

GLOSSARY

The terms in this glossary are taken from a number of sources, but particularly from the FAO Technical Guidelines No. 4: Fisheries Management and from the glossary found on the home page of the FAO Fisheries Department (<http://www.fao.org/fi/glossary/default.asp>). The latter also includes a large number of other fisheries terms.

Bag limit	The number and/or size of a species that a person can legally take in a day or trip.
Biological diversity or biodiversity	The variability among living organisms from all sources including, <i>inter alia</i> , 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. Diversity indices are measures of richness (the number of species in a system); and to some extent, evenness (variances of species' local abundance). They are therefore indifferent to species substitutions which may, however, reflect ecosystem stresses (such as those due to high fishing intensity).
Biological reference points	A specific type of reference point. A biological reference point indicates a particular biological state of a fishery resource indicator 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)
Biological resources	These include genetic resources, organisms or parts thereof, populations or any other biotic component of ecosystems with actual or potential use of value for humanity.
Bycatch	Species taken in a fishery targeting on other species or on a different size range of the same species. That part of the bycatch which has no human value is discarded and returned to the sea, usually dead or dying
By-mortality	By-mortality is the mortality of marine organisms from injuries caused by encounters with the fishing gear during the fishing process.
Capital stuffing	The tendency to invest excessively in productive inputs (such as hull, engine, gear). Such investments in fishing capacity are often made to offset regulations to reduce fishing effort.
Catch-per-unit-effort	The quantity of fish caught (in number or in weight) with one standard unit of fishing effort; e.g. number of fish taken per 1000 hooks per day or weight of fish, in tons, taken per hour of trawling. CPUE is often considered an index of fish biomass (or abundance). Sometimes referred to as catch rate.
Co-management	A partnership arrangement in which government and the legitimate interested parties in a fishery share the responsibility and authority for the management of a fishery.
Community-based management	A form of co-management where a central role for management is delegated to a community and where Government would usually have a minor role.
Demersal resources	Species living in close relation with the bottom and depending on it. Example: Cods, Groupers and lobsters are demersal resources. The term "demersal fish" usually refers to the living mode of the adult.

Discards	Are those components of a fish stock (see below) thrown back after capture. Normally, most of the discards can be assumed not to survive.
Efficiency	Obtaining optimal benefits for a given set of inputs, or 'doing the most with what we have'; this can be measured at various levels: the individual fisher or vessel, the fleet, the fishery as a whole, or the coastal region, depending on what level is appropriate. (For example, from the perspective of society as a whole, efficiency may be measured at the scale of what is best for the on-shore economy and relevant coastal communities.)
Exploitation rate	Applied on a fish stock, it is the proportion of the numbers or biomass removed by fishing. A 10% exploitation rate means that 10% of the available stock is being harvested within the time frame considered (per year, per month, etc.). As a measure of fishing pressure, it is proportional to fishing mortality
Fecundity	In general, the potential reproductive capacity of an organism or population expressed in the number of eggs (or offspring) produced during each reproductive cycle. Fecundity usually increases with age.
Fish stock or fish resource	The living resources in the community or population from which catches are taken in a fishery. Use of the term fish stock usually implies that the particular population is more or less isolated reproductively from other stocks of the same species and hence self-sustaining. In a particular fishery, the fish stock may be one or several species of fish but here is also intended to include commercial invertebrates and plants.
Fisheries management organizations or arrangements	These are the institutions 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.
Fishery	The term fishery can refer to the sum of all fishing activities on a given resource, for example a hake fishery or shrimp fishery. It may also refer to the activities of a single type or style of fishing on a particular resource, for example a beach seine fishery or trawl fishery. The term is used in both senses in this document and, where necessary, its particular application is specified.
Fishing capacity	This is a concept which has not yet been rigorously defined, and there are substantial differences of opinion as to how it should be defined and estimated. However, a working definition is 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.
Fishing effort	The total amount of fishing activity on the fishing grounds over a given period of time, often expressed for a specific gear type e.g. number of hours trawled per day, number of hooks set per day or number of hauls of a beach seine per day. Fishing effort would frequently be measured as the product of (a) the total time spent fishing, and (b) the amount of fishing gear of a specific type used on the fishing grounds over a given unit of time. When two or more kinds of gear are used, they must be adjusted to some standard type in order to derive and estimate of total fishing effort.

Fishing mortality	A technical term which refers to the proportion of the fish available being removed by fishing in a small unit of time; e.g. a fishing mortality rate of 0.2 implies that approximately 20% of the average population will be removed in a year due to fishing. Fishing mortality can be translated into a yearly exploitation rate (see above) expressed as a percentage, using a mathematical formula.
Fleet	Used broadly in this document to describe the total number 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.
Fully exploited	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 F_{MSY} (in a classical production model relating yield to effort) or F_{max} (in a model relating yield-per-recruit to fishing mortality).
Genetic diversity	The sum of the actual or potential genetic information and variation contained in the genes of living individual organisms, populations or species.
Harvesting strategy	Not to be confused with a management strategy. A harvesting strategy is a plan, under input or output control, for working out how the allowable catch from a stock will be calculated each year e.g. as a constant proportion of the estimated biomass.
High-grading	The discarding of a portion of a vessel's legal catch that could have been sold to have a higher or larger grade of fish that bring higher prices. It may occur in quota and non-quota fisheries.
Interested party or interest group	Refers to any person or group who has a legitimate interest in the conservation and management of the resources being managed. 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/recreational, conservation/exploitation, artisanal/ industrial, fisher/buyer-processor-trader as well as governments (local/State/national). The general public and the consumers could also be considered as interested parties in some circumstances.
Intrinsic rate of increase	The proportional rate of increase of a population at very low population numbers or biomass where density dependent effects are negligible. It therefore represents the average maximum proportional growth rate of the population.
Limited entry	A common management tool in which the government issues a limited number of licenses to fish, which creates a use right - the right to participate in the fishery.
Management authority	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.

