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**Threats to marine turtles in Thines Kiparissias
(Greece)**

- REPORT BY THE NGO -

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Conservation efforts during 2016 at the nesting habitat of *Caretta caretta* in southern Kyparissia Bay (Natura 2000 - GR2550005 “Thines Kyparissias”)

Short report submitted to
the European Commission and the Standing Committee of the Bern Convention
Athens, October 2016

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PROLOGUE

This report, a follow up to the previous reports submitted annually since October 2012, presents the main events in the efforts to protect the habitats of southern Kyparissia Bay (Natura 2000 site GR2550005 “Thines Kyparissias: Neochori – Kyparissia”) in general and the marine turtles in particular, during 2016. Specifically, this report focuses on the actions taken by the Greek government and the local authorities regarding the case C-504/14 and the relevant case file in the Bern Convention, as well as the actual situation at the nesting site during the nesting season of 2016, as recorded through the field project of ARCHELON.

1. BACKGROUND

1.1 Location and core nesting area

Kyparissia Bay, at the western coast of central Peloponnese, has a significant ecological value because: 1) it is the second largest loggerhead sea turtle (*Caretta caretta*) nesting habitat in the Mediterranean Sea (Margaritoulis et al., 2003), and 2) contains an extensive system of sand dunes consisting of the following habitats: Embryonic shifting dunes 2110, dunes with *Euphorbia terracina* 2220 and the priority habitat coastal dunes with *Juniperus* spp. 2250 that is included in Annex I of Directive 92/43/EEC. The sandy coastline consists of about 44km of continuous beach from the river Alfios in the north, to the river Arcadikos in the south, with a small number of additional beaches separated by rocky outcrops further south. Maps of the region are shown in Illustrations 1 and 2.

Although turtles nest along the entire 44km beach, the core nesting area is located in the southernmost 9.5km, between the rivers Neda and Arcadikos (Margaritoulis & Rees, 2001), where about 82% of the total nesting activity is recorded. This part of the beach is entirely included in the Natura 2000 site GR2550005 “Thines Kyparissias”. The core nesting area is divided for monitoring purposes by ARCHELON, into four sectors (A, B, C, O), of which the northernmost three (A through C, totaling about 7.3km) are the least developed and are backed by stretches of coastal pine forest, low dunes and cultivated fields, while the southernmost sector (O, about 2.2km) is characterized by many disturbances, affecting turtle nesting and hatching, as it contains the expanding coastal village of Kalo Nero. The village of Elaia and the small settlement of Agiannakis are found at a short distance from the beach behind the Sectors C and B respectively (Illustrations 3 and 4).

The marine area of Kyparissia Bay includes another Natura 2000 site (GR 2330008 “Marine area of Kyparissia Bay: Katakolo Cape – Kyparissia”), a part of which lies in front of the core nesting area (Illustration 2).

1.2 Local government

The Municipality of Trifylia, with the town of Kyparissia as its capital, includes the entire core nesting area. The Municipality falls under the Region (Perifereia) of Peloponnese, based in Tripoli, and to the Decentralized Administration (Apokentromeni Dioikisi) of Peloponnese-Western Greece-Ionian Sea, based in Patras.

1.3 The long-term field project of ARCHELON

Since the beginning of the 80s, ARCHELON has organized and operated a seasonal conservation project in Kyparissia Bay. Tagging of turtles started in 1982 (before the founding of ARCHELON, by students hired by the Ministry of Environment) and systematic beach surveys commenced in 1984. During the period 1984-1989 the entire length of Kyparissia Bay was surveyed but since 1990 the monitoring project was restricted to the southernmost 9.5km of beach, which was assessed as the core nesting area. Since 1992, all nests within the core area are protected against predation by animals, inundation by the sea and disorientation of hatchlings as a result of bright artificial lighting. The massive protection of nests has caused an annual increase in the number of nesting turtles since 2006, which is 14 years after the initiation of mass nest protection. In addition, ARCHELON carries out an extensive public awareness program to inform visitors and residents about sea turtles, their nesting habitat and the threats they face (Rees et al., 2002).

The seasonal field project of ARCHELON during 2016 started on 15 May and terminated on 30 September. Preliminary data raise the number of nests that were located in the 9.5km core area (Neda River to Arcadikos River) to approximately 2650. This is the first year that over 2000 nests were laid and the fourth year that over 1000 nests were recorded in the core nesting area (1452 nests in 2013, 1286 nests in 2014 and 1472 nests in 2015). In all four years (2013-2016) the number of nests exceeded those recorded on Zakynthos Island. The increase in nest numbers, recorded since 2006, combined with the increase of neophyte turtles (i.e. turtles nesting for the first time) is likely to be attributed to the massive protection of nests applied in the core nesting area since 1992 (Margaritoulis et al., 2013). The period between the start of the extensive nest protection (1992) and the significant upward trend in nest numbers (2006) coincides with the minimum age of maturity of *Caretta caretta* in the Mediterranean, which is estimated at about 14 years (Casale et al., 2011).

Note: During the 12-year period (1994-2005) nesting effort in the core area (sectors A-C, O) averaged 552 nests per year. However, in the last 11 years (2006-2016) there has been a considerable increase (97%) in nest numbers with an average of 1.088 nests per year!

1.4 The LIFE-Nature project and the Specific Environmental Study (EPM)

In the context of a LIFE-Nature project (LIFE98NAT/GR/5262), approved by the Ministry of Environment and the Ministry of Agriculture, ARCHELON commissioned a consultancy to elaborate a Specific Environmental Study (SES or “EPM” in Greek) for southern Kyparissia Bay. The EPM, accompanied by a Management Plan and a draft Presidential Decree, were submitted for approval and application to the Ministry of Environment in May 2002. These documents comprised a precondition for the Ministry to issue a Presidential Decree and establish a Management Agency that would oversee the effective conservation of the Natura 2000 site in southern Kyparissia Bay (Efthymiou et al., 2002).

