6. ENVIRONMENTAL REPORT (Section 1.5 of PERS)

Environmental Protection at the Port of Montevideo

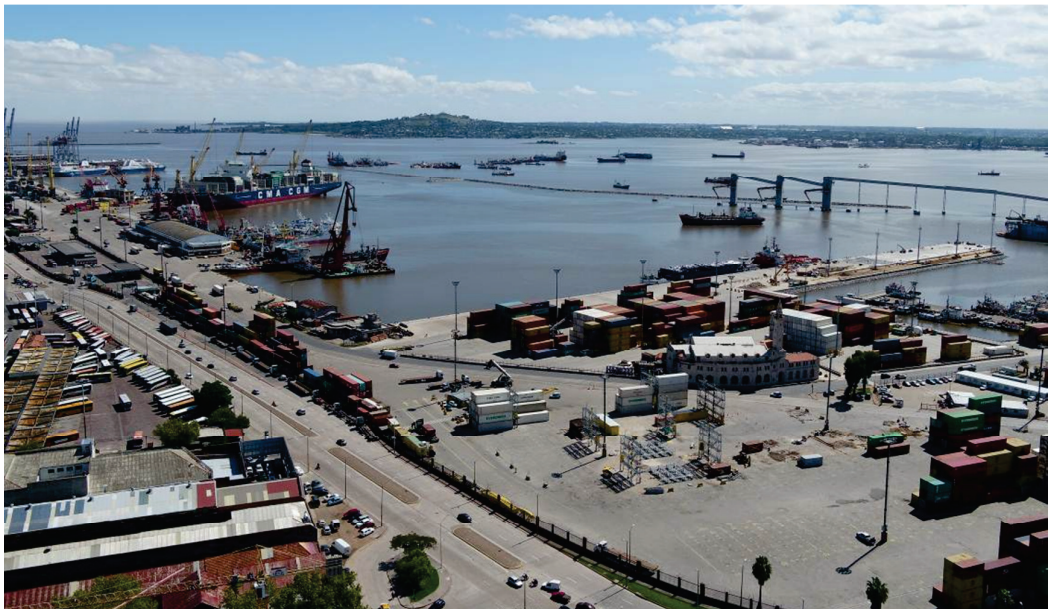

Fig. 12 - The Port of Montevideo with the *Cerro (Hill)* area in the background.

During the 19th and 20th centuries, several industries (meat salting and meat processing plants, tanneries, etc.) grew and then disappeared at the Montevideo Bay, where the port is located. In light of new sustainable development concepts, which were not applied back then, said industries left their environmental liabilities.

Since 2003, based on the guidelines arising from the Rio Summit in 1992, port environmental issues have been addressed by gradually incorporating port services and port development works into the aforementioned sustainability criteria and environmental regulations adopted by the Uruguayan government, as well as international agreements ratified by its Parliament.

The aim of the Environmental Policy of the National Ports Administration (ANP) is to preserve, prevent and improve the environmental conditions of the Port of Montevideo. For that purpose, several actions and research activities are carried out and new technologies are incorporated for the preservation and reduction of impacts on the environment so that it remains in suitable conditions for use by future generations.

In order to comply with national and international environmental protection laws and regulations, ANP created, within its structure, the National Ports System Area and the Management Systems Department,

which includes the Environmental Management Unit, based on a cross-sectional approach, with the aim of taking into consideration the relationship between development and sustainability.

The Environmental Management Unit has been working with a key tool to ensure compliance with environmental legal requirements for operations and services. This tool is the Port Environmental Management Executive Committee (CEGAP), which is composed of experts from public bodies and port-related government agencies, as well as the private sector and the Single Union of Workers of the Port and Related Sectors (SUPRA), so that the Environmental Policy is reflected in the jointly coordinated actions carried out.

Besides these joint actions with the port community, ANP also has to comply with the requirements of Decree No. 349/05 regarding Environmental Impact Assessment due to its location, because port works are carried out in the coastline or at supralittoral, eulittoral and infralittoral areas (such as initial dredging). Environmental impact assessments are to be conducted for all works and submitted to the corresponding authorities.

The authorizations required include the Environmental Viability of the Location (VAL), aiming at developing urban and land planning instruments according to the land use planning (POT) of the Municipality of Montevideo and the land planning requirements of the National Directorate of Land Planning (DINOT) of the Ministry of Housing and Land Planning , as well as the environmental authorizations required by the Ministry of Environment (DINACEA) for activities, constructions or works projects as per the aforementioned decree.

Description of the nature and size of port activities at the Port of Montevideo

Goods handled by cargo type in 2020			
TYPE	LOADING	UNLOADING	TOTAL
General cargo	1,774,314	307,383	2,081,697
Containers (*)	4,635,806	3,374,728	8,010,534
Bulk cargo	1,205,045	990,833	2,195,878
TOTAL	47,615,165	4,672,944	12,288,109

Total tonnes including container weight, preliminary data.

(*) Includes containerized transshipments.

Containers and TEUs handled in 2020			
	FULL	EMPTY	TOTAL
Containers	371,299	92,672	463,971

TEUs	600,146	164,651	764,797
River and sea terminal - Movement of passengers in 2020			
TYPE	EMBARKING	DISEMBARKING	TOTAL
River passengers	95,757	87,148	182,905
(**)Passengers on board/Does not include crew			

