



SOUTH PELOPONNESE ANNUAL REPORT 2022

*Conservation efforts at the nesting habitats of
Caretta caretta in south Peloponnese
(Lakonikos Bay, Koroni, Romanos and SE Lakonia)*

Natura 2000 sites:

GR2540003

GR2550010

GR2550004

Athens, December 2022

**ARCHELON The Sea Turtle
Protection Society of Greece**



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1 INTRODUCTION

ARCHELON's presence in south Peloponnese has been continuous since the mid-1980s, carrying out activities related to the monitoring and protection of sea turtle reproduction. The nesting beaches of the Loggerhead sea turtle (*Caretta caretta*) in South Peloponnese (Map 1) have been included in 3 Natura 2000 network sites, as follows:

- The beaches of Lakonikos Bay with the names Vathi, Mavrovouni, Selinita, Valtaki and Evrotas in the site GR2540003 “EKVOLES EVROTA, PERIOCHI VRONTAMA KAI THALASSIA PERIOCHI LAKONIKOU KOLPOU” (Map 2).
- The beach of Koroni (Zaga - Memi) in the site GR2550010 “THALASSIA PERIOCHI NOTIAS MESSINIAS” (Map 3).
- The beach of Romanos and the neighboring beaches to the south (Mytikas, Glyfadaki, Petrohori Agios Nikolaos, Almyrolakka and Voidokoilia) in the site GR2550004 “LIMNOTHALASSA PYLOU (DIVARI) KAI NISOS SFAKTIRIA, AGIOS DIMITRIOS” (Map 4).

2 RESULTS

During the 2022 breeding season, the ARCHELON project was carried out from the end of May to the end of September, by three distinct groups of volunteers/researchers on the beaches of the Lakonikos Bay, the beach of Koroni and the beach of Romanos.

According to preliminary data, more than 600 loggerhead nests were recorded in the above mentioned. The nests were protected from predation, flooding, trampling and the effects of light pollution. The total number of nests recorded in 2022 is slightly less than that of the previous year. It is noted here that the reproductive activity has been showing significant fluctuations from year to year and is mainly influenced by factors such as the conditions in the food fields that the turtles resort to in the interval between two reproductive years.

In addition to the above areas, 54 nests were recorded in the SE part of Lakonia (from Plytra to Monemvasia) and in Elafonissos by a trained team of the "Tulipa Goulimi" Association in collaboration with ARCHELON. It is noted that this is the lowest recorded number of nests in this area since 2016.

In the first nine months of 2022, 16 dead and 4 injured turtles were recorded in Lakonikos Bay, Koroni and Romanos, while in SE Laconia the "Tulipa Goulimi" Association recorded 25 dead and 1 injured animals.

The public awareness activities included informational presentations at tourist units and public events of excavations of nests that had already hatched to determine the hatch rate. Information stations operated at the beach of Mavrovouni in Lakonikos Bay and in the town of Koroni, Messenian Bay. The response to the public awareness activities was higher than last year with 7,000 visitors and residents of the areas participating. The increase in the numbers of informed visitors is attributed to the increased tourism activities following the lifting of restrictive measures due to the pandemic.



3 THREATS

General protection measures for the nesting beaches of sea turtles are included in the Joint Ministerial Decision (Government Gazette, Gazette B 1864/15-05-2020 and, amendment Gazette B 2198/05-06-2020, Annex 2I), which regulates the "granting of simple coastal and beach use". According to it, in the nesting areas, the competent Municipalities can grant to local businesses the "simple use of the coast and beach", as long as the implementation of specific management measures is ensured during the nesting and hatching period of the species. These measures include, among others, the removal of beach furniture (sunbeds, umbrellas) after sunset, beach cleaning without heavy vehicles, the prohibition of vehicle traffic on the beach, the reduction of light pollution, and the prohibition of beach parties. The current legislation does not prohibit the presence of people on the beach at night.

