

UNDERWATER MIRACLES



Sea turtle nesting activity along the Mediterranean coast of Turkey

The main point of this mission is to observe the present state of sea turtle populations along the coastline of Turkey. The results of the evaluation will show that the Turkish coastline is the most important nesting area for *Chelonia mydas* (green turtle) and the third most important nesting area for *Caretta caretta* (loggerhead sea turtle) after Greece and Libya (if nesting estimates for Libya are correct) in the entire Mediterranean. It will also lead in the understanding of dynamics and monitoring the environmental changes of the Mediterranean Sea. Concerning the study on turtles: one of the most important *C. caretta* nesting beaches in Turkey are Dalyan (11.9%), Kumluca (11.3%), Belek (27.9%), Kizilot, (8.9%) and Anamur (8.8%), while those for *C. mydas* are Kazanlı (24.1%) and Akyatan (54.4%). These sites are classified as "Nesting Areas of 1st Degree Importance". Annual mean nest numbers along the coastline of Turkey are estimated to be ca. 2000 for *C. caretta* and 650 for *C. mydas*.

Assuming that each adult female sea turtle nests three times per season the annual number of nesting females along the beaches of



Turkey range between about 500 and 800 for *C. caretta* and 130 and 300 for *C. mydas*. Annual nesting densities along the 204 km beach strip, which includes 17 important nesting grounds in Turkey, were 11.3 nests/km for *C. caretta* and 19.2 nests/km for *C. mydas*.

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About Sesame

SESAME is a 4-year European Union-funded project designed to study the Mediterranean and Black Sea ecosystems and their abilities to provide goods and services with high societal importance, such as tourism, fisheries and ecosystem stability through conservation of biodiversity. The need for consistent information, together with the indispensable linking of natural and socio-economic sciences, on these two ecosystems have mapped out SESAME's research path. Both the Mediterranean and Black Sea have been experiencing intensive development and exploitation due to their strategic geographical position, and are equally susceptible to human pressures and climate change. SESAME has been suitably created to assess the changes that have occurred in these ecosystems over the last 50 years, while simultaneously predict changes in the ability of the two seas to sustain essential ecosystem functions in the next 50 years.

TURTLE ACTIVITY

Though it's our first day we've picked an activity that we've found interesting. As you may know turtles only emerge from their nest after the sunset to avoid predators and so they won't dry out on their way to the sea. They tend to hatch together, as their eggs are sensitive to any movement, so the first hatching egg triggers a chain reaction. They have to overcome numerous predators and dangers such as: animals, human waste and nevertheless humans, before reaching the sea. Once at sea they have to face multiple obstacles so there's little wonder why 1 out of 1000 reach adulthood. What is important is not to interfere with the turtles by giving them help, as it is essential for them to find their own path. Since 1992

the Marine Research Group has been monitoring nesting activity in the north of Cyprus. A group of 30 students from the UK, come on their own expenses to this region, to help and conserve the turtle's environment. Monitoring hatching is more reliable than nesting, as the hatching date can be calculated based on the nesting date. Once the hatchlings have emerged, the nest is excavated. This means digging it up and getting any remaining hatchlings out. They are counted and recorded, and placed in a bucket with wet sand and covered with a wet cloth to keep them cool. They are then taken back, to be weighed and measured, before being released to make their way

to the sea. Public excavations take place most days, with the exception of Sundays, at approximately 6pm, with visitors wanting to observe, gathering at the goat shed. During these public excavations, visitors can watch hatchlings coming out of their nests, as well as see them entering the water. This is one of the most breathtaking and rare sights in nature. One which very few people have witnessed, and it is well worth a visit.

*For whatever we lose (like a you or a me)
It's always our self we find in the sea ...*

WHAT IS PLANKTON?

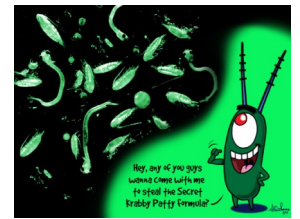
Phyto = "Light" Plankton = "Floating/Suspended"

Scientists at NASA theorize that some 3 1/2 billion years ago, the world was changed forever. The appearance of tiny organisms with the ability to convert sunlight, warmth, water and minerals into protein, carbohydrates, vitamins and amino acids marked the beginning of life.

Phytoplankton, the single-cell plants are the basis of all other life forms on planet earth, they are the 'vegetation' of the ocean. Phytoplankton are responsible for making up to 90% of Earth's oxygen.

Phytoplankton are the food utilized by the world's largest and longest living animals and fish. Blue whales, bow head whales, baleen whales, gray whales, humpbacks, and right whales all eat plankton. These species live between 30

and 150 years old and maintain great strength and endurance throughout their lives. The largest fish a plankton eating whale shark lives for over 150 years, grows up to 14 meters long, weighs up to 15 tons, and is sexually active



Plankton (cartoon character from Animated series SpongeBob SquarePants) talking to his plankton mates :)



© photo by Yiannis Issaris

Photo of the Day :)

A warm and sunny morning equals the perfect time to take a breathtaking picture. A simple one but nevertheless not everything that is complicated is beautiful. The bench of fishes fly across the blue sky shined by the sunlights. They are similar to a shadow that

completes perfectly the greeny look given by the sea. The scaly birds fly across the jungle of sea grass, that is gently swinging like a tree in the wind.

INTERVIEW

Could you describe your work/research and how you got interested in this field?

"I work on the evolution of the nervous system (neurobiology evolution) by looking at lower metazoans (primarily invertebrates). Initially I was interested in birds. The University I went to in London had a strong marine program, so I did marine ecology, mainly zoology. I think that the term "marine biologist" is kind of out-dated. People aren't really trained as marine biologists anymore, as this has traditionally meant only the natural history of the marine environment. It is now a term that is used to describe biology done with marine organisms."

