

The Sea Turtle Protection Society of Greece



**Short Report on
Sea Turtle Conservation on Zakynthos Island,
Greece, during 2006**

Submitted to

The European Commission, and
The Standing Committee of the Bern Convention (Council of Europe)

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Foreword

This short report includes progress made from January 2006 to 31 August 2006 regarding sea turtle conservation on Zakynthos Island, Greece. Presented nesting data are considered preliminary as analyses are still in process. David Oakley and B. Gill, field leaders of the ARCHELON project on Zakynthos during 2006, contributed to the drafting of this report.

1. Background

Laganas Bay, at the southern part of the Island of Zakynthos, western Greece, hosts the largest nesting aggregation of the loggerhead sea turtle *Caretta caretta* in the Mediterranean. The nesting habitat consists of six distinct beaches (Marathonissi, East Laganas, Kalamaki, Sekania, Daphni, Gerakas) within the Bay, totalling 5.5 km in length.

ARCHELON, the Sea Turtle Protection Society of Greece (STPS), has been systematically monitoring the Bay's nesting beaches since 1984 and records annually the nesting levels and other associated data. ARCHELON's long-term monitoring project is the oldest in the Mediterranean and one of the oldest in the world. As a result Laganas Bay is used as an "index" nesting area, by the Red List Task Force of IUCN's Marine Turtle Specialist Group, in assessing population trends for the loggerhead turtle in the Mediterranean.

The long-term project of ARCHELON involves standardized monitoring of the nesting population, as well as protection of endangered nests. Further, it includes an extensive public awareness component towards residents and visitors. The project operates annually from May to October, under a research permit issued by the Ministry of Agriculture (Wildlife Department), and with great assistance from a contingent of international volunteers who are organized, trained and supervised by ARCHELON staff.

Due to the significance of Laganas Bay as a sea turtle nesting habitat, and the threats it faces from increasing tourism pressure, the Greek state has attempted, since 1984, its protection through various legislative acts. However, these measures were not endorsed by part of the local community and generally were poorly enforced. Following substantial pressure from NGOs, the Council of Europe (through the Bern Convention) and the European Union, and after several years of deliberations, the National Marine Park of Zakynthos (NMPZ) was eventually established in December 1999 and its Management Agency in July 2000.

The enabling Presidential Decree includes a zonation scheme with varying regulations on land and at sea. The marine area of the Bay is divided in 3 zones controlling maritime traffic from 1 May to 31 October (Zone A: no boating activity allowed; Zone B: speed limit 6 knots, no anchoring; Zone C: speed limit 6 knots).

The Management Agency has discontinued its operations in April 2004 because of lack of funds, the greater part of which came from the government. A new President was appointed and a new Board was formed by the Ministry of Environment and became operative since August 2005. It must

be noted that ARCHELON and WWF-Greece participate in the 11-member Board of the Agency having one combined seat.

As in previous years, we present herewith the milestones of ARCHELON's work on Zakynthos, during 2006 (until 31 August), the accomplishments of the Management Agency of the NMPZ, and the conservation status per beach or area. Further, we provide a set of recommendations for the improvement of the conservation outlook of this important sea turtle population and its nesting habitat.

2. ARCHELON's Fieldwork During 2006

General

Fieldwork for the 2006 season commenced on 5 May and will continue until 20 October. The main research field station at Kalamaki was set up on 5 May, with a peripheral station based at Gerakas, operative since 11 May. Unlike previous years, the semi-permanent research stations at Sekania and Marathonissi were not established at the request of the Management Agency. Daily monitoring of all six beaches commenced on 15 May. A large part of ARCHELON's work is devoted to direct nest protection through relocating or the caging of nests laid in vulnerable areas. Regular beach patrols are also conducted to prevent accidental or deliberate damage to nests by visitors.

The public awareness programme, through which the public are informed about the plight of the loggerhead turtle and how they can utilise the beach without disturbing turtles and nests, started at about 11 May. The public awareness programme is done in a variety of formats: presentations in hotels and on commercial tour boats, informing visitors on the nesting beaches, through an Information Station in Gerakas (opened on 11 May), and whilst present on Turtle Spotting Boats (see Appendix 2).

