

# **Alien species - Glossary of key terms**

**by**

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## SCOPE

Definitions are used to provide an agreed meaning for a particular term, clarify scope and provide certainty and consistency. However, alien species terminology presents particular challenges for scientists, policy-makers and lawyers. At present, there is no common glossary of relevant scientific terms and concepts. In parallel, instruments at all levels use variable terminology, sometimes inconsistently or without adequate definitions. Gaps and inconsistencies can hamper cross-sectoral planning and coordination and undermine compliance.

The glossary is a listing of terms and definitions with specific reference to alien species in marine systems worldwide. It has been developed to provide a basic vocabulary within MARBEF. Its purpose is to assist all actors and others in information exchange and the harmonization of vocabulary used in communications as well as recommendations pertaining to policies. Consistent and precise use of terms helps to build awareness of alien species problems and is absolute prerequisite in discussions about the implementation of alien management plans.

The glossary is based on terms and definitions mainly used in work done under the Convention on Biological Diversity (CBD, [www.biodiv.org](http://www.biodiv.org)). The CBD was adopted in 1992 and currently ratified by over 170 States. Its aims are the worldwide conservation of biological diversity, the sustainable usage of biological resources, and the fair and equitable sharing of benefits arising from the use of genetic resources. Article 8h of the CBD requires all Contracting Parties “as far as possible and as appropriate, to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species”.

The glossary is a living glossary, and suggestions are welcome for comments, additions or corrections. Please send your e-mail to: [nehring@aet-umweltplanung.de](mailto:nehring@aet-umweltplanung.de)

## GLOSSARY OF KEY TERMS

The glossary contains important key terms which are in common use throughout internationally documents related to alien species. In addition it is hoped that this glossary will be useful for continued harmonization and to encourage wider usage of definite key terms within MARBEF.

<u>Term</u>	<u>Definition</u>
<b>Alien species</b>	A species, subspecies, or lower taxon introduced outside its normal past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce. <sup>2</sup> <i>Synonyms:</i> foreign, exotic, introduced, new, non-indigenous, non-native; neophytes, neozoans
<b>Aquarium species</b>	All species imported or transferred into confinement for ornamental indoor and outdoor use. <sup>3</sup> <i>Synonym:</i> ornamental
<b>Bait organisms</b>	Live specimens used (e.g., on a hook or in a trap) to allure target species. <sup>3</sup>

<b>Biocontrol species</b>	The intentional release of an organism that is intended to consume, infect, or debilitate a selected species to decrease its population size. Note: The possible limited specificity of biocontrol species is of concern as native species might be negatively affected. <sup>3</sup>
<b>Biological diversity</b>	The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. <sup>1</sup>
<b>Biological resources</b>	Genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity. <sup>1</sup>
<b>Biosecurity</b>	The management of risks posed by organisms to the economy, environment and people's health through exclusion, mitigation, adaptation, control, and eradication. <sup>2</sup>
<b>Biotechnology</b>	Any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use. <sup>1</sup>
<b>Broodstock</b>	Specimens of a species in any life stage from which a first or subsequent generation/growth may be produced for possible introduction to the environment. <sup>3</sup>
<b>Casual alien species</b>	Alien species that may flourish and even reproduce occasionally in an area, but which do not form self-replacing populations, and which rely on repeated introductions for their persistence. <sup>2</sup>
<b>Containment</b>	Keeping the invasive alien species within regional barriers. <sup>2</sup>
<b>Country of origin</b>	The country where the species is native. <sup>3</sup>
<b>Country providing genetic resources</b>	The country supplying genetic resources collected from in-situ sources, including populations of both wild and domesticated species, or taken from ex-situ sources, which may or may not have originated in that country. <sup>1</sup>
<b>Cryptogenic species</b>	A species that is not demonstrably native or introduced (from crypt-, Greek, kryptos, secret; -genic, New Latin, genic, origin). <sup>5</sup>
<b>Current commercial practice</b>	Established and ongoing cultivation, rearing, or placement of an introduced or transferred species in the environment for economic or recreational purposes, which has been ongoing for a number of years. <sup>3</sup>

<b>Domesticated species</b>	Species in which the evolutionary process has been influenced by humans to meet their needs. <sup>1</sup> <i>Synonym:</i> cultivated
<b>Donor location</b>	Specific localities in a country or zone from which the import or transfer originates. <sup>3</sup> <i>Synonym:</i> source localities
<b>Ecosystem</b>	A complex of organisms and their environment, interacting as defined ecological unit (natural or modified by human activity, e.g. agroecosystem), irrespective of political boundaries. <sup>4</sup>
<b>Eradication</b>	The extirpation of the entire population of an alien species, including any resting stages, in a managed area. <sup>2</sup>
<b>Establishment</b>	The process of a species in a new habitat successfully reproducing at a level sufficient to ensure continued survival without infusion of new genetic material from outside the system. <sup>2</sup>
<b>Ex-situ conservation</b>	The conservation of components of biological diversity outside their natural habitats. <sup>1</sup>
<b>GMO/LMO</b>	A genetically-modified organism/living modified organism is a species whose genetic makeup has been purposefully altered by human technology. When the resulting organism is sufficiently different from its nearest relative to be considered a “new species”, then it can be considered an alien species. These are addressed under Article 8(g) of the CBD. <sup>2</sup>
<b>Habitat</b>	The place or type of site where an organism or population naturally occurs. <sup>1</sup>
<b>In-situ conditions</b>	Conditions where genetic resources exist within ecosystems and natural habitats, and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties. <sup>1</sup>
<b>In-situ conservation</b>	The conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties. <sup>1</sup>
<b>Intentional introduction</b>	The purposeful movement by humans of a species outside its natural range and dispersal potential (such introductions may be authorised or unauthorised). <sup>2</sup>

