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IAATO
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REPORT OF THE INTERNATIONAL ASSOCIATION OF ANTARCTICA TOUR OPERATORS (IAATO) 2001-2002

Under Article III (2) of the Antarctic Treaty

(Agenda item 5b)

The International Association Of Antarctica Tour Operators (IAATO) is pleased to present a report of its activities to ATCM XXV, Warsaw, Poland, 9-20 September 2002 in relation to Article III (2) of the Antarctic Treaty.

IAATO is dedicated to appropriate, safe and environmentally sound private-sector travel to the Antarctic. Over the last year IAATO has continued to focus its activities in several key areas:

- Improved exchange of information among its members and outreach to non members
- Improved vessel communication methods via the GMDSS and INM-C system
- Cumulative impact of tourist activities
- Improved methods of reporting and assessing impacts
- Potential spreading of Antarctic diseases and prevention methods
- Support of research project on disease transmission
- Formation of additional guidelines, i.e. camping guidelines, marine wildlife watching guidelines, helicopter guidelines, boot washing station guidelines
- Deception Island Expedition
- Contingency Planning
- Site Specific Guidelines
- Address specific issues of Antarctic tourism

Participation in international meetings and liaison with National Antarctic programs and government agencies of the sub-Antarctic island groups, and scientific and environmental organizations, is an important objective of IAATO and its members.

1 Introduction

- 1.1 Founded by seven private tour operators in 1991, the International Association of Antarctica Tour Operators currently has 51 members from Argentina, Australia, Belgium, Canada, Chile, Germany, Japan, Netherlands, New Zealand, Norway, United Kingdom, and the United States. A current Membership Directory can be found on the IAATO website at www.iaato.org.

- 1.2 From November 2000 to March 2001, a total of 11,588 persons travelled to and landed in the Antarctic on privately organized expeditions, including 11,287 passengers aboard 19 commercially organized vessels, 142 persons on sailing vessels and or chartered yachts and 159 land-based visitors. 2029 Tourists travelled on one IAATO member large cruise vessel (2 departures) that did not land tourists and spent 72 hours each trip south of 60°S in Antarctica.

This decrease represents a downward trend in tourist numbers from the combined total during the 2001-2002 season of 13,617 (landing and cruise only) and of 14,762 tourists (landing and cruise only) in the 1999-2000 season and slight increase from 12,248 (landed and 0-cruise only) during the 2000-2001 season. The increase in total numbers is due to the 2 departures by one large cruise vessel. In interpreting this data with regard to “impacts” it is important to note that only 11,588 actually landed in Antarctica.

Land Based Tourism/Adventure Tourism increased during the 2001-2002 season by an additional 20 persons from 139 tourists in 2000-2001 to 159 tourists in 2001-2002. An overview of Antarctic tourism activity is presented as a separate information paper to ATCM XXV under agenda item 11.

- 1.3 IAATO held its 13th general meeting from July 1-4, 2002 at the Scott Polar Research Institute and the British Antarctic Survey in Cambridge, United Kingdom. Eighty-seven people in total attended all or some parts of the meeting.

Forty-nine people from 26 member companies of IAATO, and 1 non-member tour operator plus 38 governmental and private organizations attended the meeting.

IAATO Companies represented were Abercrombie and Kent/Explorer Shipping Corporation, Adventure Associates, Adventure Network International, Asteria, Aurora Expeditions, Cheesemans’ Ecology Safaris, Crystal Cruises Inc., Expeditions Inc., Golden Fleece Expeditions, Hapag Lloyd Kreuzfahrten, Helicopters New Zealand, Heritage Expeditions, Holland America Line, Lindblad Expeditions, Mission Antarctica, New World Shipping Co./Clipper Cruise Line, Oceanwide Expeditions, Office of Antarctic Affairs, Ofotens og Vesteraalens Dampskibsselskab, Pelagic Expeditions, Peregrine Expeditions, Polar Star Expeditions, Quark Expeditions, Society Expeditions, Sullivan Shipping Services Ltd., Victor Emanuel Nature Tours, WildWings, and Zegrahm Expeditions, The complete agenda can be found on IAATO’s website at www.iaato.org. Non-IAATO member, Orient Lines was also present.

Also attending were representatives from the Scott Polar Research Institute, United Kingdom Foreign and Commonwealth Office-Polar Regions Section, British Antarctic Survey, United States Antarctic Program/National Science Foundation, Raytheon Polar Service Company, Umwelt Bundesamt (Federal Environmental Agency-Germany), Scientific Committee for Antarctic Research (SCAR), Oceanites, Antarctic Non Governmental Activity News (ANAN), Sheffield University, Birdlife International, International Hydrographic Bureau, and Poles Apart. Several IAATO member expedition staff members, scientists, students and environmental research consultants also participated.

- 1.4 IAATO will hold its 14th General Meeting in Seattle, USA from June 2-5, 2003. (Note: this is subject to change pending the final dates of ATCM XXVI.) Interested parties that would like to participate should contact the IAATO Secretariat at iaato@iaato.org. IAATO is in discussion with SCAR Bird Biology Subcommittee to coordinate a SCAR workshop following IAATO’s meeting on Interaction between Humans and Antarctic and Sub Antarctic Seabirds from June

6-8, 2003.

- 1.5 IAATO representatives and members attended some or part of all of the following international meetings during the 2001-2002 season in addition to ATCM XXIV.
- World Tourism Convention (Hobart, Tasmania/Australia-October 2001)
 - CCAMLR (Hobart, Tasmania, October 2001)
 - 40 Years On: The Antarctic Treaty System in the 21st Century (Wilton Park, United Kingdom, November, 2001)
 - Deception Island Expedition (January/February, 2002)
 - Aspen Tourism Meeting (Aspen, Colorado, USA, IAATO, April, 2002)
 - State of the Ross Sea Report Workshop (Wellington, New Zealand, May, 2002)
 - Yearly meetings with the German Department of the Environment (Umwelt Bundesamt) by IAATO's German tour operators
 - IHO, Hydrographic Committee on Antarctica (contributed to minutes of the meeting that took place in March 2001, minutes were produced, January 2002).

2 Membership

- 2.1 IAATO currently has 21 Full Members, 6 Provisional Members, and 24 Associate Members. Seven new companies applied for membership during the 2000-01 season or at the annual meeting. Full members include one land-based operator, ship operators, companies that charter and or organize their own groups to Antarctica. Provisional Members include one land/sea based operator, one large cruise vessel operator Associate Members are travel companies, government offices and ship agencies who reserve space on Full and Provisional Member vessels and or aircraft or offer support services to the tour operators.

2.2 Bylaw Changes

It was voted by 2/3ds majority at the 12th General Meeting in 2001 that IAATO would change its Bylaws in the membership category to include 7 new categories. Appendix A (IAATO Bylaws) includes our adopted membership categories and other provisions. The first year under the new categories proved successful. Including the large vessels was a positive step forwards for IAATO despite earlier concerns. To be able to work directly with nearly all tour operators has allowed IAATO to further its work on creating the highest possible standards. The categories that were approved in 2001 and prove reasonable are:

1. Organizers of expedition ships that carry less than 200 passengers or sailing vessels that carry less than 12 passengers. The limit of 100 passengers ashore at one site at one time remains in force. (22 companies)
2. Organizers of Vessels carrying 200-500 passengers who are making passenger landings. Stringent restrictions on landing activities of time and place apply. The limit of 100 passengers on shore at one site at one time also applies. (2 companies)
3. Organizers of Cruise Ships making no landings (cruise only). Cruise ships carrying more than 500 passengers are not permitted to make any landings. (2 companies)
4. Organizers of Land Based operations (1 company)
5. Organizers of Air Operations with Over Flights only
6. Organizers of Air/Cruise Operations (1 company)
7. Associate Members (24 companies)

*Note Full, Provisional, and Probational status still occurs within categories 1-6

**Note that one company operates a ship in category one and category two.

- 2.3 IAATO has embraced the changing nature of Antarctic tourism and would encourage all tour operators in Antarctica to join the organization. There are currently 2 vessels under one Dutch company, 1 United States company and several sailing vessel owners that are non-members of IAATO. IAATO is in discussion with several small sailing vessel owners to include them as new members.

