



Strasbourg, 08 November 2019
[files47e_2019.docx]

T-PVS/Files(2019)47

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

39th meeting
Strasbourg, 3-6 December 2019

Specific Sites - Files open

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

- REPORT BY THE COMPLAINANT -

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ARCHELON, the Sea Turtle Protection Society of Greece



Conservation efforts during 2019 at the nesting habitat of *Caretta caretta* in Kyparissia Bay (Natura 2000 - GR2550005 "Thines Kyparissias")

Short report submitted to
the European Commission and
the Standing Committee of the Bern Convention

Athens, October 2019

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Contents

Prologue	p. 4
1. Background	p. 4
1.1. The long-term field project of ARCHELON (core nesting area)	p. 4
1.2. The Presidential Decree for the whole Kyparissia Bay	p. 4
2. International pressure for the protection of southern Kyparissia Bay	p. 5
2.1. Condemnation of the Greek State by the Court of Justice (Oct 2012 - Nov 2016)	p. 5
2.2. The case file in Bern Convention	p. 5
3. Follow up to the commitments of Greece	p. 6
3.1. The issuance of the Presidential Decree (October 2018)	p. 6
3.2. Shortcomings in the Presidential Decree and continuing problems	p. 6
4. The actual situation in the field during the 2019 nesting season	p. 7
4.1. Degradation of the habitat continues	p. 7
4.2. Anthropogenic disturbances at the core nesting area (sectors O and A-C)	p. 7
4.3. Anthropogenic disturbances at the rest of the habitat (sectors D to K)	p. 8
4.4. Turtle Strandings	p. 9
5. Conclusions and Recommendations	p. 9
References	p. 10
Illustrations	p. 11
Photos	p. 12

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 2019, in the light of compliance with the Judgement of the European Court of Justice of 10 November 2016 (case C-504/14) and the Bern Convention Recommendation No. 174. As the issued Presidential Decree (see in 1.2 and 3.1.) for the site GR2550005, includes also the neighbouring Natura sites GR2330005 (“Thines kai Paraliako Dasos Zacharos, Limni Kaiafa, Strofylia, Kakovatos”) and GR2330008 (“Marine area of Kyparissia Bay: Katakolo Cape – Kyparissia”), some information about the conservation status of these sites, as recorded through the fieldwork of ARCHELON, is also included.

1. Background

1.1. The long-term field project of ARCHELON (core nesting area)

Kyparissia Bay, at the western coast of central Peloponnese, has significant ecological value. The Bay’s coastline consists of approximately 44km of continuous sandy 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. The terrestrial part of the Bay includes two Natura 2000 sites (GR2550005 in the south and GR2330005 in the north) while the marine area includes another Natura 2000 site (GR 2330008) (Illustration 1). Although loggerhead sea turtles (*Caretta caretta*) nest along the entire 44km beach, the core nesting area is located in the southernmost 9.5km, between the Neda and Arcadikos rivers (Margaritoulis & Rees, 2001), where approx. 82% of the total nesting activity was recorded in the years 1984-89 (see next paragraph)(Illustration 2). This 9.5km part of the beach is entirely included in the site GR2550005.

During the period 1984-1989 the entire length of the Bay was surveyed, but since 1990 the monitoring project was restricted to the core nesting area (Margaritoulis & Rees, 2001). From 1992 until today, the great majority of nests within the core area are protected against predation by animals, inundation by the sea and disorientation of hatchlings. The mass protection of nests has probably contributed to the significant increase in the number of nesting turtles recorded since 2006 (see below). Since 2017 ARCHELON has started again to monitor the remaining 35km of Kyparissia Bay (i.e. Alfios River to Neda River). The core nesting area is divided for monitoring purposes into four sectors (O, A, B, C), while the remaining 35km is divided into seven sectors (D to K) (Illustration 3).

During 2019 nesting season, and according to preliminary data, approx. 2,850 nests were recorded in the core area while in the 35km northernmost part approx. 750 nests. This is the 7th year in a row (2013-2019) that the number of nests exceeded those recorded in Laganas Bay (Zakynthos Island). The increase in nest numbers, that has been noted since 2006, combined with an increase of neophyte turtles (i.e. turtles nesting for the first time), is likely attributed to the mass protection of nests applied in the core nesting area since 1992 (Margaritoulis et al., 2013).

