Protocol for the Protection of the Caspian Sea Against Pollution from Land-Based Sources and Activities

First Draft

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Protocol for the Protection of the Caspian Sea Against Pollution from Land Based Sources and Activities

The Contracting Parties to the present Protocol,

Being Parties to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea, adopted at Tehran on 4 November 2003,

Determined to implement the Convention, and specifically its Article 7, and the Strategic Action Programme for the Caspian Sea,

Recognising the unique ecological and hydrological nature of the Caspian Sea as the largest inland body of water on earth,

Desiring to pursue the protection and conservation of the marine and coastal environment and sustainable use of natural resources of the Caspian Sea as an integral part of the development process, meeting the needs of present and future generations in an equitable manner,

Conscious of the serious danger posed to the marine and coastal environment, living resources and human health by pollution from land-based sources and activities,

Taking into consideration in particular the environmental problems caused by the sea-level fluctuations,

Noting commitments of the Caspian Sea countries made under the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, adopted in Washington, D.C., on 3 November 1995, and the Plan of Implementation adopted by the World Summit on Sustainable Development held in Johannesburg from 26 August to 4 September 2002,

Have agreed as follows:

Article 1. Purpose of the Protocol

The purpose of this Protocol is to prevent, control and to the maximum extent possible eliminate pollution from land-based sources and activities in order to achieve and maintain a good ecological status of the Caspian Sea, including its marine and coastal ecosystems.

Article 2. Definitions

For the purposes of this Protocol:

b) “Conference of the Parties” means the body referred to in Article 22 of the Convention;

c) “Secretariat” means the body referred to in Article 23 of the Convention;

d) “Contracting Party” means any State party to the Convention which has become a party to this Protocol;

e) “Hydrologic basin” means the entire watershed area within the territories of the Contracting Parties, draining into the Caspian Sea;

f) “High priority site” means a limited and definable local land area, stretch of surface water or specific aquifer that is subject to excessive pollution and necessitates priority attention in order to prevent or reduce the actual or potential adverse impacts on human health, ecosystems or natural resources and amenities of economic importance;

g) “Fresh water limit” means the place in a watercourse where, at low tide and in a period of low fresh water flow, there is an appreciable increase in salinity due to presence of seawater;

h) “Point sources” means sources of pollution where discharges and releases are introduced into the environment from any discernable, confined and discrete conveyance, including but not limited to pipes, outfalls, channels, ditches, tunnels, conduits or wells from which pollutants are or may be discharged;

i) “Diffuse sources” means sources of pollution, other than point sources, from which substances enter the environment as a result of land run-off, precipitation, atmospheric deposition, drainage, seepage or by hydrologic modification or destruction of habitats;

j) “Emission controls” are controls requiring a specific emission limitation, for instance an emission limit value, or otherwise specifying limits or conditions on the effects, nature or other characteristics of an emission or operating conditions which affect emissions;

k) “Emission limit values” means the mass, expressed in terms of certain specific parameters, concentration or level of an emission, which may not be exceeded during any one or more periods of time. The emission limit values for substances shall normally apply at the point where the emissions leave the installation, dilution being disregarded when determining them;
l) “Environmental quality standard” means the concentration of a particular substance or group of substances in water, sediment or biota which should not be exceeded in order to protect human health and the environment;

m) “Environmental quality objective” means a goal, which specifies a desirable target for environmental quality that should be met in some particular environment, such as a river, beach or industrial site.

Article 3. Annexes

1. Provisions of this Protocol that require further elaboration are dealt with in annexes, constituting an integral part of the Protocol, which address the following issues:

   a) Elements to be taken into account by the Contracting Parties in the preparation of action plans, programmes and measures for the reduction, control and elimination of pollution from land-based sources and activities by substances of concern (Annex I);

   b) Elements to be taken into consideration by the Contracting Parties in the development of policies, plans and measures for the prevention, reduction and control of pollution from agricultural and forestry diffuse sources (Annex II);

   c) Conditions of application of this Protocol to pollution transported through the atmosphere (Annex III);

   d) Elements to be taken into account by the Contracting Parties while considering authorisation of discharges (Annex IV);


2. The Contracting Parties may also develop such additional annexes, as they may deem appropriate. Adoption of new annexes or any amendments to annexes to this Protocol shall be made in accordance with the procedures established by articles 24 and 255 of the Convention.

Article 4. Protocol Area

The area to which this Protocol applies (hereinafter referred to as the “Protocol Area”) shall include:

a) The Caspian Sea proper;

b) Brackish waters, coastal waters including marshes and coastal lagoons, and ground waters communicating with the Caspian Sea;
c) The adjacent to the Caspian Sea part of its hydrologic basin—of the Caspian Sea, including the lower reaches of the inflowing rivers within the territories of the Contracting Parties.

