Codes

OK to be accepted as it is
D proposed for deletion
A proposed to be added
M pending revision
R revised and proposed for approval

code	term	n	def	SC	source
OK	Abundance index	0	A quantitative measure of fish density or abundance, usually presented as a time series. An abundance index can be specific to an area or to a segment of the population, or it can refer to abundance stock-wide; the index can reflect abundance in numbers or weight (biomass). Abundance indices are often based standardized fishery data (e. g. catch per unit effort, CPUE) data, but fishery-independent abundance indices based on scientific surveys are also used.	SCSA	Modified from Restrepo V. (1999):): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
D	Acceptable impact	0	A negative, or potentially negative, alteration of the exploited natural system, resulting from human activities (i.e., fisheries and other impacting industries), the level and nature of which, on the basis of available knowledge, is considered as representing a low enough risk for the resource, system productivity, or biodiversity. Its acceptability is continuously kept under review and can be revocated on the basis of new knowledge.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
D	Access right	1	An access right allows a vessel to be used in a managed fishery for such purposes and under such constraints as specified in a management plan, for example, to fish for a particular species up to specified proportion of the total allowable catch.	SCESS	AGPS.
OK	Access right	2	In fisheries, an authorisation (access right) , given to a user (e.g. a vessel owner) by a competent fishery management authority or by legislation, to exploit a resource, a particular species, or a share of a total allowable catch. Access rights can be granted against payment or free of charge. They are usually conditional and used under constraints specified in the management plan.	SCESS	In FAO glossary

D	Access right	3	An access right allows a vessel to be used in a managed fishery for such purposes and under such constraints as specified in a management plan, for example, to fish for a particular species up to specified proportion of the total allowable catch.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report - Fisheries, Canberra, 202 p. In FAO glossary.
A	Accessibility	0	geographical component of the availability consisting in displacement from and to the fishing areas.	SCSA	Laurec, A. and J.-C. Le Guen.- 1981. Dynamique des populations marines exploitées, Tome 1. Concepts et modèles. Publications du Centre National pour l'Exploration des Oceans. CNEXO/Centre Oceanologique de Bretagne. Rapports Scientifiques et Techniques Nº45. 117 pp.
R	Accessory catch, additional catch, accompanying species.	0	The part of the catch that comprises non-target species that is potentially marketable. Also additional catch and accompanying species	SCSA	
R	Accidental catch ~~or incidental catch~~	1	Or Incidental catch: a reference to non-target species that is caught during the normal fishing activity but as do not have commercial interest and is always discarded, also could include protected species or specimens that can cause damages in the fishing gear, waste of time, or economical looses c~~aptured during their attempts to take bait or other species already taken by fishing gear, or taken simply through being in proximity to the gear.~~ Also incidental catch, unintentional or fortuitous.	SCESS	*OECD (1997),* Towards sustainable fisheries: issue papers. Report OECD/GD(97)54. In FAO glossary.
D	Accidental catch or incidental catch	2	Or incidental catch, unintentional catch or fortuitous catch, is the part of the catch of non-target species that is caught during the normal fishing activity but as do not have commercial interest and is always discarded, also could include protected species or specimens that can cause damages in the fishing gear, waste of time, or economical looses.	SCSA	
A	accompanying species	0	Accessory catch		
A	Activity	0	As effort parameter: Dredged surface area (m^2), number of fishing sets (deployed) and number of fishing trips.		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008

OK	ADAPT	0	A stock assessment program based on VPA and tuning of. abundance indices. The population model is age-structured.	SCSA	Geremont, H.F. and D.S. Butterworth 1997. Specifications for the ADAPT VPA code, September 1996. SCRS96/127. Powers J.E. and V.R. Restrepo 1992. Additional options for age-sequenced analysis. SCRS/91/040. In ICCAT Glossary.
R	Adaptive management	0	~~Harvesting policy is based empirically on present knowledge and catch and escapement are deliberately manipulated to gain better understanding.~~ Management process involving step-wise evolution of a flexible management system in response to feedback information actively collected to check or test its performance (in biological, social and economic terms). It may involve deliberate intervention to test the fishery system's response.	SCSA	In FAO glossary
A	Additional catch	0	Accessory catch		
OK	Adult	0	Individual that has reach the length or age of first maturity.	SCSA	
OK	Age of Maturity	0	Age when 50% of the fish of a given sex are considered to be reproductively mature.	SCSA	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas. In FAO glossary.
OK	Age of Recruitment	0	The age at which fish, already present in the fishery's operative area, become vulnerable to the employed gear. In stock assessment, this is usually the youngest age group considered in the analyses, typically age 0 or 1 in the low selective Mediterranean groundfish fisheries.	SCSA	Modified from ICCAT glossary.
OK	Age-Length Key (ALK)	0	One approach used to assign ages to fish, given length measurements. Age-Length Keys can be used to convert catch-at-size data into catch-at-age data. The keys specify the probability that fish of a given size belong to one or several age groups. Age-Length Keys need to be constructed from samples of length/age data.	SCSA	Hoenig J.M., D.M. Heisey, and R.C. Hanumara. 1994. A new approach to age-length keys: Using last year's and this year's data to estimate age composition. ICCAT SCRS/93/060. In FAO glossary,
OK	Alien species	0	A non-established introduction, i.e., a species introduced by human agency into a geographical region outside its natural range, but which has not established self-maintaining or self-regenerating populations in the wild in the new area. See 'non-native'.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997.

R	Allocation	1	Refers both to a share and the process of sharing. 1. A share, a portion, of the allowable catch, effort or area attributed to a person, a community, a vessel, or a company. 2. The process of distributing shares (rights) among selected recipients, based on historical, cultural or socio-economic criteria. The beneficiaries could be contemporary (intra-generational allocation) or belong to successive generations (inter-generational allocation). Examples: splitting a total allowable catch among fishing nations or assigning coastal areas to different uses. Synonyms: apportionment, allotment, appropriation, distribution, division, and repartition. ~~A portion. A quantity of catch, effort or biomass attributed to a person, a vessel, and a fishing company. The allocation can be absolute (e.g. a number of tons) or relative (e.g. a % of the annual allowable catch) The process of apportioning (a resource) for a specific purpose or to particular persons or things. In fisheries, the direct and deliberate distribution of the opportunity (right) to fish among identifiable, discrete user groups or individuals, based on historical, cultural or socio-economic criteria. By extension "allocation" could be applied to fishing rights.~~	SCESS	FAO glossary
D	Allocation	2	A quantity of catch, effort or biomass attributed to a person, a vessel, and a fishing company. The allocation can be absolute (e.g. a number of tons) or relative (e.g. a % of the annual allowable catch).	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.
D	Allocation	3	Direct and deliberate distribution of the opportunity to participate in a fishery among identifiable, discrete user groups or individuals.	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.
D	Allocation	4	Distribution of the opportunity to fish among user groups or individuals. The share a user group gets is sometimes based on historic harvest amounts.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
D	Allocation	5	Direct and deliberate distribution of the opportunity to participate in a fishery among identifiable, discrete user groups or individuals.	SCESS	US.DofC.
D	Allocation	6	Distribution of the opportunity to fish among user groups or individuals. The share a user group gets is sometimes based on historic harvest amounts.	SCESS	Roberts, K.J. et al.
D	Allocation	7	The partitioning of fishery controls or fishing rights among participating entities or operating units. For example, the allocation of the TAC into country specific quotas.	SCSA	In ICCAT glossary.
OK	Allowable catch	0	The catch allowed by a management authority to be taken from a stock of a species or group of species, by a fishery during a specified time period. Often defined as the Total Allowable Catch (TAC), it is often allocated explicitly amongst those having a right of access to the stock.	SCESS	Modified from FAO (1998). In FAO glossary.

D	Allowable quota or quota	0	A share in a total allowable quota (TAC) usually divided in a manner amongst those with a right to participate in the fishery.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report - Fisheries, Canberra, 202 p. In FAO glossary.
OK	Anadromous	0	Migrating from salt to fresh water, as in the case of a fish moving from the sea into a river to spawn.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986.
OK	Angler	0	A recreational fisher whose fishing gear is normally restricted to rods and reels	SCESS	OECD.
D	Anticipatory approach	0	An approach to reduce the risk of making mistakes associated with a lack of knowledge and understanding. The anticipatory approach would be to carry out research and apply new technology now rather than in the future (in contrast to the reactive approach or corrective approach). Synonym: preventative approach.	SCESS	Modified from Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report - Fisheries, Canberra, 202 p. In FAO glossary.
A	Apparent Consumption	0	Proxy measure for consumption of a product or material, defined as production plus imports minus exports of the product or material. In the case of marine resources, aquaculture and processing sector must be included in the balance.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Approach	0	A way and means of reaching something. The method used in dealing with or accomplishing.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
D	Aquaculture	0	The cultivation of aquatic organisms by human effort for commercial purposes. For the cultivation of marine organisms in seawater, term 'mariculture' is also used.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997.
M	Aquaculture	0	The cultivation of marine or freshwater fish or other aquatic animals or plant species. Capture-based acquaculture must be clearly defined and differenciated from other	SCESS	OECD.

OK	Area closure	0	In a fishery management system, the closure to fishing by particular gear(s) of an entire fishing ground, or a part of it, for the protection of a section of the population (e.g. spawners, juveniles), the whole population or several populations. The closure is usually seasonal but it could be permanent.	SCESS	In FAO glossary.
M	Artificial reef or Artificial structures	0	~~Are~~ bioecological tools to increase fishable biomass, to enhance protection of natural communities through the immersion of appropriate bodies, modules generally on the sea bottom. May be a better definition of both types is needed	SCMEE	
M	Artisanal	0	"Refers to catch or effort that is neither industrial nor recreational in nature, and which is generated using simple fishing methods". In general a fine definition of artisanal (industrial, etc.) is needed in GFCM	SCESS	SCRS.
M	Artisanal fisheries	1	Traditional fisheries involving fishing households (as opposed to commercial companies), using relatively small amount of capital and energy, relatively small fishing vessels (if any), making short fishing trips, close to shore, mainly for local consumption. In practice, definition varies between countries, e.g. from gleaning or a one-man canoe in poor developing countries, to more than 20 m. trawlers, seiners, or long-liners in developed ones. Artisanal fisheries can be subsistence or commercial fisheries, providing for local consumption or export. Sometimes referred to as small-scale fisheries.	SCESS	In FAO glossary.
M	Artisanal fisheries	2	A small scale, low cost and labour-intensive fishery in which the catch is generally consumed locally.	SCSA	
A	Artisanal fishery	0	New definition required adapted to the Mediterranean		
A	Assemblage	0	In a particular site and time, a collection of co-existing organisms, not strictly inter-dependent but with unspecified relationships (e.g. trophic) between them. (see community).		In FAO glossary
D	ASPIC	0	A stock assessment program based on Scheafer´s form of the production model, with non-equilibrium tuning of biomass-based abundance indices. The population model is in lumped biomass.	SCSA	Prager, M.H. 1992. ASPIC – a surplus-production model incorporating covariates. SCRS/91/024. In ICCAT Glossary.
D	ASPM	0	A stock assessment program based on a deterministic form of a stock-recruitment relationship, with non-equilibrium tuning of biomass-based abundance indices. The population model is an age-structured production model.	SCSA	Punt, A.E., A.J. Penney and C,G. Wilke. 1992. Stock assessment of South Atlanctic albacore using an age-structured production model. SCRS/91/084. In ICCAT Glossary. Restrepo, V.R. and C.M. Legault. 1998. A stochastic implementation of an age-structured production model. SCRS/97/059. In ICCAT Glossary.

D	Authorized species	0	Any species or species group that a vessel is authorized to retain as specified by the fishery management authority.	SCESS	In FAO glossary.
D	Availability	1	Refers to the distribution of fish of different ages or sizes relative to the distribution of the fishery. Individuals become available to fisheries through migration and or change of behavior. Collect different definitions of this problematic word	SCSA	
D	Availability	2	The fraction of a fish population which lives in regions where it is susceptible to fishing during a given fishing season. This fraction receives recruits from or becomes mingled with the non-available part of the stock at other seasons, or in other years. (Any more or less completely isolated segment of the population is best treated as a separate stock.).	SCESS	Ricker, W.E. (1975). In FAO glossary.
A	Availability	0	Compoent of the catchability that depends on the fish and the fishing gear and is independent of the fisherman's behaviour. It is composed of accessibility and vulnerability.		Laurec, A. and J.-C. Le Guen.- 1981. Dynamique des populations marines exploitées, Tome 1. Concepts et modèles. Publications du Centre National pour l'Exploration des Oceans. CNEXO/Centre Oceanologique de Bretagne. Rapports Scientifiques et Techniques Nº45. 117 pp.
A	Average cost (of effort)	0	Economic indicator. The total cost divided by the total amount of effort used.	SCESS	AGR/FI(96)12. In FAO glossary. OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources.
A	Average fixed cost	0	Economic indicator. The total fixed costs divided by the number of units produced.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
A	Average revenue (of effort)	0	Economic indicator. The total revenue divided by the amount of effort used to produce the revenue.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
A	Average variable cost	0	Economic indicator. The total variable cost divided by the number of units produced.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.

D	Avoidance	0	In stock assessment, the probability of a fish (usually large) avoiding capture, e.g. by swimming away or along a gillnet, or out of the pathway of a trawl. Often expressed as a function of size (or age) (avoidance curve). In general, movement of a fish (or a fish school) away from an approaching fishing vessel or gear. Related to availability?		In FAO glossary.
OK	Base port	0	The port from which fishing units operate, irrespective of where they are registered (homeport). The differentiation between base ports and homeports occurs when fishing units migrate from the locations indicated by the frame survey to other sites, usually on a seasonal basis.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
OK	Baseline	0	The line from which the seaward limits of a state's territorial sea and certain other maritime zones of jurisdiction are measured. The term usually refers to the baseline from which to measure the breadth of the territorial sea. The seaward limits of the contiguous zone (cf. UNCLOS Article 33.2), the exclusive economic zone (cf. UNCLOS Article 57) and, in some cases, the continental shelf (cf UNCLOS Article 76) are measured from the same baseline. The territorial sea baseline may be of various types depending on the geographical configuration of the locality. The "normal baseline" is the low-water line along the coast (including the coasts of islands) as marked on large-scale charts officially recognized by the coastal State (UNCLOS Articles 5 and 121.2).	SCESS	United Nations, 1989, The Law of the Sea. Baselines: An examination of the relevant provisions of the United Nations Convention on the Law of the Sea. Office for Ocean Affairs and the Law of the Sea, UN. 67 p. In FAO glossary.
D	Bayesian	0	A formal statistical approach in which expert knowledge or beliefs are analysed together with data. Bayesian methods make explicit use of probability for quantifying uncertainty. Bayesian methods are particularly useful for making decision analyses.	SCSA	Gelman et al. 1995; Porch 1999[a]: Walters and Ludwig 1994. In ICCAT glossary.
D	Beach price	0	Price for a product at the landing point, not taking account of any transportation or handling costs.	SCESS	In FAO glossary.
A	Benefit	0	The sum remaining after all costs, direct and indirect, are deducted from the income from the fishing activity business. "Profit" express the same idea. The economists' concept of profit emphasizes that "costs of production" for purposes of the definition include the full opportunity costs of all the factors of production utilized -- an amount for each reflecting what it could yield if employed in the most lucrative available alternative use. This would include not only the amount of money actually paid out for wages, materials, rent, machinery and what have you but also what the money tied up in the business could otherwise be earning in other uses at similar levels of risk. In theory the benefit in long term is near to zero.		
D	Benefit cost ratio	0	The present value of the benefits from an enterprise (farm, forest, etc.) divided by the present value of its costs.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series ,1. In FAO glossary.
R	Benthos	0	~~Those organisms attached to, living on, in or near the sea bed, river or lake floor; benthon.~~ Organisms attached or resting on the bottom or living on the bottom sediments.	SCMEE	~~A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986~~ FAO Glossary

OK	Beverton and Holt (Stock recruitment model)	0	A particular stock-recruitment formulation in which recruitment reaches an asymptote as stock size becomes very large.	SCSA	In ICCAT glossary.
D	Bias	0	A systematic difference between expected value of a statistic estimate, and the quantity it estimates.	SCSA	In ICCAT glossary.
D	Bioassay	0	Biological assay; the use of an organism for assay purposes; any quantitative biological analysis.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Biocide	0	A chemical toxic or lethal to living organisms.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Biocoenosis	0	A community or natural assemblage of organisms; often used as an alternative to ecosystem but strictly it is the fauna/flora association per se excluding physical aspects of the environment; biocenosis; life assemblage; biocenose, biocoenose.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
M	Biodiversity (biological diversity)	1	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. choose one single definition Compare with diversity	SCMEE	UN Convention on Biological Diversity, 1992.
M	Biodiversity (biological diversity)	2	The variety of living material in terms of genes, species or ecosystems within a given area.	SCSA	
M	Biodiversity (biological diversity)	3	"The biodiversity convention defines biodiversity as "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 [genetic diversity], between species and of ecosystems".	SCESS	OECD.
A	Bio-economic equilibrium (or BE)	0	The simultaneous biological and economic equilibrium in a fishery. In a single stock model, the biological equilibrium condition is that the rate of change of the stock be zero. The economic equilibrium condition is that there be no change in fishing effort. The driving force of effort is profit (or loss). In an open access fishery, the bio-economic equilibrium is given at an effort level where profit is zero and total fishing cost is equal to total revenue. Usually the BE corresponds to very low levels of biomass	SCESS	Hannesson, R. (1993). Bio-economic analysis of fisheries. Fishing News Books. In FAO glossary.

OK	Bio-economic modelling	1	A set of mathematically expressed functional relationships between biological characteristics of the resource base, (e.g. a fishery resource), and the economic (and sometimes social) characteristics of its use by Man. As an abstraction from reality, the validity of a bio-economic model depends on the explicit or implicit assumptions about the biological and human processes it represents.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Bio-economic modelling	2	An analytical tool to facilitate management decisions. Bio-economic models establish functional relationships between specific characteristics of the natural resource base, (e.g. a fishery resource), and the activities of man to make use of such resource. The formalization of such relationships require certain abstractions from reality, as well as assumptions about the biological processes and human behaviour. To the extent that these assumptions may be partially violated in a specific fishery under study, the results of models should be considered as theoretical and potentially biased. While the reliability of models increases with the validity of the assumptions, there are limits to formalizing and to interpreting the results of highly complex systems.	SCESS	Sparre, P. J. and Willmann, R. (1992):Software for bio-economic analysis of fisheries. BEAM 4. Analytical bio-economic simulation of space-structured multi-species and multi-fleet fisheries. Volume 1: Description of model. Volume 2: User's manual. FAO Computerized Information Series (Fisheries). No. 3. Rome, FAO. Vol. 1:186p. Vol. 2:46p. In FAO glossary.
OK	Biological Reference Point (BRP)	0	A particular value of stock size, catch, biomass, fishing effort and fishing mortality which may be used as a goal in fisheries management. This reference points can be Limits or Targets, depending on their intended usage. Target reference points represent a desired level of fishing mortality or biomass, while Limit reference points represent either an upper bound to the fishing mortality or a lower bound of the biomass.	SCSA	Caddy, 1996 FAO Fish Techn Pap 347.
D	Biomass	1	Any quantitative estimate of the total mass of organisms comprising all or part of a population or any other specified unit, or within a given area at a given time; measured as volume, mass (live, dead, dry or ash-free weight) or energy (calories); standing crop; standing stock.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Biomass	2	The sum of weights of individuals in a stock. Refers to the abundance of the stock in units of weight.	SCSA	
A	Biomass	0	The weight of a fish stock, or of some defined portion of it.		FAO glossary
OK	Biotope	0	1. The smallest geographical unit of the biosphere or of a habitat that can be delimited by convenient boundaries and is characterized by its biota. 2. The location of a parasite within the host's body. 3. The location of biocenosis.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986

OK	B_{MSY}	0	Biomass at MSY. Biomass corresponding to Maximum Sustainable Yield from a production model or from an age-based analysis using a stock recruitment model. Often used as a biological reference point in fisheries management, it is the calculated long-term average biomass value expected if fishing at F_{MSY}.	SCSA	ICES-ACFM (1997): Report of the Study Group on the precautionary approach to fisheries management, ICES Headquarters, 5-11 February 1997: 7-9; Modified from Caddy J.F. and R. Mahon (1995) Reference points for fisheries management. FAO FisheriesTechnical Paper, 347: 83 p. In FAO glossary.
D	Bootstrap	0	A statistical methodology used to quantify the uncertainty associated with estimates obtained from a model. A specified number of new samples are obtained by sampling with replacement from the original data set. The statistics of interest can be calculated for each data set and the resulting estimates are used as an empirical distribution of the chosen statisticsThe bootstrap is often based on Monte Carlo resampling of residuals from the initial model fit.	SCSA	Efron, B., and R. Tibshirani. 1991. Statistical data analysis in computer age. Science 253: 390-395.; Porch C.E. 1999b. Bootstrap estimates of the precision and bias of the 1996 base case assessment of West Atlantic bluefin tuna. ICCAT SCRS/98/063. In ICCAT glossary.
A	Bottom-up	0	To be defined, see Top-down management		
D	Brood stock	0	Specimens of a species, either as eggs, juveniles, or adults, from which a first or subsequent generation may be produced for possible introduction to the environment.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
A	Buffer zone	0	To be defined in relation to the MPAs		
D	Buffer zone management	0	A process of management of a buffer zone with the objective of optimising the political, economic, social, cultural, ecological and intrinsic value of resources. It is usually adaptive management and participative, with fairness to all groups, allowing for changing values over time.	SCESS	Modified from Brown et al. (1992) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Butterfly fillets	0	Fillets from each side of a fish left joined together (usually at the gut region) after removal from the backbone.	SCESS	Commonwealth of Australia (1997): http://www.brs.gov.au/fish/gloss.html. In FAO glossary.
OK	Buy-back	0	Financial mechanism of a fishery management scheme, usually supported and often subsidised by governments, in which governments or any other relevant party (e.g. fishermen associations) buy vessels and fishing licences from producers in order to reduce fishing effort and capacity.	SCESS	In FAO glossary.

D	Buy-back program	0	"A program, usually government sponsored, for buying vessels or licenses from fishers and removing the vessels from the fishery".	SCESS	OECD.
A	By-catch	0	Indicate the total catch of unwanted animals including vulnerable and endangered species. By-catch of commercial species should be reported as associated species.		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
OK	By-catch excluder device	0	A device inserted in a fishing gear (usually trawl, close to the cod-end, to allow escapement, alive, of unwanted species (including medusae) or individuals (juveniles) or endangered species (e.g. seals, turtles, dolphins).	SCESS	In FAO glossary.
M	Bycatch or by-catch	1	"Catch of species other than the intended target species in a fishing operation. Bycatch can either be discarded or landed". Very important concept to be well defined by a single definition and other similar words (see annex I of the pdf version of this glossary)	SCSA	Alverson et al.1994. In FAO glossary.
M	Bycatch or by-catch	2	"Fish or other fauna (e.g. birds or marine mammals) that are caught during fishing, but which are not sold or kept for personal use. In commercial fishing these include both fish discarded for economic reasons (economic discards) and because regulations require it (regulatory discards). Fish released alive under catch-and-release fishery management programs are not normally considered as bycatch".	SCESS	OECD.
M	Bycatch or by-catch	3	Part of a catch of a fishing unit taken incidentally in addition to the target species towards which fishing effort is directed. Some or all of it may be returned to the sea as discards, usually dead or dying.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap., 382: 113 p.) and Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. SCRS.
D	Calibration	0	See Tuning.	SCSA	
A	Capacity	0	As effort parameter: Total GT or KW by vessel, by gear and period		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
OK	Capacity	1	In general, the ability to sustain, harvest, hold or process. The maximum amount that can be produced per unit of time with existing plant and equipment, provided the availability of variable factors of production is not restricted.	SCESS	Johansen, 1968 in Kirkley J. and D. Squires (1999) Capacity and capacity utilization in fishing industries (Manuscript) In FAO glossary.

D	Capacity	2	The maximum amount that can be produced per unit of time with existing plant and equipment, provided the availability of variable factors of production is not restricted.	SCESS	Johansen, 1968.
M	Capital	0	A stock of accumulated goods (or the value of these goods) devoted to the production of other goods or accumulated possessions calculated to bring in income. Probably needs some more precision applied to Med fisheries	SCESS	From Webster Web Dictionary. In FAO glossary.
D	Capital stuffing	1	The tendency to invest excessively in productive inputs (such as hull, engine, gear).	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12.
D	Capital stuffing	2	Such investments in fishing capacity are often made to offset regulations to reduce fishing effort.	SCESS	OECD.
OK	Capture fishery	0	The sum (or range) of all activities to harvest a given fish resource. It may refer to the location (e.g. Morocco waters), the target resource (e.g. hake), the technology used (e.g. trawl or beach seine), the social characteristics (e.g. artisanal, industrial), the purpose (e.g. (commercial, subsistence, or recreational) as well as the season (e.g. winter).	SCESS	Modified from FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p.). In FAO glossary.
D	Carrying capacity	1	Represents the point of balance between reproduction potential and environmental resistance, that is the maximum population of a species that a specific ecosystem can support indefinitely without deterioration of the character and quality of the resource. The level of use, at a given level of management, which a natural or man-made resource can sustain itself over long period of time. For example, the maximum level of recreational use, in terms of numbers of people and types of activity, that can be accommodated before the ecological value of the area declines. Better a more simple definition (in terms of production model)	SCESS	Scialabba N. (ed.), 1998. Integrated Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
R	Carrying capacity	2	Maximum biomass or population size of a species that the environment can sustain indefinitely, given the food, habitat, water and other necessities available in the environment. It is a parameter (K, B_0 or B_∞) in production models. See Virgin Biomass.	SCSA	From Wikipedia
OK	Catadromous	0	Migrating from fresh water to sea water, as in the case of fishes moving into the sea to spawn; katadromous; catadromy; cf. anadromous.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Catch	1	"The total number of organisms caught by fishing operations ("catch" is also used to denote the weight of organisms caught). Catch should pertain to all fish killed by the act of fishing, not just those organisms that are landed.	SCESS	In FAO glossary.

D	Catch	2	To catch: to undertake any activity that results in taking organisms (sensu lato) out of its environment dead or alive. To bringing fish on board a vessel dead or alive. COMMENT The catch is usually expressed in terms of wet weight. It refers sometimes to the total amount caught, and sometimes only to the amount landed. The catches which are not landed are called discards.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. SCRS.
D	Catch	3	The total number (or weight) of fish caught by fishing operations. Catch should include all fish killed by the act of fishing, not just those landed.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT .SCRS.
D	Catch	4	The component of fish encountering fishing gear which is retained by the gear.	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. SCRS.
D	Catch	5	The total weight or number of fish caught by fishing operations.	SCSA	
OK	Catch at Age (CAA)	0	The estimated number of fish caught, tabulated by fish age and year of capture (and by other strata such as gear or nation). CAA is estimated on the basis of CAS, using age-length keys or cohort slicing.	SCSA	In ICCAT glossary.
OK	Catch at Size (CAS)	0	The estimated number of fish caught, tabulated by size (length) class and by other strata such as gear, nation and quarter. For any given species, CAS should include all fish killed by the act of fishing, not just those fish that are landed.	SCSA	In ICCAT glossary.
R	Catch Curve	0	~~A method that allows the estimation of the instantaneous rate of total mortality of fish. It consists in a plot of the natural logarithm of the catch in number of fish of certain age, against the corresponding fish age. Assuming equilibrium conditions, the descending limb of a catch curve can be used to estimate total mortality.~~ A graph showing the logarithm of the number of fish taken by fishing at successive ages or sizes. Assuming equilibrium conditions, the descending limb of a catch curve can be used to estimate total mortality.	SCSA	~~Modified from ICCAT glossary.~~ Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6
M	Catch per unit of fishing effort (CPUE)	1	The total catch divided by the total amount of effort used to harvest the catch.	SCESS	OECD.
M	Catch per unit of fishing effort (CPUE)	2	The amount of the catch that is taken per unit of fishing effort (e.g. number of fish per long line hook, months). Nominal CPUE is often used as a measure of the economic efficiency of a type of gear. Standardized CPUE is normally used as an abundance index for “tuning” or fitting assessment models.	SCSA	In ICCAT glossary.

