

## **CHAPTER VII**

### **GLOSSARY, ACRONYMS AND ABBREVIATIONS**

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## 1.0 GLOSSARY

**Alluvial plain:** A level or gently sloping tract or a slightly undulating land surface produced by extensive deposition of alluvium, usually adjacent to a river that periodically overflows its banks; it may be situated on a flood plain, a delta, or an alluvial fan.

**Anthropic:** Related to human influence or affect as a consequence of human activity.

**Area of Influence:** Geographical space determined to be that zone within which reasonable and foreseeable direct, indirect and cumulative impacts from the proposed action are likely to occur. The effects could occur on the flora, fauna, water, air, population, countryside, archeological remains, etc.

**Artisanal fisherman:** Someone who practices fishing on a small or subsistence scale (or non commercial). Some artisan fishermen sell a proportion of their surplus catch after separating the necessary proportion for their survival.

**Baseline:** Characteristics and state of an area in terms of biotic, abiotic and socio cultural aspects, prior to the commencement of a project.

**Bathymetry:** The measurement of depth in the ocean in order to delineate the submarine topography

**Benthic Organism (Benthos):** A form of aquatic plant or animal life that is found on or near the bottom of a stream, lake or ocean.

**Biomass:** All of the living material in a given area, often refers to vegetation. Also called “biota”.

**Bio Geographic Unit:** Geographical space characterized by biological communities and their interrelations.

**Breakwater:** A structure that protects the area in its lee from wave attack. A breakwater can be connected to the shoreline (attached breakwater) or completely isolated from the shore (detached breakwater).

**Chain of custody:** Record of events that documents the steps in the process, what individuals were involved, at what time, and on what date for each stage.

**Chlorophyll:** The green pigment used by plants to capture the sun's energy in order to undertake photosynthesis

**Cluster Analysis:** Rapid method of hierarchically grouping taxa or sequences on the basis of similarity or distance

**Cluster Dendogram.** The tree-like diagram output from a cluster analysis that indicates how the spatial units or variables in the analysis are related to other clusters.

**Coliform Organism:** Microorganisms found in the intestinal tract of humans and animals. Their presence in water indicates fecal pollution and potentially dangerous bacterial contamination by disease-causing microorganisms.

**Communication:** Exchange of information between companies and communities about the activities that are required for the development of a project, the methods of control and the legal framework.

**Community:** A reference to the type of population that has settled in a defined area. It should not be confused with Rural Community or Native Community. Under the term Community we include populations such as those of a city or a town, as well as those of a rural or native community.

**Contingency Plan:** Information on the measures that should be undertaken in the event of a spill, explosion, accident, fire, evacuation, etc. The plan contains information on procedures, and personnel and specific equipment for the prevention, control and /or clean up of spills of hydrocarbons or chemical products such as: a list of equipment and procedures to follow to establish an uninterrupted line of communication between personnel, the government representatives and other state required entities. (Defined in accordance with D.D. 046-93-EM, Art. 23).

**Direct Impact:** Significant change caused in the natural and/or social environment directly due to human activity.

**Diversity:** A measure of both species abundance and species richness. An area that has a large number of species and many representative individuals from each species is more diverse than an area that has only a single species.

**Shannon-Wiener Diversity Index:** This is a measure of diversity based on information theory; simply, the measure of order (or disorder) within a particular system. For our uses, this order could be characterized by the number of species and/or the number of individuals in each species, within our sample plot.

**Ecosystem:** A community of plants, animals and other organisms that are linked by energy and nutrient flows and that interact with each other and with the physical environment. For example: Rain forests, deserts, coral reefs, and grasslands.

**Epicenter:** The point on the Earth's surface directly above the (subterranean) point of origin (**hypocenter**) of an earthquake; the location is defined by two measurements, latitude and longitude.

**Evenness:** A measure of how similar the abundances of different species are in the community.

**Food Chain:** A linear sequence of organisms that exist on successive trophic levels within a natural community, through which energy is transferred by feeding. Primary producers capture energy from the environment (through photo- or chemo-synthesis) and form the base of the food chain. Energy is then passed to primary consumers (herbivores) and on to secondary and tertiary consumers (carnivores and superior carnivores) (e.g. phytoplankton -> zooplankton -> herring -> salmon -> whales). Once they die, these organisms are in turn consumed and their energy transferred to decomposers.

