



LIMASSOL MUNICIPALITY



FREDERICK UNIVERSITY



Threats to Limassol Coastal Waters & Mitigation

Dr Demetris Kletou

Important Marine Ecosystems of Limassol

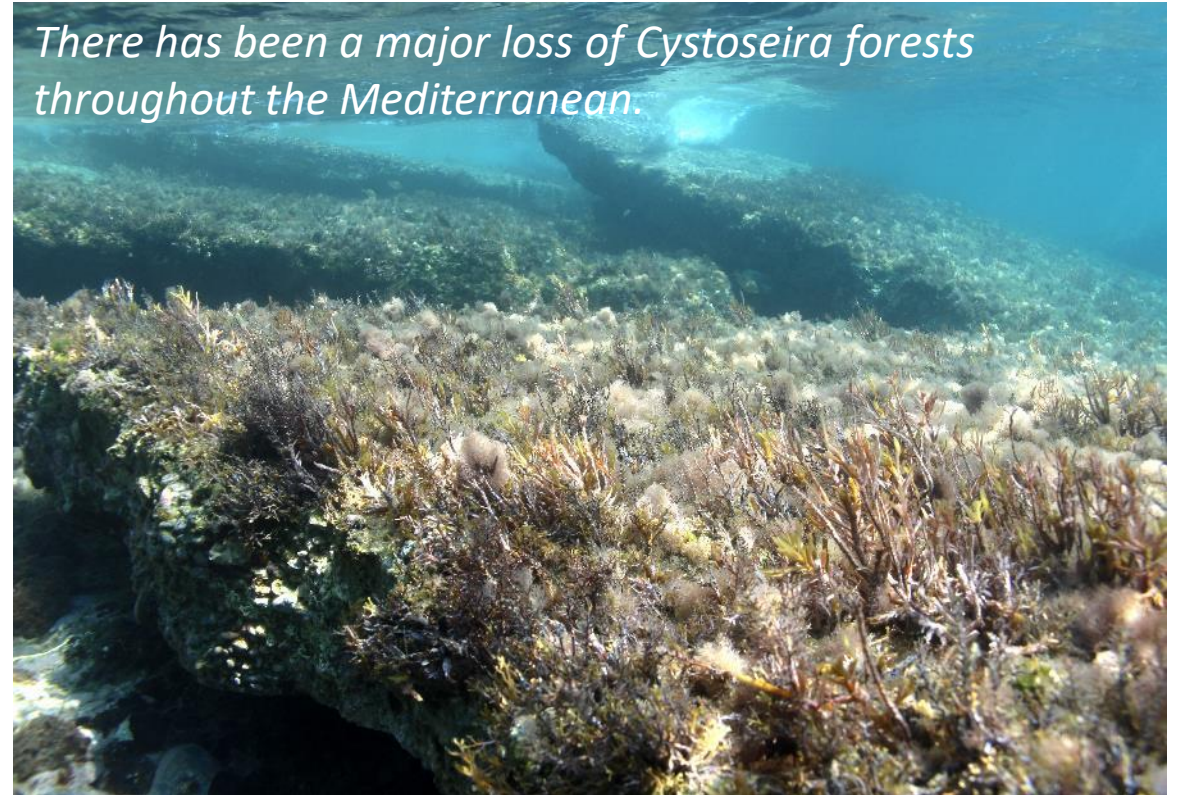
Endemic and protected seagrass beds *Posidonia oceanica*

*In the Mediterranean large declines
~34% in the last 50 years.*



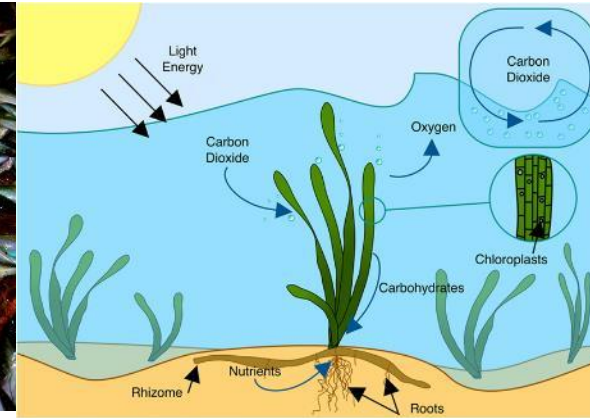
Rocky reefs & Artificial wavebreakers

*There has been a major loss of Cystoseira forests
throughout the Mediterranean.*



