

ENVIRONMENTAL PROTECTION  
IN OUTER SPACE:  
TOWARD A PROTOCOL TO  
ARTICLE IX OF THE *OUTER  
SPACE TREATY*

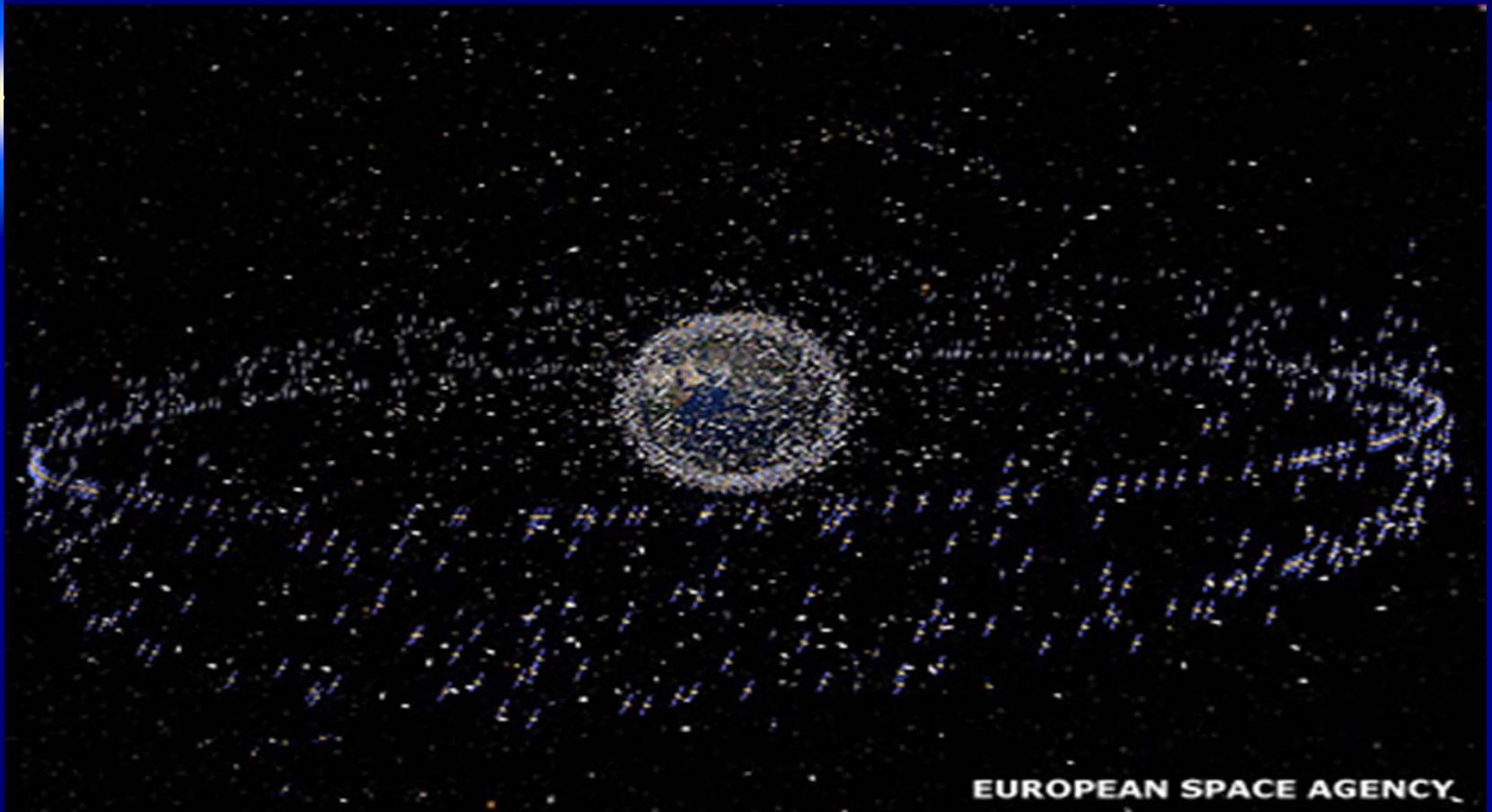
Howard A. Baker, M.E.S., LL.M., D.C.L.  
Senior Counsel, Department of Justice  
Government of Canada

# Article IX of the Outer Space Treaty

- the basic provision in international space law for protection and preservation of the outer space environment
- its perspective is human-centred and utilitarian: outer space, the moon and other celestial bodies have value only insofar as they are useful to humankind
- fails to consider the intrinsic value of planetary ecosystems , including outer space, *ie* they are valuable in themselves

# The general obligations in Article IX

- tend to support the principles of contemporary international environmental law
- too general
- have not been particularly effective



# The general obligations in Article IX

- their scope and content should be expanded and more detailed so they can apply to
  - all space projects of humankind
  - environmental concerns arising from these projects

# A Proposal

- apply the basic principles of international environmental law and legal obligations arising from environmental management to humankind's activities in outer space by enacting

THE PROTOCOL TO ARTICLE IX OF THE  
OUTER SPACE TREATY FOR THE  
PROTECTION AND PRESERVATION OF THE  
PLANETARY ENVIRONMENT

# Desired Outcome



# The Environmental Protocol

- prime objective
  - to ensure that measures for the protection and preservation of the planetary environment are taken by design, not by coincidence
- not impossible
- BUT
  - a planned, preventive management scheme to protect and preserve the planetary environment will require a major adjustment in the current attitudes and thinking of the planet's political, industrial, financial and technological elites.