Aside to the monitoring of the nesting activity in the area, ARCHELON is developing a wide range of actions aiming to improve the factors that are affecting sea turtles during the periods of nesting, incubation and hatching as well as raising public awareness. Some of these actions are: a) operation of an information station on the Kalo Nero beach and organizing presentations at local businesses, b) communication with the local communities and stakeholders, c) constant efforts towards the removal of beach furniture during night time and the improvement of light pollution of the beach, d) cooperation with local authorities to address localized issues and e) organizing public events (e.g. nest excavations or releases of rehabilitated turtles).

1.2. The Presidential Decree for the whole Kyparissia Bay

Despite the evident ecological value of Kyparissia Bay, no specific protection or management measures were adopted or implemented, nor conservation objectives were laid for the area by the Ministry of Environment up until very recently. As a result, the sea turtle nesting area and the other habitats in the

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. Following substantial pressure from the European Commission and the Council of Europe (Bern Convention) (see in 2) as well as domestic NGOs, and after several years of deliberations (2012 until 2018), the Greek State eventually issued in October 2018 the Presidential Decree for the three Natura 2000 sites (GR2550005, GR2330005 and GR2330008), including the core nesting area. During the previous years (2013 until 2018), the Greek State has attempted to protect either the core area or the whole habitat through various legislative acts (successive Ministerial Decisions).

2. International pressure for the protection of southern Kyparissia Bay

2.1. Condemnation of the Greek State by the Court of Justice (Oct 2012 - Nov 2016)

As a consequence of the lack of protection and management measures for the core nesting area, 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 in the Natura 2000 site GR2550005 “Thines Kyparissias”.

Despite the commitments of the Ministry of Environment (Ref. No. 5074/22-11-2012) 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. Thus, in March 2014 the European Commission decided to take the Greek State 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 and the relevant Judgment was posted on 10 November 2016. The Court (completely coherent with the opinion of the Advocate General) declared that:

- The Greek State has failed to fulfil its obligations under Article 6, paragraph 2 of Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora on southern Kyparissia Bay.
- The Greek State has failed to fulfil its obligations under Article 6, paragraph 3 of Directive 92/43/EEC.
- The Greek State has failed to fulfil its obligations under Article 12, paragraph 1 (b) and (d) of Directive 92/43/EEC.

2.2. The case file in Bern Convention

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 and their nesting habitat in southern Kyparissia Bay.

In December 2014 the Standing Committee of Bern Convention issued to Greece Recommendation No. 174 on the conservation of the nesting habitat in southern Kyparissia Bay. The Recommendation consists of 12 points, which address the main anthropogenic threats for sea turtle nesting (e.g. lack of protection status for the habitat, construction of villas behind the nesting beach, construction of roads and degradation of sand dunes, light pollution, lack of management of the beach furniture, human presence on the beach at night).

The case file is reviewed annually during the Bureau and the Standing Committee meetings since December 2015. During the meeting in November 2018, although the progress made through the adoption of the Presidential Decree was acknowledged, the Standing Committee decided to keep the case file open, as the provisions of the Decree do not entirely cover the points of the Convention's Recommendation No. 174 (setting and implementation of management measures for the area)¹.

¹ List of Decisions of the 38th Standing Committee meeting, pages 11, 12.

3. Follow up to the commitments of Greece

3.1. The issuance of the Presidential Decree (October 2018)

Since the reception of the European Commission's Reasoned Opinion, the Greek State has attempted to protect either the core area or the whole habitat of Kyparissia Bay through various legislative acts. In particular, from May 2013 to May 2016, the issuing of new permits for building and other works behind 7.5km of the core nesting area (sectors A, B, and C) was suspended with consecutive Ministerial Decisions (Government Gazettes 180/24.05.2013, 175/28.05.2014, 396/24.12.2014 and 130/29.06.2015). This measure was not only a temporary one (i.e. did not exceed the duration of 3 consecutive years), but also did not deal with the building of houses and other construction works which already had a permit, since it concerned only the issuing of new permits. From May 2016 until the issuance of the Presidential Decree, the Protection Ministerial Decision for the whole Kyparissia Bay was in force (Government Gazettes D 141/24-05-2016 and D 204/23-05-2018). In order to protect the area against building interests, this Ministerial Decision included the provisions of the final Draft Presidential Decree.

