

## INTERNATIONAL LEGAL INSTRUMENTS FOR THE ENVIRONMENTAL PROTECTION OF ANTARCTICA AND THEIR NEWEST DEVELOPMENT

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**Abstract:** The article deals with international legal instruments for the environmental protection of Antarctica and their newest development. Author focuses on parts of the Antarctic Treaty System (ATS), which consists of Antarctic Treaty (Washington, 1959), its Protocol on Environmental Protection (Madrid, 1991) with its 6 Annexes, Convention for the Conservation of Antarctic Seals – CCAS (London, 1972), Convention on the Conservation of Antarctic Marine Living Resources – CCAMLR (Canberra, 1980) and measures in effect under these international instruments. The article describes rules which are in force in areas of environmental protection of Antarctica (environmental impact assessment, conservation of fauna and flora, waste disposal and waste management, prevention of pollution at sea, area protection and management and liability arising from environmental emergencies). There are described also other relevant conventions applicable to the Antarctic area and national legal regulations implementing Environmental Protocol to the Antarctic Treaty.

**Resumé:** Příspěvek pojednává o mezinárodněprávních nástrojích ochrany životního prostředí Antarktidy a o jejich nejnovějším vývoji. Zaměřuje se na jednotlivé součásti tzv. antarktického smluvního systému (ATS), kterými jsou Smlouva o Antarktidě (1959), její Protokol o ochraně životního prostředí (1991), Úmluva o ochraně antarktických tuleňů (1972), Úmluva o ochraně antarktických mořských živých zdrojů (1980) a opatření přijatá podle těchto mezinárodních smluv. Popisuje pravidla platná v jednotlivých oblastech ochrany životního prostředí Antarktidy, které odpovídají jednotlivým přílohám Madridského protokolu – posuzování vlivů na životní prostředí (EIA), ochranu fauny a flóry, nakládání s odpady a odpadové hospodářství, předcházení znečištění moře, ochranu a správu zvláštních oblastí a odpovědnost za ekologické havárie. Zmíněny jsou také související mezinárodní smlouvy aplikovatelné v oblasti Antarktidy a vnitrostátní předpisy jednotlivých smluvních států Smlouvy o Antarktidě implementující Madridský Protokol do národních právních řádů.

**Key words:** environmental protection, Antarctica, Antarctic Treaty System, environmental impact assessment, waste disposal, environmental emergency.

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## Introduction

Antarctica is an important part of the Earth's environment, one that is very sensitive to any changes. Changes in the circulation of atmospheric and oceanic currents around Antarctica, and the volume of the ice sheets, interact and influence climate on a global scale. Currents and waves in the world's oceans and atmosphere ensure that Antarctica is affected by what happens elsewhere on the planet. Equally, oceanic and atmospheric processes ensure that what happens in Antarctica can affect the rest of the world. The Antarctic ecosystem is unique and vulnerable.

Recently there has been a visible development of the international legal regime for the environmental protection of Antarctica. In accordance with this development, there have also been changes made to the national legal systems of the Contracting Parties implementing the Antarctic Treaty<sup>1</sup> (*Washington D.C., 1959*) and *its Protocol on Environmental Protection (Madrid, 1991)*.<sup>2</sup> Examples of this development consist in particular of the adoption of the new Annex VI on *Liability Arising from Environmental Emergencies* by the 28th ATCM in Stockholm in 2005,<sup>3</sup> and the amendments made to Annex II on Conservation of Fauna and Flora by the 32nd ATCM in Baltimore in 2009.<sup>4</sup>

International legal instruments for the Environmental Protection of Antarctica are contained primarily in the *Antarctic Treaty System (ATS)*. This system is whole set of arrangements established for the purpose of regulating relations among states in the Antarctic. The Antarctic Treaty System establishes a specific regime for the management of Antarctic living and non-living resources which is appropriate for the unique geophysical, climatic, legal and political character of this continent.<sup>5</sup> According to Article 1, letter d), of the Environmental Protocol, the Antarctic Treaty System comprises the following:

- Antarctic Treaty (*Washington, 1959*),
- measures in effect under the Antarctic Treaty (e.g., Agreed Measures for the Conservation of Antarctic Fauna and Flora,<sup>6</sup> Code of Conduct for Antarctic

<sup>1</sup> The official translation has been published in the Czech Collection of Laws No. 76/1962 Coll., or see Czech Environmental Law No. 3, 2003 (9), pp. 218-222.

<sup>2</sup> The official translation has been published in the Czech Collection of International Treaties No. 42/2005 Coll., or see Czech Environmental Law No. 3, 2003 (9), pp. 223-258.

<sup>3</sup> ATCM XXVIII: Measure 1 (2005) – Annex VI to the Protocol on Environmental Protection to the Antarctic Treaty – Liability Arising from Environmental Emergencies. See O. Vicha, *The New Annex to the Environmental Protocol on Liability Arising from Environmental Emergencies in Antarctica*, Czech Environmental Law No. 2, 2005 (16), pp. 57-62.

<sup>4</sup> ATCM XXXII Measure 16 (2009) – Amendment to Annex II to the Protocol on Environmental Protection to the Antarctic Treaty: Conservation of Antarctic Fauna and Flora.

<sup>5</sup> O. Vicha, *Antarctica Law. International and domestic aspects of the Environmental Protection of Antarctica*, Czech Environmental Law No. 3/2003 (9), pp. 3-217.

<sup>6</sup> ATCM III: Recommendation 8 (1964) – Agreed Measures for the Conservation of the Antarctic Fauna and Flora.