# Legal Framework

## 1. The *Outer Space Treaty*

- an international, public law instrument
- legally binding on all its parties
- contains general principles on which the law applicable to humankind's activities in outer space are being progressively developed
- *Egs*
  - Article VII → → → → Liability Convention
  - Articles V and VIII → → → → Rescue and Return Agreement

# Legal Framework (cont'd)

## 2. The Legal Instrument

- Article IX of the *Outer Space Treaty* contains general obligations for protecting the outer space environment.
- Develop the Environmental Protocol as a supplemental treaty instrument to the *Outer Space Treaty* in order to expand upon those obligations.

# Legal Framework (cont'd)

## 2. The Legal Instrument (cont'd)

- There is precedent at international law for such an instrument:
  - *Protocol on Environmental Protection of the Antarctic (Madrid Protocol)*
    - supplements the *Antarctic Treaty*
    - provides an elaborate set of general principles and legal obligations for environmental protection in the Antarctic

## Legal Framework (cont'd)

### 3. The Legal Structure

- adopt the two-stage approach used in international environmental law:

Framework Agreement

Supplemental Protocols

## Legal Framework (cont'd)

### 3. The Legal Structure (cont'd) Framework Agreement

- sets out an agreed statement of general principles and legal obligations based on
  - the nature of the activity
  - the constraints required to avoid adverse effects on the environment in question

## Legal Framework (cont'd)

### 3. The Legal Structure (cont'd)

#### Supplemental Protocols

- for specific substances and activities causing adverse effects, enact
  - scientific and technical standards
  - compliance schedules

# Legal Framework (cont'd)

## Examples of Framework/Protocol Systems for Environmental Protection

**Framework:** *Vienna Convention for Protection of the Ozone Layer*

**Protocol:** *Montreal Protocol on Substances that Deplete the Ozone Layer*

**Framework:** *Convention on Civil Aviation (Chicago Convention), Article 37*

**Protocols:** Annex 16 on Environmental Protection  
Annex 18 on The Safe Transportation of Dangerous Goods by Air

# General Principles for Protection and Preservation of the Planetary Environment

## 1. Principle of Common Planetary Concern

The planetary environment is an ecosystem encompassing Earth, celestial bodies and the space plasma that surrounds them.



# General Principles for Protection and Preservation of the Planetary Environment

## 1. Common Planetary Concern (cont'd)

Where humankind's space projects could have adverse effects on this environment which, for greater certainty, includes the biosphere, the prevention and protection of the planetary environment from these adverse effects is the responsibility of humankind through supranational action, whether these adverse effects arise within the jurisdiction and control of sovereign States or in *res communis* or other territories beyond State jurisdiction.

# General Principles for Protection and Preservation of the Planetary Environment

## 1. Common Planetary Concern (cont'd)

Space projects involving natural “resources” in the planetary environment shall be subject to planetary management for the benefit of present and future generations of biokind.

# General Principles for Protection and Preservation of the Planetary Environment

## 2. Principle of Good Neighbourliness

Every State shall bear international responsibility, in accordance with Article VI of the *Outer Space Treaty*, for ensuring that any space project, or element thereof, carried out in areas within the jurisdiction and control of a State, does not have adverse effects on any biological entities-in-ecosystems in the planetary environment.

# General Principles for Protection and Preservation of the Planetary Environment

## 3. Principle of Precautionary Measures

Where scientific uncertainty exists regarding the possible adverse effects of an activity or substance connected with a space project in the planetary environment, including the biosphere, the implementation of the activity in, or introduction of the substance into, a planetary ecosystem should be prohibited unless the responsible State can demonstrate, according to an international, scientifically acceptable standard of minimal risk, that the activity or substance will have no adverse effect.

# General Principles for Protection and Preservation of the Planetary Environment

## 4. Principle of Sustainable Development

Subject to the principle of precautionary measures, where the basic interests of any biological entities-in-ecosystems are in issue, space projects undertaken to fulfil these interests shall maintain a net level of consumption of all biological entities-in-ecosystems, including physical entities, in order to meet these basic interests.

# Legal Obligations for Environmental Management of Outer Space Activities

## 1. Respect for Nature

States have an obligation to respect the inherent worth of the planetary environment, which includes all biological entities-in-ecosystems, and to maintain its natural processes.

# Legal Obligations for Environmental Management of Outer Space Activities

## 2. Protection and Preservation

States have an obligation to plan and conduct all space projects with the objectives of protecting and preserving both the planetary environment and its inherent worth, so as to avoid any effects adverse in interest to the planetary environment, which includes the biosphere and all related ecosystems.

# Legal Obligations for Environmental Management of Outer Space Activities

## 3. Minimal Impairment

In conducting space projects States have an obligation to take all measures necessary to prevent or, if necessary, reduce and control, in as timely a manner as possible and to as great an extent as technologically feasible, any adverse effects to the planetary environment arising from space projects, including the introduction of any substance into, or the implementation of any activity in, the planetary environment, including the biosphere and all related ecosystems.



# Questions?

