

XI. Conclusions

The natural coastal-marine body of water was delimited in 133 classification units, as well as the maritime domain area, from the baseline to the 200 nautical mile reference projection. It has been divided into 45 sections (Tacna from 1 to 4, Moquegua from 5 to 9, Arequipa from 10 to 16, Ica only 17, Lima from 18 to 24, Ancash from 25 to 30, La Libertad only 31, Lambayeque, 32, Piura from 33 to 41, and finally, Tumbes from 42 to 45).

The body of water classification in the first strip adjacent to the coastline has a width limit that ranges from 350 m to 13 000 m toward the 200 nautical mile limit. It starts from the low tide line or zero meters above sea level (0 masl), also referred to in this study as "zero level", with some exceptions ranging up to 85 000 m.

- ➔ The first classification strip of the coastal-marine body of water was divided into 84 units, with the exception of five (05) specific zones located in Tacna (01), Moquegua (01), Arequipa (02) and Piura (01).

- ➔ The second classification strip of the coastal-marine body of water covers a varied range according to the departmental boundary reference projection, which ranges from 70 000 m to 150 000 m away toward the 200 mile limit, and was delimited in six (06) classification units located off the coastline of Ica, Lima, Ancash, La Libertad, Lambayeque and Tumbes.

Between the first and second classification strip of the coastal-marine body of water, 33 units were delimited.

- ➔ The third classification strip of the coastal-marine body of water borders the second (intermediate) strip, which starting point is between 70 000 m and 150 000 m up to the 200 nautical mile limit. This oceanic zone is divided in ten (10) classification units.

XII. Recommendations

- Treated wastewater dumping and/or reuse authorizations issued before the entry into force of this instrument shall be progressively adapted during the renewal stage, as well as Environmental Management Instruments of future projects affecting the coastal - marine water body. In addition, they shall consider as a mandatory reference the ECAWater corresponding to the classification indicated in item 9.2 of IX.

- With regard to the water quality monitoring process in the monitoring point, as far as coordinates are in line with the classification unit limit, the priority classification shall be considered during the water quality assessment process in the coastal-marine waterbody. (See Table 21 and Figure 28).

Table 21. Assigning Category by Order of Priority

Orden de prioridad	Código asignado	Categoría
1°	Cat2C1	Category 2: Inland and Coastal-Marine Extractive and Culture Activities Sub-Category C1: Extraction and Culture of Bivalve Mollusks
2°	Cat4E3M	Category 4: Aquatic Environment Conservation Sub-Category E3: Coastal-Marine, Marine Ecosystems
3°	Cat4E3E	Category 4: Aquatic Environment Conservation Sub-Category E3: Coastal-Marine Ecosystems, Estuaries
4°	Cat2C2	Category 2: Inland and Coastal-Marine Extractive and Culture Activities Sub-Category C2: Extraction and Culture of Other Hydrobiological Species
5°	Cat1B1	Category 1: Population and Recreational Sub-Category B1: Primary Contact
6°	Cat1B2	Category 1: Population and Recreational Sub-Category B2: Secondary Contact
7°	Cat2C3	Category 2: Inland and Coastal-Marine Extractive and Culture Activities Sub-Category C3: Other Activities

- During water quality monitoring in the coastal-marine waterbody, the monitoring point is to be located in the Universal Transverse Mercator (UTM) projection system with WGS 84 datum and respective time zones, which, in turn, will be represented in geographic coordinates.

- The current coastline (low tide line) will also be taken into account, since its cartographic representation varies according to the source, scale and age of information.
- The “Mar de Grau” delimitation is a valid reference only for the classification of coastalmarinebody of water.