Eventually, the Presidential Decree for the three Natura 2000 sites (GR2330005, GR2330008 and GR2550005) and adjacent areas was issued in October 2018 (Government Gazettes D 391/03-10-2018, D 414/12-10-2018), almost two years after the Judgment of the European Court of Justice (November 2016) and three years after the Bern Convention Recommendation (December 2014).

After the issuance of the Decree, seven cancellation requests were submitted to the Hellenic Republic Council of State (known by its Greek acronym as "StE") requesting the repeal of the Presidential Decree. The requests were submitted by the Municipalities of Tryfilia and Andritsaina, the Municipality of Zacharo, the real estate firm "Neos Kotinos S.A." (which owns the coastal area behind C sector of approx. 2.5km length), the firm "Olympia Golf Club S.A." (which owns land in the north part of the Bay) and in three cases by citizens of the area. The trial date is set for 20 February 2020. If any of the cancellation requests are approved, then the southern Kyparissia Bay will yet again be without any protection from building interests. For that reason, ARCHELON in cooperation with MEDASSET and WWF Greece have intervened in the trial in defense of the Presidential Decree and the Ministry of Environment.

3.2. Shortcomings in the Presidential Decree and continuing problems

The Presidential Decree protects Kyparissia Bay from intensive building interests behind the nesting beach. But still there are some important conservation issues that need to be addressed. Specifically, there is a need for: (a) a special Annex with the legally existing road network in the protected area, (b) adequate fisheries regulations in the marine area (Nature Protection Zone 3), (c) beach management measures for the visitors and the beach bars especially in the core nesting area and (d) a ban for new sources of light pollution. These conservation issues, which are not addressed by the Decree, are necessary to be included in the Management Plan for the Kyparissia Bay that is currently being prepared and is expected to be finalized and issued by 2021.

The negative aspects of the Presidential Decree include the facts that: (a) the designation of the whole area as a Nature Protection Area (not as National Park) and (b) building is the basic characteristic in the Agricultural Landscape Zone (Greek acronym "ZAT") and that the provisions in the whole ZAT are the same (although the neighbouring Nature Protection Zones are different). These are expected to compromise achieving favourable conservation status for the area in the long-term.

Furthermore, as described below (see in 4), during the 2019 nesting season there was very low enforcement and implementation of the management and protection measures included in the Decree (e.g. management of beach furniture at night, reduction of the existing light pollution). As a result, very little progress was made after the Decree's issue concerning either the implementation of the 12 points of the Bern Convention Recommendation (see in 2.2.), or the compliance with the European Court of Justice Judgment of 10 November 2016 (see in 2.1.).

The management of Kyparissia Bay is under the responsibility of the Management Agency of Kotychi, Strofilia Lagoon & Kyparissia Bay, based close to Patras (according to the Presidential Decree and the law 4519/2018). The establishment of a branch in Kyparissia Bay and provision of the required additional funding and staff, which are considered necessary preconditions for the active engagement of

the Management Agency, are not settled yet. As a result, the Management Agency is not active yet in managing and protecting the habitat.

4. The actual situation in the field during the 2019 nesting season

This section focusses on the anthropogenic disturbances that resulted in direct and indirect damage to sea turtles (adults and hatchlings), their nests and the nesting habitat in Kyparissia Bay during the 2019 nesting season. These disturbances were experienced through the fieldwork of ARCHELON. It should be noted that local authorities as well as part of the local community maintain a rather hostile attitude towards ARCHELON, as sea turtles are considered the main reason for the imposed restrictions.

4.1. Degradation of the habitat continues

In April 2019 a local environmental NGO, based in Patra (Environmental Movement of Patra or OIKIPA), reported behind sector B of the core nesting area, the construction of one new villa in Vounaki (Photos 1a, 1b) and the continuance of the construction of a 2nd villa in Agiannakis, whose construction had stopped before 2012 (Photos 2a, 2b). According to the Presidential Decree both places of the construction works are included in the Nature Protection Zone (PPF 2γ), where no building is permitted, while also according to the previous Ministerial Decisions (see in 3.1.), no construction works of any type are permitted in these areas. All competent authorities, including the Management Agency of Kotychi, Strofilia Lagoon & Kyparissia Bay were informed and, taking into account the current and previous legal framework, questions were raised whether the construction is in accordance with legal building permits. Until now, no action has been taken by any authority and the construction works continued during the whole nesting season. On a positive note, the permit applications of the 47 buildings between Agiannakis and Elaia beach, which were filed at the Urban Planning Authority by the real estate firm "Neos Kotinos S.A.", are not going to be approved since this area is now been designated as a Nature Protection Zone.

