

ARCHELON, The Sea Turtle Protection Society of Greece



**Conservation efforts during 2025
at the nesting habitat of *Caretta caretta*
in Laganas Bay, Zakynthos, Greece
(GR2210002 “Kolpos Lagana Zakynthou kai nisides
Marathonisi & Pelouzo”)**

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

Athens, October 2025

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Acronyms:

MA: Management Agency
MP: Management Plan
MU: Management Unit
NECCA: Natural Environment and Climate Change Agency
NMPZ: National Marine Park of Zakynthos
PD: Presidential Decree
SAC: Special Area for Conservation
SCI: Site of Community Importance
SES: Specific Environmental Study

Summary

This report, a follow-up to annual submissions, summarizes the monitoring of nesting activity and protection for the loggerhead turtle (*Caretta caretta*) carried out by ARCHELON in 2025 in Laganas Bay, Zakynthos (a major nesting site in the Mediterranean, designated a Natura 2000 site and a National Marine Park). It also presents the current pressures and threats onsite.

➤ Key Results for the 2025 Nesting Season:

Protection: ARCHELON conducted fieldwork from May to October, implementing nest protection protocols in collaboration with the Management Unit (MU) of the Natural Environment and Climate Change Agency (NECCA).

Nests: 2,155 nests were recorded (preliminary data), well above the long-term average, indicating a positive trend.

Strandings: 28 turtles were stranded, with major causes of injury being boat collisions and interaction with fisheries.

Awareness: Approximately 48,500 people were informed through public awareness activities.

➤ Primary Conservation Challenges (Non-Compliance):

The site suffers from widespread disregard for protection laws, exacerbated by low enforcement and insufficient staffing of the responsible MU of NECCA.

A) Marine Area

Uncontrolled Boating: An enormous number of boats in the marine protected area of the Bay (e.g. for Turtle Spotting), led to 1,622 instances of non-compliance with guidelines, essentially creating a "turtle hunt" activity.

Illegal Activity: 5,873 violations for the 6-knot speed limit and 4,606 cases of illegal anchoring in protected zones were recorded.

Lack of Fines: Despite their legal authority, neither the Coast Guard nor the MU issued fines.

B) Terrestrial Habitat

Illegal Constructions: Long-term threats include illegal buildings and infrastructure (e.g. 7 illegal businesses at Daphni beach) that remain standing despite demolition orders and directly degrade the nesting habitat.

Illegal landfill site: Greece was fined (9 October 2025) by the European Court of Justice.

Marathonisi: In February 2025 constructions began due to building permits issued despite the provisions of the Presidential Decree (PD).

Nighttime Disturbances: In 69,531 incidents, sunbeds were left on the nesting beaches at night, blocking nesting females and hatchlings. Approx. 2880 incidents of human presence at night were recorded.

C) Light Pollution

Preliminary data show that more than 43% of nests were impacted by light pollution on East Laganas, approx. 22% of nests on Kalamaki, 20% on Daphni, and 40% of nests on Marathonisi.

➤ Progress in legal/institutional issues:

The National Action Plan for sea turtles (2021) prioritizes the monitoring and protection of nests and hatchlings, a task currently carried out solely by ARCHELON funds, while the National Marine Park of Zakynthos (NMPZ) is still operating without a Management Plan (MP). In 2023, the proposed Specific Environmental Study (SES) was criticized by ARCHELON for potentially loosening protection by attempting to legitimize illegal constructions, ignoring tourism carrying capacity, and suggesting the removal of hotel capacity limits. A second SES for the designation of the "Ionian Marine Park" (late 2025), which includes the critical nesting beaches of Laganas and Kyparissia Bay (hosting over 57% of EU loggerhead nests), received detailed suggestions from ARCHELON to ensure good conservation status for the sea turtles.

➤ ARCHELON recommends the **immediate completion** of the Zakynthos Marine Park's legislative documents (SES, PD, MP) and adequate funding for the implementation of the National Action Plan for Sea Turtle and requires **both the 2023 and 2025 SES to be amended** to reflect the crucial ecological value of Laganas Bay. Essential actions include **proper enforcement and surveillance by the MU of NECCA**, along with the **demolition of illegal constructions** and coastal habitat restoration.

Introduction

This report is a follow-up to previous reports submitted annually, outlining the main events and presenting the issues related to the protection of the loggerhead turtles and their habitats in Laganas Bay (Natura 2000 site GR2210002 “Kolpos Lagana Zakynthou kai nisides Marathonisi & Pelouzo”) during the 2025 reproductive period. It provides information on the monitoring of nesting activity and protection efforts for nests and hatchlings conducted by ARCHELON in collaboration with the local Management Unit (MU) of Zakynthos and Ainos National Parks and Protected Areas of the Ionian Islands. It also presents the current pressures and threats, and reports on the updated information and progress in legal and institutional issues regarding the site.

1. Background

Laganas Bay, at the southern part of Zakynthos Island, in the Ionian Sea, hosts one of the largest reproductive populations of the loggerhead turtle (*Caretta caretta*) in the Mediterranean and is therefore designated as a Special Area for Conservation (SAC) and a Site of Community Importance (SCI) (NATURA 2000 site GR2210002). The habitat consists of 6 nesting beaches (Illustration 1) and its adjacent marine area.