Air/landbased operators flying from South Africa or Chile (excluding member: Adventure Network International) have not been in contact with IAATO.

- 2.4 As a matter of principle and in practice, all tour operators – whether or not associated with IAATO – are included when reasonable in vessel contact information, overall ship schedules, emergency contact information, exchange of information and other activities of the IAATO Secretariat (Appendix B).

3 Field Coordination

- 3.1 As part of its annual exchange of operational information, IAATO compiles and distributes Vessel Call Data (Appendix B). In addition, contact information for private camps (ANI), tour vessels and yachts is included in the Antarctic Communications Directory (MINIATOM) compiled and distributed by the COMNAP Secretariat. COMNAP's MINIATOM proves very useful for tour operators when trying to contact a station. IAATO transports numerous scientists to Antarctica each year and it is essential that the station contact information is up to date for communication, planning and emergency purposes.
- 3.2 In addition, preliminary cruise itineraries are compiled by the IAATO Secretariat and distributed to Antarctic tour operators, national Antarctic programs where appropriate and COMNAP.
- 3.3 Expedition leaders and ship's officers circulate advance itineraries and maintain regular contact throughout the season to coordinate site visits and exchange general information. A key factor in managing Antarctic tourism and mitigating potential environmental impact is to ensure that no two ships are in the same place at the same time. An example of the annual instructions to ships' captains, radio officers and expedition leaders is included here (Appendix C).
- 3.4 This ongoing and routine contact between vessels and with Adventure Network's Emergency and Medical Evacuation Response office in Punta Arenas (EMER) is also a key component of effective emergency response and self-sufficiency. Details on EMER have been presented at previous ATCMs.

4 Environmental Impact Assessment

- 4.1 According to information received by the IAATO Secretariat, all ship- and land-based tour operators and in particular IAATO Full and Provisional Members submitted an Environmental Impact Assessment of planned activities for the 2001-02 season to appropriate national authorities in accordance with national procedures. Australia, New Zealand, United Kingdom, United States, Germany, and The Netherlands all received Environmental Impact Assessments (EIA's) from IAATO members operating vessels or land-based programs.
- 4.2 IAATO would like to encourage Contracting Parties to ensure that obligations of the

Environmental Protocol are being met and Environmental Impact Assessments from non-members of IAATO are being submitted.

5 Procedures to Prevent the Introduction of Alien Organisms

- 5.1 Appendix G is the adopted standard operating procedure for Boot and Clothing Decontamination-Recommended Guidelines effective as of the 2000-01 season. These guidelines have worked successfully for two seasons.
- 5.2 For two seasons, IAATO has used a standard protocol to report any high mortality incidents and to avoid the introduction and translocation of alien diseases (Appendix D). To better understand the issues involved, operational strategies are currently being discussed and implemented to further this work.
- 5.3 IAATO provided some financial and logistical support for Dr. Chris Curry (Australia) to carry out a research study entitled “Could Tourists Transmit Infectious Agents in Antarctica?” This study took place during two field seasons, 2000-01 and 2001-02. The results are included in Appendix E and Appendix F and were presented at the IAATO 12th and 13th General Meetings in June 2001 and July 2002, respectively.

6 Reporting of Tourism and Non-Governmental Activities

- 6.1 Antarctic tour operators made use of a standard Post Visit Site Report form as updated and adopted by ATCM XXIV. Prior to moving ahead on the database we wanted to see how this form would work and if the data would be easily transferred into the proposed database.
- 6.2 IAATO continues to support the continued use of this single form, which reduces the burden of paperwork and facilitates studies of the scope, frequency and intensity of tourist activities. IAATO would like to encourage parties to send IAATO and the US National Science Foundation a copy of forms they receive from non-IAATO member operators. For the upcoming season we anticipate non-members –mostly sailing vessels from the following countries: (Netherlands-at least two large sailing vessels, France, Germany, Switzerland etc.)
- 6.3 Antarctic tourism trends as compiled by the U.S. National Science Foundation since 1989 are presented to this meeting as part of the Information Paper “IAATO Overview of Tourism Activities.” This information is also posted online at www.iaato.org. In general, overall tourists’ numbers that landed in Antarctica decreased during the 2001-02 season from 12,248 to 11,588. There was an increase in cruise-only tourists by 2029 tourists.
- 6.4 IAATO would like to encourage Parties with tourist activities conducted by non-IAATO members to report the activities to IAATO in order to be incorporated into annual reports or otherwise reported separately.

7 Implementation of Recommendation XVIII-1

- 7.1 In consultation with COMNAP, individual national Antarctic programs and consultants, IAATO continues to research, develop and use industry-wide programs and standards wherever necessary to ensure self-sufficiency and proper conduct in the Antarctic.
- 7.2 IAATO’s standard operating procedures include, slide presentation on IAATO’s "Guidance for Visitors to the Antarctic, “hand out or hard copy” of Recommendation XVIII-1 and a

standardized table of contents for training materials and handbooks. This slide presentation can be viewed on line at www.iaato.org under “Guidance for Visitors” on the home page.

- 7.3 An IAATO pre-season checklist is appended to this report, indicating the kind of educational materials prepared and distributed by IAATO each Antarctic season (Appendix H).
- 7.4 Recommendation XVIII-1, “Guidance for Visitors to the Antarctic” is available from IAATO to tour operators in English, Chinese (Mandarin), French, German, Italian, Japanese, Russian and Spanish. Should any Antarctic Treaty Parties have translated this document into languages not listed above please submit copies to the IAATO Secretariat in order to better educate our traveling public.
- 7.5 Recommendation XVIII-1, “Guidance for Those Organising and Conducting Tourism and Non-Governmental Activities in the Antarctic” is provided to all IAATO tour operators to inform members of key obligations and procedures to be followed.

8. Emergency Response Actions and Contingency Planning

- 8.1 During the IAATO 12th General Meeting, the Marine Committee and other interested member companies agreed to work together on an industry-wide Emergency Response Action and Contingency Plan. The draft version will be available in 2002. IAATO would like to coordinate operational efforts with COMNAP once a draft document is produced.
- 8.2 IAATO has compiled data on tour vessels’ specifications and other information that would contribute to risk assessment of Antarctic tourism activities. This list is currently being updated and will be in place for the 2002-03 season. An earlier version was tabled at the Antarctic Treaty Meeting of Experts, April 2000 and also at SATCM, IP32 (IAATO’s Annual Report).
- 8.3 All IAATO member companies have Shipboard Oil Pollution Emergency Plans (SOPEP) in place that satisfies regulation 26 of Annex I of MARPOL. A “Special Antarctic Addendum” to the SOPEP was developed by IAATO and distributed to Antarctic tour operators for implementation and comment in 1998 (ATCM XXII IP104). While the addendum has no legal status, it includes notice to contact Antarctic stations in the vicinity of any marine pollution incident along with appropriate national authorities.
- 8.4 The IAATO wide EMER (Emergency Medical Evacuation Response) plan has been in place for at least 4 years in order to reduce the need to impact scientific stations in the Antarctic Peninsula with tourist medical problems. A standard medical information checklist has been provided to new operators upon request in order to assure adequate medical supplies are on tourist vessels.

9. 2001-2002 Scientific and Environmental Research Initiatives

- 9.1 IAATO member companies continued to provide logistic and scientific support to national Antarctic programs and Antarctic organizations and to the Sub Antarctic. Tour vessels provide a cost-effective resource for the scientific community. During the 2001-02 season more than 100 scientists and other personnel from various Antarctic Treaty Parties along with their equipment were supported, mainly in transport to and from stations and field areas. IAATO continued its support of the Oceanites Antarctic Site Inventory Project whose personnel were again provided with accommodations, transport and access to visitor sites. Antarctic Treaty Parties chartered at least one IAATO member vessel for station resupply during the 2001-2002

season. IAATO arranged for transportation of all members of the joint Deception Island Expedition, nearly all on IAATO-member vessels, with the exception of two individuals on a Treaty Party vessel for return to South America.