Annex II of the Presidential Decree foresees the protection management measures, which must be implemented, in cases of leasing portions of the nesting beach to tourism and leisure related activities, for the protection of sea turtle nesting and the sand dunes. In these management measures are included among others the stacking of sunbeds during nighttime, the reduction of existing light pollution towards the nesting beach, the nonuse of wooden paths on the nesting beach, the nonuse of heavy machinery for beach cleanings. Unfortunately, during the 2019 nesting season the management measures were not enforced in Kyparissia Bay, but also in sector O (beachfront of Kalo Nero village) of the core nesting area (Photo 3). Moreover, the Annex II foresees exceptions in the areas to be leased. Sectors A, B and C of the core nesting area (beaches of Vounaki, Agiannakis and Elaia respectively) are included in the exceptions regarding beach furniture and water sports businesses. Unfortunately, the operation of beach bars is not included in the exception. As a result, the Municipality of Trifylia leased portion of Elaia beach (sector C) for a beach bar (Photo 4). This was the third year in a row that the beach bar of Elaia operated, while during the period 2013-2016 had been closed. The main problems that arose from the operation of this beach bar were the deterioration of sand dunes and its night operation causing increased human and vehicle presence on the nesting beach during night hours and light pollution.

Lastly, although ARCHELON complained already in 2018 to all competent authorities about the garden works that took place during that year in the sand dune zone in front of the completed house near Vounaki hill (sector B), which resulted in total destruction of dune vegetation (Photos 1a, 5) not only was any action taken yet, but also some authorities claimed that there is no evidence that the works took place after the establishment of protection framework for the area (i.e. after May 2016, when the Protection Ministerial Decision was issued).

4.2. Anthropogenic disturbances at the core nesting area (sectors O and A-C)

On 8 May 2019 the Management Agency of Kotychi, Strofilia Lagoon & Kyparissia Bay in cooperation with the Region of Peloponnese organized a special meeting with the local authorities, to discuss proper implementation of the management measures at the core nesting area. As it is described in this chapter, unfortunately no improvement was recorded during the 2019 nesting season.

The distinction of Kalo Nero (sector O) from the rest of the core area is very important. This part is already severely affected by tourism development. As in previous years, during 2019 a large part of the nesting beach was occupied by sunbeds, umbrellas, wooden paths, showers and other structures. As the beach furniture was not stacked during nighttime (Photo 3), despite the provisions of the Presidential Decree, the situation has not improved. Additionally to beach furniture, intensive light pollution is caused by public lights (installed on electricity poles along the coastal road of Kalo Nero of 1,7km length) and private lights (installed on the illegal beach platforms of hotels, restaurants and bars, which extend over the beach) (Photos 6, 7). As a result, the light pollution on the beachfront of Kalo Nero remains a serious conservation problem despite the provisions of the Presidential Decree. It must be noted that the light pollution in Kalo Nero renders useless the standard method of “nest-shading”, used by ARCHELON in other areas, to protect emerging hatchlings from light disorientation, and forces the unorthodox practice of “nest-boxing” (Theodorou et al., 2018). According to preliminary data during 2019, “nest-boxing” was used on 334 nests in Kalo Nero (approximately 65% of all nests made in Kalo Nero).