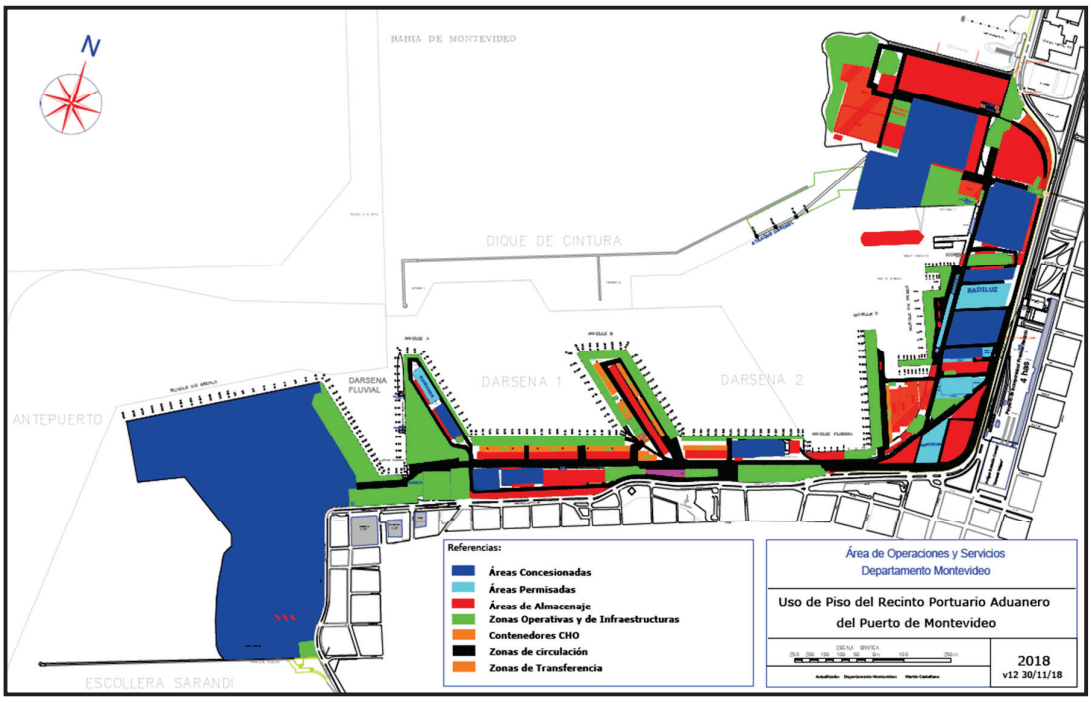

Fig. 13 - Map of the areas of the Port of Montevideo

ENVIRONMENTAL PRINCIPLES STATEMENT

The National Ports Administration, as a main stakeholder in the achievement of proper sustainable port development, and therefore directly supporting the commercial activities of Uruguay, hereby commits to:

8. *Comply with the national environmental legislation in force as well as with any agreements, guidelines and resolutions internationally ratified by the Republic of Uruguay aimed at protecting the port environment.*
9. *Act in accordance with the Constitution, the law and other agreements based on sustainable development ethics.*
10. *Take voluntary measures in order to consider, whenever possible and appropriate, the timely implementation of internal environmental regulations in accordance with the law.*
11. *Monitor, through its General Management, policies and measures regarding the environment in full accordance with the guidelines approved by the Board of Directors.*
12. *Implement an Environmental Management System to include the environmental protection in commercial and management practices. The aim of the Environmental Management System (SGA) is as follows:*

    - *To promote environmental ethics among stakeholders of the port activity and any associated or related entities, and to promote the importance of individual responsibility, in general and in particular, regarding the application of the SGA.*
    - *To encourage appropriate interinstitutional relations with public and private sectors of the port community, including consultations with local communities and authorities, as well as relevant agencies, in terms of environmental issues.*
    - *To establish response plans for any possible incident in the port areas, thus minimizing any negative environmental impacts on the river, sea and land areas that may damage the marine and coastal ecosystem and the environment in general.*
    - *To carry out regular reviews and revisions of the Environmental Policies and the Environmental Management System, taking into account the results of the latest research regarding the environment and the dynamics of trade.*
    - *To provide necessary support to all employees so that they have a proactive attitude towards environmental issues, emphasizing that all employees are responsible for maintaining and preserving environmental quality.*
    - *To include the environmental dimension in every stage of any plans, programs, activities and operations of the company.*
    - *To contribute to the most adequate integration of the ports into the corresponding cities.*
    - *To incorporate procedures to ensure compliance with the departmental and national environmental regulations in force.*
    - *To take any necessary actions to enforce full compliance with the environmental guidelines from MERCOSUR, IMO (MARPOL 73/78), the applicable ISO Standards and the environmental guidelines from the World Trade Organization, among others.*
    - *To provide, whenever possible, appropriate resources to support research on environmental issues related to port activities.*

13. *To promote training of ANP's employees and people involved in port operations regarding the preservation of the environment and good environmental practices.*
14. *To constantly seek port environmental improvement by studying and analyzing more developed ports around the world using benchmarking methodology.*

Approved by the Resolution of the Board of Directors 661/3,268 on 18/Dec/2002 (File No. 021758)
Updated by the Resolution of the Board of Directors 172/3,974 on 27/Mar/2019 (File No. 182118)

ENVIRONMENTAL POLICY OF THE PORT OF MONTEVIDEO

ADMINISTRACION NACIONAL DE PUERTOS
República Oriental del Uruguay

ENVIRONMENTAL POLICY OF THE PORT OF MONTEVIDEO

The Port of Montevideo recognizes, in the Environmental Principles of the National Ports Administration, the responsibilities regarding prevention and preservation of the environment and, therefore, commits to:

1. *Adopt, document, implement and maintain any necessary measures to minimize the environmental impacts that may arise from port operations in general.*

2. *Set goals and objectives aiming at controlling the emissions to air, land and sea, in order to achieve a continued environmental improvement of the port activities set forth in the scope.*

3. *Record all activities defined in management processes that can be used as an environmental performance indicator.*

4. *Comply and monitor compliance with all legal requirements, regulations and procedures regarding the environment in the areas under its direct jurisdiction and the areas under concession agreements in order to prevent an adverse impact on the environment, thus preventing pollution and protecting people, companies, the port community and the people in general.*

5. *Establish the necessary communication channels to widely disseminate environmental procedures, standards and programs among the staff, suppliers, concessionaires and society as a whole, by issuing a biannual report that includes the environmental progress and new requirements.*

6. *Ensure availability of any necessary resources for the implementation of the Environmental Policy and use said resources, as efficiently as possible so that port services comply with the requirements to ensure the least possible environmental impact by monitoring them in order to protect the port and surrounding areas.*

7. *Provide orientation courses and training related to environmental issues in order to raise awareness among employees so that they adopt good environmental practices in their daily activities.*

8. *Host the headquarters of the Port Environmental Management Executive Committee in order to foster relations between authorities, the port community and society as a whole, for the development of environmental programs and the prevention of contingencies.*

9. *This Policy shall be reviewed on a regular basis or when its scope is extended.*

Date: 06/06/2022

Dr. Juan Curbelo
President of ANP

Main Environmental Aspects, Impacts and Environmental Performance of the Port of Montevideo

The main environmental aspects related to port operations and services of the Port of Montevideo are those considered to be significant by ANP according to an algorithm that determines their importance, as well as those considered to be a priority for sustainable development by the Board of Directors jointly with the Environmental Manager.

- Aspects related to port development works
- Bilge water discharge
- Sewage discharge
- Discharge of solid waste from ships
- Extraction and disposal of dredged material
- Hazardous cargo handling
- Waste management
- Abandoned ships

Said aspects are identified using the environmental aspects identification procedure and assessed according to its guideline.
The applicable environmental legislation is identified using the regulatory and legal requirements procedure and updates thereof.

For infrastructure works, the Port of Montevideo also has an environmental manual on construction works (port sector) available at ANP's website.