OK	Catch quota	0	The maximum catch permitted to be taken by a single vessel, vessel, a fleet or a country from a stock; such a limit applied to the total catch from a fishery is often referred to as a global quota (as distinct from an individual quota).	SCSA	Modified from ICCAT glossary.
R	Catchability (q), (coefficient of)	0	The fraction of the stock which is caught by a standardised (effective) unit of effort. It is also used as the constant of proportionality that relates effective effort to fishing mortality (q*f=F) or as the constant of proportionality that relates an index of abundance to absolute stock size (I=q*N). Catchability is affected by fish availability and fishermen efficiency. ~~Thus, specific climatic conditions may result increased or decreased availability of the fish. This would lead to increased (decreased) catchability and thus, increased (decreased) fishing mortality rate with the same fishing effort.~~	SCSA	In ICCAT Glosary Laurec, A. and J.-C. Le Guen.- 1981. Dynamique des populations marines exploitées, Tome 1. Concepts et modèles. Publications du Centre National pour l'Exploration des Oceans. CNEXO/Centre Oceanologique de Bretagne. Rapports Scientifiques et Techniques Nº45. 117 pp.
OK	Census	0	A complete inventory of all elements of the observed population: a census of fishermen, canoes, households, factories, etc. In fisheries assessment surveys, census are used to provide the comprehensive basis for analysis and classification (typology) of the fisheries systems and, consequently, the basis for statistically representative sampling programmes.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
OK	Closed season	1	A specified period during which the category of fish or marine plants may not be fished or harvested.	SCESS	OECD.
OK	Closed season	2	Seasonal closure. The banning of fishing activity (in an area or of an entire fishery) for a few weeks or months, usually to protect juveniles or spawners.	SCESS	In FAO glossary.
R	Closure~~s~~	0	The banning of fishing during particular times or seasons (temporal closures) or in particular areas(spatial closures), or a combination of both.	SCSA	
D	Coast	1	The geographical area of contact between the terrestrial and marine environments, a boundary area of undefined width, appreciably wider than the shore.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary
D	Coast	2	The sea-shore. The narrow strip of land in immediate contact with any body of water, including the area between high- and low-water lines.	SCESS	United Nations, 1989, The Law of the Sea. Baselines: An examination of the relevant provisions of the United Nations Convention on the Law of the Sea. Office for Ocean Affairs and the Law of the Sea, UN. 67 p. In FAO glossary.

OK	Coastal area	0	In general, a geographic area of land and water along the coast, affected by the biological and physical processes of both the terrestrial and marine environments.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. A geographic coastal area, defined for the purpose of natural resources management. Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
R	Coastal Zone	0	Cosastal area ~~The geographic interface between the oceans and the land, the boundaries of which are defined by the enabling legislation for integrated coastal zone management.~~ ~~Compare with "coastal area"~~	SCESS	Modified from: Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. FAO.
OK	Cohort	0	The fish born in the same time period, usually a year that belongs to the same stock. For instance, the 1987 cohort would refer to fish that are age 0 in 1987, age 1 in 1988, and so on.	SCSA	In ICCAT glossary.
OK	Cohort analysis	0	A simplified VPA algorithm based on an approximation that assumes that, in a given time period, all fishing takes place instantaneously in the middle of the time period.	SCSA	Pope, J. 1974. Note on cohort analysis and age-specific fishing mortality. WPTD/74/025.
OK	Cohort Slicing	0	One approach used frequently to assign ages to fish, given length measurements. For example, cohort slicing is used to convert catch-at-length data into catch-at-age data before the application of age-structured models. Cohort slicing assumes that there is a one-to-one correspondence between length and age (i.e. the approach ignores individual variability in growth.	SCSA	In ICCAT glossary.
OK	Collapse	0	Reduction of a stock abundance by fishing and / or other causes to levels at which the production is negligible compared to historical levels. The word is normally used when the (reduction) process is sudden compared with the likely time scale of recovery, if any, but is sometimes used melodramatically for any case of overfishing. COMMENT Term often wrongly used to describe overfishing.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
OK	Co-management	0	A process of management in which government shares power with resource users, with each given specific rights and responsibilities relating to information and decision-making.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.

D	Command-and-control	0	In relation to policy and management, command-and-control instruments (e.g. mechanisms, laws, measures) rely on prescribing rules and standards and using sanctions to enforce compliance with them.	SCESS	Modified from: Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	Commensalism	0	Symbiosis in which one species derives benefit from a common food supply whilst the other species is not adversely affected.	SCMEE	A dictionary of Ecology, Evolution and systematic, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
R	Commercial fishing	0	The harvesting of fish, either in whole or in part, for sale, barter or trade. It does not include any sport or recreational fishing activity	SCESS	OECD.
D	Commodity	1	Product. Goods and services which are the result of production processes normally intended for sale on the market at a price that is designed to cover their costs of production.	SCESS	FAO (1996.a): A system of economic accounts for food and agriculture. FAO Statistical Development Series, 9. FAO, Rome in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Commodity	2	Includes not only conventional agricultural crops, but also trees, fish, or any other product of the earth which has value and is produced or gathered for consumption or sale.	SCESS	IDWG-LUP (1994) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
M	Common Fisheries Policy (CFP)	0	“The European Union’s basic framework for managing the fisheries in the waters of Member states. The CFP was drawn up in 1970 in order to institutionalise cooperation between the EU member states over fisheries management, forma principles were established in 1983 based on Articles 38 and 39 of the Treaty of Rome, and were later reinforced in Article 3 of the (Maastricht) Treaty on European Union. The CFP basic legislation [Regulation (EEC) 101/76] was adopted in 1976, and has constantly been adapted to meet changing needs, now covering fish landing, marketing, storage and transport. Generally, the principle of free access to fishing grounds applies (based on TACs), except within predetermined protected areas where the right to fish is restricted or completely withdrawn, and within member states coastal fisheries. Currently, the CFP applies only partially to the Mediterranean Sea”.	SCESS	OECD.

D	Common property	1	A resource to which no individual has exclusive rights to either the whole or a part; it can include an 'open access' resource.	SCESS	AGPS.
OK	Common property	2	Property held collectively by a community or a particular group (two or more persons) within a community, owned and managed in common for the benefit of the community or that particular group. Excludes individual rights.	SCESS	In FAO glossary
D	Common property	3	Occurs where the rights to exploit a particular resource are held collectively by two or more persons.	SCESS	Commonwealth of Australia (1989): New directions for commonwealth fisheries management in the 1990s. A government policy statement. December 1989: 114 p. In FAO glossary
D	Common property	4	A resource to which no individual has exclusive rights to either the whole or a part; it can include an 'open access' resource.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report - Fisheries, Canberra, 202 p. In FAO glossary
D	Common property	5	Resources collectively owned and managed by a well-defined group of users. Ideally governed by a common property regime, i.e. a system of established rights, duties, controls and punishments for violations agreed by the user group to ensure equity and avoid overexploitation. COMMENT Term often used (wrongly) to indicate a natural resource open to harvest by anyone without restriction synonymous with open access resource. A resource which yields no economic rent.	SCESS	Modified from Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Communal property resource	0	Non registered, untitled resources (e.g. land, forest, pastures, ponds) under the control of local communities ideally governing through a communal property regime (i.e. a system of established rights, duties, controls and punishments for violations agreed by the community to ensure equity and avoid overexploitation).	SCESS	Modified from Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
OK	Community	1	A tightly structured organised group of organisms at different trophic levels, co-occurring in space and time. Contrary to the term Assemblage, a community implies the existence of known or assumed relations between the organisms.	SCESS	In FAO glossary.

D	Community	2	A group of population of plants and animals in a given place.	SCESS	Krebs, C.J. (1985): Ecology, The experimental analysis of distribution and abundance. Harper and Row, New York in McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. In FAO glossary.
D	Community	3	An assemblage of species populations which occur in space and time.	SCESS	Begon M., Harper J.L., and Townsend, C.R. (1990): Individuals, populations and communities. Blackwell Scientific Publications, Oxford in McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. In FAO glossary.
D	Community	4	An organized body of individuals in a specific location.	SCESS	Southwood (1988) in McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. In FAO glossary.

D	Community	5	A tightly structured arrangement consisting of many types of organisms at different trophic levels.	SCESS	Underwood, A.T. (1986): What is a community? In: Raup, D. M. and Jablonsky D. (Eds.). Patterns and processes in the history of life. Dahlem Worksho (1985). Springer Verlag in McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. In FAO glossary.
D	Community	6	The collection of organisms or species inhabiting an area. This term usually implies particular known or hypothesized interactions between the organisms (as opposed to Assemblage).	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
D	Community fishery	0	A fishing activity exerted in public or communal waters generally designed to meet community needs. May involve different levels of community involvement and participation.	SCESS	In FAO glossary.
D	Compensation	0	A compensatory mechanism is a process by which the effect of one factor on a population tends to be counteracted or compensated for by a consequential change in another factor.	SCESS	In FAO glossary.
OK	Conservation	0	The planned management of natural resources: the retention of natural balance, diversity and evolutionary change in the environment; cf. preservation.	SCESS	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Consultative design	0	A process of management in which government consults with resource users by providing information and receiving guidance from users, but where the government is not obligated to follow such guidance.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Consumer surplus	0	The net benefits from consuming (or otherwise using) a good or service. Formally, it is the difference between the maximum amount a consumer would be willing to pay minus the amount s/he actually pays for the good or service.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.

OK	Continental shelf	0	The shallow gradually sloping seabed around a continental margin, not usually deeper than 200 m and formed by submergence of part of the continent.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Continental slope	0	The steeply sloping seabed leading from outer edge of the continental shelf to the continental rise, with an average angle of slope of about 4° and a maximum of about 20° near the upper margin.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Contracting party	0	A country that has signed, or otherwise agrees to abide by the terms of, and international agreement.	SCESS	OECD.
D	Controls	0	Refers to various controls (measures) that managers can impose to regulate fishing. Controls are usually classified as effort controls or catch controls, depending on what is intended to regulate.	SCSA	Gulland, J.A. 1974. The management of marine fisheries. U. Washington Press. Pallarés P., and Z.. Suzuki 1998. La gestión de los stocks de túnidos y especies afines. Visión general de introducción al apartado 9 sobre gestión de túnidos. ICCAT Coll. Vol. Sci. Pap. 50: 831-851. In ICCAT glossary.
OK	Cosmopolitan species	0	Species with very large distribution in many, or all, parts of the world and ecosystems.	SCESS	In FAO glossary.
OK	Cost Benefit Analysis	0	Assessment of the direct economic and social costs and benefits of a proposed project for the purpose of project or programme selection. The cost-benefit ratio is determined by dividing the projected benefits of the programme by the projected costs. A programme having a high benefit-cost ratio will take priority over others with lower ratios.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Country of origin	1	For genetic resources, the country which possesses those genetic resources in in situ conditions.	SCESS	Convention on Biological Diversity (1994): Convention on Biological Diversity - Convention Text. Article 2: Use of terms. In FAO glossary.
D	Country of origin	2	The country where the species is native.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
OK	Creel survey	0	Catch assessment surveys undertaken to estimate the catches made by small scale or recreational fishermen, usually through a sampling program involving interviews and inspection of individual catches in the identified fishing and landing places.	SCESS	In FAO glossary.

A	Creeping technology	0			
A	Critical age		See optimum age		
R	Critical habitat	0	~~Habitats that, due to their particular characteristics, are crucial in the life cycle of marine species, typically, nursery and spawning areas, such as estuaries, seagrass meadows and reefs~~. Habitat that, due to its particular characteristics, is crucial in the life cycle of marine species, typically, nursery and spawning areas, such as estuaries, seagrass meadows and reefs	SCSA	
A	Critical size		See optimum size		
D	Cross-sectoral issues	0	Issues where the actions of one industry sector affect one or more other sectors. Habitat degradation is an important cross-sectoral issues for fisheries.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Cryptogenic species	0	A species which is not demonstrably native or introduced.	SCMEE	Carlton 1996a
D	Current commercial practice	0	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.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
D	Customary Rights	0	Customary rights are rights of individuals or groups founded upon customary, long continued practices and usage.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Center for International Forestry Research : 53 p. In FAO glossary.
OK	Data	0	Facts that result from measurements or observations.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Data Base Management System	0	DBMS. Application software that allows storage, management, maintenance, and retrieval of the data it contains.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.

D	Data base or Database	1	A logically structured and consistent set of data that can be used for analysis. Commonly used to indicate such data set and the computer software in which it has been organised and stored.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Data base or Database	2	An organized, integrated collection of data stored so as to be capable of use by relevant applications with data being accessed by different logical paths. In theory the data is application independent.	SCESS	Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.
D	Data deficient	0	An IUCN category for listing endangered species. A taxon is considered “Data Deficient” (DD) when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status.	SCESS	IUCN (1994): IUCN Red List Categories. IUCN Species Survival Commission. The World Conservation Union. In FAO glossary.
D	Data flow	0	The way data is generated, processed, and circulated in an organisation or system. In graphical representations of data flows, conventional symbols are used to represent different types devices and processes.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Data set	0	A collection of data and accompanying documentation which relate to a specific theme (catch by vessel type for 1998). Usually consists of one or more computer files residing on the same system.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Data validation	0	A process of confirmation of the nature and value of data entered in a data base. May require information from an alternative source.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Databank	0	A collection of data, in a common location, relating to a given set of subjects.	SCESS	Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.

D	Database management system (DBMS)	0	A set of integrated computer programs and routines for storing, retrieving, inputting, verifying and combining data in a database.	SCESS	Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.
A	Days at sea	0	Any continuous period of 24 hrs (or part thereof) during which a vessel is present within an area and absent from port		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
OK	Decision Rule	0	Specification of how pre-agreed management actions will respond to estimated or perceived states of nature.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
OK	Decision-makers	0	Decision-makers are referred to as those who are responsible for making strategic decisions regarding the fisheries sector. Thus they are concerned with the formulation of policies for the sector and the development of strategies for its management which will then be implemented by a range of "managers" working at different levels and within different institutions and agencies.	SCESS	FAO (1998). In FAO glossary
A	Deep sea	0	Need to introduce a good definition after the discussions on SCMEE and SAC		
M	Delay difference models	0	Variant of biomass dynamic model that includes biologically meaningful parameters and accounting for time delays due to growth and recruitment.	SCSA	
OK	Demersal fishery	0	Fishery targeting on demersal species.	SCSA	
A	Demersal	0	Living in close relation with the bottom and depending on it.		FAO Glossary
D	Demersal, Demersal species	1	Species which live on the bottom or directly related to it.	SCSA	
D	Demersal, Demersal species	2	Living at or near the bottom of a sea or lake but having the capacity for active swimming.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Demography	0	A term referring to the study of birth rates, death rates, age distributions, and size of populations. It is a fundamental discipline within the larger field of population biology and ecology.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Center for International Forestry Research : 53 p. In FAO glossary.
OK	Density	0	The number or weight of organisms per unit area or volume.	SCSA	

M	Depletion	0	For renewable resources, the part of the harvest, logging, catch and so forth above the sustainable level of the resource stock; for non-renewable resources, the quantity of resources extracted. Mirar FAO State of resources	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Depletion Costs	0	Monetary value of the quantitative depletion (beyond replenishment or regeneration) of natural assets by economic activities. Depletion of natural resources results from their uses as raw materials in production or directly in final (household) consumption.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Depletion-based assessment techniques	0	Essentially it allows to predict how large the total (cumulative) removal would have to be in order to drive the relative abundance to zero; this predicted total removal is then an estimate of the initial stock size before removal began.	SCSA	Hilborn R. & Walters C.1992. Quantitative Fisheries Stock Assessment. Choice, Dynamics & Uncertainty. Chapman & Hall: 570pp
A	DEPM	0	Daily Egg Production Method.		
D	Deposit refund system	0	A command and control policy instrument in which a surcharge is levied on the price of products leading to resource depletion or pollution which is then refunded if the product (or its residuals) are re-cycled.	SCESS	Scialabba N. (ed.), 1998. Integrated Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
OK	Deterministic	0	A process that has no stochastic (random) components. For example population models of some stock assessment methods assumes tha population growth due to recruitment follows a deterministic formulation.	SCSA	In ICCAT Glosary.
D	Developed fishery	1	A "fully" developed fishery is a fishery which, following a period of rapid and steady increase of fishing pressure and catches, has reached its level of maximum average yearly production. It is usually understood that such a fishery is yielding close to its maximum sustainable yield.	SCESS	In FAO glossary
D	Developed fishery	2	A fishery operating at or near the level consistent with ecologically sustainable development in accordance with a management plan.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Developing fishery	0	A fishery in which annual catches and fishing effort are continuing to rise; one in which experimental or feasibility fishing is being undertaken to determine the level at which the resource can be viably and sustainable exploited.	SCSA	

D	Developing fishery	0	A fishery which, after a period of very low activity and landings, increases rapidly and steadily its production through increases in fishing effort, often associated with increased fishing capacity.	SCESS	In FAO glossary.
D	Development	0	In the context of ecologically sustainable development, progress towards desirable results rather than growth itself.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
OK	Direct methods	0	Fishery independent methods used in order to avoid the biases of commercial catch data by using research surveys. They are traditionally used for estimating abundance, demographic structure at sea, as well as for the collection of other biological information.	SCSA	
D	Directed Fishery	1	A fishery targeting on a species or a group of species.	SCSA	
D	Directed Fishery	2	Fishing that is directed at a certain species or group of species. This applies to both sport fishing and commercial fishing.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
M	Discard Mortality	0	Discard mortality rate multiplied by discarded catch.	SCSA	Alverson, D.L., M.H. Freeberg, Murawski, S.A. and G Pope. 1994. A global assessment of fisheries bycatch and discards. FAO Fish. Tech. Pap. 339, 243 p.
M	Discard Mortality Rate	0	The proportion of the discarded catch that dies as a result of catching or handling process.	SCSA	Alverson, D.L., M.H. Freeberg, Murawski, S.A. and G Pope. 1994. A global assessment of fisheries bycatch and discards. FAO Fish. Tech. Pap. 339, 243 p.
OK	Discard Rate	0	The proportion of total catch which is discarded. Rates may be computed for individual species or combined groups of species.	SCSA	Alverson, D.L., Murawski, S.A. and G Pope. 1994. A global assessment of fisheries bycatch and discards. FAO Fish. Tech. Pap. 339, 243 p.

M	Discard, Discarded catch	1	To release or return captured organisms to the sea, dead or alive, whether or not such organisms are brought fully on board a fishing vessel. COMMENT Estimates of discards can be made in a variety of ways, including samples from observers and logbook records. organisms (or parts) can be discarded for a variety of reasons such as having physical damage, being a non-target species for the trip, and compliance with management regulations like minimum size limits or quotas or due to low prices at landing.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
M	Discard, Discarded catch	2	"Fish that are disposed, usually at sea, after being caught [intentional dumping of unwanted fish at sea]".	SCESS	OECD.
M	Discard, Discarded catch	3	The portion of the catch returned to the sea as a result of economic, legal, or personal consideration.	SCSA	Alverson, D.L., M.H. Freeberg, Murawski, S.A. and G Pope. 1994. A global assessment of fisheries bycatch and discards. FAO Fish. Tech. Pap. 339, 243 p.
A	Discards	0	The portion of the total organic material of animal origin in the catch, which is thrown away, or dumped at sea for whatever reason. It does not include plant materials and post harvest waste such as offal. The discards may be dead, or alive.		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
D	Discount rate	1	The 'discount rate' is used to represent or measure time preference. A low discount rate means future values are not heavily discounted; they are given nearly the same weight as a value in the present period.	SCESS	OECD (1996).
OK	Discount rate	2	Discount rate: The rate at which the relative weight attached to benefits or losses is reduced in proportion to their distance into the future. The discount rate is used to represent or measure time preference. Discounting is often used when making investment or policy decisions and can have serious consequences for future generations. Determining the present value (net worth) of assets by applying a discount rate to the expected net benefits from future uses of those assets. The discount rate reflects the social preferences for current (as compared with future) uses.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Discount rate	3	The rate at which the relative weight attached to benefits or losses is reduced in proportion to their distance into the future A discount rate of 10% means that gains or losses occurring n years into the future are ascribed a weight equal to their nominal value multiplied by 0.9n.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
D	Discount rate	4	The 'discount rate' is used to represent or measure time preference. A low discount rate means future values are not heavily discounted; they are given nearly the same weight as a value in the present period.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.

D	Discount rate	5	The present value of a flow of future revenues allows for comparisons of money during different time periods. The “discount rate’ is used for this purpose. Individuals with different time preferences adjust their intertemporal consumption profile so as to be indifferent between now and later	SCSA	
OK	Discounted cash flow analysis	0	A method of financial analysis and economic analysis in which future benefits and future costs are reduced to a lower value, which is judged to be their present value, by discounting.	SCESS	In FAO glossary.
D	Discounting	0		SCESS	
D	Discriminatory analysis	0	A method of discriminating between two populations, using an array of measured characters and minimizing the differences in the whole array.	SCESS	Cushing, D.H. (1968): A study in population dynamics. The University of Wisconsin Press. In FAO glossary.
D	Disease agent	0	For the purpose of the Code, ‘disease agent’ is understood to mean all organisms, including parasites, that cause disease.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
M	Diversity Compare with biodiversity	0	1: The absolute number of species in an assemblage, community or sample; species richness. 2: a measure of the number of species and their relative abundance in a community; low diversity refers to few species or unequal abundances, high diversity to many species or equal abundances. 3: The condition of having differences with respect to a given character or trait.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Domestic fishery	0	A fishery within the national waters operated by nationals.	SCESS	In FAO glossary.
D	Dressed weight	0	The weight of fish after the gills, guts, head and fins have been removed and discarded (usually at sea).	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT . In FAO glossary.
D	Dumping at Sea	0	Disposal of hazardous and non-hazardous substances in the open sea.	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
A	Echosurvey	0			
D	Ecodevelopment	1	Development at regional and local levels, consistent with the potentials of the area involved, with attention given to the adequate and rational use of natural resources, technological styles and organizational forms that respect the natural ecosystems and local social and cultural patterns.	SCESS	(UNEP, 1975). In FAO glossary.

D	Ecodevelopment	2	The term is also used to describe an integrated approach to environment and development.	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
A	Ecological protection zone	0	This is a protection figure implemented by some countries (France, Croatia) in the Mediterranean. Definition, with implications on fisheries, needed		
D	Ecologically Sustainable Development (ESD)	0	Use of the environment that aims to meet present needs without compromising the ability of future generations having the same privilege; development based on the sustainable use both of species and ecosystems, the maintenance of essential ecological process, and the preservation of biological diversity.	SCSA	
D	Ecology	0	The study of interrelationships of organisms to their environment (or surroundings). Ecology considers individual organisms, populations, and communities, as well as large units of landscape such as forests, estuaries and river basins. For an EIA, the ecosystem can be considered to be an appropriate unit of analysis concerned with a community and its environment, both living and non-living (e.g. fish community of a lake and lake pH).	SCESS	In FAO glossary.
D	Economic efficiency	1	A measure of how well economic inputs (capital, labour, etc.) are combined to produce a given output. Economic efficiency is maximised when inputs are combined so as to produce the required output at minimum cost.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Economic efficiency	2	In commercial fishing, the point at which the added cost of producing a unit of fish is equal to what buyers pay. Producing fewer fish would bring the cost lower than what buyers are paying. Producing more fish would raise the cost higher than what buyers are paying. Fish harvesting at the point of economic efficiency produces the maximum economic yield. See maximum economic yield and economic rent.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
A	Economic overfishing	0	Occurs when a fishery is generating economic rent under the maximum, primarily because an excessive level of fishing effort is applied in the fishery and does not always imply biological overfishing.	SCESS	Modified from FAO glossary.
OK	Economic policy instruments	0	Policy instruments which create the economic incentives for individuals to choose freely to modify or reduce their activities, thus, correctly used, indirectly producing an environmental improvement.	SCESS	Modified Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
OK	Economic rent	0	See Rent.	SCESS	In FAO glossary.

D	Ecosystem	1	A community of organisms and their physical environment interacting as an ecological unit; the entire biological and physical content of a biotope; biosystem; holocoen. Ecosystem= biocenosis+biotope.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
R	Ecosystem	2	A spatio-temporal system of the biosphere, including its living components (plants, animals, micro-organisms) and the non-living components of their environment, with their relationships, as determined by past and present environmental forcing functions and interactions amongst biota.	SCMEE	In FAO glossary.
D	Ecosystem	3	Systems of plants, animals and micro organisms together with the non-living components of their environment.	SCMEE	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Ecosystem	4	The sum total of biological populations and abiotic factors present in a region, and their relationships to each other. No ecosystem is a closed system, hence the precise meaning of the term varies according to the scale of the region to which it is applied.	SCMEE	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
D	Ecosystem	5	A functioning, interacting system composed of living organisms and their environment. The concept is applicable at any scale, from the planet as an ecosystem to a microscopic colony of organisms and its immediate surroundings. A spatio-temporal component of the bioshpere, determined by past and present environmental forcing functions and interactions amongst biota.	SCMEE	McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. In FAO glossary.
D	Ecosystem	6	Ecosystem is the biotic and abiotic components of an environment that interact to produce a flow of energy and cycling of nutrients. Ecosystems are extremely difficult to define practically, because of high variation, temporal change, and lack of discreteness.	SCMEE	CIFOR (1999): The CIFOR criteria and indicators generic template. Center for International Forestry Research : 53 p. In FAO glossary.
D	Ecosystem Integrity	0	Ecosystem integrity is defined as the ability to support and maintain a balanced, integrated, adaptive biological community having a species composition, diversity and functional organization comparable to that of natural habitat in the region.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Center for International Forestry Research : 53 p. In FAO glossary.

