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**Standing Committee**

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**Follow-up of Recommendations Nos. 182 and 183  
(2015) on Presumed degradation of nesting beaches  
in Fethiye and Patara SPAs  
(Turkey)**

**- REPORT BY THE COMPLAINANT -**

*Document prepared by  
MEDASSET*

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## UPDATE REPORT BY THE NGO

### Marine Turtle Conservation in the Mediterranean

#### LOGGERHEAD SEA TURTLE (*CARETTA CARETTA*) CONSERVATION MONITORING IN FETHIYE AND PATARA SPAs, TURKEY

13 August 2021

*Document presented by*

*MEDASSET - the Mediterranean Association to Save the Sea Turtles*

*for the 41st<sup>h</sup> Standing Committee Meeting of the Contracting Parties to the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)*

MEDASSET hereby submits an update report to the second Bureau Meeting of the Bern Convention (September 2021) on the conservation status of sea turtle nesting beaches in Fethiye and Patara Specially Protected Areas (SPAs) in Turkey.

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#### **SUMMARY**

MEDASSET visited Patara and Fethiye SPA in July 2021 to assess and document the conservation status of the nesting beaches. The following presents the survey findings in relation to each of the measures under Recommendation No. 183 and 182 (2015).

#### **Fethiye Specially Protected Area: Recommendation No. 183 (2015)**

The loggerhead sea turtle (*Caretta caretta*) nesting beaches in Fethiye (Mugla Province, Turkey) are among the 12 most important nesting beaches in Turkey.<sup>1</sup> The nesting beaches belong to the Fethiye-Göcek Special Environmental Protection Area (SPA) established in 1988. Scientific studies have shown that nest numbers in Fethiye are declining.<sup>2</sup>

**In 2021, habitat destruction continues, as new businesses and new hotels were constructed directly on or behind the nesting beaches and expanded onto the nesting zone, further reducing available habitat and increasing disturbances.** At least three previously undeveloped nesting beach sections were occupied by new businesses and newly constructed hotels, despite Recommendation No. 183 (2015) urging against further coastal building (Rec. Point 1, 6). Despite statements in the 2021 Government Report that “90% of the businesses, hotels or houses on the coastline were built before 1988”, roads and buildings have been constructed on the beach since 2009 onwards, as demonstrated by MEDASSET’s annual reports. There was no indication of structures being removed or of any form of restoration of the nesting beaches (Rec. Point 2). The number of fixed structures and beach furniture on the nesting beaches, which are not removed at night (Rec. Point 5), further increased in 2021; as a result,

<sup>1</sup> Türkozan 2000; Margaritoulis *et al.* 2003; Canbolat 2004

<sup>2</sup> Ilgaz *et al.* 2007; Katilmis *et al.* 2013; Başkale *et al.* 2016

over half of the nesting beach area is completely occupied, while some of the remaining structure-free sections are naturally unsuitable for nesting.

**There was no improvement in management and enforcement, hence the conservation status of the nesting beaches has further deteriorated:** lack of beach furniture management, no zoning of the beach or marine area, inadequate signage, camping, bonfires, planting on the nesting beaches, severe light pollution, lack of vehicle access control, and human presence at night (Rec. Points 2, 4-8, 11, 15). There were hardly any indications of conservation and management efforts required under Recommendation No. 183 (2015) to address these problems. Violations of existing regulations occur due to lack of enforcement caused by the absence of guarding or controls in the protected area (Rec. Points 13, 14). The only exception was the absence of playgrounds, reduced number of volleyball courts; reduced amount of litter (Rec. Point 12); irregular beach furniture management and walkway removal in just 1.5 km of the 8 km nesting beaches; minor efforts to reduce light pollution through street light adjustments and red/orange light use in a few businesses. Nest monitoring and awareness activities by research institutions continues though there are indications of inadequate financial and human resources (Rec. Point 10, 16).

**Six years since the adoption of Recommendation No. 183 (2015) the vast majority of the prescribed measures have not been implemented.** The nesting beaches in Fethiye Specially Protected Area (SPA) remain unmanaged and inadequately protected. It is highly questionable whether the coastal zone of Fethiye can be considered a “protected” area based on its current status and the destructive development that has been permitted to occur over the past years in complete disregard of the Bern Convention’s Recommendation.

#### **Patara Specially Protected Area: Recommendation No. 182 (2015)**

**In 2021, the key unresolved conservation problems that are negatively impacting the nesting beaches remain:** complete lack of zoning, insufficient information signs, lack of vehicle access control, horse riding and camping (Rec. Points 2 and 9). Additionally, there is very poor beach furniture management at the SPA’s single beach facility which covers approx. 200 m of the 12 km beach but is located within the nesting hotspot (Rec. Point 2). A few sources of direct light pollution remain, that can be easily tackled, though skyglow impacts from the summer house village need to be monitored (Rec. Point 2). Of extreme concern is the reported illegal sand extraction: systematic and ongoing control and surveillance is needed across the SPA. There was no local management staff present (rangers, guards) and any policing observed does not resolve the above conservation problems (Rec. Point 3). In addition, there seems to be a lack of resources that leads to insufficient nest monitoring and protection from trampling or predation (Rec. Point 4, 7, 8).

At the same time that SPA management and regulation enforcement is lacking, construction of the 300-312 summer house development in the 3rd Degree Archaeological site of the SPA continues, in proximity to the dunes and the nesting beach (Rec. Point 4). Once completed, the summer population will increase by at least 120% (current population during the summer being ca. 1000). It is evident that the conservation problems presently occurring will increase likewise. In addition, redetermination of Patara SPA’s borders and zoning is ongoing (Rec. Point 1), and, as no final maps are available online, **it is unclear if the entire nesting beach (north and south section), the nearshore marine areas and the entire sand dune areas are appropriately zoned and protected against any further development.**

**To date, Recommendation No. 182 (2015) has not been fully implemented.** Patara’s nesting beaches have been relatively safeguarded against development to date. With increased management and control for effective implementation of the Recommendation, this unique natural and heritage site could become a showcase example, similar to the much renowned nearby Dalyan SPA (İztuzu beach). It is of high priority for authorities to take action and resolve the remaining unresolved conservation and management problems with no further delay, in light of the renewed interest in the SPA’s archaeological site.

***MEDASSET calls upon the Turkish authorities to:***

- Urgently implement Recommendations No. 182 & 183 (2015) through a comprehensive and updated action plan before May 2022 to implement all Measures.
- Produce SPA management plans for both sites that include zoning and that cover both the land and marine areas, including clear descriptions of permitted land uses and activities. The current law (Circular) provides general guidelines, but a management plan for each SPA is necessary to specify and localise these regulations.
- In relation to Fethiye, provide an official a map of the beach and adjacent land area that are under dispute, and of the areas that have been permitted for development. As per Measure 1 of the Recommendation, declare a building moratorium to prevent any further development (hotels, jetties, etc.) on or directly behind the nesting beaches.
- In relation to Patara, provide an update on the ongoing redetermination of Patara SPA's zoning and ensure that the entire nesting beach (north and south sections), the nearshore areas and the entire sand dune areas are appropriately zoned and protected against any further development.
- Address the concerns raised in MEDASSET's complaint regarding the Patara summer house construction project, its scale, the associated impacts, the lack of an EIA and of a carrying capacity study. Provide detailed information on the additional houses constructed outside the summer house construction project.

***MEDASSET calls upon the Bern Convention Standing Committee to:***

- Discuss the case file at the 41<sup>st</sup> Meeting of the Standing Committee.
- Keep the case file open for further monitoring.
- Urge Turkish authorities to implement Recommendations No. 182 & 183 (2015) before May 2022.
- Request Turkish authorities to produce the necessary plan and provide further information on the case, as requested in the abovementioned points.



**ANNEX 1:****LOGGERHEAD SEA TURTLE (CARETTA CARETTA) CONSERVATION  
MONITORING IN FETHIYE SPA, TURKEY****DETAILED UPDATE**

*Nesting beach description (Fig. 1): The 8 km beach is split in three sections: Çalıř, Yanıklar, and Akgöl. Çalıř is 2.5 km long and is divided into two sections: Çalıř B (Koca Çalıř - northern part) and Çalıř A (Küçük Çalıř - southern part), which is the nesting beach section that is bordered by a wall and a promenade that is lined by tourist infrastructures. Çalıř Hill marks the end of Çalıř and the start of Yanıklar, which extends northward for 4.5 km and includes the so-called “small beach” and Karatař beach. Kargı Stream marks the border between Yanıklar and Akgöl (1 km, also known as Karaot beach). For a detailed description of the Fethiye SPA nesting beaches see MEDASSET 2009.*

MEDASSET visited Fethiye SPA in July 2021 to assess and document the management and conservation status of the nesting beaches. The following presents the survey findings in relation to each of the measures under Recommendation No. 183 (2015).

***1. Stop any further development of permanent structures (buildings, roads, shipyard, jetties/docks, etc.) along the entire coast of the nesting site complex, in order not to reduce further the nesting habitat;***

In addition to constructions taking place before and after the adoption of the Recommendation, construction of buildings along the coast adjacent to the nesting site, continues:

- In Yanıklar the Karatař section forms the largest sandy nesting zone in the entire Fethiye SPA; nonetheless, it is being increasingly developed since the Recommendation’s adoption (Fig. 2). TUI Senatori Resort and Residences (established in 2015 and extended in 2019) continues its operation. Construction of Hotel Liberty Fabay<sup>3</sup> (Özyer Group) has been completed and is in operation (Fig. 3) (see Rec. Points below for impacts). Behind this new hotel, Özyer Group is constructing “Fabay Kızılada Apart Houses” (Fig. 4).<sup>4,5</sup> The remaining area (part of the former wetland) was completely drained and prepared for construction of three additional hotels (Fig. 4) (Lillyana, Aronis, and Melis Resort; see 2019-2020 reports). A new water sports ramp by new Hotel “Liberty Fabay” was observed (Fig. 5).
- In Yanıklar, the so-called “small beach” (north of Çalıř Hill) which is a sandy nesting area, is completely occupied by a new facility by the Municipality that includes permanent structures on the beach (“Karatař Beach & Café”<sup>6</sup>) (Fig. 6)(see Rec. Points below for impacts).
- In Akgöl, permanent structures remain directly on the nesting beach. The most recent business was constructed by the Municipality in 2020 (“Karaot Halk Plajı”);<sup>7</sup> in 2021, a small “*Caretta caretta* Observatory” shed and a parking lot were added to its permanent structures, that include a cafeteria, showers and toilets; the business also places beach furniture on the nesting beach (Fig. 7-8) (see Rec. Point No. 6). The dirt road that lined the beach was paved in 2020 in between the Municipality cafe and the abandoned “Karaot Buffet”, with cobblestone placed behind the Municipality cafe; the remaining dirt road, till the north end of the beach, is made of low grade asphalt, since after summer 2019.

Çalıř remains highly developed with dense distribution of tourism businesses along the nesting beach, most of which is occupied by both mobile and fixed structures placed directly inside the nesting zone. Only a few empty plots remain between existing facilities, though no new permanent structures were observed in comparison to 2020 (Fig. 9).

In total there are 4 jetties along the nesting beaches (Table 1) (see also final section on “other

<sup>3</sup> <https://www.libertyfabay.com/en>

<sup>4</sup> <https://www.fabaykizilada.com/en/index.html>

<sup>5</sup> Coordinates: 36.687511267119234, 29.07723760314629

<sup>6</sup> <https://www.instagram.com/karatasbeach/>

<sup>7</sup> Coordinates: 36.691070401559394, 29.04258651349335

observations” for jetties at the south end of the nesting zone).

There is a critical need for the authorities to reclaim beach zones that had been allocated to landowners in the past decades and to safeguard the undeveloped land behind the beaches to allow for setback/buffer zones according to ICZM principles. We welcome the news on legal efforts to reclaim beach sections in the 2021 Government report: *[...] to remove the beach, which was included in the deeds of the persons, from the land registry records, a judicial process was initiated and largely resolved. The aforementioned wooden roads, carpets, showers, wooden cafes etc. are experienced in this problematic area. When the judicial process is completed, all of these problems will disappear.* Clarification is needed in relation to which areas are part of the process, i.e. Çalış B and/or others.