The provisions regarding hazardous cargo handling (IMDG) are available on the website and in the link above, the Manual for Handling Hazardous Cargo, pursuant to Decree 183/94 (Harbor Masters):

https://www.anp.com.uy/sites/default/files/archivos/parrafo-colapsable/2021-01/Manual%20de%20Seguridad%20Portuaria%20y%20Cargas%20Peligrosas%20%28Versi%C3%B3n%20Noviembre%202020%29.pdf

The chart below shows a summary of the Environmental Management Indicators of the Port of Montevideo:

MANAGEMENT INDICATORS (IDGs)	
Environmental training	• No. of environmental trainings offered
Hazardous cargo	• No. of inspections / Containers* • Nonconformities / Inspections * Containers with hazardous cargo
OPERATIONAL INDICATORS (IDOs)	
Hazardous cargo	• Incidents
Discharge of sewage from ships. MARPOL IV	• m^3 or tonnes
Discharge of solid waste from ships. MARPOL V	• m^3 or tonnes
Bilge water discharge. MARPOL I	• m^3 or tonnes
Maintenance dredging	• m^3 of maintenance dredging
Initial dredging	• m^3 of initial dredging • m^3 of beneficial use of dredged material / total m^3 of initial dredging
Electrical power	kW/h
Carbon footprint	tCO_2e
Used office paper	Kg of paper collected for recycling Number of supplies delivered to public schools
ENVIRONMENTAL INDICATORS (ICAs)	
Physical and chemical quality of water at commercial docks	• Temperature °C • Conductivity $mS.cm^{-1}$ • Salinity ppt • Turbidity $g.L^{-1}$ - NTU • Dissolved oxygen $mg.L^{-1}$ • pH $[H^+]$

Performance of the Environmental Management System

REQUIREMENT	DESCRIPTION	IMPLEMENTED ACTIONS
Environmental policy	Established as a general framework to contribute to the environmentally sustainable development of the Port of Montevideo.	Adoption of measures to minimize the environmental impact of the operations in the Port of Montevideo. Goals were set out with their management, operational and environmental indicators, based on the assessment of significant environmental aspects of the Port of Montevideo. Availability of resources for environmental management were detailed in the budget of ANP. All the new employees that joined the administration received training.

Legal requirements related to environmental aspects	Collection of regulations applicable to port environmental management and to environmental aspects of port activities	Periodical verification of applicable regulations as well as compliance and updating thereof. The legislation applicable to each environmental aspect is verified depending on the regulations, through compliance, inspection, etc. (See the Conformity review of environmental aspects chart).
Environmental assessments	Assessments performed under agreement with the University of the Republic or other organizations, consulting firms, etc., as inputs for EIA, improvements in the Environmental Management System and innovation	The Port of Montevideo, in accordance with the environmental policy and the goals set out, has financial and specific resources for conducting these environmental assessments in different areas based on the required goal.
Training	Education in environmental matters in connection with the port activity	There is a budget and a training plan in the organization.
Air quality	Process of identification of air pollutants generated as a result of the port activity	Monitoring of solid bulk operations (PM10). Recommendations for environmental management plans (PGA) adapted to different operations. Request of PGA for bulks by companies and monitoring thereof. Assessment of the impact of bulk operations on the water mirror. Change of the vehicle fleet to vehicles powered by electric power. Replacement of dredger engines with others with greater power efficiency.
Water quality	Process of monitoring physical, chemical and biological conditions of the water at commercial docks	Monitoring of physicochemical parameters carried out by ANP. Incorporation of new parameters of fluorescence to chlorophyll and BGA-PC fluorescence of blue green algae as an effective form of measuring phycocyanin cyanobacteria
Soil use	Process of expansion of the port area to reduce congestion and increase the efficiency and safety of operations.	Master plan of the Port of Montevideo and successive revisions thereof, which contains a plan for construction works for the expansion and improvement of port facilities.
Relation with the port community	Coordination between different stakeholders in the port community. Interrelation with society, striving for peaceful coexistence	Within the framework of the Policy, ANP serves as headquarter for the integration of the port community in its different sectors, and in the case of the environment it is carried out by the CEGAP. Engaging in cultural activities for the promotion of environmental and port education. Improvement of port accessibility and planification of uses of port areas for the city. Communication with the community through social media (YouTube, Twitter).
Electrical power consumption	Power consumed at the Port of Montevideo, public and private sector	Independent air conditioning systems were removed and replaced with a centralized system with inverter technology at the headquarter building. In addition, a plan is being implemented to replace existent doors and windows with others of greater insulation efficiency. Change of light bulbs to energy-saving or LED ones in its facilities.

Description of the Port of Montevideo environmental management organization

The annual planning performed by the Environmental Management Unit is designed according to the matrix organization system of the Port of Montevideo and addresses the environmental aspects of the key areas of the management system, acting as facilitator in said task.

The Port Environmental Management Executive Committee is a fundamental tool for the development of the system.

Environmental Responsibilities of Key Personnel

By virtue of the detailed organization, the following chart provides a summary showing the personnel within the organization having direct responsibilities that have been established and described regarding environmental aspects of the operations.

RESPONSIBILITIES OF KEY PERSONNEL		
AREAS OF RESPONSIBILITY	**JOB TITLE OR POSITION**	**DEPARTMENT**
Senior Management and Strategic Planning	President	President's Office and Board of Directors (Management Team)
Environmental System Management	Environmental Technical Representative	Environmental Management Unit
Port management actions coordination Adoption of actions in order to protect the port environment	Delegates with technical expertise appointed by public and private bodies, port union, etc. (Port Community)	Port Environmental Management Executive Committee
Assessments and Applications of Environmental Authorizations	Environmental Technical Manager	Environmental Management Unit
Port infrastructure construction works	Construction Managers	Infrastructure Area
Planning prior to dredging (sediment toxicology)	Environmental Technical Manager	Environmental Management Unit
Planning for dredging	Head of Dredging Area	Dredging Area

execution		
Dredging execution	Head of Fleet and Dredging Department	Fleet and Dredging Department
Port Operations Management of waste from ships 3 - Sewage 4 - Solid waste from ships 3 - Bilge water	Head of Health and Supply Unit Head of Operations and Services Area	Health and Supply Unit Operations and Services Area
Port Operations (hazardous cargo) Decrees regarding hazardous cargo classification Authorization to operate with hazardous cargo at the port area Inspections of terminals and warehouses	Head of Environmental Management Unit	Environmental Management Unit (hazardous cargo)
Emergency planning	Port Facilities Protection Officer (OPIP) Coordination of contingency plans with competent authorities	Operations Area Competent authorities: (Prefecture, Fire Department, Ministry of Public Health, Environmental Management Unit, Occupational Health and Safety Unit, Customs, Police, National Emergency System, etc.)

The Environmental Management System is complemented by the Port Environmental Management Executive Committee (CEGAP), which includes experts appointed by ministries, public and private bodies, the port union, the civil society and other interested parties related to the port sector.

The CEGAP creates protocols on risk prevention management for the normal functioning of operations and services provided at the Port of Montevideo. This Committee is an efficient tool to promptly address key issues arising from the intense port activity carried out by the stakeholders of the port community.

The CEGAP is the main management tool adopted within the Environmental Management System to act effectively, efficiently and productively when making strategic decisions for the port managed by ANP, and its application has an effect on the sustainable development of the country.

Regarding port coordination and management, the Environmental Management Unit also participates in

other organizations, such as the Permanent Commission on Hazardous Goods, which addresses and defines criteria for issues related to hazardous cargo handling, and it is a member of the Environmental Advisory Technical Group of the CIP-OAS and the American Association of Port Authorities (AAPA).