- 9.2 One IAATO member company--Hapag Lloyd--has an agreement with the Alfred Wegener Institute to transport scientists on a regular basis to and from Jubany Station. Scientists travel to and from that station regularly during the season.
- 9.3 Specific requests for logistic or other support should be made to individual members or the IAATO Secretariat. For a complete membership directory, please refer to the IAATO website at www.iaato.org.
- 9.4 IAATO members also provided transport for researchers, personnel and materiel in the Antarctic and Sub-Antarctic, including the Falkland Islands, South Georgia, Macquarie Island and the New Zealand Sub-Antarctic Islands.
- 9.5 Antarctic tour operators and passengers continued their tradition of direct financial contributions to many organizations active in Antarctica including the Scott Polar Research Institute, United Kingdom Antarctic Heritage Trust, New Zealand Antarctic Heritage Trust, the Humpback Whale Identification Project, and Whale and Dolphin Society, and Birdlife International (Save the Albatross Campaign). Over \$100,000 USD was raised on behalf of tour operators for various organizations.

10. Observers on board IAATO member vessels

IAATO requires that any Provisional or Probational Member companies are required to carry an observer before they are eligible for applying for Full Membership. IAATO prefers to use qualified personnel from the National Program that the company is registered in. For example, if the company is an Australian-based company, a representative from the permitting office is preferred. When no national program observer is appointed, IAATO will appoint an appropriate person with experience in Antarctic matters, shipboard and or ecotourism related fields. IAATO has a checklist for observers (Appendix I). In addition, the Resolution 5 (1995) Antarctic Treaty Inspection Checklist is also provided to the appointed observer. It is IAATO's understanding that any observers appointed by National Programs would not be acting in an official capacity according to Article VII of the Antarctic Treaty but would simply be appointed as National Program representatives. IAATO requests that should this status change IAATO would like to be officially notified. IAATO vessels have been carrying observers since 1991.

11. Guidelines

IAATO began working on Site Specific Guidelines that will be presented to the ATCM when completed. In addition IAATO's new Marine Wildlife Watching Guidelines have been included as ATCM XXV IP72. These guidelines are being developed in order to avoid the possibility of negative cumulative impacts at typical tourist landing sites.

Appendices

- A. IAATO Bylaws, 2002
- B. IAATO Vessel Call Data 2001-02
- C. IAATO Annual Instructions
- D. IAATO Disease Protocol
- E. Research Proposal: “Could Tourists Transmit Infectious agents in Antarctica?”
- F. Infection Control in Antarctica
- G. Boot and Clothing Decontamination
- H. IAATO Pre-Season Checklist
- I. IAATO Observers’ Reporting Form and Checklist

Appendix A IAATO BYLAWS

10 Aug
2002
version

International Association of Antarctica Tour Operators

A member organization founded in 1991 to advocate, promote and practice safe and environmentally responsible private-sector travel to the Antarctic.

IAATO Bylaws

Article I: Foundation, Name, Registration, Headquarters

Section A.

The Association was founded in 1991 by seven Antarctic tour operators: Adventure Network International, Mountain Travel Sobek, Paquet/Ocean Cruise Lines, Salén Lindblad Cruising, Society Expeditions, Travel Dynamics and Zegrahm Expeditions.

Section B.

The name of the Association is "International Association of Antarctica Tour Operators." Henceforth, the abbreviated name "IAATO" will be used.

Section C.

IAATO is registered in Olympia, Washington, USA.

Section D.

IAATO currently has its headquarters in Basalt, Colorado, United States. At present, IAATO does not have any affiliated chapters, foreign or domestic. Chapters may be established in the future.

Article II: Objectives

Section A.

To represent Antarctic tour operators and others organizing and conducting travel to the Antarctic, to the Antarctic Treaty Parties, the international conservation community and the public at large.

Section B.

To advocate, promote and practice safe and environmentally responsible travel to the Antarctic.

Section C.

To circulate, promote and follow the Guidance for Visitors to the Antarctic and Guidance for Those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic, as adopted by the Antarctic Treaty System (Recommendation XVIII-1).

Section D.

To operate within the parameters of the Antarctic Treaty System, including the Antarctic Treaty and the Protocol on Environmental Protection to the Antarctic Treaty, along with IMO Conventions and similar international and national laws and agreements.

Section E.

To foster continued cooperation among its members; to monitor IAATO programs, including the pattern and frequency of visits to specific sites within the Antarctic; and to coordinate itineraries so that no more than 100 passengers are ashore at any one time in any one place.

Section F.

To provide a forum for the international, private-sector travel industry to share their expertise and opinions and to uphold the highest standards.

Section G.

To enhance public awareness and concern for the conservation of the Antarctic environment and its associated ecosystems and to better inform the media, governments and environmental organizations about private-sector travel to these regions.

Section H.

To create a corps of ambassadors for the continued protection of Antarctica by offering the opportunity to experience the continent first hand.

Section I.

To support science in Antarctica through cooperation with national Antarctic programs, including logistical support and research; and to foster cooperation between private-sector travel and the international scientific community in the Antarctic.

Section J.

To ensure that the best qualified staff and field personnel are employed by IAATO members through continued training and education; and to encourage and develop international acceptance of evaluation, certification and accreditation programs for Antarctic personnel.

Article III: Membership**Section A.**

The membership is divided into seven categories:

- 1 Organizers of expedition ships that carry less than 200 passengers or small sailing vessels that carry less than 12 passengers. The limit of 100 passengers ashore at one site at one time remains in force.
- 2 Organizers of vessels carrying 200-500 passengers who are making passenger landings. Stringent restrictions on landing activities of time and place apply. The limit of 100 passengers on shore at one site at one time also applies.
- 3 Organizers of cruise ships making no landings (cruise only). Cruise ships carrying more than 500 passengers are not permitted to make any landings.
- 4 Organizers of land-based operations.
- 5 Organizers of air operators with overflights only.
- 6 Organizers of air/cruise operations.
- 7 Associate Members (remains unchanged).

The above seven categories, depending on organizer interests and type of activities, can be grouped into any of the following four major types of membership:

1. Full Members are experienced organizers who operate travel programs to the Antarctic and who: a) pledge to abide by IAATO Bylaws; b) agree to the above-mentioned categories and to not have more than 100 passengers ashore at any one site at the same time; c) have been formally accepted by two-thirds of the standing members after review and fulfill any other requirement.

2. Provisional Members are organizers that operate travel programs to the Antarctic that are requesting Full membership in IAATO. Provisional Members must: a) pledge to abide by IAATO Bylaws; b) agree to the above-mentioned categories and to not have more than 100 passengers ashore at any one site at the same time; c) be formally accepted by two-thirds of the standing members after review and fulfill any other requirements for membership; and d) agree to carry either an IAATO-approved or National Antarctic Program Observer aboard on a voyage as agreed to by IAATO and to forward a complete, unabridged Observer's report to the Secretariat following the conclusion of the voyage. The operator would provide reasonable compensation (such as air transportation and related expenses) for an IAATO-approved Observer.)

3. Probationary Members are current or past Full or Provisional Members who have not fully complied with IAATO Bylaws or who otherwise are not in good standing as decided by a two-thirds vote of the Full Members. Probationary Members must a) pledge to abide by IAATO Bylaws; b) agree to the above-mentioned categories and to not have more than 100 passengers ashore at any one site at the same time; and c) agree to carry either an IAATO-approved or National Antarctic Program Observer aboard for a voyage during the following season and to forward a complete, unabridged Observer's report to the Secretariat following the conclusion of the voyage. Reasonable compensation (such as air transportation and related expenses) would be provided for an IAATO-approved Observer by the operator.

4. Associate Members are other organizations and individuals interested in or promoting travel to the Antarctic that wish to support IAATO objectives and whose application has been formally accepted by two-thirds of the standing members.

Section B.

To be considered as Full Members, organizers must have demonstrated the willingness and ability to adhere to and actively support IAATO objectives. Criteria for membership include: the use of appropriate vessels, aircraft, and equipment; hiring a sufficient number of qualified and experienced staff; submitting advance notification and being actively involved in the organization and operation of Antarctic tourism; and other obligations of Guidance for Visitors to the Antarctic and Guidance for Those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic, as adopted by the Antarctic Treaty System (Recommendation XVIII-1). Also, consideration will be given to the professional standing of prospective members in the travel industry and prior experience conducting responsible tourism.