Expeditions and Station Activities<sup>7</sup> or Guidance for Visitors to the Antarctic and for Organising and Conducting Tourism and Non-Governmental Activities in the Antarctic<sup>8</sup>),

- associated separate international instruments in force:
  - *Convention for the Conservation of Antarctic Seals (CCAS, London, 1972)*,
  - *Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR, Canberra, 1980)*,
  - *Protocol on Environmental Protection to the Antarctic Treaty, with its Annexes (Madrid, 1991)*,
- measures in effect under these international instruments (e.g., measures of the Commission on the Conservation of Antarctic Marine Living Resources under the CCAMLR).

There are also other international instruments regarding environmental protection in Antarctica, especially the Convention for the Regulation of Whaling – CRW (*Washington, 1946*), the International Convention for the Prevention of Pollution from Ships (*London, 1973*), as modified by the Protocol of 1978 – MARPOL 73/78, the Convention on the Law of the Sea – UNCLOS (*Montego Bay, 1982*), the Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (*Basel, 1989*), the Convention on Biological Diversity – CBD (*Rio de Janeiro, 1992*) or the Convention on the Conservation of Migratory Species of Wild Animals – CMS (*Bonn, 1979*) and its Agreement on the Conservation of Albatross and Petrels – ACAP (*Cape Town, 2001*).<sup>9</sup>

### **Antarctic Treaty (*Washington, 1959*)**

The Antarctic Treaty establishes Antarctica as a region of peace and cooperation, and deals with issues relating to claims of sovereignty. Its primary purpose is to ensure “*in the interests of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord.*” To this end it prohibits any measures of a military nature, but does not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose. The Treaty provides for freedom of scientific investigation in Antarctica and promotes international cooperation in scientific investigation in Antarctica. The Treaty applies to the area south of 60° South Latitude, including all ice shelves.

<sup>7</sup> ATCM VIII: Recommendation 11 (1975) – Man’s Impact on the Antarctic Environment: Code of Conduct for Antarctic Expeditions and Station Activities.

<sup>8</sup> ATCM XVIII: Recommendation 1 (1994) – Tourism and Non-Governmental Activities (Guidance for Visitors to the Antarctic, Guidance for Organising and Conducting Tourism and Non-Governmental Activities in the Antarctic).

<sup>9</sup> D. R. Rothwell, Relationship between the Environmental Protocol and UNEP Instruments, in: D. Vidas, *Implementing the Environmental Protection Regime for the Antarctic*, Kluwer Academic Publishers, Dordrecht 2000, pp. 221-241 or P. Vigni, *The Interaction between the Antarctic Treaty System and the Other Relevant Conventions Applicable to the Antarctic Area*, Max Planck Yearbook of UN Law, vol. 4, 2000, pp. 534-535.

The Antarctic treaty deals with environmental protection in Antarctica only to a marginal extent. According to the Antarctic Treaty, Antarctica shall be used for peaceful purposes only. The Antarctic Treaty prohibits any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any type of weapons (Art. I, par. I), any nuclear explosions in Antarctica and the disposal there of radioactive waste material (Art. V, par. I).

The Antarctic Treaty empowered representatives of the Contracting Parties to formulate, consider and recommend to their Governments, measures in furtherance of the principles and objectives of the Treaty, including measures regarding preservation and conservation of living resources in Antarctica (Art. IX, par. 1, letter f). In 1964, the ATCM adopted *Agreed Measures for the Conservation of Antarctic Fauna and Flora*. These Measures laid down the basis for a regulatory system of general rules and specific regulations that provided extra protection in Specially Protected Areas. Subsequently the ATCM adopted a number of measures on various issues to widen, complement and strengthen the protection of the Antarctic environment.

#### **Convention for the Conservation of Antarctic Seals (CCAS, London, 1972)**

Seal hunting was a major economic activity in the early 19th century and Antarctic seal populations were seriously depleted by the 1820s. The first conservation scheme applicable to all of Antarctica was established by the Agreed Measures, adopted by the ATCM in 1964.<sup>6</sup> The Consultative Parties subsequently developed the Convention for the Conservation of Antarctic Seals (CCAS), which was signed in London on 1 June 1972 and entered into force in 1978. Up to this time, the Contracting Parties of the Antarctic Treaty adopted many recommendations regarding seal hunting in Antarctica.<sup>10</sup>

This convention covers all species of seals living in Antarctic waters. It sets very conservative catch limits for Leopard seals (*Hydrurga leptonyx*), Weddell seals (*Leptonychotes weddelli*) and Crabeater seals (*Lobodon carcinophagus*). The taking of Southern elephant seals (*Mirounga leonina*), Ross seals (*Ommatophoca rossi*) and Southern fur seals (*Arctocephalus sp.*) is prohibited. CCAS includes an Annex specifying measures which the Contracting Parties thereby adopt. Contracting Parties may adopt other measures with respect to the conservation, scientific study and rational and humane use of seal resources, prescribing, *inter alia*, permissible catch; protected and unprotected species; open and closed seasons; open and closed

<sup>10</sup> ATCM V: Recommendation 7(1968) – *Concerning the Proposals of SCAR for the Interim Guide Lines for the Voluntary Regulation of Antarctic Pelagic Sealing*; ATCM V: Recommendation 8(1968) – *Examination of Draft Convention for the Regulation of Antarctic Pelagic Sealing*; ATCM IV: Recommendation 21(1966) – *Interim Guide Lines for the Voluntary Regulation of Antarctic Pelagic Sealing*; ATCM IV: Recommendation 22(1966) – *Interest of SCAR in Antarctic Pelagic Sealing*; ATCM III: Recommendation 11(1964) – *Pelagic Sealing and the taking of Fauna on Pack Ice*.

areas, including the designation of reserves; the designation of special areas where there shall be no disturbance of seals; limits relating to gender, size, and age for each species; restrictions relating to time of day and duration, limitations of effort and methods of sealing; types and specifications of gear and apparatus and appliances which may be used; catch returns and other statistical and biological records; procedures for facilitating the review and assessment of scientific information or other regulatory measures, including an effective system of inspection.