After the establishment of the Park, ARCHELON conducts its monitoring and public awareness work in agreement with the NMPZ. This partnership commenced in 2002 and continued throughout 2003, before the Park's functioning was discontinued in April 2004. From this time until August 2005, when the Management Agency was re-activated, ARCHELON carried out its monitoring and public awareness work with increased presence on the beaches to offset, as much as possible, the absence of the Park's staff and wardens. After the re-activation of the Management Agency, new agreements were signed to cover 2005 and 2006 seasons. According to the current agreement, ARCHELON provides to the Agency a weekly report, including preliminary nesting data per beach and observed violations of regulations; at the end of the year a detailed report will be submitted.

Partnership with the Agency foresees that ARCHELON project members work in conjunction with the Park wardens patrolling the beaches to supervise enforcement of regulations. Multi-lingual volunteers are of great assistance when conversing with international visitors on the beaches. In addition, ARCHELON's volunteers act as independent observers on the Park-endorsed Turtle Spotting Boats, reporting violations on these boat trips as they occur. The ongoing relationship and cooperation between ARCHELON and the Agency is an essential component of future operation of the NMPZ.

Close cooperation continues with the Coast Guard of Zakynthos for incidents of turtle strandings and the transportation of injured turtles to the ARCHELON's Sea Turtle Rescue Centre in Glyfada, Athens.

Once again local Municipalities have donated facilities for the volunteer base camp in Kalamaki, and the ARCHELON Information Station in Gerakas is established on land owned by a local resident.

Results

Preliminary data show that during the 2006 nesting season 3558 sea turtle emergences, of which 957 resulted in nests, were recorded on all six beaches of the Bay. Although the total number of recorded nests during 2006 is well below the 22-year average (1984-2005) of 1264 nests, this is considered as being part of the intense fluctuations observed over the years (Fig. 1). Here it must be noted that these annual fluctuations do not allow so far the detection of any trend in the annual number of nests.