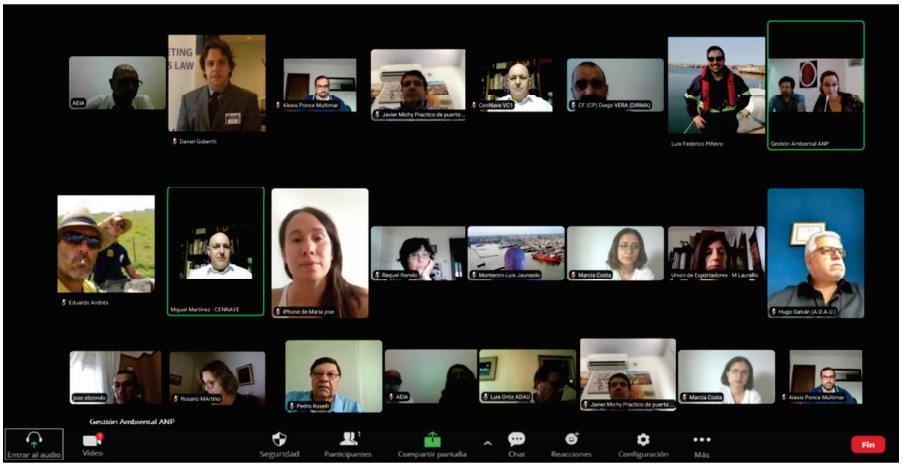

Fig. 13 - Meeting of the Port Environmental Management Executive Committee on a digital platform.

Identification of stakeholders and their needs, expectations and engagement

Fig. 13 represents those members of the Port Community who are dedicated to environmental aspects. The structure they form resembles a network of connections which, although brief, represent the interwoven tapestry of interactions generated by port activity.

The Port of Montevideo brings together maritime, port, customs and municipal authorities, those related to sanitary barriers for humans, animals and vegetables, as well as natural and environmental resources, with the port commercial activity carried out by the private sector: (export, import, transit, movement of passengers, etc.); that operates in specific services at the docks and also in terminals and warehouses, and all this is coordinated with society, trying to maintain an optimal relationship between the city and the port.

Environmental objectives, actions and projects

We think it is possible to achieve a sustainable development where vessel, cargo and passenger port services, as well as new infrastructure construction works, coexist. All of them are necessary and crucial so that the Port of Montevideo becomes a strong link in the trading chain of the country and the region.

The Port of Montevideo manages its operations and services through its port operators and terminals in line with its environmental policy, which is reviewed and adjusted as appropriate. These operations and services are the objectives of the port and, as mentioned before, many of them involve environmental

aspects that need to be managed in order to reduce or, if possible, prevent any environmental impacts related thereto.

As an example of the actions taken, there are protocols in place regarding solid waste from ships, sewage and bilge water removal services, and the management and final disposal thereof are monitored.

Port management of hazardous cargo involves controlling and checking the cargo manifests of each ship, recording the findings in an official document called “Hazardous cargo statement”, before arrival in Montevideo, and, among other actions, inspecting them in order to find any irregularities in stowage, segregation or possible spills for the purpose of adopting the corresponding mitigation measures.

Due to the fact that the port development projects are located on the coastline, an Environmental Impact Assessment (EIA) is required, as well as the corresponding Prior Environmental Authorization application (initial stage of works) and the Environmental Authorization for Operation when operations start.

These Environmental Impact Assessments are created based on the information of executive projects and construction managers, as well as data directly obtained from official sources and studies carried out by the Environmental Management Unit or commissioned under agreements with UdelaR.

Studies commissioned under agreements with UdelaR provide relevant scientific and technical information for new port development projects (inputs for the EIA and other requirements set forth in the legislation in force) and for the improvement of port environmental management as a whole. These inputs are sediment samplings for sediment toxicology analysis, geotechnical and hydrodynamic studies, etc.

Documents of the Environmental Management System (SGA), as well as the environmental aspects, are reviewed and updated on a regular basis, including when amendments are made to the applicable legislation or regulations. Said system (SGA) also has financial, human and material resources available for achieving environmental goals, acting by itself and in cooperation with other agencies, universities or consulting firms hired for such purpose.

ANP, through the Environmental Management Unit, maintains close ties with other national and international organizations, government and municipal agencies, and port operators in order to coordinate actions and streamline management aimed at complying with national and international regulations, thus improving the processes and approach to new challenges related to port environmental aspects.

Based on the data related to environmental aspects of the operations and services (statistics, inspections, sampling, reports, etc.) and from studies commissioned under agreements, environmental performance indices are created. Said indices are set forth in this document and will be used as reference for subsequent reviews, in order to assess the improvements in management, and for further certifications.

The documents submitted have the technical endorsement of:

Dr. Juan Curbelo
President of ANP
Tel.: +5982 1901 2811
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Position	Name	Telephone	E-mail
Supervisor	**Lorena Leal**	**+5982 1901 2864**	**lleal@anp.com.uy**
Boss	**Luis Piñeiro**	**+5982 1901 2842**	**lpineiro@anp.com.uy**

7. BEST PRACTICES (Section 1.6 of PERS)

7.1 Permanent Commission on Hazardous Goods

Port of:	Montevideo – Republic of Uruguay
Contact person: Position:	Ms. Lorena Leal Mr. Federico Piñeiro Environmental Management Unit managers
E-mail:	gestionambiental@anp.com.uy
Environmental issue:	4- Cargo spills (handling), 15- Hazardous cargo (handling/storage), 32- Relation with local community
Relevance to the 5 Es framework:	Enables, Engages, Enforces, Encourages and Exemplifies by providing a tool for the articulation of actions.

Permanent Commission on Hazardous Goods
One of the most important bases within the Environmental Management System (SGA) of the Port of Montevideo is defined by the Permanent Commission on Hazardous Goods, the purpose of which is to address concerns related to port operations, derived from the handling of

hazardous cargo within port areas and that may have environmental consequences, among others. The commission comprises experts with technical expertise appointed by the National Naval Prefecture, the Navigation Center (center that brings together most of the maritime agencies and port operators) and from this Port Authority. Notwithstanding that other public authorities, private entities, and unions, related to the topic to be addressed in said commission, may be summoned.

This Permanent Commission on Hazardous Goods emerged as an adequate executive tool to address management issues arising at the Port of Montevideo that do not have a regulatory response, in relation to topics referred to hazardous cargo and the corresponding impact on the environment.

Its members provide their technical knowledge and experience in each of their areas of expertise and find solutions to the causes that generate operational issues from an environmental perspective.

This approach improves efficacy and efficiency, thus sustainably increasing productivity in every aspect.

Resolutions and agreements reached are democratically addressed by the delegates, seeking unanimous resolutions reflecting all the opinions and concerns.

The Permanent Commission on Hazardous Goods is a key area for environmental management. Furthermore, it receives concerns, proposals, complaints from the interested parties, whether from the civil society, unions, NGOs, etc., in order to provide responses aimed at a continued improvement of the environment and the city-port relationship.