Any Contracting Party may issue special permits to kill or capture seals in limited quantities and in conformity with the objectives and principles of this Convention for the following purposes: to provide indispensable food for men or dogs; to provide for scientific research; or to provide specimens for museums, educational or cultural institutions. But the CCAS convention does not establish a system of observation and inspection or dispute settlement. Although there has been no attempt to exploit Antarctic seals commercially since 1964, the SCAR<sup>11</sup> Group of Specialists on Antarctic Seals continues to monitor the take of seals for scientific purposes.

#### **Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR, Canberra, 1980)**

The CCAMLR Convention was signed in Canberra on 20 May in 1980 and entered into force in 1982. It provides for the conservation and rational use of krill, fin fish and other marine living resources in the Convention area. The Convention area does not exactly match the area covered by the Antarctic Treaty; the Treaty covers the area *south of 60° South Latitude*, while the Convention area additionally includes the area between 60° South Latitude and the Antarctic Convergence. This is a natural barrier identified by specific coordinates of latitude and longitude, a major circum-Antarctic biogeographic boundary where the cold northerly-moving waters dip beneath warmer southerly-moving subtropical waters. Another important feature of CCAMLR is the ecosystem approach to conservation, requiring that the effects on the ecosystem must be taken into account when managing the harvesting of marine resources.

Any harvesting and associated activities in the area to which this Convention applies shall be conducted in accordance with the provisions of this Convention and with the principles of conservation set out in the Convention. The Convention established the Scientific Committee, Secretariat and the Commission, which shall formulate, adopt and revise *conservation measures* on the basis of the best scientific evidence available. For example, in 1999 the CCAMLR Commission adopted Measure No. 170/XVIII establishing a Catch Documentation Scheme for *Dissostichus* spp. (*Patagonian toothfish*).<sup>12</sup> The Contracting Parties of the Antarctic

<sup>11</sup> The Scientific Committee on Antarctic Research (SCAR) was established by the International Council of Scientific Unions (ICSU). The primary purpose of SCAR is to formulate and coordinate Antarctic scientific research programmes. See <http://www.scar.org>.

<sup>12</sup> This measure adopted by the CCAMLR Commission has been implemented into EC Law by Council

Treaty express their support for CCAMLR and its Measures to Combat Illegal, Unregulated and Unrestricted Fishing by means of certain ATCM resolutions.<sup>13</sup> The CCAMLR Convention established a system of observation and inspection and a procedure for the settlement of disputes.<sup>14</sup>

The European Union acceded to the CCAMLR Convention in 1981 by Council Decision No 81/691/EEC of 4 September 1981 on the conclusion of the Convention on the conservation of Antarctic marine living resources.<sup>15</sup> The European Union has implemented this international treaty by Council Regulation (EC) No. 600/2004 of 22 March 2004 laying down certain technical measures applicable to fishing activities in the area covered by the Convention on the conservation of Antarctic marine living resources<sup>16</sup> and by Council Regulation (EC) No. 601/2004 of 22 March 2004 laying down certain control measures applicable to fishing activities in the area covered by the Convention on the conservation of Antarctic marine living resources and repealing Regulations (EEC) No. 3943/90, (EC) No. 66/98 and (EC) No. 1721/1999.<sup>17</sup>

#### **Protocol on Environmental Protection to the Antarctic Treaty (Madrid, 1991)**

A new phase of environmental protection of Antarctica arrived with the adoption of the Protocol on Environmental Protection to the Antarctic Treaty, which was signed in Madrid on 4 October 1991 and entered into force in 1998. Through the Environmental Protocol, the Contracting Parties “*commit themselves to the comprehensive protection of the Antarctic environment and dependent and associated ecosystems and ... designate Antarctica as a natural reserve, devoted to peace and science*”.

The Protocol sets forth basic principles applicable to human activities in Antarctica; stipulates that nothing in the Protocol “*shall derogate from the rights and obligations of Parties to the protocol under other international instruments in force within the Antarctic Treaty System*”, provides that an environmental impact assessment shall be the primary mechanism for ensuring that the environmental principles are adhered to, and it also establishes a procedure for the compulsory settlement of disputes arising from the interpretation or application of the Protocol.

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Regulation (EC) No. 1035/2001 of 22 May 2001 Establishing a Catch Documentation Scheme for *Dissostichus* spp. (OJ L 145, 31. 5. 2001, pp. 299-307).

<sup>13</sup> ATCM XXIII: Resolution 3(1999) – Support for CCAMLR, SATCM XII: Resolution 2(2000) – Support for CCAMLR and its Measures to Combat Illegal, Unregulated and Unrestricted Fishing, Including a Catch Documentation Scheme for *Dissostichus* spp. (Toothfish), ATCM XXIV: Resolution 2(2001), ATCM XXV: Resolution 3(2002).

<sup>14</sup> See Stokke: Effectiveness of the CCAMLR. In: Stokke-Vidas, D. (eds.), *Governing the Antarctic*, Cambridge, 1996, p. 142; or D. J. Biederman, CCAMLR in Crisis: A Case Study of Marine Management in the Southern Ocean. In: H. N. Schreiber, *Law of the Sea – The Common Heritage and Emerging Challenges*, Kluwer Law Publisher, The Hague 2000, pp. 169-196.