Marine Ecosystem Service Provision

- **Healthy Seafood**
- **Absorb Carbon and pollutants, clean air and water**
- **Recreation / sports / relaxation**
- **Job Provision (tourism, water sports, shipping)....**



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Home to many **Iconic Species**

Turtles



Green turtles nest only in Cyprus and Turkey.
Loggerhead turtles also in Greece.

Dolphins



Monk Seals



The world's rarest seal.
Fewer than 500-700 left!



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Water Quality & Bathing Waters

Good Water Quality

News » Local » Cyprus' beaches have the best water quality in the EU

Cyprus' beaches have the best water quality in the EU

17 June 2019



Cyprus and Greece have the cleanest bathing water in Europe



The cleanest bathing waters are found in Cyprus, Luxembourg, Greece and Malta, in accordance with the data presented by the European Union's observer. Thus, tourists coming in Cyprus can enjoy clean waters of the Mediterranean Sea, surrounding the island.

Surveys of more than 21,000 seaside, river and lake sites were conducted across Europe during 2015, including non-EU members Switzerland and Albania. The data showed that over 84 per cent achieved excellent status, the Copenhagen-based European Environment Agency (EEA) and European Commission noted.

Tourism is one of the major sectors of the Cyprus economy and one of the main sources of its national income, therefore maintaining bathing water quality is a priority for the country.

According to the Sky News, 99.1 per cent achieved the highest quality level. That was only topped by Malta and Greece scored over 90 per cent while both Malta and Greece scored over 90 per cent Germany, and Italy, the study shows.

The annual report said that 96 per cent met minimum EU water quality standards. The highest number of bathing waters failed in France (95), Italy (95), and Spain (58). Drought and waste from farmland were named as factors that can also result in poor water quality, and cause sewage systems to over

Blue Flag Bathing Waters

17 beaches in Limassol district awarded with blue flag in 2019



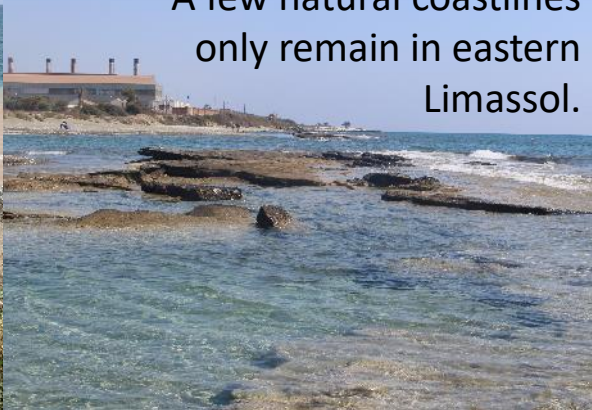
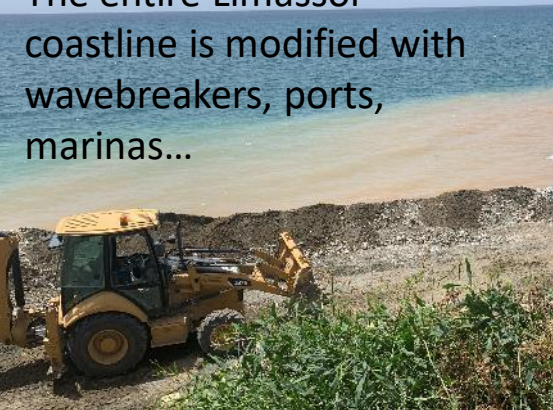
Major Threats

Coastal Modification



The entire Limassol coastline is modified with wavebreakers, ports, marinas...

A few natural coastlines only remain in eastern Limassol.



Tall Buildings

Up to January 2019, there were 80 applications to receive Development Permit in Limassol.