However, the information presented above contradicts the statement in the 2021 Government report that: *“90% of the businesses, hotels or houses on the coastline were built before this date [1988]. [...] After the region was declared as a protected area, no new zoning was opened, especially on the coastline. No new routes to affect the shoreline or provide access to the coast are allowed”:*

- the now-paved and lighted road lining the businesses on the nesting beach in Çalış B did not exist in 2013 and in Akgöl only a dirt road lined the beach until at least 2019;
- the hotels in Karataş section and the business “small beach” of Yanıklar were established since 2015 onwards;
- Çalış B beach as well as the wetland lining the beach was built-up since the complaint was submitted in 2009 and onwards.

***2. Remove any structure (wooden paths, wooden pavilions, bars, platforms, showers, carpets, patios, etc.) from sand zones, including those to be restored, especially in areas with relatively narrow beach width and/or in tracts with narrow sandy strips; and restore the sandy areas;***

***5. Map the whole Fethiye coast using long-term data, maps and imagery to identify the past, current and potential most suitable zones for sea turtle nesting, and set a maximum percentage limit of sandy tracts where touristic structures are allowed on the nesting beach and define (A) coastal tracts less suitable for turtle nesting, where beach furniture is allowed at appropriate densities and (B) coastal tracts adequate for turtle nesting, where beach furniture and access at night are not allowed. Enforce beach furniture removal/stacking at night along the entire nesting beach complex during the nesting/hatching season;***

*We hereby report on both of the above measures jointly (No. 2 and No. 5), in order to showcase the full extent of the unregulated occupation of the nesting beaches by businesses.*

There was no evidence of effective zoning in any of the beach sections throughout the SPA. Minor efforts were observed only in some parts of Çalış A, where a single row of sunbeds are managed by the municipality (see first bullet below); nonetheless users move sunbeds at night as they please as there is no signed zoning or control. The nesting zones in Çalış B are almost completely occupied by structures, beach furniture and water sports equipment. The nesting zones in Akgöl and Yanıklar that are structure- and furniture-free areas are now further reduced; in addition, natural erosion problems still exist in the pristine section of Yanıklar (north of TUI Resort), leaving little suitable sandy nesting space despite it being structure-free. Urgent action is needed to implement the much-delayed recommended mapping, enforcement of zoning and restoration.

In Çalış, both sections are highly developed, with facilities installed directly on and behind the nesting beach, accompanied by extensive use of beach furniture. The status of section B has definitely further deteriorated. Specifically:

- In Çalış A, in the area that is likely managed by a public entity, sunbeds are mostly placed in a single row close to the sea, with fixed parasols in between (Fig. 9); however, several hotels in this area installed 2-4 rows of sunbeds (Olimpia Beach, Miramar, Uras Beach and Yasemin). Some hotels also placed large fixed canopies on the nesting beach (Fig.11). Vertical walkways remained inside the nesting zone, though some were removed in comparison to previous years (Fig. 12). Private umbrellas were used in a few areas due to lack of zoning.
- In Çalış B, beach furniture covers almost all the nesting zone (Fig. 13), especially in areas where the beach is relatively narrow. Along approx. 1.9 km, businesses placed about 700

sunbeds with parasols in 1-4 rows,<sup>8</sup> eight pavilions (by “Zentara”) and one vertical wooden walkway extending into the nesting zone. AstroTurf is widely used on the nesting beach, particularly on areas used for water sports equipment. Two showers were observed draining on the nesting beach, placed by camp sites. An old concrete platform has yet to be removed from the nesting beach (Fig. 14). Wooden pavilions and platforms were also installed in front of some facilities (Fig. 15), while wedding altars were placed on heightened sand close to the sea (Fig. 16). The small section at the northern end (at the foot of Çalış Hill) was rented out by the Municipality to an existing business (“Zirkon Beach” that is located further inland) for use as a caravan area (Fig. 17); though beach furniture placement was not licensed, caravans and tents are located directly on the beach, increasing human presence and light pollution. There seems to be no effort for restoring the sandy areas, and instead, the beach profile was further altered in many places by artificially created slopes, some of which were bordered by boulders (Fig. 18). The only improvement was the lack of volleyball courts or playgrounds.

In Yanıklar nesting beach, the conservation status of beaches further deteriorated:

- The entire sandy area of the “small beach”, which was previously undeveloped, was occupied by 80-120 sunbeds and 40 fixed parasols in 3 rows that were installed by the Municipality’s new “Karataş Beach & Café” (Fig. 5).
- In the Karataş section, the obstacle-free nesting zone was further reduced due to usage by new hotels: “TUI Sensatori Resort” and “Hotel Liberty Fabay” together installed inside the nesting zone over 100 sunbeds in several rows and approx. 30 pavilions with walkways in between (there were 21-22 pavilions in previous years); Each hotel also placed water sports equipment areas in the nesting zone (Fig. 3, 19-21). Materials likely to be used in building pavilions were stacked on the beach to the south of the hotels (Fig. 22). Southwards, “Deniz İncisi” installed a short vertical walkway extending from the facility to midway into the dry sand area of the nesting beach, and placed a single row of 25-30 sunbeds close to the waterline (Fig. 23).
- Around “Doğa Camping” and “Onur Camping”, some tents were placed by clients on the nesting zone, and showers on the beach were directly draining into the sand (Fig. 24). “Doğa Camping” also set up a volleyball court on the nesting beach, as per previous years. “Lykia Botanika” and “Club Tuana” hotels placed sunbeds, parasols and fixed shades, though there were no volleyball courts, pavilions, walkways and hammocks unlike previous years. Several boats and water sports equipment were observed on the nesting beach (Fig. 25).

See Rec. Point No 6 for details on the beach furniture management status in Akgöl.

No removal or stacking of beach furniture at night was observed along most of the protected nesting beaches: beach furniture and mobile equipment remained on the beach at night, including the furniture and equipment placed by the Municipality’s facilities in Yanıklar (small beach) and Akgöl. Stacking of beach furniture at night was only observed in only an approx. 10 m section in Çalış A.

### ***3. Stop sand extraction and ensure the application of deterrent penalties for these illegal activities;***

Although no signs of recent sand extraction were observed at the time of our survey, the beach profile was altered in several parts of Çalış B (Fig. 16-18).

### ***4. Remove planted vegetation, acacia in particular, with a view to restore the remaining sandy beach;***

There seems to be no effort to restore the sandy beach sections. Very few planted vegetation was removed in Yanıklar (“Lykia Botanika”) and the majority of planted vegetation still remains: the lawn around TUI Sensatori Resort pavilions; the palms, acacia and oleander trees along Çalış B and Yanıklar are all still present (Fig. 3, 21, 24). Additional plants were introduced on the nesting beach: new banana trees were observed on Çalış (Fig. 12b). In Yanıklar, lawn was planted on the beach by the new hotel (Karataş section) and lawn and banana trees were introduced by the new municipal business at the so-called “small beach” (Fig. 3, 5). In Akgöl, the new municipality business planted trees (Acacia,

<sup>8</sup> Indicatively: “Bahar Beach” has 20 sunbeds in 1 row close to the sea; “Zentara” has 40 sunbeds in 2 rows; “Jiva Beach” has 55 sunbeds in 4 rows; “Surf Beach” has 35-40 sunbeds and parasols in 4 rows by the shoreline; and there are approx. 10-15 more businesses in this section.

Oleander, Yuka, etc) on the beach (Fig. 39).

**6. Prohibit the use of beach furniture and other structures or facilities on the sandy zones of Akgöl beach, regulate use of the core nesting area in the sandy northern end of the beach, and carry-out the necessary controls to check enforcement;**

The sandy zones in the Akgöl beach have been damaged due to development.

At the northern end of the beach, the area behind the beach continues to be used as a parking area and nine pavilions still remain on the beach, placed adjacent to the cliffs, surrounding the nesting hotspot (Fig 26).

The building and the pavilions of “Karaot Buffet” remain abandoned on the beach since 2020; in front of it, boats were left on the beach at night (Fig. 27).

Towards the south end of the beach, “Karaot Halk Plajı” - the cafeteria established in 2020 by the municipality - occupies the entire nesting zone with approx. 100 sunbeds in 3 rows with fixed parasols, a vertical walkway extending to the sea, and a lifeguard tower. Next to the cafeteria are showers, toilets, and small “*Caretta caretta* Observatory” shed (Fig. 7-8, 28).

There is no apparent zoning.

**7. Reduce light pollution to a minimum along the whole coast during the nesting/hatching season: (i) remove all lights not strictly necessary, (ii) reduce the number of lights allowed for each business company, (iii) all lights considered as strictly necessary should be reduced in power and (iv) be red or orange-yellow, (v) all lights should be shaded in the direction of the beach. Further reduce lights after a certain time in the night, for not less than 50% of the dark time. Where possible, reduce height of lights, use motion sensors and native bushes/plants as light buffers on roads and properties. Prohibit light show equipment use;**

Light pollution continues to severely affect the nesting beaches of Fethiye SPA and there is no organised effort to implement the recommended measure across the entire coast during the nesting/hatching season.

Due to renovation of the promenade area in Çalış A, efforts to mitigate light pollution were observed in relation to public lights: orange-pink lights were installed in the wall bordering the beach, facing the promenade and street lamps were turned to face away from the sea, however, bright white lights were used (Fig. 29). Light pollution on the beach was reduced in comparison to previous years, however, efforts need to also be applied to reduce light pollution by the beachside businesses on the promenade, as per the recommended measure.

In Çalış B, light pollution remains largely unchanged. Most facilities use very bright illumination, host weddings and parties with loud music, fireworks and light shows until well-after midnight (Fig. 30, 35).

At Yanıklar, a large portion of the beach is dark at night, mostly in the remaining undeveloped areas. Hotel lights in Karataş are visible from the nesting beach, hence their wavelengths/impacts should be measured (Fig. 31). Most of the remaining facilities located on Yanıklar beach did not turn off their lights though these were relatively dimmer; however, studies measuring wavelengths are needed (Fig. 32). The two jetties in the area (Club Tuana and TUI Resort), as well as the cordoned marine area (TUI Resort) were illuminated at night (Fig. 31, 34). Lights were on until 23.30 at the new municipal business on the so-called “small beach” (Fig. 33).

In Akgöl the lights of the Municipality’s facility were not turned off and street lamps behind the facility, though orange, seemed too bright (Fig. 8, 34).

**8. Build permanent barriers (not ditches) on the roads to prevent vehicles from accessing the beach, designate parking spaces and official picnic areas away from the beach;**

More effort is required to designate picnic areas away from the beach as this increases litter, bonfires and human presence on the beach at night, all of which are regulated by law but not enforced. The nesting beaches in Çalış B (northern part) and Yanıklar (Akmaz area) continue to be popular picnic areas.

Permanent barriers to prevent vehicle access to the beaches were observed in some sections, although there are several uncontrolled vehicle access points on the nesting beaches.

- Çalış B lacks any form of permanent vehicle barriers at sections not bordered by a business

(Fig. 35).

- In Yanıklar, vehicle tracks were seen in a number of locations, intersecting sea turtle tracks and nests on some instances (Fig. 36). There are still no permanent barriers preventing vehicle access from its north entrance (Tuana Hotel), from an entrance north of Doğa Camping, via the middle of the pristine section, and on either side of the hotels in the Karataş section (Fig. 37). Vehicle access presents a particularly severe threat in the pristine section as nests here are not caged (see measure 16).
- In Akgöl, permanent barriers were built behind the Municipality's facility, mainly to form a parking space and a low pavement barrier extends to the abandoned Karaot buffet; vehicle access onto the beach is possible in the remaining area as there no permanent barriers on the road lining the beach (Fig. 38-39).

***9. Regulate maritime traffic during the nesting/hatching season, by prohibiting any motorised traffic at appropriate distances near the coast, by setting speed limits and foreseeing marked corridors from the beach to open waters;***

Motorised water sports are used in Fethiye SPA, launching from Çalış and Yanıklar and numerous fishing boats were seen moored in the sea and on the beach in all sections (Fig. 5, 13, 20, 25, 47-48) though no nearshore, high speed traffic was observed during the short survey. Although distances (200m) and speed limits (3 knots) are in force under national Regulations,<sup>9</sup> there were no marked corridors and no tangible evidence (coast guard presence or similar) pointing to maritime traffic regulation enforcement during the nesting/hatching season. Floating ropes that are in place for bordering safe swimming zones in all sections, do not delimit the maritime traffic distances (Fig. 4, 7, 47-48).