<sup>15</sup> OJ L 252, 5.9.1981, pp. 26-35.

<sup>16</sup> OJ L 97, 1.4.2004, pp. 1-15.

<sup>17</sup> OJ L 97, 1. 4. 2004, p. 16-29.

The protection of the Antarctic environment and dependent and associated ecosystems as well as the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area. To this end, activities in the Antarctic Treaty area shall be planned and conducted so as to limit adverse impacts on the Antarctic environment and dependent and associated ecosystems. Activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research.

Regular and effective monitoring shall take place with regard to all assessment of the impacts of ongoing activities, including the verification of predicted impacts and to facilitate early detection of the possible unforeseen effects of activities carried on both within and outside the Antarctic Treaty area on the Antarctic environment and dependent and associated ecosystems. Activities shall be planned and conducted in the Antarctic Treaty area so as to accord priority to scientific research and to preserve the value of Antarctica as an area for the conduct of such research, including research essential to understanding the global environment. Activities undertaken in the Antarctic Treaty area pursuant to scientific research programs, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required in accordance with Article VII (5) of the Antarctic Treaty, including associated logistic activities, shall take place in a manner consistent with the environmental principles in this Protocol, and shall be modified, suspended or cancelled if they result in or threaten to result in impacts upon the Antarctic environment or dependent or associated ecosystems inconsistent with those principles.

Article 7 of the Environmental Protocol prohibits all activities relating to Antarctic mineral resources, except for scientific research. This ban replaced provisions of the *Convention on the Regulation of Antarctic mineral Resource Activities (CRAMRA)* which was concluded in Wellington on 2 June 1988 but has not yet entered into force. Until 2048, the Environmental Protocol can only be modified by unanimous agreement of all Consultative Parties to the Antarctic Treaty. In addition, the prohibition on mineral resource activities cannot be removed unless a binding legal regime on Antarctic mineral resource activities is in force (Art. 25, par. 5, of the Protocol).

The Environmental Protocol established the *Committee for Environmental Protection* (CEP) as an expert advisory body to provide advice and formulate recommendations to the ATCM in connection with the implementation of the Environmental Protocol. The CEP meets every year in conjunction with the

ATCM.<sup>18</sup> Consultative Parties adopted new Rules of Procedure for the Committee for Environmental Protection<sup>19</sup> and Revised guidelines for the submission, translation and distribution of documents<sup>20</sup> at the 32nd ATCM in Baltimore in 2009.

The Environmental Protocol includes six technical Annexes, five of which have entered into force, and establishes a comprehensive set of basic principles and detailed mandatory rules applicable to human activities in Antarctica. There have been five Annexes to the Protocol dealing with *environmental impact assessment* (Annex I), *conservation of fauna and flora* (Annex II), *waste disposal and waste management* (Annex III), *prevention of pollution at sea* (Annex IV) and *area protection and management* (Annex V). Annexes I to IV were adopted in 1991 together with the Protocol and entered into force in 1998. Annex V on *area protection and management* was adopted separately by the 16th ATCM held in Bonn in 1991 and entered into force in 2002. Annex VI on *liability arising from environmental emergencies* was adopted by the 28th ATCM in Stockholm in 2005 and will enter into force once approved by all Consultative Parties to the Antarctic Treaty.

#### **Environmental Impact Assessment (Annex I to the Protocol)**

The concepts of environmental impact assessments (EIA) have undergone steady development since the early 1970s and have been applied in the Antarctic by some expeditions on a national basis.

One of the environmental principles enshrined in Article 3 of the Environmental Protocol is that “*activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research.*” Article 8 of the Protocol requires the Parties to conduct environmental impact assessments for their Antarctic activities, and provides for three levels of assessment according to the potential impacts of each activity. The procedures for environmental impact assessment are detailed in Annex I to the Protocol. If a proposed activity is determined, in a preliminary stage of assessment, to have less than a minor or transitory impact, it may proceed. If an activity is determined as likely to have a minor or transitory impact, then an *Initial Environmental Evaluation* (IEE) must be prepared. If an IEE indicates the potential for a more than minor or transitory impact, or if such an impact is otherwise determined to be likely, a *Comprehensive Environmental Evaluation* (CEE) must be prepared. Draft CEEs are made available to the public, and are considered by the CEP, which then advises the ATCM. Comments provided by other Parties and

<sup>18</sup> P. Sladký, *Bodies of the Antarctic Treaty System and Participation of the Czech Republic in its Activities*. Právník No. 11/2006, p. 1324-1327.

<sup>19</sup> ATCM XXXII: Decision 6 (2009) – *Revised Rules for the Committee for Environmental Protection*.

<sup>20</sup> ATCM XXXII: Decision 3 (2009) – *Revised guidelines for the submission, translation and distribution of documents for the ATCM and the CEP*.



the ATCM must be addressed in a final CEE, which is used as the basis for making a decision about whether and how the activity is to be conducted.

The procedures for preparing evaluations are described in the *EIA Guidelines*, the most recent version of which was adopted by the 28th ATCM in Resolution 4 (2005). Consultative Parties to the Antarctic Treaty adopted several ATCM resolutions regarding environmental impact assessment.<sup>21</sup>

### **Conservation of Fauna and Flora (Annex II to the Protocol)**

Compared to many other parts of the world, the Antarctic is relatively unaltered by human activities. Protection of native fauna and flora has been a concern for the Consultative Parties to the Antarctic Treaty from the very beginning. In 1964, Agreed Measures for the Conservation of Antarctic Fauna and Flora were adopted, and many other measures dealing with related issues followed in subsequent ATCMs.