Section C.

After a thorough review by the Membership Committee, Provisional and Probationary Members are eligible to apply as Full Members.

Section D.

Membership is non-transferable. In the event a member company is acquired by another entity or ceases operation, the company would have to reapply for membership.

Section E.

Members, who drop their affiliation with IAATO and later wish to rejoin, must pay the initiation fee in order to be reinstated.

Section F.

Members are subject to annual membership dues and fees as agreed from year-to-year by two-thirds of Full Members in good standing.

Section G.

Members in good standing are those who continue to act in compliance with the Bylaws and are current with IAATO dues.

Section H.

Members who do not comply with the Bylaws and/or do not pay applicable dues in a timely fashion will be subject to reprimand, change in status or expulsion after review by the membership or appointed committee.

Section I.

Associate Members are subject to the payment of annual dues as proposed and agreed by two-thirds of the Full Members in good standing.

Section J.

Membership will be reviewed at the annual IAATO meeting, including the status of Provisional and Probationary Members.

Section K.

Members are required to make sure that a charterer, wholesaler, sponsoring organization or other third party conforms to IAATO objectives and Bylaws, particularly that these companies distribute appropriate materials and properly inform their passengers of proper conduct ashore. Furthermore, Members are responsible for ensuring payment of any per passenger fees to IAATO for these departures.

Section L.

Use of the IAATO logo in brochures, advertisements or other promotional materials is reserved for Full and Associate Members in good standing. There are logos specific for each category of membership.

Section M.

New companies applying for Provisional Membership are required to seek sponsorship by an already existing Full Member in order to assure that information is shared and the potential Provisional Member is well versed in IAATO procedures and philosophies. If a company is unable to find a sponsor, the Membership Committee will assist with the application or suggest a referral.

Section N.

If a member company organizes programs that fall within more than one category of membership, the company must organize, operate, manage and promote their programs in accordance with the particular category of membership in which that program falls.

Article IV:

Organizational Structure

Section A.

The Executive Director is a paid position. Terms of office, responsibilities, time requirements and remuneration will be defined according to proposed activities and budget and agreed upon by two-thirds of the Full Members.

Section B.

The Executive Director's responsibilities may include but are not limited to:

- Act as a resource for the membership and clearinghouse for information.
- Act as a liaison with the media, scientific and conservation communities.
- Compile and distribute IAATO information to interested parties, through an IAATO website, newsletters, occasional press releases and other publications.
- Act as treasurer, developing a yearly budget and submitting to IAATO members a status report of IAATO activities and finances.
- Make and carry out recommendations in regard to IAATO activities and finances.
- Act as IAATO representative where required.
- Develop the agenda and coordinate meetings.
- Work closely with all standing committees including the Executive Committee and Representatives.
- Maintain an accurate record of activities, including time and expenses related to authorized activities to be submitted to the Financial Committee or other designated individual or individuals for authorization for payment.
- Procure part-time, paid help including assistance of an attorney, as needed, with two-thirds of Full Members' consent, and provide compensation and benefits where appropriate as needed.

Section C.

Responsibilities of a designated IAATO representative may include but are not limited to:

- Represent IAATO at Antarctic Treaty Consultative Meetings and other important meetings related to the Antarctic Treaty System.
- Promote IAATO objectives in dialogue with delegates and others at such meetings, and to initiate and draft appropriate working papers and written reports distributed at meetings.
- Provide an aggressive and supportive stance in written and oral presentations at meetings.
- Participate in hearings and other venues where Antarctic tourism and protection is discussed as designated,
- Prepare documents related to the above, including submissions for publication in appropriate journals, reports and books.
- Communicate and coordinate activities to the Executive Committee and membership via the Executive Director where appropriate.
- Maintain an accurate record of activities, including time and expenses related to authorized activities to be submitted to the Executive Director for payment.

Section D.

Individuals with relevant qualifications and who are willing and able to provide guidance and advice to IAATO may be invited to sit on an advisory board and named as Associate Members without compensation as approved by two-thirds of the Full Members.

Article V: Elections and Voting

Section A.

Elections will be held at the annual meeting.

Section B.

Full Members in good standing are eligible to vote and eligible for committee positions and other offices.

Section C.

Each qualifying Full Member will have one vote.

Section D.

Full Members in good standing who are unable to attend the annual or any extraordinary meetings may nominate candidates for standing committees and cast written votes on resolutions and nominations, provided that ballots are returned to the Executive Director prior to the meeting.

Section E.

Full Members who are not in attendance at the annual or any extraordinary meetings forfeit their voting privileges on impromptu issues that may arise during the meetings. Full Members who are not in attendance may not nominate a person from another member company to vote on their behalf. The Executive Director will make a best effort to solicit resolutions, changes in Bylaws and other important matters before the meeting.

Section F.

Any issue voted on will pass with two-thirds vote in favor of the issue.

Section G.

A review of membership and any requested changes in Full, Provisional or Probationary membership categories will be voted on at the annual meeting. Associate Members can be voted in quarterly.

**Article VI:
Standing Committees**

Section A.

A three-member Executive Committee will be elected at the annual meeting to assist the Executive Director. The committee shall make decisions on behalf of the full membership where appropriate and subject to ratification.

Section B.

Further standing committees, as required and including a Membership Committee and Finance Committee, shall be elected by a two-thirds majority of Full Members in good standing, generally at the annual meeting.

**Article VII:
Meetings**

Section A.

A general meeting will be held at least once a year. Extraordinary meetings may be scheduled as necessary.

Section B.

The Executive Director will coordinate the time and venue of the meeting and advise Full Members at least 60 days prior to the meeting.

Section C.

Attendance at the general meeting is reserved for Full, Provisional and Probationary Members, however discussions requiring a vote may be limited to Full (voting) Members. Requests to attend by Associate, prospective members and non-members may be accepted by a two-thirds vote of the Full Members.

Section D

The Executive Director will appoint a person to record minutes during the annual meeting and the Executive Director will distribute them within four months after the meeting to the membership.

Article VIII:

Finances

Section A.

The Executive Director will solicit, collect and administer all dues and fees.

Section B.

The Executive Director will manage finances, make payments within budget constraints and make recommendations regarding annual budget, to be approved during the annual meeting.

Section C.

Dues and fees are non-transferable and non-refundable. Overpayments will be credited to the Member's account.

Section D.

A detailed balance sheet and profit and loss statement will be provided to Full Members within two months of the close of the financial year. Detailed decisions on budgets and financial matters will be undertaken by the Financial Committee.

Section E. Purchases or expenses up to \$5,000 US dollars can be approved by the Financial Committee. Expenses over \$5,000 US dollars need to be approved by two-thirds of the Full Members in good standing.

Article IX:

Amendments to IAATO Bylaws

Section A.

These Bylaws may be amended by a resolution passed by two-thirds of the Full Members in good standing.

IAATO Membership Registration

- A. Contact Information.
- B. IAATO Member since.
- C. Number of years operating in the Antarctic.
- D. Name of ships used in previous seasons.
- E. Incidents in previous years that have resulted in significant damage to the vessel or environment.

- F. Advance notice of planned expeditions supplied to what appropriate authority?
- G. Name, registry and specifications of each vessel you plan to use, including the number of crew and carrying capacity of each ship/aircraft.
- H. Contact information for each vessel (call sign, INMARSAT).
- I. Number of voyages planned per vessel and planned itineraries.
- J. Do you plan any non ship-based tours and/or plan extended time off the vessel in the Antarctic Treaty Area? If yes, please describe.
- K. Total number of passengers you expect to carry.
- L. Statement of the status of compliance with environmental assessment requirements, including contingency and waste management plans.
- M. Methods of educating passengers, staff and crew of Recommendation XVIII-1 and other obligations.
- N. What are your staff positions and who is on your expedition staff? List name and Antarctic experience where possible.
- O. Signed statement that you have read the IAATO Bylaws and Membership Criteria as well as Recommendation XVIII-1 and agree to follow same.
- P. Payment of annual dues and 65% of the per passenger fee based on the estimated passenger load. Please wire transfers or checks in US dollars drawn on a US bank.

