



Survey on Limassol Coastal, Marine and Maritime Environment

Introduction

Limassol has experienced unprecedented development over the past decade, while the coastal tourism, the international business community and particularly the shipping sector, continue to be main sources of oxygen for the local economy. At the same time, hotels, port and marina operations, along with the more recent building developments are considered core factors influencing the sustainability of the coastal waters, beaches and ultimately the natural environment and well-being of citizens. A rigorous, science-based, assessment of the Limassol town master plan analysing citizens opinions and priorities of balancing the economic growth with long-term environmental sustainability, is therefore of paramount importance.

On Friday 29th of May 2020, Frederick University and the Municipality of Limassol have held the first annual forum entitled “*Blue Limassol: Sustainable Coastal, Marine & Maritime Environment*”. Due to restrictions imposed by the Covid-19 pandemic, the forum was conducted on-line. The webinar attracted a lot of attention and provided an opportunity for Frederick University to utilize technological tools to run a survey that captures the opinions of the citizens of Limassol on important aspects that concern us all.

As the Blue Limassol Forum initiative developed, ascertaining the opinions of citizens re sustainability of the environment was considered critical to provide insights regarding concerns and priorities. A structured questionnaire was designed, and the survey conducted online over the week preceding the Blue Limassol Forum. The response to our initiative has been overwhelming with over 500 people participating in the survey. Below we summarize the main results of their answers.

Participation Demographics

Over 500 people participated in the survey. About two thirds of the sample included people over 30 years old (**Figure 1**) and holders of a postgraduate diploma (**Figure 2**). Gender representation was almost equal (**Figure 3**) and about three quarters of the people that answered this questionnaire live or work in Limassol (**Figure 4**).

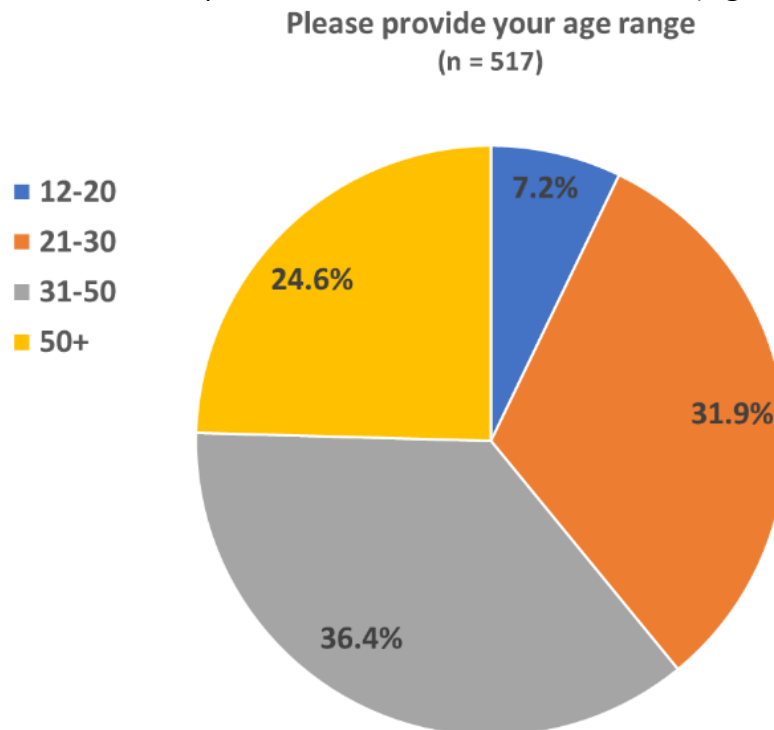


Figure 1. Age breakdown of survey respondents.

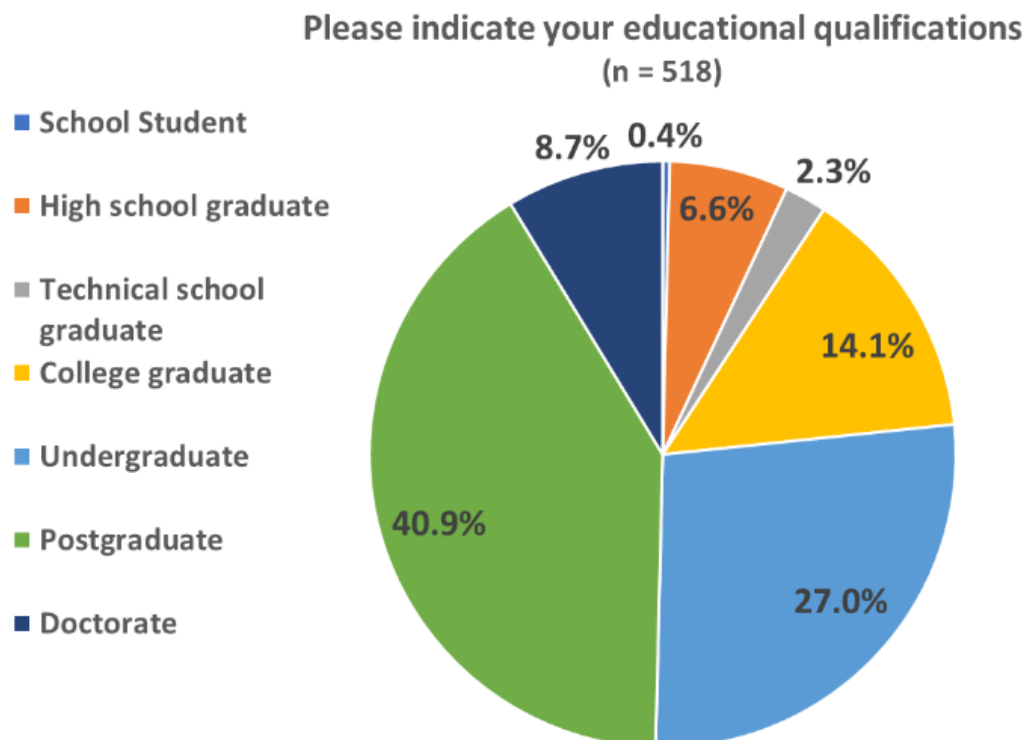


Figure 2. Educational background of survey respondents.

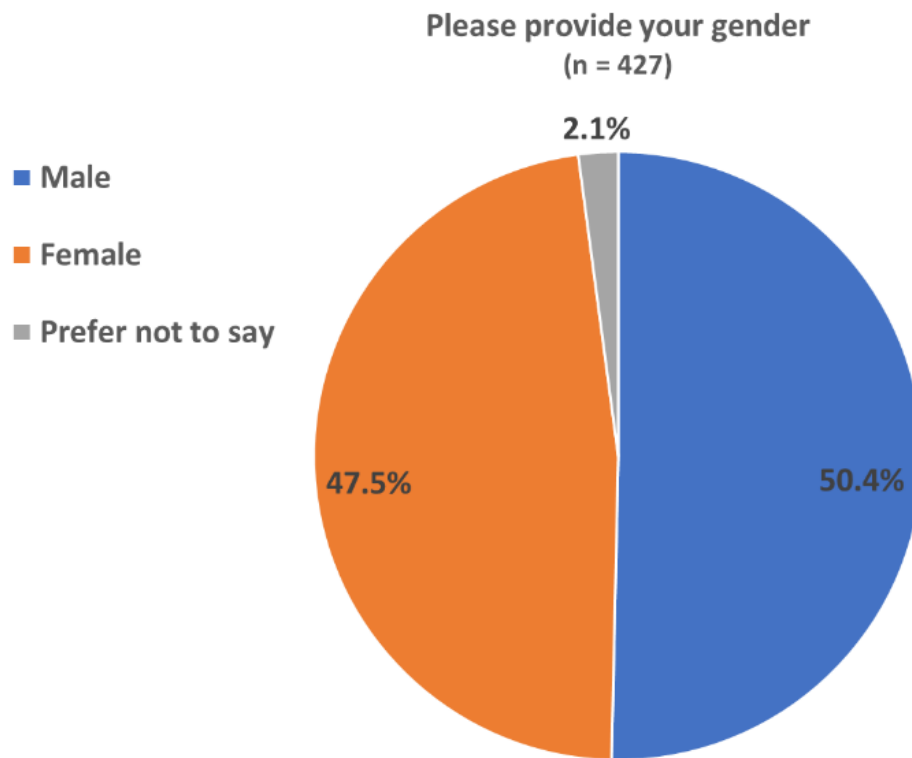


Figure 3. Gender of survey respondents.

