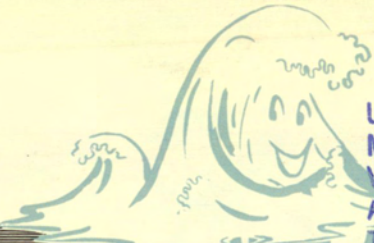




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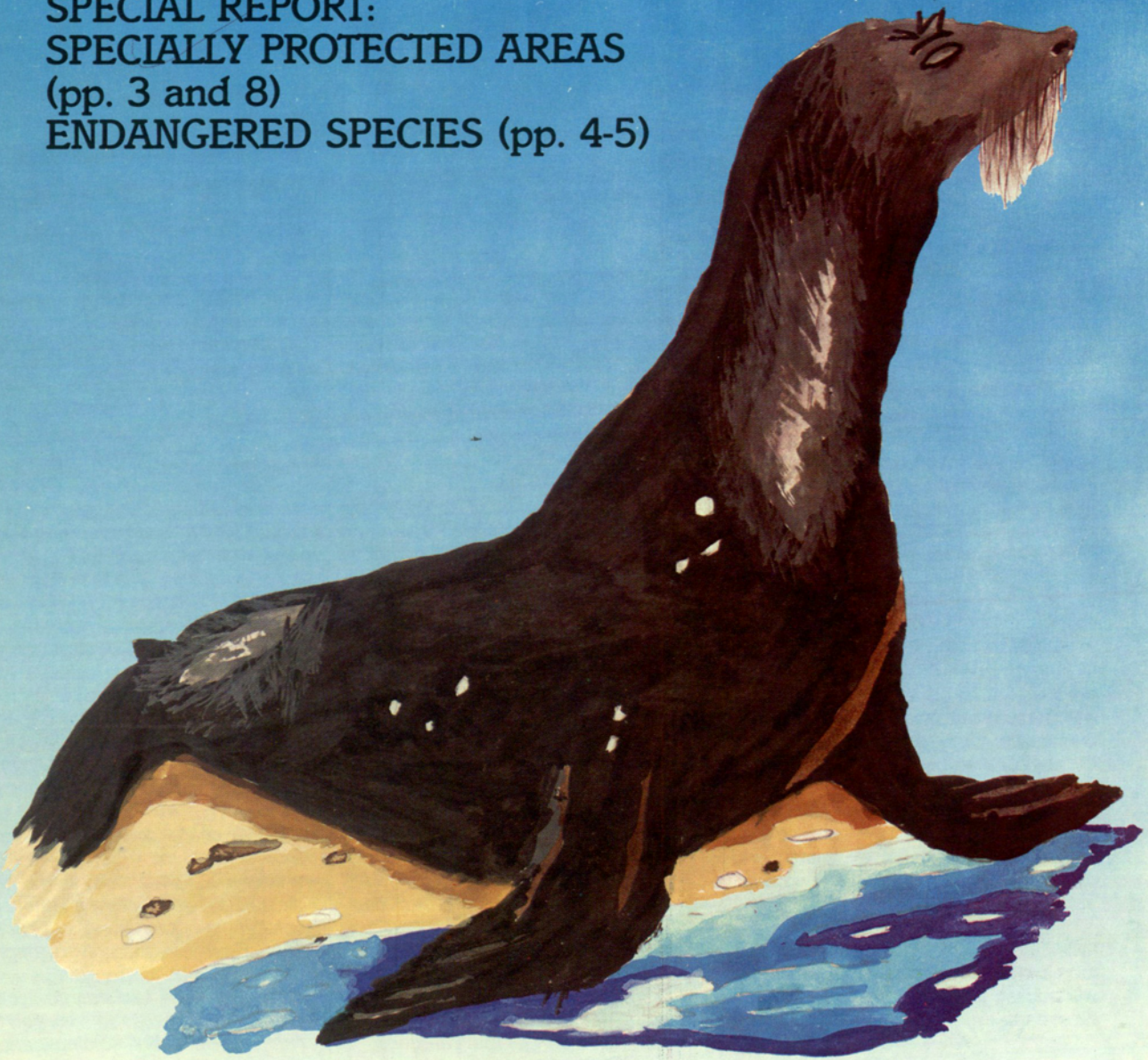
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ENGLISH EDITION

MEDWAVES

MAP CO-ORDINATING UNIT • NEWS BULLETIN PUBLISHED IN ENGLISH AND FRENCH • ISSUE No 8 • I/1987

SPECIAL REPORT:
SPECIALLY PROTECTED AREAS
(pp. 3 and 8)
ENDANGERED SPECIES (pp. 4-5)



ORIGINAL PAINTING BY JO LOGOTHETIS



THIS issue of "MEDWAVES" is dedicated to the Mediterranean Specially Protected Areas, the Endangered Species in the Basin and the efforts of the Mediterranean Coastal States.

All but one of the Mediterranean Countries are parties to the Barcelona Convention. A Regional Activity Centre on SPA (Specially Protected Areas) was recently inaugurated in the suburb of Salammbô, in Tunis, Tunisia. The SPA Protocol entered into force on March 23, 1986, and has been ratified by Cyprus, Egypt, France, Greece, Italy, Tunisia, Turkey, Yugoslavia and the EEC.

Several Mediterranean Countries have also signed other Conventions related to the Protection of Nature and, subsequen-

tly, the Mediterranean Environment, notably the Bern and Bonn Conventions. Many are parties to the Convention on International Trade on Endangered Species of wild fauna and flora (better known as the CITES Convention), and the Ramsar Convention for the Conservation on Wetlands and Waterfowls.