***10. Set up long-term research and conservation programs conducted by a permanent team recruited on a long-term perspective. This team should have adequate manpower to monitor the entire beach and protect all nests if necessary during the entire nesting/hatching season. The team should also assess across the years and using the same comparable methods: (i) the disorienting effects of photo-pollution on hatchlings, (ii) disturbance of nesting females, and (iii) predation of nests (or attempts);***

No information is available concerning the recommended assessments (i)-(iii).

Monitoring and conservation of the sea turtle nests has been carried out by Pamukkale University / DEKAMER for several consecutive years, though the contracts are not long-term and are instead renewed every year. Only two volunteers were seen in Akgöl during the short survey; considering the nest predation observed and the lack of a manned information booth in recent years, this may be indicative of limited resources (see relevant points for details). More information is needed on this topic, as adequate manpower is critical to ensure monitoring of the entire coast on a daily basis considering the high level of disturbances and impacts affecting nests and sea turtles.

***11. Prohibit camping and bonfires and set appropriate time limits for the operation of beach bars at night during the nesting and hatching season;***

Visitor access time regulations (entry forbidden between 8pm-8am) are not enforced and hence there is human presence on the beaches. This is especially problematic in Çalış (Fig. 40).

Bonfires and/or their remains were observed in Çalış B, Yanıklar and Akgöl (Fig. 41-42).

Tents and caravans were aggregated at the top of the beaches around camping facilities in Çalış and Yanıklar, though camping was also observed directly on the beaches (Fig. 17, 42).

Although the operation of beach bars are subjected to hour limits at night, not all of businesses comply. In Çalış, there were crowded and very loud wedding events ("Bahar", "Petunya") and parties with over 100 guests were held in several facilities (e.g. "Ala Camping", "Apache Beach") (Fig. 30). Facilities in other sections were quiet after 00:00.

<sup>9</sup> <https://istanbul.ktb.gov.tr/Eklenti/73450,su-ustu-sportif-faliyetleri-ilgili-genel-kurallar-ve-gu-.pdf>

**12. Take measures to clean the beach and empty appropriately located bins on a daily basis, and ensure sewage is not discharged into the sea;**

In Çalış A, bins are available along the promenade and small pots are placed by the sunbeds on the beach and emptied daily by the Municipality (Fig. 29b). In Çalış B, some bins are available at the back of the beach and along the roads. Several signs placed on trees state that littering is prohibited and that the area is being watched by cameras (Fig. 43), but some litter was seen on the nesting beaches (Fig. 13d).

In Yanıklar, all facilities provide bins and pots near sunbeds and pavilions (Fig. 21). Littering is still a problem in the area north of the TUI Resort which is a popular picnic area (Fig. 43). It is critical to keep the area clean, considering that nest predation is an issue (see Rec. Point 16).

In Akgöl, the municipality provided bins in and behind the new facility (Fig. 39).

Although no direct sewage discharge into the sea was observed, water quality of all these channels in terms of sewage and agricultural wastes should be assessed annually, particularly the highly polluted channel in the pristine area of Yanıklar (north of the beach used for picnics, also known as “Akmaz”) (Fig. 44). Locations of all drainage channels in the area are provided in Table 1. There is no information regarding the current situation and progress of the project entitled “Collection and Recycling of Agricultural Wastes” signed by the district governorship and Fethiye Municipality in June 2020.<sup>10</sup> According to the online “swimming water monitoring system” website provided by the Turkish Ministry of Health, the sea water quality as of July 14<sup>th</sup>, 2021 is “intermediate” in Çalış, and “good” in Yanıklar and Akgöl.<sup>11</sup>

**13. Set up adequate regulations and enforcement for the measures above, including regular day and night controls along the entire coast. Define and enforce fines for noncompliance with above regulations;**

Several regulations and circulars address the problems and measures mentioned above. However, as shown in the previous section, enforcement is severely lacking. There were no compliance personnel (SPA guards, police, coast guard, etc.) conducting controls during the time of the survey, which observed violations of existing regulations.

**14. Ensure that adequate financial and human resources are allocated to the control and management of the beaches;**

As stated above, there was no indication of adequate resources for control and management. Though the government funds the annual nest research and conservation programme, the nest monitoring team does not have the capacity or the authority to control and manage the beach, or to enforce regulations. Rangers or SPA personnel are needed to cooperate with enforcement authorities in order to ensure adequate implementation of measures and regulations.

**15. Improve information to local community and tourists about sea turtle nesting and sustainable use of the beach. This should include effective communication of regulations (incl. regulations implementing the Recommendation) by the authorities to stakeholders and businesses, signs at all major beach entry points, and awareness campaigns aimed to the guests of the big resorts, in collaboration with the owners and managers. Encourage beach hotels and businesses to support scientific teams and involve the local community in the protection and management of the protected area;**

Signage remains largely insufficient, in terms of numbers and content. No new signs were added in 2021. The existing signs were replaced to bear the new ministry logo (Fig. 11a, 45). In total across the 8 km coast there are 7 signs: 4 in Çalış A, 1 in Yanıklar, and 2 in Akgöl (see Table 1 for locations). The number of signs is insufficient and information on restrictions and guidelines on the signs in Çalış and Akgöl is very limited (“you are on a sea turtle nesting beach”; “no sunbathing in nesting zone” - though there is no zoning; “do not litter”; “no entry 8pm-8am”); the sign in Yanıklar includes the phrase “you can step on my nest” which is highly unrecommended. Other signs that are placed on the beaches instead

<sup>10</sup> [www.fethiye.gov.tr/tarimsal-atiklarin-toplanmasi-ve-geri-donusume-kazandirilmesi-projesi-icin-hazirlanan-protokol-imzalandi](http://www.fethiye.gov.tr/tarimsal-atiklarin-toplanmasi-ve-geri-donusume-kazandirilmesi-projesi-icin-hazirlanan-protokol-imzalandi)

<sup>11</sup> <https://yuzme.saglik.gov.tr/>

state the costs of sunbeds and parasols. There are no signs in Çalış B and in Yanıklar's sections with major human presence: Karataş, informal picnic section (north of TUI Resort) and "small beach". Additional signs are needed at every major entry point in these sections and Çalış A.

A small "*Caretta caretta* Observatory" shed was set up in Akgöl, next to the municipality's facility (Fig. 8), though its purpose or function is unclear (no leaflets, no personnel present).

The Information booth in Çalış A, that was operated by the nest monitoring team and existed for numerous years, was removed. Info points provide unique awareness raising opportunities and their continued operation is valuable.

DEKAMER published an informative video for tourists in early June<sup>12</sup>, and carried out presentation days later in July for the local community and tourists<sup>13</sup>, and visited a few schools<sup>14</sup>.

There is no information regarding the involvement or support of the local businesses.

***16. Continue to protect all nests with cages, until the different conditions obtained through the other measures above will allow again a more natural process;***

Nests in crowded areas were protected with prism cages, bearing small signs, with the exception of cubic cages with open tops used in front of the hotels in Karataş/Yanıklar (Fig. 10-11, 21). As per previous years, in the pristine section of Yanıklar (north of Karataş hotels) nests were not caged – instead they were simply marked with stones and driftwood sticks with a number and date (Fig. 36) – and predation was observed: half of the nests were marked as "completely predated" (Fig. 46). Though there are no facilities in this area, due to lack of control, vehicle access and human presence (especially for picnics) is a problem, hence nest protection is necessary.

Relatively few nests (in facility-free sections) were protected against predation with simple grills buried under the sand, though some grills were not buried properly (Fig. 46).

It has been repeatedly noted that prism cages are ineffective in preventing hatchlings from disorienting towards artificial lights, and the predation grills must be buried in the sand, down to the wet sand level, to dissuade predators.

As a result of the rapid decline in the numbers of jackals, one of the predators of sea turtle nests and eggs in Fethiye, hunting of this species was banned in Muğla<sup>15</sup>. The decision was taken in the final meeting of the Central Hunting Commission, operating under the Turkish Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks. The decision will go in effect after being published in the Official Gazette<sup>16</sup>.

***Observations on other activities and impacts:***

- Illegal fishing was observed in all sections, mostly from the shore, with hand-lines or rods, including during the prohibited no-access hours (Fig. 40, 41, 47-48).
- Horse riding was observed in Yanıklar (south of Hotel "Liberty Fabay") and manure was seen further north along the beach (near vehicle entry point in pristine section, see Table 1) (Fig. 49).
- "Calypso Beach" that is located just beyond the south edge of the nesting zone in Çalış A, has a water sports area that was surrounded by a net, as well as showers, directly on the beach). There are 3 additional jetties in this area..

<sup>12</sup> [www.facebook.com/watch/live/?v=538260724214240](https://www.facebook.com/watch/live/?v=538260724214240)

<sup>13</sup> [www.facebook.com/dekamerturkey/posts/3011869062381631](https://www.facebook.com/dekamerturkey/posts/3011869062381631)

<sup>14</sup> [www.facebook.com/dekamerturkey/posts/3015214032047134](https://www.facebook.com/dekamerturkey/posts/3015214032047134)

<sup>15</sup> <https://twitter.com/anatoliacaracal/status/1410274229438791687>

<sup>16</sup> [www.tarimorman.gov.tr/DKMP/Haber/185/2021-2022-Av-Donemi-Merkez-Av-Komisyonu-Toplandi](http://www.tarimorman.gov.tr/DKMP/Haber/185/2021-2022-Av-Donemi-Merkez-Av-Komisyonu-Toplandi)

**Table 1.** Locations of some points of interest in Fethiye SPA. Records taken by “GPS Coordinates, developed by Fundroid 3000”, with an accuracy of 8-14 m, with the exception of locations marked with (\*) that were sourced from Google Earth.

|  | <b>COORDINATES</b>                    | <b>DEFINITION</b>  |
|--|---------------------------------------|--|
| <b>Ç<br/>A<br/>L<br/>I<br/>Ş<br/>-<br/>A</b>       | * N 36°39'24.23" - E 29°06'37.87"     | South end of section and the promenade area                                |
|  | N 36°39'33.18228" - E 29°06'35.59716" | Sign at beach entrance (in front of “Makri Beach”)                         |
|  | N 36°39'37.55664" - E 29°06'33.25860" | Sign at beach entrance (in front of “Motto Bar”)                           |
|  | N 36°39'45.16272" - E 29°06'30.03840" | Sign at beach entrance (in front of “Çalış Taxi”)                          |
|  | N 36°39'57.07188" - E 29°06'22.82364" | Sign at beach entrance (in front of “Uras Beach”)                          |
|  | N 36°40'04.77156" - E 29°06'18.30204" | North end of section and the promenade area                                |
| <b>Ç<br/>A<br/>L<br/>I<br/>Ş<br/>-<br/>B</b>       | N 36°40'22.20492" - E 29°06'02.44872" | “Jiva Beach” (former A/B border)   |
|  | * N 36°40'29" - E 29°05'53"           | Jetty near “Surf Cafe”   |
|  | N 36°40'43.98708" - E 29°05'32.24940" | Abandoned concrete platform  |
|  | N 36°40'43.40532" - E 29°05'33.50256" | North end of the northernmost facility (“Mavi Beach”)                      |
|  | N 36°40'44.51988" - E 29°05'31.21836" | Large drainage channel and stone set at its mouth                          |
|  | * N 36°40'46.73" - E 29°05'23.95"     | Caravan area used by “Zirkon Beach”  |
| <b>Y<br/>A<br/>N<br/>I<br/>K<br/>L<br/>A<br/>R</b> | N 36°40'40.72728" - E 29°04'58.82592" | South end of “Deniz İncisi”  |
|  | N 36°40'43.77612" - E 29°04'52.48776" | North end of “Deniz İncisi”  |
|  | N 36°40'48.12816" - E 29°04'44.15988" | Start of beach usage of new Hotel “Liberty Fabay”                          |
|  | N 36°40'48.52020" - E 29°04'42.65040" | Water sports ramp of Hotel “Liberty Fabay”                                 |
|  | N 36°40'52.18824" - E 29°04'31.70712" | Jetty in front of “TUI Sensatori Resort”                                   |
|  | N 36°40'55.51212" - E 29°04'21.84060" | North end of sunbed area at “TUI Sensatori Resort”                         |
|  | N 36°40'50.24172" - E 29°04'04.62216" | Polluted drainage – north end of pristine area also known as “Akmaz Beach” |
|  | * N 36°40'48.47" - E 29°03'59.17"     | Drainage channel   |
|  | N 36°40'56.57844" - E 29°03'17.05176" | Vehicle access point - Uncontrolled  |
|  | N 36°41'07.73160" - E 29°02'58.06068" | Northernmost facility in Yanıklar Beach                                    |
|  | N 36°41'09.86532" - E 29°02'55.39704" | Jetty and information sign at “Lykia Botanika” hotel                       |
|  | N 36°41'12.83244" - E 29°02'51.20412" | Drainage channel   |
|  | N 36°41'16.64196" - E 29°02'46.63284" | Drainage channel   |
|  | N 36°41'20.14584" - E 29°02'41.52624" | Jetty and water sports equipment (“Club Tuana” hotel)                      |
| <b>A<br/>K<br/>G<br/>Ö<br/>L</b>                   | N 36°41'20.14584" - E 29°02'41.52624" | Kargı Stream, bridge, and concrete wall (Yanıklar-Akgöl border)            |
|  | N 36°41'38.91516" - E 29°02'21.84864" | Information sign in front of “Karaot Buffet” abandoned facilities          |
|  | N 36°41'49.03548" - E 29°02'08.39040" | Information sign, near parking spot  |
|  | * N 36°41'48" - E 29°02'07"E *        | Wooden pavilions, section’s north end                                      |