The significance of the site as a sea turtle nesting habitat was recognized by legislation in 1980, and since 1984 several legislative acts have regulated the increasing touristic development pressure in the area. These acts contributed to safeguarding a big part of the coastal area, but they did not eliminate the disturbance on sea turtle nesting beaches and in the marine waters of the Bay. The consistent pressure from NGOs, the Council of Europe (Bern Convention), and the European Commission, led to the establishment of the National Marine Park of Zakynthos (NMPZ) in 1999 after several years of deliberations. Its respective Management Agency (MA) was set up in July 2000. The relevant Presidential Decree (PD) (Government Gazette D906/22-12-1999) includes a zonation system with varying regulations on land and at sea (see Annex 1). In 2020 the management of protected areas across Greece was transferred to a newly established central agency, the Natural Environment and Climate Change Agency (NECCA), while all MAs of protected areas were reconstructed into MUs as integral parts of NECCA. The transition to the scheme of the MUs under NECCA was finalized in 2022.

The European Court of Justice has condemned the Greek state for violations concerning the habitat of Zakynthos three times (cases: C103/2000, C600/2012, C368/2024). The first case concerns the management and the protection of the habitat and the failure to eliminate disturbances for the loggerhead turtle, while the other two cases concern the landfill site within the boundaries of the NMPZ. Following case C368/2024, the Greek state was condemned and fined €5.5 million, with an additional €12,500 imposed for each day of non-compliance.

In the late 1980s, the Bern Convention recognized the intense pressures affecting the habitat and in 1987 issued Recommendation No. 9. By 2020, 34 years after Recommendation No. 9, the pressures remained unresolved, prompting the Standing Committee to reopen the case file. Since then, the case file has been reviewed annually during the Bureau and Standing Committee meetings. During the latest meeting in December 2024, it was decided that an on-the-spot appraisal would be held (completed in June 2025), and the case file would remain open due to failing to fully implement the Recommendation.

2. The 2025 nesting season

I. Monitoring, Protection and Public awareness

ARCHELON's project, carried out annually since 1984 (from May to October), includes monitoring of the nesting activity, protection of nests and hatchlings, and recording of turtle strandings. Additionally, the team collects data on on-site pressures and threats and carries out public awareness and educational activities to inform visitors and residents in the area. Since 2000, ARCHELON has been collaborating with the MA of the NMPZ (now MU).

This long-term project is carried out by ARCHELON's permanent and seasonal staff and volunteers. All collected data are made available to the MU to support the management of the protected area. The 2025 activities were conducted on

the six nesting beaches of Laganas Bay (see Annex 1) from 12 May to 10 October, with the participation of 100 researchers and volunteers from all over the world.

Preliminary data indicate that approx. 2,155 nests were recorded across the six nesting beaches. This figure is well above the long-term annual average of 1,230 nests (data collected for 42 years, 1984-2025), marking the third consecutive year of increased nesting activity; the corresponding numbers of nests in 2023 and 2024 was 2,033 and 2,470 respectively. While the overall long-term outlook for the turtle population nesting in Zakynthos is considered stable, there are noteworthy fluctuations in the annual nesting activity (Figure 1). Even though more time is needed to reach safe conclusions, the high nest numbers of the last few years appear hopeful for the recovery of the population.

Despite this encouraging trend in sea turtle nesting, a significant number of turtle strandings was recorded for yet another year. From the beginning of 2025 until 5 October, 28 incidents were recorded (25 deceased and 3 injured individuals). All injured turtles were transferred to ARCHELON's Rescue Centre. Of the 28 strandings, 14 occurred within the marine protected area of Laganas Bay. Examination of the stranded animals in the protected area revealed interactions with fisheries (incidental capture in fishing gear, 3 cases) as well as injuries caused by boat collision (7 cases) (Photo 1). In all other cases, the cause of death or injury was not apparent.

As in previous years, public awareness activities were designed and implemented to complement and further support conservation efforts. Volunteers conducted presentations on the nesting beaches, in various hotels, on selected tourist boats operating in the marine protected area of Laganas Bay, and operated ARCHELON's seasonal Information Station in Zakynthos town. Approx. 48,500 people participated in these activities and were informed about sea turtles, the threats they face, and the protection measures in place.