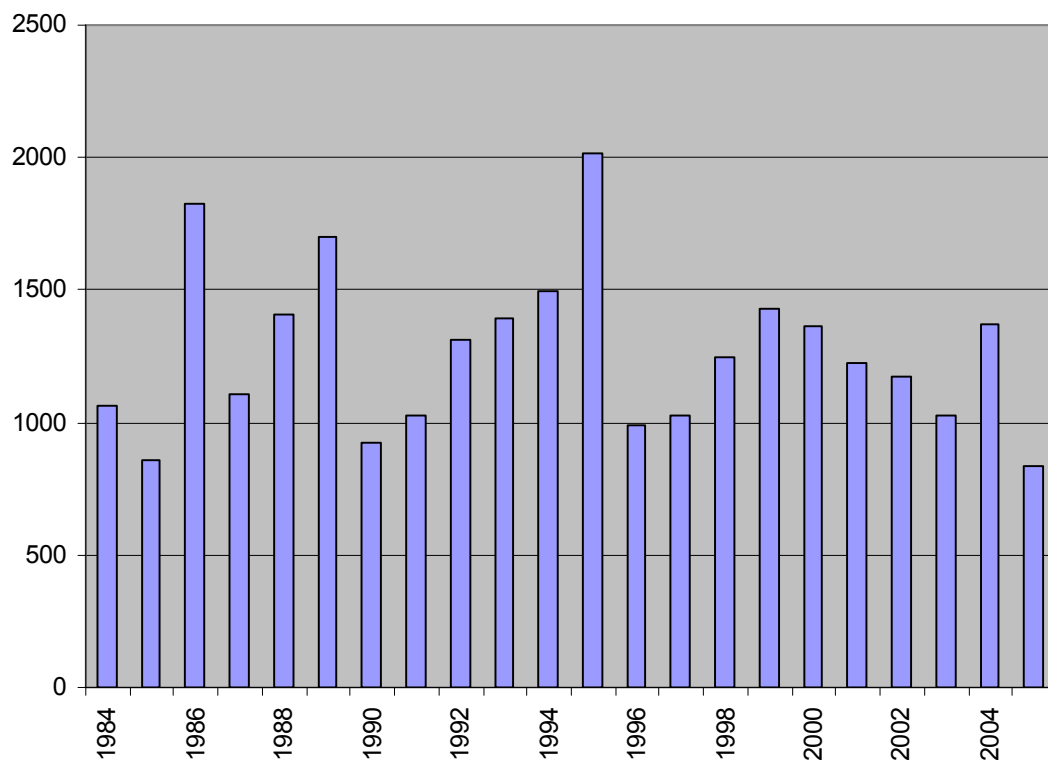


Fig. 1. Annual number of nests in Laganas Bay, Zakynthos Island, over 22 years (1984-2005), deducted from ARCHELON's long-term standardized project.

Up to 31 August 2006, four turtles have been confirmed dead but it cannot be stated if these were killed within the Bay or drifted there by currents. Several other reports of dead turtles (but not sighted by ARCHELON personnel) indicate a higher number of mortalities throughout the summer. Three turtles have been observed with fresh injuries requiring transport to ARCHELON's

Rescue Centre in Glyfada. Two of these were mature tagged females suffering serious propeller injuries; the third was a juvenile with a fishing hook stuck in the mouth. Two incidents of turtles being rescued from fishing nets within the Bay have occurred, once by project members and once by a third party. In addition, several turtles have been observed nesting with minor propeller injuries, or with fishing hooks attached; however these injuries did not prevent these turtles from nesting successfully.

ARCHELON project members have carried out more than 700 slide show presentations, conducted 720 beach patrols and participated in 66 all-day trips on cruising catamarans and 437 trips on Turtle Spotting Boats providing to visitors information on sea turtle biology and informing/explaining the Park's regulations (see Appendix 2). In addition, project members were regularly informing beach visitors, in the course of their monitoring duties. As a result of the above activities, from 5 May until 6 September 2006, a total of 53668 visitors were informed by ARCHELON project members. The above number is analysed as follows: 13854 visitors through slide show presentations, 30848 visitors on the beaches, 6457 on boat trips, 2509 at the Information Station.

3. The Work of Management Agency During 2006

The creation of the Marine Park and the associated Management Agency were major steps in protecting the most important nesting habitat for *Caretta caretta* in the Mediterranean.

The lack of funding from about April 2004 to summer 2005 meant that in effect the Management Agency ceased to function. During this period there was neither official wardening nor supervision of regulations' enforcement pertaining to the nesting habitat on land and at sea (it is to be reminded that ARCHELON, being an NGO, can only provide advice and information). Therefore since the Agency has resumed operation it has been necessary to re-establish acceptable practices within the protected area.

Permanent and seasonal staff has been employed for the implementation of the Agency's plans. Nevertheless, it must be noted that the President of the Management Agency did not disclose fully her intentions to the Board of the Agency (and subsequently to the participating NGOs). Below we provide some general descriptions of plans and measures taken and, where known, the overall result. More details are given per specific beach/area in the next section. It should be reminded that the descriptions below are the ones that came to our knowledge.

It seems that the primary focus of the President of the Agency was the improvement of the situation in Daphni in agreement with its land owners, several of which had built illegal houses and other constructions behind the beach. As it proved afterwards, a Memorandum of Cooperation was signed between the Agency and some land owners, stating these provisions. The apparent aim of the Agency was to acquire control in this area, involving in the process local owners, in view of the expressed unwillingness of the state to demolish the illegal constructions. More details on Daphni can be found in section 4.1.

Control of vehicular access was effected on all protected beaches (with the exception of Marathonissi which is an islet) by newly constructed or repaired barriers mounted at the major beach entrances.

Wardening was effected on all protected beaches, with the exception of Sekania beach (for details see Appendix 1).