7.2 Disposal of Dredging Material in Geotextiles for Use as Fillers of Areas.

Port of:	Montevideo – República Oriental del Uruguay
Contact person:	Ms. Lorena Leal Mr. Federico Piñeiro
Position:	Environmental Management Unit managers
E-mail:	gestionambiental@anp.com.uy
Environmental issue:	9 – Dredging: Disposal
Relevance to the 5 Es framework:	Exemplifies, Enables, Encourages, Engages, Enforces

Disposal of Dredging Material in Geotextiles for Use as Fillers of Areas

Within the port development works of the Port of Montevideo, in particular in the construction of fishing docks in the Capurro area, during the year 2021 dredging works were carried out to a depth of -5 m. This included disposing of the dredged material in geotextiles for use as filler to gain land use in the bay.

Tests were carried out in a timely manner with the University of the Republic of Uruguay, Faculty of Engineering, on geotextiles and fillers of contaminated sludge from dredging. The result was the execution of a process that begins with the flocculation of the sludge to favor dehydration by filtering, followed by the separation of water contained in the sediments dredged from the Montevideo Bay, and finally its disposal in the geotextiles. This initiative was taken as a basis to implement this project.

This activity consists of using a suction dredger to extract sediments, to subsequently move them through a system of hoses. These sediments pass through a physical filter which retains solid waste. Subsequently, a treatment with a flocculant is carried out in a chemical plant. The flocculant acts on the sludge molecules, finally enabling their deposition on the geotextiles, which facilitate the filtering of water and the encapsulation of the contaminated sludge.

This good practice enabled the encapsulation of 65,000 m^3 of sediment with a high possibility of containing environmental contaminants, and also made it possible to use said sediment for soil filling, which resulted in a reduction in the costs associated with their transfer to disposal areas and reduction of the impacts generated by the deposition of dredged materials.

Links

Video of construction works progress
https://www.youtube.com/watch?v=KLG2L3mhqvQ

Pictures

Suction dredging of basins in works in the Capurro area

Device used for sludge transport and flocculation

Chemical plant for material treatment and retrieval for flocculation.

Geotextiles filling process.

Aerial view of the area with geotextiles.

Aerial view of the area with geotextiles.

8.1 REPORT ON ENVIRONMENTAL INDICATORS YEAR 2019 AND 2020.

The chart detailed below shows the environmental indicators selected by the National Ports Administration for the years 2019 and 2020:

MANAGEMENT INDICATORS (IDGs)	
Environmental training	• No. of environmental trainings offered
Hazardous cargo	• No. of inspections / Containers* • Nonconformities / Inspections * Containers with hazardous cargo
OPERATIONAL INDICATORS (IDOs)	
Hazardous cargo	• Incidents
Discharge of sewage from ships. MARPOL IV	• m^3 or tonnes

Discharge of solid waste from ships. MARPOL V	• m^3 or tonnes
Bilge water discharge. MARPOL I	• m^3 or tonnes
Maintenance dredging	• m^3 of maintenance dredging
Initial dredging	• m^3 of initial dredging • m^3 of beneficial use of dredged material / total m^3 of initial dredging
Electrical power	kW/h
Used office paper	Kg of paper collected for recycling Number of supplies delivered to public schools
ENVIRONMENTAL INDICATORS (ICAs)	
Physical and chemical quality of water at commercial docks	• Temperature °C • Conductivity $mS.cm^{-1}$ • Salinity ppt • Turbidity $g.L^{-1}$ - NTU • Dissolved oxygen $mg.L^{-1}$ • pH $[H^+]$

(**) Annual indicators

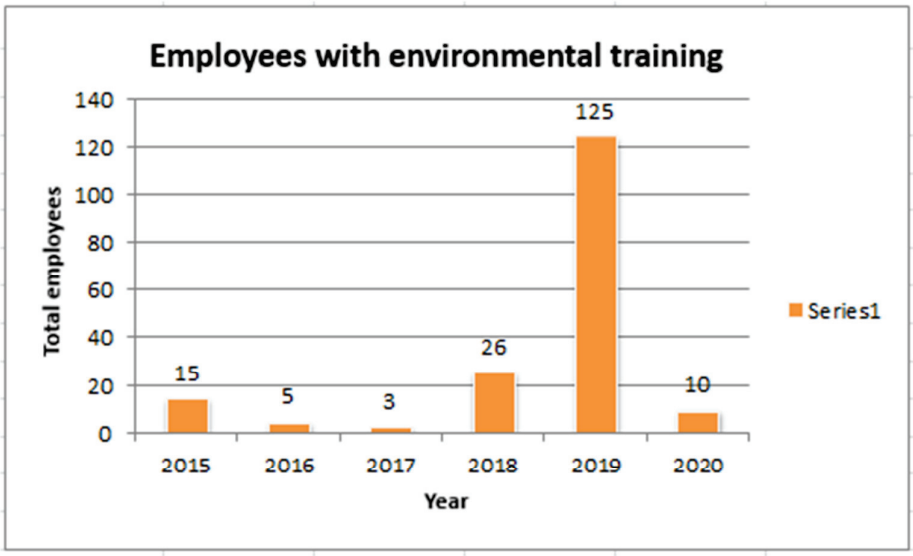
MANAGEMENT INDICATORS

1- Staff Training

The Port of Montevideo provides orientation courses when hiring new employees and staff training regarding relevant environmental aspects, in line with the Environmental Policy. Because of the health situation due to SARS-CoV-2 (COVID-19), employees that joined this Administration during 2020 received environmental orientation courses through the virtual platform ZOOM.

In parallel, environmental informative talks are sporadically offered, such as the *DESPLASTFICATE* project, which aims at raising awareness on the impact caused by single-use plastics on different ecosystems as well as their effects on human health.

No. of trained employees/year	2015	2016	2017	2018	2019	2020
Totals	15	5	3	26	125	10



2- Hazardous Cargo

The following indicators in relation to the handling of hazardous cargo at the Port of Montevideo were defined:

- No. inspections / Containers
- Nonconformities / Inspections

The results were as follows:

No. Inspections	Number of containers	Ratio (No. insp/cont)
413	471.998	0.88

Nonconformities	Inspections	Ratio (Nonconf/cont)
35	413	0.08

The conclusions arising from the selected indicators are that more than one inspection was carried out per day (on the basis of 365 days), and 8% thereof presented observations (nonconformities). Most of these observations were related to the physical state of the container labels, that due to deterioration required our inspection team to request their replacement.

OPERATIONAL INDICATORS

3- Incidents with Hazardous Cargo

No incidents with hazardous cargo transported in packages (containers, among others) or in bulk occurred during different operative processes (loading, unloading, removals, etc.) were reported. Only two incidents involving hazardous goods took place, one related to the product used for the fumigation of poles, such as phosphine gas. The other incident occurred as a result of a fire in a fishing vessel, which contained an ammonia plant for cargo refrigeration.