OK	Ecosystem management	0	Management taking due account of all living organisms and their environment in the management area. In practice, management ensuring sustainability of target, dependant, and associated species. The concept is being generally adopted but its implementation remains problematical due to lack of understanding of interactions within ecosystems.	SCESS	In FAO glossary.
OK	Ecosystem overfishing	0	Occurs when the species composition and dominance is significantly modified by fishing (e.g. with reductions of large, long-lived, demersal predators and increases of small, short-lived species at lower trophic levels).	SCESS	In FAO glossary.
D	Ecotourism	0	Travel undertaken to witness the unique natural or ecological quality of particular sites or regions, including the provision of services to facilitate such travel.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
OK	EEZ	0	See Exclusive Economic Zone.		
M	Effective fishing effort	1	Fishing effort adjusted, when necessary, so that each increase in the adjusted unit causes a proportional increase in instantaneous rate of fishing.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
M	Effective fishing effort	2	Measures of fishing effort such as hooks per day of fishing that have been standardized so that the measure is proportional to the fishing mortality rate that the gear(s) impose on the stock of fish. Controls purported to limit effective effort imply that the fishing mortality rate is to be limited.	SCESS SCSA	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics(SCRS). ICCAT. In FAO glossary.
M	Effectiveness of fishing	1	A general term referring to the percentage removal of fish from a stock, but not as specifically defined as either rate of exploitation or instantaneous rate of fishing.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
M	Effectiveness of fishing	2	In general, efficiency is the ratio of a system's output (or production) to input, as in the useful energy produced by a system compared to the energy put in the system. In ecology, it is the percentage of useful energy transferred from one trophic level to the next (as in the ratio of production of herbivores to that of primary producers). Used in the context of production, efficiency is the ratio of useful work performed to the total energy expended, thus avoiding waste generation. In the context of resources allocation, efficiency is the condition which would make at least one person better off and no one worse off. This implies that some may get richer and others not improve their status.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.

A	Efficiency	0	Component of the catchability that depends, among other factors, on the fishing strategy or fishing tactics.		Laurec, A. and J.-C. Le Guen.- 1981. Dynamique des populations marines exploitées, Tome 1. Concepts et modèles. Publications du Centre National pour l'Exploration des Oceans. CNEXO/Centre Oceanologique de Bretagne. Rapports Scientifiques et Techniques Nº45. 117 pp.
OK	Effort	0	See fishing effort.	SCESS	
A	Effort parameter	0	See time, capacity, activity, gear unti		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
D	Effort restriction	1	A type of input control used as a management tool whereby the amount of fishing effort expended by fishers in a particular fishery is restricted by law or voluntary agreement among fishers who jointly exploited fishery resource. In practice, as fishing effort is a composite index of various elements (e.g. fishing craft, gear and ancillary equipment, fishing time, etc.), it has proven to be difficult to effectively contain its growth in the medium and long term.	SCESS	In FAO glossary.
D	Effort restriction	2	Fisheries management measures involving restrictions on the amount of effort that may be expended in harvesting a fish stock	SCESS	OECD
A	EFH	0	Essential Fish Habitat		
A	EIA	0	Enviornmental Impact Assessment		
OK	Embryon	0	Developmental stage comprised between egg fertilisation and hatching.	SCSA	
D	Enclosed sea	0	Unclos Article 122 provides that "For the purposes of this Convention, 'enclosed or semi-enclosed sea' means a gulf, basin, or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States".	SCESS	United Nations, 1989, The Law of the Sea. Baselines: An examination of the relevant provisions of the United Nations Convention on the Law of the Sea. Office for Ocean Affairs and the Law of the Sea, UN. 67 p. In FAO glossary.
M	Endangered	1	Taxa in danger of extinction and whose survival is unlikely if causal factors continue operating. Included are taxa whose numbers have been drastically reduced to a critical level or whole habitats have been so drastically impaired that they are deemed to be in immediate danger of extinction. Also included are those that possibly are already extinct, in so far as they definitely have not been seen in the wild in the past 50 years	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
M	Endangered	2	Endangered species are of particular concern for CITES which regulates their trade. A taxon is considered "Endangered" (EN) by IUCN when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future, as defined by any of the relevant IUCN criteria.	SCESS	IUCN (1994): IUCN Red List Categories. IUCN Species Survival Commission. The World Conservation Union. In FAO glossary.

OK	Endemic Species	0	Species restricted to a specified region or locality.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Enrichment	0	Addition of nitrogen, phosphorous and carbon compounds or other nutrients into a water body, thereby increasing the potential for growth of algae and other aquatic plants. Most frequently, enrichment results from the inflow of sewage effluents or from agricultural run-off.	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Environment	1	The complex of biotic, climatic, edaphic and other conditions which comprise the immediate habitat of an organism; the physical, chemical and biological surroundings of an organism at any given time.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Environment	2	The combined external conditions affecting the life, development and survival of an organism or an ecosystem.	SCESS	Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Environment	3	The conditions under which an organism lives, thus including all living or non-living factors and the activities of humans.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Environmental Accounting	0	National accounting: physical and monetary accounts of environmental assets and the costs of their depletion and degradation; Corporate accounting: the term usually refers to environmental auditing, but may also include the costing of environmental impacts caused by the corporation.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Environmental audit	0	An analysis of the technical, procedural and decision making aspects of an EIA carried out sometime after a proposal has been implemented.	SCESS	Dougherty, T.C. and A.W. Hall (1995), Environmental impact assessment of irrigation and drainage projects. FAO Irrigation and Drainage Paper 53. In FAO glossary.
D	Environmental Capacity	0	Property of the environment, a measurement of its ability to accommodate a particular activity or rate of activity, such as the discharge of contaminants, without unacceptable impact. The Environmental Capacity can be apportioned for various uses.	SCESS	GESAMP (1986): Reports and Studies, GESAMP, No. 30. In FAO glossary.

OK	Environmental impact	0	Direct effect of socio-economic activities and natural events on the components of the environment.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
R	Environmental Impact Assessment (EIA)	0	A sequential set of activities designed to identify and predict the impacts of a proposed action on the biogeophysical environment and on man´s health and well being, and to interpret and communicate information about the impacts, including mitigation measures that are likely to eliminate the risks. In many countries, organisations planning new projects are required by law to conduct EIA. In fisheries, an analysis of the expected impacts resulting from the implementation of a fisheries management or development plan (or some other proposed action) on the environment. The EIA is also referred to in some countries as Environmental Statement (ES)	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary. Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
D	Environmental Impact Statement	0	In fisheries, an analysis of the expected impacts resulting from the implementation of a fisheries management or development plan (or some other proposed action) on the environment. The EIA is also referred to in some countries as Environmental Statement (ES)	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
OK	Environmental Indicator	0	Parameter, or a value derived from parameters, that points to, provides information about and/or describes the state of the environment, and has a significance extending beyond that directly associated with any given parametric value The term may encompass indicators of environmental pressures, conditions and responses.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
OK	Environmental management	0	Management and control of the environment and natural resources systems in such a way so as to ensure the sustainability of development efforts over a long-term basis.	SCESS	In FAO glossary.
OK	Environmental monitoring	0	Observation of effects of development projects on environmental resources and values.	SCESS	In FAO glossary.
D	Environmental planning	0	All planning activities with the objective of preserving or enhancing environmental values or resources.	SCESS	In FAO glossary.
D	Equilibrium	1	A situation that arises when the fishing mortality, exploitation pattern and other fishery or stock characteristic (growth, natural mortality, recruitment) do not change from year to year. Many yield per recruit analysis assume equilibrium. That is, equilibrium yield per recruit that is computed for a given fishing mortality can be achieved if that fishing mortality is held constant for many years (as many years as there are age classes in the fishery); equilibrium yield per recruit values computed for a new level of fishing mortality or a change in selectivity would not be expected to reach equilibrium until several years from the time of implementation. Other types of stock assessments such as variants of stock production models or catch curves also assume equilibrium. Their non-equilibrium variants aim to better explain the dynamics of the observed data through time.	SCSA	Hilborn, R., and C.J. Walters. 1992. Quantitative fisheries stock assessment. Choice, Dynamics and uncertainty. Chapman and Hall, NY. 570 p. In ICCAT glossary.

OK	Equilibrium	2	A situation which exists after the specified conditions (e.g. fishing pressure, environmental conditions and population parameters such as growth, mortality and recruitment) have been in effect long enough to affect all ages for the whole exploited life. Also referred to as : Steady state.	SCESS	In FAO glossary.
D	Equilibrium	3	Steady State. The condition that exists when fishing pressure remains constant over time. COMMENT When equilibrium is disrupted (by a change in the recruitment or fishing regime, it will take as many years as age classes in the fishery to reach the new equilibrium. The assumption of equilibrium is among the most widely used by fishery scientists. In both the catch curves, yield-per-recruit model and the surplus production Model, the values calculated and the predictions made correspond to "equilibrium" conditions assuming that the environment and the fishing regime (fishing mortality at age and age-at-first-capture) have been constant for a period equal to the average lifespan of the species. In practice, however, it is often considered that "equilibrium" is approximated when the main age classes have experienced such regimes and that the conditions have been constant for half of the lifespan (e.g. about 10 years for hakes, 23 years for sardines, 1 year for shrimps and squids). In practice also, because of progressive adjustments in the fishery system (gains in efficiency, shifts in fishing practices, etc.) and variability of the ecosystem (particularly at medium-term scale) equilibrium is rarely reached. Non-equilibrium models and approaches are used to better explain the time dynamics of the stocks and fisheries.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
M	Equilibrium yield	1	In theory, the yield or catch that could be taken every year by a fixed amount of fishing effort, maintaining the stock at a constant level, assuming a steady-state situation "at equilibrium" with the total fishing effort in the long term. The concept neglects inter-annual environmentally driven stock fluctuations and so is not useful for short term predictions. It is, however, useful for guidance on long term strategy formulation.	SCMEE	In FAO glossary.
M	Equilibrium yield	2	(YE). The yield in weight taken from a fish stock when it is in equilibrium with fishing of a given intensity, and (apart from effects of environmental variation) its biomass is not changing from one year to the next.	SCMEE	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary
M	Equilibrium Yield Curve =Equilibrium yield	0	A function that describes the long-term yield which would be obtained at different levels of fishing mortality. At its highest point, the equilibrium yield is the Maximum Sustainable Yield (MSY) and the associated fishing mortality rates is FMSY.	SCSA	Restrepo, V.R., Porch, C.E., Turner, S.C. Scott, G.P. and A.A. Rosemberg. 1994. Combination of spawner-recruit, spawner biomass per recruit and yield per recruit computations for the estimation of the long term potential for West Atlantic bluefin tuna. SCRS/93/072. In ICCAT Glossary
D	Equity	1	In a broad sense, the just distribution of resources, rights, duties, opportunities, and obligations in society at large, i.e. social justice. In an applied sense at micro level, as for example in the sharing of fisheries resources, an allocation rule based on the concepts of parity, proportionality and priority.	SCESS	In FAO glossary

D	Equity	2	Term used for the administration of justice according to principles of fairness and conscience, balancing the hardships in those cases where legal remedies and monetary damages would not suffice. COMMENT Parity requires that claimants are treated equally either because they actually are equal or because there is no clear way to distinguish among them. Proportionality acknowledges differences among the claimants and divides the resources in proportion to these differences. Priority asserts that the person with the greatest claim to the resources gets it.	SCESS	In FAO glossary.
A	Essential Fish Habitat	0			
OK	Eutrophication	0	Over enrichment of a water body with nutrients, resulting in excessive growth of organisms and depletion of oxygen concentration.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Eviscerated	0	Fish from which the guts have been removed. (See also gutted weight).	SCESS	In FAO glossary.
D	Excess capacity	1	Harvesting capacity in excess of the minimum (or least cost) amount needed to harvest the desired quantity of fish at least cost.	SCESS	OECD (1996).
OK	Excess capacity	2	In the short-term, fishing capacity that exceeds the capacity required to capture and handle the allowable catch. In the long-term, fishing capacity that exceeds the level required to ensuring the sustainability of the stock and the fishery at the desired level. Fishing capacity in excess of what is required to reach the agreed catch or effort objectives materialised by agreed target reference points (e.g. MSY, F0.1, MEY, etc.).	SCESS	In FAO glossary.
D	Excess capacity	3	When a firm or industry has the potential to produce well in excess of what is actually produced	SCESS	Kirkley J. and D. Squires (1999) Capacity and capacity utilization in fishing industries (Manuscript) In FAO glossary
D	Excess capacity	4	Excess capacity is the difference between current fishing capacity and target fishing capacity, (Yc – YT)/YT, in which Yc is current yield or catch and YT is target yield or catch (to be evaluated and compared relative to the same stock size).	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Excess capacity	5	Occurs when the number of boats fishing exceeds that required to efficiently exploit the fishery or to handle the allowable catch.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Excess harvesting capacity	1	Harvesting capacity in excess of the minimum (or least cost) amount needed to harvest the desired quantity of fish	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Excess harvesting capacity	2	See Excess capacity.	SCESS	In FAO glossary.

D	Exclusive Economic Zones (EEZ)	1	The EEZ comprises an area which extends either from the coast, or in federal systems from the seaward boundaries of the constituent states (3 to 12 nautical miles, in most cases) to 200 nautical miles (370 kilometres) off the coast. Within this area, nations claim and exercise sovereign rights and exclusive fishery management authority over all fish and all Continental Shelf fishery resources	SCESS	OECD
OK	Exclusive Economic Zones (EEZ)	2	A zone under national jurisdiction (up to 200-nautical miles wide) declared in line with the provisions of 1982 United Nations Convention of the Law of the Sea, within which the coastal State has the right to explore and exploit, and the responsibility to conserve and manage, the living and non-living resources.	SCSA	In FAO glossary.
D	Exclusive right	0	A right to do something (e.g. to catch fish) that is exclusive to the holder (s) of the right	SCESS	OECD
R	Exclusive rights	0	The right to do something (in this case, to catch fish) is exclusive to the bolder(s) of the right; that is, the holders can exclude others without the right from catching fish in the fishery. ~~That is, the owner of a piece of land has the exclusive right to farm the land and can exclude others from using the land without the owners permission.~~	SCESS	Modified from OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Exit fishery	0	A fishery directed at a transient phase in the life cycle of the prey, for example, a fishery catching only the juveniles of a species.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
OK	Exotic Species	0	Species not native to a particular area which may pose a risk to endemic species.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Expert system	0	A computer-based system that contains specialist knowledge in a given area and is able to use the stored knowledge to solve problems or make inferences or deductions that would normally require human expertise. A typical expert system contains a knowledge base which holds the expert knowledge, an inference engine, which decides how the knowledge in the knowledge base should be used and a user interface, for communication with the user.	SCESS	McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. In FAO glossary.
M	Exploitation Pattern =exploitation rate	0	The distribution of the fishing mortality over the length or age composition of the fish, determined by the fishing gear and the spatial and seasonal distribution of fishing, and by the growth and migration of the fish. In other words, it is the combined effect of gear selectivity and fish availability. The pattern can be changed by modifications to fishing gear; for example, by increasing mesh or hook size or by changing the ratio of harvest by gears exploiting the fish. The pattern can also change due to changes in fishing practices such as avoidance of areas where juveniles reside.	SCSA	Modified from ICCAT glossary.

M	Exploitation Rate =exploitation pattern	0	The proportion of a population at the beginning of a given time period that is caught during that time period (usually expressed in a yearly basis). It is also defined as the rate between fishing and total mortality (E=F/Z)	SCSA	Modified from ICCAT glossary.
OK	External cost	0	A cost imposed on others and not borne by the party responsible for the cost.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Externality	1	An effect from a production or consumption process which is imposed on others and is not fully borne by the party responsible for the effect. Externalities may be positive or negative	SCESS	OECD.
D	Externality	2	Outside force, such as social and environmental benefits and costs, not included in the market price of goods and services being produced. Thus, costs not born by those who occasion them, and benefits not paid by the recipients. Some economists suggest that externalities should be internalised, if they are known to have a significant effect on the demand or cost structure of a product, that is, corrections should be made, to allow for them when calculating marginal cost. Marginal cost thus becomes a social opportunity cost, or true cost.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
OK	Extinct	0	An IUCN category for listing endangered species . A taxon is considered “Extinct” (EX) when there is no reasonable doubt that the last individual has died.	SCESS	IUCN (1994): IUCN Red List Categories. IUCN Species Survival Commission. The World Conservation Union. In FAO glossary.
D	Ex-vessel	0	Refers to activities that occur when a commercial fishing boat lands or unloads a catch. For example, the price received by a captain (at the point of landing) for the catch is an ex-vessel price.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user’s glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
A	f	0	Fishing effort		
A	F	0	Fishing mortality		
OK	$F_{0.1}$	0	A biological reference point. It is the fishing mortality rate at which the increase in equilibrium yield per recruit in weight for an increase in a unit of effort is 10% of the yield per recruit produced by the first unit of effort on the unexploited stock (i. e., the slope of the yield per recruit curve for the F0.1 rate is only $1/10^{th}$ of the slope of the yield per recruit curve at its origin). Originally, F0.1 was intended as an economic reference point, measuring were additional investment into effective fishing effort would only produce a 10% marginal gain in yield per recruit. It later evolved into a conservative reference point for yield optimization because F0.1 results in almost as much yield per recruit as Fmax does , but at lower levels of fishing mortality.	SCSA	Caddy, J.F., and R. Mahon. 1995. Reference points for fisheries management. FAO Fish. Tech. Pap. 347. 83 p.In ICCAT glossary.

D	Factory trawler	0	A large stern trawler equipped with plant for gutting, filleting, freezing and storing fish, and for processing fish oil and fish meal. Such vessels usually have extensive superstructures.	SCESS	Commission of the European Communities (1990): Glossarium of fishing vessels and safety on board.: 503 p. In FAO glossary.
OK	Farm gate price	0	In aquaculture, the price for a product at the production site, not taking account of any transportation or subsequent handling costs.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Field	0	An attribute of a data record, may comprise sub-fields.	SCESS	Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.
D	Field name	0	The name of a field in a data record.	SCESS	Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.
D	File	0	An identifiable collection of data records.	SCESS	Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.
D	Fillet	0	A slice of meat without bones, cut out for human consumption.	SCESS	Modified from FAO (1998). In FAO glossary.
D	Financial capital	0	The financial resources which are available to people (whether savings, supplies of credit, or regular remittance of pensions) and which provide them with diferent livelihood options.	SCESS	Adapted from Scoones I (1998) Sustainable rural livelihoods: A framework for analysis. IDS Working Paper, 72. Brighton: IDS. In FAO glossary.

D	Financial Instrument for Fisheries Guidance (FIFG)	0	The European Union's principal instrument for funding measures such as the permanent withdraw of vessels, fleet renewal and modernisation, investment in aquaculture, and development of coastal vaters, port facilities, processing and marketing obsolete	SCESS	OECD
D	Finning	0	The practice of removing fins and discarding the carcass, usually pertaining to sharks.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
OK	Fish	0	When used as a noun, can include: (a) parts of a fish, (b) shellfish, crustaceans, other marine animals and any parts of shellfish, crustaceans or other marine animals, and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shell fish, crustaceans and other marine animals	SCESS	OECD.
OK	Fish larvae	0	In a general sense, is the individual which have not acquired yet neither the morphology nor the meristic characters of adults, presenting specialised larval structures. The term larvae can be applied also to the developmental stage comprised between those of yolk-sac larvae and post-larvae.	SCSA	Caddy, F.J. and R. Mahon, 1995. Reference points for fisheries management. FAO Fish. Tech. Pap. 347. 83 p.
D	Fisher	0	A gender-neutral name for a person (male or female) participating in a fishery.	SCESS	Modified from FAO (1998). In FAO glossary.
D	Fisheries administrators SEE FISHERIES MANAGERS	0	This term is used to refer more specifically to those covering institutional roles concerned with sector and its regular functioning. However, fisheries administrators are regarded as one type of fisheries manager.	SCESS	FAO (1998). In FAO glossary.
D	Fisheries extension	0	Working with the community to provide, or to build on, skills and knowledge to achieve particular goals, such as an increase in seafood production, or the conservation of fish stocks and the environment.	SCSA	
D	Fisheries management authority	0	The body which makes the decisions on how the fishery is carried out, and is responsible for all ancillary services, such as statistics gathering, assessment, MCS, consultation with fishers and other users of the sea, and resource allocation or determining the conditions of access to the fishery.	SCESS	FAO (1995a), Guidelines for responsible management of fisheries. In Report of the Expert Consultation on Guidelines for Responsible Fisheries Management, Wellington, New Zealand, 23-27 January 1995. FAO Fisheries Report, 519. In FAO glossary.

OK	Fisheries management organization	0	Institution responsible for fisheries management, including the formulation of the rules that govern fishing activities. The fishery management organization, and its subsidiary bodies, may also be responsible for all ancillary services, such as the collection of information, its analysis, stock assessment, monitoring, control and surveillance (MCS), consultation with interested parties, application and/or determination of the rules of access to the fishery, and resource allocation. Also called: Fishery management arrangement.	SCESS	FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p.). In FAO glossary.
D	Fisheries managers SEE FISHERIES AUTHORITY	0	These are referred to as institutional figures not concerned merely with the management of fisheries resources in the biological sense, but with managing change within the fisheries sector. Thus the term "fisheries manager" can refer to a relatively wide range of technical, administrative and decision-making roles which are concerned with the sector. Significantly, as used in this paper, "fisheries manager" does not mean someone merely concerned with conserving fisheries resources but can also be with developing the sector and making it more efficient.	SCESS	FAO (1998). In FAO glossary
D	Fisheries planning SEE FISHERIES MANAGEMENT PLAN	0	Fisheries planning is intended here to refer to the process of formulation of strategies for the fisheries sector and therefore refers more to the activities carried out by decision and policy makers. Increasingly, the extent to which any sector can be "planned" by single institutions or agencies is being questioned, but the importance of a general definition of sectorial goals and strategies is widely accepted to ensure that resources are used efficiently and conflicts are minimised.		FAO (1998). In FAO glossary
A	Fisheries protection zone	0			
OK	Fisheries regulations	0	Controls designed to restrict either effective fishing efforts (input controls) or the total catch (output controls) to predefined limits in a fishery.	SCSA	
M	Fishery	1	Generally, an activity leading to harvesting of fish (sensu lato). Very important definition	SCSA SCESS	In FAO glossary.
M	Fishery	2	Activities in which fish is harvested from the wild using some fishing technology (capture fishery) as well as activities producing fish through aquaculture.	SCESS	In FAO glossary.
D	Fishery Conservation Zone	0	Zone of federal control of United States' fisheries between territorial waters and a distance of 200 nautical miles as defined in the F-MA.	SCESS	Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the resolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA. In FAO glossary.
D	Fishery development	0	Increasing welfare of fishing communities, fish workers, and society at large. There are many sources of increased welfare including a) higher productivity in the harvesting, processing, distribution and marketing of fish through technological improvements and more efficient institutional and organizational arrangements, b) higher productivity of human resources through better education, health services and social amenities, and c) more secure lives through better insurance and protection from economic shocks, accidents, and man-made and natural catastrophes and disasters.	SCESS	In FAO glossary.

OK	Fishery Management	0	The integrated process of information gathering, analysis, planning, decision-making, allocation of resources and formulation and enforcement of fishery regulation by which the fishery management authority controls the present and future behaviour of interested parties in the fisheries, in order to ensure the continued productivity of living resources.	SCSA	FAO 1995. Guidelines for responsible management of fisheries. (1st draft). Report of the Expert Consultation on guidelines for responsible fisheries management. Wellington, New Zealand, 23-27/1/1995. FAO Fisheries Report, 510: page 54. In FAO glossary.
D	Fishery Management Council	0	A fisheries management body established by the FCMA to manage fishery resources in designated regions of the United States. Membership varies in size depending on the number of states involved. Eight regional councils exist.	SCESS	Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the evolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA. In FAO glossary.
D	Fishery management plan	0	FMP. A document prepared under supervision of the appropriate fishery management authority or council for management of stocks of fish judged to be in need of management. The plan must generally be formally approved. A management plan includes data, analyses, and management measures	SCESS	Modified from Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the resolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA and Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
R	Fishery management plan	0	An explicit arrangement (contract) between the interested parties ~~as defined above,~~ and the fisheries management authority which makes explicit the objectives and means of management, the nature of the management authority, its powers and responsibilities, its working and consultation procedures, as well as the rights and responsibilities of the interested parties in the fishery.	SCESS	FAO (1995a), Guidelines for responsible management of fisheries. In Report of the Expert Consultation on Guidelines for Responsible Fisheries Management, Wellington, New Zealand, 23-27 January 1995. FAO Fisheries Report, 519. In FAO glossary.
D	Fishery management unit	0	A fishery or a portion of a fishery identified in a Fishery Management Plan (FMP) relevant to the FMP's management objectives. The choice of an FMU depends on the focus of the FMP's objectives, and may be organized around biological, geographic, economic, technical, social, or ecological perspectives.	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.

D	Fishery models	0	Simplified representations of the fisheries complex reality. May or may not be a mathematical representation.	SCESS	In FAO glossary.
D	Fishery Policy	0	Measures by which a national and/or a provincial government attempts to influence or control the behaviour of individuals, companies and communities in the fisheries sector to achieve certain objectives. The measures can be of varied kinds including fiscal measures, (e.g. taxes, subsidies, public investments, etc.; trade measures (e.g. import and export duties; quotas); social measures (health and education services); regulations (i.e. on food quality; means and types of fish harvesting; ITQs;) and others.	SCESS	In FAO glossary.
R	Fishery resource	0	In general, refers to elements of a natural aquatic resource (e.g. strains, species, populations, stocks, assemblages) that can be ~~legally~~ caught by fishing. ~~May sometimes be taken as including also the habitat of such resources.~~	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Fishery Technology	0	The equipment and practices used for finding, harvesting, handling, processing and distributing aquatic resources and their products.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
D	Fishery vessel	0	Any vessel, boat, ship, or other craft that is used for, equipped to be used for, or of a type that is normally used for the exploitation of living aquatic resources or in support of such activity. This definition may include any vessel aiding or assisting one or more vessels at sea in the performance of any activity relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, transportation, or processing (e.g. mother ships).	SCESS	In FAO glossary.
D	Fishery-independent	1	Refers to statistics about the stock that are collected independently of the fisheries, e.g. through scientific surveys. Most ICCAT data are fishery-dependen	SCESS	SCRS
D	Fishery-independent	2	Characteristic of information (e.g. stock abundance index) or an activity (e.g. research vessels survey) obtained or undertaken independently of the activity of the fishing sector. Intended to avoid the biases inherent to fishery-related data	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Fishing	0	Any activity, other than scientific research conducted by a scientific research vessel, that involves the catching, taking, or harvesting of fish; or any attempt to do so; or any activity that can reasonably be expected to result in the catching, taking, or harvesting of fish and any operations at sea in support of it.	SCESS	Modified from US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.
R	Fishing capacity	1	The ability of a stock of inputs (capital) to produce output (measured as either effort or catch). Can be measured by number of vessel, gross tonnage, hold capacity, horsepower, capital used for harvesting fish, etc. Reflects potential rather than nominal fishing effort.	SCESS	In FAO glossary.