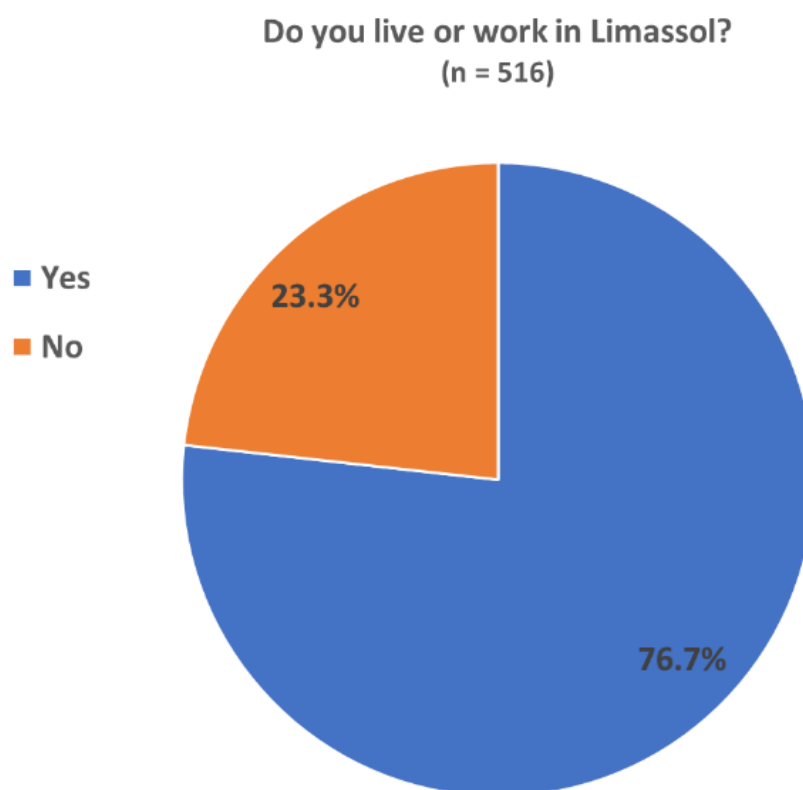


Figure 4. Answers to whether survey respondents live or work in Limassol.

Main Results of the Survey

The remaining document outlines answers to the main questions of the survey. The title of each graph provides the survey question and denotes the number of respondents (in bracket).

Close to 90% of respondents believe that the major coastal environmental concerns in Limassol that need to prioritize and improve, include: water pollution from any source (47.4%) Beaches (14%), Marine Litter and Waste Management (13%) and Air pollution (12%) (**Figure 5**).

In terms of major coastal environmental concerns, what is your main priority to improve? (n = 511)

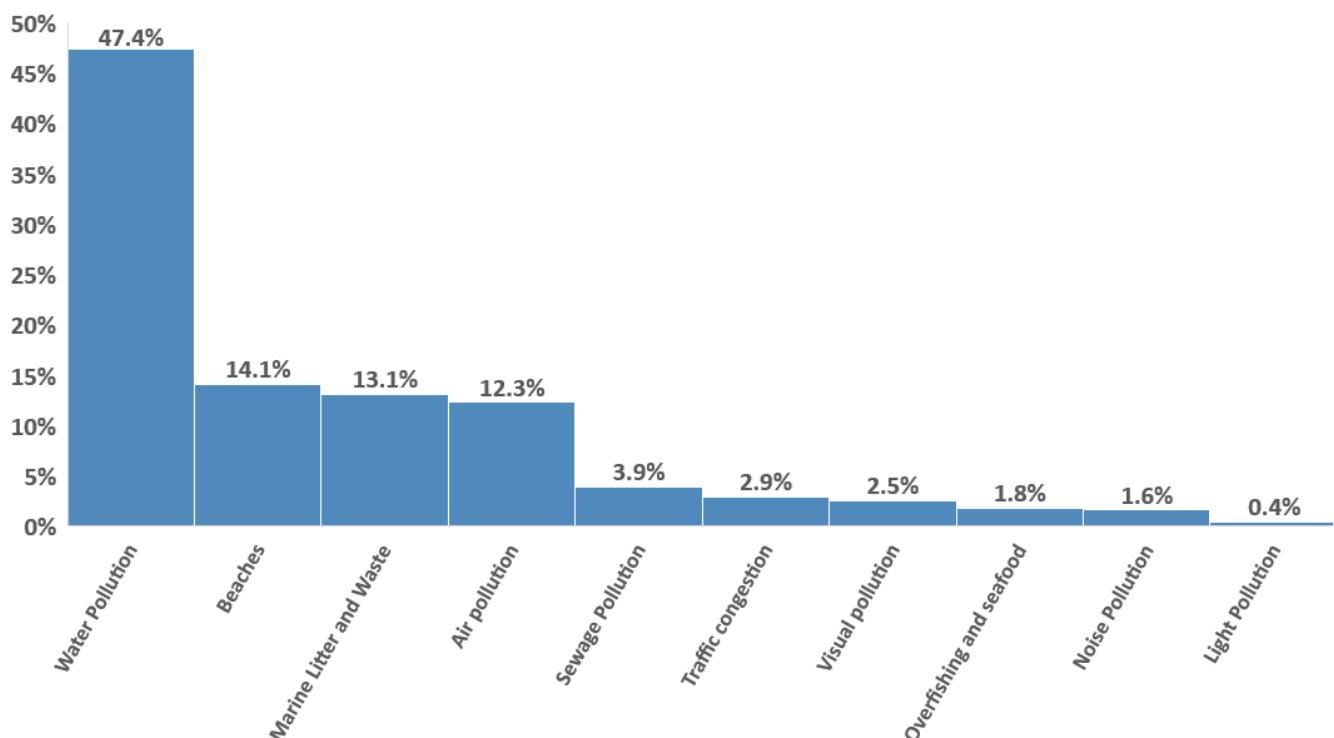


Figure 5. Coastal environmental concerns.

Participants provided normally distributed answers with about 50% of the cohort placing Limassol Beaches “middle of the road” in terms of cleanliness and safety (**Figure 6**).

When asked to identify up to the three most important sources of sewage pollution on Limassol beaches, 1,307 votes were casted. The public perception is that Hotels, Commercial Ships and Sewage Systems are mostly responsible for sewage pollution. To a lesser extent ports, marinas and cruise ships or yachts. Fish farms and Fishers are least to blame (**Figure 7**).

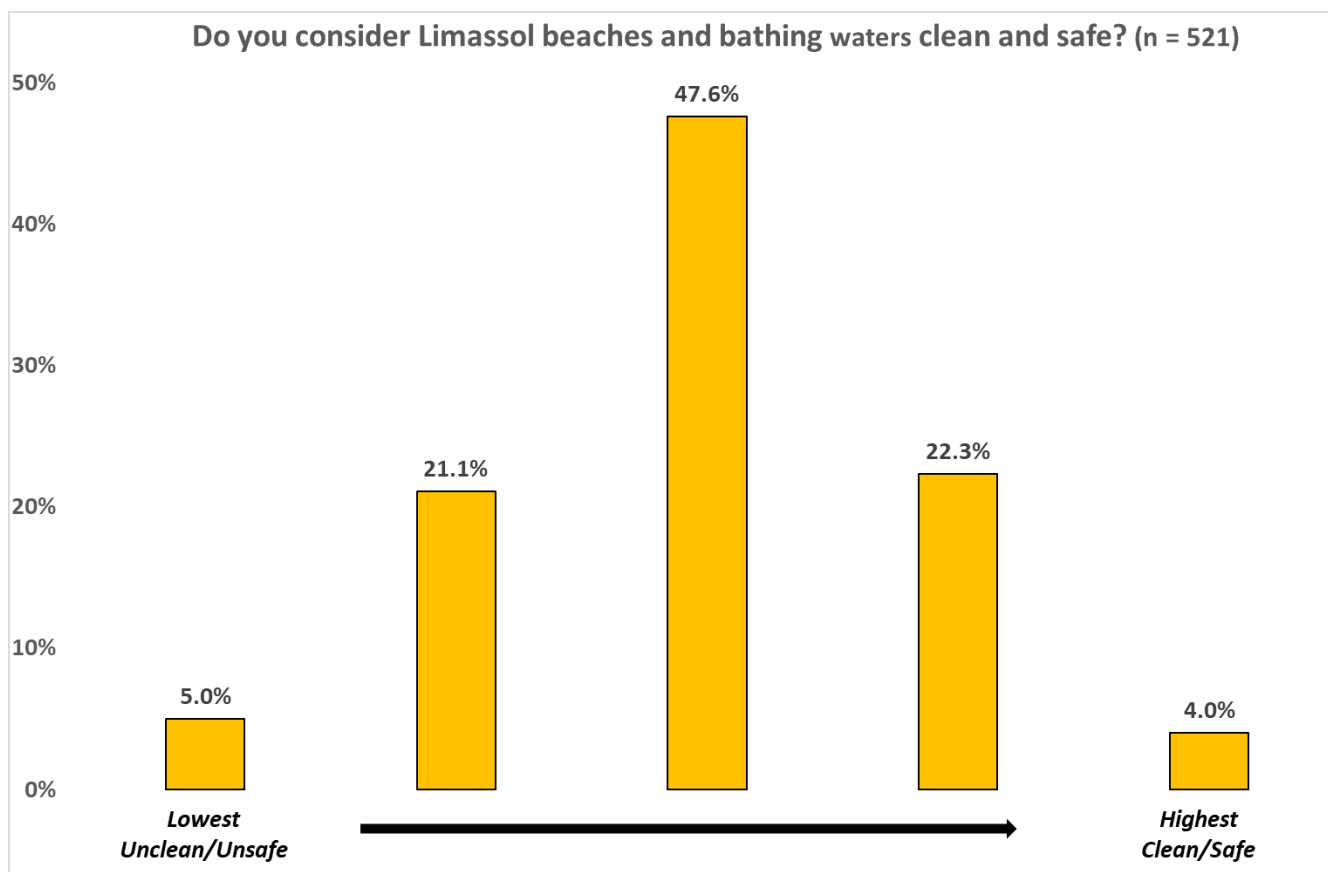


Figure 6. Safety and Cleanliness of Limassol Beaches.

