WINPOL
Interreg Europe

ACTION PLAN FOR MALTA

November 2020

EU funds for Malta 2014 2020

Interreg Europe

ERA

GOVERNMENT OF MALTA
PARLIAMENTARY SECRETARIAT
FOR EUROPEAN FUNDS

Interreg Europe Programme 2014-2020
Project part-financed by the European Union
European Regional Development Fund
Co-financing rate: 85% European Union funds; 15%
National funds

Part I- General Information

Project: WINPOL, Waste Management Intelligent Systems and Policies

Partner Organisation: Environment and Resources Authority (ERA) (Partner 4)

Country: Malta

NUTS2 region: Malta (Extra-Regio NUTS2)

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Part II – Policy context

The Action Plan aims to impact:

- ☐ Investment for Growth and Jobs programme
- ☐ European Territorial Cooperation programme
- ✓ Other regional development policy instrument

- **Name of the policy instrument(s) addressed:**

National environmental funds allocated for environmental initiatives and marine litter action.

- **Further details on the policy context and the way the action plan should contribute to improve the policy instruments:**

Although initially, Malta had foreseen the use of *Operational Programme 1: Fostering a competitive and sustainable economy to meet our challenges for Malta* as the main policy instrument for this project, later it was decided to find a more suitable regional instrument, for the development of this action plan. The chosen instrument, amongst others, allows for the funding of actions that benefits the environment. This fund would also allow us to expedite the implementation of the actions proposed in this plan that would lead to tangible results in a relatively short period. It is to be noted, that the objectives behind this new policy instrument remains on the same basis of the original instrument, and that it will still allow public interventions to improve Malta's waste management situation.

The funds supplied by the Ministry for the Environment, Energy and Enterprise (MEEE) are national environmental funds intended for the implementation of environmental activities whose objective is to lead towards overall environment status improvement. The sustainable outcome is an important factor when considering this funding. Typical actions funded include greening activities and improvement in waste management. The finances for this fund are sourced from the Maltese Government.

The funds originating from the Environment and Resources Authority are being sourced from the Authority's subvention fund, meaning that these are also national funds and forms part of ERA's annual budget provided by the Maltese Government under the same Ministry. This fund is managed by ERA to allow for its operations, including to provide finance on various actions, from which the environment will benefit. The action plan undertaken as part of WINPOL is being considered as one to achieve a better environment for Malta. It is to be noted that there is no EU Funding contribution for this action plan.

To further sustain an environmentally friendly society, the Action Plan puts particular emphasis on the need for the Maltese Government to address challenges within the waste sector and invest in a more environmentally friendly society and move away from a consume and throw away societal mentality to a community behaviour that values the environment and minimises waste through a circular economy value chain that turns waste into a resource, generating electricity from unrecyclable waste and reducing landfilling. All too often, litter may be mainly perceived as existing on our roads and streets. However, such litter, especially in situations like Malta being a small island state, can end up in coastal and marine areas. To this effect the WINPOL action plan is targeting such areas.

The Government has committed significant amount of funds to work towards transitioning from conventional methods of waste disposal/collection to more modern and advanced systems to reduce the generation of waste, specifically waste considered as marine litter, highlighting suitable solid waste management practices, increase overall public knowledge on the waste sector and promote sustainability and resource efficiency.

The WINPOL project has influenced, in some way or another, a number of initiatives put forward in the draft New Waste Management Plan for the Maltese Islands 2021-2030, which is currently undergoing public consultation. These include; modernising the waste collection system in Malta, and implementing a holistic framework for the digitalisation of waste data management in Malta. Such initiatives will provide the necessary national focus on waste management, and increase Malta's efficiency and productivity, save costs, reduce administrative burden and streamline compliance with EU reporting obligations.

The action plan for Malta will further help gain important data and information, particularly on single-use plastics and marine litter that will help sustain even further Malta's vision, through a cross-sectoral collaboration, of safeguarding the environment for a more sustainable quality of life.