Regrettably the EPM was never adopted or implemented although it was regarded as technically acceptable (Ministry of Environment letter No 61801/4642/13-11-2002 to the European Commission). Moreover, conservation objectives were not laid out nor were specific protection or management measures taken by the Ministry. As a result, the sea turtle nesting area and the other habitats in southern Kyparissia Bay remained unprotected. In contrast, significant management and conservation issues remained unresolved and resulted in the gradual degradation of habitats, as well as direct and indirect disturbances to sea turtle nesting (Vallianos and Margaritoulis, 2011).

Specifically, buildings have been erected, in some cases directly on sand dunes. Dirt roads along or leading to the beach have been paved and bright street lighting has been installed. The beach of Kalo Nero village is almost entirely occupied by umbrellas, sunbeds and wooden walkways; light pollution is severe and there are signs of coastal erosion. In the coastal area between the settlements of Elaia and Agiannaki, approx. 2.5 km in length, which is owned by the real estate firm "Neos Kotinos S.A.", five roads were illegally constructed perpendicular to the beach in 2011 and 2012, which resulted in the destruction of sand dune formations (conclusion of General Inspector of Greek Public Administration, December 2013). At the same time, 47 building permit applications were filed with the Urban Planning Authority and are still pending for approval. The permits involve the construction of two-storey holiday homes with basements and swimming pools (Illustration 5). Forty-three of the planned holiday homes are shown to have direct access to one of the five illegally constructed roads (under Article 10 Paragraph 1 Law 31212/2003, land plots outside urban planned areas can be built on when they have a “face” or access to a public road).

2. CASE C-504/14

2.1 The Reasoned Opinion (October 2012)

As a consequence of the above, in October 2012 Greece received from the European Commission a Reasoned Opinion (EL2011/2156 ENVI) for violation of articles 6 and 12 of Habitats Directive 92/43/EEC.

It must be noted that in the Reasoned Opinion, it is specifically stated that the construction plan of 47 two-storey homes with basements and swimming pools in this ecologically sensitive habitat is not consistent with the requirements of the European legislation.

In response to the European Commission on the Reasoned Opinion, the Ministry of Environment committed to take protection measures for the core nesting area (Ref. No. 5074/22-11-2012). The measures to have been taken included: (a) the immediate control of anthropogenic disturbances, and (b) the implementation of an Action Plan for the medium and long-term protection of the area.

2.2 The Greek State taken to the Court of Justice (March 2014 – January 2016)

Despite the commitments of the Ministry of Environment to take appropriate measures to safeguard the core nesting area of the loggerhead sea turtle in southern Kyparissia Bay, the majority of conservation issues remained unresolved during the 2013 nesting season. Since no measures were taken in time to mitigate the problems within the 2013 nesting season, no substantial steps were taken to promote the long-term conservation of the area and as the new nesting season was about to begin in two months, the European Commission decided in March 2014 to take Greece to the Court of Justice over failure to provide adequate protection for the endangered sea turtles and their nesting habitat.

The Court hearing took place on 13 January 2016. Although the judgment is still pending, the opinion of Advocate General has already been delivered since February 2016. According to it, the Court will declare that:

- the Greek State failed to fulfill its obligations under articles 6, paragraph 2 and 12, paragraph 1b of Directive 92/43 on the conservation of natural habitats and of wild fauna and flora on southern Kyparissia Bay by
 - granting consent for the construction of houses in Agiannakis in 2010 and for the use of other houses built in 2006, and maintaining the consent granted in respect of three houses in Vounaki;
 - not restricting the use of paths as to prevent any adverse effects on the site and any significant disturbances to the *Caretta caretta* sea turtle during breeding, building, or at least authorizing, a road link between Kalo Nero and Elea that runs parallel to the railway line in the special area of conservation, and authorizing the asphaltting of paths in the special area of conservation;
 - not adequately enforcing the prohibition on free camping;
 - not adequately restricting the operation of summer bars on the nesting beaches of the *Caretta caretta* sea turtle;
 - not adequately restricting the hiring of beach furniture and the construction of wood-covered walkways on the nesting beaches of the *Caretta caretta* sea turtle;
 - not adequately restricting light pollution on the nesting beaches of the *Caretta caretta* sea turtle; and
 - not adequately restricting fishing off the nesting beaches of the *Caretta caretta* sea turtle;
- the Greek State failed to fulfill its obligations under article 6, paragraph 3 of Directive 92/43 by granting consent for three holiday homes in Vounaki on the site in 2012 without first subjecting that project to an appropriate assessment for the compatibility of its implications with the conservation objectives of that site;
- the Greek State failed to fulfil its obligations under article 12, paragraph 1b of Directive 92/43 by granting consent for construction measures in Agiannakis in 2006 in the vicinity of the nesting beaches of the *Caretta caretta* sea turtle;
- the Greek State failed to fulfil its obligations under article 12, paragraph 1b and d of Directive 92/43 by not adopting a comprehensive legislative framework to protect the *Caretta caretta* sea turtle in the “Thines Kyparissias” special area of conservation.

3. THE CASE FILE IN BERN CONVENTION

3.1 The case file and the on-the-spot appraisal (July 2014)

Regarding southern Kyparissia Bay, the Bern Convention opened a case file in 2013, on the lack of protection measures for sand dunes and loggerhead turtles *Caretta caretta*, a species listed in Annex II of the Convention.

In July 2014 experts of the Bern Convention carried out an on-the-spot appraisal in the core nesting area, during which they had the chance to see firsthand all the anthropogenic disturbances that result in direct and indirect damage to sea turtles (adults and hatchlings), their nests, and the nesting habitat in southern Kyparissia Bay, as well as to meet with representatives from the Municipality of Trifylia.