Phosphine gas fire (January 2021)

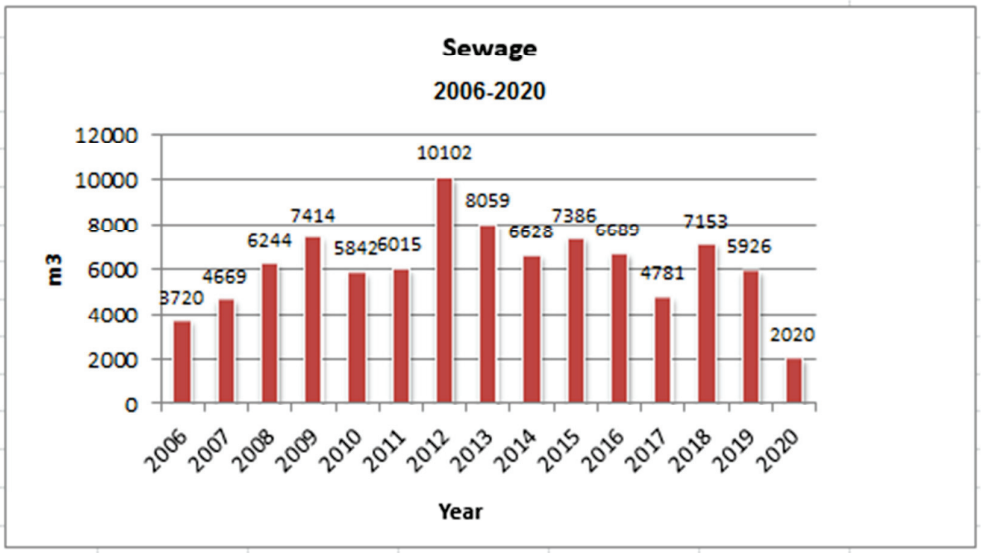
Fishing vessel fire (Ammonia – June 2020)

4- Discharge of Sewage from Ships. MARPOL IV

In compliance with the MARPOL convention (Annex IV), the Port of Montevideo offers the service of discharge of sewage for ships requesting said service.

Depending on the pumping capacity of the berths, the discharge can be done to the collector directly or indirectly through the use of a vacuum truck authorized by the Municipality of Montevideo. For both modes, the final disposal is made to the intra-port sewage network. The National Ports Administration carries out random samplings, which are analyzed in a laboratory, in order to verify that the different parameters contained in the wastewater comply with the values established in the different regulations applicable to this type of dumping.

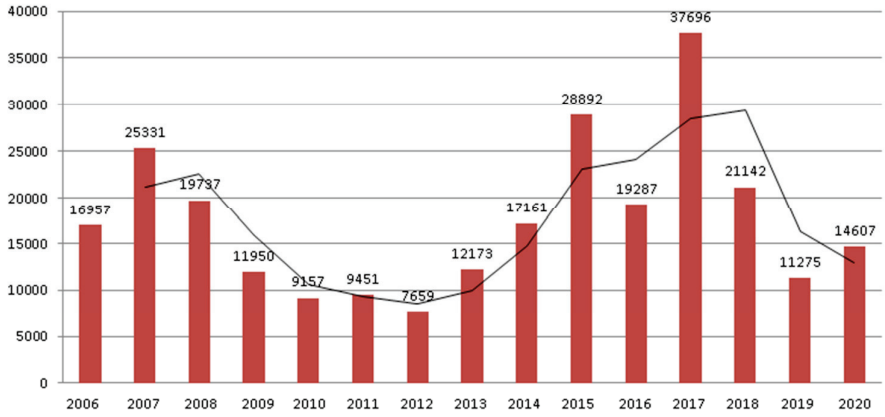
There follow lists of sewage services carried out in 2019 and 2020



Detail of discharge of sewage in trucks.

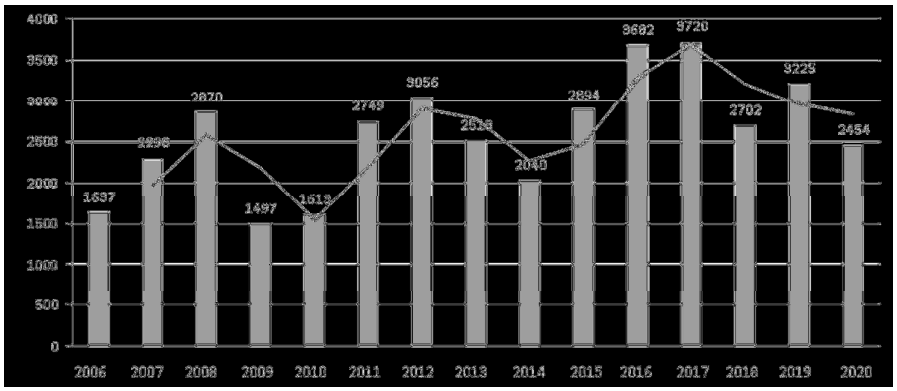
5- Discharge of Solid Waste from Ships. MARPOL V

Solid waste managed at the Port of Montevideo (Tonnes)



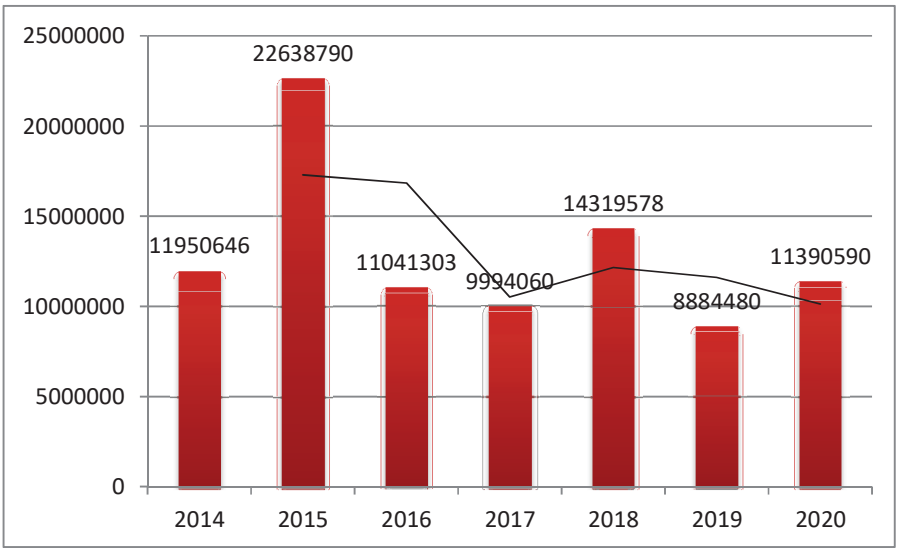
In 2019 and 2020, there was a decrease in the amount of waste discharged from ships, due to the fact that cruise ship operations in the Port of Montevideo were reduced because of the global pandemic situation (COVID-19).