Control of beach furniture (umbrellas, sunbeds) was attempted by the Agency by providing distinctive furniture carrying the Park's logo.

Increased signposting was implemented at the major entrances of the nesting beaches as well as on roads crossing the boundaries of the Park.

An additional restriction on vessels in the northern part of the Bay has been imposed with the intention of only NMPZ endorsed vessels (Turtle Spotting Boats) to sail in this area (see Section 4.2 and Appendix 2 for details).

An educational programme with local schools was resumed.

4. Conservation Status of Nesting Habitat During 2006

4.1. Protected beaches (in geographical order)

Marathonissi (zone A2, maritime zone B)

Marathonissi is an islet within the Bay and the nesting beach lies within maritime zone B. Low sand temperatures on Marathonissi beach (due to its northern orientation and its whitish sand) make it a particularly important nesting area as on this small beach the great majority of male hatchlings of the Zakynthos sea turtle population are produced. The beach is a popular destination for day-visitors who arrive by boat from several areas of the Bay. A NMPZ sign is in place to inform visitors of the beach rules and visiting boats are only allowed to land on a particular site. Despite being in zone B, boats still stop at Marathonissi and still drop anchor in the waters just offshore.

East Laganas (zone Π3, maritime zone B)

This beach is within boating zone B and stretches for about 2.7 km to the edge of the protected land area of the NMPZ. This beach is backed by an extensive sand dune field, which has been degraded because of human activities. The airport to the back of the beach is closed during the night and this avoids substantial light and noise pollution on the nesting beaches in the Bay. Two of three existing barriers were replaced at the main beach entrances in order to restrict vehicle access.

Vehicle traffic on East Laganas has reduced significantly when compared with 2005; however, despite improvement, vehicles and horses on the beach remain a problem. Further, the most western end of the protected area (near Zante Beach Hotel) remains open during the night and some beach entrances remain unguarded meaning some visitors did gain access to the beach at night (for more information, please see Appendix 1). The westernmost part of the beach has also increased light pollution, which deters nesting females and disorients hatchlings. Hatchling disorientation can also be observed in the centre of East Laganas due to a single house.

Beach furniture on East Laganas beach is split into areas as follows: Western part (Zante Beach Hotel): 120 umbrellas, 232 sunbeds. Middle part (Kalamaki Beach Hotel): 62 umbrellas, 123 sunbeds. Eastern part (Stanis Taverna) 24 umbrellas, 48 sunbeds. In addition to the above there are 3 sets of illegal beach furniture in the area between Kalamaki Beach Hotel and Stanis Taverna, totalling 60 umbrellas and 160 sunbeds. These umbrellas and sunbeds are set behind the actual beach on levelled areas in the sand dune system.

Kalamaki (zone Π3, maritime zone B)

Kalamaki beach is in maritime zone B meaning that boating traffic is not allowed to anchor on or near the beach. Access to Kalamaki is gained through a single beach entrance where the barrier preventing vehicle access was replaced in 2006. In previous years small amounts of light pollution have been observed affecting nesting females and hatchlings alike, but this year the situation has been improved. The western end of the beach has two sets of umbrellas and sunbeds, totalling 55 umbrellas and 110 sunbeds. The owners of the beach furniture stack them during the night in a way as to allow a greater area of beach for the nesting turtles.

Sekania (zone A1, maritime zone A)

Sekania has one of the highest nesting densities for *Caretta caretta* in the world. It stretches at the centre of maritime Zone A meaning that no access is allowed by boat. It is reminded that WWF-Greece acquired the land to the back of the beach preventing development and vehicular access. This year the NMPZ has erected a sign on the land behind Sekania, advising that there is strictly no access to the beach. A barrier has been constructed at the entrance to the beach to further discourage access. Despite the barrier and sign at the beach entrance and the restrictions to boating of Zone A, there were still illegal visitors to Sekania. It is reminded, however, that in 2006 no warden was posted in Sekania (see Appendix 1).