<b>Introduction</b>	The movement, by human agency, of a species, subspecies, or lower taxon (including any part, gametes, seeds, eggs, or propagules that might survive and subsequently reproduce) outside its natural range (past or present). This movement can be either within a country or between countries. <sup>2</sup>
<b>Invasive alien species</b>	An alien species whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm. These are addressed under Article 8(h) of the CBD. <sup>2</sup>
<b>Native range</b>	Natural limits of geographical distribution of a species. <sup>3</sup>
<b>Native species</b>	A species, subspecies, or lower taxon living within its natural range (past or present), including the area which it can reach and occupy using its own legs, wings, wind/waterborne or other dispersal systems, even if it is seldom found there. <sup>2</sup> <i>Synonym:</i> indigenous
<b>Natural ecosystem</b>	An ecosystem not perceptibly altered by humans. <sup>4</sup>
<b>Naturalized species</b>	Alien species that reproduce consistently (cf. casual alien species) and sustain populations over more than one life cycle without direct intervention by humans (or in spite of human intervention); they often reproduce freely, and do not necessarily invade natural, semi-natural or human-made ecosystems. <sup>2</sup>
<b>Non-target species</b>	Any species inadvertently accompanying in, on, or with the species intended for introduction or transfer. <sup>3</sup>
<b>Pest</b>	Any species, strain or bio-type of plant, animal or pathogenic agent (not necessarily alien) injurious to plants or plant products. <sup>4</sup>
<b>Progeny</b>	Next generation(s) of an organism. Also included are new stages/fragments of seaweeds, protists, and clonal organisms. <sup>3</sup>
<b>Protected area</b>	A geographically defined area which is designated or regulated and managed to achieve specific conservation objectives. <sup>1</sup>
<b>Quarantine</b>	The facility and/or process by which live organisms and any of their accompanying organisms can be held or reared in isolation from the surrounding environment including sterilization procedures. <sup>3</sup>
<b>Release</b>	Voluntary or accidental dissemination of an organism, or its gametes, outside its controlled area of confinement. <sup>3</sup>

<b>Secondary introduction</b>	Takes place as the result of an intentional or unintentional introduction into a new area and the species disperses from that point of entry to other areas that it could not have reached without the initial (primary) human mediated introduction. <sup>5</sup>
<b>Semi-natural ecosystem</b>	An ecosystem which has been altered by hum actions, but which retains significant native elements. <sup>5</sup>
<b>Spread</b>	Expansion of the geographical distribution of an alien species within an area. <sup>4</sup>
<b>Suppression</b>	Reducing population levels of the invasive alien species to an acceptable threshold. <sup>2</sup>
<b>Sustainable use</b>	The use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations. <sup>1</sup>
<b>Transferred species</b>	Any species intentionally or accidentally transported and released within areas of established populations and continuing genetic flow where it occurs. <sup>3</sup> <i>Synonym:</i> transplanted
<b>Treatment</b>	A process or mechanism, physical, chemical or biological method to kill, remove or render interfile, harmful or potential harmful organisms within ballast water. <sup>6</sup>
<b>Unintentional introduction</b>	A species utilising unwitting humans or human delivery systems as vectors to disperse and become established outside its natural range. <sup>2</sup>
<b>Vector</b>	Any living or non-living carrier that transports living organisms intentionally or unintentionally. <sup>3</sup>
<b>Weeds</b>	Plants (not necessarily alien) that grow in sites where they are not wanted and have detectable negative economic or environmental effects; alien weeds are invasive alien species. <sup>2</sup>
<b>Zone</b>	Part of a coastal area or an estuary of one or more countries with the precise geographical delimitation that consists of a homogeneous hydrological system. <sup>3</sup>

## REFERENCES

<sup>1</sup> CBD (1992): The Convention on Biological Diversity. - UN Conference on Environment and Development, Rio de Janeiro. [www.biodiv.org](http://www.biodiv.org)

<sup>2</sup> CBD (2000): Global strategy on invasive alien species. - Convention on Biological Diversity,

UNEP/CBD/SBSTTA/6/INF/9.

- <sup>3</sup> ICES (2003): Code of Practice on the Introductions and Transfers of Marine Organisms.- ICES, Copenhagen.
- <sup>4</sup> IPPC (1999): Glossary of phytosanitary terms. - Food and Agriculture Organization of the United Nations, Rome, ISPM No. 5.
- <sup>5</sup> IUCN (2000): IUCN guidelines for the prevention of biodiversity loss caused by alien invasive species. – Prepared by the Species Survival Commission, approved by the 51<sup>st</sup> meeting of the IUCN council.
- <sup>6</sup> IMO (1997): Assembly Resolution A.868 (20) – Guidelines for the Control and Management of Ships` Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens. – IMO, London.