Part III – Details of the actions envisaged

Action – *Floating debris interception devices at sea and inland waters (Seabins)*

Relevance to the project

A number of practices, which have been identified throughout the vast activities and meetings organised as part of the WINPOL project, have inspired the project team at the Environment and Resources Authority (ERA) to create this action. Some of these practices include smart bins installed in the port city of Antwerp, Belgium and data-sharing services implemented by the Municipality of Amsterdam, in the Netherlands.

During such experiences, it was noted that the objective to improve waste management can be achieved through various innovative equipment and practices. Malta, being a small island state, is surrounded by the sea and the management of litter is a primary importance since part of this litter may eventually end up in the sea. In order to tackle this objective, the action plan will focus on the installation of smart bins at sea. During the WINPOL project, it was observed that the installation of bins in Antwerp had the aim of turning disposing of waste into a smart, fun and complimentary experience for residents and other audiences to keep the streets of the city clean. In the case of this action plan, the idea was "if there were smart rubbish bins on land, why not in the water?" The Seabin will still resonate a similar intriguing experience for passers-by and sea-users, but rather than attracting the users directly, the litter itself is being targeted without the need for a user interfering in its collection. Nonetheless, the users will then be targeted through awareness campaigns and policy updates once patterns are identified and enough data is gathered.

Furthermore, in order to ensure that as much benefit is achieved from the installation of the Seabin, a Natura 2000 site, established and conserved in line with the EU Habitats Directive was selected as the site to install the Seabin. This site, noting that it is a transition zone between the sea and land; and lies within an urban area, would likely allow a large number of citizens to be aware of such technology and that this forms part of the WINPOL project. To make this installation possible, noting that it is a very specialised bin, comprehensive research and knowledge of experts within the field is required. Apart from this, as inspired by a number of elements highlighted by WINPOL project partners, sharing publicly data generated through the installation of such smart systems is an important added value that can further drive and support policy decisions in Malta, and also have a uniform way to collect and store data. In this regard, this action plan will not only help raise awareness to improve disposal patterns, but also increase transparency.

Nature of the action

- **Background information:**

Marine litter may be one of the fastest-growing threats worldwide. Every year, millions of tonnes of litter end up in the ocean worldwide, causing serious economic damage, ecological and environmental degradation, health complications, and aesthetic problems.

There are only a few studies which identify the commonly found items in the Maltese marine environment. However, these studies tend to indicate that the items found in the Maltese waters and coasts are similar to the products identified by other surveys carried out at a regional and national level.

Besides coastal-economic activities such as tourism, there are other sources, which are affecting the quality of our waters in terms of waste. In this context, land-based and marine-based possible sources could be littering in urban areas, valleys and watercourses; illegal dumping and/or accidental dumping at sea from shipping activities.

- **The aim of this Action Plan:**

All of the sub-actions listed below, will assist Malta in taking on a more holistic approach in its efforts to reduce marine litter and its effects on the marine ecosystems. The Action Plan will:

- Improve litter management in urban natural areas;
- Capture litter in the marine environment without the need of active human intervention;
- Foster awareness within the community and visitors to the site that artificial intelligence can facilitate litter management;
- Allow for data sharing with the public through a web based platform to further enhance awareness with regard to appropriate waste disposal practices;

Furthermore, the Action Plan will tackle both land-based and sea-based activities that pollute the Maltese waters; help monitor marine litter more effectively to identify the main items found at sea; and assist in improving waste management policies through better management procedures and practices nationwide.

Sub-Action 1

Installation of a new floating debris interception device (Seabin) in a Natura 2000 site:

The Environment and Resources Authority (ERA) will be funding the installation of a new Seabin at *"Il-Magħluq tal-Baħar"* in Marsaskala, in partnership with Nature Trust Malta (NTM), which manages the abovementioned site.

This sub-action will help both the Authority and NTM to take a positive action against dumping of domestic waste, litter and other refuse into Natura 2000 sites around the Maltese Islands. The stakeholders involved will also monitor the type of waste being captured by the unit to guide measures aimed to increase awareness of Natura 2000 amongst the public and stakeholders.

- **Who is the main stakeholder for this sub-action?**

Nature Trust (Malta) will serve as the main stakeholder in this sub-action. They are a non-profit non-governmental environmental organization working in the Maltese Islands, founded on 12th December 1962 under the name Natural History Society of Malta.