Appendix B

2001-2002 IAATO Vessel Call Data and Emergency Contact Information

Name	Operator	Call Sign	Fax	Voice	Email/MMSI	Telex	Sel-Call
Bremen	Hapag-Lloyd	C6JC3	330842912 330842915 1103405	330842910 1103404	captain@ms-bremen.com mmsi 308429000	430842910 1103404	61789
Clipper Adventurer	New World Shipping Co. Ltd/Clipper Cruise Line	C6PG6	330 999 716	330 999 710 330 999 711 712,713,714	clipper-adventurer@super-hub.com mmsi-309997000	330999718	61975 &61977
Endeavour	Lindblad Expeditions	C6BE4	330 818 213	330818210 330818211 330818212	mmsi 308182000 Email: email@msendeavour.cc	330818214 430818210	61547
Explorer	Abercrombie & Kent /Explorer Shipping	ELJD8	363698466 (B) 463673520 (C)	363698464 (inmarsat B) 761962012 inmarsat M 33608932302	explorer@super-hub.com mmsi 636008495	463673520	636008495
Golden Fleece	Golden Fleece Expeditions	ZDLN1					
Hanseatic	Hapag-Lloyd	C6KA9	330957712 330957715 1103727	330957710 330957711 1103730	Captain@ms-hanseatic.com <u>Mmsi 309577000</u>	430957710 1103727	61326
Ioffe	Peregrine Adventures	UAUN	140 0655 (V/F)	140 0655 (V/F)	mmsi 4273413400 427310287@telstra.ves.net		
Kapitan Dranitsyn	Quark Expeditions	UCJP	1405657	1405660 or 427300148	kapitandranitsyn@compuserve.com mmsi:273138300	1405660	
Kapitan Khlebnikov	Quark Expeditions	UTSU	872-140-2733 872- 327307514	872-140-0676 872-327307513	Kapitankhlebnikov@compuserve.com mmsi-273146110	327307516	54557
Marco Polo (Non Member)	Orient Lines	C6JZ7	811307232 330869311	330869310	master@marcopolo.orientlines.com and mmsi 308693000	1307232	27638
Mikheev	Oceanwide Expeditions	UCRE	None	None	427300789@c.station12.com	427300789	273457920
Molchanov	Adventure Associates/Quark	UAKA	627300512	627315410 627 315411	427300512@c.station12.com	427300513	273458500
Multanovskiy	Quark Expeditions	UCLA	762926716	762926715 762926717	427300480@c.station12.com	427300480	273432910
Pelagic (yacht)	Pelagic Expeditions	ZJL5390				4378 00434	
Polar Pioneer	Aurora Expeditions	UBZN	761 321 411	761-321 399 Iridium 88165611 4295	4273218972@telstra.ves.net	427321897	273454860
Polar Star	Polar Star Expeditions	8PPK	76-288-8882	76-288-8880 76-2888881	polarstar@stratosnet.com	431- 412510 or 4312520	314125000
Ryndam	Holland America	PHFV	1302563	1302562	Rydm-master@halw.com	36540	36540
Shokalskiy	Heritage Expeditions	UBNF			427320483@telstar.ves.net	427320483 incoming	314125000
Sir Hubert Wilkins	Ocean Frontiers	YJRS2	872-657-699010	872-657- 699010	457662610@telstra.ves.net (will not accept attachments)	457662610	Mmsi 57662000
Vista Mar	plantours &Partner	EBRO	762 822 923 762 822 989 135 24 46	762 822 922 762 822 988 135 24 46	vistamar@hotelsplaya.com mmsi no. 224585000	581:/584: 422 45 85 10	
2041 (yacht)	Mission Antarctica	MMLF2	Mini-M 76 22 11 821	76 22 11 820	iceboat@2041.co.uk		
In.Fue.Tur	Argentina/Ushuaia		54-2901-430694	54-2901- 423340	antartida@tierradelfuego.org.ar		
IAATO	USA		1-970-704-9660	1-970-704-1047	iaato@iaato.org		

Name	Operator	Call Sign	Fax	Voice	Email/MMSI	Telex	Sel-Call
EMER						N/A	N/A
Adventure Network International	ANI*			56 61 22 05 65	24 Hours Emergency Only Individual Mobile Phones numbers are noted on EMER Plan		
ANI	Punta Arenas, Chile		56 61 22 61 67	56 61 24 77 35	anichile@ctcinternet.cl		
ANI	Boca Raton,FL,USA-	EST time	USA 1 561 347 7523	1 561 237 2359	general@adventure-network.com		
ANI	Patriot Hills			874 683 141497			
ANI	PUNTA ARENAS RADIO FRECUENCIAS	HF	15026 kHz USB Primary	11228 kHz USB Secondary	17988 kHz USB Tertiary		

IAATO HF radio schedule (kHz) 1930 hrs Ushuaia local time only 4146 (1°), **6224 (2°) preferably**, 8294 (3)
Ocean Codes 874,871,872, 873 will need to be used when contacting all vessels
Radio Officers are asked to send by GMDSS ship's position at 12noon each day to all vessels
Radio Officers are also asked to report ships position to COMNAP website. PIN numbers will be provided for each vessel
Use GMDSS as the primary form of communication between vessels.
72 hours confirmation for all station visits is required

Appendix C

IAATO Annual Instructions

August 2001

Expedition Leader And Ship's Officers Seasonal Instructions

TO All Antarctic Captains, Expedition Leaders and Radio Officers
FM IAATO
RE 2001-2002 Season

We developed the following notice at the IAATO annual meeting to help guide the exchange of information among vessels, co-ordination of itineraries and reporting for the season.

Exchange of Itineraries

- IAATO members agree to exchange itineraries and coordinate schedules. This is a key factor in self-regulation, monitoring of activities and also in effective emergency response.
- Consult the IAATO preliminary schedule (and updates circulated by In.Fue.Tur) to determine which vessels will be in your cruising area.
- Circulate your proposed final itinerary via GMDSS, telex by broadcast mode or radio (preferred) or fax or e-mail. (Please note that few tour vessels have regular real-time exchange of e-mail.) Since all ships are supposed to be equipped with a GMDSS radio station, they should be able to scan a frequency in the 6310 KZ band (24 hrs). By using broadcast mode (one way) ships can send itineraries, ice information and other information as needed. These transmissions will be picked up by all vessels and should be able to printout the incoming message immediately.
- Itineraries must be first communicated amongst vessels directly and secondarily circulated via In.Fue.Tur but this is a method of last resort. Not all ships call at Ushuaia and the responsibility to circulate information is between individual vessels.
- Be sure to also exchange environmental information and management recommendations for individual landing sites or other notices with your colleagues as the season progresses.

Itinerary Changes

- To avoid conflicts, notify vessels in the region of any changes in planned itinerary as soon as practical.
- Notification should be by GMDSS first then fax, telex, VHF or HF (see below)
- Notify any vessel of intention to cancel a landing. Due to itinerary changes, weather, ice etc another vessel would appreciate having an additional landing option.

Landing Priority

- In general, priority is given to the first vessel that has made its intentions known.
- In the event of conflict, expedition leaders should coordinate between themselves to determine priority, which is best accomplished through negotiation via HF or VHF.
- Please resolve any conflicts equitably. It is assumed that vessels visiting a site with some regularity will give way to a vessel that is not but any number of factors may come into play.
- Two vessels are not to land at the same place at the same time and, to avoid any potential environmental impacts, efforts should be made to spread out visits over time.

Station Visits

- Tour operators have agreed to provide 72 hour-notice of any planned station visit.
- Follow individual procedures determined by national programs/station leaders.
- Provide timely notice of cancellation, generally 48 hours in advance.
- Please include any additional station contact information, standard procedures or incidents involving stations in your voyage report to the home office.
- Remember no visits to Palmer Station are allowed on Sundays and preferably not on Saturdays. All Palmer visits have been prearranged. Any changes, please advise Palmer as soon as possible. There is an official Palmer Station schedule issued each season.

Channel 16

- Channel 16 is used for hailing purposes only, NOT general communication.
- After making contact, immediately switch to another channel to continue conversation.
- Expedition Leaders should periodically review radio etiquette with staff. The airwaves during the height of the season in the Peninsula have been crowded, an issue with IAATO members and potentially with research stations. Take care to follow standard international procedures.