Information in this issue was provided by UNEP, MEDU, the RAC/SPA and IUCN (the International Union for the Conservation of Nature and Natural Resources).

Since this issue was published before the Meeting of National Focal Points for Specially Protected Areas (Athens, June 1-4), it is inevitable that some of the information provided in it might not be final. We hope that the above mentioned meeting will provide us with additional information, which we will present in future issues.



Editorial

A LETTER FROM THE MINISTER OF AQUARIA

STATE OF AQUARIA Ministry of the Environment and Public Health

Minister's Office

Sir,

Regarding the leading article published by the daily "The Aquarian Sun" and reprinted in your bulletin, "MEDWAVES", I would like to inform you of the following measures our government adopted over the last few months:

- 1) We ratified the SPA Protocol;
- 2) A new law for the Environment was unanimously adopted by the Parliament;
- 3) Our Ministry organized a special emergency group whose only objective is to fight oil pollution;
- 4) The Supreme Court decided that our government's view of the law on Air Pollution was correct and that POLLFACT industry was justly condemned of polluting the environment;
- 5) In co-operation with the Ministry of Education and Culture we organised a series of special events in schools that included music concerts, exhibitions, video projections and essay contests among the pupils.

Since we feel that, in view of this activity, the "Aquarian Sun's" criticism was too harsh, we are certain that your bulletin will publish this letter so that justice may be served.

Yours sincerely
Dr. Ivon Maldì

Minister of the Environment
and Public Health

MEDWAVES' Editor notes:

We are deeply honoured by the fact that Her Excellency the Minister of the Environment and Public Health of the State of Aquaria, Ms Ivon Maldì, PhD, addressed our bulletin, "MEDWAVES".

As far as the substance of our distinguished correspondent's letter is concerned, we would like to observe the following:

The crucial point about Nature Conservation in the Mediterranean, in the whole world as a matter of fact, is that the leaders and the decision-makers, in the political and economic fields alike, spend more time in order to develop corrective, and more recently preventive, measures and policies, instead of incorporating the environmental approach in the design of every single policy they adopt.

Environment is not just another subject of policy-making (and in that respect it does not deserve to form the core for the creation of a Ministry). It is (or, rather, should become) a constant parameter in any decision that affects our surrounding world - and in that respect every action (whether it is taken by an individual, an organization, a social group or the society as a whole) can be included under that category.

Certainly, measures like those described by our distinguished correspondent are a step forward,

especially the ones referring to school children.

We would like to point out that the basic obligation and responsibility of everyone whose business the preservation of Nature is, should be to contribute to the formation of the public opinion, so that the latter realizes that the responsibilities are not limited to the decision-makers but extend to everybody.

On the other hand, Governments have to take the environment into account in every decision they make, whether it concerns a permit for the installation of a factory or the selection of a space suitable for establishing a hospital, whether it is linked to the options of commercial policy or to designing cultural exchanges. When we arrive at the point where we incorporate our environmental consciousness in every action we take, then (and only then) the environmental ministries and agencies (but MAP and UNEP as well) will cease to have a raison d'être. And maybe - just maybe - (if we ever reach that point) we will be able to say we don't need the organizations promoting peace, either. Because, then, wars might have become obsolete.

Thank you, Minister, for your remarks and allow us to wish you to continue your work, joining hands with everyone who works for a better environment, because, all of you, ultimately, work for peace.

SPECIALLY PROTECTED AREAS IN THE MED

THERE are at least 79 marine and coastal specially protected areas around the Mediterranean Basin. The number is not final because some countries have not provided adequate replies to questionnaires sent by MAP on behalf of RAC/SPA to the competent authorities of the coastal states.

A draft directory (containing information only on established SPAs) includes details on each of 63 marine and coastal specially protected areas, whereas at least another 16 were not included because of lack of specific information at the time of publication of the document



(February 28, 1987).

A more detailed directory, including the specially protected areas planned by the coastal states will be published in the near future.

According to the interim information provided by this directory, France comes first with 17 marine and coastal SPAs. Italy comes next with 10, while in the third place one can find Greece, Israel and Spain (and, also, Albania, not a

member of MAP) with 7 each. Yugoslavia follows closely with 6 marine and coastal specially protected areas.

THE SPA PROTOCOL: HIGHLIGHTS

The main provisions of the Specially Protected Areas Protocol are the following:

ARTICLE 1

1. The Contracting Parties to this Protocol shall take all appropriate measures with a view to protecting those marine areas which are important for the safeguard of the natural resources and natural sites of the Mediterranean Sea Area, as well as for the safeguard of their cultural heritage in the region.

2. Nothing in this Protocol shall prejudice the codification and development of the law of the sea by the United Nations Conference on the Law of the Sea convened pursuant to resolution 2750 C (XXV) of the General Assembly of the United Nations, nor the present or future claims and legal views of any State concerning the law of the sea and the nature and extent of coastal and flag State jurisdiction.

ARTICLE 2

For the purposes of the designation of specially protected areas, the area to which this Protocol applies shall be the Mediterranean Sea Area as defined in article 1 of the Convention for the Protection of the Mediterranean Sea against Pollution; it being understood that, for the purposes of the present Protocol, it shall be limited to the territorial waters of the Parties and may include waters on the landward side of the baseline from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit. It may also include wetlands or coastal areas designated by each of the Parties.

ARTICLE 3

1. The Parties shall, to the extent possible, establish protected areas and shall endeavour to undertake the action necessary in order to protect those areas and, as appropriate, restore them, as rapidly as possible.

ARTICLE 6

1. If a Party intends to establish a protected area contiguous to the frontier or to

the limits of the zone of national jurisdiction of another Party, the competent authorities of the two Parties shall endeavour to consult each other with a view to reaching agreement on the measures to be taken and shall, among other things, examine the possibility of the establishment by the other Party of a corresponding protected area or the adoption by it of any other appropriate measure.