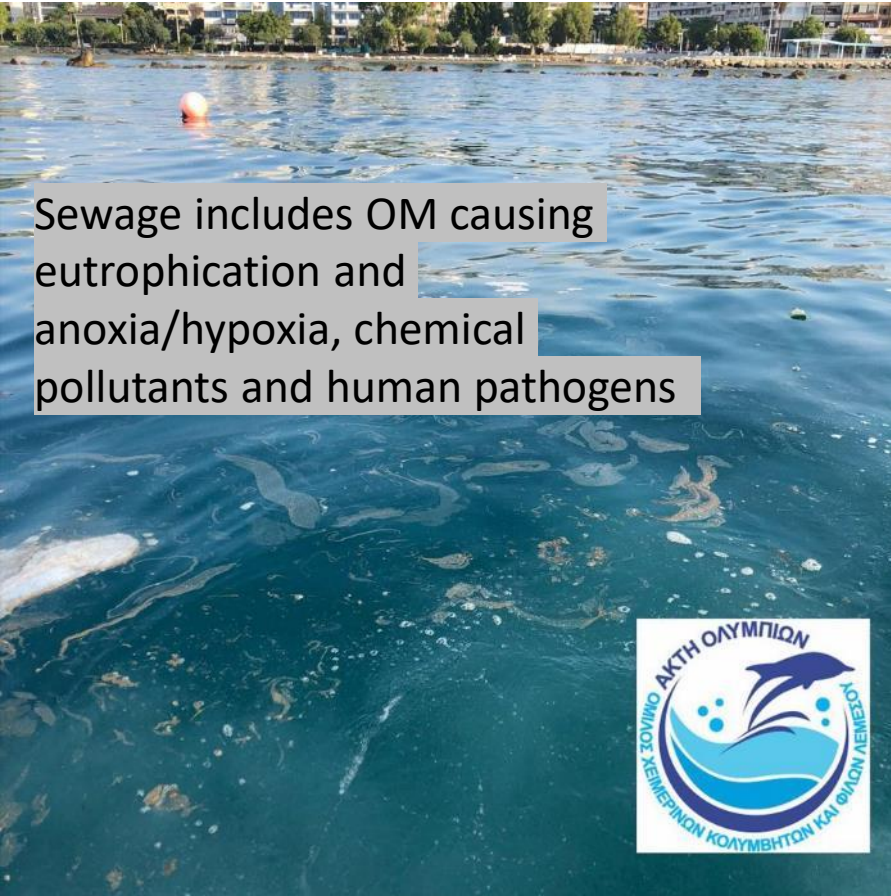


Water pollution during construction



Major Threats

Pollution - Sewage



Pollution – Marine Litter

80% of marine plastic pollution originates from land.
Plastic bottles take 450 years to break down.
Plastic bags take 20 years, cigarette butts take 10...



Major Threats

Pollution from increased **shipping traffic & marinas**

(oil spills, sewage, noise, light, invasive species, anchoring, dredging, heavy metal pollution....)



No time for pessimism, it is not too late to conserve what's left!

Raise environmental awareness



Citizens engaged in decisions and science

Levels of Citizen Science

Level 4 'Extreme'

- Collaborative Science – problem definition, data collection and analysis

Level 3 'Participatory science'

- Participation in problem definition and data collection

Level 2 'Distributed Intelligence'

- Citizens as basic interpreters

Level 1 'Crowdsourcing'

- Citizens as sensors

Democracy will be real and relevant only if citizens are engaged in decision-making processes.



Reduce pollution, clean the environment and comply

Smart Solutions



Volunteer in cleanups



Comply with regulations



We can ALL **work together** to make change

‘Sustainable development is to develop in a way that meets the needs of the present without compromising the ability of future generations to meet their own needs’

Brundtland Report, Our Common Future

Never doubt that a small group of thoughtful, committed citizens can change the world

Margaret Mead, Planetary Citizen of the Year Award in 1978



Invest in BLUE Carbon Initiatives & Restore

Seagrass Transplantation



Habitat Restoration





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**Thank you for your
attention!**

Dr Demetris Kletou