3.2 The Recommendation No. 174 (December 2014 – December 2015)

In December 2014 the Standing Committee of Bern Convention issued to Greece the Recommendation No. 174 on the conservation of the nesting habitat in southern Kyparissia Bay. The Recommendation consists of 12 points. Specifically, it is recommended among others that Greece:

- 1) Considers giving the key nesting area a protection status that may ensure the long-time conservation of its high natural value (National Park or equivalent);
- 2) permanently prohibits the construction of any villas or other buildings, new roads or other infrastructure, in the key area where construction licenses have been suspended thus preserving the present natural state of those areas;
- 3) restores the original sand dune and forest habitat in the above mentioned area by demolishing the roads built perpendicular to the shoreline, as well as other artificial infrastructure; blocks as a matter of urgency, until the demolition works are carried out, the roads perpendicular to the shoreline with non-mobile barriers at the entry of the road, so to avoid further damage to the neighboring dunes and forest;
- 4) addresses, in the entire Natura 2000 site, the problem of photo-pollution, particularly in Kalo Nero;
- 5) ensures that the beach furniture used now in the Natura 2000 site is removed at night or stored in a way that reduces the area occupied on the beach; does not give any licenses to any new beach furniture so that most beaches remain free from obstacles for nesting turtles;
- 6) enforces measures aimed at avoiding people and cars from visiting the sea turtle nesting beaches at night.

The case file was reviewed during the 35th Standing Committee meeting in December 2015. Because of lack of progress during the 2015 nesting season regarding the points of the Recommendation, the Standing Committee decided to keep the case file open and agreed that the issue of a Presidential Decree enabling for granting the appropriate protective status to the nesting site is the most urgent measure that should be taken by the Greek authorities¹.

4. FOLLOW UP OF THE COMMITMENTS OF GREECE

4.1 The issue of the 1st Draft Presidential Decree (August 2014)

In spring 2014 the Ministry of Environment decided to update the already approved Special Environmental Study (SES or “EPM” in Greek) for the neighbouring Natura sites «GR2330005 Sand dunes and coastal forest of Zacharo, Kaiafa Lake, Strofylia, Kakovatos» and «GR2330008 Marine area of Kyparissiakos Bay: Katakolo Cape- Kyparissia» by adding the site «GR2550005 Thines Kyparissias (Neochori – Kyparissia) ». The accompanying 1st Draft Presidential Decree, which referred to the three Natura 2000 sites and adjacent areas, was released for public consultation in August 2014.

¹ Report of the 35th Standing Committee meeting, page 14.

In the opinion of the environmental organizations ARCHELON, MEDASSET and WWF Greece this Draft Presidential Decree could not achieve favourable conservation status of marine turtles and the habitat in southern Kyparissia Bay. On the contrary, it was expected to irreversibly contribute to a significant decrease of the conservation status of both the *Caretta caretta* and the dune habitat. It could not be considered a tool for sustainable development for the broader area, but instead seemed to aim at serving building interests, thereby risking the habitat's future².

4.2 The review of the 1st Draft Presidential Decree from the Council of State (December 2014 – April 2015)

The Ministry of Environment submitted the 1st Draft Presidential Decree for Kyparissia Bay to the Hellenic Republic Council of State (known by its Greek acronym as "StE") in December 2014 for constitutional lawfulness review. In April 2015 the StE issued the relevant decision³, according to which found that the Draft Presidential Decree should be rejected. The court provided guidance to the Greek administration on the substantial provisions of the Presidential Decree and emphasised that the issue of an improved Draft Presidential Decree was urgent in light of the case C-504/14 and the Bern Convention Recommendation. Therefore, suggested to the Ministry of Environment the rapid resubmission of an improved draft.

4.3 The issue of the 2nd Draft Presidential Decree (February 2016)

Ten months after the StE decision, the Ministry of Environment released on 26 February 2016 for public consultation a 2nd Draft Presidential Decree for the three Natura 2000 sites and adjacent areas («GR2330005 Sand dunes and coastal forest of Zacharo, Kaiafa Lake, Strofylia, Kakovatos», «GR2330008 Marine area of Kyparissiakos Bay: Katakolo Cape- Kyparissia» and «GR2550005 Thines Kyparissias: Neochori – Kyparissia»).

The environmental organizations ARCHELON, MEDASSET and WWF Greece submitted in March 2016 to the Ministry of Environment, in the context of the consultation, detailed comments on the new Draft, with focus mainly on southern Kyparissia Bay. In the opinion of the above environmental organizations this new Draft was clearly improved compared to the 1st one, but still further improvements are needed to achieve favorable conservation status of marine turtles and the habitat in southern Kyparissia Bay. Specifically:

The new Draft proposes the whole area to be designated as a Nature Protection Area and suggests its fragmentation into 20 zones and sub-zones, which are recognized either as Nature Protection Areas (PPF) and Protected Nature Formations (PFS) or as Agricultural Landscape Zone (ZAT). It is not clear why the designation as a National Park (totally justified because of the large size of the area and its prominent ecological and natural significance) was not chosen.

The coastal area behind sectors A, B and C of the core nesting beach is designated as Nature Protection Area (PPF 2) and no building is permitted. On the contrary the coastal area behind the southernmost sector of the core nesting beach (sector O) is designated as Agricultural Landscape Zone (ZAT) and building is allowed on land plots of 20,000 sqm, while the nesting beach itself (sector O) is not clear if it is included in the Nature Protection Area (PPF 1B) or not.

Exactly as in the 1st Draft, this Draft Decree refers to the use of "existing" roads, avoiding differentiation between legal and illegal roads and therefore actually legitimizing, for example, the illegal roads that have been constructed by the real estate firm "Neos Kotinos S.A." and for which criminal courts are still pending. It is clear that an Annex with the legally existing road network of the whole area is necessary.

² Through a summary that was sent to the Ministry after the public consultation the environmental organizations ARCTUROS, Hellenic Ornithological Society, ELLINIKI ETAIRIA- Society for the Protection of Environment and Cultural Heritage, Hellenic Society for the Protection of Nature, Mediterranean SOS Network, Callisto-environmental organization for wildlife and nature, Ecological Recycling Society, Greenpeace Greece and MOM expressed their support.

³ StE Minutes of Review process (Praktiko Epexergasias in Greek) No. 32/2015.

