

# Report on Sandwatch Activities: The Beach at Porto Mosquito

**Director of the Secondary School of Salineiro: Amadeu Fernandes**

**Sandwatch Program Coordinator at ESS: Larisse Aline Galvão Monteiro**



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## **I-Introduction**

This report is part of the UNESCO project entitled "Sandwatch", in order to bring important information about the study visit carried out on Saturday, June 5th, to the Porto Mosquito bathing beach, located in Ribeira Grande de Santiago-Cidade Velha, UNESCO World Heritage Site in 2009. This activity had the participation of a group of students from the Secondary School of Salineiro, accompanied by three teachers, Larisse Aline Galvão Monteiro, Silvio Nascimento and Jessica Galvão, under the knowledge of the Board of the Salineiro Secondary School (ESS), in the person of its Director Amadeu Fernandes, also had the contribution of the Municipality of Ribeira Grande de Santiago, involving employees of the Municipal Basic Sanitation.

We thus want to achieve the following objectives with this discretionary report:

- Inform - about the Sandwatch Program, its origin, objectives, methodology and necessary work equipment.
- Justify the reason for choosing the 'Bathing Beach of Porto Mosquito' for our pilot project of monitoring the beach without you.
- Give - to know the work or activity developed within the Sandwatch Program, on June 5th, 21st.
- Report - the state in which the beach is found within the scope of the observation activity.
- Suggest - a set of interventions aimed at making the beach more attractive for bathers, tourists and beachgoers.

That said, go on to explain the key ideas on the topic under discussion, hoping to be useful and of utmost importance for changes in attitudes and greater responsibility in the preservation of the marine ecosystem, flora and fauna.



## **II- WHAT IS THE SANDWATCH PROJECT?**

It is a project that works on specific problems related to beaches; improving beaches and promoting adaptation to climate change. In short, this project aims to monitor the beaches.

Sandwatch emerged from an environmental education workshop held in Trinidad and Tobago in July 1998, coordinated by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Where participants saw many of the problems threatening coastal areas, such as erosion, pollution and poorly planned development, and decided to take action on the situation.

But Sandwatch officially started in 2001, with a regional training workshop in Saint Lucia for teachers and students from 18 Caribbean countries. The program expanded with the creation of the Sandwatch website in 2006. In 2008 the non-profit Sandwatch Foundation was created to coordinate and promote Sandwatch. With the presentation of the 4th evaluation report of the Intergovernmental Panel on Climate Change, it was proved that the Earth's climate change is due to the greenhouse gases produced by humans and Sandwatch was recognized as the ideal program to develop adaptive capacities to climate change.



### III- OBJECTIVES TO BE ACHIEVED BY THE SANDWATCH PROJECT

The Sandwatch project aims to achieve the following goals as this program unfolds around the world:

- Have children, youth and adults carry out observations, measurements and scientific analyzes of changes in beach environments with an interdisciplinary approach;
- Assist - Sandwatch groups, together with communities, to use their data and knowledge to improve and manage beaches intelligently;
- Integrate - the Sandwatch approach into formal and informal education systems and cooperate with the Decade of Education for Sustainable Development;
- Help - understand how climate change interferes with beach systems;
- Strengthen - ecosystem resilience and contribute to climate change adaptation.

#### III- Sandwatch Project Methodology

A) Observation - Selection of a specific beach for observation, preparation of a schematic map and regular measurements of various parameters, such as:

- The way the population uses the beach;
- Garbage on the beach;
- Water quality;
- Erosion and accretion;
- Composition of the beach;
- Waves;
- Coastal currents
- Fauna and Flora

B) Results analysis - Compilation of information in tables, graphs and diagrams; checking trends in how a given parameter evolves over time; tasks that include:

- Compilation of data tables;
- Graphs and diagrams for data presentation;
- Design of art pieces and models to illustrate the results;
- Simple statistical analysis (according to the case and depending on the

group's experience).

C) Exchange of results - dissemination of results in the local context - to other classrooms, schools, youth groups, parents, community members and authorities, as well as to other Sandwatch groups around the world - through:

- Meetings and presentations;
- Narration of stories and enactments;
- Publications such as newsletters, leaflets, stories, drawings;
- Means of visual communication: posters, photographs, videos;
- Networking on the internet;
- Websites.