Article 5. Protocol Application

This Protocol shall apply to:

a) Discharges and releases originating from land-based point and diffuse sources and activities within the territories of the Contracting Parties that may affect directly or indirectly the marine or coastal environment of the Protocol Area. These discharges shall include those which reach the marine environment through coastal disposals and outfalls, rivers, canals or other watercourses, including groundwater flow, or through run-off and disposal under the seabed with access from land;

b) Activities within the territories of the Contracting Parties that may directly or indirectly affect the marine or coastal environment of the Protocol Area, such as works which cause physical alteration of the natural state of the coastline or result in physical alteration or destruction of habitats;

c) Inputs of polluting substances transported through the atmosphere into the marine environment of the Protocol Area from land-based sources and activities within the territories of the Contracting Parties under the conditions defined in Annex III;

d) Polluting discharges and releases from fixed or mobile man-made offshore structures under the jurisdiction of a Contracting Party serving purposes other than exploration and exploitation of the seabed hydrocarbon resources.

Article 6. General Obligations

1. The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of the Convention to prevent, control and to the maximum extent possible eliminate pollution of and other adverse effects on the marine and coastal environment of the Protocol Area from land-based sources and activities.

2. The Contracting Parties shall take all necessary measures to implement the Strategic Action Programme for the Caspian Sea.

3. The Contracting Parties shall, in particular:

a) Apply the precautionary principle, by virtue of which where there are threats of serious or irreversible damage to the environment or to public health, lack
of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent such damage;

b) Apply the polluter pays principle, by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter, with due regard to the public interest;

c) Ensure that activities which are likely to cause a significant adverse impact on the marine and coastal environment are made subject to environmental impact assessment and a prior authorisation by competent national authorities;

d) Ensure that environmental considerations, including health aspects, are thoroughly taken into account in the development of relevant plans and programmes by means of strategic environmental assessment;

e) Promote cooperation between and among Contracting Parties in environmental impact assessment procedures related to activities under their jurisdiction or control which are likely to have a significant adverse effect on the marine environment of other States or areas beyond the limits of national jurisdiction, on the basis of notification, exchange of information and consultation;

f) Take preventive measures to reduce to the minimum the risk of pollution caused by industrial accidents and natural disasters;

g) Take special measures of protection against land-based pollution and other activities potentially harmful for natural spawning grounds of sturgeon, Caspian salmon and other valuable species;

h) Commit themselves to apply Promote sustainable development of the coastal areas through the integrated management of coastal zones and related watersheds, areas, including sustainable use of freshwater and protection of water-related ecosystems in transboundary water basins, taking into account the sustainable use of natural resources;

i) Endeavour to cooperate in achieving the objectives of the Protocol with States that are not parties to the Protocol and have in their territories parts of the hydrologic basin of the Caspian Sea.

4. The Contracting Parties shall take preventive measures to reduce to the minimum the risk of pollution caused by industrial accidents and natural disasters.

**Article 7. Measures of Implementation**

In implementing this Protocol, the Contracting Parties shall:
a) Adopt national and regional programmes or plans of actions based on source control and containing measures and, where appropriate, timetables for their completion. In developing such programmes or plans they shall take into consideration provisions and recommendations of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities;

b) Address activities and substances listed in Annex I through the progressive development, adoption and implementation of:
   i) effluent and emission controls, including emission limit values for relevant substances, environmental quality standards and environmental quality objectives, as well as management practices based on the factors defined in Annex I; and
   ii) timetables for achieving the limits, management practices and measures agreed by the Contracting Parties;

c) Utilize or promote the best available techniques and the best environmental practice and the application of, access to and transfer of environmentally sound technology, including cleaner production, taking into account the social, economic and technological conditions and criteria set forth in Annex V;

d) Encourage the participation of local authorities and civil society in the processes of adopting decisions that affect the marine and coastal environment or human livelihood;

e) Make available to civil society and local authorities information on the status of the marine and coastal environment of the Protocol Area, on the measures adopted or about to be adopted to prevent, control, reduce and remedy adverse effects and the effectiveness of such measures; and

f) Exchange, through the competent authorities, the available data and information on the management or the use of the marine and coastal environment and on the implementation of this Protocol.

Article 8. Common Guidelines and Standards

1. In conformity with Article 188 of the Convention, the Contracting Parties shall progressively formulate and adopt, in cooperation with competent international organisations, common guidelines and, as appropriate, standards or criteria dealing in particular with:

a) The length, depth and position of pipelines for coastal outfalls, taking into account, in particular, the methods used for pretreatment of effluents;

b) Special requirements for effluents necessitating separate treatment;
c) The quality of sea-water used for specific purposes that is necessary for the protection of human health, living resources and ecosystems;

d) The control and progressive replacement of products, installations and industrial and other processes causing significant pollution of the marine environment;

e) Specific requirements concerning the quantities of the substances discharged (listed in Annex I), their concentration in effluents and methods of discharging them.