What training and education did you need to obtain this job?

"I went to University and got a B.Sc. and a Ph.D. I then spent two years at a post-doctoral position, and achieved another 20 years job experience. To attain this job, as well as almost all jobs in biology, one needs to excel, and be better than everyone else in their field."

What specific skills do you use on this job?

"It's necessary to have good scientific, analytical and communication skills. You also need to have command of the basic sciences, physics, chemistry and math."

What personal qualities are important in this job?

"In this job it's important to have scientific integrity and good powers of reasoning."

What is your work schedule (Days, hours per day, and overtime)?

"70 hours a week"

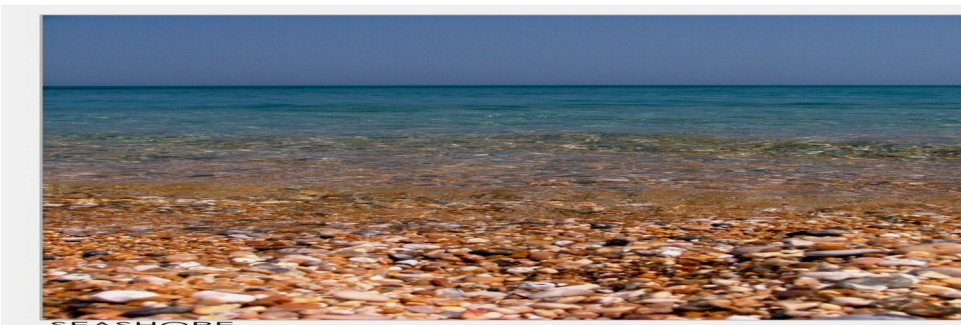
What advice do you have for young students interested in marine biology?

"You must excel, there's a lot of competition. Job opportunities will increase as you gain more experience, but you must perform above average to be able to pick the job you want."



Sea turtle :)

TODAY ... TOMMOROW?



I like to think positive about the future so I hope that the seashores will be cleaner, the sand will be softer and everybody who visits them will stay under a big umbrella with an cold drink in their hands. Something like an earthly Eden. I know it looks only like a dream, but maybe...

MESSAGE FROM OUR TEENS TO ALL THE SCIENTISTS AT SEA

Hello our "mermaid" friends. First of all we hope the weather is warm and the sun shines and also that you aren't sea sick. So many questions...What's it like to swim with the dolphins?What's it like to see all the fish in their natural environment, to feel like them? There are so many question and I hope we could find the answers when you return from "paradise".A keyword for you must be "PHOTO". Take as many pictures as you can but stay away from the big bad shark, we don't want you to come back in match boxes. In the end we wish you good luck and see you soon.

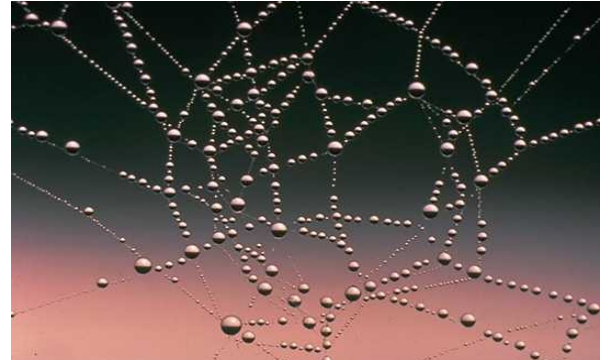
WHY SHOULD WE PROTECT ALL SPECIES?

Extinction is a part of the natural order on Earth. Species have always disappeared because of natural changes in the environment or biological changes (like diseases). So, why save them?

Most of us have a take-them-for-granted attitude- the world has enough untapped

wilderness areas, and thus the species can take care of themselves. This way of thinking accelerates species are gone for good .

Point here is that ,if one species goes extinct ,a whole food chain is disrupted and thus the eco system is broken .



The environment is a WEB and all species - from the endangered to people—are connected in some way.

DAILY LIFE ONBOARD

Well ahoy me mateys .Fancy a long day on me boat or ye rather be walking the plank ?Life's great on the vessel , but it's still a long path to sail. Our first day,well actually night was a blast .We've left Cyprus harbour at about 9 pm and waited all the night for the young turtles to come out from their nests.It was a long wait but it was worth it . We've studied the route took by new hatched turtles into the sea .During the day we sailed along the coast looking for nests.The weather was nice and calm ,exactly as the forecast predicted.



FOOD IS GOOD !



All work and no play makes Jack a dull boy .As we couldn't go on the whole expedition hungry ,we hired a cook that prepared some amazing food . The chef presented us the menu : the day starts with a delicious breakfast: pancakes with any sirop served in the sunlight and a big cup of milk/tea/juice. Snacks are available all the day and you can chose between:chips, crackers, mixed nuts, vegetable or dried fruit. In the afternoon: Toasted Bagel topped with Smoked Haddock, Egg and Cream Sauce and finished with Crisp Bayonne Ham, red wine and fresh cupcakes. In the evening you can chose between a large variety of fish dishes such as Crap pickled with polenta , Grilled "black tiger" shrimps and wine, uzo, orange juice or any kind of juice.

Well in other words : a feast!!! The meals kept us going as the first day/night of the expedition was coming to an end .

www.nzaee.org.nz/AcidicOceans.doc ;<http://www.whuplankton.com/> ; <http://oceanlink.island.net/career/interviews/andyinter.html> ;http://www.whatson-northeypyrus.com/whatson/events/annually/turtles/hatching_info.htm

Name and address of the class: 9AD 2, "Ovidius" Highshcool Constanta, Romania, 2, Basarabi street, 900710

Age—15-16 years old

Number of students: 12

Coordinating teacher: Carmen Bucovala