The state of conservation of sea turtles in the Mediterranean- case study of Greece

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What are Marine Turtles?

They are reptiles, which means:

• Lay eggs on land (need beaches to nest)
• Breath air (have lungs)
• Exothermic (avoid temperature extremes)

Special characteristics:

• Delayed maturity (14 - 30 years)
• Long life span (not known in nature)
• Highly migratory
• Sex determined by incubation temperature (STD)

Photo: ARCHELON / Kostas Papafitsoros
7 species of sea turtles in the world

All the 7 species are included in the IUCN Red List of Threatened Species:

- Flatback (*Natator depressus*)
  Status: Data Deficient
- Green Turtle (*Chelonia mydas*)
  Status: Endangered
- Leatherback (*Dermochelys coriacea*)
  Status: Vulnerable
- Hawksbill Turtle (*Eretmochelys imbricate*)
  Status: Critically Endangered
- Kemp's Ridley (*Lepidochelys kempii*)
  Status: Critically Endangered
- Loggerhead Turtle (*Caretta caretta*)
  Status: Vulnerable
- Olive Ridley (*Lepidochelys olivacea*)
  Status: Vulnerable
Sea turtle species in the Mediterranean:
Sea turtle nesting in the Mediterranean:

- Loggerhead Nesting
- Green Nesting
Distribution of Loggerhead nesting in the Mediterranean:

Greece: 46.7%
Turkey: 31.1%
Libya: 9.8%
Cyprus: 9.4%
Egypt, Lebanon, Israel: 2.5%
Syria, Tunisia, Italy: 0.5%

Data from Casale & Margaritoulis (2010)
Since 1983, the primary objective of ARCHELON, the Sea Turtle Protection Society of Greece has been to protect the sea turtles and their habitats in Greece through monitoring and research, developing and implementing management plans, habitat restoration, raising public awareness and rehabilitating sick and injured turtles.
Inspiration of name & logo:

First coin ever manufactured in Greece was Statiras of Aigina. It’s about 2,500 years old and represents a loggerhead turtle.

First fossil of sea turtles was 4.5 meters long and named *Archelon Ischyros*.
ARCHELON projects’ areas:

- 9 field projects in the major nesting areas
  Average nest number/year
  - ZAK: 1,190 (33 yrs)
  - KYP: 872 (33 yrs)
  - RET: 275 (27 yrs)
  - LAK: 206 (32 yrs)
  - CHA: 84 (25 yrs)
  - MES: 61 (24 yrs)
  - KOR: 50 (22 yrs)
  - ROM: 25 (8 yrs)
  - KEF: 42 (33 yrs)

- 2 field projects in the major foraging/feeding areas (Amvrakikos Gulf, Lakonikos Bay)
Actions’ pillars in the projects’ areas:

- Research, monitoring & protection
- Protection & management of nesting/foraging habitats
- Environmental education & public awareness
- Rescue & rehabilitation

Photo by Julia Costescu (ARCHELON volunteer 2016)
Research & monitoring of nesting activity:

75 km of core nesting beach are daily monitored, turtle activity is recorded & scientific data are collected
Nest protection:

- Locating & mapping
- Protection from predation
- Protection from trampling
- Protection from artificial lighting
- Protection from inundation
Tagging program:

- Nesting areas: Flipper tagging (since 1982) & occasional satellite tracking
- Foraging/feeding areas (Amvrakikos Gulf): Flipper tagging (since 2000) & satellite tracking
Significant upward trend in Kyparissia Bay:

301,594 hatchlings (9,424 – 22,047 hatchlings/year) were saved from predation during the period 1992-2010.