Nature Trust (Malta) is today one of the oldest and largest eNGOs in Malta dealing with natural environment of the Maltese Islands. Over the years it has worked and lobbied hard to get legal protection for various plants and animals in the Maltese Islands, helping to save from extinction some of the local endemic species. Today the trust is very active in environmental education through various means, as it strongly believes that education is the best tool to create awareness on nature conservation. The organisation is also carrying out many environmental projects in Malta such as afforestation, habitat conservation and the management of marine protected areas.

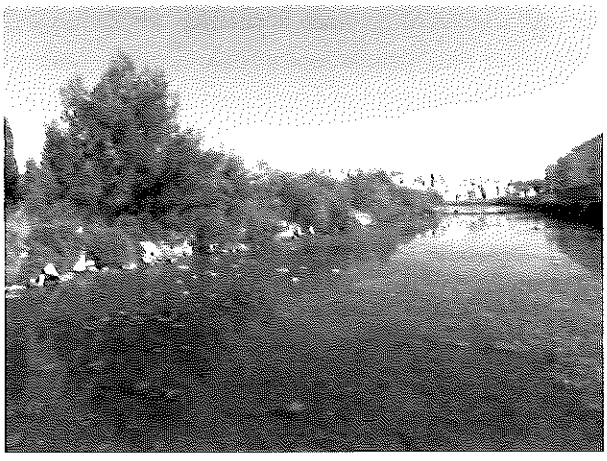
- **Background information on Il-Magħluq tal-Baħar**

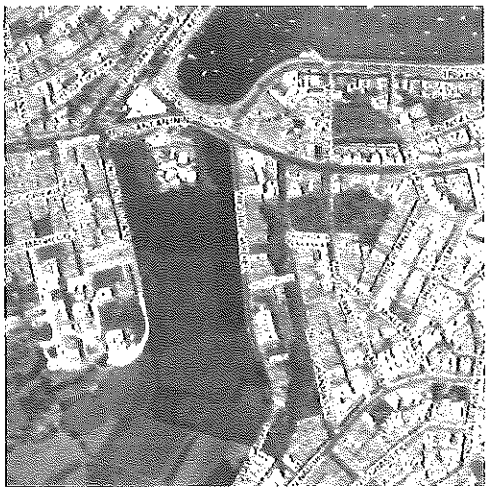
The Special Area of Conservation (SAC) of "Il-Magħluq tal-Baħar" is found within the boundary of Marsaskala, a locality in the South Eastern Region of Malta.

The site is mainly characterised by a body of brackish water which was originally two interconnected fish ponds lined with layers of stones. A road runs along the eastern side of the marsh while the western and southern sides are surrounded by agricultural fields. The

main pool is maintained by freshwater through precipitation and runoff from the surrounding fields and by seawater to which the pond is connected by pipes to the sea.

Most of Marsaskala has been developed into residential and recreational complexes, including the immediate surroundings of the site, which is itself bound by a main road and a set of restaurants, tourist complexes and shopping precincts, except for an area fenced by the former Environment Protection Department in the late 1990s and the northern side and part of the eastern side of the fenced area, which are still mainly agricultural.





Figures 1 & 2: Il-Maghluq tal-Baħar, Marsaskala (*Source*: ERA)