Article 3, par. 2, of the Environmental Protocol provides that activities to be undertaken in Antarctica shall be planned and conducted so as to avoid “*detrimental changes in the distribution, abundance or productivity of species or populations of species of fauna and flora*” and “*further jeopardy to endangered or threatened species or populations of such species*”. Annex II to the Protocol was adopted in 1991 together with the Protocol and entered into force in 1998. In 2009, at the 32nd ATCM in Baltimore, the Consultative Parties recommended to their Governments that Annex II be replaced by the amended version of Annex II attached to ATCM Measure 16 (2009). Annex II to the Protocol provides several different mechanisms for protecting Antarctic species, including a prohibition of taking (removing) or harmful interference, except in accordance with a permit, a prohibition of introducing non-native species, except in accordance with a permit, and a designation of Specially Protected Species.

According to Article 3 of Annex II, taking or harmful interference shall be prohibited, except in accordance with a permit. Any species of native mammals, birds, plants and invertebrates listed in Appendix A to this Annex shall be designated a “Specially Protected Species”, and shall be accorded special protection by the Parties. Presently only the Ross Seal (*Ommatophoca rossii*) is listed in Appendix A, but the amended Annex II anticipates that other species will be designated as Specially Protected on the basis of the submission of a proposal with justification to the ATCM.

Annex II to the Protocol prohibits the introduction of species of living organisms not native to the Antarctic Treaty area onto land or ice shelves, or into water, in the Antarctic Treaty area except in accordance with a permit (Art. 4, par. 1), introduction of dogs onto land, ice shelves or sea ice (Art. 4, par. 2), bringing of live poultry or other living birds into the Antarctic Treaty area (Art. 4, par. 8) and the deliberate introduction of non-sterile soil into the Antarctic Treaty area (Art. 4, par. 9). Parties

<sup>21</sup> ATCM XXIII: Resolution 1(1999) – *Guidelines for EIA in Antarctica*, ATCM XXI: Resolution 2(1997) – *Comprehensive Environmental Evaluation (CEE): Methodology for Reviewing Activities for which a CEE has been Prepared*, ATCM XIX: Resolution 6(1995) – *Environmental Impact Assessment: Circulation of Information*.

of the Protocol should, to the maximum extent practicable, ensure that non-sterile soil is not unintentionally imported into the Antarctic Treaty area.

The ATCM also adopted specific measures to manage human disturbance of Antarctic fauna and flora, including Recommendation XVIII-1: *Guidance for Visitors to the Antarctic*, adopted in 1994, and the *Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica*, adopted in 2004.

There are also other international instruments regarding the protection of Antarctic Fauna and Flora. Within the *Convention on the Conservation of Migratory Species of Wild Animals – CMS (Bonn, 1979)*<sup>22</sup> has been negotiated the *Agreement on the Conservation of Albatross and Petrels – ACAP (Cape Town, 2001)*.<sup>23</sup> The protection of whales living in Antarctica waters has been secured by the *Convention for the Regulation of Whaling – CRW* (Washington, 1946). In 1994, the International Whaling Commission (IWC) declared an area of the Southern Ocean which includes Antarctica seas to be a *Southern Whale Sanctuary*, where commercial whaling shall be prohibited.<sup>24</sup>

### Waste Disposal and Waste Management (Annex III to the Protocol)

The Antarctic Treaty prohibited the disposal of radioactive waste material in Antarctica (Art. V, par. I, of the Treaty).<sup>25</sup> As regards other kinds of waste, Consultative Parties to the Antarctic Treaty addressed the issue of waste disposal in certain ATCM recommendations, particularly in the *Code of Conduct for Antarctic Expeditions and Station*.<sup>26</sup> In 1991, waste disposal and waste management issues were codified by Annex III to the Protocol.

Annex III to the Protocol requires that “*the amount of wastes produced or disposed of in the Antarctic Treaty area shall be reduced as far as practicable so as to minimize impacts on the Antarctic environment and to minimize interference with the natural values of Antarctica, with the scientific research and with other uses of Antarctica which are consistent with the Antarctic Treaty*” (Art. 1.2). Annex III to the Protocol identifies types of waste which have to be removed and establishes rules for the storage and disposal of waste. Some products like PCBs cannot be introduced into Antarctica at all.

<sup>22</sup> The official translation has been published in Czech Collection of Laws No. 127/1994 Coll.; See: <http://www.wcmc.org.uk/cms/>.

<sup>23</sup> ACAP is a multilateral agreement which seeks to conserve albatrosses and petrels by coordinating international activity to mitigate known threats to albatross and petrel populations. See ATCM: XXVI: Resolution 4(2003) – *Support for the Conservation of Albatrosses and Petrels* or <http://www.acap.aq/>.

<sup>24</sup> Maffei: Protection of Whales in Antarctica, in: S. Francioni, (eds.): *International Law for Antarctica*, Second Edition, The Hague, 1996, p. 182.

<sup>25</sup> See ATCM VIII: Recommendation 12(1975) – *Disposal of Nuclear Waste*; ATCM XIX: Resolution 2(1995) – *Nuclear Waste Disposal*.

<sup>26</sup> ATCM XV: Recommendation 3(1989) – *Human Impact on the Antarctic Environment: Waste Disposal*; ATCM XIII: Recommendation 4(1985) – *Man's Impact on the Antarctic Environment: Code of Conduct for Antarctic Expeditions and Station Activities: Waste Disposal*; ATCM XII: Recommendation 4(1983) – *Man's Impact on the Antarctic Environment: Code of Conduct for Antarctic Expeditions and Station Activities*; ATCM VIII: Recommendation 11(1975) – *Man's Impact on the Antarctic Environment: Code of Conduct for Antarctic Expeditions and Station Activities*.

