/53 provide for the complete protection within Argentina and the territories under Argentine jurisdiction of all members of the native fauna. There are exceptions for sport, commercial exploitation, scientific, educational and cultural collection, and destruction of pests. The taking of species in the first three of these categories is subject to licence and governed by precise regulations, and the species concerned are listed under both their common and scientific names.

Argentina also has a considerable body of legislation governing inshore fisheries, exploitation of littoral algae, and other allied subjects, little of which has much relevance to the territories south of 60° S.

(Copies of laws and ordinances supplied by Argentina.)

Australia

Operations Manuals for Australian Antarctic stations provide rules for the protection of wild life. Enforcement is the responsibility of station leaders. (Verbal information from Australian Adviser on biology.)

Belgium

Belgium has no special law or regulation concerning conservation or utilization of the Antarctic flora and fauna. (Written information from Belgian delegate.)

Chile

Chilean national legislation protects wild life throughout the country, including areas in Antarctica. The taking of scientific specimens, and the killing of some species for sport or commercial purposes is permitted under licence. (Verbal information from Chilean delegate.)

France

An Ordinance of 27 February 1959 forbids the killing or taking of specimens, except for scientific purposes or in emergency, in Terre Adélie. (Verbal information from French adviser on biology.)

Japan

Expedition members have been reminded of their moral duty to preserve wild life, and leaders of parties have been instructed to see that the maximum of protection is given. Permission to kill animals, even for scientific purposes, must be obtained from the leader or other person in authority. (Verbal information from Japanese delegate.)

New Zealand

Leaders of Antarctic stations have an over-all directive to conserve wild life. Recently rather more precise instructions have been issued to reduce the number of seals killed for dog food. (Verbal information from New Zealand delegate.)

Norway

By Royal Decree of 27 February 1953, in pursuance of section 3 in a law of 14 December 1951, it is prohibited to take Fur Seals or Sea Elephants on Bouvetøya and Peter I Øy. (Copy of Decree supplied by Norway.)

South Africa

Wild life protection orders are in force for South African sub-Antarctic islands, and some directive will probably be issued to scientific and other staff of Antarctic bases, if these are established in any area possessing a significant fauna. (Verbal information from South African delegate.)

United Kingdom

The Wild Animals and Birds Protection Ordinance of 22 March 1913, as amended in the Wild Animals and Birds Protection Order, 1955, provides complete protection for a list of scheduled birds and mammals within the

Falkland Islands Dependencies. The only sea birds protected in these ordinances are penguins, steamer-duck, and kelp geese: petrels and albatrosses are unprotected. A second schedule provides a close season for certain birds, mostly ducks and geese, which at other times are unprotected. The taking of penguin eggs is further governed by a supplementary series of regulations. Under Ordinance 8 of 1921 to consolidate and amend the laws relating to seal fishery and an Amending Ordinance of 1 April 1953, all seals are protected, except where exploitation has been specifically licensed. There are also fishery protection ordinances. (Copies of laws and ordinances supplied by United Kingdom.)

USA

The Operation Plan of Operation "Deep Freeze II" 1956-57, Annex L, directs commanding officers of all ships, shore stations, and other bases, and leaders of all parties to ensure that all personnel observe the principles of wild life conservation in Antarctica. Collection of scientific specimens by accredited persons is authorized. The taking of penguins for private collections is discouraged and made subject to conditions to ensure the proper handling of specimens. (Written information supplied by United States.)

USSR

Regulations for the protection of the fauna have been made by the Chief of Soviet Expeditions, and the leaders of parties are responsible for seeing that these are obeyed. Since 15 January 1956 the region round Haswell Island has been declared a reservation. No animals (other than fish, caught on a line) are taken for food by Soviet parties. (Verbal information from Soviet delegation.)

ANNEX B

Draft contents of a leaflet

Preservation of Wild Life

- (a) Introduction. Explains that the leaflet is intended to familiarize the reader with Antarctic animals and birds and to enlist his co-operation in their preservation.
- (b) Brief descriptions, with sketch and life history information of seals, birds, etc.
- (c) A concluding explanation of the ways in which wild life may be endangered, even unintentionally.