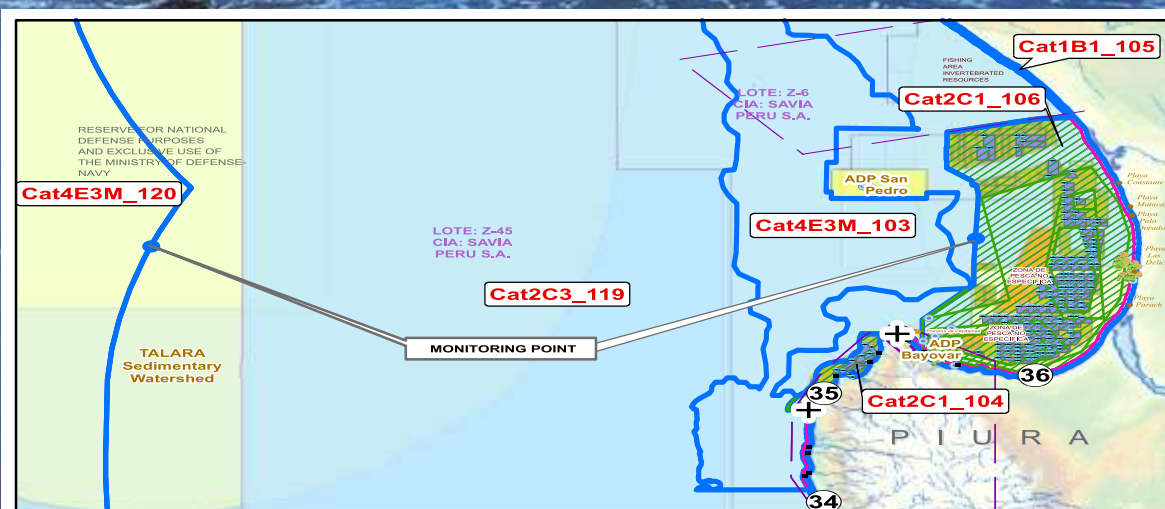


Figure 28. Classification units off the department of Piura

XIII. Glossary

- **Water.** Renewable natural resource, essential to life, vulnerable and strategic for sustainable development, maintenance of natural systems and cycles that sustain it, and the country's security⁶⁰.
- **Aquaculture.** A set of technological activities aimed at cultivating or farming aquatic species covering their entire or partial life cycle. They are carried out in a selected and controlled environment in natural or artificial water environments, both in marine, brackish and freshwaters⁶¹.
- **Anthropogenic activities.** Effects, processes or materials that are the result of activities of different economic sources such as industry, agriculture, mining, oil, transportation, construction and population⁶².
- **Natural Protected Area.** Inland and/or marine spaces of the national territory, expressly recognized and declared as such, including their categories and zones to conserve biological diversity and other associated values of cultural, landscape and scientific interest, as well as for their contribution to the sustainable development of the country⁶³.
- **Open sea, oceanic or pelagic zone.** Area where the continental shelf ends and the continental slope increases towards the coast⁶⁴.
- **Biological diversity.** Variety of living organisms of any source, including terrestrial, marine and other aquatic ecosystems, in addition to the ecological complexes of which they are part. It also comprises diversity within species, among different species and ecosystems⁶⁵.
- **Bay.** Well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land-locked waters and constitute more than a mere curvature of the coast. It can also shelter birds. When there is a port inside, this is the sea area adjacent to the anchorage, where port or bay operations take place⁶⁶.
- **Natural banks.** Geographical area where a dense benthic population considered to be of economic importance develops and lives together with other organisms that make up the biological community associated with this bank⁶⁷.
- **Inlet.** Sheltered coastal area that provides shelter for birds, vessels and naval artifacts in general, where minor facilities or infrastructure destined to crew disembarkation or fish unloading by hand can be found. The infrastructure, organization or services of an inlet are different from those in a commercial port⁶⁸.

⁶⁰ Source: Water Resources Act - Art. 1º.

⁶¹ Source: Article 2º Supreme Decree No. 015-2014-DE, Regulations of Legislative Decree No. 1147, related to the National Maritime Authority powers – General Directorate of Captaincy and Coastguard.