It is worrying that in 2022, there were many cases of non-compliance with the above management measures, disturbing the reproductive activity of sea turtles. Equally worrying is the fact that several large-scale habitat alterations were observed on the nesting beaches, which have long-term consequences by degrading the breeding habitats of the protected species. Unfortunately, there was no improvement observed in south Peloponnese in relation to the threats in 2022. Below is information for each area separately.

3.1 LAKONIKOS BAY

The uptake of space on the beach by beach furniture during nighttime hours created problems for nesting female turtles as well as for hatchlings (Photos 1a, 1b). The project recorded regularly the numbers of beach furniture that remained on the beach during the night hours. On the beach of Mavrovouni, 70% of the beach furniture remained on the beach during the evening hours. At Selinitsa and Vathi beaches the percentages were 44.4% and 78.5% respectively. In addition to the beach furniture of businesses, a large percentage of visitors to the area left private equipment on the beaches at night, which cumulatively reached 4,440 incidents in 120 days of recording. Valtaki beach, was an exception, as there was no beach furniture due to its legal status of an archaeological zone. In all other nesting beaches of Lakonikos Bay a significant part of the nesting zone was occupied by beach furniture (Photo 2).

The problem of light pollution in various locations and its effects on hatchlings has been known for years. In these locations there was a large number of nests this year and it was deemed necessary to shade these nests before hatching in order to protect the newborns (Photos 3a, 3b). The biggest problem was found at Mavrovouni and Selinitsa beaches, where 100% of the nests were shaded. On Vathy, Valtaki and Evrotas beaches this threat was less severe. In Vathi, 32% of the nests were shaded, while in Valtaki and Evrotas, no nests were detected in the places with light pollution. Despite the application of shading, disorientation of hatchlings was observed in 56 nests in Lakonikos Bay. It was also observed that in some cases hatchlings which had already entered the sea, lost their orientation and came back to the beach due to the intense luminescence.

In the project's 120 days of recordings, other threats have been identified that have a short-term impact on the Loggerhead's reproductive process. In particular, 58 incidents of the presence of vehicles at night were observed, which caused additional light pollution (Photo 4). In addition, 17 incidents of beach cleaning using heavy vehicles were observed (Photo 5), as well as 387 incidents of increased human presence during the night hours, mainly on Mavrovouni and Vathi beaches.

In 2022, habitat loss continued as a consequence of human interventions that cause permanent degradation of habitats. Removal of sand dune vegetation continued as a result of use of illegal dirt roads on the beaches of Mavrovouni, Vathi and Evrotas which were opened in previous years. In some places, these dirt roads are so wide that they allow cars to be parked as well as to drive through.



In the spring of 2022, works were carried out along the beach of Mavrovouni in order to install pipelines and wells for collecting waste that will be connected to the waste treatment plant. During the implementation of the construction work, which affected approximately 2km of the 4km total length of the beach, inert materials (sand, gravel and cement, [Photo 6](#)) were placed on the beach and the already degraded dune vegetation was completely destroyed ([Photo 7](#)).

On the beach of Evrotas, at the location of Leimonas, a new placement of inert materials (sand, gravel) and complete destruction of the adjacent sand dunes was observed. This occurred alongside the same road, which was recorded for the first time in 2021 and leads to an adjacent beach business ([Photo 8](#)). Finally, in parts of the beach of Evrotas, arbitrary constructions for accommodation that had been abandoned earlier were re-used .

3.2 KORONI

At the nesting beach of Zaga-Memi, the vast majority of beach businesses complied with the protection measures and 72% of all business-owned beach furniture was removed at sunset. However, a large number of beach-goers left their equipment on the beach at night and a total of 5,822 such incidents were recorded in 102 days of recording ([Photo 9](#)). More than 100 seasonal sunshades made by bathers were also recorded ([Photo 10](#)). As a result, a significant portion of the nesting zone on the beach was occupied by beach equipment. To this should be added the part of the beach that was occupied by water sports equipment throughout the summer season ([Photo 11](#)). Finally, in 290 cases human presence was recorded on the beach during the night hours, which, although not prohibited by the existing legal protection framework, interferes with the regularity of nesting of adult turtles and the hatching of eggs ([Photo 9](#)).