(It is intended that copies of this leaflet should be handed to all personnel on embarkation or arrival in the Antarctic. Shore station leaders should prepare sketch maps showing the location of sanctuaries, main bird and seal colonies, and other interesting natural features in the district and should issue these to their staff, together with a list of the conservation rules applying in the area.)

ANNEX C

Definitions

Alien forms	Any living specimen of plant or animal which is not indigenous to the Antarctic.
Animal	Any vertebrate or invertebrate species, wherever it occurs.
Fauna	All vertebrate and invertebrate species, wherever they occur.
Flora	All plant species, wherever they occur.
Indigenous	Native to the region.
Invertebrate	Any form of animal life without a backbone, wherever it occurs.
Nature	Flora and fauna.
Nature reserve	An area of land, ice, fresh water, or sea in which plants and animals are maintained in their natural state as far as possible.
Plankton	All forms of plant and animal life which float in the sea.
Predator	Any animal which kills other animals for food.
Sanctuary	An area of land, ice, fresh water, or sea in which no form of interference with plants or animals is permitted.
Specimen	An individual plant or animal, or part thereof, which has been collected.
Vertebrate	Any form of animal life with a backbone, wherever it occurs.

ANNEX D

Authorization for collection of flora and fauna

It is suggested that the following principles may be usefully considered when regulations are drawn up.

(a) For scientific collections

- i Permits should be personal and either non-transferable or transferable only to people employed by and collecting on behalf of the scientist concerned.
- ii They should be issued only to scientists of repute, or persons recommended by reputable scientists.
- iii They should be issued free of charge.
- iv They should be for a defined period, and valid within a defined area.
- v They should not restrict the species to be taken, or limit the number of specimens, which should be left to the responsible judgement of the scientist concerned, who knows his own needs and understands the implications of his collecting.
- vi The right to export the specimens from the area should be included in the permit.

- vii The person authorized to make scientific collections should submit a detailed report of all material collected or used, and of its eventual disposition.

(b) *Taking of animals for food*

- i In recent years the depredations of expeditions upon this traditional food source have become alarmingly heavy, and are now continued without respite from year to year. For example, near several stations the stocks of Weddell Seals have been so disturbed that breeding rates have been affected and scientific research rendered difficult. Animals are killed without regard to age or sex, and even animals marked in the course of scientific studies have been taken. Without detailed biological research it is impossible to assess the permissible annual crop which the various seal colonies would stand, but it is certain that this figures is being seriously exceeded in many areas.

The time has come to consider a positive conservation policy which will prevent depletion of this important natural resource. For the time being, expeditions should be urged to provide alternative foodstuffs for men and dogs and permits to take seal should be granted as sparingly as possible.

- ii Expedition leaders should be made aware of the situation and urged to use the maximum of restraint in the killing of seal and the taking of penguin eggs. They should seek biological guidance wherever possible as to the maximum permissible harvest.
- iii Where permits are issued these should be valid for a limited period and within a definite area.
- iv Permits should be issued to expeditions or other groups, the operations to be the responsibility of the leader who should direct the number to be taken at any one time.
- v Such permits should be free of charge.
- vi Records should be kept of all animals killed under permit, or in emergency, and returns made to the appropriate authority.

(c) *Specimens for zoological gardens*

- i These should be issued personally to collectors, and should be transferable only to their appointed agents.
- ii Before authority to collect is given it should be established that adequate arrangements have been made for the humane capture, efficient keeping in captivity, and safe transport of the animals to a suitable institution.
- iii A limit should be placed on the species and numbers which may be taken under each permit. A prohibited list should be prepared, naming those species that cannot be maintained in good health in captivity for at least three years.
- iv It should be specified that captured animals which cannot be safely transported from the Antarctic be forthwith released.

- v Returns should be provided of the number of each species captured, the number dying in captivity and in transit, and the ultimate disposition of the specimens.
- vi Where desirable a suitable charge should be made under each permit.