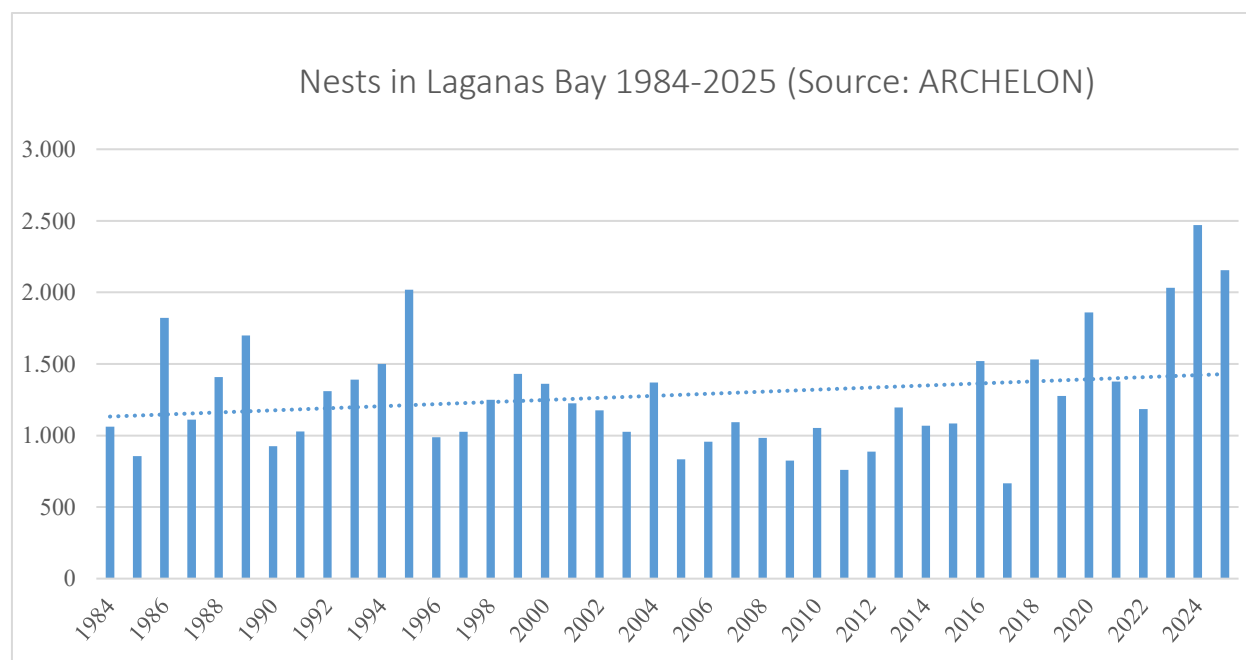


Figure 1: Annual number of nests, recorded by ARCHELON, and respective linear trend for the 42-year period 1984-2025 in Laganas Bay, Zakynthos.

II. Threats

Despite the long-standing efforts of ARCHELON, ongoing pressures and threats continue to pose significant risks to turtles and their habitats. This section presents a brief description of the threats recorded in 147 days of observation (May-October 2025) regarding terrestrial and marine areas.

A. Marine area

The large increase in the number of boat licenses issued in Zakynthos has led to uncontrolled boating activity in the marine area of the NMPZ. Thus, the extremely high number of boats available for rent and Turtle Spotting activities has resulted in high disturbance to sea turtles. The situation is further exacerbated due to the inadequate patrolling of the marine area by the competent authorities, which has encouraged a general attitude of disregard towards maritime regulations. As a result, Turtle Spotting activities appear to have evolved into a “turtle hunt”. Over 1,620 instances of non-compliance with the Turtle Spotting Guidelines (compulsory since 2018) were recorded (Photo 2a).

Regarding the maritime traffic regulations as outlined by the PD, ARCHELON recorded 5,873 instances of breaking the 6knot speed limit of Zones B and C (Illustration 2). Additionally, there were 4,606 occasions where boats were anchored in Zone B, and 49 cases of boats anchored or passing in Zone A (Photos 2b, 2c).

Reportedly, the MU sent requests for joint patrols to the local Coast Guard, but these patrols were eventually not conducted. Even though the MU’s staff patrolled the area daily and were authorized to issue fines in cases of non-compliance, no such fines were issued.

Please refer to Annex I, for the maritime traffic regulations of the PD and the Turtle Spotting guidelines.

B. Terrestrial habitat loss/degradation

Long-term impacts

Deposition of pebbles and clay on the north-west part of Gerakas beach: In recent years, a significant number of pebbles has accumulated possibly as a result of wave action during the winter months (Photo 3). Consequently, this part of the beach has been rendered unsuitable for nesting.

Illegal constructions and infrastructure: Since the 1980s, the area behind Daphni beach, along with parts of the beach itself, has degraded resulting in direct disturbance to sea turtle nesting and the incubation of nests. The site has been completely transformed by unauthorized activities, such as construction of buildings and roads, sand dune flattening, and sand removal. Although the removal of illegal buildings at Daphni was mandated as early as 1987 (Recommendation No. 9 by the Bern Convention), and although only 2 businesses existed at the time, currently there are 7 illegal businesses operating on site (Photo 4a). No action has been taken for their removal despite existing demolition protocols since 1994 and 1995. It should be noted that in 2025 there was an attempt to install electricity poles for these businesses in an effort to further legitimize their presence; obtaining connection to the electricity network implies legitimacy (Photo 4b). Furthermore, in 2025 some of the businesses undertook renovations and expansions, with wooden and concrete foundations and the planting of non-native species of vegetation (Photos 4c, 4d). Additionally, over the last few years, 3 touristic facilities (private villas for rent) have been built along the rural road leading to Daphni beach (Illustration 3). This is indicative of the general touristic pressure exerted on the area.