Also, disorientation of hatchlings from 21 nests was observed in some parts of the beach of Karoni (especially at its west and east ends), where there was intense light pollution coming from private as well as municipal lamps.

3.3 ROMANOS

Costa Navarino's sunbeds were collected at sunset and provision was made for no human activity on the beach during the night. The hotel's lights were not directly visible from the beach, a feature that was already part of the initial design of this Unit. Following a consultation with the Public Power Company and the Municipality, the municipal lights at the northern end of the beach were not used during the breeding season.

4 CONSERVATION

ARCHELON has been carrying out annual systematic work to record and protect the reproductive activity of sea turtles in Lakonikos Bay since 1985, in Koroni since 1995, and in Romanos since 2009. The analysis of the long-term data series shows that in recent years there is an increasing trend in the number of nests in all three areas (Lakonikos, Koroni, Romanos). Evidence of nesting has been recorded since 2016 on the beaches of south-eastern Lakonia by the association "Tulipa Goulimi" in collaboration with ARCHELON. The nesting trend of SE Laconia is still being evaluated.

Finally, there is still no specific legislative framework regarding the protection and management of the nesting beaches in south Peloponnese. The responsibility of management of these Natura 2000 sites has been recently transferred to the Natural Environment and Climate Change Agency (N.E.C.C.A.) and its local Management Units. Lakonikos Bay was attributed to the Management Unit of the South Peloponnese Protected Areas. Koroni and Romanos were attributed to the Management Unit of Kotychi - Strofylia & Protected Areas of West Peloponnese.

The issues identified regarding the conservation of the nesting beaches of south Peloponnese are expected to be dealt with through the Special Environmental Studies (SES) and Management Plans being prepared for the Natura 2000 sites by the Ministry of Environment. Until a management framework is established for each area based on environmental legislation, it is very important to protect the nesting beaches by better implementation of the Joint Ministerial Decision on "simple use of the beach".