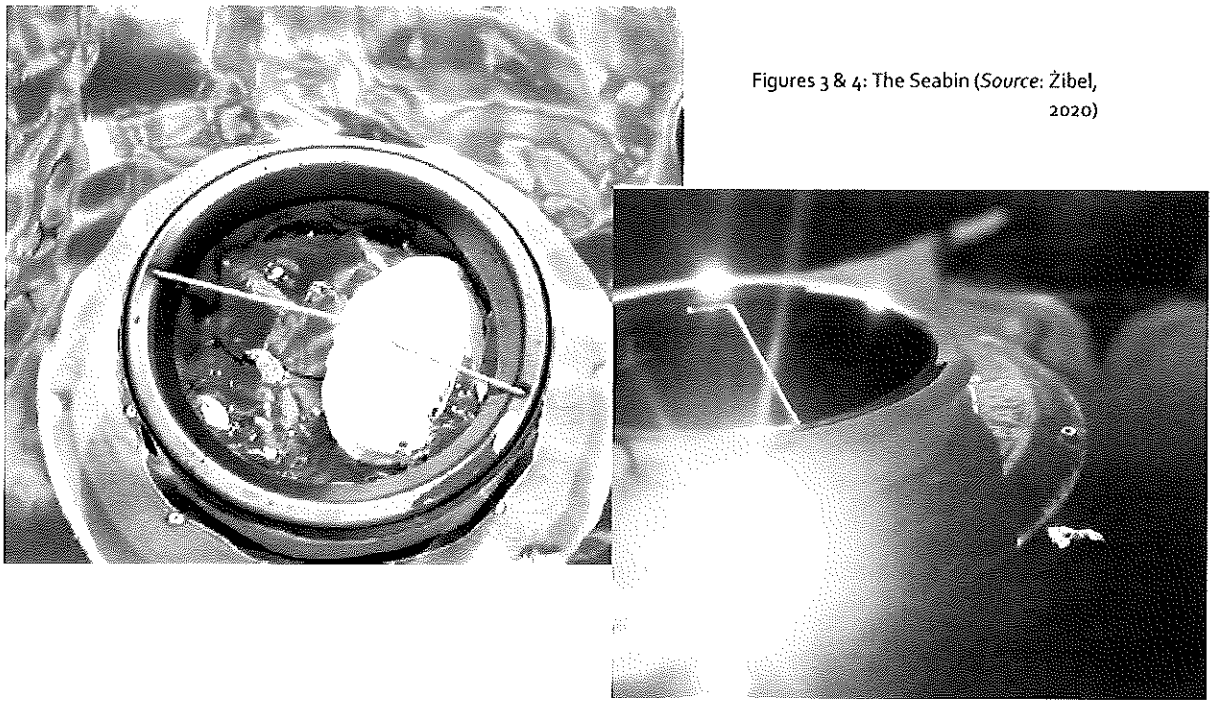
- **Factors impacting the site**

Its relatively small size makes it highly vulnerable to anthropogenic constraints that are affecting the habitat including littering (with bottles, snack wrappers, etc) thrown by passers-by inside the lagoon and along the banks and contaminated runoff reaching the lagoon. Due to this, the structure of this lagoon and its ecological function are considered to be bad and deteriorating.

- **How will the Seabin operate?**

The Seabin, unlike other bins, is designed to be installed in water, specifically in catchment areas of ports and harbours where debris naturally collects due to the flow of water in the area. Water is sucked in from the surface and passes through a catch bag inside the Seabin, with the help of a submersible water pump plugged directly into a 110/220 V outlet. The water is then pumped back into the sea, leaving litter and debris trapped in the catch bag.

Each Seabin filters around 25,000L/h (or around 219 million L/ year per bin) of water and captures plastics and fibres up to 2mm in size, all the way up to jerrycans and lage 2L plastic bottles. Over a period of one year, each Seabin is estimated to collect between 500kg to 1 tonne of debris.



Figures 3 & 4: The Seabin (*Source*: Żibel, 2020)

- **Main Activities for this sub-action:**

  - Acquisition of Seabin by NTM
  - Identification of location where bin will be installed
  - Application for relevant permit to install Seabin in the Natura 2000 site
  - Installation of New Seabin
  - Monitoring of waste captured by the unit
  - Record data
  - Develop measures aimed to increase awareness about littering and about the importance of keeping Natura 2000 free from litter.
  - Maintain regular updates on the implementation of the sub-action.

Sub-Action 2

Maintaining current floating debris interception devices at sea (Seabins):

The Ministry for the Environment, Energy and Enterprise (MEEE) and the Environment and Resources Authority (ERA) will provide all the necessary funding to continue the up- keeping and maintenance of the Seabins already installed in various places around Malta, outside sub-action 1. This sub-action will further cater for the continuation and growing of this intelligent system and related services to ensure a cleaner country both on land and at sea.