(d) *Specimens for private purposes*

- i In principle it is considered that, while the taking of an occasional specimen of most Antarctic animals for private retention as "souvenirs" is unlikely to endanger any species, the practice is still an undesirable one. The disturbance and consequent loss which can be caused by people wandering into bird colonies to collect specimens can be out of all proportion to the number they actually kill themselves. Conversely, it is probably impossible to prohibit this practice without causing much ill-feeling and stimulating underhand activities. It is therefore better to recognize and regulate it.
- ii Collection for private purposes should be allowed only under written permit. For administrative convenience this might perhaps be given by a Base Leader, or other person in authority, who could receive an over-all directive from his Government as to how many such permits to issue. It is suggested that nobody be allowed to kill more than one specimen of each species for private retention.
- iii It is considered highly desirable that no person be permitted to kill any animal as a private specimen unless he has given an assurance that it will be competently prepared. Where efficient and inexpensive taxidermy services operate in a country it is an excellent scheme to require a deposit of money to be made when each permit is issued, to be returned on the submission of receipted taxidermist's bill. This is not practicable in all countries.
- iv Where possible, people seeking private specimens should be urged to collect animals recently dead from natural causes and where an abundant supply of such specimens exists (e.g. Emperor Penguin chicks which have died of starvation) a Base Leader should not issue a permit to kill that species.

(e) *Commercial exploitation*

- i Certain forms of commercial harvesting, e.g. of Fur Seals, and Elephant Seals, are considered undesirable at present in the area south of lat. 60° S. because the populations of these animals are small, and only slowly recovering from past destruction.
- ii Other forms of harvesting, e.g. of plankton or Antarctic fish would strike at the whole basis of the Antarctic ecological system. Because of their likely repercussion they should not be undertaken without careful consideration.
- iii In general, it is felt that all forms of exploitation should be discouraged until adequate scientific data are available.

Scientific investigations recommended by SCAR: amendments

The following amendments to the recommendations published in *SCAR Bulletin*, No. 3, September 1959, were provisionally accepted at the Fourth Meeting, August 1960. They have now been ratified by a majority of National Committees and are therefore effective.

Auroral Physics

That the title Auroral Physics be changed to Auroral and Airglow Physics, and that the items be amended to read as follows:

- (a) The morphology of visual and sub-visual auroras, specific auroral and airglow emissions, and H.F. radio scattering regions. Location, shape and structural details of the southern auroral zone.
- (b) The sources of energy producing geomagnetic and ionospheric disturbances, auroras and airglow in the Antarctic regions.
- (c) The nature of the agencies causing excitation of auroral and airglow emission.
- (d) The composition and physical state of the upper atmosphere.
- (e) Search for, and explanation of, peculiarities in the space and time distribution of auroral and airglow features characteristic of the southern hemisphere.

Observational programmes should continue at stations well distributed in Antarctic regions using the several techniques available, such as visual observation, all-sky and parallactic photography, and photometric, spectrographic and radar techniques.

Attention is drawn to the possibility of gaining new information on the geomagnetic field in regions far from the earth by comparing Arctic and Antarctic observations on V.L.F. radio emissions, auroras and cosmic ray variations. Such comparisons may also contribute to the understanding of the mechanism of production of auroras. This possibility should be considered before fixing the positions of any new Antarctic stations.

Geomagnetism

Items (a) and (b) should be amended as follows, and other items (c) and (d) should be added.

- (a) The existing geomagnetic observatory programme with base level control should be maintained at the 1960 level, which comprises the minimum necessary geomagnetic network in this area.
- (b) Geomagnetic variation recordings, including quick-run and induction magnetographs for rapid variations, should be encouraged at all stations involved in high atmosphere studies and the recording and analysis should be designed to meet these requirements. The importance of low sensitivity recording is emphasized. Attention is drawn to the possible connection between geomagnetic disturbances at Antarctic stations and those at their geomagnetically conjugate stations in the Arctic area.