2. The regional programmes and plans of action referred to in Article 7.a of this Protocol shall be elaborated and implemented taking into consideration the following:

a) The common emission limit values, environmental quality standards or environmental quality objectives, as well as timetables for the implementation of the measures aimed at preventing, reducing or eliminating, as appropriate, pollution from land-based sources shall be established by the Contracting Parties and periodically reviewed for substances listed in Annex I to this Protocol; and

b) The Conference of the Parties shall define pollution prevention criteria as well as recommend appropriate measures to reduce, control and eliminate pollution of the marine environment of the Protocol Area from land-based sources and activities and periodically update them to reflect the increasing information through the monitoring programmes referred in Article 143 of this Protocol, the changes in the industrial and other human activities and possible advances in science and the pollution control technologies.

Article 9. Pollution from Point Sources

1. The Contracting Parties shall ensure that the emission controls of point source discharges and releases of substances listed in Annex I into water or air in the Protocol Area that reach and affect or may affect the marine and coastal environment of the Protocol Area are based on best available techniques, best environmental practice or the relevant emission limit values.

2. The Contracting Parties shall adopt and implement A list of high priority sites shall form the basis for the elaboration of national strategies, action plans and with timetables for achieving substantial reductions of inputs of pollutants from point sources on the basis of the list of high priority sites shall be adopted and subsequently reviewed and revised every two years by the Conference of the Parties. This list shall be subject to authorisation or regulation by the competent national authorities of the Contracting Parties, taking due account of the
provisions of this Protocol, Annex IV thereto and the relevant decisions or recommendations of the Conference of the Parties.

4. To this end, the Contracting Parties shall provide for a system of regular monitoring and inspection by their competent national authorities to assess compliance with authorisations and regulations of releases into water or air. The Contracting Parties shall have in place appropriate sanctions in case of non-compliance with authorisations and regulations and ensure their application.

**Article 10. Pollution from Diffuse Sources**

1. The Contracting Parties shall ensure that the controls of diffuse sources of land-based pollution in the Protocol Area affecting or having the potential to affect the marine or coastal environment of the Protocol Area are based on best environmental practice and best available techniques.

2. The Contracting Parties shall take all necessary measures to substantially reduce the pollution load from agricultural and forest areas affecting the marine or coastal environment of the Protocol Area in order to comply with the agreed environmental quality standards and environmental quality objectives for substances listed in Annex I to this Protocol in accordance with criteria defined in Annex II.

**Article 11. Other Harmful Activities**

1. The Contracting Parties shall ensure that activities within their respective territories or regulatory control, which affect or may affect the marine or coastal environment of the Protocol Area and which are not covered by the provisions of articles 9 and 10 of this Protocol, are conducted on the basis of best available techniques and best environmental practice.

2. The Contracting Parties shall take all appropriate measures to prevent, control and to the maximum extent possible eliminate pollution of the marine and coastal environment as a result of the sea-level fluctuations. To this end, they shall protect petroleum and chemical facilities and oil contaminated land under potential threat of inundation and shall decommission obsolete on-shore installations and storage facilities. The Contracting Parties shall develop and initiate implementation of a regional action plan for contaminated land.

**Article 12. Integrated Coastal Area Management**

1. The Contracting Parties shall individually and, where appropriate, jointly implement integrated management of coastal areas on the basis of inter alia, coastal planning zones. They shall adopt and implement mitigation measures to reduce negative impacts of natural hazards such as long-term sea-level fluctuation, storms, surges, earthquakes and coastal erosion on the population and infrastructure of the coastal areas.
2. The Contracting Parties shall take all appropriate measures to reduce and reverse deforestation and land degradation in the coastal areas and shall develop and implement national plans of actions and programmes aimed at reforestation and combating desertification.

Article 132. Transboundary Impacts

1. Where pollution from land-based sources and activities originating from any Contracting Party is likely to adversely affect the marine or coastal environment of one or more of the other Contracting Parties, the Contracting Party concerned shall inform and consult the affected Contracting Parties, with a view to resolving the issue.

2. If discharges from a watercourse which flows through the territories of two or more Contracting Parties or forms a boundary between them cause or are likely to cause pollution of the marine environment of the Protocol Area, the Contracting Parties in question, respecting the provisions of this Protocol in so far as each of them is concerned, are called upon to cooperate with a view to ensuring its full application.

3. A Contracting Party shall not be responsible for any pollution originating in the territory of a non-Contracting State or States. However, the Contracting Party concerned shall endeavour to cooperate with such States so as to achieve the objectives of this Protocol.

Article 143. Data Collection, Monitoring and Assessment

1. Within the framework of the provisions of, and the monitoring programmes provided for in Article 1949 of the Convention, and if necessary in cooperation with competent international organisations, the Contracting Parties shall:

   a) Collect data on the conditions of the marine and coastal environment of the Protocol Area as regards its physical, biological and chemical characteristics;

   b) Collect data and prepare and maintain an inventory of inputs of substances listed in Annex I from land-based sources, including information on the distribution of sources and the quantities of such substances introduced to the marine and coastal environment of the Protocol Area;

   c) Systematically assess the state of the marine and coastal environment of the Protocol Area;

   d) Systematically assess, as far as possible, the levels of pollution along their coasts, in particular with regard to activities and substances listed in Annex I and periodically to provide information in this respect;
e) Evaluate the effectiveness of action plans, programmes and measures adopted and implemented under this Protocol to reduce, control and eliminate to the maximum extent possible pollution of the marine environment from land-based sources and activities; and

f) Evaluate compliance with the provisions of this Protocol.