**Grid Sampling:** Sampling method that divides the study area into square units (grids).

**Isotherm:** A contour line of equal temperature

**Ichthyoplankton:** Freshwater plankton made up of fish eggs, newly hatched eggs (fry), young fish, and adults of small fish.

**Intertidal:** The area where the sea meets the land - it is covered by the sea at high tide and exposed at low tide.

**Inka Lord:** Political and social territory established during pre Hispanic times in Peru.

**Lee:** The side of an object that is sheltered from the wind.

**Liquefaction of gases:** Any process in which gas is subject to low temperatures and converted from the gaseous to the liquid phase to facilitate its transport.

**Macrobenthos:** Macro fauna or macro flora, benthic organisms (animals or plants), whose shortest dimension is greater than or equal to 0.5 mm

**Microzooplankton:** Single cell animals that drift with the currents.

**Pedogenic:** Pertaining to processes that add, transfer, transform, or remove soil constituents.

**Permissible limit:** Acceptable level of exposure for human beings that ensures no health effects.

**Piezometer:** An instrument for measuring the pressure head of liquids. Monitoring well to measure groundwater level.

**Pig Receiver:** A piping arrangement that allows pigs to be removed from the interior of a pipeline

**Phytoplankton:** That portion of the plankton community comprised of tiny plants, e.g., algae, diatoms.

**Plankton:** Microscopic floating plant and animal organisms present in lakes, rivers, and oceans.

**Pre-Hispanic:** Refers to the period before Peru was conquered by the Spanish.

**Primary Producer:** An autotrophic organism that makes complex organic compounds from inorganic compounds through the process of photosynthesis or chemosynthesis. For example, phytoplankton synthesize sugars (organic compounds) from carbon dioxide and water (inorganic compounds) using energy from the sun. Phytoplankton is one example of a marine primary producer.

**Public Consultation:** The process of the supply of information and discussion between the holder of the project, the population and the State regarding the activities that will advance the projects within the community. It also includes the regulating legal framework and the preventive and control measures for dealing with the possible social and environmental impacts of the project. The perceptions and concerns of the population are also obtained. The consultation is undertaken through meetings directed toward the people and social organizations; it does not imply the right of the citizens to veto the project

**Quadrant:** An ecological sampling unit that consist of a square frame of known area. The quadrant is used for quantifying the number or percentage cover of a given species within a given area.

**Red Tide:** A proliferation of a marine plankton that is toxic and often fatal to fish. This natural phenomenon may be stimulated by the addition of nutrients. A tide can be called red, green, or brown, depending on the coloration of the plankton.

**Secondary Productivity:** The rate at which herbivores produce new biomass through growth and reproduction. As a general rule, only 10 percent of plant matter is converted to herbivore tissue. The remainder is either not ingested, not digested (and thus passed through an animal to be eliminated as feces) or released as heat.

**Similarity Bray-Curtis Index:** The Bray-Curtis Similarity Index for community structure as represented by two benthic invertebrate core samples in a "site by site" comparison. It also represents the similarity in the spatial distribution of two distinct species in a "species by species" comparison.

**Soundmeter:** A soundmeter is an instrument that measures the amplitude level of a sound.

**Species Abundance:** The total number of individuals of a species within a given area or community. Compare to species richness.

**Stakeholder:** person or group of people affected by an activity or project or who have a vested interest in the success of an organization or the execution of a project.

**Stratigraphy:** The branch of geology that examines the relationship and significance of layered sedimentary rocks.

**Substrate:** The material or medium upon or within which a plant or animal lives or grows (e.g. rocky or sandy substrate).

**Sub-Tidal:** Region located below the low water mark in a tidal area.

**Taxonomic Unit:** Descriptive classification used to determine categories of plants and animals.

**Thermocline:** Vertical negative temperature gradient in some layer of a body of water that is appreciably greater than the gradients above and below it. The principal thermocline in the ocean can be either seasonal, due to heating of the surface water in summer or permanent (eddies).

**Tixotrophy:** The ability of certain gels to liquefy when subjected to vibratory forces like simple shaking, and then to solidify when left standing.