D) Action - Planning, implementation and evaluation of a beach-related activity:

- Addressing a specific beach-related problem;
- Improvement of the beach;
- Promotion of adaptation to climate change.

E) -Sandwatch equipment

To carry out the Sandwatch activities, the following equipment is required:

- Measuring tape,
- Compass;
- Stopwatch;
- Water quality measurement kit;
- Dye tablets;
- Magnifying glass;
- Clipboard.



#### **IV- THE CHOICE OF THE “BATHING BEACH OF PORTO MOSQUITO”**

The Secondary School of Salineiro (ESS) chose “Praia de Porto Mosquito”, as it is one of the most frequented beaches in the municipality of Ribeira Grande de Santiago. However, our vision is to extend this Sandwatch Project to all the beaches in the municipality of Ribeira Grande de Santiago, that is, the “beach of Calheta”, Gouveia, Baia Coral and Cidade Velha. ESS will not have all the necessary conditions for a project of this size. A "djunta mom" would be needed between the Delegation of the Ministry of Education of RGS, the City Council, (Pelour for Culture and Tourism) the Delegation of Health of RGS, National Police of RGS, Local Community Associations, schools, Youth, adults, children, fishermen, bathers and teachers.

We have a multidisciplinary team, made up of teachers from various fields of knowledge, so that in the near future, we will see the “Praia de Porto Mosquito” being transformed into one of the most beautiful and attractive in this Municipality of Ribeira Grande de Santiago - Cidade Velha- World Heritage of Humanity. Being able to turn it into an attractive tourist spot given its natural beauty and capacity to accommodate a considerable number of bathers and visitors.



## **V- TRAINING DEVELOPED AT THE SALINEIRO SECONDARY SCHOOL**

A short training course was held for the Sandwatch project students, with the aim of getting to know the project and understanding how we can work together towards a critical assessment of the problems and conflicts with which the environment of our beaches is confronted and the development of solutions in order to remedy such issues. In this training, beach cleaning control sheets (attached) were provided to all students who would participate in the project, as a way of recording all types of garbage found at the site. Also in this training, measures of social distancing were reinforced, taking into account the COVID-19 pandemic.

## **VI- ACTIVITIES DEVELOPED IN THE "BEACHES OF PORTO MOSQUITO"**

On Saturday, June 5th, 2021, we traveled to "Praia de Porto Mosquito" in a small work group made up of 13 people, namely 10 students, three teachers and a driver who transport the students to the town of Cidade Velha, whom he took advantage of. to thank you for the kindness with which you agreed to transport us to the site. We are grateful for the contribution of the Municipality of Ribeira Grande de Santiago, for the involvement of the Municipal Basic Sanitation employees, who worked in close harmony with the Salineiro Secondary School team, and also for the support with individual protection materials in cleaning the beaches. We would like to take this opportunity to thank the RGS Health Delegation for the support with the first aid kits and information provided about COVID-19, as a way to better guide our students, since at the time there were many cases of COVID-19 in the county, for for this reason, the group of students for the project was reduced. Furthermore, we would like to thank the Board of the

Saltiro Secondary School, for the attention and support in preparing the logistics (snacks and transport), also for the commitment and encouragement they have given, so that the project progresses towards its realization.

Therefore, facing one of the methodological approaches of the Sandwatch Project, we chose for this day, A) The Activity:1. Observation - which is the selection of the specific beach for observation, preparation of a schematic map and regular measurements of various parameters, such as:

- ✓ The way the population uses the beach;
- ✓ Trash on the beach;
- ✓ Erosion and accretion;
- ✓ Composition of the beach;
- ✓ Fauna and flora
- ✓ Water quality analysis (fecal coliform bacteria, pH, temperature, nitrates, sulfates, salinity and turbidity).



## 1. LOCATION AND MAPPING OF THE “BATHING BEACH OF PORTO MOSQUITO”

“Praia de Porto” is located in the municipality of Ribeira Grande de Santiago, approximately ten kilometers west of Cidade Velha.