There is no reference to the need for management measures on the beachfront of Kalo Nero (sector O), where the light pollution, the beach furniture, the illegal structures on the beach for which demolition orders have been issued (Ref. No. 3769/12.08.2011 Decision of Public Land Authority of Messinia) and the intensive human presence remain a constant threat to sea turtle nesting. It is noteworthy that many exceptions are foreseen for the illegal structures of the whole area in order demolition to be avoided and that the installation of new light sources behind the nesting beach is not banned.

Furthermore, there is a total lack of provisions for the regulation of fisheries in the marine area (PPF 3) even during the nesting and hatching period (May- October), also for wardening and for the creation of a Management Agency in the area, which are crucial for the protection of the habitat in general and the sea turtles in particular.

Although the entire nesting beach (44 km) is designated as Nature Protection Area (PPF 1) the Draft Presidential Decree permits 30% of the beach to be occupied by beach furniture, even in the core habitat, where there had never been requests for such a use in the past. Finally, visitor management measures on the nesting beaches, especially at night, are not foreseen.

4.4 The prior endorsement of the Greek Natura 2000 Commission

The Greek Natura 2000 Commission was established by the Joint Ministerial Decision⁴ which implemented the Habitats Directive in 1998. Among other tasks, it is authorised to comment on draft legislation and to advise the Ministry on sustainable management of protected areas⁵, including the characterisation of protected areas and the determination of permitted activities within such sites⁶. According to Law 3937/2011 the Natura 2000 Commission “*constitutes the central scientific advisory body for the co-ordination, supervision and assessment of policies and measures for the protection of biodiversity in Greece.*”⁷ The Commission is also authorised to advise the Ministry concerning issues relating to the operation of the protected area management bodies, as well as advising on the allocation of funds for these purposes.

The 2nd Draft Presidential Decree for Kyparissia Bay was submitted to the Natura 2000 Commission after the completion of the public consultation and before the submission to the StE. The relevant endorsement was issued on 27 May 2016. According to it, the 2nd Draft was generally approved but many improvements were required. The suggested improvements among others were:

- Taking into account the significant ecological value of the area, it is not clear why the designation as National Park was not chosen. Not clear is also the fragmentation of the area into 20 zones and sub-zones with the same ecological characteristics;
- All the references to “existing roads” should change to “legally existing roads” in order legitimization of illegal roads to be avoided. Moreover, the exceptions of demolition of other illegal constructions should be excluded;
- In the marine area (PPF 3) restrictions for fisheries should be included;
- In the core nesting habitat, no beach furniture should be permitted;
- In the Agricultural Landscape Zone (ZAT), the conditions relating to building activities should be stricter.

4.5 Beach Management Measures (April 2016)

1. Based on legislation and the Joint Ministerial Decision (Government Gazette 578/09.04.2015 as amended by Law 4388/2016, article 56) prescribing beach use, Municipalities can lease portions of the beach to tourism and leisure related businesses. In the case of protected areas (Natura 2000 network), the assent of the Minister of Environment is required in order for the special terms of the leasing to be clarified.

⁴ JMD 33318/3028 of 28 December 1998, as amended

⁵ Law 3937/2011, Art.3.2

⁶ Art.21 of 1650/1986, as replaced by Art. 6 of Law 3937/2011

⁷ Art. 19.2

2. Unlike previous years, the Deputy Minister of Environment issued in April 2016 a General Decision for all integrated in the Natura 2000 network coastal areas, including Kyparissia Bay (Beach Management Measures, Ref. No. 23841/28-04-2016). With this Decision the terms under which the competent Municipalities could concede to local businesses the “simple beach use” for the 2016 season were clarified. Unfortunately, this Decision did not foresee any exceptions in the areas to be leased. As a result, the Municipality of Trifylia was free to lease portions of the beach to all four sectors of the core nesting habitat. Apart from the beachfront of Kalo Nero (sector O), where new licenses for beach furniture were given, also areas in sectors A, B and C (beaches of Vounaki, Agiannakis and Elaia respectively) were to be leased for beach bars and beach furniture. This unpleasant development led to the reopening of the beach bar in Agiannakis, which was not allowed to open since 2013, and the placement of beach furniture.

Moreover, the Decision of the Deputy Minister of Environment provided terms during the nesting season concerning beach cleaning, light pollution, beach parties and management of beach furniture (e.g. removal from the beach at sundown). As will be described in the following chapters, these measures of the Decision were not enforced by the Municipality of Trifylia.

4.6 New protection Ministerial Decision (May 2016)

- 1 With consecutive Ministerial Decisions (Government Gazette 280/24.05.2013, Government Gazette 175/28.05.2014, Government Gazette 396/24.12.2014, Government Gazette 130/29.06.2015) the issuing of building permits was suspended behind the greater part of the core nesting area (sectors A, B and C) since May 2013. As the relevant legislation foresees that the suspension cannot exceed the duration of 3 years, after May 2016 southern Kyparissia Bay would be again without any protection against building interests.
- 2 Since the Presidential Decree was not issued in time, the Ministry of Environment instead issued in May 2016 (Government Gazette 141/24-05-2016) a Ministerial Decision⁸ of 2 years’ duration for the three Natura 2000 sites and adjacent areas («GR2330005 Sand dunes and coastal forest of Zacharo, Kaiafa Lake, Strofylia, Kakovatos», «GR2330008 Marine area of Kyparissiakos Bay: Katakolo Cape- Kyparissia» and «GR2550005 Thines Kyparissias: Neochori – Kyparissia»), including the provisions of the 2nd Draft Presidential Decree apart from the fact that no designation of the whole area or any zone is given.

4.7 Implementation of national and international requirements

As mentioned above (see in 4.2) the StE emphasised in April 2015 that the issue of an improved Draft Presidential Decree was urgent in light of the case C-504/14 and the Bern Convention Recommendation and suggested the rapid resubmission of an improved draft. Unfortunately, almost a year and a half after the issue of the StE decision the Ministry of Environment has not so far resubmitted to the court the new Draft Presidential Decree although the public consultation has finished since mid-March 2016 and the endorsement of the Natura 2000 Commission was issued since 27 May 2016.