In December 2015 and March/April 2018, road construction works were undertaken within the boundaries of the NMPZ, specifically on the hills between the nesting beaches of Gerakas and Daphni (zone Φ1: protected landscape). Further unauthorized road construction works were reported in January 2021, despite the relevant fines imposed (Photos 5a, 5b, 5c, 5d). In 2022 the Prefecture of Ionian Islands issued a decision to dramatically reduce the imposed fines from €200,000 to €10,000 (Ref. No.: 38702/7817/16-5-22, Administrative Post Number: 6YI87AE-IIYΨ).

Furthermore, in the area behind Gerakas beach (zone Π2: Nature Protection Site) where building is prohibited, one new stone house and one stable were constructed in 2017. Although fines were imposed, neither demolition nor restoration works have occurred (Photos 6a, 6b).

Landfill site: An overfilled landfill site exists within the boundaries of the NMPZ (behind Vrodonero beach, between Kalamaki and Sekania). It has not operated since 2018, yet it has not been restored by the Municipality, despite fines imposed by the Prefecture. Therefore, it continues to constitute a permanent toxic pollution threat to both the nesting beaches and the marine area (Photo 7). As mentioned, the European Court of Justice has condemned the Greek state for violations concerning this matter two times. Eventually, on 9 October 2025, the Greek state was fined €5.5 million with an additional €12,500 imposed for each day of non-compliance.

Marathonisi island: Marathonisi is included in zone A2, where building is completely prohibited according to the PD. However, in November 2024 the owner company of Marathonisi acquired a building permit from the Urban Planning Authority of Zakynthos. Bulldozers were transported on the island in February 2025, and constructions began immediately (Photos 8a, 8b, 8c). ARCHELON, in collaboration with WWF-Greece and MEDASSET, highlighted the

risk of habitat degradation to all competent authorities, media outlets and stakeholders. As such, the Urban Planning Authority suspended the permit, and all further construction was put on hold. Moreover, WWF-Greece and MEDASSET filed an official appeal against the building permit to the competent court. The case is still pending.

Short-term impacts

Beach use and beach furniture: It has long been observed that the businesses operating beach furniture on the beaches of Laganas Bay do not comply with the PD's regulations. As a result, the required distances from the back of the beach are not maintained, while the removal of beach furniture at sunset is either completely ignored or implemented incorrectly (Photo 9). During the 2025 nesting season, ARCHELON recorded 69,531 incidents of non-compliance regarding the removal of sunbeds at sunset on the beaches of Gerakas, Kalamaki and East Laganas. Sunbeds left on the beach during the night are obstacles for nesting females and hatchlings alike (Photo 10). It should be noted that the maximum amount of beach furniture specified by the PD was also exceeded. 167 sunbeds were recorded on Gerakas beach, while the number allowed by the PD is 120. The permitted number of beach users on Gerakas (350), Daphni (100), and Marathonisi (200) as stated by the PD, was greatly exceeded.

Human presence on the nesting beaches at night (sundown to 7 a.m.): According to the MU's wardening plan, 9 warden posts are designated across the 6 nesting beaches. Staffing these posts on a 24-hour basis would require 27 guards. In 2025, for yet another year, the MU had an insufficient number of wardens (as no seasonal staff were hired). As a result, warden huts remained unstaffed daily, even during night hours, and incidents of human presence were frequent. This was quite notable on East Laganas and Kalamaki beaches, where 2,878 incidents of non-compliance were recorded (Photo 11). To support the MU, ARCHELON introduced extra volunteer shifts from mid-July until mid-August.

Human trampling of nests: The PD requires beach visitors to remain close to the shoreline and avoid the nesting zone at the back of the beach, to protect incubating nests from umbrellas (shading and damage), and being trampled. As in previous years, in 2025 the MU used ropes to restrict access to the nesting zone along the beaches of Marathonisi, Gerakas and along sections of East Laganas and Kalamaki (Photo 12).

Vehicles: Vehicles on the beach cause sand compaction, damage turtle eggs and potentially trigger premature emergence of hatchlings. Emerging hatchlings can be trapped in tire ruts and may die of exhaustion, dehydration, or predation. Moreover, vehicles moving along the beach damage sand dune vegetation. Since 2024, the MU has placed wooden poles along the back of the beach of East Laganas and as a result this phenomenon was greatly reduced. In 2025 8 cases of vehicles on the beach were recorded (Photos 13a, 13b).

Horses: There is a significant growth of commercial horse-riding activity on the sand dunes behind East Laganas. This has significant negative impacts not only on incubating nests but also on the sand dunes. The wooden poles placed by the MU to control vehicle activity, also proved to be effective in relation to this threat, as the horses entered the beach on very few occasions. The presence of horses on sand dune zone, however, was recorded frequently (Photo 14).

C. Light and noise pollution

Light pollution poses a serious threat for sea turtles, as it causes hatchling disorientation and disturbs the nesting females resulting in the abandonment of nesting attempts. During the 2025 nesting season, ARCHELON conducted provisional surveys of the existing light sources causing pollution. In particular, 43 permanent light sources were recorded on East Laganas, belonging to private businesses (i.e. hotels, beach bars) and public streetlights at the back of the beach. Additionally, Daphni beach faced serious light pollution problems due to the operation of 7 illegal businesses, some of which had lights on during late hours. In addition, the severe light pollution from West Laganas affected almost all 6 nesting (Photos 15a, 15b). In addition, the severe light pollution from West Laganas affected almost all 6 nesting (Photos 15a, 15b). Preliminary data indicate that more than 43% of nests were impacted by light pollution on East Laganas, approx. 22% of nests on Kalamaki, 19% on Daphni and 35% of nests on Marathonisi.