2. The Contracting Parties shall collaborate in establishing elements of the regional monitoring programme as well as compatible national monitoring programmes, with analytical quality control programmes, and to promote data storage, retrieval and exchange.

3. Information referred to in paragraph 1 above shall be made available to other Contracting Parties through the Secretariat.

Article 154. Environmental Impact Assessment

1. Pursuant to Article 172 of the Convention, the Contracting Parties shall develop and adopt regional and corresponding national guidelines concerning the assessment of the potential environmental impacts of land-based projects and activities, including possible transboundary effects, and review and update those guidelines as appropriate.

2. Each Contracting Party shall introduce and apply procedures of environmental impact assessment of any planned land-based activity or project within its territory or under its regulatory control that is likely to cause significant adverse effect on the marine or coastal environment of the Protocol Area.

3. The implementation of activities and projects referred to in paragraph 2 above shall be made subject to a prior written authorisation from the competent authorities of the Contracting Party, which takes fully into account the findings and recommendations of the environmental impact assessment. Each Contracting Party shall, subject to its national laws and regulations, seek the participation of affected persons in any review process conducted pursuant to paragraph 2 above, and, where practicable, publish or make available relevant information obtained in this review.

Article 165. Exchange of and Access to Information

1. Pursuant to Article 214 of the Convention, the Contracting Parties shall directly or through the Secretariat exchange on a regular basis information and develop systems and networks for the exchange of information to facilitate the implementation of this Protocol.

2. Each Contracting Party shall, in accordance with its national laws and regulations, facilitate public access to the information concerning conditions of the marine and coastal environment of the Protocol Area, measures taken or planned to be
taken to prevent, control and reduce pollution taking into account provisions of existing international agreements concerning public access to environmental information.

Article 176. Public Participation

The Contracting Parties shall endeavour to promote the participation of all stakeholders in measures that are necessary for the protection of the marine and coastal environment of the Protocol Area against pollution from land-based sources and activities, including environmental impact assessments, and in decision-making processes relevant to the implementation of this Protocol.

Article 178. Cooperation and Assistance

1. The Contracting Parties shall cooperate, bilaterally or, where appropriate, on a regional basis through the Conference of the Parties in the prevention, reduction and control of pollution of the marine environment of the Protocol Area from land-based sources and activities.

2. In conformity with Article 200 of the Convention, the Contracting Parties shall encourage cooperation in scientific and technological fields related to pollution from land-based sources and activities, particularly in research on inputs, pathways, fates and effects of pollutants and on the development of new methods of pollution prevention, reduction and elimination, including the development and application of cleaner production approaches to this effect.

3. The Contracting Parties shall promote cooperation, directly or through the Conference of the Parties, with those Contracting Parties which request it in obtaining assistance for the implementation of this Protocol particularly to:

   a) Develop scientific, technical, educational and public awareness programmes and train scientific, technical and administrative personnel;

   b) Provide technical advice, information and other assistance; and

   c) Identify and approach potential sources of financing for projects necessary to implement this Protocol.

4. The Contracting Parties shall cooperate with international organisations, programmes and instruments relevant to the prevention, reduction and control of pollution of the marine environment from land-based sources and activities.

Article 198. Implementation of the Protocol
1. Each Contracting Party shall designate a national authority to coordinate implementation of the provisions of this Protocol in its territory and under its jurisdiction and to inform accordingly other Contracting Parties through the Secretariat.

2. The provisions of this Protocol shall not affect the right of the Contracting Parties individually or jointly to adopt and implement more stringent measures than those provided for in this Protocol.

Article 20. Reporting

1. Each Contracting Party shall submit to the Conference of the Parties through the Secretariat annual reports on measures adopted for the implementation of this Protocol in a format to be determined by the Conference of the Parties. The Secretariat shall circulate the received reports to all Contracting Parties.

2. Such reports shall include, inter alia:
   a) Information on legal and regulatory measures, action plans, programmes and other steps taken for the implementation of this Protocol, its Annexes and recommendations adopted thereunder;
   b) Data on the quantities of substances of concern discharged from their territories;
   c) Statistical data on the authorisations granted in accordance with Article 9 of this Protocol;
   d) Data resulting from monitoring as provided for in Article 143 of this Protocol;
   e) Information on activities altering the coastline, habitats within coastal areas and related watersheds;
   f) Information on results achieved in the elimination and control of pollution from high priority sites; and
   g) Information on general results achieved and, if the case arises, difficulties encountered in the implementation of this Protocol.