## **BACKGROUND**

The loggerhead sea turtle (*Caretta caretta*) nesting beaches in Fethiye (Mugla Province, Turkey) are among the 12 most important nesting beaches in Turkey.<sup>17</sup> Recently, the northernmost green turtle nest was also recorded here (Patara previously held this record).<sup>18</sup> Protection is not only significant in terms of nesting numbers but also to ensure the genetic diversity of the loggerhead population in the Mediterranean.<sup>19</sup> Fethiye's importance increases because of the relatively higher proportion of male-producing nests.<sup>20</sup> The nesting beaches belong to the Fethiye-Göcek Special Environmental Protection Area (SPA) established in 1988.

Scientific studies have shown that nest numbers in Fethiye are severely declining.<sup>21</sup> Threats to the nesting population have constantly been increasing since 1993-4.<sup>22</sup> Real estate and tourism development is progressing with no regard for the sea turtle nesting population and the protected coastal ecosystems. Scientists have suggested conservation measures but these have not been applied.<sup>23</sup> A recent economic analysis of the SPA identified intensive use of beaches, excessive and uncontrolled housing and tourism developments among the many threats to the SPA and recommends enforcement of use and conservation principles, improved management and sustainable tourism development.<sup>24</sup>

There are at least four Bern Convention Recommendations that apply to Fethiye: Recommendation No 8 (1987), No 12 (1988), No 24 (1991) and No 66 (1998), the latter requesting that Turkish authorities “*secure the remaining unbuilt beach plots against development*”, “*improve control of the effects on the beaches of local tourism, secondary summer homes, caravans, camping and other activities [...]; remove present adverse effects of these activities on nesting beaches; take urgent necessary measures to fully implement the protection status of SPAs; to enforce legislation against illegal sand extraction and assure that penalties are dissuasive; regulate and, where necessary, prohibit speed boats, jet skis and paragliding during the nesting season; ensure respect of low speed limits set and reinforce controls*”.

Since 2008, MEDASSET has been monitoring and reporting on the lack of management, poor spatial planning and build-up in Fethiye's coastal zone. In August 2009 MEDASSET submitted a complaint to the Bern Convention about the severe degradation of the protected sea turtle nesting beaches in Fethiye due to poor management, lack of spatial planning and uncontrolled build-up of the coastal zone due to tourism development. The complaint was discussed at the 30<sup>th</sup> Standing Committee Meeting in 2010, in relation to Recommendation No. 66/1998. Commitments for improved protection were made by the Turkish authorities,<sup>25</sup> and in 2011 some steps were taken to mitigate some of the tourism-related impacts during the nesting season. In 2012, these management measures were not sustained and further coastal build-up was recorded. At the 32<sup>nd</sup> Standing Committee Meeting in 2012, Recommendation No. 66/1998 was discussed and the Delegate of Turkey stated that authorities would monitor the situation more closely in 2013 and that matters were expected to improve. In 2013, there was no improvement of the protection and management of the nesting beaches, with the exception of beach furniture management in approx. 1.5 of 8 km of the nesting beaches and some new signage which, however, remained insufficient. Habitat destruction and coastal build-up continued. At the 33<sup>rd</sup> Standing Committee Meeting in 2013, the delegate of Turkey accepted that “the images [presented] are disturbing”, regretted that due to Ministry restructuring a response was not available. MEDASSET's call for a Case File to be opened was supported by the delegate of Norway who also proposed that the Committee commissions an on-the-spot assessment. A Case File was opened to address the issue together with the complaint regarding Patara SPA (2012/9), to encourage Turkish authorities “to work towards greater accountability, cooperation and responsibility”.

<sup>17</sup> Türkozan 2000; Margaritoulis *et al.* 2003; Canbolat 2004

<sup>18</sup> Fellhofer-Mihcioglu *et al.* 2015

<sup>19</sup> Yilmaz *et al.* 2008

<sup>20</sup> Kaska *et al.* 2006

<sup>21</sup> Ilgaz *et al.* 2007; Katilmis *et al.* 2013; Başkale *et al.* 2016

<sup>22</sup> Oruc *et al.* 2003

<sup>23</sup> See references.

<sup>24</sup> Bann C. & E. Başak. 2013. Note: although the project dealt with anthropogenic impacts in some of Fethiye SPA's marine areas, it did not include implementation of conservation measures or the creation of a business plan or management plan for the land area of the SPA.

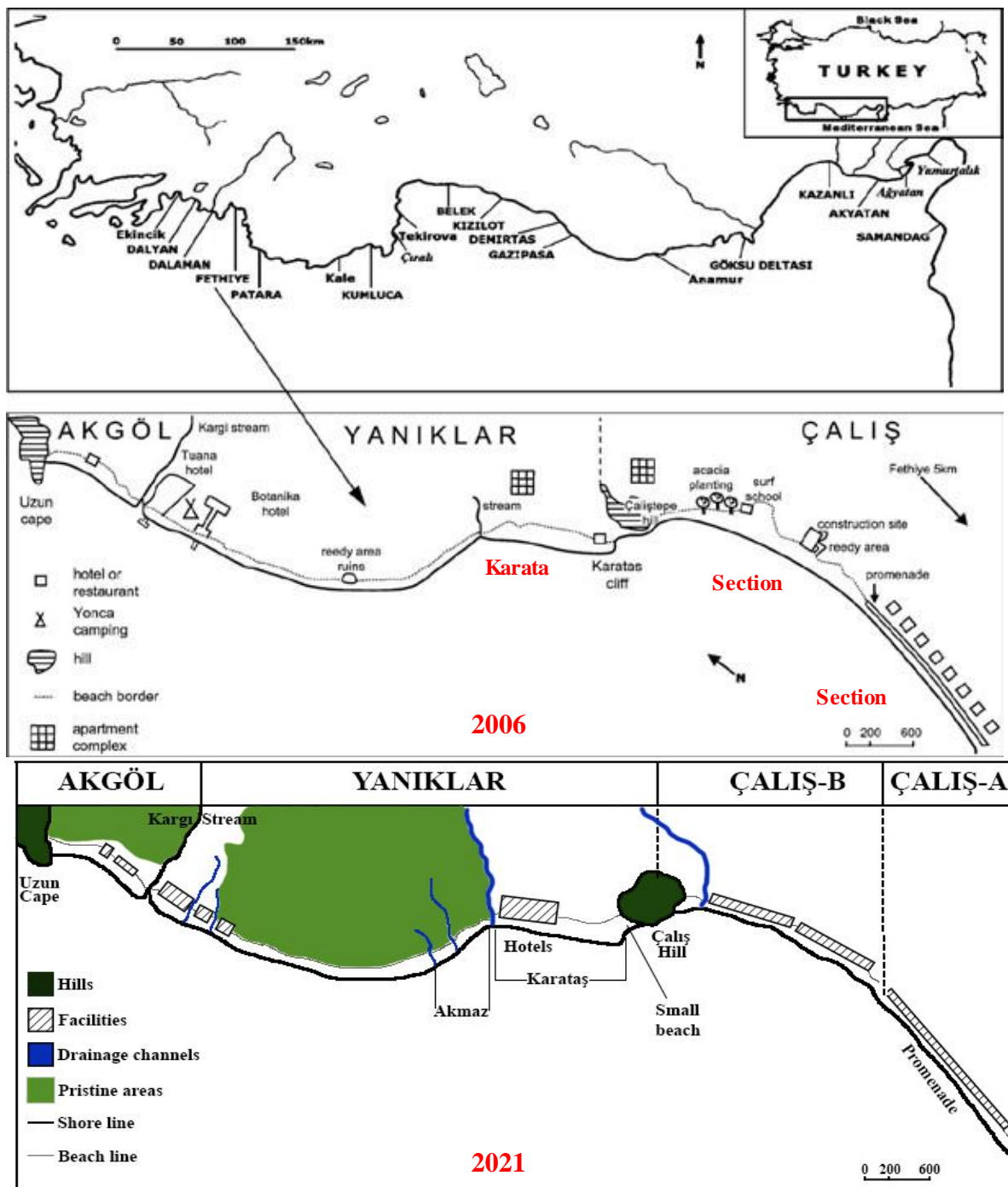
<sup>25</sup> T-PVS/Files 2010 23 (Government report); Authority's letter in Annex 1 of MEDASSET, December 2011

In 2014, yet another sea turtle nesting season passed with no improvement in the protection and management of the sea turtle nesting beaches in Fethiye SPA, and habitat destruction and coastal build-up continued. The 34<sup>th</sup> Standing Committee Meeting decided to conduct an on-the-spot appraisal in view of identifying a set of recommended actions.

In 2015, there was no progress in the protection and management of the site. The few measures, taken a few days before the Bern Convention's on-the-spot appraisal in July 2015, were reversed shortly after. Once again, there were unregulated beach furniture and fixed structures inside the nesting zone, littering, light pollution, uncontrolled visitor and vehicle access, and several other threats to sea turtles, hatchlings and nests. Businesses expanded on the sandy sections of the nesting beaches, further reducing the available habitat and increasing disturbances. A huge new resort opened on one of the last remaining pristine beach sections. The threats identified led to the destruction of nests, unsuccessful nesting attempts, mortality of hatchlings and adult turtles. In December 2015, the Standing Committee, alarmed by the findings of the on-the-spot assessment which confirmed MEDASSET's reports, adopted Recommendation No. 183 (2015), asking Turkey to take urgent actions to improve management and conservation of Fethiye.

During 2016-2020, there was no significant improvement of the conservation status of the nesting beaches. Recommendation No. 183 (2015) was not implemented and conservation problems remained: lack of effective management, no beach furniture management on 6.5 of 8 km of the nesting beaches, lack of zoning and information, nearshore fishing, no vehicle access control, more fixed structures and development on sandy sections of nesting beaches, two new jetties, severe light pollution, camping and human presence on the nesting beaches at night, sand extraction, planting of trees and bushes on the sand.

## MAPS &amp; PHOTOGRAPHS



**Fig. 1.** TOP: Fethiye among important nesting beaches. MIDDLE: Fethiye nesting beach sub-subsections and development till 2006. Source: Ilgaz et al., 2007. BOTTOM: Fethiye nesting beaches sub-subsections and development to date.