2. If a Party intends to establish a protected area contiguous to the frontier or to the limits of the zone of national jurisdiction of a State which is not a party to this Protocol, the Party shall endeavour to work together with the competent authorities of that State with a view to holding the consultations referred to in the preceding paragraph.

ARTICLE 9

1. The Parties shall, in promulgating protective measures, take into account the traditional activities of their local populations. To the fullest extent possible, no exemption which is allowed for this reason shall be such as:

a) to endanger either the maintenance of ecosystems protected under the terms of the present Protocol or the biological processes contributing to the maintenance of those ecosystems;

b) to cause either the extinction of, or any substantial reduction in, the number of individuals making up the species or animal and plant populations within the protected ecosystems, or any ecologically connected species or populations, particularly migratory species and rare, endangered or endemic species.

ARTICLE 10

The Parties shall encourage and develop scientific and technical research on their protected areas and on the ecosystems and archaeological heritage of those areas.

ARTICLE 11

The Parties shall endeavour to inform the public as widely as possible of the significance and interest of the protected areas

and of the scientific knowledge which may be gained from them from the point of view of both nature conservation and archaeology. Such information should have an appropriate place in education programmes concerning the environment and history. The Parties should also endeavour to promote the participation of their public and their nature conservation organizations in appropriate measures which are necessary for the protection of the areas concerned.

ARTICLE 13

The Parties shall exchange scientific and technical information concerning current or planned research and the results expected. They shall, to the fullest extent possible, coordinate their research. They shall, moreover, endeavour to define jointly or to standardize the scientific methods to be applied in the selection, management and monitoring of protected areas.

ARTICLE 14

2. The parties shall designate persons responsible for protected areas. Those persons shall meet at least once every two years to discuss matters of joint interest and especially to propose recommendations concerning scientific, administrative and legal information as well as the standardization and processing of data.

ARTICLE 16

Changes in the delimitation of legal status of a protected area or the suppression of all or part of such an area may not take place except under a similar procedure to that followed for its establishment.



SHY, RARE AND SCATTERED

A portrait of the Mediterranean Monk Seal

Monachus monachus is one of the most endangered species in the Mediterranean Sea. The Monk Seal, has known a rapid decline in numbers and has already become extinct in several areas were, untilly some decades ago, it was thriving (southern France, mainland Italy, Sicily, Cyprus, Israel and Egypt). Their number is decreasing in most other areas. Sizable populations can still be found in Greece, Turkey and Morocco.

AN OUTLINE OF ITS BIOLOGY

Monachus monachus is amongst the largest species of seal with an adult nose-to-tail length of 250 to 300 cm and an average weight of 250 kg (occasionally up to 350-400 kg). It is generally dark brown in colour, with the ventral part clearly lighter. Individuals can present a wide variety of whitish patches all over their body. The life-span is estimated at ten years.

The species is assumed to be predominantly coastal, being rarely observed more than 3 to 4 miles off the coast, unless around trawlers or large boats. However some observations have been reported for the open sea in the Northern Aegean.

The Monk Seal probably prefers coastal waters, with sheltered beaches and caves, along rocky cliffs of small islands and indented remote mainland coasts. It is very rare these days to observe them on sandy beaches except in Mauritania. They are mostly found in waters around very inaccessible caves. These caves seem to be the only terrestrial site left where they rest, breed and suckle their pups.

The species, today, is restricted to very remote areas where disturbance by humans is low. Because of the latter the species might have, according to some researches, been forced to this restricted use of land habitat. In Greece, there seems to be a limited tolerance for human disturbance, above which seals leave the area, at least temporarily.

Usually, the composition of a given group remains stable around each island although individual movements can be irregular and unpredictable within a range of roughly 40 km. This could be of importance if the size of a reserve is to include suitable sites for resting and feeding.

The Monk Seal does not seem to be a very deep diver: with a maximum diving depth of 100 m, it generally feeds on fish and octopus from coastal waters not deeper than 70 m. An adult seal is estimated to consume 5-10% of its weight each day. A reduced fish supply due to overfishing may well limit the occurrence of Monk Seals.

Seals in search of food often damage nets and catch. They may also become entangled in fishing gear and drown.

The births are known to take place in caves mostly between May and November, with a peak in September-October. Mating occurs in October-November. Gestation probably lasts 11 months. The female is supposed to reach sexual maturity when it has reached the length of 2 m, probably at

5 years of age. Some evidence suggests that females may bear young only in alternate years.

