

1 BIODIVERSITY VALUES IN INTERNATIONAL LAWS AND CONVENTIONS

The notions of biodiversity and ecosystem services are frequently confused. For example, scientific articles often include the term "biodiversity" in the title or among the key words, whereas in fact, the article studies a biological process or an ecosystem service for instance, and not the *diversity of life forms* within an ecosystem. It is necessary not to confuse topics dealing with the diversity of life forms, i.e. biodiversity in the sense of the Convention on biological diversity (see a summary of definitions, Gosselin *et al.*, 2004) and those dealing with life itself or ecosystem services, which are more general concepts. This confusion is even less understandable given that ecosystem services are not determined exclusively by biodiversity. In fact:

- biodiversity is one of the services rendered by ecosystems, i.e. the supply of a wider resource in the sense used by Larrère and Larrère, in this issue;
- elements of biodiversity contribute to ecosystem services, but rarely does biodiversity itself do so. For example, vegetation cover is required to protect soil from erosion, but it does not necessarily have to be very diversified.

Two types of values may be associated with biodiversity.

- An existence value, by which biodiversity must be protected in its own right. The existence value is justified by immaterial aspects, including a humanistic approach which considers that all biodiversity is worthy of conservation in that it is a beneficial source of marvel for humanity, for its aesthetic, spiritual and cultural values, or as a heritage that must be transmitted to future generations, given that the loss of a species is irreversible (Larrère and Larrère, this issue). Biodiversity is, in this case, an ecosystem service rendered to humanity.
- A value that we will call extrinsic because, from this point of view, biodiversity must be conserved for a function or ecological entity other than itself, for example, its participation in ecosystem services, that may be real or potential, material or immaterial, supplied to humanity, e.g. provision

of goods (medicinal plants, food, energy, textiles), regulation and self-maintenance services (ecosystem operation, predation, etc.). In this case, it is biodiversity itself that renders service.

However, it is not clear from the opinions expressed by managers, politicians and even scientists that biodiversity is seen as an ecosystem service among others and valued for its existence alone. On the contrary, utilitarian, extrinsic values often dominate. There would seem to be a major "split" between the domination of the utilitarian, extrinsic values in discussions on biodiversity and:

- on the one hand, the use of biodiversity as the exclusive standard for natural-resource policies (Larrère and Larrère, this issue);
- on the other, acknowledgement of the existence value of biodiversity as the overriding goal of numerous legislative *documents* on biodiversity (see table 1).

We clearly find ourselves here in an expanded anthropocentric (or humanist) approach, even when speaking of the existence value of biodiversity (as proposed by Gosselin (2008) as the ethical basis for ecological engineering), primarily because the international texts presented here would appear to have adopted this approach. ■

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1 Goals and underlying biodiversity values in the main international and European conventions on biodiversity.

	Ramsar convention	Washington convention	Birds directive	Bern convention	Bonn convention	Habitats directive	Convention on biological diversity
	UNESCO *	CITES **	Council of the European communities	Council of Europe	United Nations	Council of the European communities	CNUED ***
	1971	1973	1979	1979	1979	1992	1992
Is biodiversity one of the main goals?	No	Yes "wild fauna and flora in their many beautiful and varied forms"	No	No	Yes "wild animals in their innumerable forms"	Yes	Yes
Goals	<ul style="list-style-type: none"> • Conservation of main wetlands. • Rational use of wetland resources. 	<ul style="list-style-type: none"> • Protect wild species against excessive trade. 	<ul style="list-style-type: none"> • Protect, manage and regulate species and their habitats. • Preserve the diversity and quantity of habitats. 	<ul style="list-style-type: none"> • Conserve natural fauna and flora and their habitats. 	<ul style="list-style-type: none"> • Sustainable use. 	<ul style="list-style-type: none"> • Protect wild species of fauna and flora and their habitats. • Encourage maintenance of biodiversity. 	<ul style="list-style-type: none"> • Biodiversity conservation. • Sustainable use of its elements. • Fair and equitable sharing.

Values assigned to considered elements of biodiversity

Existence value, i.e. biodiversity must be protected in its own right.	Not explicitly mentioned.	"irreplaceable value".	"common heritage".	"intrinsic value".	"irreplaceable value".	Not explicitly mentioned.	"intrinsic value".
Extrinsic value, i.e. biodiversity must be protected for reasons other than itself.	Economic, cultural, scientific and recreational value.	Economic, cultural, scientific, recreational and aesthetic value.	Social and economic value.	Aesthetic, scientific, cultural, recreational and economic value. Role in maintaining biological balances.	Mesologic, ecological, genetic, scientific, aesthetic, recreational, cultural, educative, social and economic value.	Not explicitly mentioned.	Value of biological diversity and its components in environmental, genetic, social, economic, scientific, educative, cultural, recreational and aesthetic terms.

* United Nations educational, scientific and cultural organisation ; ** Convention on international trade in endangered species of wild fauna and flora ;

*** United Nations conference on environment and development.

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