### 1.1. BEACH CONSTITUTION AND MATERIAL

During the observation, it was verified the existence of a lot of boulders and almost the inexistence of sand in “Praia de Porto Mosquito”. According to the analysis of the students who were part of the work group, the almost non-existence of inert material is due to the fact that it is dragged into the sea by the floods that come from the valleys of the high areas that flow into the place. As there is no protection against water diversion, floods hit the beach with a certain intensity, bringing a lot of rubbish and mud. Around the beach there are some rock cliffs of singular beauty along the entire length of the beach, which constitute an authentic nook for bathers to stay in the shade. However, it is not advisable in certain stretches of the beach, that bathers seek refuge from these cliffs, because they have cracks that can collapse, thus representing some danger for the occupants of that space.

However, it must be said that the little sand that is found is of the mineral and basaltic type, which is a little bit the constitution of the rocks that are part of the cliffs.





## 1.2. MARINE / DOMESTIC ANIMALS

Regarding marine animals, urchins, starfish, crabs and several types of fish were found near the coast.

With regard to domestic animals, pigs and dogs were found near the sea beach, as the Porto Mosquito area is located on the seafront.



### 1.3. VEGETATION

In terms of vegetation, American acacia trees were found, quite prominent, the majority being quite green, others being dry. However, it is visible that there is no monitoring in terms of pruning or cleaning of this green area, by the local government or the Ministry of the Environment, transmitting an unattractive view of the beautiful beach of Porto Mosquito. Some marine algae were still found at the site.

### 1.4. DEBRIS AND POLLUTION

On Porto Mosquito beach, debris, causing pollution, both near the beach and on the seabed were found. The rubbish that was on the bottom of the sea was removed by the students, by diving into the water. Among the items taken from the seabed, students found tires, irons, plastic tubes, gas bottle, plastic bottle, etc. In the vicinity of the beach, several types of garbage were found, such as:

- ✓ Rusty irons
- ✓ Deteriorating pieces of plates;
- ✓ Plastic buoy tops, soft drink tops;
- ✓ Glasses, fishing lines;
- ✓ Toothbrush, napkin, ice cream paper, disposable cups, charcoal;
- ✓ Old shoes, pieces of fabric, old t-shirts, pants, among others;
- ✓ Plastic soft drink bottles;
- ✓ Tires, plastic tubes;
- ✓ Piece of mosaic.

The accumulation of solid waste in the coastal environment, in addition to polluting sand and bathing water, creates a risk to human health due to the existence of disease vectors, a risk to marine fauna and creates an unpleasant

visual effect, reducing the beauty of the beaches and consequent public expenditure on its cleaning. Cleaning beaches are seen as essential conditions to maintain their attractiveness.



## 1.5. HUMAN ACTION/ACTIVITIES

The marks of human action are visible along the entire length of Porto Mosquito beach:

- ✓ Large amounts of rubbish placed on the beach by the bathers who occupy them, where there is a lack of awareness of the harm that this causes to public health. A situation that can also be understood as an attack on the environment, in particular on the marine ecosystem.
- ✓ Presence of burning on the beaches, which presupposes that food is prepared on site. A worrying situation because food is exposed to bacterial contamination, which can pose a risk to people's health.
- ✓ They use the space to fulfill their physiological needs.
- ✓ Presence of fishermen and fish remains at Porto Mosquito beach.

So these are the situations we found that can fit into this requirement of human activity on the beach of Porto Mosquito.

## 1.6. EROSION AND ACCRETION

There is an urgent need to make people aware that garbage pollutes the environment as well as the sea water we have for bathing. In addition, we are also concerned about the health of flora and fauna which, if not properly cared for, run the risk of jeopardizing its survival.

It was also possible to notice that some of the cliffs that surround the beach of Porto Mosquito have fissures and cracks in the rocks that can cause accidental landslides. Our advice is for bathers not to remain under them, otherwise they are putting their lives in danger or risk of accident.

Use of fire on the beaches to cook food or roast fish, there is a concern here that these fireplaces must be properly extinguished to prevent the fire from flanking the bushes and vegetation near the seafront.