⁶² Source: Directorate of Water Resources Quality Management – ANA.

⁶³ Source: Article 1º, Act No. 26834 Natural Protected Areas Act – ANP.

⁶⁴ Source: Directorate of Water Resources Quality Management – ANA.

⁶⁵ Source: Convention on Biological Diversity - (As defined in MINAM's Glossary)

⁶⁶ Source: Article 2º Supreme Decree No. 015-2014-DE, Regulations of Legislative Decree No. 1147, related to the National Maritime Authority powers – General Directorate of Captaincy and Coastguard.

⁶⁷ Source: Directorate of Water Resources Quality Management – ANA.

⁶⁸ Source: Article 2º Supreme Decree No. 015-2014-DE, Regulations of Legislative Decree No. 1147, related to the National Maritime Authority powers – General Directorate of Captaincy and Coastguard.

- **Conservation.** Management of the biosphere using by human beings, in such a way that it produces the greatest and sustained benefit for present generations, while maintaining its potential to meet the needs and aspirations of future generations. Conservation is positive and encompasses protection, maintenance, sustainable use, restoration and improvement of the natural environment. The conservation of living resources is specifically related to plants, animals and microorganisms, as well as to the inanimate elements of the environment on which those depend⁶⁹.
- **Geographic coordinates.** A system that determines the positions of the Earth's surface through angular measurements from the center of the Earth by means of magnitudes known as latitude and longitude expressed in degrees, minutes and seconds⁷⁰.
- **Universe Transverse Mercator (UTM) Coordinate System.** Coordinate system based on the universe transverse Mercator cartographic projection, which is constructed as the regular Mercator projection, but instead of being tangent to the equator, it is tangent along a meridian. Unlike the geographical coordinate system, expressed in longitude and latitude, UTM magnitudes are expressed in north and east coordinates, and the resulting measurements are given in meters and the height is referred to sea level, which is the basis of the reference ellipsoid⁷¹ projection.
- **Maritime domain.** In accordance with the Political Constitution of Peru, the Government's maritime domain includes the sea adjacent to its coasts as well as its seabed and subsoil, up to a distance of 200 nautical miles measured from the baselines established by law. In its maritime domain, the Government exercises sovereignty and jurisdiction, without prejudice to the freedom of international communication, in accordance with law and treaties ratified by the Government⁷².
- **Cove.** Circular or round inlet, recession in the shoreline. A small cove is an inlet⁷³.
- **Environmental Quality Standard.** ECA is the measure that establishes the level of concentration or degree of physical, chemical and biological elements, substances or parameters present in air, water or soil in their receiving body condition that does not represent a significant risk to human health or the environment. Depending on the particular parameter to which it refers, the concentration or degree shall be expressed in maximum, minimum or range⁷⁴.
- **Tide.** Periodic and alternate rising and falling of the sea, produced by the attraction of the moon and sun⁷⁵.

⁶⁹ Source: ENDB – Supreme Decree No. 102-2001-PCM.

⁷⁰ Source: Article 2° of Supreme Decree No. 015-2013-DE, Regulations of Act No. 27280, related to the preservation of proper breakers for sports.

⁷¹ Source: Article 2° of Supreme Decree No. 015-2013-DE, Regulations of Act No. 27280, related to the preservation of proper breakers for sports.

⁷² Source: Article 2° Supreme Decree No. 015-2014-DE, Regulations of Legislative Decree No. 1147, related to the National Maritime Authority powers – General Directorate of Captaincy and Coastguard.

⁷³ Source: Directorate of Water Resources Quality Management – ANA.

⁷⁴ Source: General Environmental Act, Article 31°.

⁷⁵ Source: Article 2° Supreme Decree No. 015-2014-DE, Regulations of Legislative Decree No. 1147, related to the National Maritime Authority powers – General Directorate of Captaincy and Coastguard.