Concerning the implementation of the 12 points of the Bern Convention Recommendation (see in 3.2) unfortunately no progress was made during the 2016 nesting season. Specifically:

- 1) Protection status: The Ministry has not issued yet the 2nd Draft Presidential Decree which foresees the appropriate protection status for the area of southern Kyparissia Bay. The new Ministerial Decision (see in 4.6) does not contain any designation.
- 2) Permanent prohibition of constructions: As mentioned above (see in 4.6) the extension of building permits suspension lasted until May 2016. The new Ministerial Decision is valid for 2 years, i.e. until May 2018. The relevant Presidential Decree must be issued in time.
- 3) Restoration of original dune and forest habitat: No restoration work took place. Moreover, during 2016 no barriers existed on any perpendicular road to the beach, so vehicles accessed the sand dunes and the nesting beach.

⁸ According to Art. 6 paragraph 9 of Law 3937/2011

- 4) Adjustments to existing buildings: No actions have been taken to reinstate the previous dune ecosystem in houses built within the vicinity of nesting areas, nor have any actions been taken to reduce photo-pollution from the existing buildings.
- 5) No agriculture on public land and the dune area: The cultivation of water melons and vegetables continues on the dune area.
- 6) Photo-pollution reduction: No efforts have been made to avoid or reduce photo pollution in Kalo Nero. However, after consultation with the local community of Elaia, the public lights of the perpendicular to the beach roads of Elaia and Agiannakis were turned off since 12 August 2016.
- 7) Beach equipment management: The beach furniture in Kalo Nero was fragmentary stacked during July and August, while licenses for new beach furniture were issued in Kalo Nero and Agiannakis (see in 4.5).
- 8) Sand and gravel extraction. Due to the reduction of public works as a result of the financial crisis, sand and gravel extraction has not been a significant issue during the 2016 season.
- 9) Further building outside the urban-planning areas: The new Ministerial Decision (see in 4.6) is only a temporary protection from building interests, as it is valid for 2 years. The Presidential Decree must be issued in time.
- 10) Regulating the navigation of vessels: Fishing with nets near the nesting beach is currently not forbidden, and is a widespread practice leading to adult turtles and hatchlings being caught during nesting and hatching season. Unfortunately, in the 2nd Draft Presidential Decree no restrictions for fisheries are included.
- 11) Human presence on the nesting beach at night: No measures have been taken to keep people and cars off the beach at night nor were there any signs warning people to stay away.
- 12) Control of feral or stray dogs: During the 2016 nesting season the field project of ARCHELON did not record any attacks to nesting turtles, as witnessed in previous years.

5. THE ACTUAL SITUATION IN THE FIELD DURING THE 2016 NESTING SEASON

5.1 The Municipality of Trifylia reaction to the 2nd Draft Presidential Decree

The reaction of the competent Municipality to the 2nd Draft Presidential Decree was severe. Considering the provisions about building outside planned areas and about the designation of the habitat as an obstacle to development of the area, the Municipality of Trifylia launched a political confrontation with the Ministry of Environment and started a campaign, to urge the residents of the area to oppose the new Draft (photo 1). During this campaign ARCHELON was presented as the main culprit of these “unpleasant developments”.

5.2 The field project of ARCHELON during the 2016 nesting season

The annual field project of ARCHELON during 2016 started on 15 May and terminated on 30 September. Unfortunately, during the whole season, the cooperation between ARCHELON and the Municipality of Trifylia was very limited, including the refusal to allow ARCHELON to set up the seasonal information station in Kalo Nero. This was the third time since the beginning of 90s, when a seasonal kiosk started to operate annually, that the information kiosk was not allowed to operate (first time was in 2013 and second in 2015) and resulted in a severe draw back to the public awareness program. The visitors and the locals could not be systematically informed about the need to protect a threatened species and its habitat.

Moreover, the field project of ARCHELON faced during 2016 another serious difficulty. A significant number of protected nests in the core area were vandalized. Preliminary data raise the number of nests that were vandalized to 132. The phenomenon took place mainly in Kalo Nero (sector O) and in 2 cases in sectors B and C. The assistance of all competent local

and national authorities was requested (Ref. No. 27863/8-7-2016 and 27897/11-8-2016) but a response was never received.

5.3 Illegal actions continue

The suspension of building permits and other works (e.g. water pumping installations, drilling, fencing of fields, and cultivation of land between the coastal forest and the beach) in the area behind the beach sectors A, B and C (see in 4.6), concerned only the issuing of new permits. As a result, building in cases of pre-existed permits has not been affected. Behind the core nesting area near Vounaki hill (sector B), the house that had been under construction since late November 2012, was finished in summer 2014. Building and garden creation works took place in the sand dune zone and resulted in total destruction of dune vegetation. Moreover, during winter 2016 a new fence was built around that land plot (Photos 2, 3). Information was asked from the Urban Planning authority (Ref. No. 27847/21-6-2016) regarding the legitimacy of this new construction but a response was never received. It is noteworthy that the relevant building permit involves the construction of 2 more holiday houses in the particular land plot outside the urban-planning area.

5.4 Anthropogenic disturbances at the core nesting area (O and A-C)

This section focus on the anthropogenic disturbances that resulted in direct and indirect damage to sea turtles (adults and hatchlings), their nests, and the nesting habitat in southern Kyparissia Bay during the 2016 nesting season, as these disturbances were experienced through the standard fieldwork of ARCHELON. Because the beach at Kalo Nero (Sector O) differs greatly from the remaining beach (Sectors A-C) in both physical characteristics and in magnitude of disturbances, these two beach parts are examined separately.

5.4.1 Sector O: The beach of Kalo Nero (length: 2.2 km)

The distinction of Kalo Nero from the rest of the nesting beach is very important. This area is already severely affected by tourism development. It needs to be closely managed under the principles of sustainable development, so that the natural environment is not irrevocably damaged and the beach returns to a conservation status suitable - as much as possible - for sea turtle nesting.