These are some aspects that we come across in this one, thus deserving our attention

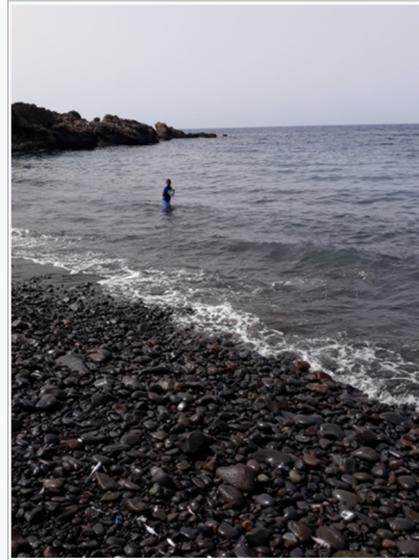


## 1.7. ANALYSIS OF BATHING WATER QUALITY IN PORTO MOSQUITO

### 1.7.1. Sample collection method:

Before collecting the sample, the temperature of the water was measured with a digital thermometer, so that later it would be possible to analyze the interference of this factor in the growth of the bacteria.

The harvest was carried out in the area where the average daily density of bathers is highest. The harvest area is located at a depth of approximately one meter. During the collection, aseptic techniques and good laboratory practices were used to avoid biological contamination, and the sample collection must be done in order to guarantee the total success of the analyses.



The sample collection method followed the recommendations found in the Sandwatch book, “Adapting to climate change and educating for sustainable development”, in which water was collected against the tidal current and with the immersion of the jar 30 cm, opened it carefully and rinsed it three times with sea water and collected about 3/4 of its capacity, then immediately closed the jar still under water, as a way to avoid contaminations. For the collection, a large-mouth plastic bottle with a capacity of 1L and a screw cap was used.

The volume of water collected respected the need for an empty space inside the flask, thus allowing its homogenization, as well as the life of aerobic beings during the moment of transport. After the collections, the analysis of the sample was carried out on site. The time elapsed between the collection of the sample and the beginning of the analyzes was as short as possible, as a way to keep the microorganisms alive.

#### 1.7.2. pH measurement

The determination of the pH value of the bathing water is necessary to know its acidic or basic character and whether it meets the established standards. To

determine the pH value of the water collected, the procedures in the book found in the water kit were followed.

Procedures:

- 10 mL of sea water was placed in bottle 0106;
- Added a pH tablet;
- The vial was shaken and the result compared.

#### 1.7.3. Determination of Nitrate Concentration

Procedures:

- 5 ml of sea water were placed in bottle 0106;
- Added a nitrate tablet;
- The vial was shaken and waited 5 minutes to compare the results.

#### 1.7.4. Determination of Phosphate Concentration

Procedures:

- 10 mL of sea water was placed in bottle 0106;
- Added a phosphate tablet;
- The vial was shaken and waited 5 minutes to compare the results.

#### 1.7.5. Determination of Salinity Concentration

Procedures:

- The pipette (0364) was used to add 5 drops of the water sample to the large round tube (0788);
- Distilled water was added up to the 100 ml line;
- 10 ml of the diluted sample was placed in the tube (0106);
- Added a chloride tablet;

- The tube was capped and gently shaken until the tablet disintegrated;
- The tube was placed on the right side of the column of black circles, in the color chart and the results compared.
- Recorded the result as salinity in ppt.

#### 1.7.6. Turbidity Measurement

##### Procedures:

- Removed the label from the Secchi disk icon;
- The adhesive was glued to the inner bottom of the bottle (container of the water quality analysis kit);
- The bottle was filled up to the turbidity filling line, located on the kit's external label;
- The turbidity graph was held at the top edge of the vial, looking into the vial.
- The appearance of the Secchi disk icon on the bottle was compared with the graphic.
- The turbidity result was recorded.

#### 1.8.7. Total coliform batteries

##### Procedures:

- The water sample was placed in the large tube containing a tablet (3599) up to the 10 mL mark.
- The cover has been placed;
- The tube was placed in a vertical position, with the tablet at the bottom of the tube;

- The tube was incubated in a vertical position, at room temperature, away from direct sunlight, for 48 hours.
- The appearance of the tube was compared with the image in the coliform color chart;
- The results were registered as positive or negative.