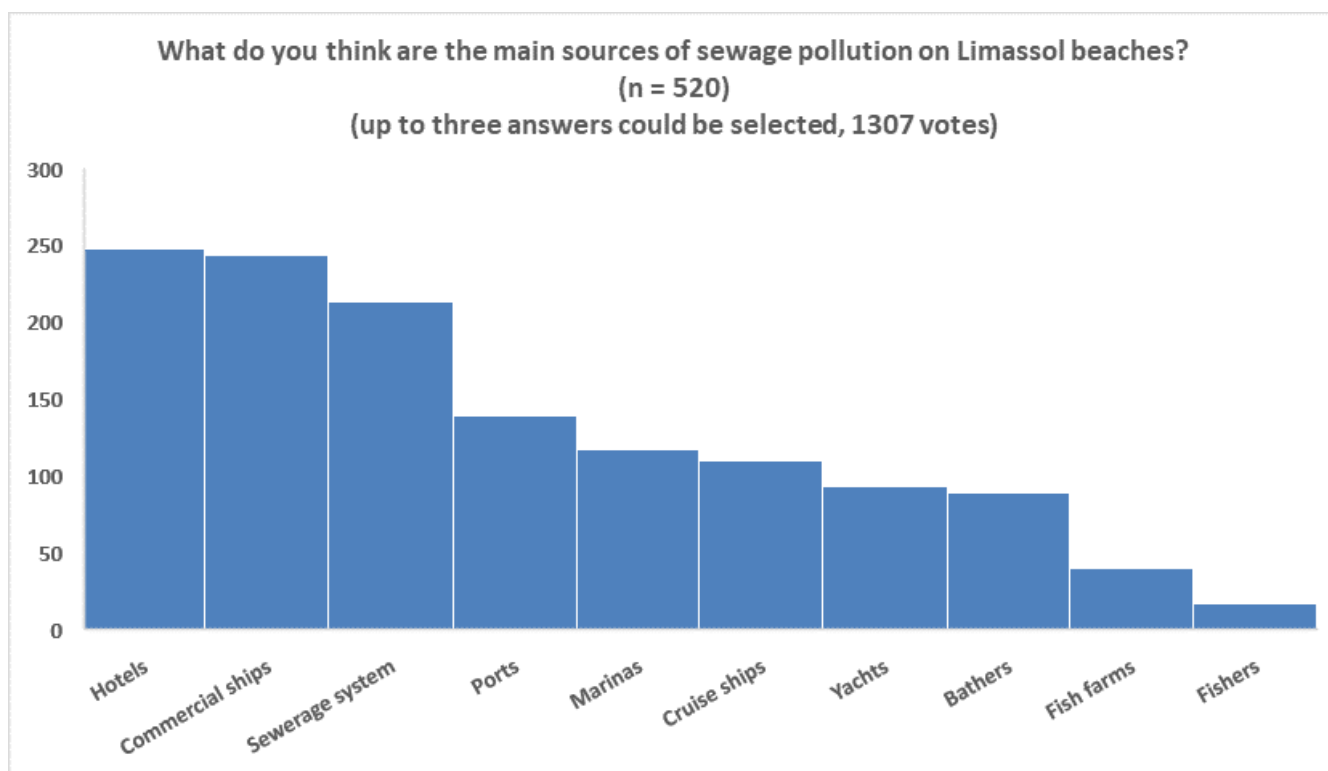


Figure 7. Sources of Sewage Pollution.

The question regarding the opinion of the citizens in terms of coordination and efficiency of various authorities to control and protect the environment of coastal waters and beaches causes some skepticism as only 2.3% of the participants agreed that the coordination and efficiency of the authorities is at best level (**Figure 8**). On the other end, 13% expressed their discontent by awarding the lowest grade of coordination and efficiency (**Figure 8**).

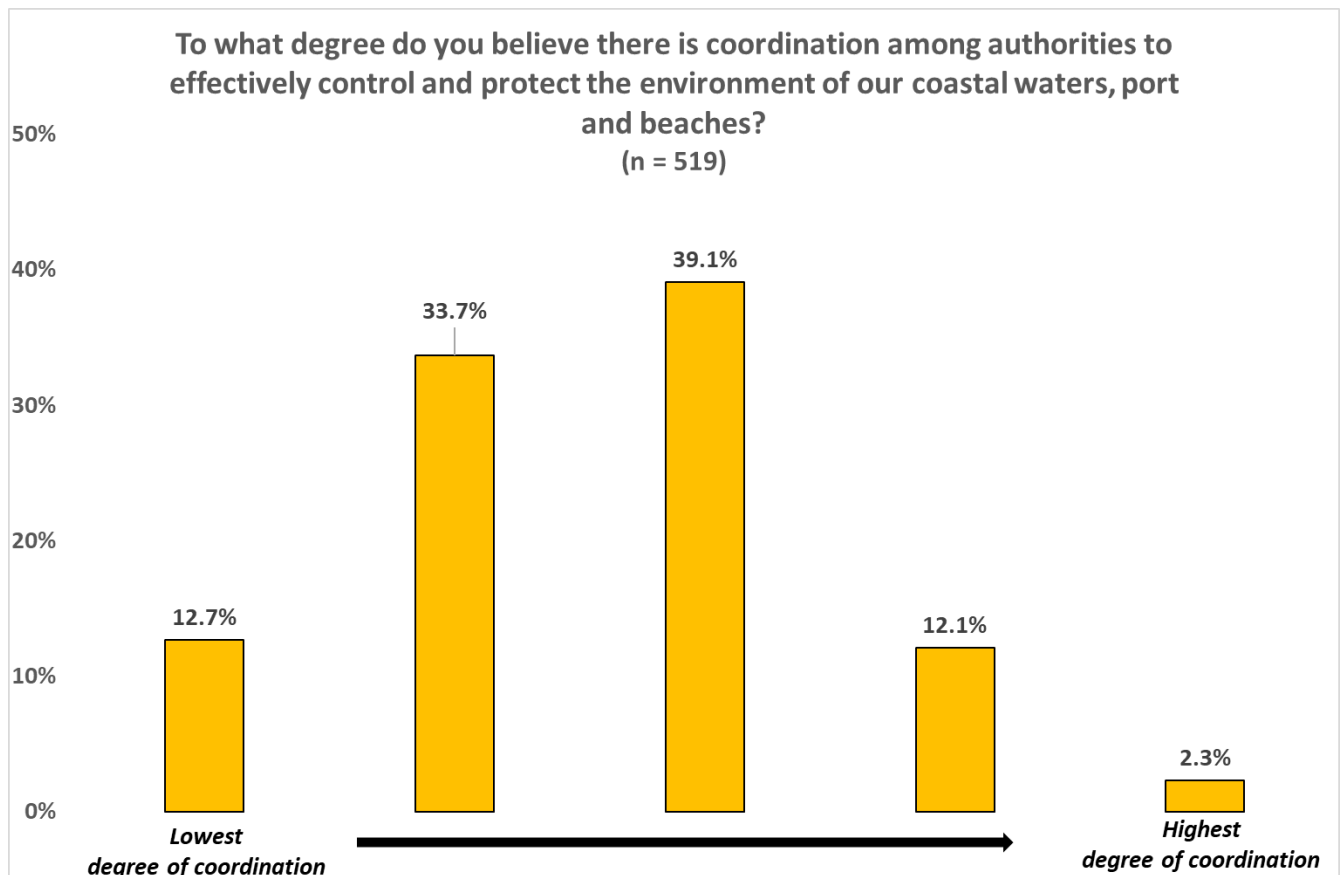


Figure 8. Government Protection and Control.

While expressing their discontent about authorities' efficiency the respondents have revealed a lack of awareness for which authority to contact in terms they detect a pollution incidence; only about 30% know which authority to contact in case of identifying a violation (**Figure 9**).

When asked to identify up to the three most important threats on marine ecosystems of Limassol 1,377 votes were casted from 518 respondents. The results suggest that the public considers Plastic, (lack of) Environmentally Aware Citizens, Port and Commercial Ships and, the recent advent of Tall Buildings as the most significant threats (**Figure 10**).

