Innovative technology providing in-situ management, collection and removal of marine litter at river mouths

New Naval

Tactical Recovery Accumulation System Hellas

Advanced marine litter collection system

As a participant in the EU Horizon 2020 project, CLAIM, Cleaning marine Litter by developing and Applying Innovative Methods, New Naval has developed an innovative marine litter collection and removal technology for river mouths to address the increasing marine litter problem in the world. This project receives funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 774586. New Naval has over 40 years of experience providing marine and environmental solutions.

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Marine Litter Management Collection & Removal

Over 80% of marine litter is estimated to originate from land-based sources, one of the main contributors being river sources. To combat this issue, New Naval has created and developed the Tactical Recovery System Hellas (TRASH).

The system is an unparalleled and highly-efficient solution to manually managing and removing marine litter from river mouths before the litter can enter into a larger body of water where the litter causes negative effects on the marine environments and where plastics break into micro and macro-plastics dramatically affecting marine life and marine ecosystems. The system has a highly efficient storage design with multiple levels that can be changed when filled.

Systems are designed to meet location characteristics, and are capable to be designed in a variety of shapes and sizes to meet the demand at hand.

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www.claim-h2020project.eu

www.newnaval.gr

TRASH System Overview

The system utilizes a combination of active operational systems and time-tested oil spill response, salvage and marine protection equipment:

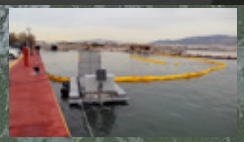
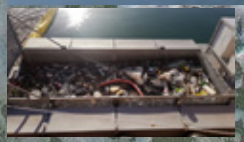
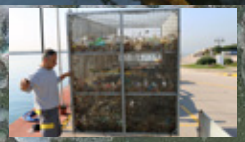
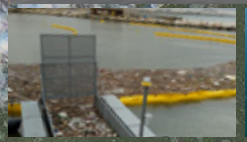
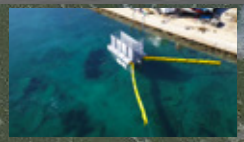
- Heavy-duty containment boom with solid cylindrical floats with a subsurface skirt contains and guides litter.
- Auxiliary fence type booms drive/deflect/pace incoming litter to the collection cage.
- A floating foundation attaches to the boom and holds the removable collection cage.
- The hot-dipped galvanized steel collection cage utilizes 3 separate collection chambers/levels that lower and raise to store the litter (down to 5 mm in size). The cage is equipped with lifting points and a sliding door.
- Independent floats utilize salvage technology to move the storage level. They can be raised and lowered by satellite when a level is filled.
- Remote operation and observation versions are available with the development of standalone models optional.

Features & Options

The features below have been utilized in previous installations. Installation requirements, location and operational goals will decide the selection:

- Independent remote control system for:
  - Lowering/raising of storage levels
  - System camera; real-time viewing
  - Information collection systems viewing
- 24/7 autonomous camera
- Recording system for camera
- Solar panels
- Power storage; stand-by option
- Marine light(s)
- Salinity meter
- Current meter
- Self-propulsion for non-accessible areas

Applications & Installations

Every installation is tailor-made and strategically planned in order for the system to operate with the highest efficiency and effectiveness while addressing the scale of the issue:

- System components are custom-built and designed to properly address the environment, location and river of every installation.
- Operations generally follow a tested and structured format, with litter removal dependent on litter volumes in the river. This results in minimal operating costs and a reduction of the need for physical attendance by operators for long periods
- The system can be continuously operated, monitored and utilized to collect and compile a litter information database regarding the volume of litter exiting the river and the correlations of these volumes to weather and river fluctuations.