### 1.8. Analysis and discussion of results

The determinations of physicochemical parameters are relevant factors to consider, especially in the interpretation of bacterial data obtained from bathing beaches, since these can affect the survival and multiplication of bacteria in the water. The table below (Table 1) shows the standard values of the physicochemical and bacteriological parameters, as well as those obtained at the Porto Mosquito bathing beach, as a way to compare the water quality of the beach in study.

Table 1: Physicochemical and bacteriological parameters of water from Porto Mosquito beach

Parâmetros	Resultados Padrão	Qualidade da água	Resultados obtidos na praia de Porto Mosquito
Temperatura	—	Ideal entre 22 a 26 °C	24 °C
pH	4 5 6 7 8 9 10	Má Má Boa Excelente Boa Má Má	8
Fosfato	1 ppm 2 ppm 4 ppm	Excelente Boa má	2 ppm

Nitrato	5 ppm 20 ppm 40 ppm	Razoável má má	5 ppm
Salinidade	0 ppt 14 ppt 35 ppt	Boa Boa Boa	35 ppt

Turbidez	0 Entre 0 e 40 JTU Entre 40 e 100 JTU >100 JTU	Excelente Boa Razoável Má	0 JTU
Bateria Coliformes	Negativo Positivo	Boa Má	Positivo

### 1.8.1 Fecal Coliform Batteries:

Faecal coliform bacteria are not in themselves harmful. However, its presence is associated with the occurrence of intestinal pathogens (bacteria and viruses) dangerous to human health. Its presence in water is therefore a reliable indicator of sewage water or fecal contamination. Such organisms reach the water through several ways, such as poorly purified effluents, rainwater drainage, septic tanks, runoff from pastures, animal processing plants, as well as the fauna that live in the water bodies and surroundings.

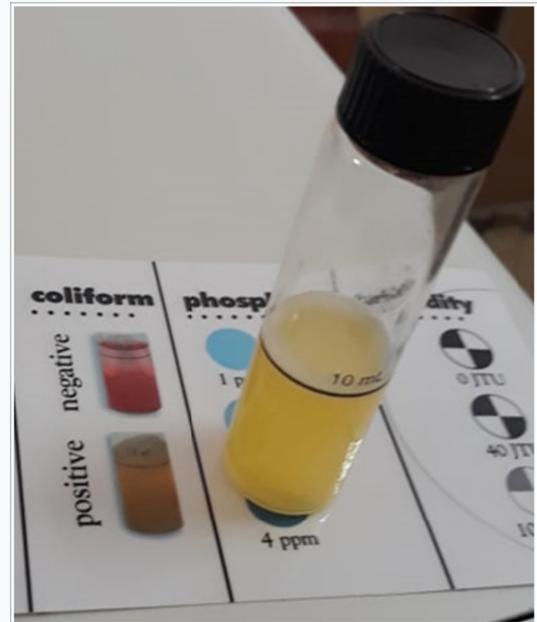
According to table 1, it can be seen that the beach at Porto Mosquito is contaminated by fecal coliform bacteria. This contamination may be mainly related to the large amount of human feces found, as well as domestic animals that circulate in the vicinity of the seafront and also due to the amount of garbage found in the place.

Contamination of water by faecal coliform batteries can contract several diseases, especially in the elderly, people with low immune resistance and children. In view

of this danger and recognizing that the water on the beaches, as they are places of leisure that are much sought after by the local community, it is of great interest to keep them clean and free from contamination. Therefore, the results obtained from fecal coliform bacteria point to the need for regular monitoring of Porto Mosquito beach, in order to control its quality.

#### 1.8.2. Temperature:

Water temperature affects several physical, biological and chemical processes, such as the amount of oxygen dissolved in it, the rate of photosynthesis of plants, the speed of metabolism in animals, as well as the sensitivity of organisms to toxic residues, parasites and to diseases. In general, water temperature is measured in degrees Celsius. Various factors can affect it, such as changes in air temperature, cloudiness, currents and, of course, in the long term, climate change. Waste dumped into water can also have an impact on its temperature if the temperature of the effluents is very different from it. For example, wastewater used to cool industrial processes can be much hotter than the water that receives it. The temperature of the water at Praia de Porto Mosquito is within the ideal bathing water temperature range, therefore it does not generate any risk to aquatic microorganisms.