In cases where pollution incidences are noted do you know which authority to contact?
(n = 519)

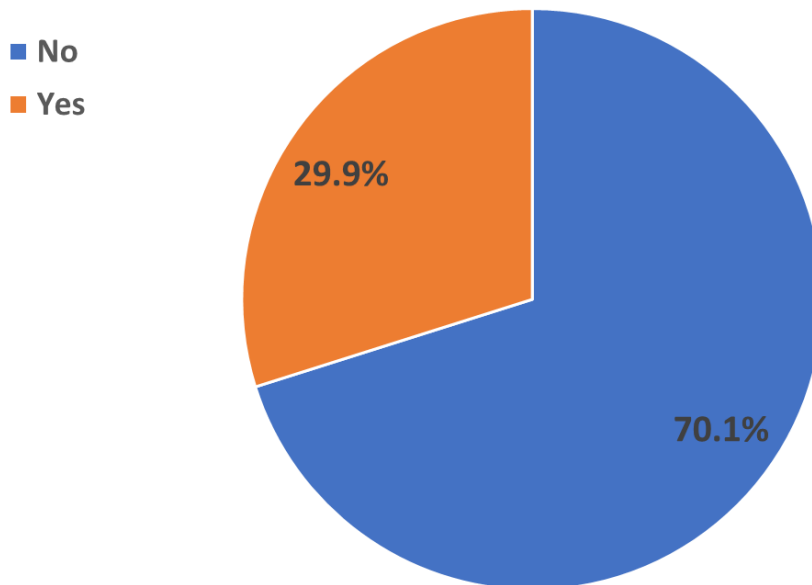


Figure 9. Awareness of citizens regarding who to contact in case they detect a violation.

What do you consider to be the main threats to the Limassol marine ecosystems and 'blue flag' bathing waters of Limassol?
(n = 518)
(up to three answers could be selected, 1377 votes)

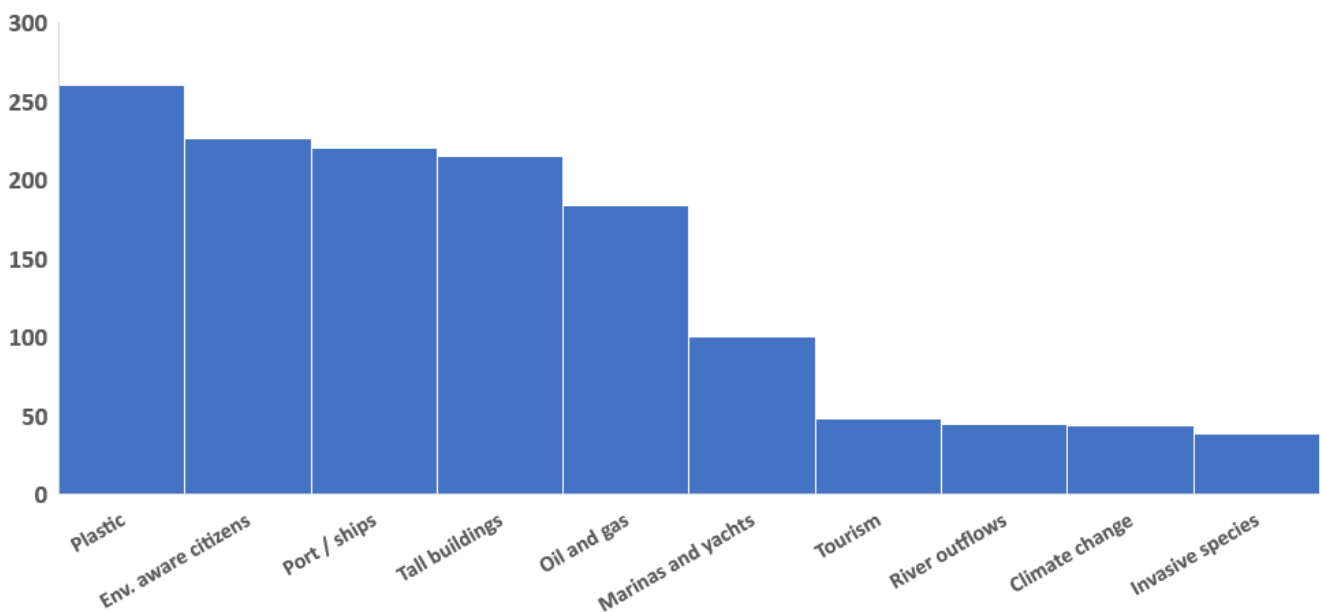


Figure 10. Main threats to local Marine Ecosystems.

Participants also expressed reasonable concern about the environmental impact of oil and gas exploitation with a disproportionate percentage (18.4%) attributing the highest possible impact (**Figure 11**).

When asked to identify the most important benefit to Limassol citizens of a well-functioning ecosystem about two third of the sample identified the recreational activities (swimming, fishing, diving, water sports) and regulation of climate and air quality as the most important marine ecosystem services/benefits (**Figure 12**). The perceived benefit of recreation is consistent with the participants’ primary concern regarding the quality of coastal waters as identified in figure 5: there can be no recreational activity in polluted waters.

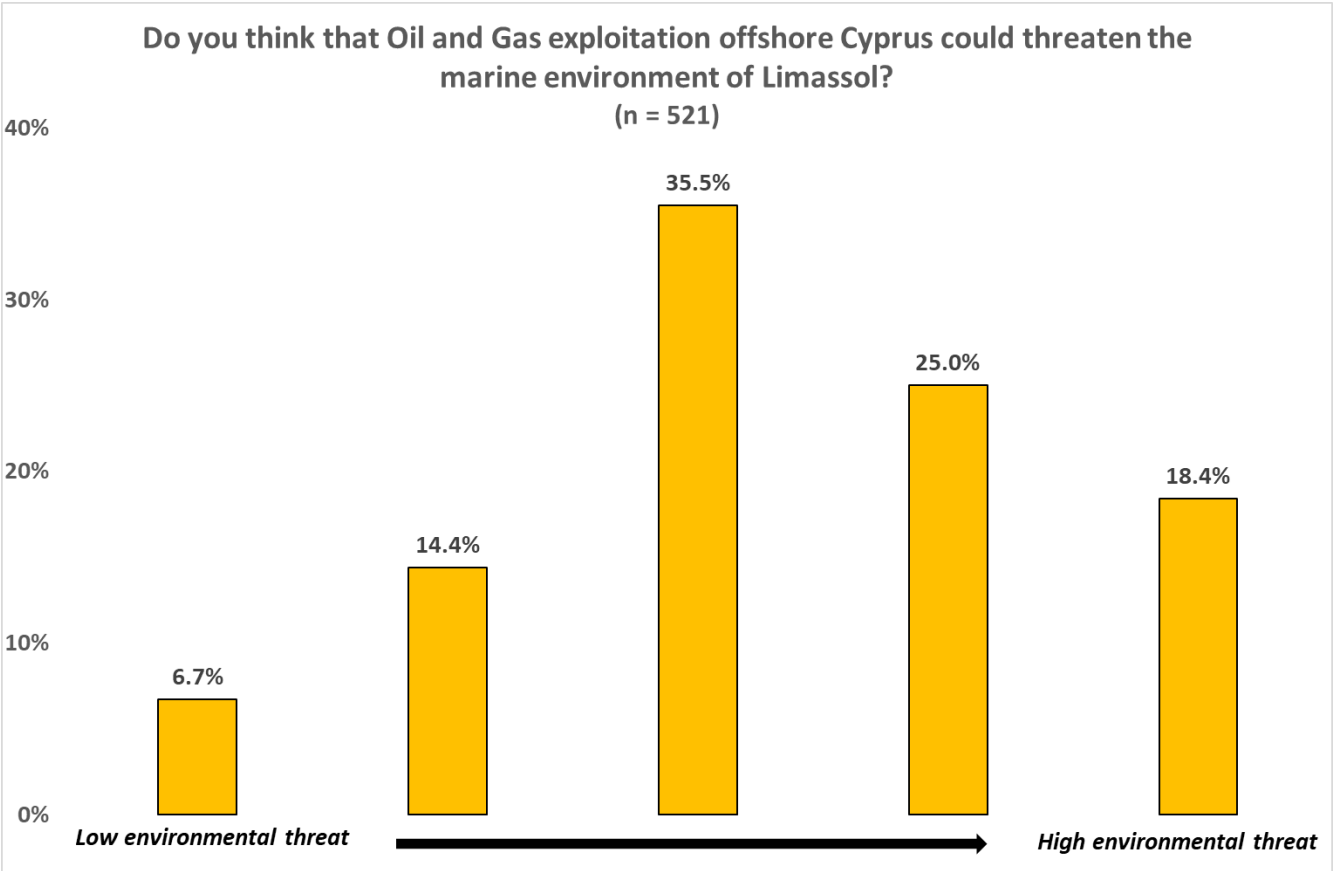


Figure 11. Impact of Oil and Gas Exploration.