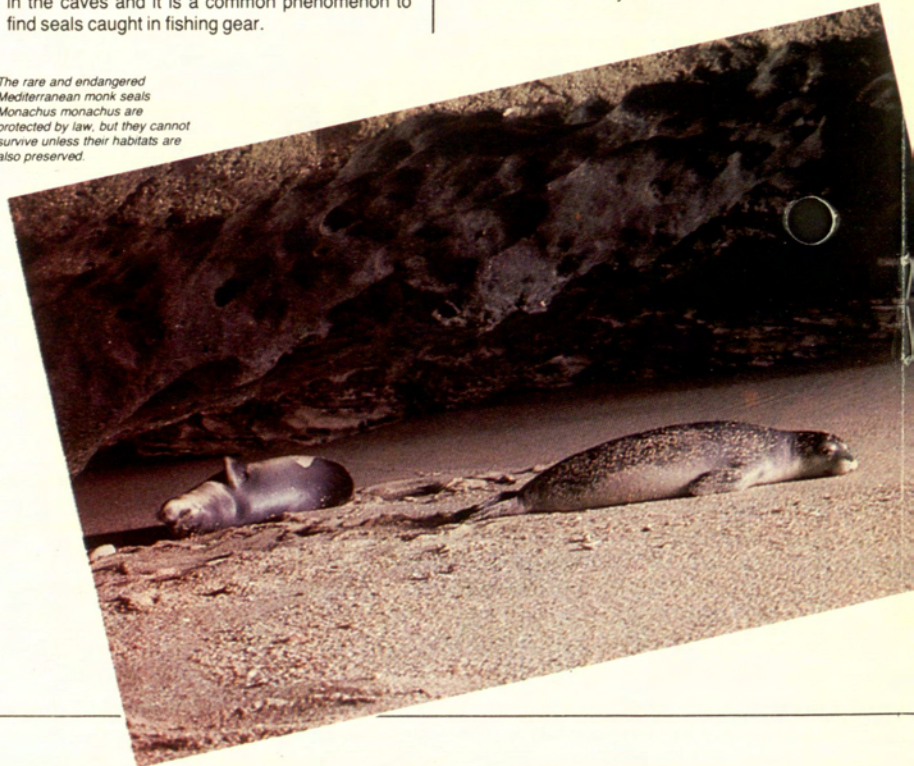
Generally only one pup is born and the lactation period lasts at least 6 weeks. The mother is very reluctant to leave the pup alone during the first 3 or 4 weeks. At this stage it is especially important not to disturb the breeding cave because the link between mother and pup could be easily broken. After two weeks the pup is able to swim and dive.

A VARIETY OF RISKS

Three parameters determine the size of the Monk Seal population: reproduction, mortality and migration. Reproduction can be affected by pollution, insular effects and inbreeding. Mortality can be natural and anthropogenic. Natural mortality can be caused by limited food resources or unsuitable breeding places. Anthropogenic mortality can result from killing or disturbance. Migration can be caused by disturbance or loss of habitat.

Pollution could locally cause some problems, but probably not for the whole Mediterranean. The insular effects are a very serious risk: in most areas the populations do not exhibit a normal age distribution. In fact, most groups seem so small that the possibilities of finding a suitable partner at the appropriate time during the reproductive cycle will be severely hampered and therefore the probability of repeated successful reproduction is rather low. Killing is another severe reason for the reduction of monk seal population. It is easy to approach them while they are sleeping in the caves and it is a common phenomenon to find seals caught in fishing gear.

The rare and endangered Mediterranean monk seals Monachus monachus are protected by law, but they cannot survive unless their habitats are also preserved.



TIME FOR ALERT!

Although the species has been described in many articles, its basic biology is still poorly understood. Virtually nothing is known about the social structure of non-affected monk seal populations. Data on *Monachus monachus* are limited for most areas and the evaluation of its present status is, therefore, imperfect.

It is clear, however, that the Mediterranean Monk Seal has suffered a long decline in its numbers leading to a drastic collapse in most local populations in the last two decades. Of the remaining widely scattered colonies, those of less than 10 individuals are probably too small to reproduce effectively and can be expected to become extinct in two generations (20 years). Even the larger colonies (Greece, Turkey and Mauritania) are under increasing pressure both from adult mortality and from reduced breeding success. None can be considered securely protected.

Emergency short-term actions are needed immediately to halt the present decline. In the long-term, a secure future for the Monk Seal can only be assured through measures leading to the gradual re-establishment of protected colonies throughout its former range in ways that allow seals to cohabit with the increasing human development of the Mediterranean basin.

According to an analysis presented in the document entitled: "Report on the Status of the Mediterranean Monk Seal" (IUCN/UNEP, April 23, 1987) "an effective conservation strategy should include the following elements: protection of caves used by monk seals, regular census of populations, creation of buffer zones in feeding areas, incentives for fishermen in monk seal areas, creation of a network of monk seal reserves, adoption of legal measures and coordination of all the activities." UNEP and IUCN will convene a consultative meeting to develop a coordinated Action Plan for the conservation of the Mediterranean monk seal later this year.

ON THE BEACH

The thriller of birth of the sea turtle

The loggerhead turtle has lived on this planet for 90 million years. During the last decades it is facing extinction.

The species' numbers have reduced dramatically. A small number remains near the delta of the Dalyan river in Turkey and many get caught every year in the nets of Spanish fishermen in the Balearic Islands.

Only 800 (as compared to 1,400 twelve to fifteen years ago) remain and reproduce on the Greek island of Zakynthos, in the Ionian Sea.

For many years the species' biology was poorly understood. Their study in Zakynthos started in 1981, but became systematic in 1984, under a programme sponsored by the Greek Ministry of the Environment and the EEC.

An adult *Caretta caretta* is 100 to 120 cm long and weighs about 250-300 kg. Its life-span is estimated to be at least 50 years. A turtle eats crabs, seaweeds, cuttlefish and jellyfish. The amount of food consumed by an adult turtle is not known with precision.

The female *Caretta* leaves the sea and comes on shore to lay its eggs once every three years. Sometimes it explores the surroundings before it, finally, comes out, in the night, finds a quiet place, digs a hole in the sand and lays its eggs. This will be repeated another two or three times in the summer. The total number of eggs deposited in the sand by a *Caretta* during a given summer is estimated to be 300 to 400. The period during which the *Caretta* lay their eggs extends from mid-May to mid-August.

Hatching occurs from early August to late October. Only 40-60% of the eggs give birth to a baby turtle. It is estimated that only 1% of the eggs produce a turtle that will reach its first year and only 1 in a thousand produces a turtle that will reach puberty. A loggerhead turtle is considered

(by most scientists) as an adult when it reaches its 10th year (but some researchers estimate that it does not reach sexual maturity until it is 30).