Annex III of the Protocol set out rules for different types of waste disposal – *waste incineration* (Art. 3), *other waste disposal on land* (Art. 4), *disposal of waste in the sea* (Art. 5) and *storage of waste in Antarctica* (Art. 6). Article 7 of Annex III prohibits the introduction of polychlorinated biphenyls (PCBs), non-sterile soil, polystyrene beads, chips or similar forms of packaging, or pesticides (other than those required for scientific, medical or hygiene purposes) onto land or ice shelves or into water in the Antarctic Treaty area.

Annex III provides for *waste management planning*. Contracting Parties shall establish a waste disposal classification system as a basis for recording wastes and to facilitate studies aimed at evaluating the environmental impacts of scientific activity and associated logistic support. In order to reduce further the impact of waste on the Antarctic environment, each Party shall prepare and annually review its *waste management plans* (including waste reduction, storage and disposal), specifying for each fixed site, for field camps generally, and for each ship (other than small boats that are part of the operations of fixed sites or of ships and taking into account existing management plans for ships) programs for cleaning up existing waste disposal sites and abandoned work sites, current and planned waste management arrangements, including final disposal, current and planned arrangements for analysing the environmental effects of waste and waste management and other efforts to minimise any environmental effects of wastes and waste management.

*The Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* (Basel, 1989)<sup>27</sup> prohibits export of hazardous waste or other waste into Antarctica. The Basel Convention has supplemented Annex III of the Environmental Protocol.

#### **Prevention of Pollution at Sea (Annex IV to the Protocol)**

The Antarctic Treaty area includes over 20 million square kilometres of the Southern Ocean, extending from the Antarctic coast to 60 degrees South latitude. In 1989, the Consultative Parties to the Antarctic Treaty adopted ATCM Recommendation XV-4<sup>28</sup> that was taken as the basis for Annex IV to the Protocol. On the initiative of the ATCM, the *International Maritime Organization* (IMO)<sup>29</sup> in 1990 designated Antarctica waters as a “Special Area” (where the adoption of special mandatory methods for the prevention of sea pollution is required) under the *International Convention for the Prevention of Pollution from Ships, as amended by the Protocol of 1978* (MARPOL 73/78).<sup>30</sup>

Annex IV to the Protocol prohibits any discharge of oil or oily mixture into the sea, except in cases permitted under Annex I of *MARPOL 73/78*. While operating

<sup>27</sup> The official translation has been published in Czech Collection of Laws No. 100/1994 Coll.

<sup>28</sup> ATCM XV: Recommendation 4(1989) – *Human Impact on the Antarctic Environment. Prevention, control and response to marine pollution*.

<sup>29</sup> See: <http://www.imo.org>.

<sup>30</sup> With respect to those Parties which are also Parties to MARPOL 73/78, nothing in Annex IV shall derogate from the specific rights and obligations thereunder (Art. 14 of Annex IV to the Protocol).

in the Antarctic Treaty area, ships shall retain on board all sludge, dirty ballast, tank washing waters and other oily residues and mixtures which may not be discharged into the sea. Ships shall discharge these residues only outside the Antarctic Treaty area, at reception facilities or as otherwise permitted under Annex I of MARPOL 73/78 (Art. 3). Annex IV to the Protocol prohibits discharge of noxious liquid substances (Art. 4) and garbage (Art. 5) in the Antarctic Treaty area. It also contains rules for the discharge of sewage, and for ship retention capacity, reception facilities, sovereign immunity, preventive measures and emergency preparedness and response.

In 2005, the 28th ATCM requested the IMO to examine mechanisms for restricting the *use of Heavy Fuel Oil in Antarctic waters*,<sup>31</sup> acknowledging the potential for fuel spills in the Antarctic Treaty area due to operational risks such as icebergs, sea ice, uncharted waters, and the high potential for environmental impacts should a spill occur. In 2006, the 29th ATCM adopted *Practical Guidelines for Ballast Water Exchange in Antarctic Waters*,<sup>32</sup> which were subsequently adopted by the IMO.

#### **Area protection and management (Annex V to the Protocol)**

Specially protected areas in Antarctica were first established in 1964 under the Agreed Measures for the Conservation of Antarctic Fauna and Flora. Prior to the adoption of the Protocol in 1991, the categories of sites and areas had proliferated, meaning that there were Specially Protected Areas, Sites of Special Scientific Interest, Marine Sites of Special Scientific Interest, Historic Sites and Monuments, Specially Reserved Areas, Multiple Use Planning Areas and CEMP (CCAMLR Environmental Monitoring Programme) Sites. Earlier categories of protected areas were replaced by Annex V to the Environmental Protocol, which was adopted separately by the 16th ATCM in Bonn on October 1991 and entered into force on 24 May 2002.

Annex V to the Protocol provides for two categories of Antarctic Protected Area, namely *Antarctic Specially Protected Areas* (ASPAs) and *Antarctic Specially Managed Areas* (ASMAs). An area of Antarctica may be designated an ASPA to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research. An area where activities are being conducted or may be conducted in the future may be designated as an ASMA, to assist in the planning and co-ordination of activities, avoid possible conflicts, improve co-operation between Parties or minimize environmental impacts. At the heart of the protection mechanism for both ASPAs and ASMAs is the *Management Plan*. Article 5 sets out the matters which are to be covered in Management Plans for both ASPAs and ASMAs. Special areas may also be designated under the provisions of CCAS and CCAMLR.