- **Los Coastal-Marine.** Oceans are classified into coastal, marine or oceanic zones. Coastal zones include waters and seabed between the shore and the edge of the continental shelf or slope (up to 200 m deep) and oceanic or pelagic zones are bodies of water and seabed that exceed this depth⁷⁶.
- **Bivalve mollusks.** Organisms that have a shell divided in two lateral valves, generally symmetrical, joined together by a hinge and ligaments. These valves are closed by the action of one or two adductor muscles. The best known and most representative mollusks in the Peruvian marine environment are Peruvian scallops, clams, mussels, fat horse mussel, razor clam, macha clam, mangrove cockle, bean clam, Pacific wing-oyster, clam and slender cockle⁷⁷.
- **Gastropod or univalve mollusks.** Organisms that have a cephalic area (head), a muscular ventral foot and a dorsal shell (which can be reduced or absent in the most evolved gastropods). In addition, when they are larvae they suffer from the phenomenon of torsion, which is the rotation of the visceral mass on the foot and head. The most commercial mollusks: Barnacle rock-shell, black limpet, top shell, black snail, Gates' goblet, concave ear moon snail, regal murex snail and edible tunicate⁷⁸.
- **Bioaccumulator organisms.** Aquatic organisms that accumulate substances in their tissues with a rate of absorption higher than that of elimination due to (or through) the direct absorption of water and/or consumption of food contaminated with metals, toxins, bacteria, etc. Example: bivalve filter-feeding⁶⁵ mollusks.
- **Peninsula.** Piece of land almost completely surrounded by water except for an area or isthmus connecting it to the mainland. Extended projection of land into the sea that advances in the sea united to the mainland only by one side. Land surrounded by water

that is united only by a relatively narrow part, and connected with a larger land⁷⁹.

- **Cape.** Point of land, generally low and small, that extends into the sea⁸⁰.
- **Beach.** An area where the coast is an uncovered plain with a gentle slope towards the sea and is composed of sand or pebbles, boulders or sand mixed with mud plus a strip no less than 50 meters wide parallel to the high tide line⁸¹.
- **Hydrobiological resources.** Animal and plant species that develop all or part of their life cycle in the aquatic environment and are susceptible to exploitation by humans⁸².
- **Breaker.** Area where a wave bends and collapses. It comprises the area of formation, overturning and breaking of waves from the beginning of its course to its completion⁸³.
- **Buffer zone.** Space defined by its capacity to minimize the impact of pollution and other human activities that occur naturally in the immediate surroundings of natural protected areas in order to protect their integrity. The territories adjacent to the natural protected areas of SINANPE, due to their nature and location, require special treatment that guarantees the conservation of the protected area. The Master Plan of each ANP will define the extent of its buffer zones⁸⁴.
- **UTM projection zones.** The projection zones of the national territory comprise 6° longitude each:
 - Zone 17 with central meridian (CM) 81° west
 - Zone 18 with central meridian (CM) 75° west
 - Zone 19 with central meridian (CM) 69° west⁸⁵

⁷⁶ Source: Regional Biodiversity Strategy Project for the Andean Tropic Countries-Andean Community of Nations - (As defined in the MINAM's Glossary).

⁷⁷ Source: Dirección de Gestión de Calidad de los Recursos Hídricos –ANA.

⁷⁸ Source: Directorate of Water Resources Quality Management –ANA.

⁷⁹ Source: Directorate of Water Resources Quality Management –ANA.

⁸⁰ Source: Directorate of Water Resources Quality Management –ANA.

⁸¹ Source: Act No. 26856 related to beaches.

⁸² Source: Regulation of the General Fishing Law. Supreme Decree No. 012-2001-PE.

⁸³ Source: Article 2° of Supreme Decree No. 015-2013-DE, Regulations of Act No. 27280, related to the preservation of proper breakers for sports.

⁸⁴ Source: (MINAM's Glossary).

⁸⁵ Source: IGN/DGNCC/Directorate of Standardization.



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