The optimum temperature for hatching is 29°C. In that temperature 50% of the new born turtles are male. A rise of 2 or 3°C is enough to give a crop of females exclusively. This is a phenomenon that scientists have not been able to explain up to now.

From the moment they are born, the baby turtles engage into a real odyssey until they reach the sea. In the process a lot of them succumb. That voyage is of biological importance: in the process the beach's sand leaves marks on their shell that will guide them to find their way, ten or twenty years later, and come to lay their eggs on the same beach where they were born.

When they reach the sea, they remain in shallow waters for several weeks, during which time they are very vulnerable.

Man intervenes (with, usually, catastrophic results) in this process in several ways: recreation boats scare the females approaching the beach, lights from cars or hotels, voices and other strong noises may influence them to the point of leaving without laying their eggs. Small buildings or walls prevent them from reaching a suitable spot.

As a consequence, suitable sites for egg-laying diminish by the year: several years ago turtles laid eggs throughout the length of the large bay of Laganas, in Zakynthos (14 km). Today they have restricted themselves in Sekania and Daphni (two small and isolated beaches 800 m long) where 64% of all the nests can be found. According to the results of a research programme (carried out jointly by the Athens and Salonica Universities, during the period 1983-1986) there are about 215 to 525 nests per kilometer of beach, in these two spots.

On January 29, 1987, the Greek Ministry of the Environment established a buffer zone and a zone of restricted building activity in the area, based on a specific and detailed study of the bay of Laganas. The locals are not very keen on the idea of strict regulation for fear of losing their major source of income, namely tourism. It is imperative, though, that the Ministry's Decree be enforced so that effective measures can be taken to ensure the conservation of this rare species.

MEDWAVES' Editor notes: This feature is based on a speech delivered by Ms Lily Venizelos on May the 3rd, 1987.

Due to the interest of the subject, in our next issue we will present material about the loggerhead turtle supplied by the Greek authorities.

CONTAMINATION OF SEA TURTLES WITH HYDROCARBONS

The effects of petroleum hydrocarbons on sea turtles have not yet been determined. But the dangers of surface drifting tar or crude oil are obvious, because sea turtles must return to the surface since they have lungs and breathe air. They also frequently drift for long times, sleeping and basking at the surface. All observations of contamination are accidental and reflect only a small percentage.

*Dieter Gramentz
(Reported in ROCC INFO No 17)*

LOGGERHEADS IN CYPRUS

The loggerhead turtle (*Caretta caretta*) is one of the two turtle species that breed on Cyprus' beaches. It has been estimated that about three hundred loggerhead breed on the island's N.W. beaches.

Historically their number must have been much larger. Urbanization and tourist development of many of the island's beaches has had its impact on the population of these turtles, depriving them of their traditional breeding beaches. Predation, albeit constant through the eons, has achieved a new significance and the protection of turtle eggs and hatchlings is now imperative – as imperative as the protection of the remaining breeding beaches.

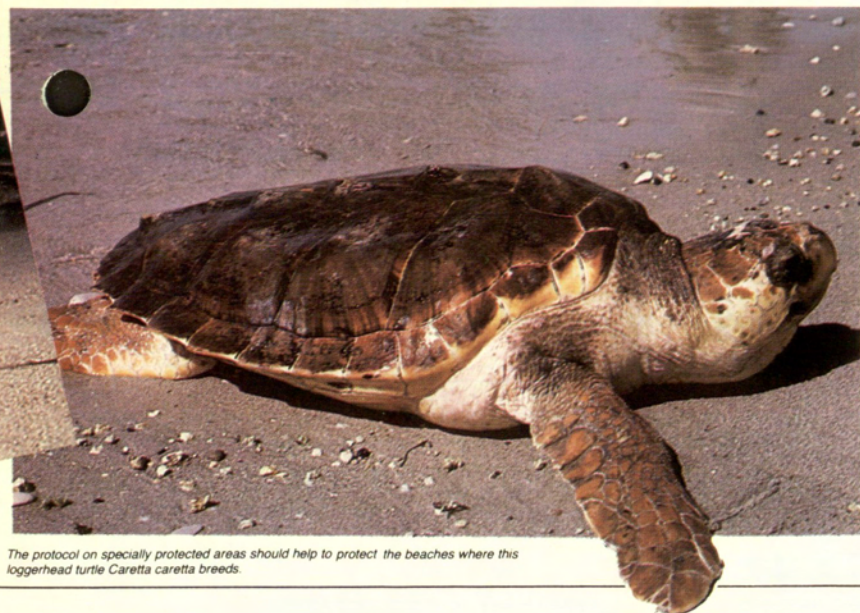
Over 80% of the eggs laid and the hatchlings are eaten by foxes mainly. Birds and ghost crabs add to the massacre.

Since 1978 a turtle station/hatchery has been operating on Lara beach on the West coast of Cyprus. This station is the first and only one operating in the whole Mediterranean basin.

Turtle eggs are hatched there under the protection of Fisheries Department staff and, over 2,000 loggerhead hatchlings are released every year to augment the ailing population of the loggerhead turtles. Rearing and releasing 1-3 year old loggerheads is also experimented with, while research work on their nutrition is taking place. Tagging of the breeding stock is also undertaken.

All turtles are protected in Cyprus by law since 1971.

*Andreas Demetropoulos
Director of Fisheries' Department of Cyprus
and Myroula Hadjichristoforu
Fisheries Officer*



*The protocol on specially protected areas should help to protect the beaches where this loggerhead turtle *Caretta caretta* breeds.*

FOURTH EUROPEAN ENVIRONMENTAL FILM FESTIVAL

Ecovision 87, the fourth European Environment Film Festival, will be held in Birmingham in the UK from July 3 to 8, 1987. The Festival has taken place every two years, beginning in France in 1981, moving to the Netherlands in 1983 and Germany in 1985.