D	Fishing capacity	2	The maximum amount of fish over a period of time (year, season) that can be produced by a fishing fleet if fully utilized, given the biomass and age structure of the fish stock (S) and the present state of the technology. Fishing capacity is the ability of a vessel or fleet of vessels to catch fish, Yc = Y(Ec, Sc), in which Yc is current yield or catch; Ec is the current effort generated by a fully-utilized fleet; Sc is the current stock size (biomass). The "fishing fleet" is the stock of inputs (i.e. physical capital and human capital). The term "fully-utilized " is used in a precautionary context in that it assumes that capacity utilization is 100%.	SCESS	FAO (1998a): Report of the FAO Technical Working Group on the Management of Fishing Capacity. FAO Fisheries Report No. 586. Rome, Food and Agriculture Organization of the United Nations. In FAO glossary.
D	Fishing capacity	3	The quantity of fish that can be taken by a fishing unit, for example an individual, community, vessel or fleet, assuming that there is no limitation on the yield from the stock. Usually expressed in terms of some measure of vessel size, such as gross tonnage, hold capacity, horsepower. Reflects potential rather than nominal fishing effort.	SCESS	FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p.). In FAO glossary.
D	Fishing capacity	4	The amount of fishing effort that a fishing boat, or a fleet of fishing boats could exert if not constrained by restrictive management measures.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Fishing capacity	5	Usually refers to that size and other characteristics of individual fishing vessels. *Sub-Committee on Stock Assessment.*	SCSA	In ICCAT glossary.
D	Fishing capital	0	The capital used for harvesting fish, such as fishing vessels (hull, engine, gear).	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Fishing community	0	A community that is substantially dependent on, or substantially engaged in, the harvest or processing of fishery resources to meet social and economic needs, the fishing vessel owners, operators, crew and fish processors that are based in such a community	SCESS	OECD.
A	Fishing tactics		Tactics are the methods that you choose to use in order to achieve what you want in a particular situation (see also fishing strategy).		Report of the SCSI/SCSA/SCESS transversal workshop on measurement and standardisation of fishing effort. Fuengirola (Malaga), Spain, 30-31 May 2006.
A	Fishing strategy		A strategy is a general plan or set of plans intended to achieve something, especially over a long period (see also fishing tactics).		Report of the SCSI/SCSA/SCESS transversal workshop on measurement and standardisation of fishing effort. Fuengirola (Malaga), Spain, 30-31 May 2006.

A	Fishing days	0	Any continuous period of 24hrs (or part thereof) attributed to the GSA (area) where the most fishing time was spent during the relevant day at sea. However, for passive gears, if no operation took place from the vessel during a day while at least one passive gear remained at sea, that day will be associated to the area where the last setting of a fishing gear was carried out on that fishing trip. Namely, the time calculated from the point where each individual unit of gear has been set, to the time when the same unit starts to be removed		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
D	Fishing effort, Effort (f)	1	Fishing effort, effort (f): Fishing effort is traditionally defined as the labour, vessel, skill and technology used in catching fish. It is that one unit of fishing effort removes a certain constant fraction of a stock and that this effort is directly related to the fishing mortality (F) through a constant called catchability coefficient (q). How effort is defined depends on the type of fishery (gear) and often on the type of information available. For long-line fisheries, effort is usually defined in units of number of hooks or in hook hours. For purse-seine fisheries effort is often defined as boat-days fishing. For trawl fisheries effort is often defined as hours trawling, days fishing etc.	scsa	In ICCAT glossary.
R	Fishing effort, Effort (f or E)	2	The amount of fishing gear of a specific type used on the fishing grounds over a given unit of time e.g. hours trawled per day, number of hooks set per day or number of hauls of a beach seine per day. When two or more kinds of gear are used, the respective efforts must be adjusted to some standard type before being added.	SCESS	FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p.). In FAO glossary.
D	Fishing effort, Effort (f)	3	(f): The total fishing gear in use for a specified period of time. When two or more kinds of gear are used, they must be adjusted to some standard type. Sometimes referred to as Effective fishing effort.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
OK	Fishing fleet	0	An aggregation of fishing vessels of a particular country (e.g. the European Union fishing fleet) or using a particular gear (a purse seine fleet).	SCESS	In FAO glossary.
OK	Fishing gears	0	The equipment used for fishing, e.g. baitboat, gillnet, handline, harpoon, haul seine, longline, widwater trawl, purse seine, rod-and-reel, trap, and trawler. Each of these gears can have multiple configurations.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
OK	Fishing industry	0	Includes both recreational, subsistence and commercial fishing, and the harvesting, processing, and marketing sectors.	SCESS	In FAO glossary.

D	Fishing intensity	1	In general, and mainly for trawling, the fishing effort exerted per unit of areas (e.g. in hours of trawling per 100 square miles). In stock assessment theory, the effective (or standard) fishing effort per unit area must be proportional to fishing mortality through the relation F = q(f/A) where (f/A) is the fishing intensity and "q" the catchability coefficient.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Fishing intensity	2	Effective fishing effort. Fishing effort per unit area. Effectiveness of fishing.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
D	Fishing intensity	3	Amount of fishing effort per unit area	SCSA	
M	Fishing mortality	1	A mathematical expression of the part of the total rate of deaths of fish due to fishing. Fishing mortality is often expressed as a rate that indicates the percentage of the population caught in a year.	SCESS	Modified from Commonwealth of Australia (1997): http://www.brs.gov.au/fish/gloss.html. In FAO glossary.
M	Fishing mortality	2	The part of the total mortality rate that is due to fishing. Fishing mortality is usually expressed as an instantaneous rate and can range from 0 per year (for no fishing) to high values such as 1.0 or more per year.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
M	Fishing mortality rate	0	The part of the total mortality rate that is due to fishing. Fishing mortality is usually expressed as an instantaneous rate, as discussed under Mortality Rate, and can range from 0 per year (for no fishing) to high values such as 1.0 or more per year. Fishing mortality should reflect all deaths in the stock that are due to fishing, not just those fish that are actually landed. It is common practice to refer F as a scalar value but it would be more appropriate to refer to it as a vector.	SCSA	In ICCAT glossary.
D	Fishing pattern	1	See exploitation pattern. Sometimes the term is also used in reference to the way in which fishing operations are conducted	SCESS	SCRS.
R	Fishing pattern	2	Distribution of fishing mortality among age groups. Also exploitation pattern	SCESS	From FAO glossary.
D	Fishing pattern	3	The way in which fishing operations are conducted.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
M	Fishing power	1	Refers to the efficiency of a fishing unit, usually a vessel, in capturing fish. The fishing power of individual fishing units can change over time (typically increasing) in response to technological developments in fishing gear, engines or sonar equipment, and adjustments to fishing practices	SCESS	SCRS

M	Fishing power	2	Of a boat or a fishing gear. Measured by its catch per unit of time, for a given density of aquatic animals. The fishing power depends on: (a) the area (or volume) affected by the gear, relative to the total area covered by the stock (a/A); (b) the number of animals present in that area (or volume), relative to the total stock (n/N); and (c) the proportion (p) of the animals present in that area (or volume) which can effectively be captured by the gear. If the stock (N) were randomly distributed in the distribution area (A), the proportion of the stock present in the sector affected by the gear (n/N) would be equal to (a/A) and the catch would be (pa/AN). In other words, the product p(a/A) will give a direct measure of fishing mortality.	SCESS	Gulland J.A. (1969): Manual of methods for fish stock assessment -Part 1, fish population analysis. Manuel des methodes d'evaluation des stocks d'animaux aquatiques - Partie 1, analyse des populations. Manual de metodos para la evaluacion de las poblaciones de peces. FAO Manuals In Fisheries Science, 4: 159 p. In FAO glossary.
M	Fishing power	3	The relative vulnerability of the stock to different boats or gears. Usually determined as the catch taken by the given apparatus, divided by the catch of a standard apparatus fishing at nearly the same time and place.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
M	Fishing power	4	Of a boat, or of a fishing gear: The relative vulnerability of the stock to different boats or gears. Usually determined as the catch taken by the given apparatus, divided by the catch of a standard apparatus fishing at nearly the same time and place. COMMENT In such a definition, fishing power is not measured in absolute terms and is dependent on stock size. For this reason, in practice, fishing power is measured only in relative terms.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
D	Fishing pump	0	Pumps serve to catch fish, usually attracted by light; they should not be confused with the pumps used to transfer fish already caught. This method is limited to a small number of species.	SCESS	Nedelec , C. and J. Prado (1990): Definitions and classification of fishing gear categories. FAO Fisheries Technical Paper, 222 (Rev. 1): 92 p. In FAO glossary.
OK	Fishing right	0	A right to catch a specified quantity of fish, or proportion of the total allowable fish catch or a right to use a boat (or any other specified fishing equipment) in a manner specified in a management plan or in the fishery regulations.	SCESS	In FAO glossary.
D	Fishing success	0	Sometimes used as synonym of catch-per-unit-effort.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.

OK	Fishing vessel	0	Any vessel, boat, ship, or other craft that is equipped and used for fishing or in support of such activity. For management purpose, particularly for monitoring and surveillance, may be considered to include any vessel aiding or assisting one or more vessels at sea in the performance of any activity relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, transportation, or processing (e.g. mother ships).	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Fishing zone	0	A zone of variable width (up to 200-nautical-miles) proclaimed by a coastal State around its coast, within which it controls domestic and foreign access to fish resources.	SCESS	In FAO glossary.
D	Fishmeal	0	Protein-rich meal derived from processing whole fish (usually small pelagic fish, and by-catch) as well as residues and by-products from fish processing plants (fish offal). Used mainly as agriculture feeds for poultry, pigs and aquaculture feeds for carnivorous aquatic species.	SCESS	In FAO glossary.
D	Fitting	0	See Tunning.	SCESS	In FAO glossary.
M	Fixed costs	0	Costs that do not vary with output or input. Fixed costs can only be avoided if the firm goes out of business.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Fixed gillnet	0	Used essentially in coastal waters, this net is mounted on stakes driven into the bottom. The fish are collected at low tide.	SCESS	Nedelec , C. and J. Prado (1990): Definitions and classification of fishing gear categories. FAO Fisheries Technical Paper, 222 (Rev. 1): 92 p. In FAO glossary.
D	FL	0	See Fork Length.	SCESS	In FAO glossary.
D	Flag	1	Refers to the state in which a boat is registered	SCESS	SCRS.
D	Flag	2	Refers to the State under the responsibility of which a boat is legally registered.		Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
D	Flag of convenience	0	The term pertains to cases when a boat is registered in a different state than that of ownership, for whatever reasons of convenience	SCESS	SCRS.
D	Flag state	1	In relation to a fishing vessel, the state under whose laws the fishing vessel is registered or licensed, in the case of a fishing vessel, that is not registered or licensed under the laws of any state, the flag states is the state whose flag the fishing vessel is entitled to fly	SCESS	OECD
D	Flag state	2	The State having registered a vessel under the national flag.	SCESS	In FAO glossary.

R	Fleet	0	The aggregation of units of any discrete type of fishing activity utilising a specific resource. Hence, for example, a fleet may be all the purse seine vessels in a specific sardine fishery~~, or all the fishers setting nets from the shore in a tropical multispecies fishery~~.	SCESS	FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p.). In FAO glossary.
D	Fleet statistics	0	Data used to monitor the basic makeup of fishing fleets. Fleet statistics may be useful for measuring Fishing capacity.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
D	Flexible inputs	0	Inputs to the production process (i.e., harvesting fish) that can be substituted for or by other inputs. The more flexible an input, the greater the substitutability.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	F_{loss}	0	F corresponding to a SSB/R equal to the inverse of R/SSB at the Lowest Observed Spawning Stock (LOSS).	SCESS	ICES, 1997; Modified from Caddy J.F. and R. Mahon (1995). Reference points for fisheries management. FAO Fisheries Technical Paper, 347: 83 p. In FAO glossary.
OK	F_{low}	0	F corresponding to a SSB/R equal to the inverse of the 10% percentile of the observed R/SSB.	SCESS	ICES, 1997; Modified from Caddy J.F. and R. Mahon (1995) Reference points for fisheries management. FAO Fisheries Technical Paper, 347: 83 p. In FAO glossary.
D	Fluctuation	0	The movement of something that shifts back and forth uncertainly.	SCESS	Webster Web dictionary. In FAO glossary. Uncertain variation in an indicator (e.g. of abundance or price). Sub-Committe o e n Economic and Social Sciences In FAO glossary.

M	F_{max}	0	A biological reference point. It is the fishing mortality rate that maximizes equilibrium yield per recruit. Fmax is the F level that defines growth overfishing. In general, Fmax is different than FMSY (the F that maximizes sustainable yield), and is usually higher than FMSY, depending on the stock-recruitment relationship. By definition, Fmax is always higher than F0.1.	SCSA	Caddy, J.F., and R. Mahon. 1995. Reference points for fisheries management. FAO Fish. Tech. Pap. 347. 83 p.In ICCAT glossary.
M	F_{MSY}	0	A biological reference point. It is the fishing mortality rate which, if applied constantly, would result in MSY. FMSY is the implicit fishing mortality target of the ICCAT. FSMY can be estimated in two ways: (1) From simple (Biomass-aggregated) production models (e. g., ASPIC, PRODFIT); (2) from age-structured models that include a stock-recruitment relationship (e. g., ASPM).	SCSA	Caddy, J.F., and R. Mahon. 1995. Reference points for fisheries management. FAO Fish. Tech. Pap. 347. 83 p. In ICCAT glossary.
D	Food security	0	Freedom from hunger. The capability to produce an adequate amount of food for all consumers at affordable prices.	SCESS	In FAO glossary.
OK	Forcing factors	0	Factors that condition the behaviour of the resource, such as upwelling, temperature, salinity, etc.	SCSA	
D	Foreign fishing	0	Fishing by a foreign fishing vessel.	SCESS	In FAO glossary.
D	Foreign fishing vessel	0	Any fishing vessel other than a vessel of the coastal state, except those foreign vessels engaged in recreational fishing.	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.
D	Formal Rights	0	Formal rights are rights based on international and national laws and agreements recorded in writing.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Centre for International Forestry Research : 53 p. In FAO glossary.
A	Fortuitous catch	0	Accidental catch		
D	Fouling (biological)	0	Growth of sessile algae and animals, especially on a ship's bottom or other artificial underwater structures, or in water-intake apparatus; also termed 'biofouling'. Organisms settled on submerged artificial substrata.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
OK	F_{pa}	0	Value of F that represents a precautionary approach.	SCSA	
A	FRA	0	Fisheries Restricted Area		
D	Frame survey	0	A complete description of the structure of any system to be sampled for collection of statistics. In fisheries, it may include the inventory of ports, landing places, number and type of fishing units (boats and gears), and a description of fishing and landing activity patterns, fish distribution routes, processing and marketing patterns, supply centres for goods and services, etc.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.

D	Freezer trawler	0	A freezer aboard which the fish is preserved by freezing. Such a vessel is fitted with refrigerating equipment and fish freezing equipment, and the fish holds are insulated and refrigerated. Most distant- water trawlers are freezer trawlers.	SCESS	Commission of the European Communities (1990): Glossarium of fishing vessels and safety on board.: 503 p. In FAO glossary.
M	Fully Exploited	0	Term used to qualify a stock which is probably neither being overexploited nor underexploited and is producing, on average, close to its Maximum Sustainable Yield. This situation would correspond to fishing at FMSY (in a classical production model relating yield to effort) or Fmax (in a model relating yield-per-recruit to fishing mortality).	SCESS SCSA	Modified from Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
D	Fully fished	0	State of a stock which current catches are close to the Maximum Sustainable Yield or Maximum Average Yield. Increases in fishing effort would not increase significantly the yields and would substantially increase the risk of overfishing. Fully fished stocks are primary targets for effort and capacity controls.	SCESS	In FAO glossary.
D	Game theory	0	The formal theory of strategic behaviour.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Gear	0	A fishing gear is a tool used to catch fish, such as hook and line, trawl, gill net, trap, spear, etc.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Gear conflicts	0	Conflicts between fishing gear on fishing grounds where one type of gear interferes with another type of gear. An example is where mobile trawling gear damages passive gear, such as lobster traps	SCESS	OECD.
A	Gear Unit	0	As effort parameter: number of FAD's, number of traps, number of long line units, number of hooks, length of net, and surface area of net.		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
R	Gear-restriction	0	~~Conflicts between fishing gear on fishing grounds where one type of gear interferes with another type of gear. An example is where mobile trawling gear damages passive gear, such as lobster traps.~~ A type of input control used as a management tool whereby the amount and/or type of fishing gear used by fishers in a particular fishery is restricted by law.	SCESS	In FAO glossary.

D	Gender roles	0	This refers to specific duties, modes of behaviour or activities within the household, the community, the production unit or society at large which are determined by geneder. In such cases, there is a clear, gender-based division of labour in the productive process.	SCESS	
OK	Generalized Linear Model (GLM)	0	A statistical procedure similar to an analysis of variance or a multiple regression that is used to estimate the magnitude of the effects of different factors on a variable of interest. GLMs are the tool of choice for standardizing CPUE data in order to obtain indices of abundance. In such applications, the variable of interest is CPUE and the factors are year and perhaps others such as area, gear configuration, etc. ; the standardized abundance index of annual abundance would then be given by the parameters associated with the factor year.	SCSA	Brown and Porch, 1997; Cooke and Lankester, 1996; McCullagh and Nelder, 1989. In ICCAT glossary.
OK	Genetic diversity	0	All of the genetic variation in an individual, population, or species.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
D	Genetically Modified Organism (GMO)	0	An organism in which the genetic material has been altered anthropogenically by means of gene or cell technologies. Such technologies include the isolation, characterization, and modification of genes and their introduction into living cells or viruses of DNA as well as techniques for the production of living cells with new combinations of genetic mate rial by the fusion of two or more cells.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
D	Genetically selected organism	0	An organism produced by selective breeding.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
M	Geographic region	0	With regard to biogeography and species distribution, a region which is separated from an adjacent region by a barrier which is usually impenetrable to many species, limiting their movement or preventing establishment outside their natural geographical range.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
A	Geographic Subarea	0	GSA		
OK	Ghost fishing	0	The accidental capture of aquatic organisms by fishing gear (usually gill nets, or traps, pots, etc.) that has been lost or discarded into the sea and which continues to entangle or trap aquatic animals.	SCESS	In FAO glossary.
D	Gilled and gutted weight	0	The weight of which after the gills and guts (and sometimes the heads) have been removed.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.

D	Global positioning system	0	Global Positioning System, a low cost ($1000 to $5000) system for finding three dimensional co-ordinates on the earth using satellites.	SCESS	Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.
M	Governance	1	The activity or process of governing; a condition of ordered rule; those people charged with the duty of governing; or the manner /method / system by which a particular society is governed.	SCESS	McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. In FAO glossary.
M	Governance	2	In a particular sector (e.g. fisheries), a continuing process through which governments, institutions and stakeholders of the sector and of other interacting sectors, elaborate and adopt appropriate policies, plans, and management strategies to ensure sustainable and responsible resource utilisation. In the process, conflicting or diverse interests may be accommodated and co-operative action may be taken.	SCESS	In FAO glossary.
D	Governance	3	The systemic framework of social, economic, legal and political structures within which humanity chooses, and/or accepts, to manage its affairs.	SCESS	World Humanity Action Trust (1999). In FAO glossary.
D	Governance	4	he sum of the many ways individuals and institutions, public and private, manage their common affairs.	SCESS	Commission on Global Governance (1995): Our Global Neighbourhood, Report of the Commission on Global Governance, 1995: p. 2. In FAO glossary.
D	Governance	5	The capacity to get things done without the legal competence to command that they be done.	SCESS	Czempiel, E. O. (1992): Governance and Democratization. In J.N. Rosenau and E-O. Czempiel, eds., Governance without Government: Order and Change in World Politics. Cambridge. Cambridge University Press1997.ICES CM 1997/Assess:7: 35-41. In FAO glossary.
D	Governance	6	The system by which organizations are directed or controlled (Corporate governance). COMMENT The modern use of the term implies change in the meaning (and mode) of government with: reform of the civil service; Greater use of non-governmental organisations (civil society); reduction of public intervention; privatization of public enterprises; encouragement of competition; greater use of market and quasi-markets to deliver public services; openness of information (transparency), integrity and accountability (auditing);decentralisation of responsibilities (local governance).		In FAO glossary.

D	Greenhouse Effect	1	Warming of the earth's atmosphere caused by a build-up of carbon dioxide and other greenhouse or trace gases that act like a pane of glass in a greenhouse, allowing sunlight to pass through and heat the earth but preventing a counterbalancing loss of heat radiation.	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Greenhouse Effect	2	The tendency towards increasing temperature of the lower layers of the atmosphere caused by an increase in atmospheric carbon dioxide which, together with water vapour, absorbs radiated heat more efficiently than it absorbs the incident solar radiation of short wave lengths.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Greenhouse Gases	0	Carbon dioxide, nitrous oxide, methane, ozone and chloro-fluorocarbons occurring naturally and resulting from human (production and consumption) activities, and contributing to the greenhouse effect (global warming).	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
R	Gross registered tonnage (GRT)	1	A measurement of ship weight. With fishing vessels often used as a measure of fishing capacity, particularly for ships built before 1994 (when the London Convention replaced the Oslo Convention in providing guidelines for the standard measurement of ship capacity). At present is being replaced by Gros Tonnage (GT)	SCESS	OECD.
D	Gross registered tonnage (GRT)	2	A measure of a vessel capacity.	SCSA	
OK	Gross tonnage (GT)	0	A measurement of ship volume. With fishing vessels often used together with engine power (kW) as a measure of fishing capacity, especially since the London Convention took effect in 1994. The gross tonnage is a function of the moulded volume of all enclosed spaces of the ship	SCESS	OECD.
OK	Groundfish	0	A species or group of fish that lives most of its life on or near the sea bottom.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
OK	Growth model	0	A mathematical description or representation of the size of a living organisms at its various ages. There are many such models, the most frequently used being the von Bertalanffy Growth model.	SCESS	In FAO glossary.
OK	Growth overfishing	0	Growth overfishing occurs when the fishing mortality rate is above Fmax. This means that individual fish are caught before they have a chance to reach their maximum growth potential.	SCSA	Gulland, J.A. 1974. The management of marine fisheries. U. Washington Press. In ICCAT glossary.
M	Growth rate	1	Annual or seasonal. The increase in weight of a fish per year (or season), divided by the initial weight.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.

M	Growth rate	2	In fish this is often measured in terms of the parameter K of the von Bertalanffy curve for the mean weight as a function of age; W = Wmax (1-exp (-K.age)).	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
A	GSA	0	Geographical Subarea		
D	Guild	0	A group of species or organisms which use the same environmental resources in the same way.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Centre for International Forestry Research : 53 p. In FAO glossary.
OK	Gutted weight	0	A type of weight measurement where the guts, have been removed and discarded at sea. When it is practised conversion factors are used for each species to obtain total weight.	SCSA	
M	Habitat	0	The locality, site and particular type of local environment occupied by an organism; local environment; oike; oikos.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
M	Handgear	0	Handlines may be used with or without a pole or rod. For fishing in deep waters the lines are usually operated using reels. The bait used may be natural or artificial. This category includes the jigging lines, operated by hand and used on small boats. Handlines can be worked mechanically, using powered reels or drums. They are generally used on medium size vessels, but they may also be used on relatively small boats. Pole-lines can also be mechanised, e.g., for tuna catching, with the pole movement being entirely automatic.	SCESS	Nedelec , C. and J. Prado (1990): Definitions and classification of fishing gear categories. FAO Fisheries Technical Paper, 222 (Rev. 1): 92 p. In FAO glossary.
M	Handliner	0	A fishing vessel employing handlines. Boats, canoes and other small vessels may be used for handlining, and no special features are required for working the gear.	SCESS	Commission of the European Communities (1990): Glossarium of fishing vessels and safety on board.: 503 p. In FAO glossary.
R	Harvesting capacity	0	~~The capacity of the fishing fleet to harvest fish, usually expressed in terms of some measure of vessel size, such as gross tonnage, hold capacity, horsepower.~~ Fishing capacity	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Hazard Analysis (and) Critical Control Point(s) (HACCP) system	0	A set of procedures intended to predict food safety risks and prevent them before they happen. It entails identifying all the points in product processing and distribution where quality can be degraded (e.g.; through improper temperature, improper handling, etc) and checking those points to prevent problems (in contrast with procedures that check quality at the end of the processing and distribution chain, by which time damage may have already been done)	SCESS	OECD.
D	High grading	0	The division of catch into high and low value, and disposing of the low value fish	SCESS	OECD.