6- Discharge of Bilge Water. MARPOL I



Bilge water managed at the Port of Montevideo (metric tonnes)

7- Dredging



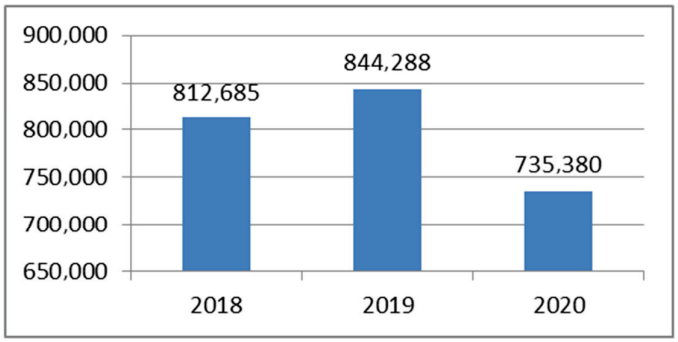
Volume of maintenance dredging carried out (m^3).

No initial dredging was performed, which requires environmental authorization by the Ministry of Environment.

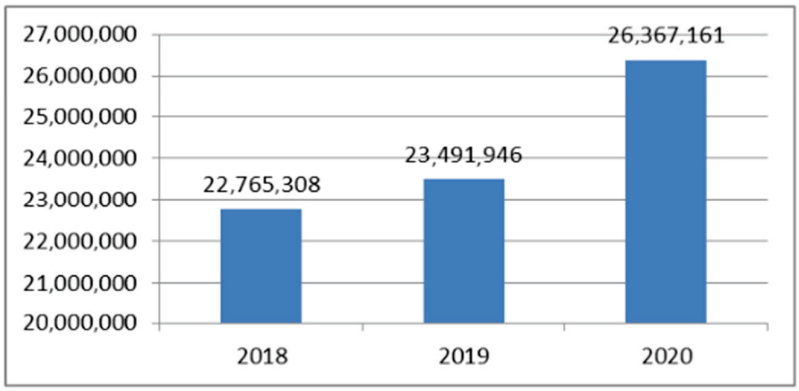
8- Electrical Power

Consumed electrical power (kWh)			
Year	**2018**	**2019**	**2020**
Headquarter building	812,685	844,288	735,380
Port area	22,765,308	23,491,946	26,367,161

Electrical power consumed from administrative activities (kWh).



Electrical power consumed from port activities (kWh).



9- Carbon Footprint

Port ships	2015 1.1	2016 0.9	2017 1.1	2018 1.3
Offshore ships (1)	90.7	93.3	105.3	144.9
Total, Criterion 1	91.8	94.1	106.4	146.2
Offshore ships (2)	66.2	73.8	82.3	128.9
Total, Criterion 2	67.2	74.6	83.4	130.2
Total (Average)	**79.5** ± 15%	**84.4** ± 15%	**94.9** ± 12%	**138.2** ± 6%

Table 24.- Annual emissions for ships in hotelling mode in kton of CO2 equivalent, according to the adopted criteria. The final average value represents the real emissions.

Carbon footprint measurement studies were not carried on during the years 2019-2020, as a consequence of the pandemic situation of COVID-19 at a national level. This reduced research studies dependent on the University of the Republic with this Port Administration, since the renewal of the agreement between said university and this Port Administration is pending and the formalities have been delayed as a result of the administrative processed affected by the health situation of the country.

10- Office Paper Managed

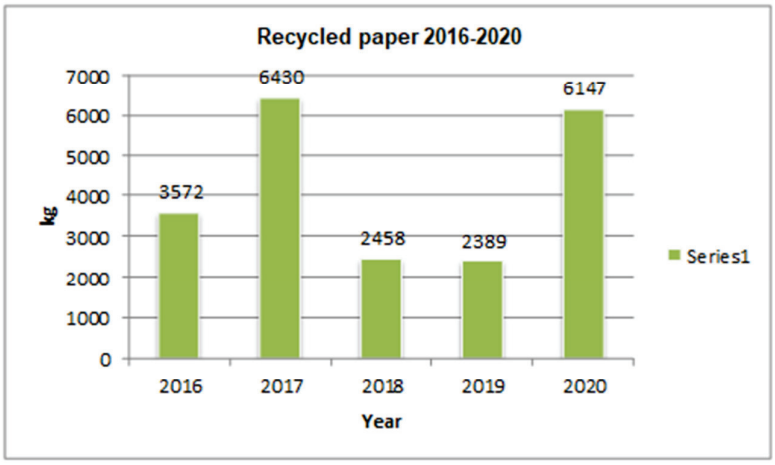
ANP, within its sustainable development policies, is involved in the REPAPEL project. Said project provides support for the implementation of the environmental education program in public schools. This program involves the development of the project of paper classification and recycling, which consists of trainings, technical assistance and the delivery of school supplies made of recycled paper to public schools. For this purpose, employees from this Administration collaborate in the collection of waste paper from each office (photocopies, faxes, files, declassified documentation, etc.). This donated paper is taken as raw material by REPAPEL, to be transformed into school supplies (A4 sheets, notebooks, blocks, cardboard, toilet paper, among others), which are delivered to public schools of the country.

DATE	PACKING SLIP No.	TYPE	DESTINATION	KG
28-NOV-19	811	White	Fabitech	481
		Color	Fabitech	385
13-AUG-19	4126	White	Fabitech	633
		Color	Fabitech	890
TOTAL (kg)				2389

DATE	FABITECH	WHITE	COLOR	CARDBOARD	NEWSPAPER/MAGAZINE
24-OCT-20	1	350	480		102
18-DEC-20	1	202	113	405	148
20-FEB-20	1	355	219	80	195
18-JUN-20	1	280	227	22	45
05-AUG-20	1	380	265	-	110
TOTAL (kg)	5	1567	1304	507	600
TOTAL KG					3987

DATE	FABITECH	WHITE	COLOR	CARTON	NEWSPAPER/MAGAZINE
3-DEC-20	1	680	515	40	210
16-MAR-20	1	480	125	40	110
	2	1160	640	80	320
TOTAL KG					2160

Paper recycling in KG					
Year	2016	2017	2018	2019	2020
Collected paper	3572	6430	2458	2389	6147



11- Physical and Chemical Quality - Water at Commercial Docks

Since 2010, the National Ports Administration performs a monthly monitoring of the water quality of the commercial docks of the Port of Montevideo. For this purpose, a multiparameter probe is used, which measures a variety of physical and chemical parameters, such as the following:

- Temperature (℃)
- Conductivity (µS/cm)
- Salinity (ppt) or (%) o (gl-1)
- TDS (mg/L)
- DO Concentration (mg/L)
- PH

In 2021, the National Ports Administration purchased a new multiparameter probe “IN- Situ Aqua TROLL 500”.