If sea turtles are to be effectively protected in Kyparissia Bay, sectors A, B and C of the core nesting area (beaches of Vounaki, Agiannakis and Elaia respectively) hosting about 75% of all nests in the 9.5km core nesting area, must be maintained at its current almost pristine condition. This area is characterized by a very wide beach with an appropriate inclination, backed by low sand dunes with vegetation. Unfortunately, for these beach sectors not only the majority of the main conservation issues remained unresolved during the 2019 nesting season, but also two new villas are being built (i.e. one near Vounaki and one in Agiannakis, see in 4.1.). As mentioned (see in 4.1.), for a third year in a row operated the beach bar in C sector, resulting in destruction of dune vegetation (Photo 4). It is noteworthy that the beach bar in sector C was not allowed to open in the period 2013-2016, as it was one of the commitments of the Greek authorities to the European Commission on response to the Reasoned Opinion (Ref. No. 5074/22-11-2012). Moreover, in the coastal forest behind sector C remained the problem of free camping. During the high summer season (July and August) of 2019 it was estimated that more than 2,000 people were camping simultaneously. In many cases tents and caravans were placed on the sand dune zone or even on the nesting beach (Photos 8a, 8b, 8c). The sand dune vegetation in these three sectors of the core nesting habitat is destroyed by the large number of 4x4 vehicles, observed on the beach almost on a daily basis (Photo 9a, 9b, 9c), while in the location of legal or illegal perpendicular to the beach roads the sand dune vegetation is totally absent (Photo 10), as no barriers are placed. Mostly on the sectors A and B extensive stretches of land used for agriculture negatively affects the state of the sand dunes (Photo 11). Regarding light pollution in sectors A, B and C, unfortunately no efforts have been made to reduce photo pollution from the relatively small number of artificial lights.

4.3. Anthropogenic disturbances at the rest of the habitat (sectors D to K)

In the rest of the bay, there were a similar range of anthropogenic disturbances. These include vehicles on the beach, light pollution, the presence of illegal beach bars. Fishing activities are also occurring widely across all monitored sectors, with many boats moored or stationed on nesting beaches, creating potential obstacles for incoming turtles. From the Neda river in the south to Zacharo and Kato Samiko in the north there were numerous businesses operating on the beach during the nesting season, both during the day and after sunset (Photo 12). The most prevalent issues regarding these were light pollution, occupation of the nesting habitat by sunbeds and degradation of the dunes.

All across the bay, there are vehicles entering the beach at various entry points. This can negatively affect the sand dune vegetation and lowers the habitat available to nesting sea turtles. In addition to this, there were at least two incidents of beach cleaning with heavy vehicle during nesting season (Photo 13).

Specific disturbances from south to north

There were recorded instances of mixed animal grazing near the Neda river (sector D), where beach entry points were utilized to drive livestock such as sheep and goats along the dunes. During these cases, dune vegetation was extensively trampled.

At the end of E sector, members of a local environmental NGO, based in Patra (Environmental Movement of Patra or OIKIPA) discovered the construction of a 25m concrete platform (Photos 14a,

14b) on the dunes zone. This was created in order to accommodate the local festival that took place on the 10th of August 2019.

On sectors H and I, there were also records of free camping on the beach or in the coastal forest. On a temporary basis, beach shelters and bamboo structures were ubiquitous across all sectors.

There are two illegal settlements at the G-H border (Agios Nikolaos settlement, which is the coastal part of Zacharo town) as well as at the northernmost of K sector (Epitalio settlement). These create continuous light pollution and contribute significantly to sand dune degradation, more so than seasonal businesses.

Across I and K sectors, there are many old structures and houses demolished many years ago. These construction materials were never adequately disposed of and persist in the dune habitat.

4.4. Turtle Strandings

During the 2019 nesting season 11 dead turtles and 1 live injured were found within the core nesting area of 9.5km, while 13 more dead turtles were found in the rest of Kyparissiakos Bay. The injured one, with signs of entrapment in nets, was transported to the ARCHELON Rescue Centre in Glyfada, Athens for rehabilitation. Examination of the dead animals showed interaction with fisheries (i.e. 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 15), although this fishing method is against the law in Greece. In addition, fishing boats and stationary nets were observed to be very close to the shore in all beach sectors, in some cases at distances less than 30m from shore (Photo 16). 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. As mentioned above (see in 3.2.), the fisheries conservation issue is not addressed in the Presidential Decree, because it does not include adequate fisheries regulations in the marine area (Nature Protection Zone 3).