More than 370 films were received for selection in early March. At Ecovision 87 a selection of the best films, videos and television programmes originating from many European countries will be presented. Forty two films will compete for £ 20,000 worth of prizes awarded by an International Jury, and in addition 48 films will be screened in the non-competitive information section of the Festival.

The most common themes are pollution followed by nuclear issues, toxic waste and the management of natural resources. The problem of environment versus aid for development is featured in about 20% of competition films. In addition to the Festival itself, there will be a series of debates, workshops and professional meetings, and many other activities to provide a full range of entertainment during the Festival week.

Ecovision is organized by the European Centre for Environmental Communication (ECEC) which is an independent non-profit organization based in Paris. Financial assistance was provided by the following organizations among others: UNEP, the Commission of the EEC, the European Cultural Foundation, the British and French Ministries of the Environment, the City of Birmingham and several other organizations and companies.

For further information contact: Annie BELET, P.R. Ecovision, CECE 55, rue de Varenne, F-75 341, Paris CEDEX 07, Tel: 1/42 22 12 34

CRETE TO ACQUIRE MARINE INSTITUTE

Minister of Industry, Energy and Technology Anastassios Peponis announced the founding of a National Research Institute of Marine Biology with head office in Heraklion, Crete. The Institute will come under the Ministry's General Secretariat for Research and Technology. The initial credits for the project will be from 12 to 15 million dr.

The institute's activities will encompass marine biology, coastal pollution and fish nurseries. It will be housed in buildings to be assigned by the Heraklion Harbour Fund. The annual operating costs of the institute, including its equipment, are estimated at 50 to 60 million dr.

ATHENS NEWS AGENCY BULLETIN
4/5/1987

STUDENT PROGRAMME ON SOLAR ENERGY

The Plataforma Solar, located 35 km north-east of Almeria, Spain, is the world's largest solar test center. During the next two years the Centro de Investigaciones Energeticas Medioambientales y Tecnologicas (Instituto de Energias Renovable) and the Deutsche Forschungs- und Versuchsanstalt für Luft- und Raumfahrt will, jointly, carry out large scale experiments within a solar thermal research and development programme, including solar process heat applications, high temperature central receiver technology and thermal storage systems.

CIEMAT-IER and DFVLR invite interested graduate students to participate in the ongoing experimental activities for a minimum period of two months or to submit their own project proposals if they wish to perform thesis work as required by their home university, i.e. study projects, diploma and/or doctoral thesis.

Student enrollment and supervision are free of charge. A limited amount of financial aid is available for travelling and living expenses. Accommodation and transportation to the site can be arranged on request. The official language is English.

If you are interested in enrolling in the Student Programme at the Plataforma Solar, send your application with records and references to: Plataforma Solar de Almeria, Educational Centre, Apartado 22, Tabernas (Almeria), Spain. Tel: (9) 51 36 51 89

ENVIRONMENTAL BIOTECHNOLOGY CREEPS OUT OF THE LABORATORY

The application of microbiology to environmental problems is taking a little longer to become a business proposition than its more ardent proponents have been suggesting. But, in both Britain and the USA, biological methods of dealing with soil and groundwater pollution are now beginning to make real headway.

Barely a week now passes without a claim in the scientific literature that a research team somewhere has identified a microbe capable of degrading this or that intractable pollutant. Among the compounds on which this new tide of biodestruction is apparently about to be unleashed are such old favourites as DDT, polychlorinated biphenyls (PCBs), pentachlorophenol, clordane, lindane and 2,3,7,8-TCDD.

Technical hurdles help to explain why the application of microbiology is advancing less rapidly into the effluent treatment field than into the clean-up of polluted soils and groundwaters, where the competing processes are often slower, costlier, or merely shift the contamination from one place to another. These markets are developing most strongly in the USA, where the environmental biotechnology industry was recently given a major boost by the \$9 billion renewal of the Superfund programme for cleaning up hazardous waste land-

fills, and by the new LUST programme to remedy aquifer pollution from leaking underground storage tanks.

ENDS Report, No 146/March 1987.

THE BRUNDTLAND REPORT

Will three year's work by the Norwegian prime minister's committee really do anything about the 6m hectares that turn to desert every year, or the much larger areas that are losing their tropical rain forests? It might, if the ecology could digest one of the study's least-trumpeted implications - namely that in most of the world economic growth and environmental protection go happily hand in hand.

In the developed countries, industrial growth sometimes means more polluted rivers, acid rain or airborne lead. But in poor countries, environmental problems usually happen for quite different reasons. Soil erosion is caused by ploughing without terracing; deforestation by chopping down rain forest for an immediate but ephemeral return; desertification by overgrazing. Apart from a few smoke-stack cities like Bombay and Shanghai, environmental damage in the third world is caused not by industry but by inefficient agriculture.

The damage is huge and it affects everybody, rich and poor, north and south.

One caveat: some big environmental headaches are beyond the ken of markets. Market forces encourage the destruction of the complicated ecology of the jungle, because at present the only way to make money from the trees of tropical rain forest is to cut them down and invest the proceeds. Butterfly ranching, promising though it is as a rural industry in the tropics, is not going to save the Amazon. To preserve the rain forests, therefore, the rich countries should put up or shut up: let them pay the poor countries not to chop down their trees.