IAATO Radio Schedule

- IAATO members have agreed to implement a once daily radio schedule at 0730.
- All ships should report in with their position/destination at 1230 and 1930 daily using the GMDSS system (Ushuaia local time). Each radio officer should record this information.
- Suggested HF hailing frequencies are: 4146 (1°), 6224 (2°)-SSB, 8294 (3°), to be finalized by radio officers during the season based on experience. Use 6224 whenever possible.
- Expedition leaders should make use of this schedule whenever VHF communication is impossible for exchange information. This will reduce communication costs.
- Please switch to another frequency for any extended conversation when talking on the above-mentioned HF (4146°, 6224°.)
- Avoid long conversations over the radio if possible.

EMER (Emergency and Medical Evacuation Response)

- Review the IAATO Emergency Contingency Plan included in your briefing package.
- The reporting scheme indicated above is an integral part of emergency response. Please insure that it is followed and report any difficulties to your home office.

Post-Visit Reporting

- Following Antarctic Treaty recommendations, complete Part 1 and Part 2 of the standard Post-Visit Site Report for every expedition. The 2001-02 version of the form should be the ONLY form completed for Antarctica. At the end of each voyage return the form and a computer disc to the home office. In order to input this information into the database, always submit a computer version of each form. Information gleaned from this form is tabulated and circulated internationally by the National Science Foundation, USA and by IAATO in the form of statistics. Copies of all completed forms must be submitted to the National Science Foundation and other relevant national programs and a copy sent to IAATO via the home office.
- The form has changed and is now in EXCEL Format. After each trip both an Electronic Copy (on disc) and a hard copy needs to be filled out. Drop down menus have been created to make it easier for all concerned. Spend some time learning how to fill the form out on the computer. It does not need an original signature. EL's can type their name directly on the form.
- Do not include South Georgia landing site information on this form. There is a separate form for Antarctica.

- Please note guests of the company, guest lecturers, and other “non-revenue passengers” should be reported as passengers *for the purposes of this report* unless they have specific staff roles ashore. In general, those responsible for supervising passenger operations ashore that report to the expedition leader are considered staff. Your office will provide additional guidance. Hotel staff, catering, chefs and deckhands are included, as crew members not staff unless they are guiding tourists ashore and in zodiacs.
- The standard list of “Antarctic Peninsula Region Landing Sites” for Part 2 have been incorporated into the drop down menus. If those sites are not included than please note them as new sites and we’ll add them to the list next year. Please correct duplications or inconsistencies. In general, the most specific place name is used. Most all the landing sites are in the drop down menus. Any new sites, type in the name of the site, latitude and longitude at the bottom. It may mean that chronologically from a “date” standpoint your landing sites may not be in order.
- If you are visiting new sites then they will need to appear at the bottom of the list and will not necessarily appear in chronological order by date.
- Make additions to the list of landing sites as necessary -- taking note of the standard procedures included in your briefing packet for assessing new or rarely visited sites.
- EL’s, please note that this information is used for statistics that are tabled worldwide. Please do not hastily fill this out. If you have questions, consult your home office.
- If possible type the forms rather than hand write.

Have a safe and successful Antarctic season.

Appendix D

IAATO Disease Protocol

Introduction and Detection of Diseases in Antarctic Wildlife, IAATO Perspective

Preamble

Inherent in the mandate of IAATO member companies is a long term commitment to environmentally sensitive travel to Antarctica. For a number of years IAATO members, being mindful of Environmental Protocol Recommendation XVIII-1, have been using simple precautionary techniques to ensure that foreign material and/or potential pathogens are not introduced into Antarctica by tourists. In the last several years these procedures have been formalized and reviewed by national authorities via Environmental Impact Assessments.

Recognizing that tourists in Antarctica are a highly mobile population and that little is known about the introduction and translocation of alien organisms in the Antarctic, IAATO hopes to play a continuing active role in responding to new information.

Resulting from the Diseases of Antarctic Wildlife workshop hosted by the Australian Antarctic Division (Hobart, Oct 1998), this document is intended to address the concern about the potential translocation of diseases by tourists in Antarctica, and to suggest a cost-effective, practical solution. Given the current lack of scientific data on natural disease status and microbial populations of Antarctic wildlife, and of methods to prevent anthropogenic transmission, a sensible precautionary approach is proposed.

Antarctic tour operators and staff can be a resource for disease surveillance, reporting and containment. Vessels operated by IAATO members cover a wide variety of coastal terrain in a short space of time and can provide valuable data to the scientific community on the overall state of wildlife populations.

IAATO members have continued to make use of boot-washing stations before and after each landing along with a visual check of clothing and gear for any exotic organisms. Following the Diseases of Antarctic Wildlife workshop, IAATO researched a simple effective antiseptic, which could be used to limit possible translocation of diseases, such as in penguin feces, when passengers moved from one rookery to another for example.

We were surprised to find that experts in the field do not agree whether any further action is required beyond simply washing boots and soiled clothing in clean water. A number of researchers suggested that a weak solution of iodine might be a suitable antiseptic. Bearing in mind the variance in opinion amongst experts in the field, IAATO suggests the following:

1. PREVENTATIVE ACTION

- * Prior to their first landing in Antarctica, all passengers receive a comprehensive briefing on Antarctic conservation. An integral part of this briefing is explaining the importance of preventing the possible introduction of foreign materials to Antarctica, and the potential for translocation between Antarctic sites.
- * Before each shore visit passengers and staff are asked to check their clothing for seeds and other extraneous material and scrub their boots in a foot bath on the ship's deck. Given that most voyages depart from Ushuaia and many passengers spend time in Tierra del Fuego before

embarkation, the opportunity to transport material to the Antarctic is obvious and a thorough cleaning before the first landing is particularly important.

* Following each landing for the duration of the voyage, passengers scrub boots at the water's edge prior to boarding Zodiacs and again aboard the ship at the head of the gangway. The foot bath should contain a diluted iodine solution (ratio: three tablespoons of saturated solution to a ten gallon bucket).

* Disposal of the used iodine solution, which may possibly contain pathogens and is a poison, must be considered. Iodine occurs naturally in the ecosystem and is present in foot bath water in low enough concentrations that it is not considered a threat to the environment. We propose that dirty foot bath water should be disposed into the sea at the place of anchorage at each landing rather than flushed into the ship's tanks. In this way any contaminants acquired at that site will be returned to the waters from which they came, rather than being translocated.

* Zodiacs are kept clean between landings and care is taken to remove stones, kelp etc. from the floor of the Zodiac after each landing.

* Helicopter skids and passenger compartments are cleaned between landings using clean seawater.

2. PROCEDURES UPON THE DISCOVERY OF A HIGH MORTALITY EVENT

Antarctic tour vessels can potentially act as monitors of the health of wildlife populations, traveling along coastal areas throughout the Antarctic summer. We are not proposing that IAATO vessels take any formal responsibility of monitoring the health of wildlife populations but rather that IAATO instigates a code of practice for responding to a high mortality event.

While acknowledging that high mortality events are open to interpretation in size and cause, the critical issue is that any perceived, highly unusual event be noted and reported appropriately. In the event of discovering a mortality event, tour operators should:

* Describe and report the event to the nearest scientific station and ships operating in the area. The national authority that the tour organizer provided advance notification should also be notified and an incident report should be prepared for IAATO.

* In such a scenario, the primary responsibility of the operator is to say that he/she has seen something unusual.

* Where the operator has reason to believe that landing passengers could lead to translocation of disease or may otherwise be ill-advised, the landing should be aborted.

* In the event of a landing being made and a mass mortality event not being recognized, then normal boot scrubbing procedures and adherence to approved landing procedures should be enough to minimize the risk of spreading disease.

Appendix E

Abstract

Could tourists transmit infectious agents in Antarctica?

C. Curry, J. Mccarthy, H. Darragh, R. Wake, *R. Todhunter, *J. Terris.
Dept of Emergency Medicine, University of Western Australia Dept of
Medicine, Dept of Microbiology, Dept of Infectious Diseases, Fremantle
Hospital; *Ship Doctor.

The increasing numbers of tourists visiting penguin rookeries in Antarctica has raised the question, could tourists translocate infectious agents on their boots and clothing from one rookery to another?