3. The Secretariat shall use the data and information contained in these national reports to prepare regional reports on the implementation of this Protocol, including on the state of the marine and coastal environment of the Protocol Area.

4. Information provided pursuant to paragraph 2 above, which is designated by a Contracting Party as confidential, shall be used in such a manner as to assure its confidentiality. Nothing in this Protocol shall require a Contracting Party to supply information the disclosure of which is contrary to the essential interests of its security.
Article 210. Compliance

1. The Contracting Parties shall develop non-confrontational and non-judicial procedures of consultative nature to ensure compliance with the provisions of this Protocol.

2. To facilitate achieving the objectives of this Protocol the Conference of the Parties shall:

   a) On the basis of the reports referred to in Article 2019 and any other information submitted by the Contracting Parties, review and evaluate their compliance with and enforcement of the Protocol and the decisions and recommendations adopted thereunder; and

   b) Where appropriate, decide upon and call for steps to bring about full compliance with the Protocol and decisions adopted thereunder and promote the implementation of recommendations, including measures to assist a Contracting Party to carry out its obligations.

Article 221. Funding

1. The Contracting Parties, taking into account their capabilities, shall as far as possible ensure that adequate financial resources are available for the formulation and implementation of programmes, projects and measures necessary to achieve the objectives of this Protocol. To this end, the Contracting Parties shall:

   a) Commit sufficient domestic financial resources;

   b) Promote the mobilisation of financial resources from bilateral and multilateral funding sources and mechanisms, including grants and concessional loans; and

   c) Explore innovative methods and incentives for mobilising and channelling resources, including those of foundations, non-governmental organisations and other private sector entities.

2. In addition to the financial participation by the Contracting Parties the Conference of the Parties may, in response to a request from any Contracting Party, seek additional funds or other forms of assistance for activities related to this Protocol. These funds may include voluntary contributions for the achievement of specific objectives of this Protocol made by the Contracting Parties, other governments and government agencies, international organisations, non-governmental organisations, the private sector and individuals.

Article 232. Institutional Arrangements
1. For the purposes of this Protocol and in accordance with Articles 22 of the Convention, the Conference of the Parties shall, *inter alia*:

   a) Consider the efficacy of the measures adopted and the advisability of adopting any other measures, in particular in the form of annexes;

   b) Revise and amend any annex to this Protocol, as appropriate, in accordance with articles 24 and 25 of the Convention;

   c) Formulate, adopt and review regional programmes, plans of actions or measures in accordance with Article 7 of this Protocol;

   d) Adopt regional guidelines, standards or criteria in accordance with Article 8 of this Protocol;

   e) Formulate procedures for exchange of information and assist in developing information systems and networks for the exchange of information in accordance with Article 165 of this Protocol;

   f) Review and assess information submitted by the Contracting Parties in accordance with articles 165 and 2049 of this Protocol;

   g) Adopt, review and revise a list of high priority sites as provided for in Article 9 of this Protocol;

   h) Establish any such institutional mechanism as deemed necessary for the achievement of the objectives of this Protocol.

2. In accordance with Article 23 of the Convention, the Secretariat shall *inter alia*:

   a) Compile and make available to the Contracting Parties reports and studies which may be required for the implementation of this Protocol or as requested by them;

   b) Forward to the Contracting Parties information submitted to it in accordance with Article 143 of this Protocol;

   c) Prepare regional programmes, plans of actions or measures to be adopted by the Conference of the Parties in accordance with Article 7 of this Protocol;

   d) Prepare regional guidelines, standards or criteria to be adopted by the Conference of the Parties in accordance with Article 8 of this Protocol;

   e) Assist in raising funds as provided for in Article 224 of this Protocol;
f) Cooperate with relevant international organisations;

g) Perform such other functions assigned to it by the Contracting Parties as deemed appropriate for the implementation of this Protocol.

**Article 243. Settlement of Disputes**

Any dispute between the Contracting Parties concerning the application or interpretation of the provisions of this Protocol shall be settled in accordance with Article 30 of the Convention.

**Article 254. Amendments to this Protocol**

Adoption of any amendments to this Protocol shall be made in accordance with the procedures established by Article 34 of the Convention.

**Article 265. Entry into Force**

1. The signature, ratification, acceptance, approval, accession, and entry into force of this Protocol shall be done in accordance with articles 31 and 33 of the Convention.

2. No reservation may be made to this Protocol.

3. This Protocol shall be open for signature at … from …. to … by any State Party to the Convention.

4. The instruments of ratification, acceptance, approval or accession shall be deposited with the Government of …

**Article 276. Relationship with the Negotiations of the Legal Status of the Caspian Sea**

Nothing in this Protocol shall be interpreted as to prejudge the outcome of the negotiations on the final legal status of the Caspian Sea.

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ANNEX I

ACTIVITIES AND SUBSTANCES OF CONCERN

This Annex contains elements, which shall be taken into account by the Contracting Parties in the preparation of action plans, programmes and measures for the reduction, control and elimination of pollution from land-based sources and activities referred to in article 5 of this Protocol.