Following a major brush fire in 2001, erosion works were carried out by WWF-Greece in cooperation with ARCHELON. The beach presently exhibits a much reduced amount of clay run-off which can be detrimental to sea turtle nests.

Minor hatchling disorientation was observed on the western part of the beach due to the lights of Laganas settlement, and also noise from the bars and clubs in the Bay. Due to its remote location and the high level of hatchling production Sekania beach is particularly susceptible to hatchling predation by birds (e.g., sea gulls) from the nearby landfill site (see section 4.3).

Daphni (zone Π1, maritime zone A)

Background of Daphni

In 2003, there were 13 illegal buildings at Daphni, considered to be the second most important nesting beach on Zakynthos. In 2004, a newly constructed building was observed and subsequently reported to the relevant

authorities on Zakynthos, as well as to the delegation of Public Administration Inspectors of Greece by the then Management Agency of the NMPZ. The removal of illegal buildings at Daphni has been an obligation of the Greek Government since 1987, when only two buildings existed, following recommendations by the Council of Europe (Recommendation No. 9, Bern Convention). Further constructions, repair works and modifications of buildings and walls took place during 2005.

Previous changes to the morphology of the beach have included levelling of the low dunes behind the beach, as well as deposition of soil to allow umbrellas to be utilised. Moreover, non-native plants were planted replacing the original vegetation.

It must be noted that land owners in Daphni, supported by the local community of Vassilikos, never accepted Park wardens and regulations. ARCHELON project members conducted beach surveys very early in the morning, getting there by boat, and frequently were having trouble with local owners.

Daphni in 2006

In 2006 the Management Agency began to implement its plan which led to several changes on the beach and the area behind it. It must be noted that the entire area was closed to the public until 5 June, when the Minister of Environment paid a visit. The closure of Daphni was enforced by Park wardens (see Appendix 1 for more information on the wardening scheme). ARCHELON project members were allowed to conduct their monitoring work, at a specific hour early in the morning, not allowed to go beyond the beach.

During this period, several construction works, including demolitions of walls, new constructions and modifications took place. Presently, and having in mind the difficulty of ARCHELON's project members in accessing the entire area, there must be at least 15 buildings and 14 other constructions. Among the buildings there are several tavernas, and one building bearing the NMPZ flag.

During the summer, Daphni was closed to visitors in the evenings and vehicle access was restricted by a barrier and wardens at the main entrance of the area. At daytime, tourists wishing to visit the beach were transported to the area by NMPZ vans; reportedly there were restrictions to visitor numbers and staying time. The control of visitor numbers during the day was enabled by the implementation of a pilot eco-tourism programme which included the operation of an information centre and guided tours on the beach. Moreover, the NMPZ removed obstacles and rubbish from the beach in order to provide a more suitable terrain to turtles attempting nesting.

In previous years, sunbed and umbrella counts were conducted on Daphni on a monthly basis by ARCHELON. However, with the ongoing modifications occurring at Daphni during 2006, this would have been non-quantitative until the official opening of the beach. Presently the sunbed count stands at 205, with 96 umbrellas. It should be noted that the beach furniture is presently behind the beach, at flattened areas previously occupied by native vegetation.

This year tamarisk trees (about 10) have been planted at the back of the beach (about 15-20 m from the sea), in areas where turtles choose to nest. It must be noted that the shallow roots of this species can expand to large

distances and invade turtle nests destroying completely incubating eggs, as noted previously at the East Laganas beach (sector T).

While the situation on Daphni has improved in some aspects, the NMPZ plan however has allowed the further construction of new buildings and structures which are in blatant violation of the Presidential Decree (1999) and the relevant Bern Convention Recommendation. Moreover, the future of the area as a turtle nesting beach does not seem bright. The President of the Management Agency seems to have the opinion that by incorporating the illegal buildings in the Park facilities (warden house, first aid station, etc.), the local people will consent to Park regulations and avoid activities impacting the beach. However, a non-binding Memorandum signed with some local owners does not allow much optimism in this regard for the future, as more illegal houses can be built with the hope to be subsequently legalized and so on. The establishment of a legalized human settlement on Daphni with the concomitant consequences (noise, sewage, rubbish disposal, etc.) will load a once-pristine area with unbearable pressures, which will probably affect in the long-term the nearby Sekania beach. Further, the above actions of the Management Agency do not stem from an integrated management plan which would have taken into consideration all possible factors towards the long-term conservation of the area.