The Economist, May 2, 1987

PRIZE FOR A DOCTORAL THESIS ON THE MEDITERRANEAN

Last year, in MEDWAVES No 5, we informed our readers about the prizes awarded to doctoral theses on the Mediterranean, offered by the Province of Agrigento and the Agrigento Chapter of the Italian Naval League. The fifth international seminar on "Sea and Territory", where winners will be announced, will take place in Agrigento, from October 8 to 10, 1987.

A copy of the thesis should be addressed to: Delegazione della Lega Navale Italiana, Via Diodoro Siculo 1, 92100 AGRIGENTO, Italy.



THE CIRCUMNAVIGATION OF THE MEDITERRANEAN

LA MER BLESSEE, La Méditerranée (The Wounded Sea. The Mediterranean) by Jacques-Yves Cousteau and Yves Paccalet, collection "L'Odysée". FLAMMARION, Paris, 1987.

Jacques-Yves Cousteau does not need an introduction: he was born in 1910 and since 1950, when he transformed an old ship into a research vessel, the famous *Calypso*, he has voyaged all around the globe, filming his research and creating, in the process, fascinating documentaries for the television as well as the cinema. He is head of the Oceanographic Museum in Monaco since 1957 and has written numerous books.

Yves Paccalet, born in 1945, is an author of books on the environment. He has followed courses on biology, zoology and botany as well as philosophy. He has contributed in the development of the ecological movement in France. This book is his eighth collaboration with Cousteau.

"La mer blessée" is a diary of Calypso's voyage around the Mediterranean from July the 5th to December the 7th 1977. It contains 52 entries, every one of which is a small chapter about a certain site in the Mediterranean. The book, "the product of anger and respect", according to its authors, is the most vivid picture of the Mediterranean, and more so because of its exquisite photographs. This fascinating odyssey around the Med is completed by a detailed index of names - places and species - that makes this book as small encyclopaedia.

THE LEGENDS OF THE MEDITERRANEAN

THE FIRST EDEN, The Mediterranean World and Man by Sir David Attenborough. W. COLLINS/BBC BOOKS, London, 1987.

David Attenborough is world famous mostly because of his recent natural history TV series "Life on Earth" and "The Living Planet". Nevertheless his first TV work on this subject was made 35 years ago and was called "Zoo Quest". In 1965 he was appointed Controller of BBC2. He eventually took editorial charge of both television networks of the BBC.

In 1972 he resigned to write and present programmes again. He has written numerous books, some of which are spin-offs of his TV series. In 1983 he was elected a Fellow of the Royal Society. He was knighted in 1985.

In this fascinating book, written at the same time as four films for BBC TV were being made on the same subjects, David Attenborough not only describes the natural history of the Mediterranean, but also tells the story of mankind's changing attitudes towards the natural world and so gives a new insight into the communities of animals and

plants that live today in this Sea and the lands around it.

The book contains four parts: Part one tells the story of the Med from the filling of the Sea (five million years ago) to the arrival of mankind ("The making of the Garden"). Part two ("The Gods Enslaved") deals with the history of civilization from the Lascaux caves to the Roman Empire and how it was linked to Nature. The taming of the horse and the destruction of the forests are the two major events that form the frame of Part three ("The Wastes of War"). It brings us through the Islamic expansion and the crusades to the battle of Lepanto (1571). Marine invaders of the east, terrestrial invaders from the west and Modern Man are "Strangers in the Garden" (Part four). The last chapter of this section ("The relics of Eden") deals with endangered or almost extinct species.

A short bibliography and a very useful index close the work. Needless to mention the exquisite photographs that crown this book and the informative maps.

THE ENCHANTED LANDSCAPES OF GREECE

TRAVELS WITH A WILDLIFE ARTIST, The Living Landscape of Greece, by Peter and Susan Barret, Foreword by Gerald Durrell, COLOMBUS BOOKS, London, 1986.

One of the most enchanting books ever to be published. The artist's sensitivity emerges out of every page of full colour or black and white paintings. Wild and peaceful landscapes, wonderful animals, imposing views, a variety of flowers and plants, the wide diversity of the architectural heritage of the land (a proof of how man can create a human environment in full harmony with nature) all these aspects of the Greek landscape are presented in this book, consisting of eight chapters, one for every district: Crete, the Peloponnese, the Cyclades, Central Greece, North-Eastern Greece, Northern Greece, the Ionian Islands and the Eastern Islands.

Peter Barret, an acclaimed artist and wildlife illustrator, and his novelist wife Susan have known Greece for 23 years and lived here for ten of them. Fluent Greek-speakers they have revisited the country many times since they left their home on Amorgos, a small island in the centre of the Southern Aegean, and returned to England. The couple's love of Greece and the Greeks is apparent in Susan Barret's text, which consists of inspired descriptions of the landscape and the flora and fauna, juxtaposed with the personal stories of typical Greek figures.

MAP TECHNICAL SERIES

- MAP/MED POL/FAO: Research on the effects

of pollutants on marine organisms and their populations (MED POL IV). MAP Technical Reports Series No. 4. UNEP, Athens, 1986.

- MAP/MED POL/FAO: Research on the effects of pollutants on marine communities and ecosystems (MED POL V). MAP Technical Reports Series No. 5. UNEP, Athens, 1986.

- MAP/MED POL/IOC: Problems of coastal transport of pollutants (MED POL VI). MAP Technical Reports Series No. 6. UNEP, Athens, 1986.

- MAP/MED POL/WHO: Coastal water quality control (MED POL VII). MAP Technical Reports Series No. 7. UNEP, Athens, 1986.

- MAP/MED POL/IAEA: Biogeochemical studies of selected pollutants in the open waters of the Mediterranean (MED POL VIII). MAP Technical Reports Series No. 8. UNEP, Athens, 1986.