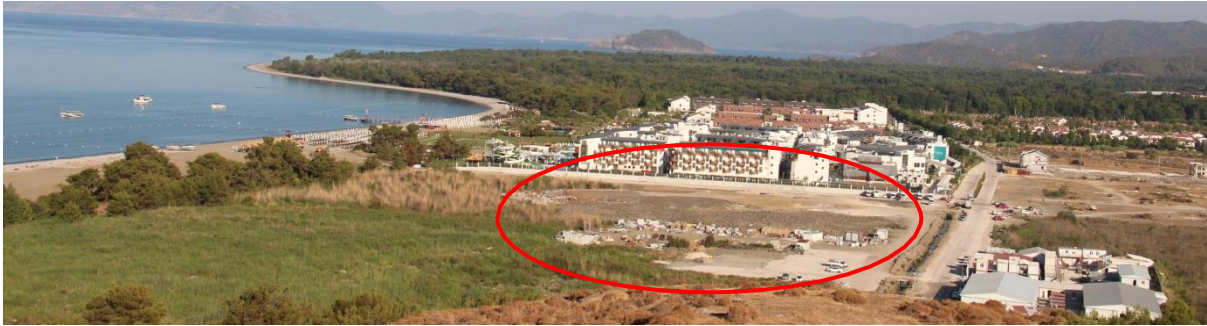


**Fig. 2. Fethiye SPA, Yanıklar - Karataş.** Google Earth images from 2003 (top) and 2021 (bottom). From left to right: 1) Günlük Kent Park, 2) TUI Sensatori Resort Barut and its residence section, 3) Fabay Koymat Hotel 4) the project sites for new hotels. The nesting beach was pristine and building free until 2015. Note that 2021 imagery is dated February 2<sup>nd</sup> and does not reflect summer beach use. Note however the sandy area now covered with lawn that presently extends in front also of No.3 hotel.



**Fig. 3. Fethiye SPA, Yanıklar - Karataş. July 2021.** TUI Sensatori Resort (est. 2015 and extended in 2020) and Hotel Liberty Fabay (est. in 2021). Note the introduced lawn, the complete occupation of the nesting beach, the jetty and roped swimming areas in front of both hotels.





**Fig. 4. Fethiye SPA, Yanıklar. July 2021.** Fabay Kızıllada Apart Houses, being constructed behind Hotel Liberty Fabay. Note the drained, bare plot and the construction materials piled next to the new hotel, likely for construction of additional beachside hotels.



**Fig. 5. Fethiye SPA, Yanıklar. July 2021.** New water sports boat ramp of new Hotel “Liberty Fabay” on nesting beach. Note prism cage on nest next to the ramp.



2020



2021

**Fig. 6. Fethiye SPA, Yanıklar - Karataş. Top: July 2020. Bottom: July 2021.** The “Small beach” (north of Çalış Hill) is completely occupied by the Municipality’s new “Karataş Beach and Café”. Permanent structures, lawn and extensive beach furniture cover the nesting beach. Note roped swimming area and raft in the sea. A wooden fence was installed for vehicle access control.



**Fig. 7. Fethiye SPA, Akgöl. July 2021.** “Karaot Halk Plajı” constructed directly on the beach in 2020 by the Municipality, including a cafeteria, toilets and showers, lifeguard tower and walkway. Showers drain directly onto the nesting beach (red circle). The beach sign includes no information about sea turtle nesting. Note the extensive use of furniture that remains on the nesting beach at night. This area was facility-free prior to 2020.



**Fig. 8. Fethiye SPA, Akgöl. July 2021.** “*Caretta caretta* Observatory” shed was added to the Municipality's new beach cafeteria facilities. Note the orange street lamp behind it, and no permanent barriers to prevent vehicle access to the beach.





**Fig. 9. Fethiye SPA, Çalış - Section B.** Google Earth images from 2003, 2019, and 2021. Satellite imagery comparison shows the continual coastal build-up, planting of sandy area and occupation of the nesting beach, in conflict with Recommendations. Note that the sandy area (nesting zone) has been occupied and, in most parts, only the pebbly zone near the waterline is development-free





**Fig. 10. Fethiye SPA, Çalıř A. July 2021.** Beach management efforts were only observed in this section: single row of sunbeds placed close to the shore line, with fixed parasols between them. They were collected and stacked only in this area.



**Fig. 11. Fethiye SPA, Çalıř A. July 2021.** a) Two rows of sunbeds in front of an information sign, b) Stray dogs between three rows of sunbeds; note nest cage in red circle, c) a nest (red circle ) among new canopies, sunbeds and walkways d) Three rows of sunbeds with pots serving as bins by their sides. All sunbeds remain on the beach at night.



**Fig. 12. Fethiye SPA, Çalıř A.** Sunbeds, horizontal and vertical walkways on the nesting zone, that remain on the beach at night. Note the banana trees planted on the beach (b).





**Fig. 13. Fethiye SPA, Çalış B. July 2021.** (a-c) Beach furniture, AstroTurf, cushions, water sports equipment and boats on the nesting zone, that are not removed at night. (d) Showers directly drain on the beach; note litter left under both umbrellas .



**Fig. 14. Fethiye SPA, Çalış B. July 2021.** The abandoned concrete platform remains, with signs of sand movement around it.



**Fig. 15. Fethiye SPA, Çalış B. July 2021.** Pavilions on the nesting beach. Notice the altered beach profile that becomes unnaturally steep at behind them.





**Fig. 16. Fethiye SPA, Çalış B. July 2021.** Platform used as a wedding altar at nights, placed on artificially heightened sand. Note light bulbs to light the altar.



**Fig. 17. Fethiye SPA, Çalış B. July 2021.** Beach rented to “Zirkon Beach” by the Municipality, for use as a caravan area. Note tents and vehicles on beach. Bonfires remains were recorded in this area.



**Fig. 18. Fethiye SPA, Çalış B. July 2021.** Beach profile further altered by (a) artificially created slopes and (b) inserting rows of boulders in some locations.





**Fig. 19. Fethiye SPA, Yanıklar - Karataş. July 2021.** Several rows of sunbeds, walkways, completely occupy the nesting beach in front of new hotel “Liberty Fabay”.



**Fig. 20. Fethiye SPA, Yanıklar - Karataş. July 2021.** Water sports area of TUI Sensatori Resort in nesting zone.



**Fig. 21. Fethiye SPA, Yanıklar - Karataş. July 2021.** Pavilions, artificial lawn bordered by horizontal walkways in nesting zone at TUI Sensatori. Note nest protected by prism and cubic cages (red circle)



**Fig. 22. Fethiye SPA, Yanıklar - Karataş. July 2021.** Materials likely to be used in building new pavilions were stacked on the nesting beach, to the south of new hotel “Liberty Fabay”.



**Fig. 23. Fethiye SPA, Yanıklar - Karataş. July 2021.** The cafeteria “Deniz İncisi” has placed a vertical walkway extending midway into the nesting zone (top) and single row of 25-30 sunbeds (bottom) (signs are about sunbed prices).



**Fig. 24. Fethiye SPA, Yanıklar. July 2021.** Showers on the beach directly draining into the sand (Doğa Camping, Onur Camping).



**Fig. 25. Fethiye SPA, Yanıklar. July 2021.** Several boats and water sports equipment remain on the beach (Lykia Botanika, Club Tuana)





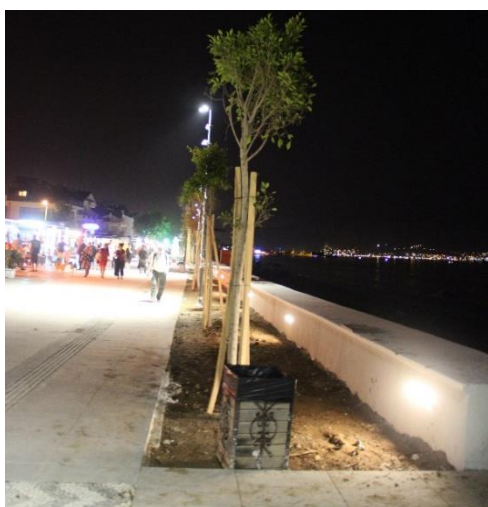
**Fig. 26. Fethiye SPA, Akgöl.** Nine pavilions lining the nesting hotspot.



**Fig. 27. Fethiye SPA, Akgöl. July 2021.** Abandoned pavilions and building of Karaot Buffet.



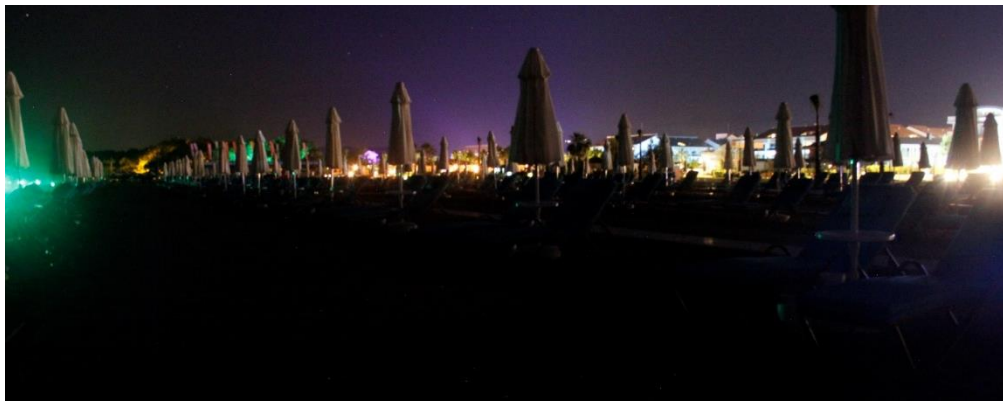
**Fig. 28. Fethiye SPA, Akgöl. July 2021.** Sunbeds, parasols, walkway and lifeguard tower cover the entire nesting zone which was previously development-free (Karaot Halk Plajı - Municipality's facility). The sign has no information on sea turtles.



**Fig. 29. Fethiye SPA, Çalış A. July 2021.** On the promenade area, new orange-pink lights embedded in the wall; new street lamps facing away from the sea but bright white. Note bins at entrance point.



**Fig. 30. Fethiye SPA, Çalış B. July 2021.** Light pollution at night. Note people and unstacked beach furniture on the beach (red circles)



**Fig. 31. Fethiye SPA, Yanıklar - Karataş. July 2021.** Hotel lights in the rear and green jetty lights on the left. Sunbeds remain on the beach at night



**Fig. 32. Fethiye SPA, Yanıklar. July 2021.** Facilities using lights.





**Fig. 33. Fethiye SPA, Yanıklar - Karataş. July 2021.** Lights at the Municipality's new "Karataş Beach and Café" on the so-called "Small beach".



**Fig. 34. Fethiye SPA, Akgöl. July 2021.** Lights from the Municipality's "Kızılot Halk Plajı". Note the jetty lights from Club Tuana on the right.



**Fig. 35. Fethiye SPA, Çalış B. July 2021.** Light pollution and vehicle on the nesting beach at night.



**Fig. 36. Fethiye SPA, Yanıklar.** Vehicle tracks over sea turtle track and nest marked with sticks (red circle).





**Fig. 37. Fethiye SPA, Yanıklar.** Top: Vehicle access point and tracks in pristine area. Bottom: Vehicle access point and tracks south of Hotel Liberty Fabay .



**Fig. 38. Fethiye SPA, Akgöl. July 2021.** Van on the beach. Light pollution from “Karaot Halk Plajı”, street lamps and “Tuana Beach” jetty in the background.



**Fig. 39. Fethiye SPA, Akgöl. July 2021.** Permanent barriers and bins; note trees have been planted on the beach around the new facility (red circles).





Fig. 40. Fethiye SPA, Çalış A. July 2021. Sleeping on the beach and rod-fishing; note roped-off sea zone



Fig. 41. Fethiye SPA, Yanıklar. July 2021. Bonfire remains on the beach.