When ARCHELON began monitoring the nesting activity on this beach, Kalo Nero was a small village with most families occupied with agricultural activities. Agriculture is still a significant source of income in the area, but Kalo Nero has quickly developed to a tourism resort.

As the Decision of Deputy Minister of Environment of April 2016 (Beach Management Measures for all coastal areas integrated into the Natura 2000 network, Ref. No. 23841/28-04-2016) did not foresee any exceptions in the areas to be leased, the Municipality of Trifylia was free to lease portions of the beach without any restriction. As a result, new licenses for beach furniture were issued at the beachfront of Kalo Nero and a larger part of the nesting beach was occupied by sun beds, umbrellas, wooden paths, showers and other structures. Apart from the fragmentary stacking of sun beds during July and August, the situation in Kalo Nero has not improved.

A detailed description of the noted disturbances in Kalo Nero beach is given in the Appendix 1.

5.4.2 Sectors A, B, and C (length: 7.3 km)

If sea turtles are to be effectively protected in Kyparissia Bay, these three Sectors (A: Vounaki beach, B: Agiannakis beach, C: Elaia beach) concentrating about 75% of all nests in the 9.5km core nesting area, must be maintained at its current almost pristine condition or as close to it as possible. This area is characterized by a very wide beach with an appropriate inclination, backed by low sand dunes with vegetation. Unfortunately, also for these beach sectors not only the majority of the main conservation issues remained unresolved during the 2016 nesting season, but also the operation of the beach bar in Agiannakis (sector B), which was not allowed to open since 2013, and the placement of new beach furniture at the place, increased the disturbances to the sea turtle nesting. It is noteworthy that the Municipality of Trifylia was planning the issue of licenses for 2 more beach bars (at Vounaki in sector B and Elaia in sector C), but because of lack of interest on the part of businessmen the relevant licenses were not issued.

A detailed description of the documented problems in beach sectors A, B, and C is given in the Appendix 2.

5.5 Turtle Strandings

During the 2016 nesting season 19 dead and 1 injured turtles were found within the monitored beach section of 9.5km. The injured one, was transported to ARCHELON Rescue Centre in Glyfada for rehabilitation. Examination of the dead ones showed interaction with fisheries (turtles entangled in nets and fishing lines) as well as signs of injuries caused by dynamite fishing (i.e. blood from nose, mouth and eyes) (Photo 4). Although dynamite fishing is against the law in Greece, during the 2016 nesting season this method of fishing was frequently recorded in the marine area. In addition, fishing boats and stationary nets were observed to be too close to the shore in all beach sectors, in some cases at distances less than 20m from shore (Photo 5). Set nets are usually left for the entire duration of the night, so any females attempting to emerge for nesting are at risk of getting trapped.

6. CONCLUSIONS AND RECOMMENDATIONS

Despite the national (decision of StE which suggested the rapid resubmission of an improved Draft Presidential Decree a year and a half ago!) and international (Case C-504/14 and the Bern Convention Recommendation) requirements and the relevant commitments of the Ministry of Environment, the 2nd Draft Presidential Decree has not so far been resubmitted to StE, while the majority of the conservation issues remain unresolved for a fourth nesting season. Taking into consideration that the new Ministerial Decision for the protection of the whole area (see in 4.6) is valid for 2 years, i.e. until May 2018, the relevant Presidential Decree must be reviewed from the Council of State and issued in time otherwise the southern Kyparissia Bay will be again without any protection from building interests.

Furthermore, the 2nd Draft Decree is clearly improved over the previous one, but still further improvements are imperative to achieve favorable conservation status for the core of the second largest nesting area of *Caretta caretta* in the Mediterranean. These improvements must be in line with the Greek Natura 2000 Commission endorsement.

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APPENDICES

Appendix 1: Disturbances in Kalo Nero beach (Sector O) during 2016

ARCHELON's Seasonal Information Station

As in 2013 and 2015, the Municipality of Trifylia did not allow ARCHELON to set up and operate the seasonal information station in Kalo Nero. As a result, the visitors in the area could not be systematically informed about the efforts to protect a threatened species and its habitat. ARCHELON attempted to deal with the problematic situation by making an agreement with the railway company (GAIOSE in Greek) to use the private land of the company at the centre of the village, which is though approx. 600 meters away from the nesting beach. Moreover, the ARCHELON field project introduced extra information beach patrols at night, in addition to the standard turtle-tagging and nest-boxing work, in order to minimize potential disturbance to sea turtles by tourists.

The Coastal Road

The 1.7 km coastal road behind the beach of Kalo Nero is used not only for accessing hotels and houses in the area but also as a car-park for beach visitors and as a free camping area for caravans. Especially during the high tourist season (July and August) which coincides with the late nesting season and early hatchling season the density of cars and caravans was very high during night hours, so that sea turtles attempting to nest were disturbed by vehicular lights or human presence and hatchlings were at risk of being trampled by tourists on the beach and/or disorientated by artificial lights.

Platforms on the Beach

In addition to the road, elevated platforms extend over the beach and are used by restaurants and bars located on the landward side of the coastal road. In the past these platforms were leased out by the Municipality under the guise of “simple beach use”. The Regional Public Land Authority (Ktimatiki Ypiresia) examined the beachfront of Kalo Nero in 2011, declared the platforms illegal and issued orders for their demolition. The demolition protocols are not implemented by the responsible authorities (Municipality of Trifylia and Region of Peloponnese) yet. In June 2015 the new management of “Mesina Mare” hotel demolished the front platform voluntarily in order to avoid the relevant fine but in 2016 new constructions were made at the same spot (Photos 6, 7).

Light Pollution

Public road lights are installed on electricity poles along the coastal road of Kalo Nero. The lights hang from a height of five to seven metres and most are uncovered from all sides. Most road lights are very close to the beach, i.e. within 10m from the back of the beach. Additional light pollution is caused by hotels, restaurants and bars on the beach platforms, spot lights shining right on the beach, and lights from parked camper vans. Despite the terms in the new Ministerial Decisions of April 2016 (Beach Management Measures, see in 4.5) and May 2016 (see in 4.6) about light pollution, neither the public nor the private lights were modified during 2016 (Photo 8).