### 1.8.3. pH:

The pH of seawater is normally between 7.5 and 8.5 but it can be changed with the release of effluents or other contaminants. A low pH value makes water corrosive and influences natural aquatic ecosystems due to its effects on microorganisms that can directly affect metabolism, membrane permeability and nutrient absorption and solubilization of toxic elements. Despite the recommendation of an ideal pH range for the practice of primary contact activities between 6 and 9, the pH only poses risks when found at high values, which may cause irritation to the skin and eyes.

Regarding the pH, it can be seen in table 1 that the pH of the samples of Mosquito port water was 8. This value is located in the good range of the quality of bathing water, therefore it does not entail risks to public health, which shows that human activities apparently did not influence the pH values of the water under study.



### 1.8.4. Nitrates:

Excess nitrates cause overgrowth of vegetables and algal blooms which, in turn, can compete with the submerged natural aquatic flora. The overpopulation of algae and aquatic plants suffocates the habitat of aquatic plants and these, when decomposing, can even deplete oxygen. Among the sources of nitrates in coastal

waters are surface runoff that contains animal waste and pesticides, sewage discharge and residual effluents.

As for the concentration of nitrates obtained on the Porto Mosquito beach, table 1 shows that this is within the range of reasonable bathing water quality, thus not causing risks to aquatic flora.



#### 1.8.5. Phosphates:

Phosphates are fundamental elements in metabolic reactions. The sources and consequences of an excess of phosphates are similar to those of nitrates. In large quantities they can lead to overgrowth of plants, stimulate bacterial activity and decrease dissolved oxygen levels.

The phosphate concentration found at Porto Mosquito beach is good for bathing waters, thus presenting no risk to aquatic flora.



#### 1.8.6. Salinity:

Variations in the concentration of salts in the marine environment can influence the speed of growth, physiology, survival and microbial reproduction, since microorganisms remove from the water most of their soluble nutrients needed for their growth and their cells are made up of approximately 80 to 90% water, which can be removed from the interior of the cell through increases in osmotic pressure. When a microbial cell finds itself in an environment whose salt concentration is higher than inside the cell, water passes from the inside to the outside, through the plasma membrane, causing the inhibition of microbial growth due to plasmolysis, that is, the effect of decreasing the plasma membrane of the cell.

Regarding the concentration of salinity obtained at Porto Mosquito beach, table 1 shows that it is in the range of good bathing water quality, thus not putting the survival of aquatic microorganisms at risk.

#### 1.8.7. Turbidity:

Turbidity is usually expressed in an arbitrary unit called the Jackson turbidity unit (UJT). Suspended matter is usually composed of organic debris, plankton and inorganic matter, ie clay particles, soil and rocks. Turbidity refers to the clarity of the water, so it should not be confused with the color, since dark colored water can be clear and not cloudy. A high degree of turbidity compromises the aesthetic appearance of the water and, in the case of recreational areas, can hide dangers for bathers and boat pilots. Among its environmental effects are the reduction of light penetration, which reduces plant growth and, therefore, also reduces the

food source for invertebrates and fish. If turbidity is mostly caused by organic particles, oxygen can be depleted when microbes break them down.



As for the results of turbidity in the bathing water of Porto Mosquito, table 1 shows that the water quality is excellent, which shows that human activities did not affect the turbidity values of the bathing water.

## VII- CONCLUSION

Due to the great demand of bathing beaches for the practice of leisure activities and the various problems caused by their contamination, it is extremely important to clean them in order to ensure greater safety for bathers.

It is concluded that the analysis of the quality of the bathing water in Porto Mosquito, carried out on June 5th, presents results within the required parameters, taking as reference the physical-chemical parameters (temperature, pH, salinity, turbidity, phosphate and nitrates ).

As for bacteriological parameters, specifically fecal coliforms, they pointed to contamination of the beach under study, which can cause problems to the public

health of users. Thus, the results obtained show the need for regular monitoring of this beach, in order to control its quality, taking into account that its contamination is strongly influenced by several factors, including human and domestic animal faeces, debris, rain, among others.