Such action plans, programmes and measures shall aim to cover the activities listed in section A and also cover the groups of substances enumerated in section C, selected on the basis of the characteristics listed in section B of the present Annex. In preparing action plans, programmes and measures, the Parties shall take into account the provisions of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, adopted in Washington, D.C. in 1995.

Priorities for action should be established by the Contracting Parties by assessing the relative importance of impacts upon public health, coastal and marine resources, ecosystem health, socio-economic benefits, including cultural values.

A. Activities

The following activities (not listed in order of priority) shall be primarily considered when setting priorities for the preparation of action plans, programmes and measures for the reduction, control and elimination of the pollution from land-based sources and activities:

1. Agriculture;
2. Animal husbandry;
3. Aquaculture;
4. Cement production;
5. Disposal of sewage sludge;
6. Dredging;
7. Electronic industry;
8. Energy production;
9. Fertilizer production;
10. Food processing;
11. Forestry;
12. Harbour operations;
13. Incineration of waste and management of its residues;
14. Management of municipal solid waste;
15. Metal industry;
16. Mining;
17. Other sectors of the inorganic chemical industry;
18. Other sectors of the organic chemical industry;
19. Paper and paper-pulp industry;
20. Petroleum exploration and production;
21. Petroleum pipeline transportation;
22. Petroleum refining;
23. Pharmaceutical industry;
24. Production and formulation of biocides;
25. Recycling industry;
26. Shipbuilding and repairing industry;
27. Tanning industry;
28. Textile industry;
29. Tourism;
30. Transport;
31. Treatment and disposal of domestic wastewater;
32. Treatment and disposal of hazardous wastes;
33. Waste management industry; and
34. Works which cause physical alteration of the natural state of the coastline or destruction of habitats.

B. Categories of Substances

In the preparation of action plans, programmes and measures the Contracting Parties shall use as guidance the following categories of substances identified on the basis of their hazardous or otherwise harmful characteristics:

1. Organohalogen compounds and substances, which may form such compounds in the marine environment. Priority will be given to Aldrin, Chlordane, DDT, Dieldrin, Dioxins and Furans, Endrin, Heptachlor, Hexachlorobenzene, Mirex, PCBs and Toxaphene;
2. Organophosphorus compounds and substances which may form such compounds in the marine environment;
3. Organotin compounds and substances which may form such compounds in the marine environment;
4. Polycyclic aromatic hydrocarbons;
5. Heavy metals and their compounds;
6. Used lubricating oils;
7. Radioactive substances;
8. Biocides and their derivatives;
9. Pathogenic microorganisms;
10. Endocrine disrupting substances;
11. Crude oils and hydrocarbons of petroleum origin;
12. Cyanides and fluorides;
13. Non-biodegradable detergents and other non-biodegradable surface-active substances;
14. Nitrogen and phosphorus compounds and other substances which may cause eutrophication;
15. Litter (any persistent manufactured or processed solid material which is discarded, disposed of, or abandoned in the marine and coastal environment);
16. Thermal discharges;
17. Acid or alkaline compounds which may impair the quality of water;
18. Non-toxic substances that have an adverse effect on the oxygen content of the marine environment;
19. Non-toxic substances that may interfere with any legitimate use of the sea;
20. Non-toxic substances that may have adverse effects on the physical or chemical characteristics of seawater.

C. Characteristics of Substances

In the preparation of action plans, programmes and measures the Contracting Parties shall take into account, where relevant, the following characteristics and factors:

1. Persistence;
2. Toxicity or other noxious properties (e.g. carcinogenicity, mutagenicity, teratogenicity);
3. Bioaccumulation;
4. Radioactivity;
5. Ratio between observed concentrations and no observed effect concentrations (NOEC);
6. Potential for causing eutrophication;
7. Health effects and risks;
8. Transboundary significance;
9. Risk of undesirable changes in the marine ecosystem and irreversibility or durability of effects;
10. Negative impacts on marine life and the sustainable use of living resources or another legitimate uses of the sea;
11. Effects on the taste or smell of marine products intended for human consumption;
12. Effects on the smell, colour, transparency or other characteristics of seawater; and
13. Distribution pattern (i.e. quantities involved, use patterns and probability of reaching the marine environment).
ANNEX II

DIFFUSE SOURCES OF POLLUTION FROM AGRICULTURE AND FORESTRY

A. Definitions

For the purposes of this Annex:

1. "Diffuse sources of pollution from agriculture" means diffuse sources of pollution originating from the cultivation of crops and rearing of domesticated animals, excluding intensive animal rearing operations that would otherwise be defined as point sources;

2. "Diffuse sources of pollution from forestry" means diffuse sources of pollution originating from forestry activities;

3. "Best management practices" means economical and achievable structural or non-structural measures designed to prevent, reduce or control the run-off of pollutants in the Protocol Area.