The height of road lights at Kalo Nero and their proximity to the nesting zone renders useless the standard method of “nest-shading”, used by ARCHELON in other areas, to protect emerging hatchlings from light disorientation, and forces the practice of “nest-boxing”. This is an “unorthodox” method comprising of a wooden box placed over the nest in such a way that in case of hatchlings’ emergence these remain inside the dark box and avoid disorientation by bright lights. The box is regularly checked during the night at regular intervals (e.g. every hour) and in case of emerged hatchlings, these are transferred and released in a nearby dark beach section. It should be noted that this practice may have consequences in the later behavior of the hatchlings, since they do not immediately head for the sea after exiting the nest, but remain trapped for a while, inside the box. During 2016, the method of “nest-boxing” was used on 230 nests in Kalo Nero from 24 July until 18 September (approximately 52% of all nests in Kalo Nero). It should be noted that relocation of these nests in other parts of Kalo Nero beach cannot happen, for in the few suitable places that remain without bright lights and other disturbances there is a dense occurrence of natural nests.

Beach Use and Beach Furniture

As the Decision of the Deputy Minister of Environment of April 2016 (see in 4.5, Beach Management Measures, Ref. No. 23841/28-04-2016) did not foresee any exceptions in the areas to be leased, the Municipality of Trifylia was free to lease portions of the beach to all four sectors of the core nesting habitat. As a result, in the beachfront of Kalo Nero new licenses for beach furniture were issued and a larger part of the beach was occupied by sunbeds and umbrellas (Photos 9, 10). On many occasions the beach structure was manipulated and wooden paths, showers and other structures were added on the beach sand. However, for the third year the sun beds were stacked during July and August. Although this is a progression towards protection of nesting, it was implemented fragmentary, since in many occasions during this period unstacked sun beds were recorded, and for a very short period (started in late nesting season) (Photos 11a, 11b).

Nest vandalisms

The located nests within the core area are protected against predation by placing a metal grid on the beach surface fastened by bamboo sticks. Since late May 2016 started in Kalo Nero a massive vandalism of nests, which lasted throughout the whole season. In total 109 nests were vandalized in Kalo Nero. A significant number of those were in the occupied by beach furniture part of the beach. The vandalism mainly consisted of removing the grid and bamboos, used to protect the nest, but in some cases also sticks were driven into the sand, resulting in the destruction of the top eggs (Photo 12). ARCHELON requested the assistance of all competent local and national authorities (Ref. No. 27863/8-7-2016 and 27897/11-8-2016) but a response was never received.

Heavy vehicles on the beach

Despite the terms in the new Ministerial Decisions of April 2016 (Beach Management Measures, see in 4.5) and May 2016 (Government Gazette 141/24-05-2016, see in 4.6) beach cleanings with heavy vehicles were recorded for one more season in the core nesting habitat. Specifically, on 1 August 2016, while sea turtle hatching had already started, beach cleaning was recorded in the beachfront of Kalo Nero (Photo 13).

Appendix 2: Disturbances at beach sectors A-C during 2016

Beach Bar in sector B

As the Decision of the Deputy Minister of Environment of April 2016 (see in 4.5, Beach Management Measures, Ref. No. 23841/28-04-2016) did not foresee any exceptions in the areas to be leased, the Municipality of Trifylia was free to lease portions of the beach to all four sectors of the core nesting habitat. As a result, the Municipality of Trifylia announced the operation of the three beach bars in sectors A, B and C (beaches of Vounaki, Agiannakis and Elaia). The relevant licenses included the operation of the beach bar and the placement of beach furniture. While the relevant licenses were not issued finally in sectors A and C, because of lack of interest on the part of businessmen, the beach bar in Agiannakis operated from 7 July 2016 until mid-September 2016 (Photos 14, 15). The operating conditions required opening hours from 7:00 a.m. until 21:00 p.m. and stacking of sunbeds. On two occasions though (7-7-2016 and 29-7-2016), the beach bar operated until midnight. It is noteworthy that the beach bar in Agiannakis was not allowed to open since 2013, as it was one of the commitments of the Greek authorities to the European Commission regarding case C-504/14.

Light Pollution

The building that was not affected by the suspension of building permits (e.g. the new summer house near Vounaki hill, which was finished during summer 2014) created new light pollution in the nesting beach. The relatively small number of artificial lights attracted frequently hatchlings from distances of 400 metres or more (Photo 16). Hatchling tracks were often observed during the morning survey heading towards the sand dunes, instead of going towards the sea. However, the lights of the perpendicular to the beach roads of Elaia and Agiannakis turned off since 12 August 2016, after personal consultation of ARCHELON staff members with the local community of Elaia, fact that resulted in the reduction of the light pollution compared to the past.

Roads

At the beaches of Agiannakis and Elaia, the two perpendicular to the beach roads were paved with compacted soil in 2006 and asphalted in 2009. Although these access roads pre-existed, their paving has destroyed the sand dunes and the associated vegetation where the roads meet the beach. Particularly in Elaia, part of the sand dunes is used as a car parking area. The five new illegal roads that were constructed by the real estate firm “Neos Kotinos S.A.” in 2011 and 2012 between the above two asphalted roads (Sector C), connecting the forest road to the beach, resulted in a further destruction of sand dunes and their vegetation. Further, these five roads attract cars and camper vans right on the high beach among the dunes and this causes more destruction (Photo 17). Another road providing access to the location of the old beach bar at Vounaki (sector A) was compacted in 2007 but it is not yet paved with asphalt. In this location, the sand dunes are also used as a car parking area.