3. Progress in legal/institutional issues

- The National Action Plan for turtles, adopted in 2021 by Ministerial Decision, defines the monitoring and protection of nests and hatchlings as a top management need, and outlines a comprehensive list of conservation actions. However, to date, nest monitoring and protection costs have been met entirely and exclusively by ARCHELON resources. If Greek authorities continue to withhold support, a serious problem will arise as ARCHELON cannot sustain these expenses indefinitely.

- In 2023, the SES for the Natura 2000 sites of the Ionian Islands (including Zakynthos) was released for public consultation, as part of a project coordinated by the Ministry of Environment on a national scale. ARCHELON and other environmental NGOs submitted detailed comments during its consultation period, highlighting that the SES appears to focus on maintaining the status quo instead of trying to resolve the main issues. Most notably, the SES does not address the ongoing illegal constructions in the existing Protected Zones, but attempts to legitimize them, particularly those involving threats with long-term impact (i.e. the illegal infrastructure on Daphni beach). It fails to address the carrying capacity of tourism in Laganas Bay (both on the nesting beaches and the marine area) despite the intensive pressures of mass tourism, and it also suggests the removal of the existing capacity limit of 150 hotel rooms, thus allowing further coastal development. Moreover, it omits the reduction of light and noise pollution.
- Between late July and late September 2025, the Ministry of Environment released another SES for public consultation, documenting the establishment of a large Marine Park of the Ionian Sea (“Ionian Marine Park”), following the announcement of Greek government in 2024. The SES incorporates the marine area of Laganas Bay in the “Ionian Marine Park” as well as the 6 nesting beaches of Laganas Bay into a list of 80 nesting beaches across the Ionian Islands and the Peloponnese. ARCHELON participated in this consultation and submitted suggestions for vital improvements in the study’s proposal to achieve good conservation status for the species and its habitats. The main issues that must be highlighted in regards to Laganas Bay are: (a) the number of beach users and beach furniture is increased without addressing the need for a carrying-capacity study, thereby disregarding the resulting pressures on the habitat from mass tourism, (b) the need for a carrying capacity study for the marine area is not foreseen (c) there are no seasonal restrictions on fishing, even though such measures exist in smaller areas with lower nesting activity (thus smaller reproductive populations).

4. Recommendations

- ARCHELON began systematic monitoring of nesting activity in Laganas Bay in 1984. The data series demonstrates that the turtle population nesting in Zakynthos is stable with noteworthy fluctuations in the annual nesting activity. The increased nest numbers of the last 3 years appear to be a hopeful recovery in the population, though data from more years are needed to reach safe conclusions.
- Even though nests and hatchlings are effectively protected with active management within the NMPZ, a high proportion of thesea turtle habitats are still under pressure. Marine violations and inadequate enforcement, terrestrial habitat degradation and illegal development as well as light pollution, make the sea turtle nesting population depended from the continuation of annually recurring nest and hatchling protection. Thus, it is essential that current efforts continue and that threats are addressed comprehensively. The Greek state must financially support the costs of monitoring and protection of nests and hatchlings.
- Vital amendments must be made to both the SES for the Natura 2000 sites in Ionian Islands and the SES for the “Ionian Marine Park”, to ensure that the significant ecological value of Laganas Bay is preserved. It should be noted that the nesting beaches of Laganas Bay and the nearby Kyparissia Bay (Peloponnese), both included in the “Ionian Marine Park”, host more than 57% of all loggerhead nests in the European Union. The development of an updated PD and MP for the NMPZ in collaboration with local authorities and stakeholders is essential. In a top tourist destination with approx. 1,500,000 visitors annually, there are not as many initiatives for sustainable tourism as one would expect. Given the existence of the protected area, investing in the sustainability of tourism is a unique opportunity to achieve major synergies.
- The site suffers from widespread disregard for protection laws, exacerbated by low enforcement and insufficient staffing of the responsible MU of NECCA. The recommended priorities to address the existing short- and long-term threats affecting turtles and their habitats are:
 - adequate surveillance and law enforcement in both the terrestrial and the marine areas of the NMPZ,
 - demolition of illegal constructions and restoration of degraded habitats,
 - minimize light and noise pollution,
 - communication campaigns for locals and visitors alike to gain their support for nature conservation.

ANNEX 1: Description of the (marine & terrestrial) habitat and existing regulations

The nesting habitat of Laganas Bay consists of a terrestrial part comprised of six distinct nesting beaches (Marathonisi, East Laganas, Kalamaki¹, Sekania, Daphni, Gerakas), of a total length of 5.5km, and a marine part including the entire bay, of a total area of 51,363sqkm. A map of the region is shown in Illustrations 1 and 2.

