

Appendix S1.

Why are there so many definitions of eutrophication?



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TABLE S1 Word strings for searches in Google Scholar

Search strings in quotation marks in Google Scholar
“eutrophication is defined”
“eutrophication has been defined as”
“eutrophication can be defined as”
“eutrophication (here) defined as”
“eutrophication means”
“called eutrophication”
“define eutrophication as”
“eutrophication refers to”
“eutrophication is”
“eutrophication continues to be”
“Eutrophication (“
“eutrophication, which is”
“eutrophication corresponds to”
“eutrophication is considered here as”
“known as eutrophication”
“Eutrophication, or”
“or eutrophication”
“definition of eutrophication is”
“definition of eutrophication as”
“eutrophication is indicated by”

SECTION S1 Questionnaire used to analyze definitions:

definition

 alex.pannard@gmail.com (not shared) [Switch account](#) 

*** Required**

expert *

Alex

Philippe

Morgane

Elisabeth

Christian

Other: _____

Name of the definition *

Your answer _____

WHEN *
year of publication. if website, note 'NA' (not available)

Your answer _____

is the definition in adequacy with the general diagram ? the cause - direct effects - *
indirect effects (even if not complete)

yes

No

if no to the previous question, shortly explain :

Your answer _____

WHAT – Component 1: what does the definition contain? *

what kind of category are involved in the definition. See cause/direct effect/indirect effect diagram below.If a trophic change is mentioned, it corresponds to a direct effect.

causes (1)

direct effects (2)

indirect effects (3)

none

Category 1: nutrient enrichment - Nutrient Type *

N

P

unspecified

Other: _____

Category 1: Nutrient enrichment - Nutrient form *

- organic
- inorganic (salts)
- unspecified (including nutrient alone)

environmental factors (of direct effects) *

Which associated causality factors are cited in the definition?

- light / temperature
- hydrodynamics (residence time, stratification, tides, confinement)
- unspecified
- Other:

WHERE: Kind of ecosystem involved in the definition

what is the kind of ecosystem involved ?

- freshwater
- marine
- aquatic (word 'aquatic' without 'freshwater' and 'marine')
- unspecified
- Other:

WHERE: Kind of ecosystem involved in the topic

what is the kind of ecosystem involved ?

- freshwater
- marine
- aquatic (word 'aquatic' without 'freshwater' and 'marine')
- unspecified: neither in the text, nor in the definition itself
- Other: _____

Time scale : Anthropic or Natural ? (AN) *

does the author specify the origin of the cause? the authors must use the words:

- natural
- anthropic/cultural/artificial/man-made
- unspecified

category 2 : Direct effect - Primary producers (DEPP) *

which primary producers are cited?

- higher / vascular plants
- aquatic plants
- macro-algae
- Macrophytes
- algae
- phytoplankton / micro-algae
- cyanobacteria
- primary producers / autotroph
- unspecified
- Other: _____

category 2 : Direct effect - Process (DET) *

Primary producers only

- increase growth rate / Production / productivity
- increase biomass / proliferation / increase number
- change of autotrophic community
- Turbidity / transparency / light / shading
- unspecified

category 3 : INDIRECT EFFECTS - Ecosystem (IEE) *

	yes	no
oxygen depletion	<input type="radio"/>	<input type="radio"/>
oxygen + sulphide release (poison)	<input type="radio"/>	<input type="radio"/>
Toxicity (HAB)	<input type="radio"/>	<input type="radio"/>
Nutrient cycle	<input type="radio"/>	<input type="radio"/>
change of habitat	<input type="radio"/>	<input type="radio"/>
change of heterotrophic community	<input type="radio"/>	<input type="radio"/>
physical modification (volume, water depth, currents, integrity, silting up)	<input type="radio"/>	<input type="radio"/>
biodiversity (loss of species)	<input type="radio"/>	<input type="radio"/>
syndrome / impacts	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>

If response to previous question IEE = 'other', give details:

Your answer

category 3 : INDIRECT EFFECTS - Society (IES) *

	yes	no
Water quality	<input type="radio"/>	<input type="radio"/>
Ecosystem services (odour, aesthetics, clogging, navigation)	<input type="radio"/>	<input type="radio"/>

If response to previous question = 'other' (IES), give details:

Your answer _____

Does the definition refer to a still existing definition ? give the name and year

Your answer _____

Source characteristics *

- publications in aquatic ecology
- publications in other journals
- books
- technical reports
- dictionary / encyclopedia / glossary
- directives
- institutions / websites
- Other: _____