Gerakas (zone Π2, maritime zone A)

Gerakas beach lies within the no-boating zone A. The Presidential Decree states that a maximum of 60 umbrellas, 120 sunbeds and 350 visitors are permitted on the beach. The beach is presently free from development and light pollution, and access to the beach is through one entrance. In 2006 two barriers at the beach entrance prevent access by cars.

Despite an effort to operate a pilot ticketing scheme, the numbers of people using this beach frequently exceeded the permitted quota, reaching a seasonal high of 670 (31 August at 14:00). In addition to this both sunbed and umbrella numbers also exceeded the figures permitted. The number of sunbeds and umbrellas was found to fluctuate on a daily basis.

4.2. Protected marine area

General

As in previous years, Laganas Bay was patrolled this year by the Coast Guard. In addition the Management Agency started patrolling the maritime zones with one boat. The buoys delimitating the maritime zones, placed on 22 August 2005 by the NMPZ and ARCHELON, had been maintained and upgraded over winter, which helped facilitate the patrolling of the marine protected area, and also boaters to know the zone boundaries.

Maritime zone A

Exclusion of boats from Zone A seems to be improved this year. By 31 August 2006, three boats have been observed to land on Sekania beach before being asked to leave by project members at six o'clock in the morning. In addition,

seven motor boats have been observed on different occasions sailing or anchored close to this strictly protected beach. However, the lack of a field station there has left this beach unattended for a significant amount of time; therefore these figures are likely to be much higher.

Fishing boats, private motor boats and sailing boats entering the bay of Gerakas have again been a frequent occurrence this season.

Maritime zone B

The beach of Marathonissi is a very popular destination for visitors hiring private boats. All of the boats which visit Marathonissi throw anchor either in the shallow water (prohibited in Zone B) or are dragged ashore and their anchors dug into the beach sand. By law only organised trips to Marathonissi are permitted; however many privately hired boats visit the island every day. Enforcement of this law by the Coast Guard has been haphazard at best. Despite Marathonissi being warded by the NMPZ for the first time in two years, this infringement continues with no obvious intervention from the wardens. Private hired boat companies fail to inform customers of the maritime regulations which are in place to protect the turtles.

Special NMPZ zone

As a pilot scheme, in 2006 a new maritime zone was introduced strictly for NMPZ endorsed turtle spotting trips. This zone runs parallel with the beach at a distance of 1.4 km from the shore. It also stretches from Agios Sostis in the west until the beginning of maritime zone A. During 2006 many non-endorsed boats could be seen running turtle spotting trips within this area and this created some ill feelings from endorsed vessels towards the NMPZ.

Water Pollution

Intermittently, poor water quality is observed associated with the rivulet of Bouka at East Laganas or with off shore boats. Sewage discharged from large commercial tour boats have also contributed to water pollution in the Bay. This is a continuing problem which needs to be addressed. Worries about pollution from the nearby landfill were also expressed.

The Hellenic Centre for Marine Research (ELKETHE) took water samples and the NMPZ announced that the results of tests concluded that the water quality was at an acceptable level. These results haven't been yet published.

4.3. The landfill site

A landfill site is in place behind Vrondonero beach, between Kalamaki and Sekania, within the boundaries of the NMPZ. The landfill site causes an artificially high level of sea birds to populate the area and this result in increased predation pressure on sea turtle hatchlings. This is particularly apparent at Sekania where sometimes the beach is covered with seagulls waiting for the hatchlings.

It should be noted that the landfill site is nearing its maximum capacity and any plans to extend the existing site or to make a new one within the boundaries of the Park would be illegal (national legislation does not allow landfill sites within protected areas).