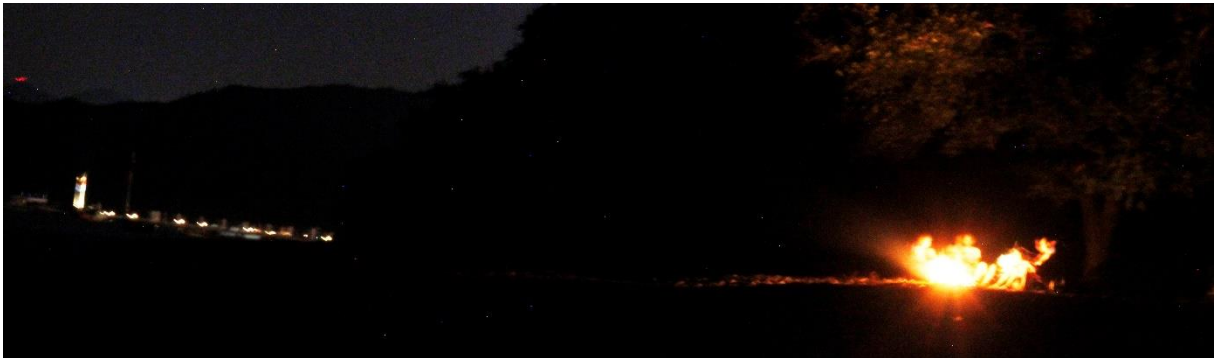


Fig. 42. Fethiye SPA, Akgöl. July 2021. Bonfire by campers with a tent set up on nesting beach.



Fig. 43. Fethiye SPA. July 2021. Left: Sign on a tree in Çalış B stating there is video surveillance and littering is prohibited. Right: Example of litter on the beach in area used for picnics ("Akmaz").





**Fig. 44. Fethiye SPA. Drainage channels. July 2021.** Clockwise: Yanıklar (near Lykia Botanika); Yanıklar (very polluted); Yanıklar; Çalış B (near Çalış Hill).



**Fig. 45. Fethiye SPA. July 2021.** Left: Example of sea turtle information signs that are present in Çalış A (4) and in Akgöl (2); Right: sign in Yanıklar (Lykia Botanika Hotel).





**Fig. 46. Fethiye SPA. July 2021.** Left: Nests marked with sticks, as “completely predated”. Right: Protective grill not buried properly.



**Fig. 47. Fethiye SPA, Çalış B. July 2021.** Fishing in early morning.



**Fig. 48. Fethiye SPA, Çalış A. July 2021.** Several fishing boats in the sea, far right actively fishing.



**Fig. 49. Fethiye SPA, Yanıklar. July 2021.** Horse riding in Karatas and manure in pristine section further north.

## ANNEX 2

### LOGGERHEAD SEA TURTLE (*CARETTA CARETTA*) CONSERVATION MONITORING IN PATARA SPA, TURKEY

#### DETAILED UPDATE

*Patara nesting beach description (Fig.1-2): The 12 km beach is split in a north and south section by Eşen River that meets the sea in the middle of the SPA. At its northern end, the beach is bordered by Özden River. There are 5 access points. The North beach has an entry point at the Özden River outlet (Özden Beach) and another entry point nearby Eşen River (Lagoon Beach). The South beach has three entry points: one at the Eşen River mouth (Çayağzı Beach), one at the middle of the beach through the top of the dunes, and one at the south end of the beach (Patara main beach).*

MEDASSET visited Patara SPA in July 2021 to assess and document the management and conservation status of the nesting beaches. The following presents the survey findings in relation to each of the measures under Recommendation No. 182 (2015).

***1. Urgently ensure that Patara nesting beach receives appropriate legal protection and management, in line with its exceptional, natural and ecological value;***

Patara was declared a SPA in 1990, including 5 districts and 4 villages within the borders of Muğla - Fethiye and Antalya-Kaş (Fig.1-2).<sup>26</sup> The entire sea turtle nesting beach (12km) is within the SPA borders.<sup>27</sup> In February 2018, the coastal part of the SPA belonging to the Antalya region was designated as a “Vulnerable Area Subjected to Absolute Protection”.<sup>28,29</sup> In September 2020, after the declaration of 2020 as “Patara Year”, the SPA's borders were changed as per the Environmental Law No. 2827 - Article 9, and 166.9 square kilometres were added to the Archaeological site (though it is unclear if the added area was already within the SPA, and if it was added to the 1<sup>st</sup> Degree archaeological zone).<sup>30</sup> However, none of the relevant official websites have been updated, hence, the current SPA borders and zoning require clarification by the authorities via maps (images and online interactive maps) in line with the GPS coordinates provided in the Presidential Decision No: 3018 on the matter.<sup>31</sup> It is unclear if the entire nesting beach (north and south section), the nearshore marine areas and the entire sand dune areas are appropriately zoned and protected against any further development.

No local SPA management unit, such as rangers, were present to enforce regulations and fines in the protected area. The guard post at the archaeological site entrance and the gendarmerie post next to the archaeological “Welcome Centre” were both unmanned at 06:00 AM, 10:00 PM, and 12:00 PM during the time of the survey. Gendarmerie vehicles were seen at least four times at different points and hours; nonetheless, noncompliance to regulations were observed (see next points), although the beaches were almost completely empty at night and early in the morning,

***2. Urgently set up, enforce and monitor the implementation of strict regulations which:  
(i) prohibit further development on the beach (including buildings, structures, roads) and enable the removal of abandoned illegal facilities and restoration of the dunes; during the nesting/hatching season;***

The beach bar on the southern end of Patara Main Beach and Patara Green Park directly behind the northern end of Özden Beach are the only other main permanent structures. There are no remains of the illegal beach bar in Çayağzı beach.

<sup>26</sup> <https://ockb.csb.gov.tr/patara-ozel-cevre-koruma-bolgesi-i-2755>

<sup>27</sup> <https://webdosya.csb.gov.tr/db/tabiat/editordosya/patara.pdf>

<sup>28</sup> <https://tvk.csb.gov.tr/antalya-kas-ilcesi-gelemis-mahallesi-patara-ve-yesilkoy-firnaz-koyu-ve-cevresi-dogal-sit-alani-icerisinde-bulunan-kesin-korunacak-hassas-alana-ait-tescil-islemi-duyuru-348125>

<sup>29</sup> <https://says.csb.gov.tr/citizen> (entry via username/password only) SIT Management system, coordinates for all SPAs, by the General Directorate for Protection of Natural Asset

<sup>30</sup> [www.tokihaber.com.tr/haberler/pataranin-sinirlari-genisletildi](http://www.tokihaber.com.tr/haberler/pataranin-sinirlari-genisletildi)

<sup>31</sup> [www.resmigazete.gov.tr/eskiler/2020/09/20200926-2.pdf](http://www.resmigazete.gov.tr/eskiler/2020/09/20200926-2.pdf)

At Çayağzı beach, one small prefabricated shed was seen among the vegetation lining near Eşen River (Fig. 3). About 50 meters upstream, next to the end of the road leading to the beach, and along the sandy riverbanks in close proximity to the start of the nesting beach, several structures have been installed since approx. 2011 by locals, and have since expanded, that are used as summer houses for the entire season, day and night (Fig. 4). These temporary structures require attention by authorities in order to prevent them from expanding into permanent structures or creating land claims. Though not directly installed on the nesting beach, due to their proximity, these temporary settlements increase litter and fishing activity, and possibly contribute to human presence and vehicle traffic on the beach. They are located next to the area that an illegal beach bar was installed in 2014 and has been removed.

The abandoned wooden structures belonging to the former SPA facility remain on Letoon Beach, adjacent to the road passing behind the sand dunes (Fig.5-6).

Restoration works continue in the archaeological site,<sup>32</sup> though well behind the beach and with limited use of lights at night (Fig.19).

There are ongoing negotiations for building a “Patara Bridge” on Eşen River<sup>33</sup>, although no information is available regarding the final decision or the exact planned location for the bridge.

There were no efforts regarding the restoration of sand dunes, but at least, the overall dune structure was similar to that in 2020.

**(ii) regulate the extent and use of furniture on the beach and ensure furniture is removed from the nesting zone at night;**

As of July 2021, no zoning effort was observed in any sections of the SPA, hence visitors and the main beach business can place sunbeds and umbrellas where they wish with no regard to sea turtle nesting. The three old wooden yellow posts near the sunbed area in Patara main beach remain unchanged and inaccurately placed.

At Letoon Beach, old and worn out wooden posts lining the dunes remain,<sup>34</sup> though their purpose is unclear (Fig.7).

At Çayağzı Beach, towards the river mouth, short wooden posts in front of signs (see section 9) seem renewed, but they do not extend to cover the entire perimeter and certainly do not prevent vehicle access (Fig. 8).

Beaches in Çayağzı, Letoon and Özden were completely free of beach furniture and sports facilities; though it should be noted that the facility (Green Park) at the northern end of Özden Beach was not in operation at the time of the survey. Nonetheless Özden beach was crowded during the day, though no parasols were observed, likely due to weather conditions (Fig.9).

On Patara main beach, there were 400-450 sunbeds and approx. 100 parasols in front of the cafe/restaurant facility. Sunbeds were not removed at night, but stacked on the nesting zone, on top of each other in groups of 4-5, in approximately 80 stacks, obstructing the nesting zone at night (Fig.10, 11). The parasols were not fixed, but folded and placed on a wooden platform behind the beach (Fig.11c): offering unfixed parasols is not recommended as visitors shall insert them as they wish, thus posing a risk of damaging nests, given the complete lack of zoning. A lifeguard tower and boats were also within the nesting zone, very close to the shoreline (Fig. 12a,b). One vertical wooden walkway stretched only until the small buffet behind the sunbed area (Fig.11c), and there were no other vertical walkways on the beach. A volleyball court was set up on the nesting beach, next to the cafeteria (Fig. 11d). A septic tank was indeed observed next to the showers and toilets at the rear part of the facility, possibly serving as a flow tank for wastewater from the toilets, but some water from the showers still drains directly onto the sand.

**(iii) prohibit access of vehicles by placing barriers at the beach entrances;**

Vehicle access is not restricted in most sections and vehicle tracks were observed on the nesting beaches (Fig.12).

In Patara main beach, the main vehicle entrance point is via the road connecting the summer house village with the top of the sand dunes, as there are no barriers and 4x4 vehicles can easily make their way down to the beach. As there is little control for pedestrian access, people can walk down the dunes

<sup>32</sup> [www.hurriyet.com.tr/gundem/dunya-ada-bir-ilk-2-bin-yillik-patara-deniz-feneri-ayaga-kalkiyor-41770818](http://www.hurriyet.com.tr/gundem/dunya-ada-bir-ilk-2-bin-yillik-patara-deniz-feneri-ayaga-kalkiyor-41770818)

[www.cnnturk.com/video/turkiye/pataradaki-neron-deniz-feneri-1968-yil-sonra-isik-verecek](http://www.cnnturk.com/video/turkiye/pataradaki-neron-deniz-feneri-1968-yil-sonra-isik-verecek)

<sup>33</sup> [www.muglapostasi.com.tr/patara-koprusu-yapimi-projesi-gorusuldu](http://www.muglapostasi.com.tr/patara-koprusu-yapimi-projesi-gorusuldu)

<sup>34</sup> Between approx. 36°16'58.21"N, 29°16'30.61"E and 36°17'16.52"N, 29°16'6.31"E

and enter the nesting beach during prohibited hours (Fig.13). However, a gendarmerie vehicle was seen to check the area around 20:15, possibly for evacuation purposes (Fig. 14). Pedestrian access at night is however possible via the main beach entrance, as the checkpoint on the road leading to the main beach parking space (which forms a vehicle barrier) is unguarded at night.

Çayağzı Beach lacks barriers or a control point, hence vehicles enter the beach (Fig.3, 15).

In Letoon Beach, multiple entrance points are present along the stabilized road passing behind the sand dunes, without any control or barriers. At the end of the road, camping occurs right by the river and in view of the beach, and camper vehicles access the nesting beach (Fig.16, 20).

In Özden Beach, there is a small iron barrier for vehicles at the beach entrance near Green Park, although it is not enough to restrict motorcycles.

**(iv) prohibit illumination of the beach;**

At Patara main beach, lights from the facility were dimmed further but still visible as they are blue-white (Fig.17). Two orange street lamps are still visible from top of the nesting beach (Fig. 18). No other considerable light sources were observed on the nesting beach. Lights from the village and summer houses area are dim, though skyglow impacts should be monitored and measured (Fig. 19).