Since 2006 the number of nests has continuously shown an upward trend and at the same time the number of “new” mothers has increased.
On the contrary in north Crete appear significant declines:

- Rethymno Bay: decrease of the annual average number of 46% (period 2000-2015 compared to period 1990-1999)
- Chania Bay: decrease of the annual average number of 50% (period 2003-2015 compared to period 1992-2002)
Habitat protection & management:

Cooperation with: national, regional & local authorities, local communities, businessmen & other stakeholders for the implementation of management measures and restoration actions.
Public awareness & environmental education:

- At the nesting & feeding areas 200,000 visitors & residents are informed/year
- At the Rescue Center 20,000 students & groups are informed/year
Rescue & Rehabilitation:

ARCHELON Rescue Network & Rehabilitation Center (founded in 1994)

- Over 70 sick & injured turtles are treated annually
- About 600 stranded turtles are recorded annually all over Greece
ARCHELON’s “army”:
500 volunteers from all over the world/year
Life Euro Turtles
www.euroturtles.eu
New LIFE project:

**Project Title:** COLLECTIVE ACTIONS FOR IMPROVING THE CONSERVATION STATUS OF THE EU SEA TURTLE POPULATIONS

**Project Acronym:** LIFE EUROTTURTLES

**Project Code:** LIFE15 NAT/HR/000997

6 countries
9 partners

- University of Primorska
- Croatian Natural History Museum
- Blue World Institute
- UNIROMA1
- WWF ITALY
- ARCHELON
- DFMR
- OCY-CY
- Nature Trust Malta
Thematic units in Greece:

- Nest protection & location of marine hotspots
- Mitigation of fisheries interaction
- Improvement of rescue network
- National action plan
- Public awareness
Brief history & achievements:

1983
The Sea Turtle Protection Society of Greece (STPS), now ARCHELON, was founded.

1984
Systematic beach monitoring starts in Zakynthos and Kyparissia Bay.

1985
Environmental Education Program starts in the schools of Zakynthos. It is soon extended to the whole of Greece and makes Loggerhead an emblematic species for the protection of nature.

1987
Bern Convention issues Recommendation No. 9 for the conservation of Zakynthos sea turtles.

1992
ARCHELON appeals to Dr Luc Hoffmann (Vice President, WWF International) and proposes the possibility of purchasing the private land behind Sekania beach in Zakynthos and protect it. Dr. Hoffmann accepts the challenge and ARCHELON supports WWF-Greece to develop and implement the plan to purchase Sekania.
Brief history & achievements:

- **1999**: The Presidential Decree for the establishment of the National Marine Park of Zakynthos was signed.
- **2000**: The Management Agency of the National Marine Park of Zakynthos was established.
- **2004**: Purchase of Sekania beach by WWF Greece finalized. The Sea Turtle Rescue Centre was established in Glyfada.
- **2006**: All major nesting sites of Greece are designated as Sites of Community Importance (SCI) and included in the Natura 2000 Network.
- **2008**: A significant increase in nest numbers is recorded in Kyparissia Bay, as a result of the long term protection applied by ARCHELON.
European Commission opens case file against Greece for violation of Habitats Directive, due to the lack of protection in the Kyparissia Bay.

The European Court condemns Greece for the inadequate protection of sea turtles in Kyparissia Bay (C-504/14). The first Ministerial Decision for the protection of the habitat is issued.

Bern Convention issues Recommendation No. 174 for the conservation of sea turtles in Kyparissia Bay (after an on the spot appraisal). The European Court condemns Greece for the operation of an illegal landfill site within the National Marine Park of Zakynthos (C-600/12).

The Joint Ministerial Decision prescribing beach use includes management measures for the protection of sea turtles in all nesting sites.
Still many challenges to face:

Illegal road construction in zone Φ1 of the National Marine Park of Zakynthos (between the nesting beaches of Gerakas and Daphni) in December 2015.
Still many challenges to face:

Pressure for permanent elimination of the illegal landfill site that is still active in the boundaries of the NMPZ.
Still many challenges to face:

Pressure to all competent authorities to provide solutions for the case of Daphni beach in Zakynthos.
Still many challenges to face:

Urgent need for legislation update and implementation of a specific management framework for the Turtle-Spotting activity in the NMPZ.
Still many challenges to face:

Implementation of existing Presidential Decree restrictions regarding beach furniture.
Still many challenges to face:

Pressure for the creation of a National Park in Kyparissia Bay.
Still many challenges to face:

Confrontation of nesting beaches’ erosion in north Crete.
Still many challenges to face:

Mitigation of fisheries interaction.
Thank you for your attention!

Photo: ARCHELON/Merlin Potter Adams

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