A	High seas	0			
D	High seas resources	0	Resources distributed exclusively in the high seas, i.e. in waters beyond the areas of national jurisdiction (which can be 200 miles or less) excluding species fixed on the continental shelf which remain under the sovereign rights of the coastal States.	SCESS	In FAO glossary.
A	Historical bay	0			
D	Home port	0	See Base port.	SCESS	In FAO glossary.
D	Horizontal integration	1	A fishery (or industry) is horizontally integrated when firms in the fishery operate and manage multiple units at the same level of the supply chain. For example, a firm that operates several processing plants, across several regions or for different species, is considered horizontally integrated	SCESS	OECD.
D	Horizontal integration	2	Resources distributed exclusively in the high seas, i.e. in waters beyond the areas of national jurisdiction (which can be 200 miles or less) excluding species fixed on the continental shelf which remain under the sovereign rights of the coastal States.	SCESS	In FAO glossary.
D	Household	0	All the persons, kin and non-kin, who live in the same dwelling and share income, expenses and daily subsistence tasks. A basic unit for socio-cultural and economic analysis, a household may consist of persons (sometimes one but generally two or more) living together and jointly making provision for food or other essentials elements of the livelihood. COMMENT Households usually occupy the whole, part of, or more than one housing unit (including vacation or second homes) but they may also be found living in camps, boarding houses or hotels or as administrative personnel in institutions, or they may be homeless. They may consist in extended families (with many dwellings) making common provisions for food, as well in potentially separate households with a common head, resulting from polygamous unions. A household may also include those persons who normally reside with the other members of the household but are temporarily away (for less than one year), e.g. full-time students or those engaged in seasonal migratory labour.	SCESS	In FAO glossary.
D	Human capital	0	The skills, knowledge, ability to labour and good health important to the ability to pursue different livelihood strategies.	SCESS	Adapted from Scoones I (1998) Sustainable rural livelihoods: A framework for analysis. IDS Working Paper, 72. Brighton: IDS. In FAO glossary.
D	Human Development Index (HDI)	0	Measure based on three indicators: (a) longevity, as measured by life expectancy at birth, (b) educational and combined primary, secondary and tertiary enrolment ratios (one-third weight) and (c) standard of living, as measured by real gross domestic product (GDP) per capita (in purchasing power parity).	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Hybrid	0	Offspring of a cross between genetically dissimilar individuals; in taxonomy, often restricted to the offspring of interspecific crosses.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986

A	**ICA**	0	Integrated Catch at age analysis (ICA, Patterson and Melvin 1998) is a stock assessment methodology that uses separable virtual population analysis (VPA) (Pope & Shepherd, 1985) with weighted tuning indices. ICA is based on commercial catch data (landings and catch at age data) and as tuning indices the biomass estimates from acoustic surveys and the Daily Egg Production Method (DEPM) estimates can be used. Specifically input data include annual landings, annual catch at age data, mean weights at age, maturity at age, natural mortality at age and the results of acoustic and DEPM surveys (biomass and abundance at age indices). Assumptions are set concerning the separability period, the weight per age group and the catchability relationship of the tuning indices. The model output concerning estimates includes the annual fishing mortality at age, the annual population abundance ay age, the annual recruitment, annual total biomass, annual spawning stock biomass, Fmean which is considered the mean fishing mortality for the age groups that are considered target for the fishery. Residual tables and diagnostics plots of the model fit are produced in order to evaluate the model performance.		
OK	Ichthyoplankton	0	Fish eggs and larvae belonging to the planktonic community.	SCSA	
A	Incidental catch	0	See accidental catch		
D	Indigenous fishing	0	Fishing undertaken by peoples native to a land or region, for example, Aboriginals and Torres Strait Islanders.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report - Fisheries, Canberra, 202 p. In FAO glossary.
OK	Indirect methods	0	Methods for stock assessment based on fishery-dependent data, such as catch and effort statistics and age structure of the catch.	SCSA	
D	Individual (fishing) quota (IQ or IFQ)	1	An allocation to an individual (a person or a legal entity (e.g. ; a company) of a right [privilege] to harvest a certain amount of fish in a certain period of time. It is also often expressed as an individual share of an aggregate quota, or TAC.	SCESS	OECD
D	Individual (fishing) quota (IQ or IFQ)	2	A quota (possibly a percentage) of a total allowable catch (TAC) assigned to an individual, a vessel or a company. If an individual quota is transferable and referred to as an Individual Transferable Quota (ITQ)	SCESS	Modified from. Gough, J. and T. Kenchington (1995), A Glossary of Fisheries Science. Communications Branch, DFO, Nova Scotia. In FAO glossary.
OK	Individual (non transferable) Quota (IQ)	0	A management tool used to allocate Total Allowable Catch (TAC) to individual fishermen or companies. They do not represent long-term rights because they are not tradable by their holders. The management authority retains the prerogative to withdraw and redistribute them under certain conditions.		In FAO glossary.
OK	Individual transferable quota (ITQ)	1	An IQ or IFQ that can be transferred in whole or in part to another individual (a person or a legal entity (e.g. ; a company). Rules limiting trade in ITQs apply in many countries	SCESS	OECD

D	Individual transferable quota (ITQ)	2	A type of quota (a part of a Total Allowable Catch) allocated to individual fishermen or vessel owners and which can be sold to others	SCESS	NRC (U.S. National Research Council). 1999. Sharing the fish: Toward a national policy on individual fishing quotas. National Academy Press, Washington. 422p. In FAO glossary.
M	Industrial fishery	0	Medit definition	SCSA	
D	Information management	1	A mechanism and structured set of processes, people, and equipment for converting data into information and storing and distributing information.	SCESS	In FAO glossary.
D	Information management	2	A structured set of processes, people and equipment for converting data into information.	SCESS	In FAO glossary.
D	Information management	3	A mechanism for storing, generating and distributing information for supporting operations and management functions of an organization(s).		Chidley, T.R.E., J. Elgy and J. Antoine (1993), Computerized systems of land resources appraisal for agricultural development. FAO World Soil Resources Reports, 72. In FAO glossary.
A	Inland waters	0			
D	Input controls	1	Management instruments used to controls the time and place as well as type and/or amount of fishing with the view to limit yields and fishing mortality; e.g. restrictions on type and quantity of gear, effort, and capacity; closed seasons.	SCESS	In FAO glossary.
OK	Input controls	2	Limitations on the amount of fishing effort; restriction on the number, type and size of fishing vessels or fishing gears, or on the fishing areas or fishing times in a fishery.	SCSA	
M	Inshore waters		Waters of the shallower part of the continental shelf.	SCESS	In FAO glossary.
OK	Integrated Analysis	0	Refers to stock assessment methodologies that attempt to integrate multiple sources of data into a single estimation framework. For example, an integrated assessment can attempt to fit the following observations based on model predictions : Total landings by fleet, size samples of landings, discard estimates, size samples of discards, standardized CPUE by fleet, fishery-independent surveys, and tagging records on movement, growth and recoveries	SCESS	Fournier et al. 1998 ; Porch, 1996. SCRS.
D	Integrated coastal area management	0	The dynamic process by which actions are taken for the use, development and protection of coastal resources and areas to achieve national goals established in cooperation with user groups and regional and local authorities. COMMENT In this definition, integrated management refers to the management of sectional components as parts of a functional whole with explicit recognition that it is the users of resources, not the stocks of natural resources, which are the focus of management. For the purpose of integrated management, the boundaries of a coastal area should be defined according to the problems to be resolved. The definition thus implies a pragmatic approach to the defining of coastal areas in which the area under consideration might change over time as additional problems are addressed which require resolution over a wider geographical area.	SCESS	FAO (1997) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.

D	Integrated Coastal Fisheries Management ICFM	0	A framework for the management of coastal fisheries within Integrated Coastal Area Management. COMMENT ICFM differs from traditional fisheries management in that it is not a uni-sectorial approach. Capture fisheries problems are often described as originating from a two-pronged threat: over-exploitation and habitat degradation. The first is the traditional fisheries management issue of non optimal exploitation of fisheries resources caused by over investment and excessive fishing effort. The other threat to fisheries stems from the more modern problems of habitat degradation, including deterioration of water quality and loss of critical habitats such as coral reefs and mangrove areas.	SCESS	In FAO glossary.
OK	Integrated Coastal Zone Management	0	The process of combining all aspects of the human, physical and biological aspects of the coastal zone within a single management framework. COMMENT Careful planning and management of all sectorial activities simultaneously will result in greater overall benefits than pursuing sectorial development plans independently of one another. Integrated Coastal Area Management makes explicit the fact that degradation of coastal resources may result from activities outside the coastal zone. Where issues are deemed to arise in a watershed, ICAM may. Subject to appropriate institutional arrangements, extend outside the coastal zone.	SCESS	In FAO glossary.
D	Integration	0	The process of bringing together separate components as a functional whole that involves co-ordination of interventions. COMMENT In ICAM, integration may take place at three levels, system, functional and policy; systems integration refers to the physical, social and economic linkages of land and water uses and ensures that all relevant interactions and issues are considered; functional integration ensures that programmes and projects are consistent with ICAM goals and objectives; and policy integration ensures that management actions are consistent with other development and policy initiatives.	SCESS	In FAO glossary.
D	Interest concession	0	A reduction, compared with commercial interest rates, in the interest rate charged on a loan taken out. Such concessions are typically provided directly by a government agency or by a government grant to a lending bank (in the case of a commercial loan)	SCESS	OECD.
D	Interested party	1	Any party who has been accepted by a State or States as having a legitimate interest in the living marine resource being managed.	SCESS	FAO (1995). In FAO glossary.
D	Interested party	2	Or Interest group. Any person or group who has a legitimate interest in the conservation and management of the resources being managed. Any party who has been accepted by a State or States as having a legitimate interest in the living marine resource being managed. COMMENT This term is more encompassing than the term stakeholder. Generally speaking, the categories of interested parties will often be the same for many fisheries and should include contrasting interests: commercial and recreational; conservation and exploitation, artisanal and industrial, fisher and buyer, processor and trader; as well as governments (at local, state, and national level). The general public and the consumers could also be considered as interested parties in some circumstances.	SCESS	FAO (1995): The precautionary approach to capture fisheries and species introductions. FAO Guidelines for Responsible Fisheries, 2: 54 p. In FAO glossary.
D	Intergenerational Equity	1	Inter-generational equity is the principle by which each generation utilises and conserves the stock of natural resources (in terms of diversity and carrying capacity) in a manner which does not compromise their use by future generations.	SCESS	Scialabba N. (ed.), 1998. Integratred Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	Intergenerational Equity	2	Issue of sustainable development referring, within the environmental context, to fairness in the intertemporal distribution of the endowment with natural assets or of the rights to their exploitation.	SCESS	United Nations (1997).

D	Internal rate of return	0	A financial or economic indicator of the net benefits expected from a project or enterprise, expressed as a percentage. In financial analysis, the internal rate of return can be compared with the rate of interest prevalent in the market.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series ,1. In FAO glossary.
D	Intersectoral issues	0	Issues that are common to all or many sectors, and where the effects from another may or may not be significant. Examples include the loss of biodiversity, the effects of climate change and public health matters.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Interventions	0	The management of fisheries is increasingly perceived as a collaborative activity involving all stakeholders in the fisheries sector. However, in many parts of the world, depending on the political and social context, management of the sector may rely on interventions introduced by institutions, bureaucracies or other agencies who are not dependent on fisheries in the same way as the resource-users who will be primarily affected by their interventions. The subsequent degree of involvement of resource-users in implementing these measures will vary but "intervention" is intended here to refer to those elements of management of fisheries which are dependent on "outside" agencies.		FAO (1998). In FAO glossary.
D	Intra-generational equity	0	Intra-generational equity is the principle by which all sections of the community share equitably in the costs and benefits of achieving sustainable development.		Scialabba N. (ed.), 1998. Integrated Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
M	Intrinsic growth rate (r)	1	A value that quantifies how much a population can grow between successive time periods. The intrinsic growth rate is often estimated with production models and plays an important role in evaluating the sustainability of different harvest levels and the capacity to recover after depletion	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
M	Intrinsic growth rate (r)	2	The innate capacity of a species to increase when population growth is not slowed down by competition.	SCSA	Pielou, E.C: 1978 Population and community ecology. Gordon & Breach, NY
M	Intrinsic growth rate (r)	3	The intrinsic rate of increase can be defined quantitatively in terms of the Schaefer model where r, MSY and B, the carrying capacity of the environment are related such that: MSY = r . B / 4	SCSA	Pauly, D. 1984 Fish population dynamics in tropical waters. ICLARM Stud. Rev. (8):325pp

M	Introduced Species	1	Any species intentionally or accidentally transported and released by humans into an environment beyond its present range.	SCMEE	Precautionary approach to fisheries, FAO Fisheries chnical Paper. Part 1. Rome, FAO. 1995, Part. 2. Te 1996.
M	Introduced Species	2	Any species introduced by human agency into a geographical region outside its natural range. The term includes non-established ('alien') species and established non.natives, but excludes hybrid taxa derived from introductions ('derivatives').	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
D	Joint enterprise	0	A technical term primarily used in the context of bilateral fishing agreements between the European Community and third countries. Similar to a joint ventures, joint enterprises are a combination of interests between Community vessel owners and fisheries interests in the third countries	SCESS	OECD
D	Joint venture	1	A term that generally refers to a joint-stock company formed by combining the capital of one or more firms. This combination of capital often occurs between firms in different countries. The combination of capital often provides opportunities for trade in fisheries products and trade in fisheries services (e.g. fishing vessels).	SCESS	OECD
D	Joint venture	2	Collaborative fishing operation usually involving two companies from different countries.	SCESS	In FAO glossary.
D	Joint venture	3	A partnership between foreign and local fishers	SCESS	
OK	Juvenile	0	Young fish that has passed trough the metamorphosis process; but has not reached the length or age of first maturity.	SCSA	
OK	Lampara net	0	A surrounding net with the central bunt in the form of a spoon and two lateral wings, making it possible to retain the shoal of fish when the two wings are hauled up at the same time. The ring net type is shaped more like a purse seine and most often fitted with bridles to help pull in the leadline. These nets are generally operated by a simple boat, relatively small.	SCESS	Nedelec , C. and J. Prado (1990): Definitions and classification of fishing gear categories. FAO Fisheries Technical Paper, 222 (Rev. 1): 92 p. In FAO glossary.
D	Land tenure	0	Arrangements or rights under which the holder holds or uses land and associated resources (e.g. water, trees) for particular purposes. Land rented out is not considered to be part of the holding. A holding may be operated under one or more tenure forms, with each parcel normally operated under one tenure form. COMMENT There are many land tenure systems that allow people to use the same property for different purposes. For example, the farming rights can belong to one person, while the trees to another and the fruit of the trees to someone else. Leasing and renting are kinds of land tenure, just as is share-cropping. Thus, there exists a hierarchy of land tenure interests in the same parcel. One person often holds the right to use a specific resource, another may hold the allocation rights and finally someone else holds the alienation rights (that is the person who can sell the land).	SCESS	FAO (1995) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Landing	1	The part of the catch that is selected and kept during the sorting procedures on board and successively discharged at the arrival to the fishing harbour.	SCSA	
OK	Landing	2	Weight of the what is landed at a landing site. May be different from the catch (which includes the discards).	SCESS	In FAO glossary.

OK	Landing price	0	Price for a product at the landing point, not taking account of any transportation or handling costs. Equivalent to the "farm gate" price for aquaculture.	SCESS	In FAO glossary.
OK	Landing site	0	Location at which boats land their catch. A landing site may be the same as the homeport or base port but it can also be different. Recording of fishing activities tend to be conducted in the vessel homeport or base port, while sampling and recording of catches and species composition, landing prices, etc. are usually undertaken at landing sites.	SCESS	Modified from FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary
D	Land-use planning	0	The systematic assessment of land and water potential, alternative patterns of land use and other physical, social and economic conditions, for the purpose of selecting and adopting land-use options which are most beneficial to land users without degrading the resources or the environment, together with the selection of measures most likely to encourage such land uses. Land-use planning may be at international, national, district (project, catchment), or local (village) levels. It includes participation by land users, planners and decision-makers and covers educational, legal, fiscal and financial measures.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series ,1. In FAO glossary.
M	Large marine ecosystems	0	Regions of ocean space encompassing coastal areas from river basins to estuaries to the seaward boundary of continental shelves and seaward margins of coastal current systems. They are relatively large regions, characterized by distinct bathymetry, hydrography, productivity and trophically linked populations. Refer to Mediterranean and Black Sea	SCMEE	Global Biodiversity Assessment, V.H. Heywood, R.T. Watson, Cambridge University Press, 1995
OK	Latent capacity	1	Fishing capacity that is not currently deployed in a fishery.	SCESS	Comonwealth of Australia (1997): http://www.brs.gov.au/fish/gloss.html. In FAO glossary.
D	Latent capacity	2	The potential capacity corresponding to full utilization rates of variable input of active participants to the currently partially or fully inactive participants and using their capital stock information.	SCESS	Kirkley J. and D. Squires (1999). In FAO glossary.
A	Length of net	0	The sum of the length of the nets deployed whether connected or deployed separately, i.e., total length of gear deployed		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
Ok	Length or age at first maturity	0	Length at which 50% of the individuals of a given sex (normally females) are considered to be reproductively mature (L50 and A50). It is usually estimated by fitting a logistic curve to the relationship between proportion mature and length or age.	SCSA	
Ok	Lessepsian migration	0	Migration between the Red sea and the Mediterranean by way of the Suez canal.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986

D	Level of exploitation	0	This can mean the amount of catch or the level of fishing mortality, or is sometimes used without any precise quantity in mind.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
D	Lf	1	Asymptotic length (length at infinite age)..	SCSA	
OK	Lf =L(infinity)	2	Parameter of the von Bertalanffy's growth equation defined as the Asymptotic length (length at infinite age) or "the mean length of very old (strictly infinitely old) fish".	SCSA	Sparre, 1989
D	Licence limitation	1	The restriction of fishing to those people, fishing units or vessels holding licences in limited entry fishery.	SCSA	
OK	Licence limitation	2	Legally restricting the number of commercial fishermen licensed to fish. Often a management agency uses this as a means of limited entry.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
OK	License	0	Also known as permit. A license or permit is a document giving the producer the right to operate in a fishery according to the terms established by the regulating authority.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Licensing	0	Restriction of the right to fish to those persons or vessels issued with licenses for the purpose.	SCESS	Cooke J.G., and K. Lankester. 1996. Consideration of statistical models for catch-effort indices for use in tuning VPAs. ICCAT SCRS/95/077. In FAO glossary.
D	Limit capacity	0	The maximum amount of fish that can be produced on a sustainable basis by a fully-utilized fleet. Thus, the limit capacity corresponds to MSY.	SCESS	FAO, 1998a, para 68 Report of the FAO Technical Working Group on the Management of Fishing Capacity. FAO Fisheries Report No. 586. Rome, Food and Agriculture Organization of the United Nations. In FAO glossary.
M	Limit Reference Point (LRP)	1	LRP set boundaries which are intended to constrain harvesting within safe biological limits within which the stocks can produce MSY....Fishery management strategies shall ensure that the risk of exceeding LRP is very low. If a stock falls below a LRP or is at rsk of falling bellow such a reference point, conservation and management action should be initiated to facilitate stock recovery....The fishing mortality rate which generates MSY should be regarded as a minimum standard for limit reference points	SCESS	Annex II of the UN Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

M	Limit Reference Point (LRP)	2	A Limit Reference Point indicates a state of a fishery and/or resource which is considered to be undesirable and which management action should avoid	SCESS	Caddy, J.F., and R. Mahon. 1995. Reference points for fisheries management. FAO Fish. Tech. Pap. 347. 83 p.
M	Limit Reference Point (LRP)	3	A LRP is a benchmark that should not be exceeded with any significant probability according to a given set of management objectives		Caddy, J.F., and R. Mahon. 1995. Reference points for fisheries management. FAO Fish. Tech. Pap. 347. 83 p. In ICCAT glossary.
M	Limit Reference Point (LRP)	4	Limit Reference Point (LRP): Indicates the state of a fishery and/or a resource which is not considered desirable. Fishery development should be stopped before reaching it. If a LRP is inadvertently reached, management action should severely curtail or stop fishery development, as appropriate, and corrective action should be taken. Stock rehabilitation programmes should consider an LRP as a very minimum rebuilding target to be reached before the rebuilding measures are relaxed or the fishery is re-opened.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
D	Limited access	0	As used in fisheries, usually the same as harvester rights (see above) but sometimes used to include all controlled access to use of a natural resource, including full ownership. Also, limited entry. Check with Limited entry fishery and licence limitation	SCESS	Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the resolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA. In FAO glossary.
OK	Limited entry fishery	0	Fishery where the number of operators (and size of boats) is restricted through license limitation or quota systems, to control the amount of fishing effort. It frequently involves controls on the number and size of vessels, and conditions relating to the transfer of fishing rights or the replacement of vessels.	SCESS	Modified from Comonwealth of Australia (1997): http://www.brs.gov.au/fish/gloss.html. In FAO glossary.
M	Littoral zone	0	The shallow water region with light penetration to the bottom. Typically occupied by rooted plants.	SCESS	Odum E.P.(1959) Fundamentals in ecology. 2nd Edition, Philadelphia, Saunders Co: p. 53. In FAO glossary.
OK	Livelihood	0	A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain and enhance its capabilities and assets both now and in the future, while not undermining the natura resource base.	SCESS	Carney D. (Ed.)(1998): Sustainable rural livelihoods: What contribution can we make? UK Department for International Development (DFID). In FAO glossary.
A	LME	0	Large marine ecosystem		
OK	Logbook	0	An official record of a fishing vessels fishing operations (including location and time of catches, gear configuration, nominal effort used, size samples, etc.). Logbooks are mandatory in some States.	SCSA	In ICCAT glossary.

A	Main associated exploited resources	0	The species or species group exploited as by-catch in association with target species. This can also be called by-catch of commercial value.		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
D	Managed resource protection area	0	Protected area managed for the sustainable use of natural ecosystems.	SCESS	(UN-ECE/FAO (1997) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
M	Management	1	The art of taking measures affecting a resource and its exploitation with a view to achieving certain objectives, such as the maximization of the production of that resource. Management includes, for example, fishery regulations such as catch quotas or closed seasons. Managers are those who practice management.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary..
M	Management	2	A set of rules and recommendations aimed at "promoting economic and social wellbeing of the fishermen and industries that use the production" Include sustainability as part of management	SCSA	Hilborn, R., and C.J. Walters. 1992. Quantitative fisheries stock assessment. Choice, Dynamics and uncertainty. Chapman and Hall, NY. 570 pp..
OK	Management authority	0	The legal entity which has been assigned by a State or States with a mandate to perform certain specified management functions in relation to a fishery, or an area (e.g. a coastal zone). Generally used to refer to a state authority, the term may also refer to an international management organisation.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
OK	Management objective	0	A formally established, more or less quantitative target that is actively sought and provides a direction for management action.	SCESS	FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p. In FAO glossary.
OK	Management organization	0	An institution or arrangement established (usually between two or more States) to be responsible for activities related to fisheries management, including consultation between parties to the agreement or arrangement, formulation of the fishery regulations and their implementation, allocation of resources, collection of information, stock assessment, as well as monitoring, control and surveillance (MCS).	SCESS	In FAO glossary.
OK	Management procedure	0	A description of the data to collect, the way to analyse it, and the way to translate the analysis into actions.	SCESS	FAO (1995), Global and national soils and terrain digital databases (Soter): Procedures Manual. FAO World Soil Resources Report, 74 Rev.1. In FAO glossary.

OK	Management reference points	0	Conventional (agreed values) of indicators of the desirable or undesirable state of a fishery resource of the fishery itself. Reference points could be biological (e.g. expressed in spawning biomass or fishing mortality levels), technical (fishing effort or capacity levels) or economic (employment or revenues levels). They are usually calculated from models in which they may represent critical values.	SCESS	In FAO glossary.
D	Management Strategy	1	Refers to the management system as a whole (including support activities such as stock assessment) geared towards the achievement of specific management objectives. A management strategy can be defined more narrowly as the combination of a particular data collection system, a particular stock assessment technique and a particular harvest control rule and its implementation. In such a way, alternative management strategies can be compared against each other simulation	SCESS	SCRS
OK	Management Strategy	2	The strategy adopted by the management authority to reach established management goals. In addition to the objectives, it includes choices regarding all or some of the following: access rights and allocation of resources to stakeholders, controls on inputs (e.g. fishing capacity, gear regulations), outputs (e.g. quotas, minimum size at landing), and fishing operations (e.g. calendar, closed areas and seasons). COMMENT The management strategy may also include control laws establishing formally the course of management action in relation to stock or fishery indicators. A precautionary management strategy takes uncertainty into account in order to reduce the probability of negative outcomes.	SCESS	In FAO glossary.
M	Management Unit	0	The Scientific Advisory Committee (SAC) interpret Management Units as areas for which: Management action can (but does not necessarily have to) be distinct; scientific information on stock status is available, or can be made available by SAC and SAC would ideally be in a position to give management advice. OBSOLETE: NOT AREAS	SCSA	FAO, 1999. Report of the first session of the Scientific Advisory Committee. FAO Fisheries Report Nº 601.
OK	Marginal cost of effort	0	The incremental cost incurred by applying one additional unit of fishing effort.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Marginal factor cost	0	The incremental costs incurred by employing one additional unit of input.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Marginal revenue (of effort)	0	The incremental revenue generated by applying one additional unit of effort.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Marginal yield	0	The increase in yield obtained by an increase in fishing effort (or fishing mortality) by one unit. In mathematical terms, it is given by the slope of the tangent to the relationship between Effort and Yield (or between Fishing mortality and Yield-per-recruit).	SCESS	Gulland J.A and L.K. Boerema (1973) : Scientific advice on catch levels. Fishery Bulletin, 71 (2): 325-335. In FAO glossary.

M	Marine habitat	0	Marine area distinguished by its geographical , abiotic and biotic characteristics.	SCSA	
D	Marine Pollution	0	The introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) resulting in such deleterious effects as harm to living resources, hazards to human health, hindrance to marine activities including fishing, impairment of quality for use of seawater and reduction of amenities.	SCESS	In FAO glossary.
M	Marine Protected Area	1	A marine reserve, park or other area protected from uncontrolled human access and use by application of various restrictions and activities, development and exploitation. They are defined as Marine Reserves, Parks or with other appellations depending on their characteristics.	SCSA	
M	Marine Protected Area	2	A protected marine littoral or sublittoral area, within territorial waters, EEZs or in the high seas, set aside by law or other effective means, together with its overlying water and associated flora, fauna, historical and cultural features. It provides degrees of preservation and protection for important marine biodiversity and resources; a particular habitat (e.g. a mangrove or a reef) or species, or sub-population (e.g. spawners or juveniles) depending on the degree of use permitted. The use of MPAs (for scientific, educational, recreational, extractive and other purposes including fishing) is strictly regulated and could be prohibited.	SCSA	In FAO glossary.
M	Marine Protected Area	3	Any area of the littoral or sublittoral terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment.	SCSA	Kelleher, Graeme. 1999. Guidelines for Marine Protected Areas. IUCN–The World Conservation Union. Gland, Switzerland and Cambridge, UK. XXIV + 107pp. In FAO glossary.
M	Marine refuges	0	Areas protected from human interference in order to leave the ecosystem undisturbed; these may act as “banks“ from which commercial exploited stocks are replenished.	SCSA	
D	Marine species	0	Any aquatic species that does not spend its entire life cycle in fresh water.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
D	Market gluts	0	A situation in which the market is supplied with an unusually large amount of product, which strains the capacity of primary buyers, processors and wholesalers and causes prices to drop to very low levels.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Market price support	0	Transfers to an activity or sector resulting from measures which raise prices to consumers of fish or fish products by way of tariffs, quantitative restrictions, tariff quotas, and import licensing	SCESS	OECD
OK	Maturity	0	Refers to the ability, on average, of fish of a given age/length to complete the gametes ripeness in order to be ready for spawning. Maturity is expressed, normally, in percentage of individuals in mature stage by age/size (represented as a “maturity ojive”). It is often used to compute spawning potential.	SCSA	Modified from ICCAT glossary.
A	Maximum biological production	0	SEE Z_{MBP}		

D	Maximum Economic performance in the Fishery	0	A situation in which the fishery is generating the maximum amount of economic benefits, as measured as the sum of net benefits to fishers and consumers, and resource rent	SCESS	OECD.
D	Maximum Economic Yield (MEY)	1	The yield above which the revenue generated by a marginal increase in effort is less than the cost necessary for the attainment of that increase; the point at which profits earned in excess of those needed to cover all fishing costs is maximised.	SCSA	
M	Maximum Economic Yield (MEY)	2	When relating total revenues from fishing to total fishing effort in a surplus production model, the value of the largest positive difference between total revenues and total costs of fishing (including the coast of labour and capital) with all inputs valued at their opportunity costs. COMMENT The MEY is obtained when marginal costs of fishing effort are equal to marginal revenues. It is equal to the maximum rent obtainable from the fishery. The maximum (sustainable) amount of economic benefits, measured as the sum of net benefits to producers and consumers, and resource rent. Under static conditions (deterministic, no discounting), the yield for which average revenue equals long terms marginal cost. Actually a social (societal) maximum often equated with maximum rent. ADD SOMWHERE "AT LONG TERM"	SCESS	In FAO glossary.
M	Maximum Sustainable Yield (MSY)	1	The largest annual catch that may be taken from a stock every year without affecting the catch of future years; a constant long-term MSY is not a reality in most fisheries, where stock sizes vary with the strength of the year class moving through the fishery.	SCSA	
M	Maximum Sustainable Yield (MSY)	2	The highest theoretical equilibrium yield that can be continuously taken (on average) from a stock under existing (average) environmental conditions without affecting significantly the reproduction process. Also referred to sometimes as Potential yield.	SCESS	In FAO glossary
M	Maximum Sustainable Yield (MSY)	3	The largest average catch or yield that can continuously be taken from a stock under existing environmental conditions. For species with fluctuating recruitment, the maximum might be obtained by taking fewer fish in some years than in others. Also called: maximum equilibrium catch (MEC); maximum sustained yield; sustainable catch. COMMENT It is estimated from surplus production models (e.g. Schaefer model) and other methods. In practice, however, MSY, and the level of effort needed to reach it are difficult to assess. Referred to in UNCLOS, it is an essential fisheries management benchmark but it is also only one of the possible Management reference points, considered also as an international minimum standard for stock rebuilding strategies (i.e. stocks should be rebuilt to a level of biomass which could produce at least MSY). Sometimes confused with: Optimum yield.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
M	Maximum Sustainable Yield (MSY)	4	The largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions	SCESS	OECD
OK	MCS	0	Monitoring, Control, and Surveillance. Activities undertaken by the fishery enforcement system to ensure compliance with fishery regulations.	SCESS	In FAO glossary.
M	Mesh size	1	The size of holes in fishing net. Minimum mesh sizes are often prescribed by regulations in order to avoid the capture of the young of valuable species before they have reached their optimal size for capture.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.