Marathonisi (Under current PD: zone A2, Nature Protection Site, maritime zone B. Under the SES for the Ionian Islands: suggested Nature Protection Zone 11): Marathonisi is a small island within the bay, and its nesting beach is characterized by low sand temperatures, due to its northern orientation and whitish sand color. These sand temperatures produce predominantly male hatchlings, making this short beach (370m) extremely important at a regional level, as most Mediterranean beaches around produce mainly female hatchlings. The beach is a popular destination for day visitors arriving by boat; however, according to the management measures of the MU, no more than 200 people are allowed at any time. Construction of buildings on the beach is prohibited under the PD.

East Laganas (Under current PD: zone II3, Nature Protection Site, maritime zone B. Under the SES for the Ionian Islands: suggested Nature Protection Zone 16): This long beach (2.78km) is partially backed by an extensive sand dune zone. A limited number of hotels and taverns were built before the NMPZ's establishment. These establishments, along with additional operators, rent beach furniture and pedaloes/canoes along the beach. The international airport of the island is located 2km away, which is required to remain closed during night hours from May to October, to prevent light and noise pollution. At the western end of East Laganas, extends the known as "West Laganas" beach, namely the part of the beach which is in front of Laganas village and is no longer used by turtles for nesting due to strong touristic development and overuse.

Kalamaki (Under current PD: zone II3, Nature Protection Site, maritime zone B. Under the SES for the Ionian Islands: suggested Nature Protection Zone 16): Kalamaki is a 500m beach, which is located east of East Laganas beach at the northernmost part of the bay. Access to the beach is gained through a single official entrance, but four more illegal entrances exist. At the back of this beach a hotel is found, which was built before the NMPZ's establishment. This business and one additional operator rent beach furniture, while one more business with pedaloes/canoes operate on the beach.

The PD permits a total of 150 umbrellas/ 300 sunbeds cumulatively for both East Laganas and Kalamaki.

Sekania (Under current PD: zone A1, Absolute Protection Site, maritime zone A. Under the SES for the Ionian Islands: suggested Nature Protection Zone 01): Sekania beach (650m) is located at the center of no-boating maritime zone A at the east side of the bay. This beach hosts one of the highest nesting densities for *Caretta caretta* in the world. It is the most strictly protected nesting site of the habitat, where human presence is permitted only for scientific reasons.

Daphni (Under current PD: zone II1, Nature Protection Site, maritime zone A. Under the SES for the Ionian Islands: suggested Nature Protection Zone 14): Daphni beach (600m) is located next to Sekania beach at the east side of Laganas Bay. This beach and especially the area behind the beach, where private properties are found and 7 illegal businesses operate, has been subject to many illegal activities (e.g. building and road constructions, flattening of dunes, sand removal, planting of non-native vegetation, placement of numerous beach furniture). On the contrary, the PD foresees no operation of businesses at the back of the beach, no beach furniture, while the maximum number of beach users should not exceed 100 people at any time.

Gerakas (Under current PD: zone II2, Nature Protection Site, maritime zone A. Under the SES for the Ionian Islands: suggested Protection Zone 15): Gerakas beach (600m) is found in the southeast part of the bay and is accessed via a single entrance. The back of the beach is free of development and light pollution, while a group of operators rent beach furniture on the beach. The PD foresees that the maximum numbers of beach users must not exceed 350 people at any time, while the maximum number of beach furniture is 60 umbrellas/120 sunbeds.

Marine area of Laganas Bay (Under current PD: zone Ia, Nature Protection Site): The protection status and permitted activities in the protected marine area of Laganas Bay are defined by the PD, Article 4. This area includes three zones (A, B and Γ) regulating maritime traffic and fishing annually from 1 May to 31 October. In particular, in zone A, no boating and fishing is allowed. In zone B, there is a 6knot speed limit to avoid lethal collisions with sea turtles, while

¹ The MU refers to the beaches of East Laganas and Kalamaki as Kalamaki and Crystal respectively.

anchoring and mooring is also not permitted. In zone Γ, the only restriction is the 6knot speed limit.

Within Zone Ia, several businesses operate wildlife-watching boat trips focusing on sea turtles. To minimize the negative impact of the observation of sea turtles, the MU, in cooperation with ARCHELON, has issued guidelines for proper observation procedures of sea turtles. These guidelines for Turtle Spotting regulate: (a) approach distance, (b) approach angle, (c) maximum number of boats that can be present in an observation/ queuing distance for boats waiting to enter the observation, (d) maximum duration of observation, (e) obligation to terminate the observation when the turtle seems disturbed or tries to escape, (f) disturbing or noisy behavior, (g) physical contact with sea turtles, (h) feeding sea turtles and (i) swimming with sea turtles. Until May 2018 the guidelines were voluntary, i.e. not endorsed by legislation. Due to poor implementation in May 2018 the competent Coast Guard issued a special decision (i.e. legislative act), which included the proper observation guidelines (Ref. No. 2131.13/2063/29-05-2018). Moreover in 2006 a “Turtle Spotting Zone”² was introduced by the MA (now MU), but it is still not supported by legislation.

In the SES for the Ionian Islands, zone A is proposed as Absolute Protection Zone 02, zone B is proposed as Nature Protection Zone 09, while zone Γ is proposed as Nature Protection Zone 10.