Ecosystems are important to human well-being. What is in your opinion the most important benefit to Limassol citizens?
(n = 511)

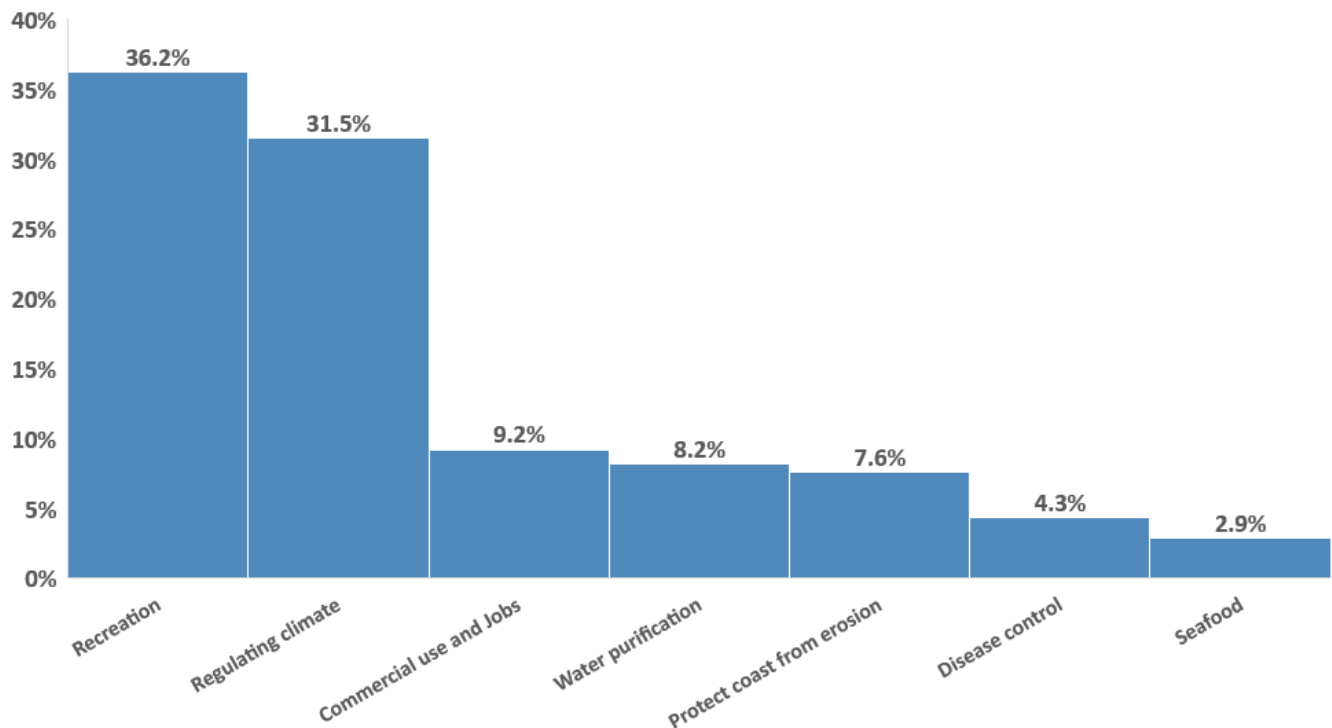


Figure 12. Benefits and services of marine ecosystems.

An overwhelming majority of people surveyed asserted that it is important that Limassol maintains regional leadership in the Maritime Industry (**Figure 13**).

When asked to identify up to three most important actions taken to ensure the sustainable and eco-friendly growth of Limassol, 1,470 votes were casted out of 523 respondents. The results point out to a need of increasing awareness among citizens to reduce, reuse, recycle, followed by a need to penalise and stop pollution at the source. A third point, which becomes increasingly contemporary is the suggestion to stop construction of tall buildings along the coastline (**Figure 14**).

The lack of environmental awareness among citizens of Limassol was also reflected in the next question where it is judged that almost half of Limassol citizens have low environmental awareness, compared to 0.6% for highest (**Figure 15**).

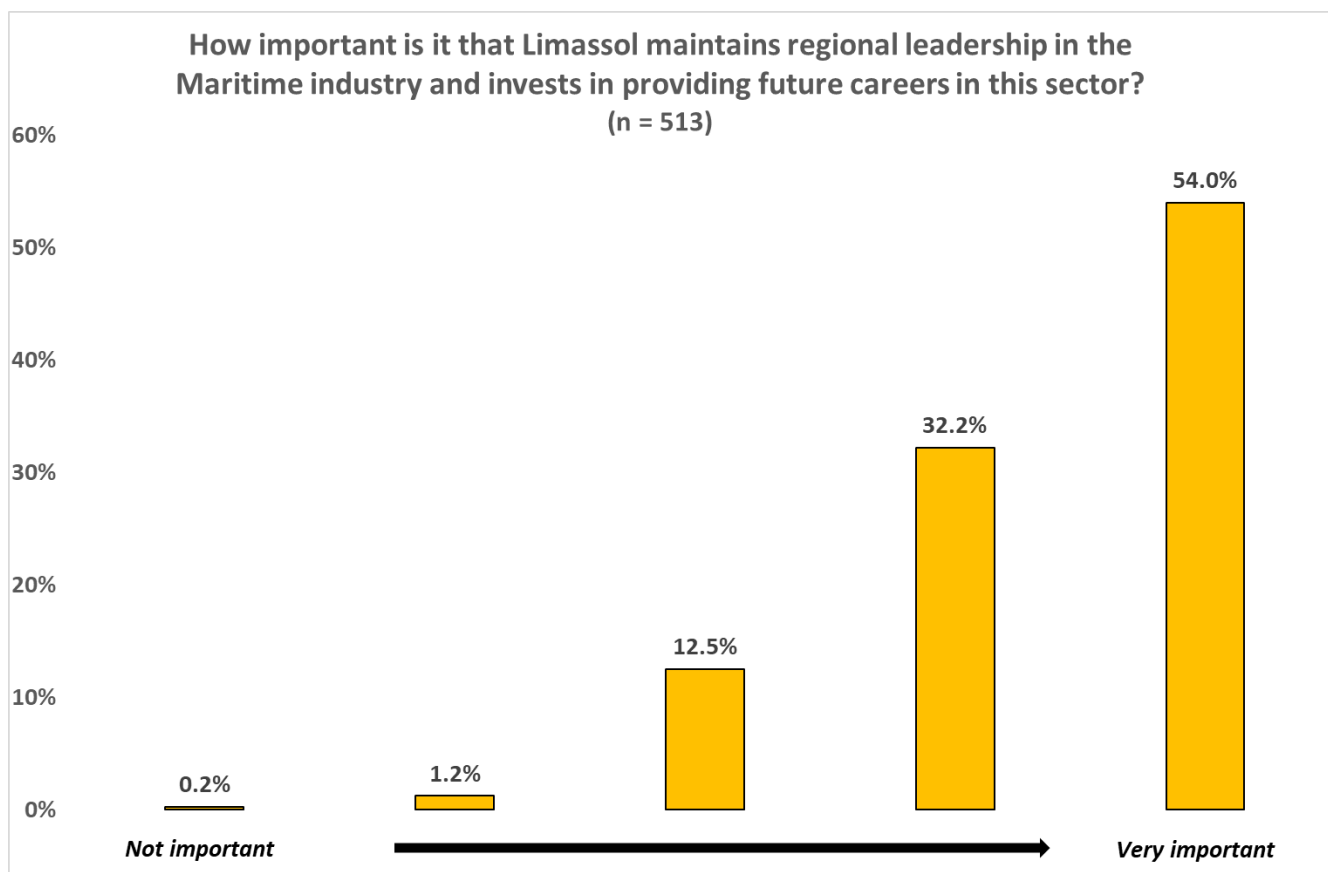


Figure 13. Leadership in Maritime.