B. Plans for the Prevention, Reduction and Control of Diffuse Sources of Pollution from Agriculture and Forestry

Each Contracting Party shall no later than five years after this Protocol enters into force, develop policies and plans, and establish legal and economic mechanisms for the prevention, reduction and control of pollution of the Protocol Area from diffuse sources of pollution from agriculture and forestry that may adversely affect the marine or coastal environment of the Protocol Area. Such policies, plans and mechanisms shall address, in particular, diffuse sources of pollution containing nutrients (nitrogen and phosphorus), pesticides, sediments and pathogens.

Plans should include inter alia the following elements:

1. An assessment and evaluation of diffuse sources of pollution from agriculture and forestry that may adversely affect the marine and coastal environment of the Protocol Area, including:

   a) An estimation of loadings that may adversely affect the marine and coastal environment of the Protocol Area;
   b) An identification of associated environmental impacts and potential risks to human health;
   c) The evaluation of the existing administrative framework to manage diffuse sources of pollution from agriculture and forestry;
d) An evaluation of existing best management practices and their effectiveness; and

e) The establishment of monitoring programmes.

2. Policy, legislative and economic measures including:

a) An assessment and evaluation of adequacy of plans, policies and legal mechanisms directed toward the management of diffuse sources of pollution from agriculture and forestry, and the development of a plan to implement such modifications as may be necessary to achieve best management practices; and

b) The development and promotion of economic and non-economic incentive programmes to increase the use of best management practices to prevent, reduce and control pollution of the marine and coastal environment of the Protocol Area from diffuse sources of pollution from agriculture and forestry.

3. Education, training and awareness programmes including:

a) The establishment and implementation of programmes for the agricultural and forestry sectors and the general public to raise awareness of diffuse sources of pollution from agriculture and forestry and their impacts on the marine and coastal environment, public health and the economy;

b) The establishment and implementation of programmes at all levels of education on the importance of the marine and coastal environment and the impact of pollution from agricultural and forestry activities;

c) The establishment and implementation of training programmes for government agencies and the agricultural and forestry sectors on the implementation of best management practices, including the development of guidance materials for agricultural and forestry workers on structural and non-structural best management practices, to prevent, reduce and control diffuse sources of pollution from agriculture and forestry; and

d) The establishment of programmes to facilitate effective technology transfer and information exchange.

C. Reporting

Each Contracting Party shall report on its plans for prevention, reduction and control of pollution of the marine and coastal environment of the Protocol Area from diffuse sources of pollution from agriculture and forestry in accordance with Article 196 of this Protocol.
ANNEX III

POLLUTION TRANSPORTED THROUGH THE ATMOSPHERE

This Annex defines the conditions of application of this Protocol to pollution from land-based sources and activities transported through the atmosphere in terms of Article 5.c.

1. This Protocol shall apply to polluting discharges into the atmosphere under the following conditions:
   
a) The discharged substance is or could be transported to the marine and coastal environment of the Protocol Area under prevailing meteorological conditions;

b) The input of the substance into the marine and coastal environment of the Protocol Area is hazardous in relation to the quantities of the same substance reaching the marine and coastal environment by other means.

2. This Protocol shall also apply to polluting discharges into the atmosphere affecting the marine and coastal environment of the Protocol Area from land-based sources and activities within the territories of the Contracting Parties and from fixed man-made offshore structures under their jurisdiction.

3. In the case of pollution of the marine and coastal environment of the Protocol Area from land-based sources and activities through the atmosphere, the provisions of articles 6 and 9 of this Protocol shall apply progressively to appropriate activities and substances listed in Annex I to this Protocol as will be agreed by the Contracting Parties.

4. Subject to the conditions specified in paragraph 1 above, the provisions of Article 8.1 of this Protocol shall also apply to:
   
a) Discharges - quantity and rate - of substances emitted to the atmosphere, on the basis of the information available to the Contracting Parties concerning the location and distribution of air pollution sources;

b) The content of substances of concern in fuel and raw materials;

c) The efficiency of air pollution control technologies and more efficient manufacturing and fuel burning processes;

d) The application of substances of concern in agriculture and forestry.

5. The provisions of Annex IV to this Protocol shall apply to pollution through the atmosphere whenever appropriate. Air pollution monitoring and modelling using acceptable common emission factors and methodologies shall be carried out in the assessment of atmospheric deposition of substances, as well as in the compilation of...
inventories of quantities and rates of pollutant emissions into the atmosphere from land-based sources.

6. All Articles of this Protocol shall apply equally to pollution from land-based sources and activities transported through the atmosphere wherever applicable and subject to the conditions specified in paragraph 1 above.
ANNEX IV

AUTHORISATIONS FOR DISCHARGES

Pursuant to Article 9.3 of this Protocol, the Contracting Parties when considering the issue of an authorisation for the discharges containing substances of concern listed in Annex I to this Protocol, shall evaluate and consider, as the case may be, the following factors:

A. Characteristics and Composition of the Discharges

1. Type and size of point or diffuse source (e.g. industrial process).
2. Type of discharges (e.g. origin, average composition).
3. State of waste (e.g. solid, liquid, sludge, slurry).
4. Total amount (volume discharged, e.g. per year).
5. Discharge pattern (continuous, intermittent, seasonally variable, etc.).
6. Concentrations with respect to relevant constituents of substances listed in Annex I and of other substances as appropriate.
7. Physical, chemical and biochemical properties of the waste discharges.