Consultative Parties to the Antarctic Treaty have adopted certain guidelines regarding area protection and management, to assist Parties in selecting sites for

<sup>31</sup> ATCM XXVIII: Decision 8 (2005) – *Use of Heavy Fuel Oil (HFO) in Antarctica*.

<sup>32</sup> ATCM XXIX: Resolution 3 (2006) – *Practical Guidelines for Ballast Water Exchange in Antarctic Waters*.

designation and in preparing management plans.<sup>33</sup> New ASPAs and ASMAs and their Management Plans or Revised Management Plans are adopted by means of ATCM measures.<sup>34</sup> In 2010, the 33th ATCM in Punta del Este adopted 13 measures regarding Revised Management Plans of the Antarctic Specially Protected Areas and 1 measure regarding Revised Management Plan of Antarctic Specially Managed Area.<sup>35</sup>

From its inception, the ATCM has emphasized the need to protect sites or monuments of historic interest, which led in 1972 to the establishment of an official *List of Historic Sites and Monuments (HSMs)*.<sup>36</sup> Article 8 of Annex V codified the rules of protection of HSMs. Sites or monuments of recognised historic value which have been designated as ASPAs or ASMAs, or which are located within such Areas, shall be listed as Historic Sites and Monuments. At present there are 80 Historic Sites and Monuments in Antarctica listed in the List of HSMs<sup>37</sup> which shall not be

<sup>33</sup> ATCM XXII: Resolution 2 (1998) – *Guide to the preparation of Management Plans for Antarctic Specially Protected Areas*; ATSCM XII: Resolution 1(2000) – *Guidelines for Implementation of the Framework for Protected Areas set forth in Article 3, Annex V of the Environmental Protocol*; ATCM XXV: Decision 1(2002) – *Naming and numbering system for Antarctic Specially Protected Areas*; ATCM XXXI: Resolution 1 (2008) – *Presentation of Working Papers with Proposals for ASPAs, ASMAs or HSMs*.

<sup>34</sup> ATCM XXXII: Measure 1 (2009): *ASMA No. 3 – Cape Denison, Commonwealth Bay, George V Land, East Antarctica*; ATCM XXXII: Measure 6 (2009): *ASPA No. 125 – Fildes Peninsula, King George Island, South Shetland Islands*; ATCM XXX: Measure 1 (2007): *Antarctic Specially protected Areas: Revised management Plans*. See Vícha, O.: XXX. Antarctic Treaty Consultative Meeting. Czech Environmental Law No. 3/2007 (21), p. 46.

<sup>35</sup> ATCM XXXIII: Measure 1 (2010): Antarctic Specially Protected Area No 101 (*Taylor Rookery, Mac. Robertson Land*): Revised Management Plan; ATCM XXXIII: Measure 2 (2010): Antarctic Specially Protected Area No 102 (*Rookery Islands, Holme Bay, Mac.Robertson Land*): Revised Management Plan; ATCM XXXIII: Measure 3 (2010): Antarctic Specially Protected Area No 103 (*Ardley Island and Odbert Island, Budd Coast, Wilkes Land*): Revised Management Plan; ATCM XXXIII: Measure 4 (2010): Antarctic Specially Protected Area No 105 (*Beaufort Island, McMurdo Sound, Ross Sea*): Revised Management Plan; ATCM XXXIII: Measure 5 (2010): Antarctic Specially Protected Area No 106 (*Cape Hallett, Northern Victoria Land, Ross Sea*): Revised Management Plan; ATCM XXXIII: Measure 6 (2010): Antarctic Specially Protected Area No 119 (*Davis Valley and Forlidas Pond, Dufek Massif*): Revised Management Plan; Measure 7 (2010): Antarctic Specially Protected Area No 139 (*Biscoe Point, Anvers Island, Palmer Archipelago*): Revised Management Plan; ATCM XXXIII: Measure 8 (2010): Antarctic Specially Protected Area No 155 (*Cape Evans, Ross Island*): Revised Management Plan; ATCM XXXIII: Measure 9 (2010): Antarctic Specially Protected Area No 157 (*Backdoor Bay, Cape Royds, Ross Island*): Revised Management Plan; ATCM XXXIII: Measure 10 (2010): Antarctic Specially Protected Area No 158 (*Hut Points, Ross Island*): Revised Management Plan; ATCM XXXIII: Measure 11 (2010): Antarctic Specially Protected Area No 159 (*Cape Adare, Borchgrevink Coast*): Revised Management Plan; ATCM XXXIII: Measure 12 (2010): Antarctic Specially Protected Area No 163 (*Dakshin Gangotri Glacier, Dronning Maud Land*): Revised Management Plan; ATCM XXXIII: Measure 13 (2010): Antarctic Specially Protected Area No 164 (*Scullin and Murray Monoliths, Mac. Robertson Land*): Revised Management Plan; ATCM XXXIII: Measure 14 (2010): Antarctic Specially Managed Area No 7 (*Southwest Anvers Island and Palmer Basin*): Revised Management Plan.

<sup>36</sup> ATCM VII: Recommendation 9(1972) – *Historic Monuments (Annex: List of Historic Monuments Identified and Described by the Proposing Government or Governments)*.