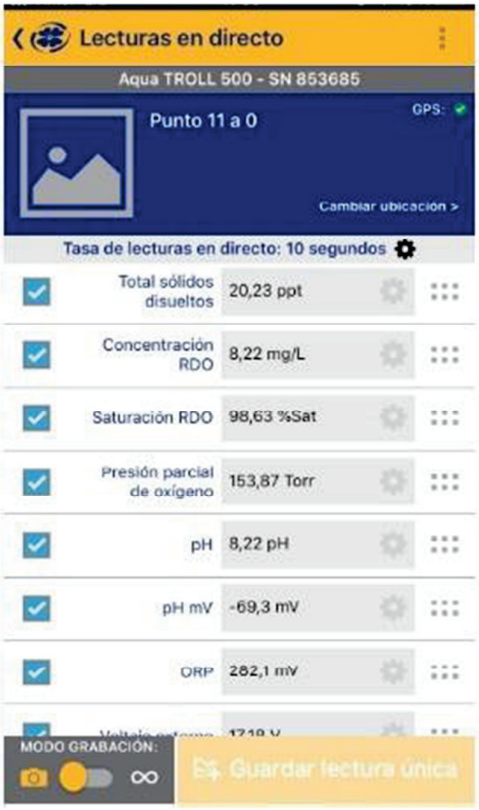
The Aqua TROLL 500 is a fully customizable multiparametric probe with interchangeable sensors and a smartphone interface that provides accurate data and enables simplified calibration, panoramic data display and reporting.

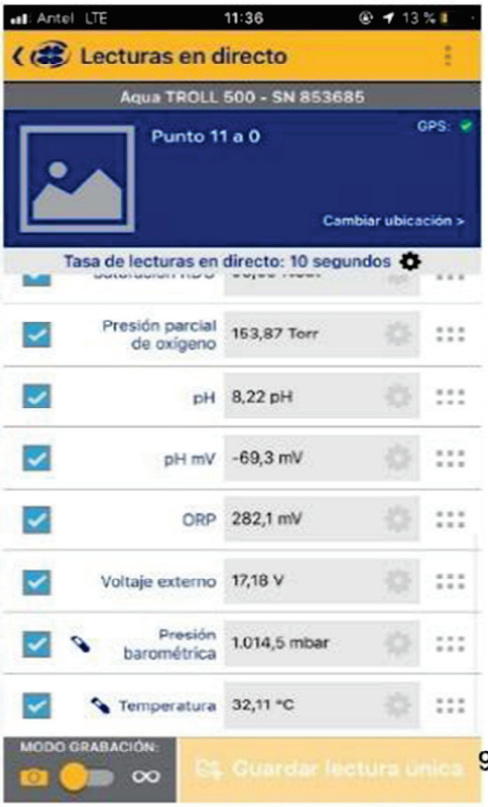
This new tool enabled the incorporation of new sensors which will help this port administration to monitor new indicators, such as:

- Chlorophyll a
- Fluorescein WT

The data obtained and processed for the different parameters during the years 2019 and 2020 is contained in the environmental indicators report. Below are some examples of the work screen displayed in a smart device connected to the multiparameter probe.

Images of smart device connected to the probe.





99

The results obtained from the analysis of the data are the following:

- The quality of the water of the commercial docks during the 2020 campaign was optimal for the activities carried out, based on data collected from physical and chemical parameters. Moreover, the variation of all physical and chemical parameters over the years has remained in stable values in the different summer seasons. This has proven that despite the great variety of infrastructure works developed at the Port of Montevideo during the years 2010-2020, water quality has not shown important variations based on the physical and chemical parameters monitored on a monthly basis.

- Dissolved oxygen (DO) is considered a relevant indicator for the quality of water. The data obtained has shown that the oxygen decreased its concentration in the summer months, which may be related to temperature increase in these months, but its average value stayed within the expected concentration.

- It is important to highlight that the most jeopardized area regarding water quality of the Port of Montevideo was the area of the former Mántaras basin, and that its vulnerability was a consequence of the residence time of the water in said aquatic space, of the inputs from the city that reached the area through the Asunción storm drain, as well as the great variety of port activities carried out in its vicinity, etc. This area of the Port of Montevideo, which posed a challenge in terms of environmental issues, was filled in for the Pulp Specialized Terminal project (TEBETUR SA), during the first months of 2020. Therefore, the environmental problems generated in this aquatic space ceased to exist.

- In July 2020, the gathering of turbidity data through a Secchi disc was incorporated, expressed in nephelometric turbidity units (NTU), enabling the addition of a new control parameter to the monitoring performed.

8.2 Future studies.

From the evaluation of environmental indicators carried out previously, the need arises to delve into surveys associated with dredging. It is for this reason that ANP is currently in a process of calling for bids, in order to summon a company with the necessary experience and equipment, to carry out soil studies in the Port Access Channel. The study of soils to be contracted has as its object the following points:

a. Study the conditions of the soils of the layer until completing a level of -16 meters deep.
b. Carry out a study of the profile of the bottom on the trace of the Access Channel and its corresponding extension.

c. Study the toxicology of sediments in accordance with the provisions of the Guidelines for the Characterization of Dredging Material and its Relocation in Waters of the Public Maritime-Terrestrial Domain of the Interministerial Commission of Marine Strategies of the Government of Spain of the year 2015.
d. Determine the longitudinal seismic and bathymetric profile of the Access Channel.

8.3 Main environmental aspects and regulatory compliance.

Among the main environmental aspects that can generate impacts to the environment due to their significance, are those associated with port development projects. The environmental regulations that govern them are Decree No. 349/005 Regulations for Environmental Impact Assessment and environmental authorizations (Law No. 16,466), regulations that have been fully complied with, managing all the required environmental authorizations and the Impact Studies Environmental for the infrastructure works carried out in the port of Montevideo.

In relation to dredged material, as there are no national regulations for sediment toxicology, the provisions of the Guidelines for the Characterization of Dredged Material and its Relocation in Waters of the Public Maritime-Terrestrial Domain of the Interministerial Commission have been taken as a reference of Marine Strategies of the Government of Spain of the year 2015.

Regarding the environmental aspects associated with ship operations (solid waste, bilge water, dirty water), the national and international regulations that regulate them have been complied with. This regulation being Decree No. 182/2013 (Solid Waste Management Plan) and the international maritime agreement called MARPOL 73/78 (ratified by Law No. 14885/79). Furthermore, all environmental authorizations have been complied with, using waste managers authorized by the Ministry of the Environment of our country.

Concerning the discharge of gray and black (dirty) water to the collector and for the control of the quality of the water in the Bay of Montevideo, the provisions of Decree No. 253/79 (Water Codes) have been complied with.

ANNEX

DEFINITIONS

EGP- Process management team
MTOP- Ministry of Transport and Public Works
ANP- National Ports Administration
UGMA- Environmental Management Unit
CEGAP- Port Environmental Management Executive Committee
PNN- National Naval Prefecture
MVOTMA- Ministry of Housing, Land Planning and Environment
DINAMA- National Environmental Authority
DINOT- National Directorate of Land Planning
IM- Municipality of Montevideo
POT- Land use planning
UNIT- Uruguayan Institute of Technical Standards
CENNAVE- Navigation Center
EIA- Environmental Impact Assessment
AAP- Prior Environmental Authorization
AAO- Environmental Authorization for Operation
VAL- Environmental Viability of the Location
DDO- Mandatory Direct Dispatch
NC- Nonconformities
SEA- Strategic Environmental Assessment
ekPis - Environmental Key Performance Indicators
IDAs- Environmental Performance Indicators