M	Mesh size	2	The size of holes in fishing net. A measure of distance among meshes that defines the magnitude of the space that fish have to pass through in order to escape. Minimum mesh sizes are often prescribed by regulations in order to avoid the capture of the young of valuable species before they have reached their optimal size for capture.	SCSA	Modified from: Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
OK	Metamorphosis	0	Process in which the post-larvae lose the specialised larval features, acquiring definitively the meristic characteristics of the species and the general appearance of adults, becoming a juvenile.	SCSA	
D	Metapopulation	0	A set of partially isolated populations belonging to the same species. The different populations are able to exchange individuals and recolonize sites in which the species has recently become extinct.	SCMEE	Global Biodiversity Assessment, V.H. Heywood, R.T. Watson, Cambridge University Press, 1995
R	Metric ton (or tonne)	0	Tonne (t) mt 1,000 kg , equivalent to 2,204.6 lb.	SCESS	In FAO glossary.
OK	MEY	0	See Maximum Economic Yield.	SCESS	In FAO glossary.
M	Migration	1	1: Movement of an organism or group from one habitat or location to another; periodic or seasonal movement, typically or relatively long distance, from one area, stratum or climate to another; any general movement that affects the range of distribution of a population or individual; migrate cf. dispertion. 2: Movement of a pathogen within the host body. 3: Gene flow; exchange of genetic information between populations.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
M	Migration	2	Systematic (as opposed to random) movement of individuals of a stock from one place to another, often related to season. A knowledge of the migration patterns helps in targeting high concentrations of fish and managing shared stocks.	SCESS	In FAO glossary.
M	Migration	3	The movements of fish from feeding ground to spawning ground and back again, from nursery ground to feeding ground, and from spawning ground to nursery ground.	SCESS	Cushing, D.H. (1968): A study in population dynamics. The University of Wisconsin Press. In FAO glossary.
R	Minimum Landing Size (MLS)	0	Minimum legal size ~~A regulation in which captured individuals smaller than a prescribed minimum size must be returned to the sea. The intention is to reduce the fishing mortality rate in younger ages, which has the effect of increasing yield and spawning stock biomass (SSB) in the long term.~~	SCSA	
R	Minimum Legal Size	1	A regulation in which is forbiited to sale the caputred individuals smaller than a prescribed minimum size. This individuals must be returned to the sea or legally retained acording national legislations. The enforcement of such measures is mainly aimed at an enhancement of the value of the catch and at an increase of the reproductive output.	SCESS	SAC-GFCM
D	Minimum Legal Size	2	A regulation that set the smallest size at which a particular species can be if caught. The captured individuals smaller than the prescribed minimum size must be returned to the sea. The enforcement of such measures is mainly aimed at an enhancement of the value of the catch and at an increase of the reproductive output.	SCSA	

OK	Minimum Mesh Size	0	The smallest size of mesh permitted in nets and traps; to allow smaller individuals than a defined size to escape unharmed.	SCSA	
D	Moon closures	0	Fishery closures related to the moon cycle (e.g. to regulate fishing on migrating tropical shrimp).	SCESS	In FAO glossary.
D	MSP	0	Maximum sawning potential of a stock.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
OK	MSY	0	Maximum Sustanaible Yield.	SCESS	In FAO glossary.
D	Multi-Annual Guidance Programme (MAGP)	0	Generally, 5 to 6 year programmes administered by the European Commission that aim at restructuring teh EU's fishing fleets. The programmes fix ceilings for fishing effort by the main segments of the fleet (e.g. ; trawlers, netters). MAGP III, which ran from 1992 through the end of 1996, aimed at an average 10 per cent reduction in vessel capacity. MAGP IV, which will run from 1997 through 2001, is designed to ensure better integration between resource conservation and the structural adjustment aspects of the CFP. A specific adjustment has been drawn for each fleet, backed up at the implementation stage by aid granted from the FIFG	SCESS	OECD.
D	Multipurpose vessel	0	A fishing vessel equipped so that any two or more different types of fishing gear can be operated with minor modification to the vessel or her outfit. Example: Seiner-hanliner; trawler-purse seiner; trawler-drifter.	SCESS	Commission of the European Communities (1990): Glossarium of fishing vessels and safety on board.: 503 p. In FAO glossary.
D	National park	0	Protected area managed mainly for ecosystem protection and recreation.	SCESS	UN-ECE/FAO (1997) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Nationality of catch	0	The flag of the vessel performing the essential part of the operation catching the fish, should be considered the paramount indication of the nationality assigned to the catch data and this indication overridden only when one of the following arrangements between a foreign flag vessel and the host country exists: the vessel is chartered by the host country to augment its fishing fleet; or the vessel fishes for the country by joint venture contract or similar agreements (as opposed to the ad hoc practice of a vessel selling catches to a foreign vessel or landing catches at a foreign port) and the operation of such vessel is an integral part of the economy of the host country.	SCESS	FAO (1990): Report of the Coordinating Working Party on Fishery Statistics, Tenth Session (Madrd, 22-29 July 1980), FAO Fisheries Report, 242. In FAO glossary.
D	Natural Assets	0	See Natural Capital.	SCESS	In FAO glossary.

OK	Natural Mortality Rate	0	The part of the total mortality rate that is due to causes other than fishing (e. g., predation, disease, cannibalism, and perhaps increasingly, environmental degradation such as pollution). These many causes of death are usually lumped together for convenience, because they are difficult to separate quantitatively. Sometimes, natural mortality is confounded with losses of fish from the stock due to emigration. M has proven very difficult to estimate, and values are often assumed based on life history characteristics such as longevity. Also, M values are often assumed to remain constant through time and by age.	SCSA	In ICCAT glossary.
D	Natural range	0	The geographical range of a species in historical times (i.e. since the beginning of the Neolithic Age (ca 3,500 BC), prior to any changes to that range as a result of human agency.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
D	Natural resources	0	Any portion of the natural environment, such as air, water, soil, botanical and zoological resources, and minerals. Renewable resources can potentially last indefinitely (provided stocks are not over-exploited) without reducing the available supply because it is replaced through natural processes (either because it recycles quite rapidly, such as water, or because it is alive and can propagate itself or be propagated, such as organisms and ecosystems). Non-renewable resources (such as coal and oil) may eventually be replaced by natural processes, but these occur over long periods of geologic time rather than within the time frame of current civilisation, and their consumption necessarily involve their depletion.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	Near threatened	0	A sub category of the IUCN Lower Risk category . Taxa which do not qualify for Conservation Dependent, but which are close to qualifying for Vulnerable.	SCESS	IUCN (1994): IUCN Red List Categories. IUCN Species Survival Commission. The World Conservation Union. In FAO glossary.
D	Nearshore waters	0	Shallow waters at a small distance from the shore.	SCESS	In FAO glossary.
OK	NEI	0	Not Elsewhere Included. In fisheries catch statistics, refers to catch data that cannot be linked directly to a State or fishing entity, for whatever reason.	SCESS	In FAO glossary.
OK	Nekton	0	Those actively swimming pelagic organisms able to move independently of water currents; typically within the size range 20 mm-20 m. nektonic; cf. Plankton.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Neritic	0	Pertaining to the shallow waters overlying the continental shelf; cf. Oceanic.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986

OK	Nominal catch	0	The sum of the catches that are landed (expressed as live weight equivalent). Nominal catches do not include unreported discards.	SCESS	Northeast Fisheries Centre (1997): http://www.wh.whoi.edu/homepage/tech_terms.html. In FAO glossary.
OK	Nominal effort	0	Nominal effort pertains to measures of fishing effort or vessel carrying capacity that have not been standardized. When catchability changes, e.g., through changes in gear technology, trends in nominal effort can give a misleading picture of trends in exploitation.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
D	Non- native (species)	0	A species that has been introduced directly or indirectly by human agency (deliberately or otherwise) to an area where it has not occurred in historical times ("In historical times" is taken as being since 5000 years before present). And which is separate from, and lies outside, the area where natural range extension could be expected. The species has become established in the wild and has self-maintaining populations. The term also includes hybrid taxa derived from such introductions.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
D	Non-compliance fees	0	Additional-prices to be paid for not complying with environmental requirements to meet the social costs arising from environmental damages.	SCESS	Scialabba N. (ed.), 1998. Integrated Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	Non-co-operative game	0	A non-co-operative game is a game in which the players cannot make binding commitments	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
M	Non-equilibrium	0	See equilibrium.	SCESS	In FAO glossary.
D	Non-established introductions	0	Species that are introduced through the agency of man but have not become established and are incapable of establishing self-sustaining or self-propagating populations without deliberate intervention by man. /Also called 'alien species'.)	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997

D	Non-Governmental Organisation	0	Any organisation that is not a part of federal, provincial, territorial, or municipal government Usually refers to non-profit organisations involved in development activities.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	Non-malleable	0	Not capable of being altered or transformed to perform another function, e.g. fishing vessel cannot be transformed into a tractor to plough fields.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Non-monetary benefits	0	Benefits that are not, or cannot be, directly measured in terms of monetary units. These included the satisfaction realized from enjoying a certain way of life or style of work, such as fishing in a rural coastal community.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Non-renewable Natural Resources	0	Exhaustible natural resources such as mineral resources that cannot be regenerated after exploitation.	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Non-retained catch	1	Part of the catch that is discarded.	SCESS	
OK	Non-retained catch	2	Part of the catch that is discarded and returned to the sea (or eaten on board by the crew or distributed to the crew for particular-personal use).	SCSA	
R	Normal profits	0	Profits that yield a competitive return on investment and cover the opportunity cost of productive inputs. In equilibrium tend to zero.	SCESS	In FAO glossary.
A	Number of fishing sets	0	Number of fishing operations, i.e. the number of times the fishing gear is deployed and recovered		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
A	Number of fishing trips	0	The number of outgoings of a vessel from port to carry out fishing operations		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
OK	Oceanic	0	Pertaining to the open ocean waters beyond the edge of the continental shelf; cf. Neritic.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986

OK	Offshore waters	0	Waters located well beyond the shores (beyond the edge of the nearshore or inshore waters). Are parts of the oceanic environment.	SCESS	In FAO glossary.
D	Olympic fishing	0	A popular term to denote the “race-to-fish” phenomenon which is characterised by an increasing number of highly efficient vessels fishing at an increasing pace, with season length becoming shorter and shorter. Also known as derby style fishing	SCESS	OECD.
D	Onshore waters	0	See nearshore waters.	SCESS	In FAO glossary.
D	Open access resources	1	The condition where access to the fishery (for the purpose of harvesting fish) is unrestricted, i.e., the right to catch fish is free and open to all	SCESS	OECD
OK	Open access resources	2	A condition of a fishery in which anyone who wishes to fish may do so COMMENT Open access resources can result from the breaking down of common property resource management institutions or from the privatization or nationalization of common resources. Because these resources are freely available or at minimal costs, they are frequently over-exploited and degraded	SCESS	Recreational fisheries are usually open access Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
R	Operational Unit – Operative Unit	0	~~For the sake of managing fishing effort within a (Management Unit) Geographical Sub-Area is the group of fishing vessels practising the same type of fishing operation targeting the same species or group of species and presenting similar economic structure. The grouping of fishing vessels may be subject to change over time and depends on the management objectives to be reached.~~ Within the context of managing fishing effort by Geographical Sub-Area(s), an Operational Unit is a group of fishing vessels which are engaged in the same type of fishing operation within the same GSA, targeting the same species or group of species and belonging to the same economic segment. Fishing vessels may belong to more than one Operational Unit and the composition of Operational Units is subject to change over time.	SCSI	~~ad-hoc multidisciplinary Working group during Working group on Operational Units. Ancona 18-20 April~~
D	Opportunistic feeding	0	Characterizes a type of feeding in which the fish species is able to adapt to whatever food becomes available. More generally, a species which can adapt and thrive in a number of different environments and can easily adapt to change.	SCESS	In FAO glossary.
OK	Opportunistic fishing	0	Characterizes a type of adaptive fishing behaviour in which the fishing unit targets species and fishes in areas where fishing opportunities are greatest.	SCESS	In FAO glossary.
D	Opportunity cost	1	The cost of foregoing the next best opportunity. For example, if a fisher’s next best income alternative is to work in construction on shore, the construction income he or she is forgoing by fishing is his or her opportunity cost	SCESS	OECD
OK	Opportunity cost	2	Defined as the benefit foregone by using a scarce resource for one purpose instead of its next best alternative. Typically applied to capital and labour inputs to reflect their real costs to society as against their costs to a private enterpreneur which may be lower or higher because of subsidies, taxes and various kinds of market distortions.	SCESS	Gittinger. J.P. (1992). Economic Analysis of Agricultural Projects. Second Edition. The Economic Development Institute of the World Bank. The John Hopkins University Press. Baltimore and London 505p. In FAO glossary.

D	Opportunity cost	3	An amount a fisherman could earn for his time and investment in another business or occupation.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
D	Optimum (fishing) capacity	0	The desired stock of inputs that will produce a desired level of outputs (e.g. a set of target fishing mortality rates for the species being harvested) and will best achieve the objectives of a fishery management plan (e.g. minimizing costs). Current or transient optimal capacity (related to current fleet and stock conditions) may differ from long run optimal capacity (reflecting management long-term objectives) particularly if the fishery resource is currently depleted and the management strategy is to rebuild this depleted resource.	SCESS	FAO (1998[a]): Report of the FAO Technical Working Group on the Management of Fishing Capacity. FAO Fisheries Report No. 586. Rome, Food and Agriculture Organization of the United Nations. In FAO glossary.
R	Optimum age = critical age	0	The average age of the fish of a year-class at which the instantaneous rate of natural mortality equals the instantaneous rate of growth in weight for the year-class as a whole. At this age, the biomass of the age class is maximum.	SCESS	In FAO glossary.
R	Optimum size = critical zize	0	The average size of the fish in a year-class at the time when the instantaneous rate of natural mortality equals the instantaneous rate of growth in weight for the year-class as a whole. At this size, the biomass of the age class is maximum.	SCESS	In FAO glossary.
OK	Optimum Sustainable Yield	1	The amount of sustainable yield corresponding to the greatest overall long-term benefits to the Nation in environmental, biological, social and economic terms. Its value depends on the relative weights attached the sometimes conflicting objectives concerning food, revenues, employment, recreation, etc. and to the bio-ecological conservation constraints (e.g. spawning stock size, environmental impact). It also depends on discount rates. In relation to UNCLOS, it corresponds to the concept of "MSY as modified by any relevant economic, social, or ecological factor". See: Optimal yield.	SCESS	In FAO glossary.
D	Optimum Sustainable Yield	2	OSY. The best sustainable yield, for the combined purposes of the fishing industry, of conservation, and of the nation as a whole.	SCESS	Gough, J. and T. Kenchington (1995), A Glossary of Fisheries Science. Communications Branch, DFO, Nova Scotia. In FAO glossary.
D	Optimum Sustainable Yield	3	A deliberate melding of biological, economic, social, and political values designed to produce the maximum benefit to society from stocks that are sought for human use, taking account the effect of harvesting on dependent and associated species.	SCESS	Roedel P.M. (Ed.) (1975): Optimum sustainable yield as a concept in fisheries management. Americamn Fisheries Society, Special publication, 9: 89 p. In FAO glossary.
D	Optimum Sustainable Yield	4	The largest net economic return consistent with the biological capacities of the stock, as determined on the basis of all relevant economic, biological and environmental factors.	SCESS	US Senate Commerce Committee, 1974

D	Optimum Sustainable Yield	5	Maximum supply of food and other products. Equivalent to the Maximum Sustainable Yield (MSY).	SCESS	The 1958 International Convention on the Law of the Sea, Article 2.: in Roedel P.M. (Ed.) (1975): Optimum sustainable yield as a concept in fisheries management. American Fisheries Society, Special publication, 9: 89 p. In FAO glossary.
D	Optimum yield	0	The amount of fish harvested that: (a) will provide the greatest overall benefit to the national economy, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems, or (b) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as qualified by any relevant economic, social, or ecological factors, and (c) in the case of an overfished fishery, provides for rebuilding to a level that produces the maximum sustainable yield in the fishery	SCESS	OECD
OK	Otolith	0	One of the ear bones of a fish. Otoliths are used for ageing fish of many species. Especially for temperate species, regular events lay down on these hard structures clearly recognizable marks. Sometimes age reading is not possible without previous preparation (cutting, burning and colouring, etc.).	SCSA	
OK	Output controls	0	Management instruments aimed at directly limiting fish catch or landings through Total Allowable Catch and quotas.	SCESS	In FAO glossary.
OK	Overall mortality rate	0	An average mortality rate calculated over several (length or age) classes. There are two main kind of such rates: (i) an average of rates of several classes weighted by the time they have acted. For example, theoverall total mortality of the length classes m to n (m<n) is weighted by the time that the class is present (‘*ti*) $\overline{Z}_{mn} = \frac{\sum_{i=m}^{n} Z_i \Delta t_i}{\sum_{i=m}^{n} \Delta t_i}$ When working with age classes, such an overall mortality is simply the average (all residence times are equal). (ii) an average of rates of several classes weighted by the number of individuals they have acted on. $\overline{F}_{mn} = \frac{\sum_{i=m}^{n} F_i \overline{N}_i}{\sum_{i=m}^{n} \overline{N}_i}$	SCSA	

OK	Over-capacity	0	See overcapitalization.	SCESS	In FAO glossary.
OK	Overcapitalization	0	Where the amount of harvesting capacity in a fishery exceeds the amount needed to harvest the desired amount of fish at least cost.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
M	Over-exploitation	0	Rate of exploitation where the resource stock is drawn below the size that, on average, would support the long term maximum potential yield of the fishery	SCESS	OECD.
M	Overexploited (overfished)	0	Overexploited means that the abundance of the stock is too low. The term is used when biomass has been estimated to be below a limit biological reference point that is used as the threshold that defines “overfished conditions”.	SCSA	In ICCAT glossary.
M	Overfished	0	A stock is considered “overfished” when exploited beyond an explicit limit beyond which its abundance is considered “too low” to ensure safe reproduction. In many fisheries for the term is used when biomass has been estimated to be below a limit biological reference point that is used as the signpost defining an “overfished condition”. This sign post is often taken as being FMSY but the usage of the term may not always be consistent. COMMENT The stock may remain overfished (i.e. with a biomass well below the agreed limit) for some time even though fishing pressure might be reduced or suppressed.	SCESS	Mace, P.M. 1998. The status of ICCAT species relative to optimum yield and overfishing criteria recently proposed in the United States, also with consideration of the precautionary approach. ICCAT SCRS/97/074. In FAO glossary.
M	Overfishing	1	In general, action of exerting a fishing pressure (fishing intensity) beyond agreed optimum level. A reduction of fishing pressure would, in the medium term, lead to an increase in the total catch. COMMENT For long-lived species, overfishing (i.e. using excessive effort) starts well before the stock becomes overfished. The use of the term "overfishing" may not always be consistent.	SCESS	In FAO glossary.
M	Overfishing	2	In the classical sense, a level of fishing effort or fishing mortality such that a reduction of this level would, in the medium term, lead to an increase in the total catch.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary
M	Overfishing	3	The term generally means that the fishing mortality being exerted is too high. In many fisheries for a the term is used when F have been estimated to be above a limit biological reference point that is used as the signpost that defines “overfishing”. Usage of the term is not limited to “growth overfishing” situations; it can also pertain to recruitment overfishing and to other types of overfishing.	SCSA	In ICCAT glossary.
D	Paper fish	0	TACs much greater than real fishing possibilities, which therefore have little or no effect in limiting catches.	SCSA	
D	Parasite	0	An organism that lives in or on another living organism (the host), from which it obtains food and other requirements. The host does not benefit from the association and is usually harmed by it. Cf. .’commensalism’, ‘symbiosis’.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997

OK	Pelagic fishery	0	Fishery targeting on pelagic species.	SCSA	
D	Perfect (pure) competition	0	A market structure characterized by a large number of small firms producing homogenous product that permits freedom of entry and exit.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Performance bonds	0	Similar to a deposit refund system (see above) but categorised as an economic policy instrument, a bond is placed equal to the estimated social costs of possible environmental damage as a surety for complying with environmental requirements and is forfeit if these requirements are not met.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	PESCA Community Initiative	0	An initiative of the European Commission that seeks to generate clearly foused projects to help the fishing sector of the EU to adapt, and coastal areas to diversify, its economic activities	SCESS	
D	Physical capital	0	The basic infrastructure (transport, shelter, water, energy, and communications) and the production equipment and means which enable people to pursue their livelihood.	SCESS	Adapted from Scoones I (1998) Sustainable rural livelihoods: A framework for analysis. IDS Working Paper, 72. Brighton: IDSom. In FAO glossary.
OK	Plan	0	Amplification of the strategy showing the precise means by which objectives will be reached: the policy instruments to be employed; the financial and human resources required; and the time frame for implementation.	SCESS	Scialabba N. (ed.), 1998. Integrated Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
OK	Plankton	0	Those organisms that are unable to maintain their position or distribution independent of the movement of water. Cf. Nekton.	SCMEE	A dictionary of Ecology, Evolution and systematic, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
OK	Plateau	0	A flat or nearly flat area of considerable extent, dropping off abruptly on one or more sides.	SCESS	IHO/IOC (1985), Standardization of undersea feature names: guidelines, proposal form, terminology. International Hydrographic Bureau, Monaco. In FAO glossary.

OK	Plus group or Plus class	0	The last age or size class which includes all the greater, or more aged, individuals than the nominal number of the class. It is usually marked by the symbol +. Ex. Age class 5+ contains all individuals aged 5 or more.	SCSA	
OK	Policy	0	A fisheries policy is the definite course or method of action, selected from among different alternatives, by a government or its mandated fisheries authority, in light of given conditions including legal and constitutional constraints, to guide and determine present and future development and management actions towards satisfaction of agreed objectives.	SCESS	Webster Dictionary. In FAO glossary.
M	Population	1	A group of interbreeding organisms that represents the level of organization at which speciation begins Webster Dictionary The total number of individuals of the taxon. For functional reasons, primarily owing to differences between life-forms, population numbers are expressed as numbers of mature individuals only. In the case of taxa obligatorily dependent on other taxa for all or part of their life cycles, biologically appropriate values for the host taxon should be used.	SCESS	IUCN (1994): IUCN Red List Categories. IUCN Species Survival Commission. The World Conservation Union. In FAO glossary.
M	Population	2	Population is measured as the total number of individuals of the species (as defined in Article I of the CITES Convention). In the case of species biologically dependent on other species for all or part of their life cycles, biologically appropriate values for the host species should be chosen. For some species in trade where data exist to make an estimate, a figure of less than 5,000 individuals has been found to be an appropriate guideline (not a threshold) of what constitutes a small wild population. However, this figure is presented only as an example, since it is impossible to give numerical values that are applicable to all taxa. There will be many cases where this numerical guideline does not apply.	SCESS	CITES (1994): Criteria for amendment of Appendices I and II. Conference Resolution 9.24 Adopted at the 9th Conference of the Parties, Fort Lauderdale (USA). In FAO glossary.
M	Population	3	A group of fish of one species which shares common ecological and genetic features. The stocks defined for the purposes of stock assessment and management do not necessarily coincide with self-contained populations. COMMENT Sometimes taken to mean a Stock. *Sub-Committee on Economic and Social Sciences*	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
D	Port State authority	0	Any official organisation authorised by the Government of a Port State to administer guidelines and enforce standards and regulations relevant to the implementation of national and international shipping control measures.	SCESS	IMO (1994):Guidelines for preventing the introduction of unwanted aquatic organisms and pathogens from ships' ballast water and sediment discharges. Resolution A. 778(18) adopted on 4 November 1993. In FAO glossary.
OK	Post-larvae	0	Well developed fish larvae in which the processes of rays ossification and urostyle flexion are in an advanced stage. More developed post-larvae have enough swimming capacity to be considered micronecton, presenting in some cases schooling behaviour and/or settling to the bottom. This stage finishes with the metamorphosis.	SCSA	

OK	Precaution	0	An action taken in advance to protect against possible danger or failure; a safeguard. Caution practised in advance. Forethought or circumspection" (Houghton Miflin, 1992). Action taken in advance of scientific certainty but within the bounds of scientific uncertainty, to avoid or minimize negative impact, taking into account the potential consequences of being wrong.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
M	Precautionary approach (PA)	1	Set of measures taken to implement the Precautionary principle. A set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risk to the resource, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong.	SCSA	García, S. M. 1996. The Precautionary approach to Fisheries and its implications for fishery research, technology and management: An update review. FAO Fish. Tech. Pap. 350.2:1-76.
M	Precautionary approach (PA)	2	...the precautionary approach exercises prudent foresight to avoid unacceptable or undesirable situations, taking into account that changes in fisheries systems are only slowly reversible, difficult to control, not well understood, and subject to change in the environment and human values....and the need to take action with incomplete knowledge	SCESS	(FAO, 1995). SAC/CGPM.
M	Precautionary approach (PA)	3	The term approach is apparently more generally accepted by governments in the fisheries arena because it implies more flexibility, admitting the possibility of adapting technology and measures to socio-economic conditions, consistent with the requirement for sustainability. It is particularly more appropriate for fisheries because consequences of errors in their development or mismanagement are unlikely to threaten the future of humanity and, in most cases, are reversible. On the contrary, the term principle has developed a negative undertone because it is usually given a radical interpretation and has led to the outright ban of technologies,..., and is sometimes considered incompatible with the concept of sustainable use	SCESS	(GARCIA, 1996). SAC/CGPM.
M	Precautionary Reference Points (PRP)	0	They are estimated values derived through an agreed scientific procedure, which corresponds to the state of the resource and of the fishery, and which can be used as a guide for fisheries management. Two types of PRP should be used: conservation, or Limit, reference points and management, or Target, reference points. Limit reference points set boundaries which are intended to constrain harvesting within safe biological limits within which the stock ca produce maximum sustainable yield. Target reference points are intended to meet management objectives.	SCSA	
D	Precautionary TAC	0	A TAC set in the absence of a scientific advice on stocks.	SCSA	
D	Predation	0	Relationship between two species of animals in which one (the predator) actively hunts and lives off the meat and other body parts of the other (the prey).	SCESS	United Nations (1997): Glossary of Environment Statis tics. Studies in Methods, Series F, No. 67. In FAO glossary.
OK	Predator-Prey-Relationship	0	The interaction between a species (predator) that eats another species (prey). The stages of each species' life cycle and the degree of interaction are important factors.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.