2 A zone which hosts a high density of turtles and was supposed to be exclusive for “endorsed Turtle-Spotting Boats” with carrying capacity <25 passengers.

ANNEX 2: Illustrations and photos



Illustration 1: Map of the six nesting beaches in Laganas Bay.

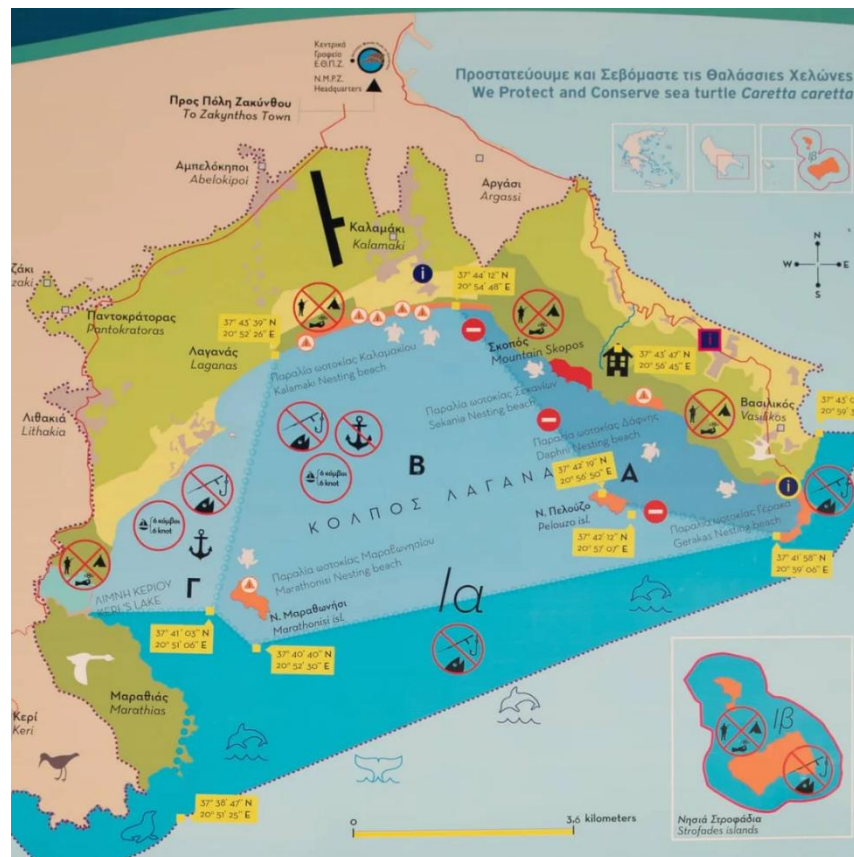


Illustration 2: Zonation scheme of the protected marine area of the NMPZ (for details refer to Annex 1).

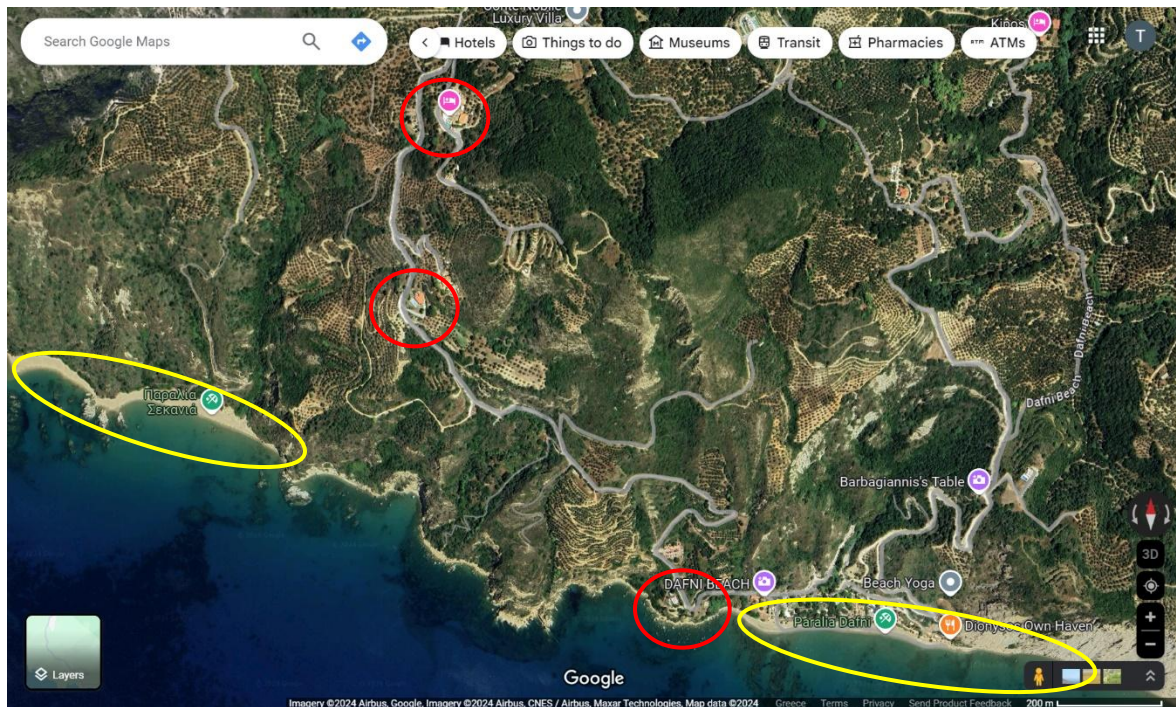


Illustration 3: The red circles show the houses for rent along the road to Daphni beach. The beaches Sekania (Absolute Protection Site) and Daphni (Nature Protection Site) are noted in yellow.