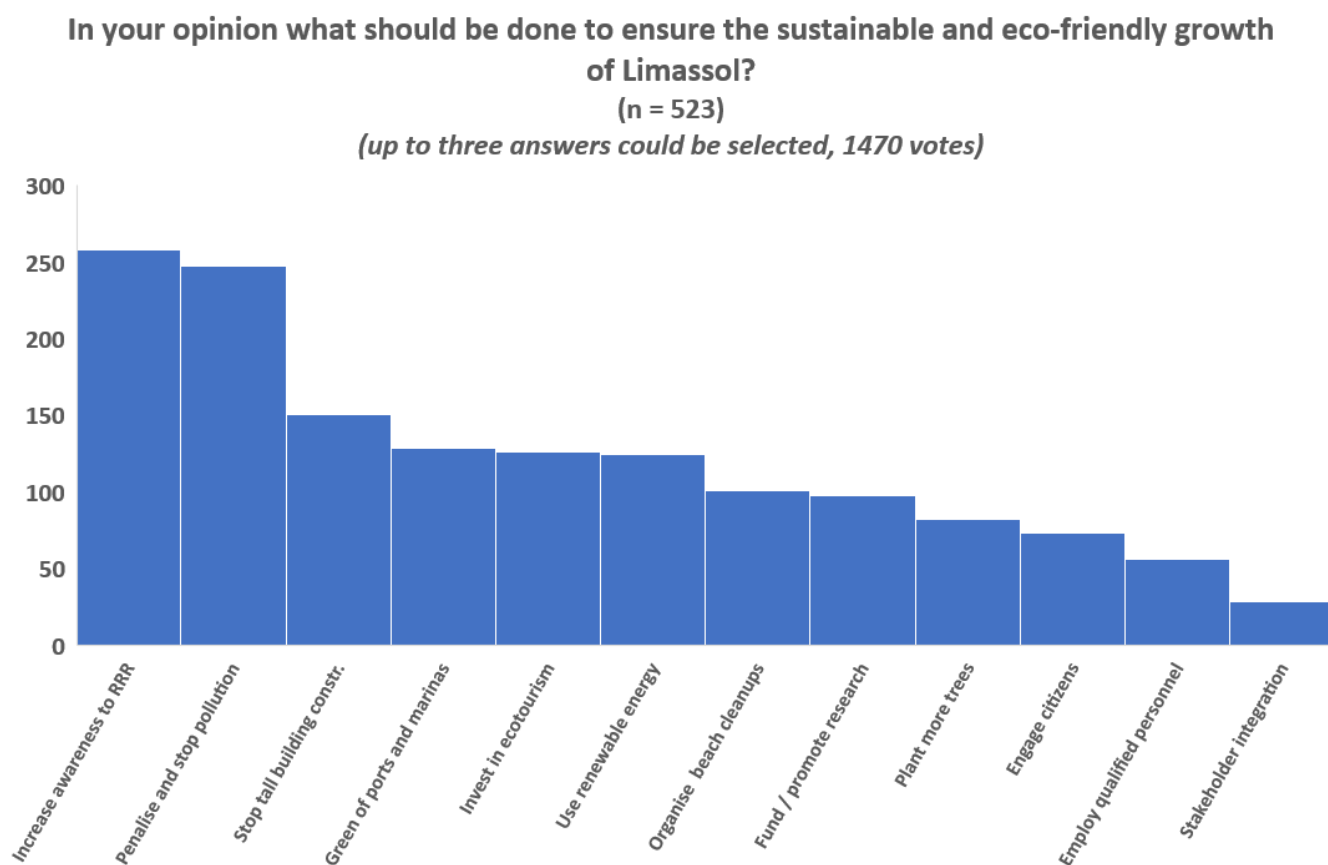


Figure 14. Sustainable and Eco-friendly Growth of Limassol.

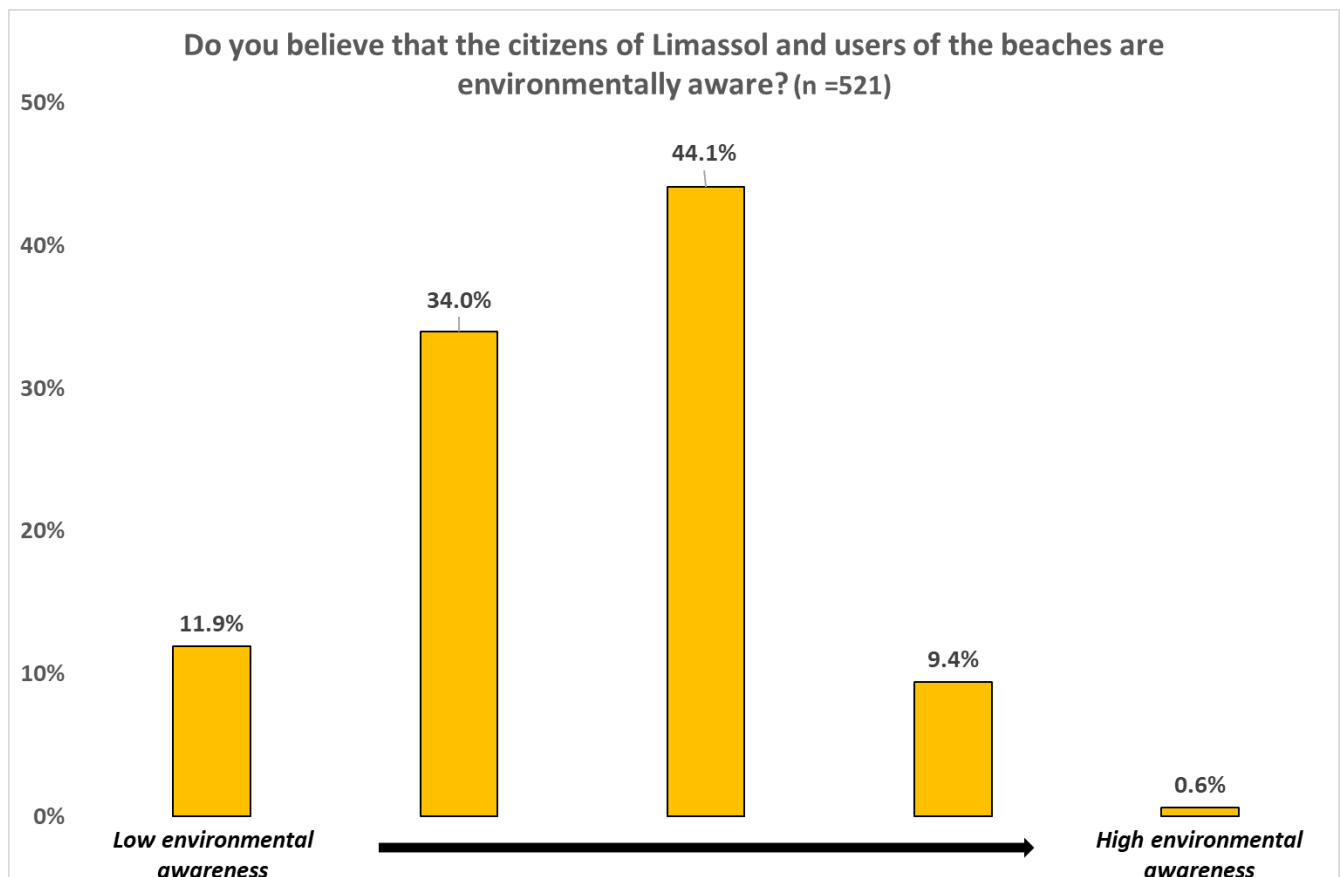


Figure 15. Environmental-Awareness among citizens.

The distribution of answers to whether Cyprus media cover environmental issues adequately is heavily skewed to negative responses, indicating the public perception towards the need for greater media coverage (**Figure 16**).

Participants have also expressed overwhelming support to the idea that educational institutions of all levels increase their contribution into providing marine environmental and maritime studies (**Figure 17**). They have also stated that they are willing to contribute towards a small duty or charge for the protection of the marine environment (**Figure 18**).

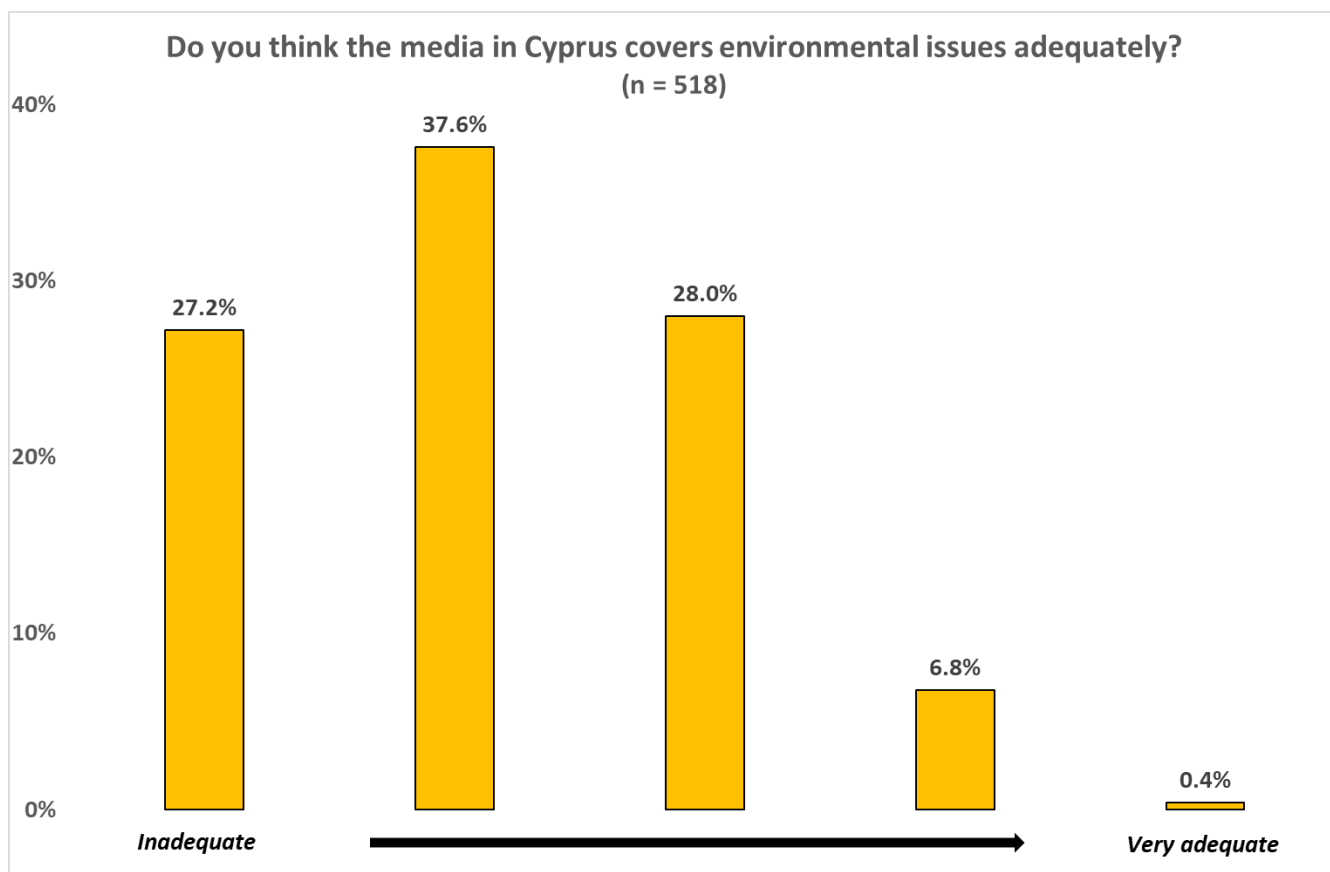


Figure 16. Media coverage of environmental issues.