5. Conclusions and recommendations

The October 2018 Presidential Decree for Kyparissia Bay constitutes unquestionably a positive development in the efforts to protect the habitats of southern Kyparissia Bay in general and the marine turtles in particular. Still, some important conservation issues of the habitat remain unsolved. These must be addressed by the forthcoming Management Plan, which according to the Ministry of Environment, should be elaborated and legally adopted by 2021. In addition, the active engagement of the Management Agency of Kotychi, Strofilia Lagoon & Kyparissia Bay is essential for the resolution of these conservation issues. In conclusion, during the 2019, sea turtle nesting was completed successfully, as all nests were recorded and protected against predation, inundation and light pollution, due to the intensive efforts of ARCHELON. However, there is still a lot to be done in order to fully comply with the implementation of the 12 points of the Bern Convention Recommendation and the European Court of Justice Judgment of 10 November 2016, as the very low enforcement and implementation of the Decree regulations prevents achieving favourable conservation status of marine turtles and the habitat in southern Kyparissia Bay.

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Illustrations

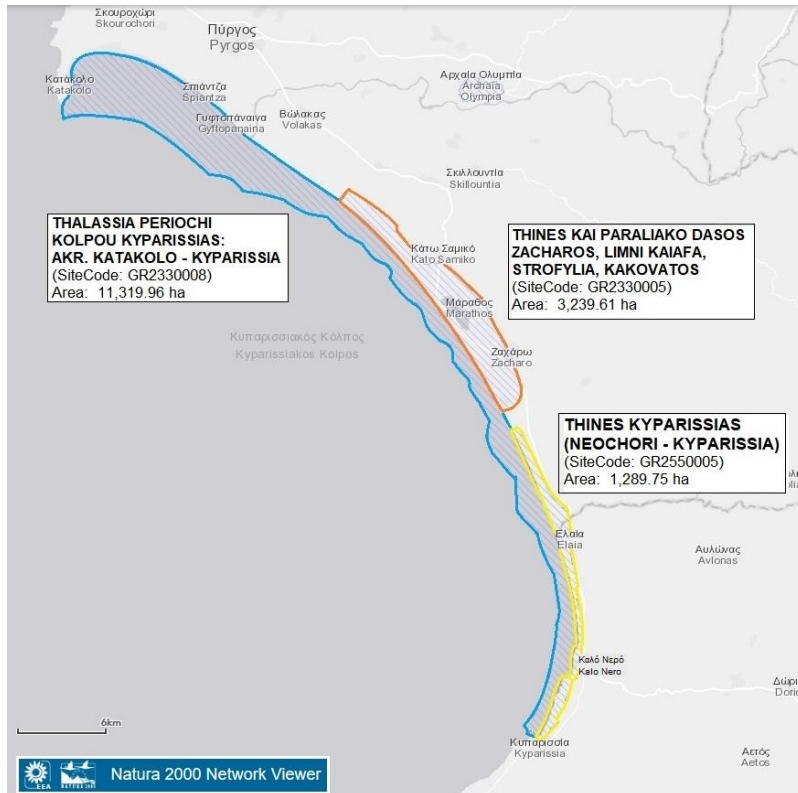


Illustration 1: Map of the Kyparissia Bay showing the three Natura 2000 sites that are included in the Presidential Decree, issued on October 2018.

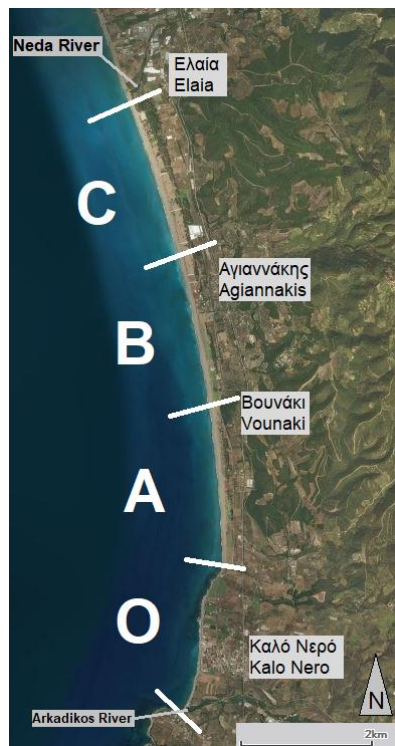


Illustration 2: Map showing the core nesting area for *Caretta caretta* on the south Kyparissia Bay.