Photo 1: Sea turtle stranding caused by boat collision. In the red circle a parallel cut is visible, a sign of propeller cuts (Laganas Bay, June 2025).



Photo 2a: Turtle-Spotting guidelines were poorly implemented (Laganas Bay, August 2025).



Photo 2b: The speed limit of 6 knots was exceeded daily (Laganas Bay, August 2025).



Photo 2c: Anchored boat in Gerakas beach in Zone A (Laganas Bay, August 2025).



Photo 3: The north-west part of Gerakas beach is not suitable for turtle nesting due to natural deposition of pebbles and clay.



Photo 4a: Illegal constructions and businesses on Daphni beach.



Photo 4b: Electricity poles stored behind Daphni ready to be installed (June 2025).



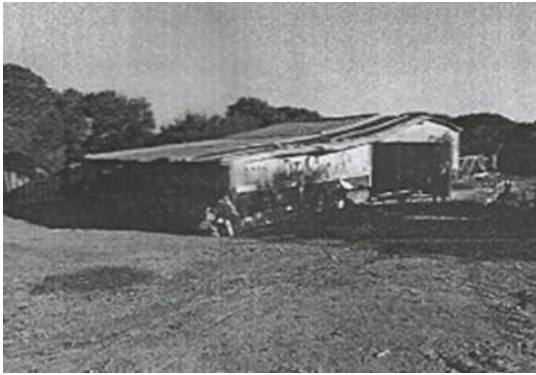
Photo 4c: Expanded wooden decking. Concrete was poured as foundation, indicated by the red circle (Daphni, May 2025).



Photo 4d: Newly built shower facility (Daphni, August 2025)



Photos 5a, 5b, 5c, 5d: Illegal road (providing access to the sea between Daphni and Gerakas beaches) was constructed in 2015 and 2018, was further continued in 2021, and as of 2024 was never demolished nor restored. In 2025 the situation remains unchanged.



Photos 6a, 6b: Illegal buildings (1 house & 1 stable) behind Gerakas nesting beach (both photos were taken in 2017, but the situation remains the same).



Photo 7: The illegal landfill is located within the boundaries of the NMPZ. The site remains unrestored.



Photos 8a, 8b, 8c: Marathonisi: Heavy vehicles have flattened and degraded the sand dune zone. Inert material was deposited inside the fenced area (Marathonisi, May 2025).



Photo 9: Beach furniture is left unstacked overnight (East Laganas, June 2025).



Photo 10: Beach furniture hindered nesting sea turtles (Kalamaki, June 2025).



Photo 11: Image from viral tiktok showing a person petting nesting females during the nighttime (June 2025).



Photo 12: Use of ropes by the MU to block access of visitors towards the nesting zone at the back of the beach (Gerakas, June 2025).



Photo 13a: The wooden poles prove to be effective against vehicle access (East Laganas, June 2025).



Photo 13b: Vehicles tracks on the beach (East Laganas, June 2025).

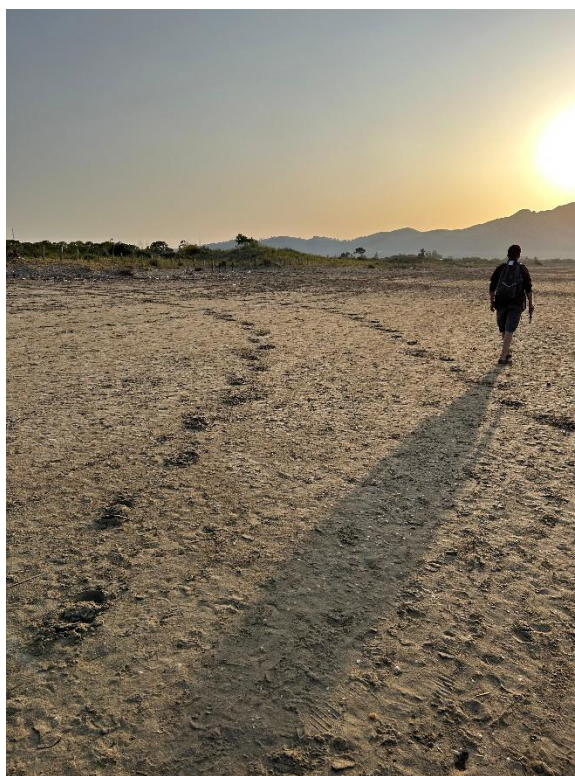


Photo 14: Horse tracks on the nesting beach.
(East Laganas, September 2025).



Photo 15a: Light pollution from businesses in Daphni
(July 2025).



Photo 15b: Light pollution from West Laganas
(Sekania, July 2025).