The area used for camping on Letoon Beach is the only light source around Eşen River, reflecting on both Çayağzı and Letoon beaches (Fig.16b, 20). There is no other illumination along the northern beach, though the landscaping lights of “Green Park” at the end of Ozden Beach may cause disorientation when the facility is open (Fig. 21). Streetlights near the facility were not on at the time of our survey, but some light sources further back could be seen from the nesting beach (Fig. 22). A bonfire was lit on the small beach at the northern side of Özden River right after sunset (Fig. 23), and gendarmeries were seen driving in this direction, assumingly to take enforcement action.

No hatchling tracks were observed during the survey, and therefore, it is unclear to what extent the above-mentioned light sources cause hatchling disorientation (as observed in 2018).

**(v) prohibit fishing with nets in front of the beach;**

Fishing activities and fishing boats were observed around Eşen River (Fig. 4, 20). Fishing nets and lines were observed among litter in many sections (Fig. 24), and a shaded area made out of dried tree branches on Patara main beach to the north of sand dunes seemed to be used for storing fishing nets and equipment (Fig. 25).

**(vi) prohibit camping on the beach and on riversides in view of the beach;**

Campers and tents were only observed on Letoon Beach, on the banks of Eşen River and in view of the beach (Fig.16, 20).

**(vii) prohibit horse riding and 4x4 or quad safaris on the nesting beach;**

Horses for rent were kept at the entry point at the top of the sand dunes and manure was observed further down the dunes (Fig.26). No 4x4 or quad safaris were observed, though vehicle tracks were seen (see point iii)

**(viii) define fines for non-compliance with above regulations**

Fines for non-compliance for the above measures are in effect and are defined in the Circular concerning administrative fines as per Environmental Law No.2872<sup>35</sup> and the Circular on the Protection of Sea Turtles 2009/10.<sup>36</sup>

**3. Ensure that adequate financial and human resources are allocated for the control, management and enforcement of regulations;**

The information presented in the present report indicates ineffective control and enforcement. Although gendarmeries (police) were seen in the SPA, more effort is needed to enforce regulations and fines. Nest monitoring teams do not have the authority to enforce measures or charge fines, and seem unlikely to have the capacity to assist in this field (see point 8).

Given the major development and increase of population taking place in the area in proximity to the nesting beaches (see point 4), considering the fact that the popularity and cultural use of the archaeological site that lies behind the nesting beach is increasing (construction of a welcome centre, concerts and event taking place e.g. see 2020 report), and in view of the extremely concerning illegal

<sup>35</sup> <https://www.resmigazete.gov.tr/eskiler/2006/06/20060607-13.htm>

<sup>36</sup> <https://www.lexpera.com.tr/mevzuat/genelgeler/deniz-kaplumbagalarinin-korunmasi-genelgesi-2009-10>

sand extraction taking place in the area (see final section “other observations”), it is imperative that Patara SPA is afforded with the necessary increased management and enforcement personnel, especially during the sea turtle nesting season

***4. Continue to prevent uncontrolled human settlement behind the beach, particularly where these may result in making the beaches unsuitable for turtle nesting;***

For structures on the nesting beach, see point 2i.

Human settlement is concentrated in Gelemis village. However, human settlement has greatly expanded in the area owned by construction cooperatives, adjacent to the village and inside the 3<sup>rd</sup> Degree Archaeological area. Construction of cooperatives’ summer house village continues, since 2016. In addition to the 27 houses inhabited in 2015, and the 28 pre-existing houses (prior to the complaint and since at least 2003), a total of 310 buildings are in different stages of construction by building cooperatives. Besides the cooperative summer house village, a considerably large building with water slides is being constructed within the same borders (Fig.27). The road from the summer house village leading to the Patara beach entry point via the dunes is used frequently. Once completed the summer population will increase by at least 120% (current population during the summer being ca. 1000). It is evident that the pressures and disturbances presently occurring will increase likewise.

***5. Ensure that litter is periodically removed from the beach and dunes;***

The entire SPA was considerably more littered this year in comparison to 2020: plastic and glass bottles, crates, slippers, diapers, lids, lighters, cans, Styrofoam packaging bits, and even a bullet case (Fig 28). Litter seemed to be left by users in some areas (Patara main beach and sand dunes entry point area, Letoon south end, Özden Beach near Green Park) and seemed to be washed ashore in the rest of the sections.

At Patara main beach there are sufficient bins in and around the main facility, but none on the beach, and a small amount of litter was recorded in a few locations (Fig. 11a, 28). Some litter was observed at the entry point at the top of the dunes; the one large bin was clearly not enough for the number of visitors during sunset. Three middle-sized bins were placed at Çayağzı Beach, near the river, as opposed to the large ones seen in 2020 (Fig. 3). There were several bins in the area used for camping on Letoon Beach (on the banks of Eşen River). Although five large bins were placed along Özden beach by the Municipality, the area was littered (Fig. 9).

***6. Address the problem of predation, including through population control’s programmes;***

In Patara main beach, protective grills buried under the sand were only used in the area between the facility and the dune entry point towards the middle of the beach, and not in a systematic fashion; protective grills buried on top of some nests were displaced (Fig.12a, 29). A number of unattended predated nests were seen between the sand dunes and Eşen River (Fig. 30-31).

No nests were marked or caged on Letoon or Özden beaches, and predation rate was high on both sections. In Letoon, 16 predated nests were counted in the first 1 km from the river towards north (Fig.7, 24b, 32) and predated eggshells were spread all around the beach; while in Özden, 2 predated nests were seen in the 1st km from the facility towards south (Fig.33).

Crab population seemed to be less than 2020; stray dogs were not seen though there were paw marks on the beach (Fig.34).

Although the system to deal with predated nests may vary, the usual procedure is to check if the nest is completely predated or not, and if there are still viable eggs inside, to remove any damaged eggs inside the egg chamber and properly cover the rest for incubation completion. In either case, it is suggested to bury the shells of predated and damaged eggs near the vegetation to avoid re-recording the same predation and to provide nutrients to the sand supporting the vegetation. In the case of Patara, in particular, the nests should be checked daily because the SPA is almost always windy and the sand has very fine grains, which may cause tracks to be erased in a short time (in only a few hours in the case of hatchling tracks). Unsystematic patrolling or neglecting the nesting zone behind slopes can result in failure to record and protect a high number of eggs.

**7. Ensure the proper fencing of all nests in areas with high human presence during the day, so as to protect them from trampling and from beach furniture;**

In Patara main beach, all nests near the facility were protected with prism cages (Fig. 10, 35), but only a few nests outside this area were caged. Nests in the rest of Patara main beach and Çayağzı Beach were marked with sticks and simple plastic nest markers bearing nest number and date (Fig. 36), while some fresh nests were unmarked (Fig. 31).

Nest protection should be applied in other areas with high human presence during day hours: in the beach zone in front of the dune entry point leading to the summer house village, in Letoon Beach around the area used for camping, and near Green Park on Özden Beach.

**8. Urgently set up long-term conservation and research programmes, entrusted to a permanent team that should be granted adequate man power to monitor the entire beach (north and south) during the entire nesting/hatching season and protect all nests if necessary;**

Every year, related ministries announce a tender for several sea turtle nesting sites. The group with the lowest bid gets the contract, which substantially limits the funds and the workforce for conservation projects. The system also puts a strain on long-term conservation studies by the same group in many nesting sites.

There are indications of lack of effective manpower (For Fig. see points 6 & 7):

- A sea turtle monitoring team of only 4 people was observed to cover 12 km of beach for daily morning patrols in the night or early morning, in addition to any awareness/education activities that they may be allocated with.
- The nesting zone in Patara exceeds 50 metres in width in most sections, and many of the old nests higher up the beach were left unmarked, giving the impression that teams only patrol the semi-wet area, marking those with fresh tracks only (even though a few fresh nests were unmarked), and completely miss old nests behind slopes (see point 6).
- The nest marked as P-1 (first nest) was dated June 6th, indicating monitoring work may have started late (nesting starts in May).
- The presence of dug-out, dislocated protective grills point to absence of monitoring of the nesting beaches north of Esen River (Letoon and Özden) - i.e. 42.5% of the protected coast. Though the sand structure in the northern beach may not seem suitable for sea turtle nesting, there are sections that are suitable (e.g. the first few kilometres of Letoon Beach) and nesting was observed (at least 16 predated nests). Given the above, and the fact that the north beach is a protected area, this section merits attention and should be included in monitoring efforts.

A number of nests were exposed due to waves during high-tide. Nests too close to the lower border of the complete dry zone could have been relocated to avoid this loss.

**9. Improve information to and awareness of tourists about sea turtle nesting and on correct behaviour for the sustainable use of the beach and install clearer signage to indicate the nesting zone;**

At Patara main beach, in the parking area, the old signs with regulations are still concealed by vegetation (Fig.37). At the beach entrance, the three signs placed in 2019 and 2020, have faded (Fig.38); signs were also placed at the nearby information kiosk, though there was no personnel present at the time of the survey (morning, mid-day) (Fig.38). Prism nest cages in this section also included explanatory signs. There were no information signs at the entry point via the top of the dunes (accessible via the road leading to the summer house village).

In Çayağzı beach, the sign at the end of the road by Eşen River is severely faded and almost unreadable (Fig. 39). Further along, at beach entrance, three new signs behind the low wooden posts (see point 2iii) state restrictions that apply on a nesting beach (Fig. 3, 8, 40).

On Letoon and Özden beaches (42.5% of the nesting area) there were no signs.

Locations of all current signs are provided in Table 1.

As noted, along the entire coast of the SPA there are no efforts for marked zoning of the nesting area (non-use area).



**10. Improve information and education of the local community about sea turtle nesting, correct behaviour for the use of the beach, and intrinsic value of nature; and involve them in the protection, conservation, and management of the nesting beach;**

Locals are aware about sea turtle nesting and the nest monitoring team's work, as well as about fines regarding sand extraction and development within the SPA borders. However, they are not directly involved in the conservation and management of the nesting beaches (e.g. as guards or rangers) and their participation is limited to a few beach cleaning activities.

**Other observations:**

- Sand extraction from Patara SPA has been confirmed: In February 2021, press reported that 20 persons were apprehended for stealing "3-5 thousand trucks of sand" for sale since July 2020.<sup>37</sup> In early June 2021, press reported allegations that about "2,168 trucks-full of sand was removed and stolen from Patara in February 2021"<sup>38</sup> and mentioned that the Ministry of Environment and Urbanization issued a statement (the original statement could not be found online) that the incident was "old" and that the sand was taken from "outside of the ancient city", hence it can be assumed the sand extraction occurred in the dune area.<sup>39</sup>

- Bonfire remains and burnt shrubs were seen in the sand dunes in Patara main beach.
- Eşen River seemed murky (as per 2019 and previously), although there was no strong odour. The main channel flowing into the river was very polluted.
- Natural beach erosion was significant in some parts of Çayağzı and Letoon Beach, and natural vegetation seemed to have grown to spread closer to the shoreline.