- (c) Geomagnetic surveys in the Antarctic area (continent and southern sea) should be carried out and co-ordinated with the World Magnetic Survey programme. Encouragement should be given to airborne and shipborne magnetic surveys as well as surveys by sledge parties. As far as possible three components should be recorded.
- (d) In connection with the research programmes of crustal and upper mantle geophysics in Antarctica, the following geomagnetic work should be encouraged:
 - (i) magnetic sounding on land and over the sea as a part of glaciological and geological research;
 - (ii) palaeomagnetism through the study of Antarctic rocks;
 - (iii) observation and analysis of regional geomagnetic secular variation, relevant to regional characteristics of the earth's crust and upper mantle;
 - (iv) research on regional characteristics of electromagnetic induction in the interior of the earth in this area;
 - (v) observation and analysis of earth-currents.

Geology

The section to be amended to read as follows:

Systematic regional mapping on sheets based on the recommendations of the Working Group on Cartography.

Although the nature of the geology and the area of exposures will control scale of sheets, it is recommended that each participating country retain one scale throughout for the regional geological maps in the sectors in which it has agreed to work. In addition to regional mapping and its ancillary studies (petrological, palaeontological) the Antarctic calls for attention within the basic framework of regional geology:

- (a) Geomorphology and Quaternary geology including work of ice, frost and wind.
- (b) Palaeoclimatic studies.
- (c) Palaeomagnetic studies.
- (d) Geochemical studies of rocks and minerals.
- (e) Terrain beneath the ice in association with geophysical studies.
- (f) Volcanology, study of past and present volcanisms and its products.
- (g) Structural geology.

Glaciology

Item (b) should read:

- (b) Variations in the extent of Antarctic ice:
 - (i) Changes of elevations by repeated seismic soundings, gravity observations and standard survey observations.
 - (ii) Measurements of ice movement by standard terrestrial survey methods, or, if these are not practicable, repeated astronomical fixes or other available methods.

- (iii) Measurements of the wastage of ice by calving, melting, wind erosion and evaporation should be made by the appropriate methods.
- (iv) Measurement of accumulation under (c) and (d) below should be combined with measurements of flow and wastage in order that a reliable figure for the mass balance of the Antarctic ice sheet may eventually be determined.
- (v) Past variations should be studied by biological, geochemical, geomorphological and other methods.

Item (d) should read:

- (d) The structure and temperature distribution of the inland ice sheet and ice shelves as revealed from deep pits and deep bore holes.

Gravity

Item (a) be amended by deleting the words "of the upper layers" in the second line.

Seismology

The addition of a new item after (b):

- (c) To study microseisms to find why 3 to 10 second microseisms are in general less in winter than summer, in contrast to the seasonal variation in temperate latitudes.

Stations and transport operating in the Antarctic, 1960-61

Argentina

"Almirante Brown"	Lat. 64° 53' S., long. 62° 53' W.	Summer only
"Decepción"	Lat. 62° 59' S., long. 60° 43' W.	Summer and winter
"Melchior"	Lat. 64° 20' S., long. 62° 59' W.	Summer and winter
"Orcadas"	Lat. 60° 45' S., long. 44° 43' W.	Summer and winter
"Teniente Camara"	Lat. 62° 36' S., long. 59° 54' W.	Summer only
"Esperanza"	Lat. 63° 23' S., long. 56° 59' W.	Summer and winter
"Ellsworth"	Lat. 77° 43' S., long. 41° 07' W.	Summer and winter
"General Belgrano"	Lat. 77° 58' S., long. 38° 48' W.	Summer and winter
"Teniente Matienzo"	Lat. 64° 58' S., long. 60° 02' W.	Summer and winter

from 15 March 1961

General San Martin (icebreaker), *Bahía Aguirre* (transport), *Punta Ninfas* (oil tanker), *Chiriguano* (survey vessel), two S-55 helicopters and two Beavers.

Australia

Davis	Lat. 68° 35' S., long. 77° 58' E.	Summer and winter
Macquarie Island	Lat. 54° 30' S., long. 158° 57' E.	Summer and winter
Mawson	Lat. 67° 36' S., long. 62° 53' E.	Summer and winter
Wilkes	Lat. 66° 15' S., long. 110° 31' E.	Summer and winter

Magga Dan, *Thala Dan* (chartered transports), one DCH-2 Beaver, one DC-3 Dakota.