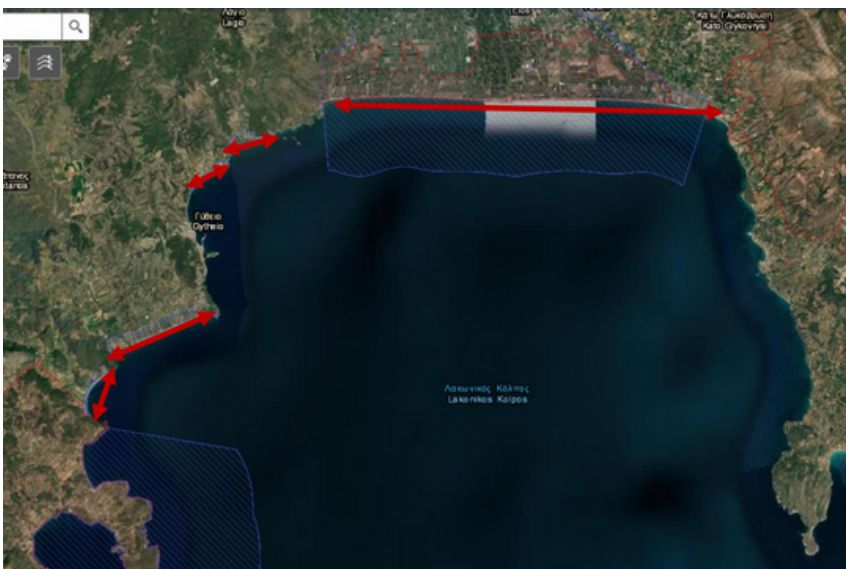
ANNEX

MAPS & PHOTOS



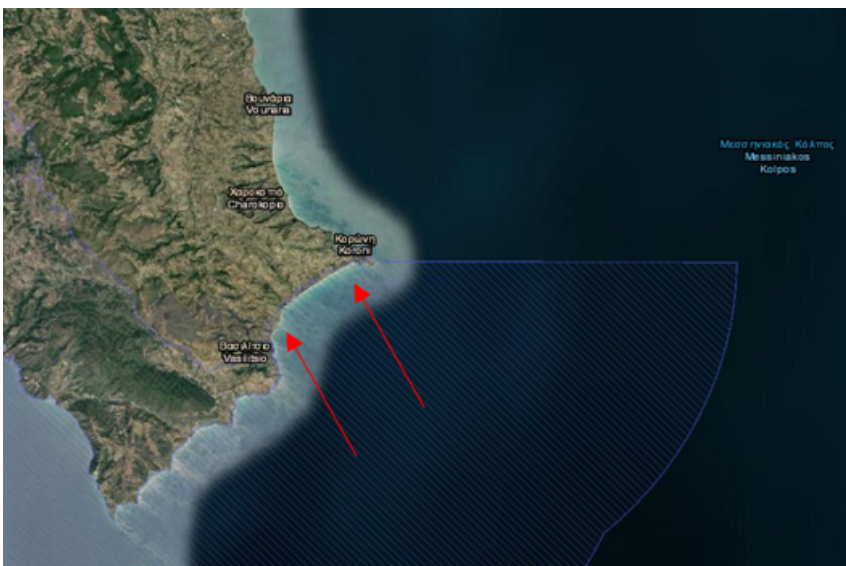
Map 1

The arrows show the areas of the Lakonikos Bay, Koroni and Romanos, which are breeding habitats for the Loggerhead (*Caretta caretta*) in south Peloponnese and have been included in the Natura 2000 network.



Map 2

The site GR2540003 “EKVOLES EVROTA, PERIOCHI VRONTAMA KAI THALASSIA PERIOCHI LAKONIKOU KOLPOU”. The 5 distinct nesting beaches of the Loggerhead in Lakonikos Bay are highlighted (from left to right: Vathi, Mavrovuni, Selinita, Valtaki, Evrotas), with total length 23.5km.



Map 3

The site GR2550010 “THALASSIA PERIOCHI NOTIAS MESSINIAS”. The nesting beach Zaga - Memi 2.7 km long is marked with arrows.



Map 4
The site GR2550004 “LIMNOTHALASSA PYLOU (DIVARI) KAI NISOS SFAHTIRIA, AGIOS DIMITRIOS”. The 7 Loggerhead nesting beaches in the area (from top to bottom: Romanos, Mytikas, Glyfadaki, Petrochori Agios Nikolaos, Almyrolakka and Voidokoilia) of 4.7km length are marked with arrows.



Photo 1a
Turtle obstruction due to the presence of beach furniture (Mavrovouni, July 2022).



Photo 1b
Beach furniture in front of a nest (circle) endangers the hatchlings' safe passage to the sea (Selinitza, July 2022).



Photo 2
Beach equipment remained on the beach at night (Vathi, August 2022).



Photo 3a
Example of application of the nest shading special measure.



Photo 3b
Indicative light pollution on the beach of Mavrovouni (July 2022).



Photo 4
The presence of vehicles on the nesting beach compromised the safe incubation of adjacent nests (circle). (Mavrovouni, July 2022)



Photo 5
Cleaning with the use of heavy vehicles. The nest created the previous night is marked with a circle (Selinitza, June 2022).



Photo 6
Inert materials on the sand dune zone for the installation works of the biological cleaning (Mavrovouni, June 2022).



Photo 7
Completely deforested sand dune zone, as a consequence of the illegal road, the constant presence of vehicles and the work of biological cleaning (Mavrovouni, June 2022).



Photo 8
Damaged sand dunes due to the opening of an illegal road (Leimonas, Evrotas beach, June 2022).



Photo 9
Although the business's beach furniture were moved away for the night (arrow), private beach equipment and frequent human presence (circles) were nuisances to the reproductive process (Koroni, June 2022).



Photo 10
Private shading equipment remained on the beach throughout the summer season (Koroni, June 2022).



Photo 11
Occupancy of the nesting zone by water sports equipment (Koroni, July 2022).