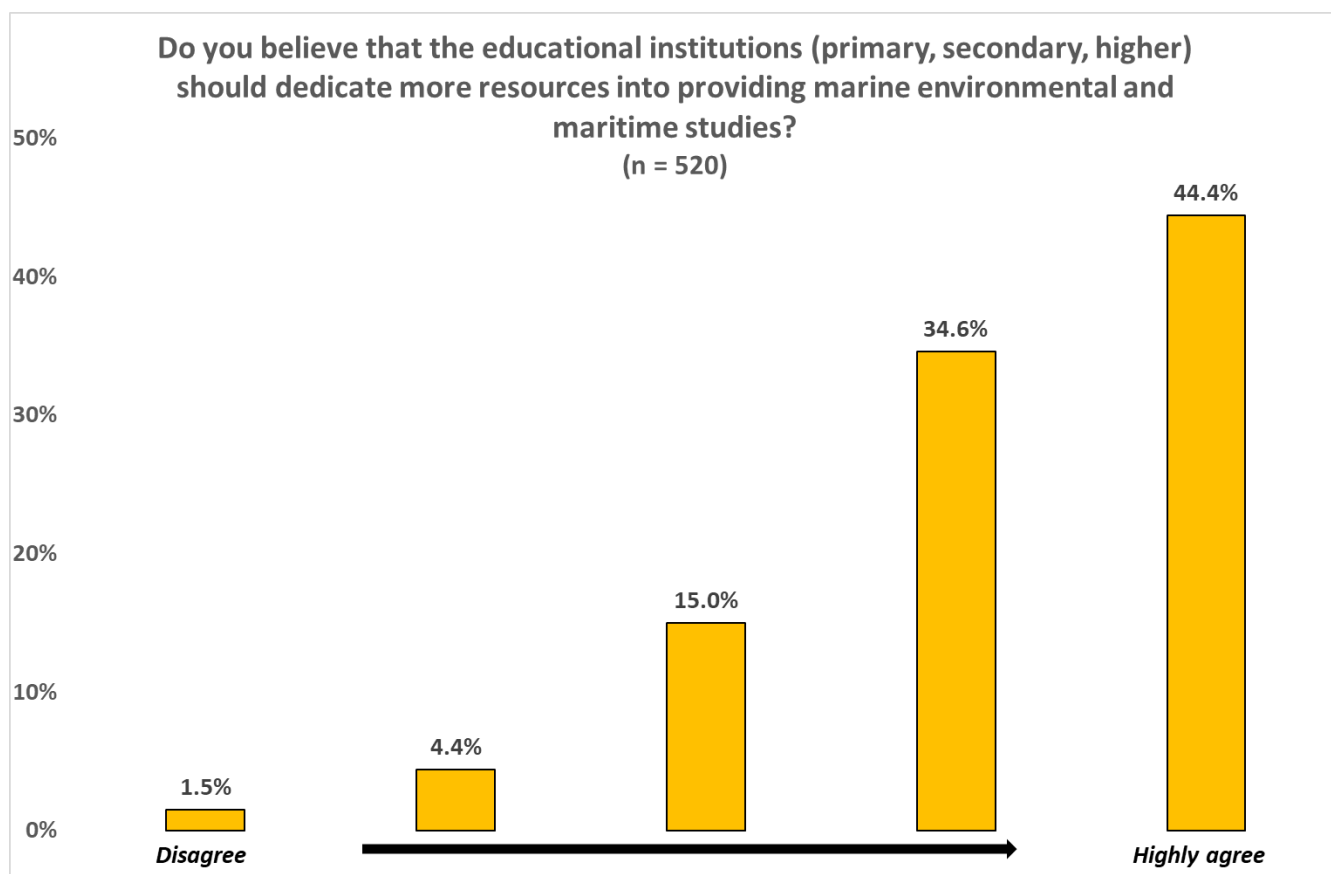


Figure 17. Resources for environmental education.

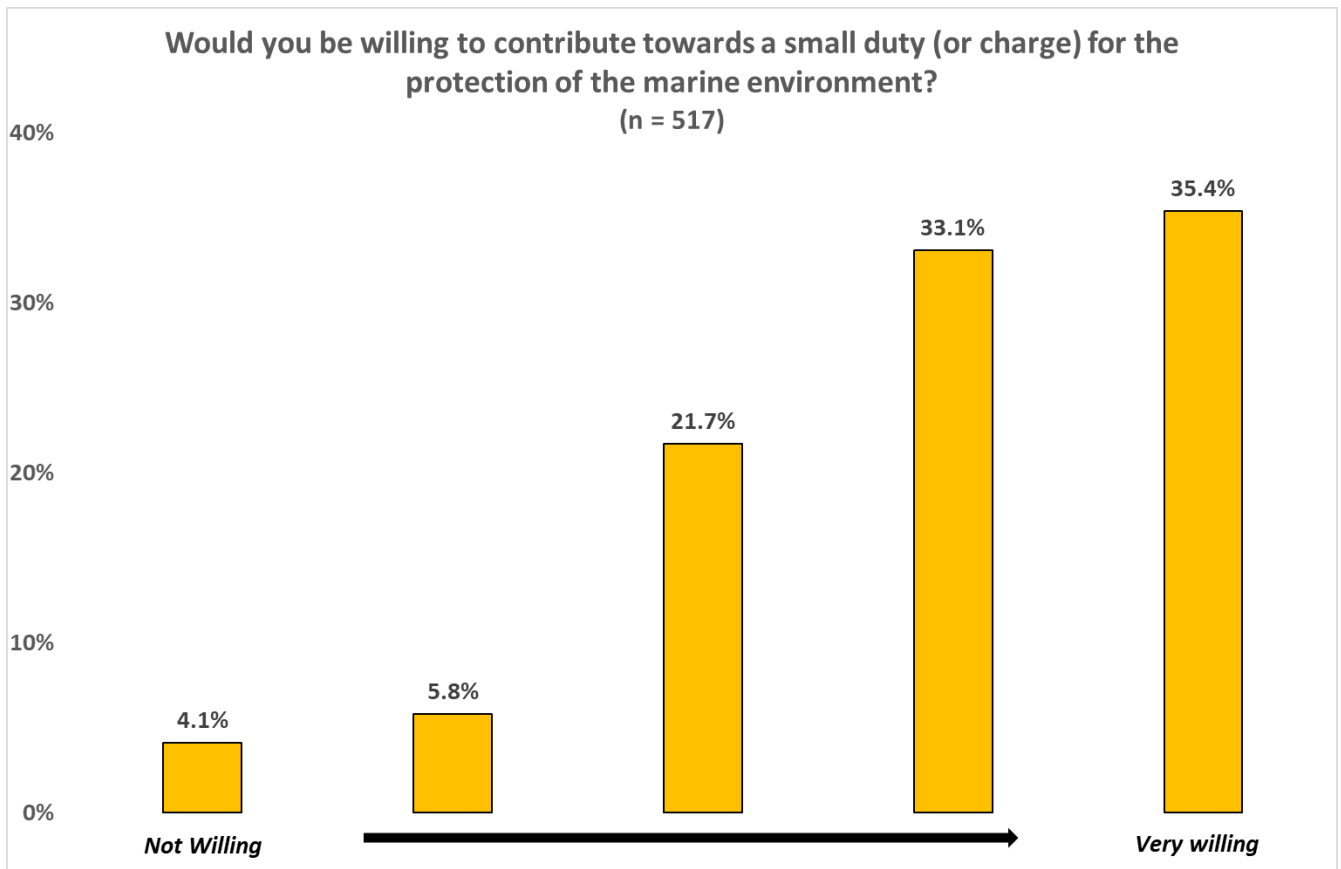


Figure 18. Voluntary Contributions.

The impact of Covid-19 in influencing environmental awareness has been noticeable. A total of 48.2% of the participants reported that they were either influenced (27.1%) or highly influenced (21.1%). On the other end, a sizeable 15.3% reported no influence at all, while 9.5% were only little influenced. Finally, another 27.1% seemed unable to establish an opinion as to whether the Covid-19 significantly altered their environmental awareness (**Figure 19**).

The survey concluded by asking participants to assess the usefulness of public events/initiatives as a gateway to communicating concerns and influencing decision-making. Most participants, just below 75%, strongly and highly agreed that such events are conducive to engaging the public on environmental policy (**Figure 20**).