**Transect:** A line across an area to be sampled, used to mark the study area.

**Trestle:** Port marine structure supported on piles.

**Tsunami:** A seismic sea wave of long-period produced by a submarine earthquake or volcanic eruption. It may travel unnoticed across the ocean for 1000s of km from its point of origin and build up to great heights to reach shallow water.

**UTM Coordinates:** A system of plane coordinates based upon 60 north-south trending zones, each 6 degrees of longitude wide, that circle the globe. Used to derive geographic coordinates, normally in meters, east and north of an origin that are define unique grids for each zone

**Zooplankton:** Animal component of the plankton that feed on phytoplankton and other zooplankton (primary consumers).

## **2.0 ACRONYMS**

|                  |                                                                    |
|------------------|--------------------------------------------------------------------|
| <b>AASHTO:</b>   | American Association of State Highway and Transportation Officials |
| <b>AGRU:</b>     | Acid Gas Removal Unit                                              |
| <b>AMDEA:</b>    | Activated Methyl Diethanolamine                                    |
| <b>ANSI:</b>     | American National Standard Institute                               |
| <b>APCI:</b>     | Air Products and Chemicals Inc.                                    |
| <b>APHA:</b>     | American Public Health Association                                 |
| <b>API:</b>      | Gravity driven oil/ water separator                                |
| <b>ASME:</b>     | American Society of Mechanical Engineers                           |
| <b>ASRP:</b>     | Asia Spill Response Program Limited                                |
| <b>ATDR:</b>     | Technical administration of irrigation districts                   |
| <b>AWWA:</b>     | American Water Works Association                                   |
| <b>BAS:</b>      | Berthing Aid System                                                |
| <b>BASF:</b>     | Basf Aktiengesellschaft (German Chemical Company)                  |
| <b>BLEVE:</b>    | Boiling Liquid Expanding Vapor Explosion                           |
| <b>BMP:</b>      | Best Management Practice                                           |
| <b>BOD:</b>      | Biological Oxygen Demand                                           |
| <b>CCME:</b>     | Canadian Council of Ministries of the Environment                  |
| <b>CIDE SUR:</b> | Center for investigation and rural-urban development               |
| <b>CIRA:</b>     | Certificate of non existence of archeological remains              |
| <b>CPI:</b>      | Oil/water separator with corrugated plates                         |
| <b>DGAEE:</b>    | General bureau of environmental affairs for energy                 |
| <b>DGH:</b>      | General bureau of hydrocarbons                                     |
| <b>DGM:</b>      | General bureau of mining                                           |

|                  |                                                                             |
|------------------|-----------------------------------------------------------------------------|
| <b>DICAPI:</b>   | general bureau of coastguards and harbourmasters                            |
| <b>DIGESA:</b>   | General bureau of environmental health                                      |
| <b>EHS:</b>      | Environment, Health and Safety                                              |
| <b>EIA:</b>      | Environmental Impact Assessment                                             |
| <b>EMP:</b>      | Environmental Management Plan                                               |
| <b>EPA:</b>      | Environmental Protection Agency                                             |
| <b>FASUM:</b>    | Regional federation association of agriculturists (middle south)            |
| <b>FEED:</b>     | Front End Engineering Design                                                |
| <b>FIUPAP:</b>   | Federation for the integration and unification of artisan fishermen of Peru |
| <b>FONCODES</b>  | National fund for compensation and social development                       |
| <b>GOP:</b>      | Gainfully occupied population (PEA in Spanish)                              |
| <b>IMARPE:</b>   | Ocean Institute of Peru                                                     |
| <b>IMO:</b>      | International Maritime Organization                                         |
| <b>INC:</b>      | National Institute of Culture                                               |
| <b>INDECOPI:</b> | National institute for the protection of competition and copyrights         |
| <b>INEI:</b>     | National institute of statistics and information                            |
| <b>IPEN:</b>     | Peruvian institute of nuclear energy                                        |
| <b>INRENA:</b>   | National Institute of natural resources                                     |
| <b>ITINTEC:</b>  | Institute for technological research and standards                          |
| <b>LAN:</b>      | Local area network                                                          |
| <b>LNG:</b>      | Liquefied natural gas                                                       |
| <b>LPG:</b>      | Liquefied Petroleum Gas                                                     |
| <b>MARPOL:</b>   | International Maritime Policies                                             |
| <b>MEM:</b>      | Ministry of Energy and Mines                                                |