5. Recommendations

1. The Management Agency should put more emphasis on improving the conditions on the nesting beaches and at sea and should become hard on tackling illegal activities. The respective local authorities should ensure that the NMPZ legislation is enforced despite all costs.
2. A Management Plan for the NMPZ should be immediately elaborated. This will delineate the vision of the Management Agency, something that is very much needed.
3. Alternative measures and compensation schemes for confirmed affected landowners should be sought.
4. Removal of illegal buildings and restoration of beach profile.
5. Acquisition of a strip of land (approx. 4ha) at Sekania where an illegal road was built in 1995.
6. No single stretch of beach currently being used by turtles for nesting should be compromised, in fact stretches of the developed beach in West Laganas, not used any more by turtles, should be in the long term reclaimed - by means of simple light and beach furniture control - for turtles. Sector T in East Laganas needs attention, as increased tourist use may eventually push out nesting turtles.
7. An environmental impact study must be elaborated in order to fully protect and restore the remaining sand dune ecosystem backing the East Laganas nesting beach.
8. An environmental impact study should be carried out to minimise light and noise pollution.
9. The land planning survey for the rest of the island should be completed and implemented in order to secure balanced development for the whole island.
10. The problematic sanitary landfill will have to be removed from the NMPZ and other sources of pollution investigated.
11. The cause of turtle deaths by speedboats and fishing practices should be investigated.

Furthermore:

1. Motorbikes, cars and any other kind of vehicles need to be kept off the beach and the dunes of East Laganas in both winter and summer as they damage the beach and nests.
2. All commercial and non-commercial activities related to observing turtles at sea should be strictly regulated by the NMPZ to ensure compliance with guidelines.
3. Wardens should be posted on all beaches including Sekania while some need to be employed on an all-year basis. The wardens should be given

proper training through seminars organised by the NMPZ, with help from ARCHELON.

4. Continuation of the long-term standardized monitoring and public awareness programmes conducted systematically by ARCHELON, since 1984, is vital to assessing nesting population trends, effectiveness of conservation measures and evaluating the operation of the NMPZ.
5. Continuous presence of the Coast Guard is essential, due to the Island's National Marine Park status and the lack of knowledge and/or abiding of rules by the general public.
6. Tamarisk trees, recently planted on Daphni, should be immediately removed, as their roots can predate turtle nests to large distances.

6. Appendices

Appendix 1: The warden programme of the Park

During 2006 there have been 8 warden stations located around the Marine Park. These include Marathonissi, Kalamaki, Gerakas, two locations on Daphni and three on East Laganas. The NMPZ has constructed permanent warden stations replacing the temporary huts from previous years. These have been attended for 24 hours a day.

The plan developed for Daphni this year has enabled a warden to be present for the first time on this beach. In previous years conflict with local residents has prevented this. The NMPZ has not provided a warden on Sekania this year, despite this beach being the most important nesting beach for loggerhead turtles in the Mediterranean.

Signs have been erected by the NMPZ at the entrance to all of the nesting beaches. These inform tourists that they are entering a nesting beach, as well as describing the beach regulations. Wardening of the beaches commenced this year on 14 May, with ARCHELON multi-lingual volunteers assisting wardens in informing visitors. Adherence to beach regulations has improved greatly this year as a result of the permanent warden presence. The level of training of the wardens regarding their knowledge of sea turtles and the nesting beaches has varied greatly, and ARCHELON volunteers have assisted in providing correct information to wardens.

Unlike 2005, this season ARCHELON project members did not carry out safeguarding of the nesting beaches to prevent public beach access at night. NMPZ wardens were present on the nesting beaches this year, removing the necessity for volunteers to carry out this task. Nevertheless, incidents of turtles being disturbed whilst on the beach attempting to nest have still been noted this season. On East Laganas beach this may result from the numerous public entrances to the beach, making it difficult for the wardens to prevent people and vehicles from entering. The general public has been entering this particular nesting beach throughout the night, and on occasion have scared turtles away before they have nested. Daily observations of non-nesting emergencies have been recorded. These may have been caused by vehicles entering East Laganas beach at night. Footprints around and over turtle tracks

observed on morning surveys have confirmed the presence of people on the beach during the night. Further, tourists talking to ARCHELON staff have admitted to these incidents.