- MAP/MED POL: Biogeochemical studies of selected pollutants in the open waters of the Mediterranean (MED POL VIII). Addendum: Greek oceanographic cruise 1980. MAP Technical Reports Series No. 8, Addendum. UNEP, Athens, 1986.

- MAP/MED POL: Co-ordinated Mediterranean pollution monitoring and research programme (MED POL - PHASE I) Final Report (1975-1980). MAP Technical Reports Series No. 9. UNEP, Athens, 1986.

- MAP/MED POL/FAO: Research on the toxicity, persistence, bioaccumulation, carcinogenicity and mutagenicity of selected substances (Activity G). MAP Technical Reports Series No. 10. UNEP, Athens, 1987.

- MAP/PAP: Rehabilitation and reconstruction of Mediterranean historic settlements. MAP Technical Reports Series No. 11. UNEP, Split, 1986.

THE MAP CALENDAR OF MEETINGS JUNE-SEPTEMBER 1987

Prevention and control of accidental marine pollution (INFOPOL 87)	4-19 June Paris, Brest and Marseille
Meeting on Mediterranean Regional Report	10-12 June Athens
Workshop on planning tools	10-13 June Lyon
Consultation meeting on Red Sea region	15-17 June Athens
Meeting of Experts on financial matters (contributions)	19-22 June Madrid
Meeting of the Bureau	22 June Madrid
Meeting of National focal points of PAP	24-26 June Split
Workshop on offshore protocol (legal)	13-15 July Rome
Meeting of the National Focal Points of Blue Plan	20-22 July Sophia Antipolis
Fifth Ordinary Meeting of the Contracting Parties to the Barcelona Convention	7-11 Sept. Athens

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A new member of the MAP family.

ON February 13, 1987, the Regional Activity Centre on Specially Protected Areas, RAC/SPA for short, was inaugurated. The ceremony of the official opening took place at the Centre's headquarters in Salammbô, a suburb of Tunis, capital of Tunisia.

Mr Mohamed Ghedira, the Tunisian minister of Agricultural Production, and Mr Abdulhamid Munajid, the Syrian minister of Environment and Vice President of the Bureau of the Contracting Parties to the Barcelona Convention delivered speeches in which they stressed the importance of regional co-operation between the Mediterranean Countries. The main objective, they said, is not only to save the Sea and protect the environment, but, also, to preserve the common Mediterranean cultural heritage.

Mr Haj Ali Salem, director of RAC/SPA, read a message sent by Mr Aldo Manos, the Co-ordinator of the Mediterranean Action Plan.

The inaugural ribbon was, then, cut by the two ministers, who together with the other guests, visited the premises.



The inauguration ceremony. From left to right: Cutting the ribbon Mr Mohamed Ghedira, Tunisian Minister of Agricultural Production. On his right Mr Haj Ali Salem, Director of RAC/SPA and, holding the other end of the ribbon, Mr Abdulhamid Munajid, Syrian Minister of the Environment and Vice-President of the Bureau of the Contracting Parties.

Officials of the Tunisian Government and representatives of the Mediterranean countries' diplomatic missions in Tunis and of several International Organizations (such as the UN, UNDP, FAO, UNESCO, UNEP and IUCN) were present.

An exhibition concerning UNEP and MAP activities, endangered species in the Mediterranean and Nature conservation efforts in the region was also organized. It included maps depicting existing and proposed protected areas around the Mediterranean Basin.

Installed on October 1, 1985 the RAC/SPA had, during the first phase of its activities, the following objectives, which it realized in close co-operation with IUCN:

- a) to compile a computerized directory of existing and potential protected areas in the Med and
- b) to edit a document containing draft guidelines for the selection, establishment and management of protected areas.

Its equipment includes a computer, a vehicle, a boat and diving gear.

S A L A M M B O

A View

The moon was rising at sea level, and specks of light, of whiteness shone out over the town, still plunged in darkness; a wagon shaft in a courtyard, a scrap of cloth hanging up, the corner of a wall, a golden collar on a god's chest. The glass globes on the temple roofs sparkled here and there like large diamonds. But vague ruins, heaps of black earth, gardens made darker masses in the shadows, and down in Malqua fishing nets stretched from one house to another, like gigantic bats spreading their wings. The creaking of the water wheels bringing water to the top floor of the palaces was no longer audible and in the middle of the terraces camels rested quietly, lying on their bellies as ostriches do. Porters slept in the streets up against the entrance to the houses; the shadow of the colossi grew



longer over the deserted squares; far off the smoke from a still-burning sacrifice escaped through the bronze tiles, and the heavy breeze carried with the scent of spices the tang of the sea and the odour of walls heated by the sun.

Around Carthage the still waters shone bright, for the moon shed its light on the hillgirt gulf and on the lake of Tunis, where flamingoes among the sand-banks formed long lines of pink, while beyond, under the catacombs, the great salt lake reflected it like a piece of silver. The blue vault of the sky sank down on the horizon, on one side in the dust of the plains, on the other in the mists of the sea, and on the summit of the Acropolis swayed the pyramidal cypresses bordering the temple of Eschmoûn, in a low whisper like the regular waves slowly beating along the mole below the ramps.

Translated by A.J. KRAILSHEIMER

Salammbô is the name of the heroin of Gustave Flaubert's novel. She was the daughter of Hamilcar, a Carthaginian Warlord. This is a night view of Carthage from the terrace of her father's palace. A landscape that has remained almost unchanged over the last two thousand years. The figure on the Carthaginian coin is Hamilcar Barca, 285(?) - 228 B.C., father of Hannibal, who, probably, served as a model for the creation of the character of Salammbô's father.