B. Characteristics of Discharge Constituents with Respect to their Harmfulness

1. Persistence (physical, chemical, biological) in the marine environment.
2. Toxicity and other harmful effects.
3. Accumulation in biological materials or sediments.
4. Biochemical transformation producing harmful compounds.
5. Adverse effects on the oxygen content and balance.
6. Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other seawater constituents which may produce harmful biological or other effects on any of the uses listed in section F below.
7. All other characteristics as listed in Annex I, section C.

C. Characteristics of Discharge Site and Receiving Environment

1. Hydrographic, meteorological, geological and topographical characteristics of the coastal area.
2. Location and type of the discharge (outfall, canal outlet, etc.) and its relation to other areas (such as amenity areas, spawning, nursery, and fishing areas, shellfish grounds) and other discharges.
3. Initial dilution achieved at the point of discharge into the receiving environment.
4. Dispersion characteristics such as effects of currents, tides and wind on horizontal transport and vertical mixing.
5. Receiving water characteristics with respect to physical, chemical, biological and ecological conditions in the discharge area.
6. Capacity of the receiving marine environment to receive waste discharges without undesirable effects.

D. Characteristics of the Activity or Source Category

1. Performance of existing technologies and management practices, including indigenous technologies and management practices;
2. Age of facilities, as appropriate; and
3. Existing economic, social and cultural characteristics.

E. Alternative Production, Waste Treatment Technologies or Management Practices

1. Recycling, recovery and reuse opportunities;
2. Less hazardous or non-hazardous raw material substitution;
3. Substitution of cleaner alternative activities or products;
4. Low-waste or clean technologies or processes; and
5. Alternative disposal activities (for example on land disposal).

F. Potential Impairment of Marine Ecosystems And Seawater Uses

1. Effects on human health through pollution impact on:
   a) Edible marine organisms;
   b) Bathing waters; and
   c) Aesthetics.
2. Effects on marine and coastal ecosystems, in particular living resources, endangered species and critical habitats.
3. Effects on other legitimate uses of the sea.
ANNEX V

BEST AVAILABLE TECHNIQUES AND BEST ENVIRONMENTAL PRACTICE

In accordance with relevant provisions of this Protocol the Contracting Parties shall utilise or promote the application of Best Available Techniques (BAT) and Best Environmental Practice (BEP).

A. Best Available Techniques

1. The term "best available techniques" means the latest stage of development (state of the art) of processes, facilities or methods of operation, which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. "Techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.

2. The use of the best available techniques shall emphasize the use of non-waste technology, if available.

3. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to:
   a) Comparable processes, facilities or methods of operation which have recently been successfully tried out;
   b) Technological advances and changes in scientific knowledge and understanding;
   c) The economic feasibility of such techniques;
   d) Time limits for installation in both new and existing plants;
   e) The nature and volume of the discharges and emissions concerned; and
   f) The precautionary principle.

4. What is "best available techniques" for a particular process will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.

5. If the reduction of discharges and emissions resulting from the use of best available techniques does not lead to environmentally acceptable results, additional measures have to be applied.

B. Best Environmental Practice

1. The term "best environmental practice" means the application of the most appropriate combination of environmental control measures and strategies.
2. In making a selection for individual cases, at least the following graduated range of measures should be considered:

   a) The provision of information and education to the public and to users about the environmental consequences of choice of particular activities and choice of products, their use and ultimate disposal;
   b) The development and application of Codes of Good Environmental Practice which cover all aspects of the activity in the product’s life;
   c) The mandatory application of labels informing users of environmental risks related to a product, its use and ultimate disposal;
   d) Saving of resources, including energy;
   e) Making collection and disposal systems available to the public;
   f) Avoiding the use of hazardous substances or products and the generation of hazardous waste;
   g) Recycling, recovery and re-use;
   h) The application of economic instruments to activities, products or groups of products;
   i) Establishing a system of licensing, involving a range of restrictions or a ban.

3. In determining what combination of measures constitute best environmental practice, in general or individual cases, particular consideration should be given to:

   a) The environmental hazard of the product and its production, use and ultimate disposal;
   b) The substitution by less polluting activities or substances;
   c) The scale of use;
   d) The potential environmental benefit or penalty of substitute materials or activities;
   e) Advances and changes in scientific knowledge and understanding;
   f) Time limits for implementation;
   g) Social and economic implications; and
   h) Precautionary principle.

4. It therefore follows that best environmental practice for a particular source will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.

5. If the reduction of inputs resulting from the use of best environmental practice does not lead to environmentally acceptable results, additional measures have to be applied and best environmental practice redefined.