Belgium. Not in operation

Chile. Not known

France

"Camp Heurtin"	Lat. 37° 50' S., long. 77° 34' E.	Summer and winter
"Dumont d'Urville"	Lat. 66° 40' S., long. 140° 01' E.	Summer and winter
Port-aux-Français	Lat. 49° 21' S., long. 70° 12' E.	Summer and winter

Norsel (charter ship), helicopter.

Japan

"Syowa"	Lat. 69° 22' S., long. 39° 35' E.	Summer and winter
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m/s *Soya* (ice-strengthened transport), two Sikorsky 58 helicopters.

<i>New Zealand</i> "Scott"	Lat. 77° 50' S., long. 166° 44' E.	Summer and winter
HMNZS <i>Endeavour</i>		
<i>New Zealand-U.S.A.</i> "Hallett"	Lat. 72° 18' S., long. 170° 18' E.	Summer and winter
<i>South Africa</i> "Norway" station (Charter transport.)	Lat. 70° 30' S., long. 2° 32' W.	Summer and winter
<i>United Kingdom</i> Adelaide Island	Lat. 67° 46' S., long. 68° 54' W.	Summer and winter from February 1961
Argentine Islands	Lat. 65° 15' S., long. 64° 16' W.	Summer and winter
Deception Island	Lat. 62° 59' S., long. 60° 34' W.	Summer and winter
Fossil Bluff	Lat. 71° 20' S., long. 68° 17' W.	Summer and winter from February 1961
Halley Bay	Lat. 75° 31' S., long. 26° 36' W.	Summer and winter
Hope Bay	Lat. 63° 24' S., long. 56° 39' W.	Summer and winter
Port Lockroy	Lat. 64° 50' S., long. 63° 31' W.	Summer and winter
Signy Island	Lat. 60° 43' S., long. 45° 36' W.	Summer and winter
Stonington Island	Lat. 68° 11' S., long. 67° W.	Summer and winter
RRS <i>Shackleton</i> and <i>John Biscoe</i> , MV <i>Kista Dan</i> (charter transport), HMS <i>Protector</i> .		
<i>United States</i> "Byrd"	Lat. 79° 59' S., long. 120° 04' W.	Summer and winter
"Little Rockford"	Lat. 76° 16' S., long. 147° 30' W.	Summer only
"Beardmore"	Lat. 83° 17' S., long. 175° 45' E.	Summer only
"N.A.F. McMurdo"	Lat. 77° 51' S., long. 166° 37' E.	Summer and winter
South Pole	Lat. 90° S.	Summer and winter
<i>Eastwind</i> , <i>Edistio</i> , <i>Glacier</i> , <i>Staten Island</i> (icebreakers), <i>Wilhoite</i> (ocean station vessel), <i>Alatna</i> , <i>Arneb</i> , <i>Private John E. Towle</i> (transport), <i>Grenville Victory</i> (tanker), and numerous aircraft of various types.		
<i>U.S.S.R.</i> "Komsomol'skaya"	Lat. 74° 05' S., long. 97° 29' E.	Summer only
"Lazarev"	Lat. 69° 58' S., long. 12° 55' E.	Until February 1961
"Mirnyy"	Lat. 66° 33' S., long. 93° 01' E.	Summer and winter
"Novolazarevskaya" (replacing "Lazarev")	Lat. 70° 45' S., long. 11° 58' E.	Summer and winter from February 1961
"Vostok"	Lat. 78° 27' S., long. 106° 52' E.	Summer and winter
<i>Ob'</i> and six aircraft, IL-14, IL-12, LI-2, AN-6.		

ERRATA

SCAR Bulletin, No. 7, 1961

Page 89, line 41. *For* A. W. Worthington *read* E. B. Worthington.Page 99, line 4. *For* 100 *read* 1000.

NOTICE

The SCAR Bulletin is published in England in January, May and September each year as part of the *Polar Record*, the journal of the Scott Polar Research Institute.

Contributions are invited, and should consist of factual notes on the membership, equipment and activities of Antarctic parties; articles on matters of particular interest in connection with these activities are also welcome. Contributions should be sent to the Editor, Scott Polar Research Institute, Lensfield Road, Cambridge, England.

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