While there are as yet no documented cases of the introduction and spread of diseases amongst antarctic wildlife by human visitation, there is circumstantial evidence that micro-organisms that could cause disease have been introduced by humans. Iaato has promulgated decontamination procedures to minimise the risk of translocation of micro-organisms on boots and clothing. However, until now the effectiveness of these procedures had not been examined.

During the 2001/2002 season we undertook a pilot study and a limited definitive study to test these procedures aboard the quark expeditions icebreaker, *Kapitan Khlebnikov*. Samples were collected from boots before a landing, immediately on return to the ship, and after the decontamination procedure. Specimens were collected into routine transport media, and kept at 4 degrees Celsius until culture was undertaken. Samples were cultured using media selective for intestinal coliform bacteria at Fremantle hospital, Western Australia.

There was substantial growth of micro-organisms from all three samplings, including bacteria likely to have come from the intestines of penguins. The heaviest growth was from the returning unwashed boots, but the washing procedure did not eliminate contamination on the third samples, where intestinal bacteria could still be isolated.

We conclude that the IAATO decontamination procedure cannot afford operators any assurance that translocation of diseases will not occur.

We wish to propose the undertaking of a more extensive study next Antarctic season in which we compare a second water wash with the use of a disinfectant. Samples will be collected aboard the *Kapitan Khlebnikov* on three consecutive trips to rookeries in the Ross Sea. At each collection a control group of boots will have a second water rinse while a test group of boots will have a rinse in disinfectant. We plan to test the commercially available disinfectant Virkon™.

Appendix F

Infection control in Antarctica:

Could tourist boots act as vectors for transmission of infectious agents?

Dr. Chris Curry, Dr. James McCarthy,
Dr. Helen Darragh, Dr. Rebecca Wake, Dr. Susan Churchill, Dr. Tony Robins, Dr. Jane Terris,
Dr. Rick Todhunter,

Presented to IAATO,
Monday, 1 July, 2002

Introduction

Over the last decade there has been a dramatic increase in ship tourist operations to Antarctica. This has been facilitated by the availability of Russian ice-strengthened and ice-breaking vessels since the dissolution of the USSR. The numbers of visitors landing at wildlife sites was of the order of 10-14,000 in the 2000/2001 season.

With regard to Research into diseases of Antarctic wildlife:

Preliminary studies have only recently begun: There have been

- Examinations of faeces of marine mammals and penguins for bacterial flora.
- Serosurveys of a variety of species for viral, bacterial, fungal, and parasitic diseases.
- These studies have led to the tentative identifications of a wide range of potential pathogens in Antarctic fauna.

These studies have raised a number of concerns.

- Is it possible that pathogens may have been introduced by man?
- Is it possible that man may transmit important pathogens between wildlife colonies?
- Could pathogens of polar wildlife pose a threat to man or to domestic animals (eg. *Brucella* spp)?

With regard to Mass mortalities of Antarctic wildlife

- A number of events have been documented.
- The cause(s) have not been identified.
- *There is* Increasing concern that man may have *contributed to or* precipitated such epizootics,
- Or may in the future precipitate panzootics.

IAATO Guidelines

When visiting wildlife sites, tour operators adhere to guidelines developed by the International Association of Antarctic Tour Operators (IAATO). On leaving wildlife sites the guidelines dictate that they rinse their boots in seawater. On re-boarding the ship they are required to scrub any remaining material off their boots, again in running seawater. The boots are then allowed to dry out in the ship (about 20 C) before the next landing. In a crowded rookery like this there is plenty of material to pick up.

Aim of this study

- To determine if tourists might be able to carry pathogens on their boots
- And if they pose a potential threat to Antarctic wildlife (Or possibly to human populations).

Methods

A Russian icebreaker, *the Kapitan Khlebnikov*, made 6 tourist trips to the Ross Sea region of Antarctica in the summer seasons 2000-2001 and 2001-2002.

- **Season 2000-2001**

On the first trip, a pilot study was conducted to define the optimal conditions for collection, storage and culture of bacteria collected from tourist boots.

On the second trip we attempted to define the potential for contaminated tourist boots to transmit pathogens.

- **Season 2001-2002**

A disinfection step was evaluated.

Route. Map of route to Ross Sea.

Specimens collection

- Prior to landing: (A Isolates) to determine baseline level of bacterial flora on the boots.
- Immediately on return to the ship: (B Isolates) to quantify the level of contamination.
- After seawater wash: (C Isolates) to determine the recovery of organisms after cleaning.
- After disinfectant wash: (D isolates) in season 2001/2002 to determine the recovery of the organisms after disinfection.

Processing

- Swabs were collected into Stuart's transport medium and stored at 4C until culture.
- All swabs, water samples, and penguin faeces were inoculated into EC medium and incubated at 37C for 24 hrs to detect coliform bacteria.
- Oxidase -ve organisms were further subcultured for identification using the API 20E identification system, and for antibiotic susceptibility testing.

Season 2000-2001: Representative Culture Plates

Results: Season 2000-2001

- Swabs, from the EC broths showed:
 - Mixed growth of oxidase +ve gram -ve bacilli
 - Oxidase -ve mixed coliforms
- 20 *different* organisms resembling coliforms were isolated from 15 of the 60 swabs collected
 - 2 from group A
 - 4 from group B
 - 14 from group C
- Of these 20 organisms, 11 could be identified using the API 20E system.
The remaining 9 isolates all produced an identical profile number not present in the API. *We don't know what they are.*

Identity and sensitivity patterns of organisms. (black and white)

Virkon™

A modern oxidant disinfectant:

- Activity is based on a buffered synergised acid peroxygen system containing a high percentage of surfactant

- Good bactericidal and virucidal properties
- Low toxicity
- Effective against members of all 17 virus families
- Not approved for use on skin
- Relatively safe to use
- Comes in a powdered form suitable for dilution on site
- Its manufacturer claims that it is readily biodegradable

Results Season 2001-2002

- **First trip:** 23/30 swabs (85%) taken post Virkon showed no growth. Antibacterial activity observed in another 2 cases.
- **Second trip**
Nearly all the post Virkon wash swabs showed no growth. Antibacterial activity observed in another 5 cases.

Table of cultures from First and Second trips. (colour)

Positive Swabs post Virkon

- Light growth of mixed coag -ve Staph seen in 5 swabs on the second trip. These organisms were not seen in the previous specimens. Suggests post wash contamination.
- 5 swabs showed profuse growth of only one organism (ie pure). Suggests post wash contamination. These organisms were not seen in the previous specimens. These persons stepped in a puddle en route to their cabin

Unanswered questions

- The methodology used did not enable the ready isolation of potential bacterial pathogens.
- We did not attempt to isolate potentially pathogenic viruses by culture or PCR.
- It is of some concern that tourists provide their own boots.

Conclusions

- The use of Virkon in this study reduced the presence of bacteria picked up from visits to penguin colonies by tourists.
- Given these observations and the possible risk posed to the wildlife in this region by human visitors, the use of Virkon should be considered as a policy by IAATO.

Appendix G

Boot and clothing Decontamination

IAATO Recommended Guidelines

Introduction

While there is at present no conclusive evidence that tourists have introduced or transmitted diseases within Antarctica, there is indirect and circumstantial evidence that raises concern. There is the potential for visitors to be vectors of disease, both into and within the Antarctic ecosystem.

To minimize this potential IAATO recommends decontamination practices similar to those of the quarantine authorities of most countries who protect themselves from the introduction of external diseases.

Recommendations

1. In pre-voyage information:

1.1 Passengers are advised that Antarctica is an isolated continent and as far as we know is free of introduced diseases. We must ensure it remains so.

1.2 Passengers are advised that all boots and clothing must be clean before joining the ship. Those who go trekking, tramping, backpacking, farm visiting prior to the voyage must clean their boots and clothing thoroughly to remove all material from them. Tripod feet can also collect mud and seeds and should be checked regularly.

2. Pre-landing briefing:

2.1 Passengers are reminded that they must have clean boots and clothing to go ashore. Facilities will be available on deck for those who need them (the boot washing station).