- **Who is the main stakeholder for this sub-action?**

The main stakeholder for this sub-action is Żibel, a registered Voluntary Organisation and an environmental non-governmental organization (eNGO) with the aim of reducing the overall waste generated on our islands and restoring our natural environments to their most natural states. The NGO was founded in 2017 and since then has developed with the helpful hands of its team members and volunteers. Today Żibel holds monthly clean-ups around the islands, operates a boat around Malta's shores and is constantly in search of novel solutions to safeguard the Maltese natural environment.

- **How will the Seabin be maintained?**

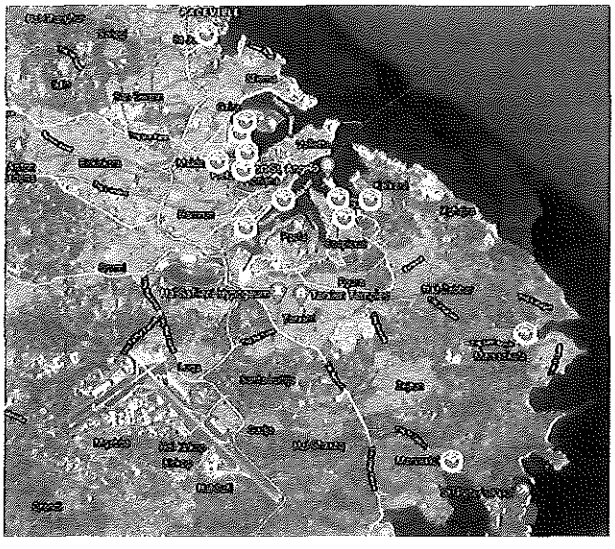
The catch bag inside the Seabin can hold up to 20kg of debris. The bins will be checked three times (3) a week, as long as the unit is accessible and easy to empty.

Moreover, once every year, each Seabin should be removed from its installation and fully serviced with anti-fouling, pump cleaning, fixture maintenance and other wear and tear. Aside from yearly inspections, Żibel is on hand to address any issues in the interim. It is to be noted that respective Local Councils are assigned the task of covering the electricity cost per Seabin. This cross collaboration ensures that each Seabin has a net positive impact on the communities as the unit itself draws residents attention to the marine littering issues faced, in-turn encouraging them to adopt a more conscious and sustainable lifestyle. For this sub-action, Żibel will provide a report outlining the maintenance carried out on the seabins together with a breakdown of the costs involved.

Figure 5: Maintaining the Seabin (*Source*: Żibel, 2020)

- **Current locations of the Seabins?**

The locations of current Seabins is restricted to coastal marine areas found in ports. None of these are located in a natural protected area. The installation of Seabins was preceded with site monitoring prior to installation. The eNGO Żibel, reaches out to the locals in each area to gain a better picture of how the area operates in general which then allows the parties involved to plan the installations in such a way that they do not disrupt any moorings or quays. A minimum of five (5) site visits are performed for each location to carry out a successful monitoring exercise.



This initiative started in 2018 with just one (1) Seabin, and since then it has progressed to thirteen (13) Seabins installed around the Islands. These can be found at: Marsaxlokk, Marsascala, Kalkara, Birgu, Marsa, Valletta Waterfront, Pieta, Ta' Xbiex, Gzira and St' Julians, Spinola Bay.

Figure 6: Locations (*Source*: Żibel, 2020)

- Main Activities for this sub-action:

- Maintenance of existing units (done by personnel engaged by the stakeholder Żibel)
  - Check units three (3) times per week
  - Clean once per month (ideally) or when deemed necessary
  - Service units with anti-fouling, pump cleaning, fixture maintenance and other wear and tear.
- Report on the maintenance carried out on the units
- Maintain regular updates on the implementation of the sub-action.

Sub-Action 3

Data Gathering and Waste Characterisation Exercise:

The installation of intelligent systems without the cooperation of the public might not lead to the desired results. Therefore, this action plan, apart from installing an intelligent bin, is also seeking to collect information on litter items. Such information has the intention to enhance public awareness towards the need of appropriate waste disposal practices.

Żibel, as the main stakeholder of this sub-action, has committed to provide the Ministry for the Environment, Energy and Enterprise (MEEE) and the Environment and Resources Authority (ERA) an analysis report with images, weights, sizes and an approximate count of all the waste items collected from the active Seabin units. These weights will be recorded in a database and passed through Google Data Studio in order to visualize the data in a logical fashion. The report will be provided once every three (3) months for a period of one (1) year, and funded by the Ministry and ERA.