|                 |                                                                                                                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MINSA</b>    | Ministry of Health                                                                                                                                                                                                                                            |
| <b>MOPAS:</b>   | Oceanographic fishing monitoring at selected areas. Conducted by IMARPE                                                                                                                                                                                       |
| <b>MSDS:</b>    | Material Safety Data Sheet                                                                                                                                                                                                                                    |
| <b>MTC:</b>     | Ministry of Transportation and Communications                                                                                                                                                                                                                 |
| <b>NGO:</b>     | Non Governmental Organization                                                                                                                                                                                                                                 |
| <b>ONERN:</b>   | National bureau for the assessment of natural resources                                                                                                                                                                                                       |
| <b>OPIC:</b>    | Overseas Private Investment Corporation                                                                                                                                                                                                                       |
| <b>OSINERG:</b> | Supervising body for energy investment                                                                                                                                                                                                                        |
| <b>OSRL:</b>    | Oil Spill Response Limited                                                                                                                                                                                                                                    |
| <b>PAMA:</b>    | Environmental Management and Adjustment Program                                                                                                                                                                                                               |
| <b>pH:</b>      | Numeric value that describes the intensity of the acid or basis (alkaline) conditions of a solution. Technically speaking, pH is the logarithm of the reciprocal (negative log) of the hydrogen ion concentration (hydrogen ion activity) in moles per liter. |
| <b>PM-2.5:</b>  | Particulate material >2.5 microns                                                                                                                                                                                                                             |
| <b>PM-10:</b>   | Particulate material > 10 microns                                                                                                                                                                                                                             |
| <b>SBN:</b>     | Superintendency of national assets                                                                                                                                                                                                                            |
| <b>SEIA:</b>    | Environmental Impact Evaluation System                                                                                                                                                                                                                        |
| <b>SENAHMI:</b> | National service of meteorology and hydrology                                                                                                                                                                                                                 |
| <b>SIGGTO:</b>  | Society of International Gas Tanker and Terminal Operators Ltd-                                                                                                                                                                                               |
| <b>SINANPE:</b> | National system of protected natural areas                                                                                                                                                                                                                    |
| <b>SRL:</b>     | Society of limited responsibility                                                                                                                                                                                                                             |
| <b>TDS:</b>     | Total Dissolved Solids                                                                                                                                                                                                                                        |
| <b>TPH:</b>     | Total Petroleum Hydrocarbons                                                                                                                                                                                                                                  |
| <b>TSS:</b>     | Total Suspended Solids                                                                                                                                                                                                                                        |
| <b>TUPA:</b>    | Text of Administrative Processes                                                                                                                                                                                                                              |

**VLMS:** Vessel Load Monitoring System

**WAN:** Wide Area Network

**WHO:** World Health Organization

### **3.0 ABBREVIATIONS**

**bar:** Pressure unit measurement, equivalent to 100 000 Pascal

**°C:** Degree centigrade

**day:** Time unit

**dBA:** Decibel type A

**Gpm:** Gallon per minute

**Kg/h:** Kilogram per hour

**km:** Kilometer

**Kpag:** Gauge pressure measurement expressed in kilopascals

**Leq:** Corrected level of sound pressure

**m:** meter

**m<sup>2</sup>:** Square meter

**m<sup>3</sup>:** Cubic meter

**M<sup>3</sup>/h:** Cubic meter per hour

**masl:** Meters above sea level

**mg/kg:** Milligram per kilogram

**mg/L:** Milligram per liter

**min/cm:** Minutes per centimeter

**MM:** Thousand million / billion

**MTMPA:** Million metric tonnes per year

|                |                                                                                                                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mw:</b>     | Magnitude moment. Based on the seismic moment, suggested by Hanks and Kanamori. This scale has the advantage that it does not saturate itself and can be used for superficial and deep earthquakes |
| <b>MPN/ml:</b> | Most Probable Number per milliliter                                                                                                                                                                |
| <b>Psig:</b>   | Pounds per Square Inch Gauge                                                                                                                                                                       |
| <b>Ppm(v):</b> | Parts per million by volume                                                                                                                                                                        |
| <b>UIT:</b>    | Tributary Tax Unit                                                                                                                                                                                 |
| <b>UPS:</b>    | Universal Practical Salinity Unit.                                                                                                                                                                 |