3. Landings:

3.1 As far as possible, avoid walking in concentrations of organic material such as guano, seal placenta, seal faeces, in order to avoid moving this material around the landing site.

3.2 A simple brush scrubber at the landing site helps to clean boots before entering the zodiac. The device at the landing site is simply a three-quarter-inch-thick plywood sheet about 2-3 feet square with a couple of stiff-bristle scrub brushes attached, placed so that boots can be placed between them and vigorous brushing cleans the sides of the boot, while a brush on the bottom cleans the sole. The scrubbers are then thoroughly rinsed at the end of the landing period, and put into the Zodiacs for return to the ship.

3.3 Before boarding the Zodiac or helicopter, wash as much material off boots and clothing as possible before boarding the Zodiac. Ensure that whatever touched the ground ashore (backpacks

in particular), boot cuffs, exposed velcro be inspected, brushed off, etc., before leaving the beach. Seeds and other vegetation in the Sub-Antarctic islands could easily be transported if not cleaned thoroughly.

3.4 On returning to the ship, boots and clothing must be cleaned thoroughly at the boot washing station.

4. *The boot washing station:*

4.1 This is a facility on deck at the head of the gangway (or in close proximity to the point of return of passengers where zodiacs or helicopters are used). It requires

- Running water and a hose.
- Drainage of water off the ship.
- Scrubbing brush and or coarse mat and shallow tray by which all debris can be scrubbed from boots and clothing.
- A member of staff or crew to assist passengers to inspect their boots and clothing for complete decontamination.

5. *Between landings*

5.1 Every effort must be made to ensure that boots and clothing dry out completely between landings. (Desiccation is an important mode of controlling some micro-organisms).

6. *At the next pre-landing briefing*

6.1 Ask passengers to check that boots and clothing are clean before leaving the ship.

Appendix H

IAATO Pre-Season Checklist

2001-2002 Season

- Memorandum to Antarctic Captains, Expedition Leaders and Radio Officers
- Antarctic Communications Directory (COMNAP MINI-ATOM)
- IAATO Call Data, 2001-2002
- Preliminary Ship Schedules (normally available in late October/November 2001)
- Approved 2001-2002 Palmer Station Cruise Ship Visits
- Copy of Organizer's Environmental Impact Assessment (varies by organizer)
- Expedition Leader's/Staff Resource Notebook
- CCAMLR Marine Debris in Antarctic Waters (placard)
- Help Stop Toothfish Poaching
- Introduction and Detection of Diseases in Antarctic Wildlife
- Boot and Clothing Decontamination: IAATO Recommended Guidelines
- Draft Wildlife Watching Guidelines (available November 2001)

General

- Post-Visit Report, Part 1 (Expedition Record) and Part 2 (Site Visit Record) (New 2001-2002 Reports)
- Antarctic Peninsula Region Landing Sites (with Longitude and Latitude)
- General Medical Information, Parts I, II and III
- IAATO Emergency and Medical Response Contingency Plan
- Recommendation XVIII-1 (English, Spanish, French, Russian, German, Japanese, Italian, Chinese)
- IAATO Slide Presentation, Safety and Conservation Briefing
- Antarctic Tourism statistics, graphs and charts compiled by NSF
- IAATO Annual report to the ATCM and other relevant papers
- Compendium of Antarctic Peninsula Visitor Sites (Can be obtained from Oceanites)
- "Behold Antarctica" Video (produced by U.S. National Science Foundation)
- Handbook off the Antarctic Treaty System (Currently out of Print-there is a CD rom in process)
- List of Protected Areas
- Environmental Impact Assessment
- Appropriate and Relevant Legislation per company per country (for example, the US Antarctic Conservation Act 1978, public law 95-541) necessary for vessels carrying US citizens, German, Australian, New Zealand, United Kingdom Antarctic Act's etc).
- Convention on the Conservation of Antarctic Marine Living Resources (1980)
- Convention on the Conservation of Antarctic Seals
- Protocol on Environmental Protection of the Antarctic Treaty (1991)
- Copy of all relevant permits
- Copy of all relevant management plans for individual landing sites
- Copy of most recent South Georgia, Macquarie and New Zealand SubAntarctic Management plans and other Sub Antarctic information.
- Albatross and LongLine Fisheries Lecture and Fund Raising information
- Workshop on a Management Plan for Deception Island

Appendix I

Checklist for IAATO Observers on Provisional of Probational Member Vessels

To: Observers:

The following checklist is hopefully a useful guide to evaluate IAATO Provisional and Probational members. When answering the questions you can use yes, no, unsure and short explanations. If any long answers are required, then please use additional space. If this evaluation can be transmitted by email its preferable. Hopefully it is a useful tool or checklist to assure that all obligations set forth by IAATO and the Antarctic Treaty System are met.

Please submit by mail or preferably by email to:

IAATO

PO Box 2178

Basalt, CO 81621

Or by email to: iaato@iaato.org

Or by fax to: USA 970-704-9660

Please give at least one copy to a designated representative of the IAATO Member Company to whom you are evaluating and send the other copy to IAATO. This evaluation is simply intended to evaluate the operation based on the IAATO By-Laws and operating procedures, IAATO Pre-Season Checklists and Regulations set forth by the Antarctic Treaty, its Recommendations, and Agreed Measures and specifically by the Protocol on Environmental Protection.

Voyage Date (embarkation and disembarkation): _____

Your name: _____

Date: _____

Name of Vessel _____

Name of Company _____

Overall itinerary:

- 1) Overall impression of the voyage: Did the company support the basic mission of IAATO? To advocate, promote and practice safe and environmentally responsible private sector-travel to the Antarctic?
- 2) Staff to Passenger Ratio: Was there 1:20 experienced staff to passengers?
Was there 75% experienced Antarctic staff?
Names of staff members, specialty and years of Antarctic experience:
- 3) Was the Environmental Impact Assessment on board in an easy access location? Were other required documentation on board as well?

If the Expedition Leaders changed was there a handover procedure?

Is there a copy of Advance Notification on board? Did the expedition staff read the environmental impact assessment and did the expedition adhere to the Environmental Impact Assessment and to Advance Notification. (Observers please review the EIA and note any discrepancies).

- 4) Guidelines:

Was the Crew briefed prior to the start of the season?

Were the passengers briefed prior to arriving in Antarctica?

Were the IAATO slides used? If not, why not? Was there a substitute?

Was a copy of Recommendation XVIII-1 handed out to passengers with this briefing?

Were copies of non-English guidelines given out to non-English speaking passengers?

Were there periodic briefings/announcements given to remind passengers that they should not get closer than 15 feet/5 meters to wildlife?

5) Was there an Expedition Leader Reference Notebook on board? If so, please include a copy of the table of contents? Was it useful? If not, why not?

6) Was there a battery collection box or alternative procedures for battery collection easily available or communicated to passengers?

7) Was there a briefing done with the appropriate passengers, officers and crew to make sure that nothing including cigarette butts was thrown overboard and that it was not appropriate to feed birds off the decks of the ship.

8) Sewage, Waste Disposal etc: Did the vessel operations comply with Annex III and IV of the Protocol on Environmental Protection? Please describe procedures or include a copy of the waste management plan for the vessel.

9) Was there oil spill equipment on board? Was there a SOPEP on board?

10) On shore:

A). Did the Expedition staff on shore give the passengers an appropriate briefing once the passengers arrived, setting boundaries and reminding them of appropriate distances?

B). Were the staff ashore escorting passengers and or providing educational information?
Was there a particularly effective way to manage passengers ashore organized by the staff?

C) Were there any new sites visited and if so what criteria were used to evaluate the site?

D) Was there scuba diving or camping or any other non-traditional type of tourism being conducted? If so, was it noted in the IEE and or Advance Notification?

11) Zodiac Cruising: Were Zodiac drivers respectful of the whales, seals, penguins or other forms of wildlife?

12) Were there appropriate boot washing stations? Did passengers diligently clean their boots, backpacks etc to avoid the possible transportation of diseases from one site to another? Were passengers reminded periodically throughout the cruise?

13) Poultry Products: Were poultry products separated out from all other food garbage?

14) Additional Comments or Suggestions

Thank you for your time and effort. On behalf of all the IAATO member companies we appreciate your feedback and hope you had a great time.