<sup>37</sup> The authoritative list of HSMs can be found in the Annex to Decision 3 (2003) and the subsequent additions in the texts of Measure 3 (2004), Measure 5 (2005), Measure 3 (2006), Measure 3 (2007) and Measure 14 (2009).

damaged, removed or destroyed (Art. 8, par. 4, of Annex V). Consultative Parties also adopted *Guidelines for Handling of Pre-1958 Historic Remains Whose Existence or Present Location is not Known*<sup>38</sup> and *Guidelines for the designation and protection of Historic Sites and Monuments*.<sup>39</sup>

### **Liability Arising from Environmental Emergencies (*Annex VI to the Protocol*)**

Article 16 of the Environmental Protocol provides for the Parties to “*elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic Treaty area and covered by this Protocol*”. Annex VI was adopted at the 28th ATCM in Stockholm on 2005 and will enter into force after its approval by the Consultative Parties that participated in the Stockholm ATCM.<sup>40</sup>

Annex VI, addressing strict liability, deals with “*environmental emergencies related to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required under Article VII(5) of the Antarctic Treaty*”. The operators of such activities will be required to undertake reasonable preventative measures and to establish contingency plans for responses to incidents with potential adverse impacts on the Antarctic environment. In case of environmental emergencies, operators will be required to take prompt and effective response action; if they don't, they will be liable for the cost of such emergencies.

### **National Legal Systems regarding Environmental Protection in Antarctica**

According to Article 13 of the Environmental Protocol, each party shall take appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures, to ensure compliance with this Protocol. The main aim of these domestic legal regulations is the implementation of the Environmental Protocol into the national laws of Contracting Parties. The Consultative Parties to the Antarctic Treaty that have national laws or regulations addressing this area are Australia (*The Antarctic Treaty/Environmental Protection/Act No. 103 of 1980*),<sup>41</sup> Belgium (*The Act of 7 April 2005*), Bulgaria (*The Decree of Council of Ministers No. 37 of 15 February 2001 on the adoption of Regulations on the terms and procedure of implementing the Protocol on Environmental Protection to the Antarctic Treaty*), Finland (*The Act of 18 October 1996 on the Environmental Protection of Antarctica and on Amendment of the Penal Code of 1998*), France (*The Act*

<sup>38</sup> ATCM XXIV: Resolution 5(2001): *Guidelines for Handling of Pre-1958 Historic Remains Whose Existence or Present Location is not Known*.

<sup>39</sup> ATCM XXXII: Resolution 3 (2009): *Guidelines for the designation and protection of Historic Sites and Monuments*.

<sup>40</sup> O. Vicha, *The New Annex to the Environmental Protocol on Liability Arising from Environmental Emergencies in Antarctica*, Czech Environmental Law No. 2, 2005 (16), pp. 57-62.

<sup>41</sup> W. Bush, *Australian Implementation of the Environmental Protocol*. In: D. Vidas, (ed.), *Implementing the Environmental Protection Regime for the Antarctic*, Kluwer Academic Publisher, Dordrecht/Boston/London 2000, pp. 309-335.

No. 347 of 15 April 2003 on Environmental Protection of Antarctica), Japan (*The Act No. 61 of 1997 Relating to the Protection of the Environment in Antarctica*), Republic of South Africa (*The Antarctic Treaties Act No. 60 of 1 November 1996*),<sup>42</sup> Republic of Korea (*The Act of 2004 on Antarctica Activities and on Environmental Protection of Antarctica*), Netherlands (*The Protection of Antarctica Act No 248 of 29 January 1998*), Norway (*The Norwegian Regulations relating to Protection of the Environment in Antarctica laid down by Royal Decree of 5 May 1995*),<sup>43</sup> New Zealand (*The Act No. 119 of 1994 on Environmental Protection of Antarctica*), Russian Federation (*The Decision of the Russian Federation Government of 18 December 1997 on implementation of Environmental Protocol and the Decision of the Russian Federation Government of 11 December 1998 No. 1476 on the adoption of the Procedure for consideration and issuance of permits for activities of Russian individual persons and legal entities in the Antarctic Treaty Area*), Germany (*The Act on the Protocol on Environmental Protection of 4 October 1991 to the Antarctic Treaty of 22 September 1994 as amended by Regulation of 21 September 1997*), Sweden (*The Swedish Antarctica Act No. 924 of 2006*), United States of America (*The Antarctic Science, Tourism, and Conservation Act of 1996 – ASTCA*)<sup>44</sup> and Great Britain (*The Antarctic Act No. 15 of 1994*). Non-Consultative Parties to the Antarctic Treaty with national legal regulations implementing the Environmental Protocol are, for example, Canada (*The Act No. 20 of 2003 on the Environmental Protection of Antarctica*) and the Czech Republic (*The Antarctica Act No. 276 of 2003*).<sup>45</sup>

<sup>42</sup> K. Dodds, South Africa: Implementing the Protocol on Environmental Protection. In: D. Vidas, (ed.), *Implementing the Environmental Protection Regime for the Antarctic*, Kluwer Academic Publisher, Dordrecht/Boston/London 2000, pp. 399-415.

<sup>43</sup> B. Njastad, Norway: Implementing the Protocol on Environmental Protection. In: D. Vidas, (ed.), *Implementing the Environmental Protection Regime for the Antarctic*, Kluwer Academic Publisher, Dordrecht/Boston/London 2000, pp. 379-397.

<sup>44</sup> Ch. C. Joyner, The United States: Legislation and Practice in Implementing the Protocol. In: D. Vidas, (ed.), *Implementing the Environmental Protection Regime for the Antarctic*, Kluwer Academic Publisher, Dordrecht/Boston/London 2000, pp. 417-437.

<sup>45</sup> O. Vicha, *Antarctica Law. International and domestic aspects of the Environmental Protection of Antarctica*, Czech Environmental Law No. 3, 2003 (9), pp. 131-141.