Management institutions	Used here to indicate arrangements and organisations established to perform specific functions and guide interactions in support of fisheries management. In a broader sense can also be used to describe the set of rules that defines a practice.
Management measure	Specific controls applied in the fishery to contribute to achieving the objectives, including some or all of technical measures (gear regulations, closed areas and time closures), input controls, output controls and user rights.
Management right	The right to be involved in managing the fishery.
Management strategy	The strategy adopted by the management authority to reach the operational objectives. It consists of the full set of management measures applied in that fishery.
Marine protected area	A protected marine intertidal or subtidal 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.
Maximum sustainable yield (MSY)	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.
Mortality	The number of deaths in a given period. In fisheries these are divided into those resulting directly from fisheries and those arising from other, 'natural' causes. See also Fishing mortality and Natural mortality.
Natural mortality	A technical term which refers to the proportion of the fish population dying by any causes other than fishing. As with fishing mortality, can be translated into a yearly natural mortality rate expressed as a percentage, using a mathematical formula. See also Fishing mortality.
Non-Governmental Organisation	Any organisation that is not a part of federal, provincial, territorial, or municipal government. Usually refers to non-profit organisations involved in development activities.
Objective or Operational objective	A target that is actively sought and provides a direction for management action. For example, achieving a specified income for individual fishers is one possible economic objective of fisheries management.
Open access	A condition of a fishery in which anyone who wishes to fish may do so.
Operational management	Also known as tactical management, involves direct management that affects the fishing process directly, relating to implementation of the management plan and achievement of objectives, including decisions on and implementation of management measures, and monitoring control and surveillance.

Over-exploited	Exploited beyond that limit which is believed to be sustainable in the long term and beyond which there is an undesirably high risk of stock depletion and collapse. The limit may be expressed, for example, in terms of a minimum biomass or a maximum fishing mortality, beyond which the resource would be considered to be over-exploited.
Pelagic resources	Species that spend most of their life swimming in the water column with little contact with or dependency on the bottom. Usually refers to the adult stage of a species
Performance indicator	A specific state, or variable, which can be monitored in a system e.g. a fishery to give a measure of the state of the system at any given time. In fisheries management, each performance indicator would be linked to one or more reference points and used to track the state of the fishery in relation to those reference points.
Productivity	Relates to the birth, growth and death rates of a stock. A highly productive stock is characterised by high birth, growth and mortality rates, and as a consequence, a high turn-over and production to biomass ratio (P/B). Such stocks can usually sustain higher exploitation rates and, if depleted, could recover more rapidly than comparatively less productive stocks.
Property rights	A legal right or interest in respect to a specific property. A type of resource ownership by an individual (individual right) a group (communal right), or the state (state property).
Quota	A share of the Total Allowable Catch (TAC) allocated to an operating unit such as a country, a community, 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.
Recruits	The new age group of the population entering the exploited component of the stock for the first time, or young fish growing or otherwise entering that exploitable component.
Recruitment	The number of fish (recruits) 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 catchable) or migration (i.e. the fish moves into the fishing area).
Reference point	An estimated value derived from an agreed scientific procedure and/or an agreed model which corresponds to a state of the resource and/or of the fishery and can be used as a guide for fisheries management. Some reference points are general and applicable to many fish stocks, others should be stock-specific. See also Biological reference point.
Rights-based management	A fisheries management regime in which access to the fishery is controlled by use rights which may include not only the right to fish, but also specify any or all of: how the fishing may be conducted (e.g. the vessel and gear); where they may fish; when they may fish; and how much fish they may catch.
Species assemblage	The term used to describe the collection of species making up any co-occurring community of organisms in a given habitat or fishing ground.
Stakeholder	See Interested party.

Stochastic	Random; involving a random variable (e.g. a stochastic process). Involving chance or probability (syn: probabilistic) (<i>WWW Webster Dictionary</i>)
Stock	A group of individuals in a species occupying a well defined spatial range independent of other stocks of the same species. Random dispersal and directed migrations due to seasonal or reproductive activity can occur. Such a group can be regarded as an entity for management or assessment purposes. Some species form a single stock (e.g. southern bluefin tuna) while others are composed of several stocks (e.g. albacore tuna in the Pacific Ocean comprises separate Northern and Southern stocks). The impact of fishing on a species cannot be fully determined without knowledge of this stock structure.
Strategic management	Management of the fishery's overall objectives and policy.
Sustainable use	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.
Target species	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
Territorial use rights in fishing (TURFs)	Also Customary Marine Tenure (CMT) - fishery management methods that assign rights to individuals and/or groups to fish in certain locations, generally, although not necessarily, based on long-standing tradition ('customary usage').
Total allowable catch (TAC)	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.
Traditional ecological knowledge	The local knowledge held by a group of indigenous people and passed from generation to generation on the nature and functioning of the ecosystem.
Transboundary stock	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.
Trip limit	The right of a specific fisher or vessel to take a certain catch on each fishing trip.
Use rights	The rights held by fishers or fishing communities to use the fishery resources.
Yield	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.