From this perspective, we will suggest a set of measures that need to be taken to solve the problems of “Praia de Porto Mosquito” and make it more beautiful and encourage the leisure area:

- It is recommended that the competent authorities have more weight in public health actions, with the carrying out of publicity campaigns at the level of environmental education, especially for families living close to the slopes, in order to alert them to the impacts of anthropogenic actions along the coast, especially those related to the disposal of garbage in these vicinity, so as not to be washed away by the rains;
- Slope protection to prevent landslides and sandstones;
- Tree plantations and improvements to existing plantations in order to make the beach more attractive;
- There is a need to control stray dogs that frequent human recreation areas. For this it is necessary to place signs prohibiting the permanence of animals on the beach.
- Place waste baskets or containers on the beach for bathers, where the municipality's sanitation services carry out permanent collection, thus preventing the accumulation of waste.

## VIII- ATTACHMENT

### BEACH CLEANING CONTROL FORM / SANDWATCH PROJECT

#### ITEMS COLLECTED:

##### 1. ANIMALS

Note any animals found during cleaning. Record the type of material they were on. For example: fishing line, fishing nets, crab/lobster/fish traps, plastic bags, rope, plastic beverage can packaging, wire and other items (Please specify). Other than that, please take a picture of the animal.

<b>Animais</b>	<b>(Vivo/Solto ou Morto)</b>	<b>Materiais em que eles estavam</b>

##### 2. SEASIDE AND RECREATIONAL ACTIVITIES

(Garbage assigned: to people who go to the beach, "fast food", sports/games, festivals, street trash)

- Bags (paper) \_\_\_\_\_
- Bags (plastic) \_\_\_\_\_
- Beverage Bottles (plastic) \_\_\_\_\_
- Beverage Bottles (glass) \_\_\_\_\_
- Beer/Soda Cans \_\_\_\_\_
- Bottle/Pot Caps \_\_\_\_\_
- Clothes/Shoes \_\_\_\_\_ ➤ Cups, plates, forks, knives, spoons \_\_\_\_\_

- Packaging/food jars \_\_\_\_\_
- Tin Rings \_\_\_\_\_
- Plastic beverage can packaging \_\_\_\_\_
- Firearms cartridges \_\_\_\_\_
- Toys \_\_\_\_\_

### 3. WATER ACTIVITIES

(Recreational/commercial fishing waste and boat/vessel operation)

- Bait packaging \_\_\_\_\_
- Packaging (cleaning products) \_\_\_\_\_
- Buoys \_\_\_\_\_
- Crab/lobster/fish traps \_\_\_\_\_
- Fishing Lines \_\_\_\_\_
- Fishing bait \_\_\_\_\_
- Fishing nets \_\_\_\_\_
- Packaging (lubricating oil) \_\_\_\_\_
- Wooden palette \_\_\_\_\_
- Plastic tarpaulins \_\_\_\_\_
- Nylon ropes \_\_\_\_\_
- Packing tapes \_\_\_\_\_

### 4. ACTIVITIES RELATED TO THE HABIT OF SMOKING

- Cigarette / Cigarette Butt \_\_\_\_\_
- Lighters \_\_\_\_\_ ➤ Cigar Butts

\_\_\_\_\_

➤ Tobacco Wrapping / Packaging \_\_\_\_\_

## 5. POLLUTING ACTIVITIES

➤ Appliances \_\_\_\_\_

➤ Batteries \_\_\_\_\_

➤ Construction material \_\_\_\_\_ ➤ Automobiles/Car parts

\_\_\_\_\_

➤ Drums (Tunnels) \_\_\_\_\_

➤ Tires \_\_\_\_\_

## 6. HOSPITAL WASTE/PERSONAL HYGIENE

➤ Condoms \_\_\_\_\_

➤ Diapers \_\_\_\_\_ ➤

Syringe \_\_\_\_\_

➤ Absorbents \_\_\_\_\_

## 7. TYPICAL LOCAL GARBAGE

Identify and quantify 3 items that are of concern in your location

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Note: The analysis of water quality, measurements of meteorological conditions and observation of the composition of the beach will also be carried out.

Thank you for participating in the Sandwatch project. The effort you are making today is the first step in ensuring we have cleaner oceans. The data we collect during cleanup is important in initiating change, helping us to educate the public, and providing important information to the relevant authorities. Without your help we couldn't do it all. Thanks for your cooperation!

Salineiro, July 6, 2021