Protection by NMPZ wardens, and the presence of ARCHELON monitoring teams (during the female nesting season) on the other nesting beaches has effectively prevented access to the public during the night.

Appendix 2: Turtle spotting boats

In 2001, a Memorandum of Cooperation between the majority of the turtle spotting entrepreneurs and the Management Agency of the Marine Park was signed. Two turtle spotting stations (namely the Association of Turtle Spotting Boats of Laganas Bay) located close to Laganas settlement were endorsed by the NMPZ in June 2003 via a written agreement. The agreement specified turtle spotting guidelines to be followed on commercial turtle spotting trips. One of the clauses specifies that turtle spotting operators must inform their customers about turtles during a turtle spotting trip. In an agreement with the Management Agency, ARCHELON provides multilingual volunteers to go on trips with the task of informing tourists on the boats about sea turtles, and the conservation measures of the NMPZ. Equally importantly, ARCHELON members report any violations of the code of conduct pertaining to turtle spotting. This information is then passed onto the Management Agency on a weekly basis in a report format. The NMPZ boats attended by ARCHELON volunteers generally have a high level of compliance with the regulations; where as endorsed boats not attended by volunteers are frequently observed flouting the guidelines.

One area of concern associated with turtle spotting is the regular incidence of private hired boats as well as commercial glass bottomed boats violating the guidelines for viewing a turtle. Private hired boats are not regulated in any way and constantly follow endorsed turtle spotting boats in high numbers in order to view turtles. Visitors who are using these boats are very poorly informed and frequently cause stress to resting turtles. Violations associated with turtle spotting tend to worsen towards the end of the nesting season when there are less female turtles in the Bay and viewing a turtle becomes more difficult.

Competition between turtle spotting boat operators has resulted in conflict on some occasions. Specifically an incident of violence occurred between staff of two rival companies, one of which was complying with the guidelines while the other was not.

Regulation of turtle spotting activities has greatly improved in recent years, however further attention is still required, particularly in the area of private boats and some commercial turtle spotting trips. To remedy these problems, endorsements of turtle spotting companies should be revised regularly and revoked where necessary.

In cooperation with the NMPZ, ARCHELON has also been present on boats docked outside the Laganas Bay at Porto Roma area. A company has been issued with a temporary endorsement for 2006, pending assessment by ARCHELON concerning compliance with the turtle spotting code of conduct.

Appendix 3: Beach cleaning activities

Rubbish on the beach and at sea poses serious threats to sea turtles and other marine species.

Similarly to previous years, ARCHELON volunteers joined members of WWF-Greece and the NMPZ to perform an annual beach clean of Sekania on 6 May 2006. Approximately 20 bags of rubbish were removed, in addition to several large items. Unfortunately this rubbish remained in a pile on the beach well into the nesting season before being finally removed on 6 June. Throughout the season, ARCHELON volunteers have continued to remove rubbish which is washed up on Sekania on a daily basis. This is an essential practice as the beach is not warded by the NMPZ.

Beach cleaning on Gerakas is undertaken every Monday at 9am under the supervision of the ARCHELON field leader, with tourists invited to assist.

With the presence of the NMPZ on East Laganas and Kalamaki since early May, wardens have been observed litter picking frequently. ARCHELON volunteers regularly remove rubbish during patrols of the beach. On the island of Marathonissi, rubbish removal is done exclusively by ARCHELON members during the sea turtle monitoring work every morning.

Daphni was cleaned by the NMPZ on 4 June 2006 in preparation for the visit of the Minister of the Environment. This was the first time Daphni was cleaned in many years and significantly improved the state of the beach.

Vrodonero beach, although not a protected nesting beach, it is within the Park area and it was cleaned by ARCHELON volunteers who removed over 70 bags of rubbish.