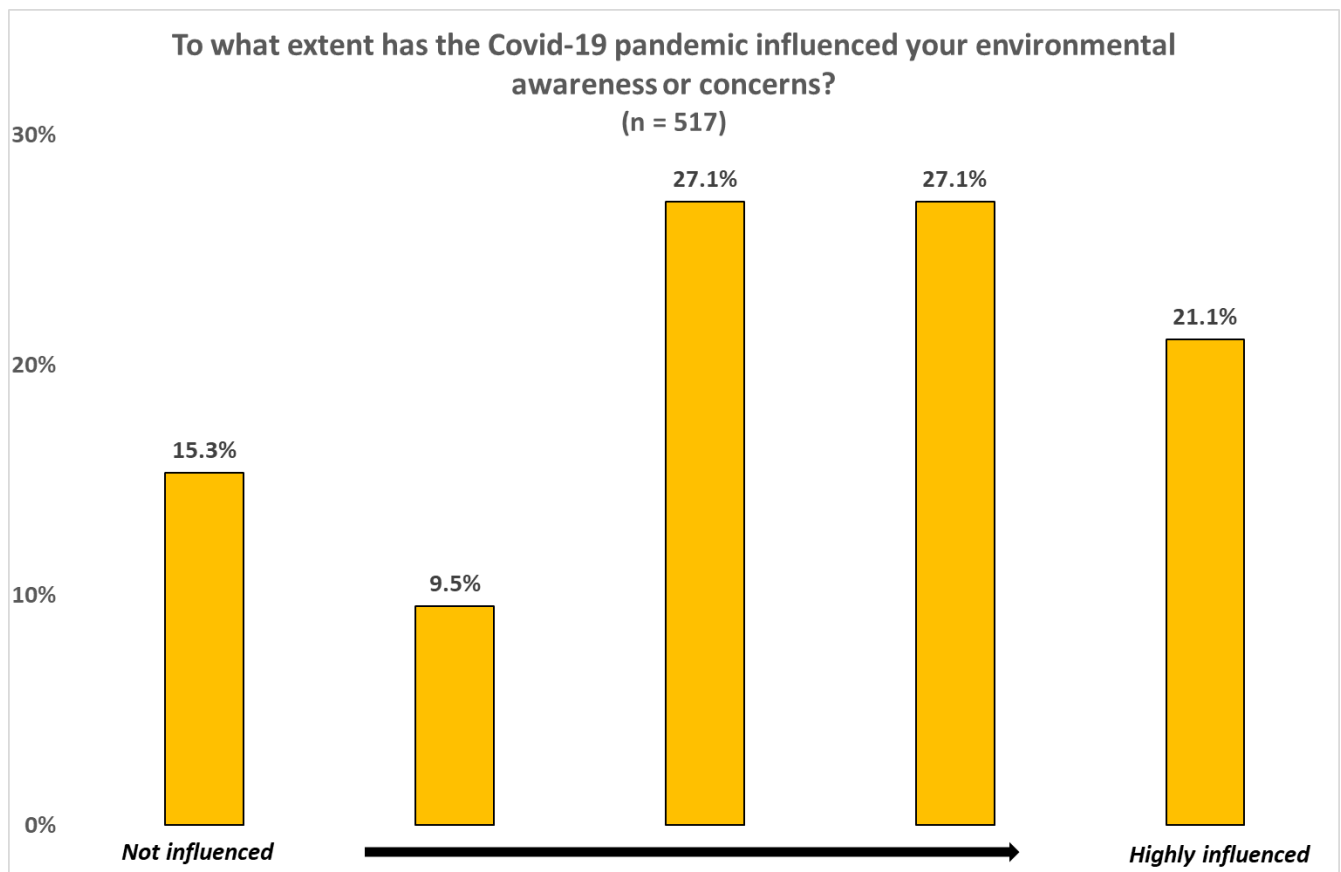


Figure 19. Impact of COVID-19 on environmental awareness or concerns.

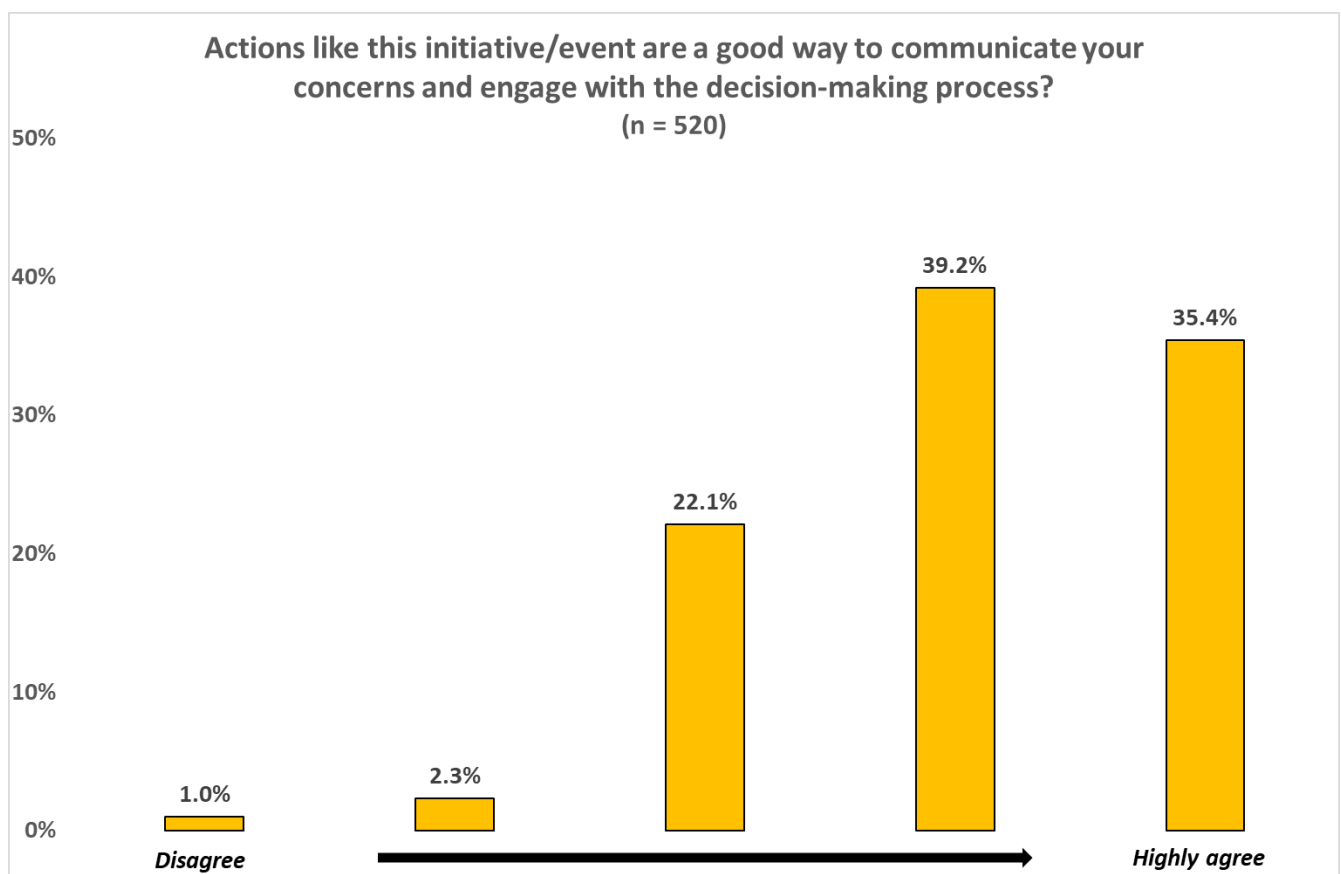


Figure 20. Usefulness of Public Awareness Events.

Conclusions

The survey revealed that the main priority with respect to major coastal environmental concerns is improving the quality of coastal waters, followed by improving the beaches. The finding is consistent with the view that the main perceived benefit of a well-functioning eco-system for Limassoleans is the facilitation of aquatic recreational activities.

Limassol beaches were described as “average” in terms of safety and cleanliness while hotels, commercial ships and the sewerage system were identified as the main source of pollution on coastal waters and beaches. An emerging trend among participants’ beliefs was the newly perceived threat of tall buildings affecting the marine ecosystems of Limassol. Equally important, lack of citizen awareness was also identified as a major threat to the local marine ecosystems. The need for increased environmental awareness appears to be strengthened amid the COVID-19 pandemic.

The survey also highlights the need for related authorities to improve enforcement and efficiency of policing. In line with limited citizen awareness and authority efficiency, most respondents were unable to recall to which authority they should report a violation incident. They have also asserted that both media coverage and educational resources on environmental issues should increase. It can be safely inferred that more effective methods must be employed in communicating the structure and roles of environmental authorities to citizens.

Finally, the respondents emphasized the need for the City of Limassol to maintain regional leadership in the Maritime Industry and for academic institutions to incorporate more marine and maritime environmental education to their programmes’ curricula. Despite the economic crisis, respondents declared their willingness to commit a duty or charge to increase the protection of the marine environment.

The survey has identified the areas where citizens have the most concerns. We are now developing a plan of studies to collect facts and statistics to inform citizens and determine if the matter is one of perception or reality. The dialogue remains open so that priorities, decisions and actions are driven by an informed and transparent basis.

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