Vehicles

During the entire 2016 nesting season a large number of 4x4 vehicle tracks were observed on the beach almost on a daily basis (Photo 18). The vibrations of the vehicles can cause damage to turtle eggs since they may detach the embryos and potentially cause hatchlings to emerge prematurely. Emerging hatchlings can be trapped within car ruts for hundreds of meters before they can exit them or die of exhaustion, dehydration or predation. Moreover, vehicles moving on the beach cause damage to the sand dune vegetation (Photo 19). In all entrances to the beach sand dune vegetation is absent, since these parts are used as parking areas (Photo 20).

While in July 2014 (when the on-the-spot appraisal of Bern Convention experts was still pending) the Municipality of Trifylia put mobile barriers at 8 perpendicular roads to the beach (the asphalt roads in Agiannakis and Elaia, the five illegal roads that “Neos Kotinos S.A.” constructed and the road in Vlassada) in order to restrict vehicular access to the beach, this measure was not repeated during 2015 and 2016 nesting seasons.

Heavy vehicles on the beach

In May 2016, while sea turtle nesting had already started, beach cleaning organized by the Municipality of Trifylia was recorded in sectors A and B.

House Construction

Except the new summer house that was finished in Vounaki area (Sector B) in 2014 (Photos 2, 3) and was not affected by the suspension of building permits, the plans for construction of up to 47 holiday houses along the entire beach length between Agiannakis and Elaia (sectors B and C) still exist (Illustration 5). According to the real estate firm, the seaward boundaries of this strip of land are on the beach line, covering almost the entire sand dune ecosystem between Agiannakis and Elaia.

Nest Vandalisms

During 2016 nesting season nest vandalisms were recorded also in sectors B and C. In total 23 nests were vandalized (17 in sector B and 6 in C).

Free Camping

The coastal forest of Elaia (sector C), close to the sand dunes between Agiannakis and Elaia, attracts a large number of free campers every year. During the high summer season (July and August) of 2016 it was estimated that more than 2,000 people were camping simultaneously in the forest. In many cases tents and caravans were placed in the sand dune zone or even on the nesting beach (Photo 21). Free camping is against the law in Greece and the local Police Station regularly received calls to patrol the area, but since free campers are a source of income for the local community, law enforcement is not strict with regards to free camping.

Illustrations



Illustration 1: Map of western Peloponnese, showing the position of southern Kyparissia Bay.



Illustration 2: Map of the core nesting area (Neda River – Arcadikos River) in southern Kyparissia Bay showing its position within the boundaries of two Natura 2000 sites, the terrestrial one (GR2550005) and the marine one (GR2330008).



Illustration 5: The plans for building up to 50 holiday houses cover almost the entire sand dune ecosystem between Agiannakis and Elaia, just behind the core nesting area.

Photos



Photo 1: During the campaign of the Municipality of Trifylia banners were posted in central points of the area (the frase on the banner translated into English: Humans are expelled from Kyparissia Bay).



Photos 2, 3: A new fence was built during winter 2016 around the land plot with the house near Vounaki (right photo). This construction did not exist during 2015 (left photo).



Photo 4: Stranded turtle with obvious injuries from fishing hooks.



Photo 5: Stationary nets too close to the shore while a sea turtle track is obvious on the beach (photo taken on 10 June 2016).



Photos 6, 7: While in 2015 the front platform of Messina Mare hotel was demolished (left photo), in 2016 new constructions were made (right photo).



Photo 8: Light pollution in Kalo Nero during 2016 (photo taken on 9 August 2016).



Photos 9, 10: New licenses for beach furniture were issued during 2016 (right photo taken in 2016, while left photo shows the same spot during 2015).



Photo 11a: Unstacked sunbeds in Kalo Nero (photo taken on 9 August 2016).



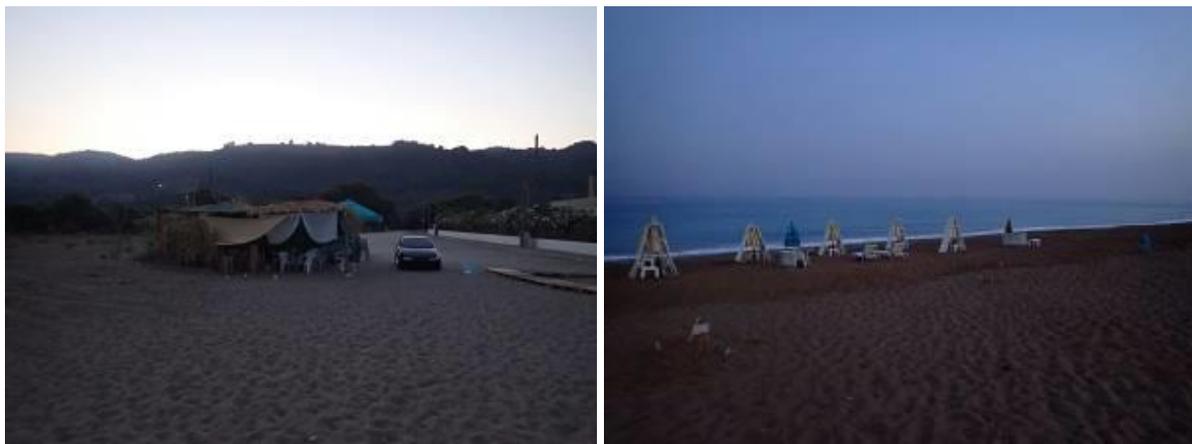
Photo 11b: Turtle attempting to nest obstructed by sun beds. No eggs were laid (photo taken on 3 June 2016).



Photo 12: Nest vandalism in Kalo Nero. Stick is driven into the sand.



Photo 13: Beach cleaning with heavy vehicle in Kalo Nero on 1 August 2016.



Photos 14, 15: The beach bar in Agiannakis (left photo) and the beach furniture at the spot (right photo).



Photo 16: Light pollution in sector B.



Photo 17: One of the five illegal roads that were constructed by the real estate firm “Neos Kotinos S.A.”



Photos 18, 19, 20: Vehicle tracks on the nesting beach and the sand dune zone. All entrances to the beach are used as parking areas.



Photo 21: Free camping in C sector (photo taken on 8 August 2016).