All types of marine litter will be taken into account, however, special focus will be given to litter items that are considered as single-use plastics, including (amongst others): Plastic food wrappers, lids, straws, bags, bottles, cigarette buds and utensils. Additionally, weights are recorded each time a Seabin is emptied by using a portable scale on site.

The Environment and Resources Authority (ERA) believes that such exercise would be important for assessing the effectiveness of any measures implemented as part of the Single Use Plastics Strategy. This categorisation would make it easier for ERA to analyse the collected data and perhaps use it to develop a harmonised standard to allow producers to adapt their production according to the product design requirement. This is something which is considered a high priority in ensuring the effective implementation of Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment.

The data gathered from this exercise will be listed in dedicated data sheets, accompanied by a set of detailed instructions, to capture and present accurately the results. In addition, an online dashboard will be created by Żibel to share with MEEE and ERA further details on the catch from the Seabins (e.g. a global percentage of jablo caught from the Marsaxlokk Seabin or Seabins located at the rear of harbors yield similar collection weights). This information will be eventually considered to be made public, to be more transparent and lead to better decision making in our fight against Marine litter.

One is to note that the back-end infrastructure needed for this sub-action is already in place, with all equipment already in possession, meaning that the implementation process of this action can be initiated as soon as Phase 1 of the WINPOL project ends.

- **Main Activities for this sub-action:**
  - Monitoring of waste captured by the active units
  - Record data manually on data sheets on all waste items collected from each active seabin unit. Such data will include:
    - Images
    - Weights
    - Sizes, and
    - Approximate Count
  - Compile report with reported data once every 3 months
  - Upload data to Google data studio
  - Maintain regular updates on the implementation of the sub-action.
  - Develop measures aimed to increase awareness about littering, targeting the general public and industry
  - Make data available to the public in an interactive way, to increase transparency.

Stakeholders involved

- For the first sub-action, the stakeholders are:
  - The Environment and Resources Authority (ERA).
  - Nature Trust- FEE Malta

- For the last two sub-actions, the stakeholders are:
  - The eNGO Żibel,
  - The Ministry for the Environment, Energy and Enterprise (MEEE) and
  - The Environment and Resources Authority (ERA).

Timeframe

The sub-actions listed down in this Action Plan will start as soon as Phase 2 commences, and will continue throughout 2021 & 2022.

Concerning sub-actions 2 and 3, one is to note that the main stakeholder Żibel is fully liable and responsible for the sub-actions outlined above, including their final implementation and any necessary follow-ups. It is understood and agreed that ERA and MEEE will not be liable for any default on the part of the main stakeholder.

Costs

I. To install a new Seabin- circa. **€6,000**
II. To maintain current Seabins - circa. **€20,000**
III. To carry out the Waste Characterisation Exercise – circa. **€6,136**

Funding sources

- ***For the first sub-action:***

ERA will fund **€6,000**, which will be utilised by Nature Trust Malta- FEE to install a new Seabin in the Special Area of Conservation (SAC) of "Il-Maghluq tal-Bahar" in Marsaskala. These funds will also be sourced from the Authority's subvention fund.

- ***For the last two sub-actions:***

MEEE and ERA will be co-funding these works through a Memorandum of Understanding (MoU) set up with the eNGO Żibel. The co-funding amounts to **€26,136** and covers the management and maintenance of the existing seabins as well as the waste characterisation exercise. Funding will be sourced from national funds.

Date: 31/10/22

Signature:

Environment and Resources Authority

Stamp of the Organisation (if available):

Kevin Mercieca
ERA
Acting CEO

Date: 07/11/2022.

Signature:

Ministry for the Environment, Energy and Enterprise

Stamp of the Organisation (if available):

Joseph Caruana
Perm. Sec. MEEE

Date: 22/09/2022

Signature:

Żibel (VO/1465)

Stamp of the Organisation (if available):

Date: 26/09/2022

Signature:

Nature Trust- FEE Malta (VO/0048)

Stamp of the Organisation (if available):