OK	Present value	0	The value of an enterprise at the present time, after applying the process of discounting to its costs or benefits.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series ,1. In FAO glossary.
D	Preservation	0	The maintenance of individual organisms, populations or species by planned management and breeding programmes; cf. Conservation.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
A	Primary production	0			
M	Primary productivity	1	The rate at which energy is stored (i.e. the amount of energy fixed in a given time) by photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants) in the form of organisms substances which can be used as food materials). Values are expressed in grams of dry organic matter (or carbon) produces per square meter per day.	SCESS	Odum E.P.(1959) Fundamentals in ecology. 2nd Edition, Philadelphia, Saunders Co: p. 53. In FAO glossary.
M	Primary productivity	2	A measurement of plant production that is the start of the food chain. Much primary productivity in marine or aquatic systems is made up of phytoplankton, which are tiny one- celled algae that float freely in the water.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
D	Principle	0	A basic truth, an assumption. A rule or standard, especially of good behaviour. A fixed or predetermined policy or mode of action.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
M	Priority species	0	Species considered of interest of the GFCM in the Region. The interest criteria will be based on the volume of landings and economic importance of the species.	SCSA	
D	Prisoners' dilemma	0	Is a strategic game in which there is a combination of choices, where all players would be better off than in the outcome caused by the rational choices by each player.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
M	Pristine population	0	See virgin population. Circular def: In virgin population: Biomass of the pristine population	SCSA	
D	Produce	0	Products (e.g. crops, livestock, fish products, timber), services (e.g. recreational facilities, military training facilities) or other benefits (e.g. wildlife conservation) resulting from the use of natural resources.	SCESS	Modified from FAO (1976) Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Producer benefits	0	The difference between revenues received and costs incurred by producers, commonly referred to as profits	SCESS	OECD.

D	Product 'soaking'	0	The soaking of a seafood product, such as scallop, in a water-based solution to increase the product's weight and/or size.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Product recovery rate	0	The ratio expressed as a percentage of the weight of processed product divided by the round weight of fish used to produce that amount of product.	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.
D	Production	1	The total output especially of a commodity or an industry.	SCESS	Webster dictionary. In FAO glossary.
M	Production (BIOMASS)	2	The total living matter (biomass) produced by a stock through growth and recruitment in a given unit of time (e.g. daily, annual production). The "net production" is the net amount of living matter added to the stock during the time period, after deduction of biomass losses through mortality. The total elaboration of new body substance in a stock in a unit of time, irrespective of whether or not it survives to the end of' that time. Also called: net production (Clarke et al. 1946) or total production.	SCESS	Ricker W.E. (1975). Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
M	Production (FISHING)	3	Total annual catch in weight.	SCSA	
M	Production model	0	Population model that describes, using simple functions, how the population biomass changes from year to year as a function of fishing mortality. Usually they are adjust (fitting is made) using annual catch and effort data. Also: global model, catch-effort model, surplus production model	SCSA	Cadima E.L., and M.R. Pinho. 1996. Some theorical consideration on nonequilibrium production models. SCRS/95/123. In ICCAT glossary.
D	Productive and reproductive labour	0	Productive labour, as the phrase suggests, is labour which produces food or goods for the generation of income or the sustenance of the household. Fishing activities will almost invariably constitute productive labour, as will the processing and sale of fish, farming activities, and any labouring tasks which are remunerated either in cash or king. Reproductive labour includes those activities which do not "produce" an output which is directly converted into cash or consumption but which nevertheless contribute to the maintenance of the household and family. Time spent in child-rearing is one of the clearest examples of this form of labour but other important activities might be the collection of fuelwood for house hold use of the fetching of water.	SCESS	
A	Productivity		In general, quantity of weigth or value obtained using an unit of input (i.e Labour, vessel, Capacity (GT), Engine Power (HP), etc.)		
M	Productivity	1	1: The potential rate of incorporation or generation of energy or organic matter by an individual, population or trophic unit per unit time per unit area or volume; rate of carbon fixation; cf. production. 2: Often used loosely for the organic fertility or capacity of a given area or habitat.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986

M	Productivity	2	Relates to the birth, growth and death rates of a stock. A highly productive stock is characterized by high birth, growth and mortality rates, and as a consequence, a high turn-over and production to biomass ratios (P/B). Such stocks can usually sustain higher exploitation rates and, if depleted, could recover more rapidly than comparatively less productive stocks.	SCESS	In FAO glossary.
A	Profit	0	See "Benefit"		
D	Programme	0	Descriptive notice of series of events, including a plan of intended proceedings. As used in these Guidelines, an undertaking structured around a defined objective, usually consisting of a number of projects.	SCESS	Scialabba N. (ed.), 1998. Integratred Coatal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	Prohibited species	0	Any species of fish that a vessel is not specifically allocated or authorized to retain, including fish caught or received in excess of any allocation or authorization.	SCESS	In FAO glossary.
OK	Projection	0	A computation of how the stock and fishery will behave in the future. Projections are made to address "what-if" questions of relevance to management. Short-term (1-4 years) projections are typically used in support of decision-making on quotas. Longer term projections become much more uncertain in terms of absolute quantities, because predicted recruitment tends to dominate the results and recruitment itself is very difficult to predict. For this reason, long-term projections are more useful to evaluate overall management strategies than for making detailed decisions.	SCSA	In ICCAT glossary.
OK	Property right	0	A legal right or interest in respect to a specific property. A type of resource ownership by an individual (individual right) or a group (communal right).	SCESS	In FAO glossary.
OK	Property rights regimes	0	A subset of institutions; bundles of entitlements that define owners' rights and duties, and the rules under which those rights and duties are exercised.	SCESS	Bromley, D.W. (1989), Economic interests and institutions: the conceptual foundations of public policy. Basil Blackwell, Oxford, UK. In FAO glossary.
OK	Protected area	0	A geographically defined area which is designed and managed to achieve specific conservation objectives.	SCESS	Convention on Biological Diversity (1994): Convention on Biological Diversity – Convention Text. Article 2: Use of terms. In FAO glossary.
D	Pulse Fishing	0	Harvesting a stock of fish, then moving on to other stocks or waiting until the original stock recovers.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
D	Quantitative restriction	0	A limit on the quantity or value of a product permitted to enter or leave a country. An example is an import quota, where a quantitative restriction on the level of imports is imposed by a country	SCESS	OECD.

D	Quarantined species	0	Any species held in a confined or enclosed system that is designed to prevent any possibility of the release of the species, or any of its disease agents or any other associated organisms into the environment.	SCMEE	ICES 1995: Code of practice on the introduction and transfer of marine, 1994
D	Quota	1	A limit on the weight of fish that may be caught in a particular stock or area. In the EU system, it is the part of the TAC that corresponds to each country that shares the stock.	SCSA	
OK	Quota	2	A share of the Total Allowable Catch (TAC) allocated to an operating unit such as a country, a vessel, a company or an individual fisherman (individual quota) depending on the system of allocation. Quotas may or may not be transferable, inheritable, and tradable. While generally used to allocate total allowable catch, quotas could be used also to allocate fishing effort or biomass.	SCESS	In FAO glossary.
D	Race-to-fish	0	A pattern of fishing characaterised by an increasing number of highly efficient vessels fishing at an increasing pace, with season length becoming shorter and shorter (See also Olympic fishing)	SCESS	OECD.
D	Rapid rural appraisal (RRA)	0	An exploratory survey procedure carried out by a multidisciplinary team to gain a quick overview of a local land-use situation. It involves review of existing data, remote sensing, field observation and interviews with land users, local government officials and others; it may cover both physical and socio-economic aspects.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series ,1. In FAO glossary.
OK	Rate of exploitation	0	The fraction, by number, of the fish in a population at a given time, which is caught and killed by man during the year immediately following (= F/Z when fishing and natural mortality are concurrent). The term may also be applied to separate parts of the stock distinguished by size, sex, etc. (See also “rate of utilization.”) Also called: fishing coefficient (Heincke).	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
D	Rate of fishing	0	See instantaneous rate of fishing mortality.	SCESS	In FAO glossary.
D	Rate of utilization	0	Similar to rate of exploitation, except that only the fish landed are considered. The distinction between catch and landings is important when considerable quantities of fish are discarded at sea.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
D	Rational management	0	Principle whereby the adoption of any management measures has to be based on the best scientific information available and on an analysis by an independent scientific body.	SCSA	
D	RDBMS Relational Database Management System	0	A computerized record keeping system in which the data are structured in sets of records so that relationships between data can be used for the management and manipulation. The data files are perceived as tables.	SCESS	FAO (1995): The precautionary approach to capture fisheries and species introductions. FAO Guidelines for Responsible Fisheries, 2: 54 p. In FAO glossary.

D	Recent colonist	0	A species which, without any human intervention, has extended its natural geographical range in recent times and which has established new self-maintaining and self-regenerating populations in the wild. Cf. 'non-native'; 'vagrant'.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
D	Recreational	0	Refers to the catch or effort that is exerted by sportsmen.	SCSA	In ICCAT glossary
OK	Recreational fishery	0	In general, fishing for sport or pleasure. However, legal definitions differ from country-to-country. In some countries, recreational fishers may use capital intensive techniques and may sell their catch. In other countries catch may not be sold and only certain, non-capital intensive, fishing methods used	SCESS	OECD.
M	Recruitment	1	The amount of fish that first become vulnerable to the fishery each year due to growth and/or migration into the fishing area.	SCSA	In ICCAT glossary
M	Recruitment	2	The number of fish added to the exploitable stock, in the fishing area, each year, through a process of growth (i.e. the fish grows to a size where it becomes vulnerable) or migration (i.e. the fish moves into the fishing area). The process by which fish enter the exploitable stock and become susceptible to fishing. The process may be short or take more than one year.	SCESS	In FAO glossary.
M	Recruitment	3	Addition of new fish to the vulnerable population by growth from among smaller size categories.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
M	Recruitment	4	The rate of entry of recruits into the fishery or the process by which such recruits are generated.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
M	Recruitment	5	The attainment of a particular level of catchability relative to that of older fish.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
M	Recruitment	6	The number of fish from a year class reaching the size or age-at-first-capture or age-at-recruitment. The number of fish entering any age or size interval (e.g recruitment into age 3, or the 20-21 cm interval). The entrance of young fish of a year class into a fishery. The young fish recruit to a fishery over a period, sometimes less than a year and sometimes for one or more years.	SCESS	Cushing, D.H. (1968): A study in population dynamics. The University of Wisconsin Press. In FAO glossary.

?	Recruitment level	0	The ultimate number of a specific year class that survives to attain sexual maturity and joins the reproductive population.	SCSA	In. Van der Veer, H., Berghahn, R., Miller, J.M., Rijnsdorp, A.D. 2000. Recruitment in flatfish, with special emphasis on North Atlantic species: Progress made by the Flatfish Symposia. ICES J. Mar. Sci. 57:202-
M	Recruitment overfishing	1	The rate of fishing above which the recruitment to the exploitable stock becomes significantly reduced. This is characterised by a greatly reduced spawning stock, a decreasing proportion of older fish in the catch and generally very low recruitment year after year. Recruitment overfishing can lead to stock collapse.	SCSA	In ICCAT glossary.
M	Recruitment overfishing	2	The level of fishing pressure that reduces the spawning biomass of a year class over its lifetime below the spawning biomass of its parents on average	SCSA	Sissenwine M.P. & Shepherd, J.G. 1987 An alternative perspective on recruitment overfishing and biological reference points. Can. J. Fish. Aquat. Sci.,44:913-918
M	Reference level	0	A particular level of an indicator (e.g. of fishing effort, fishing mortality or stock size) used as a benchmark for assessment and management performance. =REFERENCE POINT?	SCESS	In FAO glossary.
M	Reference point	1	A precautionary reference point is an estimated value derive through an agreed scientific procedure, which corresponds to the state of the resource and of the fishery, and which can be used as a guide for fisheries management..... Precautionary reference points should be stock-specific to account, inter alia, for the reproductive capacity, the resilience of each stock and the characteristics of fisheries exploiting the stock, as well as other sources of mortality and major sources of uncertainty	SCESS	Annex II of the UN Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. In FAO glossary.
M	Reference point	2	A biological reference point is a benchmark against which the abundance of the stock or the fishing mortality rate can be measured in order to determine its status. These reference points can be limits or targets, depending on their intended usage	SCESS	CADDY and MAHON, 1995 ; GABRIEL and MACE, 1999 ; SISSENWINE and SHEPHERD, 1987 ; RESTREPO, 1999. In FAO glossary.
M	Reference point	3	A reference point indicates a particular state of a fishery or corresponding to a situation considered as desirable (Target reference point, TRP) or undesirable and requiring immediate action (Limit reference point, LRP, and Threshold reference point, ThRP)	SCESS	Garcia S.M. (1997). In FAO glossary.
M	Reference point	4	Indicators for sustainable development in fisheries.	SCESS	FAO (1997). Land Quality indicators and their use in sustainable agriculture and rural development: 131162. In FAO glossary.
M	Reference point	5	A (management) reference point is an estimated value derived from an agreed scientific procedure and an agreed model to which corresponds a state of the resource and of the fishery and which can be used as a guide for fisheries management.	SCMEE	FAO, 1996. Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996
D	Reference species	0	See Priority species.	SCSA	

OK	Regional	0	In the context of the GFCM means Mediterranean and Black Sea.	SCSA	
D	Regulative capacity	0	Is a population's tendency to revert towards some typical average level of abundance rather than to increase or decline indefinitely or to drift aimlessly. The regulative mechanisms by which this can be achieved include, for example, inverse dependence of survival rate (and/or reproductive success) on population density, a phenomenon often used synonymously with density-dependence and sometimes called homeostasis.	SCESS	Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
D	Re-introduction	0	A species which has been re-introduced by human agency, deliberate or otherwise, to an area within its natural geographical range but where it had become extinct in historical times.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
D	Renewable Natural resource	0	Natural resources that, after exploitation, can return to their previous stock levels by natural processes of growth or replenishment. Conditionally renewable resources are those whose exploitation eventually reaches a level beyond which regeneration will become impossible. Such is the case with the clear-cutting of tropical forests.	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
OK	Rent	1	In a fishery, difference between the total revenues obtained from the fishery resource and the total costs of production , i.e. capital and labour valued at their opportunity costs (see Opportunity costs). The total costs of production include a reasonable profit and the rent is often considered as a "surplus" profit, over and above what would be considered a "normal" rate of return. For this reason, the decision as to who gets the rent (e.g. the society, the management authority, or the fishermen) remains a key policy issue.	SCESS	In FAO glossary.
D	Rent	2	Any payment to an owner of a productive resource that is an amount in excess of the payment needed to keep the resource in its current use. Applied to fisheries, the amount of pure profit that can be gained from a fishery resource by using no more fishing effort than needed to harvest the resource. Under open access, the resource would yield no economic rent, whereas a sole owner would seek to maximize economic rent.	SCESS	Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the resolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA. In FAO glossary.
D	Rent	3	Profit greater than that necessary to hold resources in an industry, that is, the component of return on investment which is greater than the 'normal' rate of return (see resource rent). *Sub-Committee on Economic and Social Sciences*		Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.

M	Replacement yield	0	The amount of yield in weight that can be removed from a population of fish without leading to biomass increase or decline. When the population net productivity is high (e.g. at medium levels of exploitation, close to MSY), the replacement yield will also be high. Conversely, when the productivity is low (e.g. when the population is underexploited or overexploited), the replacement yield will be low. In either case, if the actual yield taken is equal to the replacement yield, then the biomass will not change from one year to the next.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
M	Resilience (ecological resilience)	1	Ecological resilience can be defined in two ways. The first is as a measure of the magnitude of disturbance that can be absorbed before the (eco) system changes its structure by changing the variables and processes that control behaviour. The second, a more traditional meaning, is as a measure of resistance to disturbance and the speed of return to the equilibrium state of an ecosystem.	SCESS	Global Biodiversity Assessment, V.H. Heywood, R.T. Watson, Cambridge University Press, 1995
M	Resilience (ecological resilience)	2	Refers to the ability of a stock to recover from overfishing once fishing mortality rates are lowered.	SCSA	In ICCAT glossary.
M	Resilience (ecological resilience)	3	Capacity of a natural system (fisheries community or ecosystem) to recover from heavy disturbance such as intensive fishing.	SCESS	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. In FAO glossary.
D	Resource rent	1	The profit (i.e. revenues in addition to normal returns to factors of production) that can be earned by capturing the resource	SCESS	OECD
D	Resource rent	2	In the fisheries context, the value to fishers of the fish in the water before they are caught. It is usually a large component of the economic rent.	SCESS	AGPS (1991)
M	Responsible fisheries	1	Fisheries combining respect for ecosystems and biodiversity with the needs of consumers and the interest of the fisheries sector.	SCSA	
M	Responsible fisheries	2	The concept of Responsible Fisheries “encompasses the sustainable utilisation of fishery resources in harmony with the environment; the use of capture and aquaculture practices which are not harmful to ecosystems, resources and their quality; the incorporation of added value to such products through transformation processes meeting the required sanitary standards; the conduct of commercial practices so as to provide consumers access to good quality products.	SCESS	FAO (1995), Global and national soils and terrain digital databases (Soter): Procedures Manual. FAO World Soil Resources Report, 74 Rev.1. In FAO glossary.
?	Retained catch	0	Catch that is landed by a fishing vessel. See Annex I WHAT IS DE DIFFERENCE WITH LANDING?	SCSA	
A	Revenue	0	Economic income of the fishermen basically obtained from fish sales		
A	RFB	0	Regional Fisheries Body		
D	Rights	0	See Formal rights.	SCESS	In FAO glossary.
OK	Risk	0	The probability of something undesirable happening (note that when a technical definition in a decision theoretic framework is needed, it would be appropriate to use the terms “expected loss” or “average forecasted loss”, not risk).	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
M	Risk assessment	1	The assessment of the probability of occurrence of an undesired phenomenon associated with a particular management strategy; for instance, the probability that the stock size will drop below a defined reference point.	SCSA	

M	Risk assessment	2	Component of risk management which comprises all processes concerned with identification, estimation and qualitative and quantitative evaluation of risks. Risk assessment consists of hazard identification, hazard assessment, risk estimation and risk reduction. COMMENT The terms risk management and risk assessment are used in many different ways, in different contexts and jurisdictions and by different professions. There is often little consistency of use even within one country. It is therefore recommended, that these terms are explained in the context in which they are intended to apply.	SCESS	(ISO (1996) Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
M	Risk management	0	The process of evaluating and selecting regulatory and non-regulatory responses to risk. The selection process necessarily requires the consideration of legal, economic, and behavioural factors. COMMENT: See risk assessment	SCESS	(ISO (1996) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
OK	Round weight	0	The weight of the whole fish before processing or removal of any part.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
OK	Sampling design	0	The sampling design of a scientific survey refers to the statistical techniques and methods adopted for selecting a sample and obtaining estimates of the survey variables from the selected sample.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
D	Sashimi	0	Japanese term for sliced fish (especially tuna) and shellfish (scallop, abalone, lobster, squid, octopus) served raw as a delicacy.	SCESS	Comonwealth of Australia (1997): http://www.brs.gov.au/fish/gloss.html. In FAO glossary.
A	SCI	0	A Site of Community Importance (SCI) is defined in the European Commission Habitats Directive (92/43/EEC) as a site which, in the biogeographical region or regions to which it belongs, contributes significantly to the maintenance or restoration at a favourable conservation status of a natural habitat type or of a species and may also contribute significantly to the coherence of Natura 2000, and/or contributes significantly to the maintenance of biological diversity within the biogeographic region or regions concerned		
OK	Scientific Survey	0	In Fisheries research, a fishery-independent survey is designed scientifically to achieve a given objective. For instance, a scientific survey, due to its standardised methodology, can produce an abundance index that is not affected by changes in catchability due to changes in gear technology.	SCSA	Modified from ICCAT glossary.
OK	Seasonal closure	0	Closed season. The banning of fishing activity (in an area or of an entire fishery) for a few weeks or months, to protect juveniles or spawners.		In FAO glossary.
D	Selected species	0	See Priority species.	SCSA	

OK	Selection range	0	Value corresponding to the Difference between L75-L25 of a gear selection model.	SCSA	
OK	Selectivity	0	The relative vulnerability of different age or size classes to the fishing gear, expressed as probability of retention. Selectivity and exploitation patterns are often used interchangeably.	SCSA	Modified from ICCAT glossary.
D	Senescent fishery	0	A fishery in which, following a period of "full development" , annual yields have declined steadily and significantly for a number of years and is now yielding much less that its maximum production. While the causes of "senescence" could be many, it is usually assumed that overfishing is the main one, combined or not with unfavourable climatic conditions historical.	SCESS	In FAO glossary.
A	Sensitive habitat	0	A habitat - Essential to the ecological and biological requirements of at least one of the life stages of the species; - Crucial for the recovery and/or the long term sustainability of the marine biological resources and the assemblages to which the priority species belongs; - Any other habitat of high biodiversity importance potentially impacted by fisheries activities; - Any other habitat of high biodiversity importance potentially impacted by climate change		GCFM (2008) criteria for the identification of sensitive habitats of relevance for the management of priority Species. GFCM:SAC11/2008/Inf.20
OK	Sessile	0	Permanently attached to a substratum, at least in adult form.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
OK	Sex ratio	0	The relative number of males and females in a population, expressed as the number of males per 100 females, or as a simple ratio.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
A	SH	0	Sensitive habitat		
OK	Shadow price	0	In economic analysis, this is any distortion of a free market price which is made in order to reflect the real scarcity value of foods or services, including labour. An example of a shadow price is the elimination of the effect of taxes or subsidisedd.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series ,1. In FAO glossary.
D	Shared stock	1	Stocks of fish that migrate across the EEZs boundary of adjacent or opposite coastal states.	SCESS	Christy, F.T. (1997), The development and management of marine fisheries in Latin America and the Caribbean. Policy Research Paper. Inter-American Development Bank, Washington, D.C. No. ENV-110. In FAO glossary.

OK	Shared stock	2	Stock fished by two or more countries.	SCSA	Webster Dictionary. In FAO glossary.
M	Simulation	1	In general: the imitative representation of the functioning of one system or process by means of the functioning of another (e.g. a computer simulation of an industrial process).	SCESS	Webster Dictionary. In FAO glossary.
M	Simulation	2	Examination of a problem often not subject to direct experimentation by means of a simulating device.	SCESS	
M	Simulation	3	In fisheries, the use of a body of numerical techniques and specified inputs to reproduce by calculations the functioning of a stock or fishery. COMMENT Simulations may be deterministic (assuming no variability) or stochastic (to explore the range of variability in the results). Sensitivity analyses and projections of the status of the fishery system into the future are forms of simulation. There are several ways of accounting for uncertainty in simulations, such as bootstrapping, Bayesian methods, and Monte Carlo simulations	SCESS	In FAO glossary.
D	Small scale producers	0	Producers operating at a small scale, used to distinguish from industrialized producers. In truth, the line separating small and large scale producers is arbitrary. What is considered small scale in one country or region may be considered large scale in another.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Small-scale fishery	0	See artisanal fishery.	SCESS	In FAO glossary.
D	Social capital	0	The social resources (networks, memberships of groups, relationships of trust, access to wider institutions of society) upon which people draw in pursuit of livelihoods.	SCESS	Scoones I (1998) Sustainable rural livelihoods: A framework for analysis. IDS Working Paper, 72. Brighton: IDS. In FAO glossary.
D	Social constraints	0	Attributes or behaviour of a social unit (e.g., fishers, local community) which constrains an activity (in this case entry to a fishery).	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Social discount rate	0	The discount rate used to estimate the social value (or value to the community as a whole) of an enterprise. It is sometimes held that, to reflect social values, the social discount rate should be lower than the discount rate used in the private sector.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series ,1. In FAO glossary.
A	SPAMI	0	Special protected area of Mediterranean interest. Protection figure defined by UNEP RAC/SPA		
OK	Spatial closures	0	Permanent or seasonal ban of fishing activities in an area.	SCESS	In FAO glossary.
OK	Spawning Stock Biomass (SSB)	0	The total weight of the spawning stock. (Usually males and females combined, but sometimes female SSB, alone, is used. It would be interesting to agree a procedure for the GFCM).	SCSA	
OK	Sport Fishery	0	See recreational fishery.	SCESS	In FAO glossary.

R	Stakeholder	0	A large group of individuals and groups of individuals (including governmental and nongovernmental institutions, traditional communities, universities, research institutions, development agencies and banks, donors, etc.) with an interest or claim (whether stated or implied) which has the potential of being impacted by or having an impact on a given project and its objectives. Stakeholder groups that have a direct or indirect "stake" can be at the household, community, local, regional, national, or international level.	SCESS	FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p.) Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. In FAO glossary.
D	Standard	0	A criterion (or indicator, or reference point) which has been formally established and is enforced by an authority.	SCESS	Garcia S.M. (1997) Indicators for sustainable development in fisheries. In: FAO (1997). Land Quality indicators and their use in sustainable agriculture and rural development: 131-162. In FAO glossary.
M	Standardized	0	Refers to quantities that have been adjusted to be directly comparable to a unit that is defined as the "standard" one. Nominal CPUE is standardised to remove the effect of factors that are known not to be related to abundance. COMMENT This means that the effects of factors such as vessel size or spatial availability, which clearly affect CPUE, are removed, e.g. by adjusting all observations to the "standard vessel" in the "standard area". A variety of techniques are available for standardization such as GLMs.	SCSA	In FAO glossary.
M	Standing Stock Biomass	0	See spawning stock biomass. NOTHING IS SAID IN SSB. POSSIBLE DEFINITION: STOCK BIOMASS AVAILABLE TO FISHING?	SCSA	
M	States of Nature	0	A description of a condition and dynamics of the resource and the fishery including parameters such as stock abundance, age structure, fishing mortality, the economic condition of the industry and the state of the environment.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
OK	Statistic	0	The estimate of a parameter which is obtained by observation, and which in general is subject to sampling error.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
A	Statistical Division	0			

M	Statistical model	0	A component of an estimation model, that defines the criteria for how the observations are fitted. Statistical models include least squares, maximum likelihood, bayesian, and ad hoc procedures.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
M	Statistical rectangle	0	The ocean is (sometimes) divided into rectangles with small sides, e.g., 30 miles, and catches are internationally classified by rectangles.	SCESS	Cushing, D.H. (1968): A study in population dynamics. The University of Wisconsin Press. In FAO glossary.
A	Statistical Subarea	0			
D	Statistical uncertainty	0	Stochasticity or error from various sources as described using statistical methodology.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2.
OK	Status quo	0	Can mean the general current state of affairs in a fishery, but in certain for a, such as ICES, it refers specifically to the current level of fishing mortality .	SCESS	(Cooke, 1984). A status quo management scenario would be one in which no change in fishing mortality is projected. Cooke, J.G. (1984), Glossary of technical terms. In Exploitation of Marine Communities, R.M. May (ed), Springer-Verlag. In FAO glossary.
A	Steady state	0			
OK	Stock	0	Traditionally is a group of individuals that belong to a same population, that reacts to the exploitation in an homogeneous way, that has a more or less fixed spawning area and spawning season and the migration habits are the same. In general is a biological unit of one species forming a group of similar ecological characteristics and, as an unit is the subject of assessment and management. However there are many uncertainties in defining spatial and temporal geographical boundaries for such biological units that are 100% compatible with established data collection and geopolitical systems. For this reason, the term stock is often synonym with assessment/management unit, even if there is migration of the same species to and from adjacent areas.	SCSA	In ICCAT glossary.
OK	Stock Assessment	0	The application of statistical and mathematical tools to relevant data in order to obtain a quantitative understanding of the status of the stock as needed to make quantitative predictions of the stocks reactions to alternative future regimes.	SCSA	In ICCAT glossary.
M	Straddling Fish stock	0	A fish stock that occurs within and beyond the exclusive economic zone and adjacent areas of one or more coastal nations	SCESS	OECD.