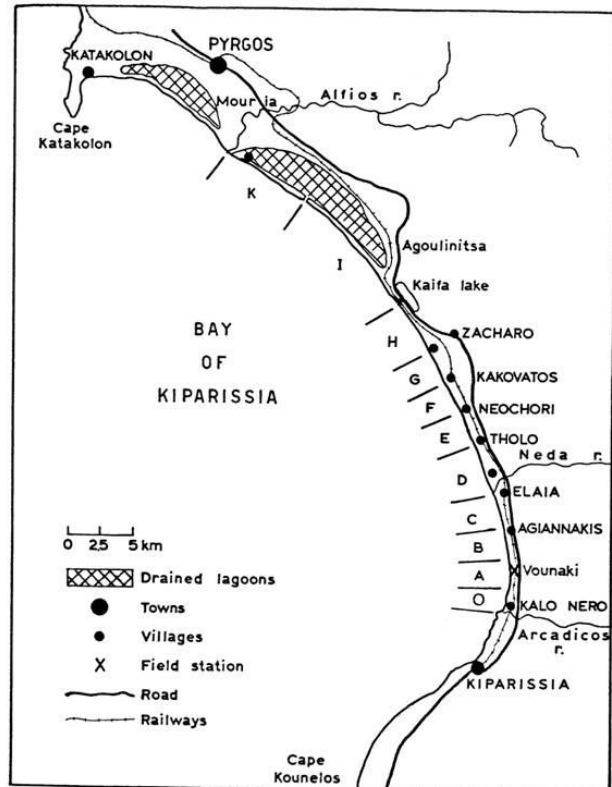


Illustration 3: Map of the entire Kyparissia Bay and the separation by sectors used by ARCHELON for the monitoring of *Caretta caretta* nesting activity.

Photos



Photo 1a: (Photo taken during 2018 nesting season) Until the 2018 nesting season no construction works for the new villa in sector B had started. The gardening works during 2018 at the house, constructed in 2014, resulted in destruction of dune vegetation



Photo 1b: (Photo taken during 2019 nesting season) Construction of a new villa at Vounaki area as well as destruction of dune vegetation from past year's.



Photo 2a: (Photo taken during April 2012) Unfinished villa in Agiannaki area which construction works halted many years ago.



Photo 2b: *(Photo taken during 2019 nesting season)* After the nesting season of 2018, construction works started again on the villa at Agiannaki area.



Photo 3: The management measures of the Presidential Decree (stacking of sunbeds, reduction of light pollution etc) were not enforced in Kalo Nero during 2019 nesting season.



Photo 4: The beach bar at Elaia area operated on the dunes zone and caused further deterioration of the habitat.



Photo 5: The villas at Vounaki. Garden works that took place during 2018 in the dune zone resulted in total destruction of dune vegetation.



Photo 6: Illegal platforms on the beach & occupation by beach furniture in Kalo Nero during 2019 nesting season.



Photo 7: Light pollution on the nesting beach of Kalo Nero (O sector). Lights sources are both municipal street lights and private owned ones.



Photo 8a: Beach shelters that remained on the nesting beach at night and disrupted the nesting activity of the sea turtles.



Photo 8b: Camping overnight on the beach next to protected nests.



Photo 8c:

Extensive presence of caravans right behind the nesting beach at sector O.



Photo 9a: Destruction of the dunes caused by regular crossing of vehicles including tractors.



Photo 9b: Incident of a 4x4 vehicle crossing the beach during night time while a sea turtle was nesting.



Photo 9c: An indirect effect of tyre tracks on the beach, which disorientate hatchlings on the way to the sea.



Photo 10: Sand dune destruction due to unrestricted entrances to the beach.



Photo 11: Sand dune destruction due to agricultural uses behind A and B sectors.



Photo 12: Beach bars at the north end of D sector. They operated at night time and did not remove their beach furniture during the night.



Photo 13: Beach clean with heavy vehicle on the sector H.



Photo 14a and 14b: Concrete platform in front of the stage of the local festival. This event was held on the dunes zone at the north end of E sector.



Photo 15: Dead turtle that was found washed on the beach with signs of injuries caused by dynamite fishing.



Photo 16: Fishing boat laying nets too close to the shore on sector O.