M	Straddling stocks	1	Stocks that move from the waters of one country to another.	SCSA	
M	Straddling stocks	2	Stock which occurs both within the EEZ and in an area beyond and adjacent to EEZ.	SCSA	Article 63(2) of UNCLOS. FAO.
M	Straddling stocks	3	Fish stocks that migrate between EEZs and the high seas.	SCSA	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. FAO.
D	Strategy	0	A statement involving the projections of actions, including the direction of means, to achieve an objective.	SCESS	Scialabba N. (ed.), 1998. Integrated Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
D	Subsistence fishing	0	Fishing for personal consumption or traditional/ceremonial purposes	SCESS	OECD.
OK	Substratum (pl. substrata)	0	Surface available for colonisation by plants and animals; a more correct term in this context than 'substrate'.	SCMEE	Non-native marine species in British waters: a review and directory, Edited by N. Clare Eno, Robin A. Clark & William G. Sanderson, JNCC, Peterborough, 1997
D	Supply gluts	0	A situation in which the market is supplied with an unusually large amount of product, which strains the capacity of primary buyers, processors and wholesalers and causes prices to drop to very low levels.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Support	0	Transfers, in monetary form, from the government or consumers to an activity or sector. Support can include transfers from governments the form of direct payments (e.g. grants), cost reducing transfers (e.g. loan concessions) and general services (e.g. government funded marketing or research). Transfers from consumers to an activity or sector is primarily made up of market price support normally arising from tariffs and quantitative restrictions	SCESS	OECD
D	Supra-normal profits	0	Profits above normal.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.

A	Surface area of nets	0	Total surface area of the nets deployed whether connected or deployed separately		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
D	Sustainability	0	Ability to persist in the long-term. Often used as a “short hand” for sustainable development.	SCESS	In FAO glossary.
D	Sustainability Indicators	0	A variable, a pointer, an index of a complex phenomenon. Its fluctuations reveal the variations in components of the ecosystem, the resource or the sector. The position and trend of the indicator in relation to the criteria indicate the present state and dynamics of the system. Ideally, composite indicators are needed, the position and trajectory of which, within a system of reference of related criteria, would allow simple holistic assessment of sustainability. One can distinguish indicators of state of the system, pressure (or stress, driving forces) on the system, and response (reflecting action taken to mitigate , reduce, eliminate or compensate for the stress).	SCESS	Garcia S.M. (1997) Indicators for sustainable development in fisheries. In: FAO (1997). Land Quality indicators and their use in sustainable agriculture and rural development: 131-162. In FAO glossary.
OK	Sustainable catch (yield)	0	The number (weight) of fish in a stock that can be taken by fishing without reducing the stock biomass from year to year, assuming that environmental conditions remain the same.	SCESS	Northeast Fisheries Centre (1997): http://www.wh.whoi.edu/homepage/tech_terms.html. In FAO glossary.
D	Sustainable development	1	Development integrating into the relevant sectorial policies, at national and international level, the implications of economic growth on the environment, and seeking to satisfy the needs of the present and future generations equitably, in particular by allotting a value to environmental resources in order to identify and evaluate the impact of economic activities on the environment	SCSA	
D	Sustainable development	2	Management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment of continued satisfaction of human needs for present and future generations. Such sustainable development conserves (land) water, plants and (animal) genetic resources, is environmentally non-degrading, technologically appropriate, economically viable and socially acceptable	SCESS	FAO (1989): Sustainable development and natural resources management. Conference. Food and Agriculture Organization of the United Nations, Rome. C 89/2 – Sup. 2. August 1989: 54 pages. In FAO glossary.
D	Sustainable development	3	Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. COMMENT A large number of definitions exist.	SCESS	World Commission on Environment and Development, 1987FAO. In FAO glossary
D	Sustainable use	0	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.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.

OK	Sustainable yield	1	Equilibrium yield.	SCESS	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6. In FAO glossary.
D	Sustainable yield	2	The amount of biomass or the number of units that can be harvested currently in a fishery without compromising the ability of the population/ecosystem to regenerate itself.	SCESS	FAO (1997): Fisheries management. FAO Technical Guidelines for Responsible Fisheries, 4: 82 p. In FAO glossary.
D	Sustained use	0	Continuing use without severe or permanent deterioration in the resources.	SCESS	FAO (1985), Guidelines: land evaluation for irrigated agriculture. FAO Soils Bulletin, 55. In FAO glossary.
D	Symbiosis	0	The living together of two organisms; the relationship between two interacting organisms or populations, commonly used to describe all relationships between members of two different species, and also to include intraspecific associations; sometimes restricted to symbioses; symbiont, symbiote, symbiotic	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Systems analysis	0	The analysis and modelling of interrelated processes and operations with a view to designing a more efficient use of resources.	SCESS	FAO (1993), Guidelines for land-use planning. FAO Development Series, 1. In FAO glossary.
R	TAC	0	Total Allowable Catch. The TAC is the total catch allowed to be taken from a resource in a specified period (usually a year), as defined in the management plan. The TAC may be allocated to the stakeholders in the form of quotas as specific quantities or proportions.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glosssary.
OK	Tag	0	A mark implanted on (or inside) a fish to be recovered when the fish is caught. Tagging data are used to learn about a species´ biology (e.g. its growth and migrations) but also as auxiliary data for stock assessments (e.g. to calculate mortalities). More modern electronic tags can store information about the life conditions of the animal (archival tag) and may communicate their data by satellite (pop-up tags).	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
OK	Tagging	0	Marking an individual or group of individuals (e.g. by clipping a fin, injecting a die, inserting a tag) in order to identify it when it will be recaptured. Tagging allows the study of growth, mortality, migration as well as the estimation of the stock size.	SCESS	In FAO glossary.

OK	Target fishing capacity	0	The maximum amount of fish over a period of time (year, season) that can be produced by a fishing fleet if fully utilized while satisfying fishery management objectives designed to ensure sustainable fisheries, YT = Y (ET, S) in which YT is target yield or catch; ET is target effort generated by a fully-utilized fleet; and S is stock size (biomass). The "fishing fleet" is meant to be the stock of inputs (i.e. physical capital and human capital). The term "fully-utilized" is used in a precautionary context in that they assume that capacity utilization is 100%. The maximum catch that capital stocks could remove can be determined by observing them during a period with few restrictions.	SCESS	FAO (1998[a]): Report of the FAO Technical Working Group on the Management of Fishing Capacity. FAO Fisheries Report No. 586. Rome, Food and Agriculture Organization of the United Nations. In FAO glossary.
M	Target Reference Poin	2	Corresponds to a state of a fishery and / or a resource which is considered desirable. Management action, whether during a fishery development or a stock rebuilding process should aim at bringing and maintaining the fishery system at this level. In most cases a TRP will be expressed in a desired level of output for the fishery (e.g. in terms of catch) or of fishing effort or capacity and will be reflected as an explicit management objective for the fishery.	SCESS	Garcia S.M. (1996)The precautionary approach to fisheries and its implications for fishery research, technology and management: An updated review. FAO Fish. Tech. Paper, 350.2: 1-76. In FAO glossary.
M	Target Reference Point	1	A benchmark that should be achieved on average according to a given set of management objectives. ICCAT´s implied targets are FMSY, BMSY and MSY.	SCSA	Caddy and Mahon, 1995. In ICCAT glossary.
M	Target species	0	Those species that are primarily sought by the fishermen in a particular fishery. The subject of directed fishing effort in a fishery. There may be primary as well as secondary target species. Explain primary secondary	SCESS SCSA	In FAO glossary.
OK	Target strength	0	The ratio of received signal to transmitted signal from an object as at 1 m from the transmitter. Although it can be expressed in any units, it is convenient to express target strength in db reference 1 ìbar.	SCESS	Cushing, D.H. (1968): A study in population dynamics. The University of Wisconsin Press. In FAO glossary.
D	Tariff	0	A tax imposed on commodity imports. A tariff may either be a specific tariff (fixed charge per unit of product imported) or an "ad valorem tariff" (a fixed percentage of value).	SCESS	OECD.
D	Tariff quota	0	A quantitative threshold (quota) on imports above which a higher tariff is applied. The lower tariff rate applies to imports within the quota	SCESS	OECD.
A	Technological creeping				
OK	Technological interaction	0	An interaction between fisheries resulting from the impact of one fishery using a particular technology on another fishery, usually using a different technology but exploiting the same resources as target or bycatch. Because of their importance the cross-impact of various fleets targeting overlapping species groups must be assessed. Major source of failure in TACs and quotas management strategies for multispecies and multigear fisheries.	SCESS	In FAO glossary.
OK	Technology transfer	0	The introduction and adoption of new (usually more advanced) production methods and equipment already in use in other areas.	SCESS	Commonwealth of Australia (1989): New directions for commonwealth fisheries management in the 1990s. A government policy statement. December 1989: 114 p. In FAO glossary.

D	Tenure	0	Socially-defined agreements held by individuals or groups (either recognized by law or customary norms) on the rights of access and the rules for use of either a land area or associated resources, such as individual trees, plant species, water, or animals.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Centre for International Forestry Research : 53 p. In FAO glossary.
M	Territorial Sea	0	The area from average low- water mark on the shore out to three miles for the states of Louisiana, Alabama, and Mississippi, and out to nine miles for Texas and the west coast of Florida. The shore is not always the base line from which the three miles are measured. In such cases, the outer limit can extend farther than three miles from the shore. Define for Mediterranean!!!!!	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary. Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the resolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA. In FAO glossary.
A	Territorial use right in fisheries.			SCESS	
M	Territorial waters	0	The area beyond the tidal base line of the open coasts of a country over which that country exercises full control except for innocent passage of foreign vessels. Set at a maximum of 12 nautical miles in breadth by the 1982 Law of the Sea Treaty, the United States claims territorial waters three nautical miles in width. Define for Mediterranean!!!!!	SCESS	
M	Threatened species	0	Species that are, often genetically impoverished, of low fecundity, dependent on patchy or unpredictable resources, extremely variable in population density, persecuted or otherwise prone to extinction in human dominated landscapes. Define according to IUCN etc	SCMEE	Global Biodiversity Assessment, V.H. Heywood, R.T. Watson, Cambridge University Press, 1995
M	Threshold reference point ThRP	1	Indicates that the state of a fishery and / or a resource is approaching a target reference point (TRP) or a limit reference point (LRP), and that a certain type of action (usually agreed beforehand) needs to be taken. Fairly similar to a LRP in their utility, the ThRp specific purpose is to provide an early warning, reducing further the risk the LRP or TRP are inadvertently passed due to uncertainty in the available information or inherent inertia of the management and industry systems. Adding precaution to the management set-up, they might be necessary only for resources or situations involving particularly high risk.	SCESS	Garcia S.M. (1996)The precautionary approach to fisheries and its implications for fishery research, technology and management: An updated review. FAO Fish. Tech. Paper, 350.2: 1-76. In FAO glossary.
M	Threshold reference point ThRP	2	A biological reference point used to indicate that a Limit reference point is being approached	SCSA	In ICCAT glossary.

A	Time	0	As effort parameter: days or hours (see days at sea and fishing days		Report of the ninth session of the Sub-Committee on Statistics and Information (SCSI). Antalya, Turkey, 13–16 October 2008
OK	Top-down management	0	A process of management in which management information and decisions are centralized and resource users are kept outside the decision-making process. See bottom-up	SCESS	Garcia S.M. (1996)The precautionary approach to fisheries and its implications for fishery research, technology and management: An updated review. FAO Fish. Tech. Paper, 350.2: 1-76. In FAO glossary.
M	Total allowable catch (TAC)	1	"A catch limit set for a particular fishery, generally for a year or a fishing season. TACs are usually expressed in tonnes of live-weight equivalent, but are sometimes set in terms of numbers of fish	SCESS	OECD
M	Total allowable catch (TAC)	2	The maximum catch allowed from a fishery in a period, in accordance with a specified management strategy.	SCSA	
M	Total allowable catch (TAC)	3	The TAC is the total catch allowed to be taken from a resource in a specified period (usually a year), as defined in the management plan. The TAC may be allocated to the stakeholders in the form of quotas as specific quantities or proportions	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	Tradeable permits	0	An economic policy instrument under which rights to discharge pollution or exploit resources can be exchanged through either a free or a controlled –permit- market. Examples include Individual Transferable Quotas in fisheries, tradable depletion rights to mineral concessions and marketable discharge permits for water-borne effluents.	SCESS	Scialabba N. (ed.), 1998. Integrated Coastal Area Management and Agriculture, Forestry and Fisheries. FAO Guidelines: 256 p. In FAO glossary.
OK	Trade-off	0	A balancing of factors all of which are not attainable at the same time (e.g. Maximum economic yield, and Maximum sustainable yield). A giving up of one thing in return for another. COMMENT Sustainability can be evaluated by the sum of the various social, economic, and natural resources where the degree of use, exchange and trading among resources will vary according to the values given to each. The understanding of social dynamics and resource-use systems and the evaluation of related trade-offs, in terms of equity, productivity, resilience, and environmental stability, are useful to envision alternative development scenarios.	SCESS	Webster Dictionary. In FAO glossary.
OK	Traditional fishing zone	0	A marine area in which a group of people living on the adjacent coast traditionally exert their fishing activities on which generally has exclusive right to fish on a subsistence basis.	SCSA	

D	Traditional Rights	0	Rights of indigenous or traditional people which (to present) have not been considered in a national and international context or have not (yet) been recorded, and which are based on the legal system of the individual cultures.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Centre for International Forestry Research : 53 p. In FAO glossary.
D	Tragedy of the commons	0	The degradation of a common property natural resource through continued exploitation of that resource after the MSY has been reached. If the resource is sufficiently valuable and no controls on exploitation are imposed, the resource may be exploited to extinction.	SCESS	Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the resolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA. In FAO glossary.
D	Transaction costs	0	In the context of a market exchange of good and services, transaction costs include the costs of time, effort, and other resources necessary to search out, negotiate and consummate an exchange. In a resource management context, transaction costs include the costs of describing the principal elements of a fishery (resource, producers, processors, markets), designing, implementing, monitoring and enforcing regulation.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
M	Transboundary stocks	0	Stocks of fish that migrate across international boundaries or, in the case of the United States, across the boundaries between states or Fishery Management Council areas of control.	SCESS	Keen, Elmer A. (1988): Ownership and productivity of marine fishery resources: An essay on the resolution of conflict in the use of the ocean pastures. McDonald and Woodward Publishing Co., Virginia, USA. In FAO glossary.
D	Transferred species	1	Transplanted species. Any species intentionally or accidentally transported and released by humans into an environment inside its present range. Also referred to as a transfer.	SCESS	FAO (1995a), Guidelines for responsible management of fisheries. In Report of the Expert Consultation on Guidelines for Responsible Fisheries Management, Wellington, New Zealand, 23-27 January 1995. FAO Fisheries Report, 519. In FAO glossary.
D	Transferred species	2	Any species intentionally or accidentally transported and released by humans into an environment inside its present range.	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.

M	Transhipment	1	Act of transferring the catch from one fishing vessel to either another fishing vessel or to a vessel used solely for the carriage of cargo.	SCESS	FAO (1998): Guidelines for the routine collection of capture fishery data. FAO Fish. Tech. Pap, 382: 113 p. In FAO glossary.
M	Transhipment	2	Offloading and on loading or otherwise transferring fish or fish products and/or transporting fish or products made from fish.	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.
OK	Transition analysis	0	Simulation of the evolution of a fishery after a change of management measures (thecnical or economic), such as total effort, exploitation pattern, subsidies, etc	SCSA	
OK	Trans-national Fisheries	0	Fisheries in which the same resources stock(s) crosses the EEZs of two or more countries	SCESS	OECD
D	Trash fish	0	Discarded fish with little or no commercial value and not sorted by species before landing. Usually part of the trawlers' by-catch. In the Gulf of Thailand, trash fish is used for aquaculture. It can also be used for fishmeal production. In many developing countries (e.g. China, India) it is used extensively for human consumption.	SCESS	In FAO glossary.
A	Trawl survey	0			
M	Trophic level	1	Classification of natural communities or organisms according to their place in the food chain. Green plants (producers) can be roughly distinguished form herbivores (consumers) and carnivores (secondary Syn: Trophic group consumers).	SCSA	United Nations (1997): Glossary of Environment Statistics. Studies in Methods, Series F, No. 67. FAO.
M	Trophic level	2	Group of organisms eating resources from a similar level in the energy cycle.	SCSA	McGlade J.M. (1999): Ecosystem analysis and the governance of natural resources. I: McGlade J.M. (Editor). Advance in theoretical ecology. Blackwell Scientific Publications: 308-336. FAO.
OK	Tuna farming	0	Tuna farming currently involves the collection of wild fish, ranging from small to large specimens, and their rearing in floating cages for periods spanning from a few months up to 1-2 years. Fish weight increment or change in the fat content of the flesh is obtained through standard fish farming practices. Confinement of captured fish during short periods of time (2-6 months) aimed mostly at increasing the fat content of the flesh, which strongly influences the prizes of the tuna meat on the Japanese sashimi market, can also be referred to as 'Tuna fattening'. Future tuna farming practices may evolve to encompass a closed life cycle, i.e. the rearing of larvae in laboratory conditions".	SAC	
M	Tuning	1	The fitting of indices of abundance with catch data, using a stock assessment model. Tuning usually aims to minimize differences between the observed abundance indices and the abundance predicted by the model.	SCSA	In ICCAT glossary.

M	Tuning	2	Is a mathematical procedure aimed at the obtention of a good agreement between the observed trends of abundance or effort derived from a sequential analysis (as VPA) with those proceeding from an independent time series. The choice of a suitable calibration model is very important, especially referred to the way it treats the VPA output that has to be suitable for its comparison with the data proceeding from the independent source.	SCSA	
OK	Tuning fleets	0	Fleets used to tune the VPA. May be research vessels making regular surveys, or commercial fleets where fishing activity has been well quantified over a number of years.	SCSA	
OK	TURF	0	Territorial use right in fisheries.	SCESS	In FAO glossary.
OK	Turnover	0	Biomass production rate. Production per unit of biomass (no dimensions). It is usually calculated within a time interval (p. ex. One year), and taking the average biomass over this interval, in this case the turnover is equivalent to a total mortality rate in terms of biomass. The turnover is often expressed in %.	SCSA	
M	Uncertainty	1	In general, the incompleteness of knowledge about the states and processes in nature In statistics and risk analysis, refers to the estimated amount (or percentage) by which an observed or calculated value may differ from the true value.	SCESS	FAO (1995a), Guidelines for responsible management of fisheries. In Report of the Expert Consultation on Guidelines for Responsible Fisheries Management, Wellington, New Zealand, 23-27 January 1995. FAO Fisheries Report, 519. In FAO glossary.
M	Uncertainty	2	Lack of perfect knowledge of many factors that affect stock assessments, estimation of biological reference points, and management. COMMENT Sources of uncertainty include measurement error (in observed quantities), process error (or natural population variability, e.g. in recruitment), model error (miss-specification of assumed values or population model structure), estimation error (in population parameters or reference points, due to any of the preceding types of errors), and implementation error (or the inability to implement management controls for whatever reason).	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
M	Uncertainty	3	The incompleteness of knowledge about the state or processes of nature	SCMEE	Precautionary approach to fisheries, FAO Fisheries Technical Paper. Part 1. Rome, FAO. 1995, Part. 2. 1996.
OK	Underfished	0	Characteristic of a stock which may sustain catches higher than current ones.	SCESS	In FAO glossary.
M	Undersized	1	Refers to fish that are smaller than a minimum size limit established by regulation.	SCSA	In ICCAT glossary.

M	Undersized	2	Fish (caught) at a size smaller than the minimum size limit established by regulation.	SCESS	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. In FAO glossary.
D	Underutilized species	0	A species of fish that has potential for large additional harvest.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
OK	Undeveloped fishery	0	A fishery in its very early stage of development, with very low levels of fishing effort, producing much lower quantities of fish than its potential maximum yield.	SCESS	In FAO glossary.
A	Unintentional catch	0	Accidental catch		
M	Unit stock	1	A population of fish grouped together for assessment purposes which may or may not include all the fish of a stock.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
M	Unit stock	2	Arbitrary collection of populations of fish that is large enough to be essentially self-reproducing (abundance changes are not dominated by immigration and emigration), with members of the collection showing similar patterns of growth, migration, and dispersal.	SCSA	Hilborn, R., and C.J. Walters. 1992. Quantitative fisheries stock assessment. Choice, Dynamics and uncertainty. Chapman and Hall, NY. 570 p.
D	Unregulated Fishery	0	A fishery in which harvesters (and any other participants) are not subjected to any regulations	SCESS	OECD.
R	Use Rights	0	~~Rights for the use of forest resources that can be defined by local custom, mutual agreements, or prescribed by other entities holding access rights. These rights may restrict the use of particular resources to specific levels of consumption or particular harvesting techniques.~~ The rights held by individual fishers, fishing groups, fishing communities or companies to use the fishery resources. These may be in the form of rights to an amount of fishing effort (effort rights) or catch that can be taken in the fishery (harvest rights or harvest quotas). They can be defined by local custom, mutual agreements, or prescribed by other entities holding access rights. They may restrict the use of particular harvesting techniques.	SCESS	CIFOR (1999): The CIFOR criteria and indicators generic template. Center for International Forestry Research : 53 p. In FAO glossary.

D	User	0	The term includes a commercial, recreational and indigenous fisher; fish watcher (scuba diver) and a member of the community. What constitutes a 'significant user interest' must be decided on a case-by-case basis.	SCESS	Australian Government Publishing Service (1991): Ecologically Sustainable Development Working Groups Final Report – Fisheries, Canberra, 202 p. In FAO glossary.
D	User participation	0	Where resources users play an active role in the process of management of the fishery.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Usufruct	0	The right to use and derive profit from a piece of property belonging to another, provided the property itself remains undiminished and uninjured in any way.	SCESS	Collins English Dictionary. In FAO glossary.
D	Vagile	0	Wandering; freely motile; mobile.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
D	Vagrant (species)	0	Individuals of a species which, by natural means, move from one geographical region to another outside their usual range, or away from usual migratory routes, and which do not establish a self-maintaining, self-regenerating population in the new region. Cf. 'alien species'; 'recent colonist'.	SCMEE	A dictionary of Ecology, Evolution and systematics, R.J. Lincoln, G.A. Boxshall, P.F. Clark, Cambridge University Press, 1986
M	Variable costs	0	Costs that vary with the rate of output. AND INPUT. In fisheries variable costs depends on ammount of production and the fishing days	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Vertical integration	0	A fishery (or industry) is vertically integrated when firms in the fishery engage in multiple levels of the supply chain. For example, a firm that operates and manages fishing vessels, processing plants, and a wholesale distribution operation is considered vertically integrated	SCESS	OECD.
D	Vessel catch limit	0	A limit on the quantity each individual vessel can land per trip or short period of time (e.g. day, week)	SCESS	OECD.
D	Vessel operator	0	The master or other individual aboard and in charge of that vessel.	SCESS	In FAO glossary.

D	Vessel owner	0	Any person who owns that vessel in whole or in part; any charterer of the vessel, whether bare boat, time, or voyage; any person who acts in the capacity of a charterer, including, but not limited to, parties to a management agreement, operating agreement, or any similar agreement that bestows control over the destination, function, or operation of the vessel; or any agent designated as such by a person described in this definition.	SCESS	US Dept. of Commerce (1996): http://caldera.sero.nmfs.gov/fishery/regs/inter600.htm#B. In FAO glossary.
R	Virgin Biomass	0	~~(B0). A biological reference point. It is the long-term average biomass value expected in the absence of fishing mortality. In production models, B0, is also known as carrying capacity.~~ Long-term average biomass value expected in the absence of fishing mortality. It is a biological reference point. It is the In production models, (expressed as B_0, K or B_∞), is also known as carrying capacity.	SCSA	In ICCAT glossary.
M	Virgin Population	0	Biomass of the pristine population.	SCSA	
OK	VPA (Virtual Population Analysis)	0	An algorithm for computing historical fishing mortality rate and stock size by age, based on catches by age or size, an assumption of a natural mortality, and certain assumptions about mortality for the last year and last age group. A VPA essentially reconstruct the history of each cohort, assuming that the observed catches are exact and known without error.	SCSA	Modified from Powers J.E. and V.R. Restrepo 1992. Additional options for age-sequenced analysis. SCRS/91/040. In ICCAT Glossary.
A	Vulnerability	0	Component of the availability related to fish behaviour.		Laurec, A. and J.-C. Le Guen.- 1981. Dynamique des populations marines exploitées, Tome 1. Concepts et modèles. Publications du Centre National pour l'Exploration des Oceans. CNEXO/Centre Oceanologique de Bretagne. Rapports Scientifiques et Techniques Nº45. 117 pp.
D	Vulnerability	0	The proportion of fish that is present in a fishing area of influence of a gear that is retained during the fishing operation.	SCSA	
D	Waste	0	Physical waste is product that is caught but does not have market value. It is a by-product of the production process which is not utilized.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.

D	Windfall gain	1	A gain (benefit) that is realized without sacrifice.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
D	Windfall gain	2	A one-time gain arising from limiting entry. It comes from the increased value of a license or individual quota when the fishery is limited. It can only be obtained by a fisherman's selling his fishing privilege.	SCESS	Roberts, K.J. et al., 1995, Defining fisheries: a user's glossary. Louisiana State University, Louisiana, USA, 22 p. (Rev.). In FAO glossary.
D	Windfall Profit	0	See windfall gain.	SCESS	In FAO glossary.
OK	XSA	0	Expanded survivor analysis, A stock assessment program based on VPA and tuning of abundance indices.	SCSA	Darby, C. D. and S. Flatman. 1994. Virtual population analysis. Version 3.1 (Windows/DOS). User Guide. Information Technology Series , MAFF Directorate of Fisheries Research, Lowestoft (U.K.). 85 pp.
M	Year class	1	The fish spawned or hatched in a given year. The fish spawned or hatched in a given year. In the northern hemisphere, when spawning is in autumn and hatching in spring, the calendar year of the hatch is commonly used to identify the year-class (except usually for salmon). Also called: brood, generation	SCSA	Ricker W.E. (1975): Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada, 191: 2-6 See Age class. FAO. Yield per Recruit (Y/R)
M	Year class	2	The expected lifetime yield for the average recruit. For a given exploitation pattern, rate of growth and natural mortality, and equilibrium value of Y/R can be calculated for each level of F. Y/R analysis play an important role in advice for management, particularly as it relates to minimum size controls.	SCSA	In ICCAT glossary.
D	Yield	1	Catch in weight.	SCSA	In ICCAT glossary.
R	Yield	2	Catch in weight. Catch and yield are often used interchangeably. Amount of production per unit area over a given time. A measure of ~~agricultural~~ production.	SCESS	FAO (1984) in Choudhury K. and L.J.M. Jansen (1999): Terminology for Integrated Resources Planning and Management. FAO, Rome, Italy: 69 pages. FAO.
OK	Yolk-sac larvae	0	Developmental stage comprised between hatching and the complete reabsorption of the yolk-sac.	SCSA	

OK	Z (Total mortality rate)	0	The sum of natural mortality and fishing mortality rates.	SCSA	Restrepo V. (1999): Annotated Glossary of Terms in Executive Summary Reports of the International Commission for the Conservation of Atlantic Tunas´ Standing Committee on Research and Statistics (SCRS). ICCAT. FAO.
OK	Zero opportunity costs	0	Where the next best income alternative yields zero additional earnings.	SCESS	OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12. In FAO glossary.
OK	Z_{MBP}	0	Value of Z corresponding to the Maximun Biological Production	SCESS	Caddy, J. and Csirke, . 1983.