**Table 1.** Locations of some points of interest in Patara SPA. Records taken by "GPS Coordinates, developed by Fundroid 3000", with an accuracy of 8-14 m, except those marked with ( \* ) that were sourced from Google Earth.

|             | COORDINATES                              | DEFINITION   |
|-------------|--|--|
| PATARA MAIN | * N 36°14'55" –<br>E 29°18'56"           | Southern end of the nesting beaches  |
|             | N 36°15'17.42000" -<br>E 29°18'49.89900" | Concealed signs at the parking area on Patara Main Beach   |
|             | N 36°15'12.51612" -<br>E 29°18'44.58456" | Signs at the entrance of Patara Main Beach   |
|             | N 36°15'55.41660" -<br>E 29°17'48.93360" | Approximate entrance point at the top of sand dunes  |
|             | N 36°17'35.62332" -<br>E 29°15'45.50904" | The 3 signs at Çayağzı entrance & wooden posts   |
|             | N 36°17'37.04892" -<br>E 29°15'48.88296" | The very faded sign at the end of road in Çayağzı  |
|             | N 36°17'38.05" -<br>E 29°15'50.57"       | Several temporary structures next to the end of the road, used as summer houses by locals, along the river very near the river mouth |
| LETOON      | N 36°18'00.98604" -<br>E 29°15'51.79212" | Beginning of section (Eşen River mouth)  |
|             | N 36°17'45.29040" -<br>E 29°15'35.69076" | Abandoned wooden structures on dunes at Letoon beach (old SPA kiosk), close to the road behind the beach                             |
| ÖZEL        | N 36°19'43.97592" -<br>E 29°13'34.58280" | Beach entrance adjacent to Green Park  |

<sup>37</sup> [www.hurriyet.com.tr/gundem/patarada-kum-hirsizligi-yapan-ceteye-operasyon-41750910](http://www.hurriyet.com.tr/gundem/patarada-kum-hirsizligi-yapan-ceteye-operasyon-41750910)

<sup>38</sup> [www.cumhuriyet.com.tr/haber/patarada-2-bin-kamyon-kum-calindi-1842143](http://www.cumhuriyet.com.tr/haber/patarada-2-bin-kamyon-kum-calindi-1842143)

<sup>39</sup> [www.hurriyet.com.tr/gundem/son-dakika-patarada-antik-kentindeki-iddialar-endiselendirmisti-bakanlik-anciklama-geldi-41826825](http://www.hurriyet.com.tr/gundem/son-dakika-patarada-antik-kentindeki-iddialar-endiselendirmisti-bakanlik-anciklama-geldi-41826825), <https://tr.sputniknews.com/cevre/202106071044675577-cevre-ve-sehircilik-bakanligindan-pataradan-kum-calindi-iddiasıyla-ılgılı-aciklama>

|  |                                |                                     |
|--|--------------------------------|-------------------------------------|
|  | * N 36°19'43" –<br>E 29°13'31" | Northern end of the nesting beaches |
|--|--------------------------------|-------------------------------------|

## **BACKGROUND**

### BACKGROUND

*For a full description of the site and of the case background, see MEDASSET 2012 Complaint.*

Patara Specially Protected Area (SPA) is a unique archaeological site of global importance and a protected nature site that includes coastal forest, wetlands, shifting sand dunes and a loggerhead sea turtle (*Caretta caretta*) nesting beach that is among the most important rookeries for the species in Turkey. Patara's river and wetland systems created the most important and largest dune ecosystem on the Turkish Mediterranean coast.

Threats to Patara were first raised by MEDASSET in 1988 and the case has since been supported by others at the Standing Committee Meetings of the Bern Convention. In 1996 a Case File was opened and the 9-measure Recommendation No. 54 was adopted. MEDASSET submitted further detailed and specific recommendations in 1998 (T-PVS (98) 49). The File was closed in 2001 despite some remaining problems and Turkey was asked to continue reporting progress. MEDASSET continued to monitor the conservation status of Patara and submit reports to the Standing Committee.

In September 2012 MEDASSET submitted a complaint (2012/9) on a large scale summer house construction project by 3 housing cooperatives within Patara SPA's 3rd Degree Archaeological protected area (Fig. 2-3) and on the failure of the current land use and management plan to secure adequate protection for both the natural and archaeological site. As described in the complaint, the project (450-700 villas for a population of around 3000 people, according to 2011 press articles) will impact the loggerhead nesting population, by increasing disturbances and habitat damage. The complaint also presented an interpretation of the multiple changes to the zoning and the Patara SPA management plan, which made construction within the the 3rd Degree Archaeological area possible, and showed a clear bias towards construction interests and disregard of expert opinion provided by archaeologists and planners since 1978. The original plan did not allow new permanent constructions in the 3rd Degree Archaeological protected area, apart from those necessary to cater to the needs of the small village, and envisaged the development of low-impact, small-scale tourism facilities, with the aim to maintain cultural, historical, archaeological and natural components of the site. The large-scale summer house construction project within Patara SPA is incompatible with the Bern Convention Recommendations No. 12 (1988), No. 24 (1991), No. 54 (1996) and No. 66 (1998). No information on an environmental impact assessment (EIA) or carrying capacity study prior to the approval of the project is available. To our knowledge, the approval of the construction project has not been matched with an updated plan to ensure increased resources to manage and mitigate impacts of the much higher number of users of the protected area.

In 2013, 27 villas and swimming pools were completed (by Ozlenen Deniz Housing Cooperative) and inadequate management of the nesting beach was documented (T-PVS/Files 2013 9). In December 2013, a case file was opened to address the complaint (together with the complaint regarding Fethiye SPA) and to encourage Turkish authorities "to work towards greater accountability, cooperation and responsibility". No information, response or update was provided by Turkish authorities before or during the Standing Committee Meeting.

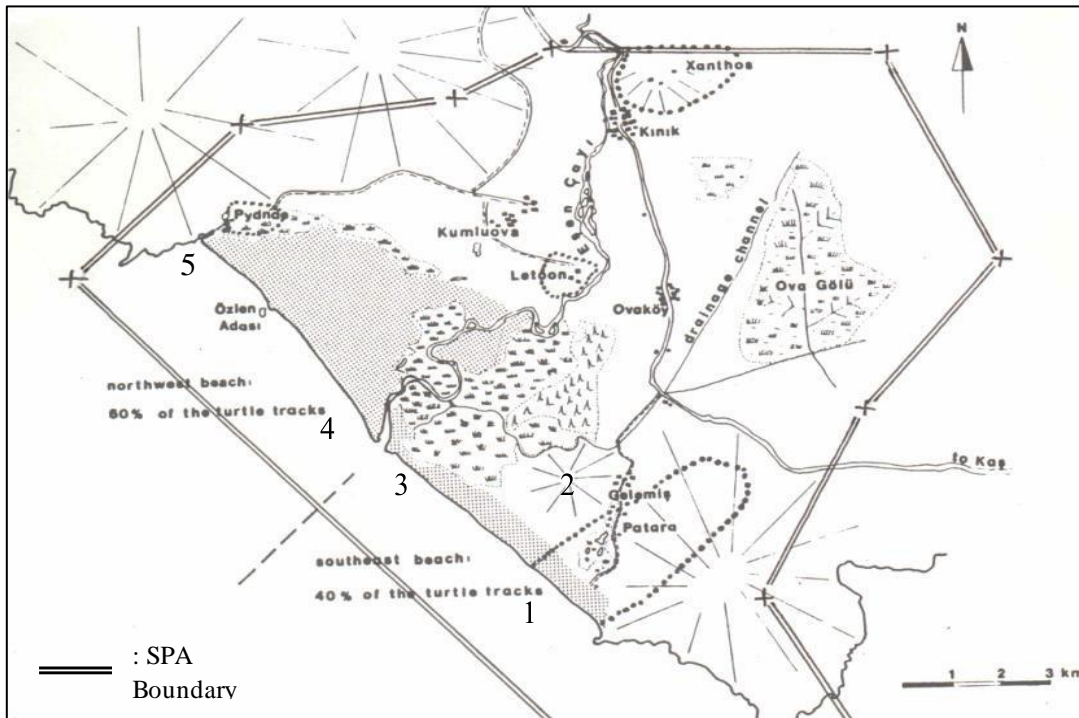
In 2014, constructions continued and inadequate management of the nesting beach and new beach development was documented (T-PVS/Files 2014 16). Articles in the Turkish press (Annex 1 of T-PVS/Files 2014 16) reported that in total 300 villas will be built inside the protected area by the 3 Cooperatives and that the request of one of the cooperatives to exchange their land for lands outside the protected area was not accepted by authorities. The government stated that the summer house development is "2 km away from the beach" and at the "opposite direction" of the 1st Degree archaeological site (T-PVS/Files 2014 25). In MEDASSET's view the development site is linked to both the nesting beach and the archaeological site and cannot be viewed as a separate or isolated section of the SPA. To the best of our knowledge, the development is 1 km from the beginning of the sand dunes and 1.5 km from the nesting site. In addition, the government report did not address the concerns raised in the complaint regarding an EIA, carrying capacity study and management of the associated impacts

related to the increased users and businesses that will result from this development. In December 2014, the Standing Committee decided to conduct an on-the-spot appraisal in view of identifying a set of recommended actions for consideration of the Committee at its 2015 meeting.

In 2015, the 27 new summer houses were inhabited and new foundations were laid in the cooperatives' land inside the 3rd Degree Archaeological area. A second road connecting the development to Gelemis/Patara village was paved. Official information was not available about the final number of summer houses to be constructed, however, during the Bern Convention's on-the-spot appraisal on 28 July 2015 an official stated that in total 312 summer houses will be constructed. As regards the status of the nesting beaches, management and conservation problems remained unsolved in 2015, such as lack of guarding and access control, poor beach furniture management at night, littering, lack of information signs, etc. In December 2015, the Standing Committee, alarmed by the findings of the on-the-spot assessment in July 2015 which confirmed MEDASSET's reports, adopted Recommendation No. 182 (2015), asking Turkey to take urgent action to improve management and conservation of Patara.

In 2016-2020, Recommendation No. 182 (2015) was not implemented and there was no significant improvement in the conservation status of the nesting beaches and management problems remained, such as lack of local management staff and insufficient nest monitoring personnel, lack of zoning and information, poor beach furniture management, severe vehicle access problems, camping, etc. The only improvements were litter collection efforts and the addition of a sign at the main entry point that is already well-signed and a new sign at the Çayağzı section; however, signage remains largely inexistent across the 12 km beach. At the same time, construction of the summerhouse development in the 3rd Degree Archaeological site of the SPA continued.

**MAPS & PHOTOS**



**Fig. 1.** Patara SPA: 1) Patara main beach, 2) Entry point via sand dunes, 3) Çayağzı Beach (Eşen River outlet at the north edge of the south beach), 4) Letoon Beach (Eşen River outlet at the south end of the north beach), and 5) Özden Beach (next to Özden River outlet). *Map Source: Baran I., and M. Kasperek. 1989. Marine Turtles Turkey: Status Survey 1988 and Recommendations for Conservation and Management. WWF, Heidelberg, 123 + iv pp*



**Fig. 2.** Patara SPA Satellite Map. White arrow: construction site of summer house village. “a”: new second road connecting villas and Gelemiş village. “b”: archaeological site fee collection point with daytime vehicle barrier. No. 1-5 are entry points: 1) Patara main beach entry point, snack bar & beach furniture; 2) Entry point via sand dunes, connecting the beach with summer houses; 3) Çayağzı Beach entry point; 4) Letoon Beach entry point & abandoned SPA information kiosk; 5) Özden Beach entry point, Patara Green Park (bar, camping site). Eşen River outlet lies between No.3&4.





**Fig. 3. Patara SPA, Çayağzı Beach. July 2021.** Small prefabricated shed behind the beach (red circle). To its left, note the wooden posts and the three information signs (see also Fig. 8). In front of the shed, note vehicles parked by the river and a red middle-sized bin between the cars.



**Fig. 4. Patara SPA, Çayağzı beach - Eşen River. July 2021.** Sheds and fishing boats by the river, behind the Çayağzı beach entrance point.



**Fig. 5. Patara SPA, Letoon Beach. July 2021.** Abandoned wooden structures of the old SPA facility on the southern part of the section. Note the litter on beach.



**Fig. 6. Patara SPA, Letoon Beach. July 2021.** Entry point via road passing right behind the old SPA facility. No actual barriers to stop vehicle entrance.



**Fig.7. Patara SPA, Letoon Beach. July 2021.** Old, worn out wooden posts on the nesting beach (red circles). Note predated sea turtle eggshells (i.e. white fragments , see e.g., red arrows).



**Fig. 8. Patara SPA, Çayağzı Beach. July 2021.** New wooden posts in front of the three signs at the section's northern end, near Eşen River.



**Fig. 9. Patara SPA, Özden Beach. July 2021.** No beach furniture, no zoning, though the beach was crowded during the day. Bins are available on the beach. Note the hill ridge in the background showing signs of a recent fire.





**Fig. 10. Patara SPA, Patara main beach. July 2021.** Sunbeds are stacked on top of each other too close to the shoreline and are not removed at night. Note nest cages near sunbeds. The signs “indicate the areas of responsibility of the lifeguards” according to the 2021 Government Report.



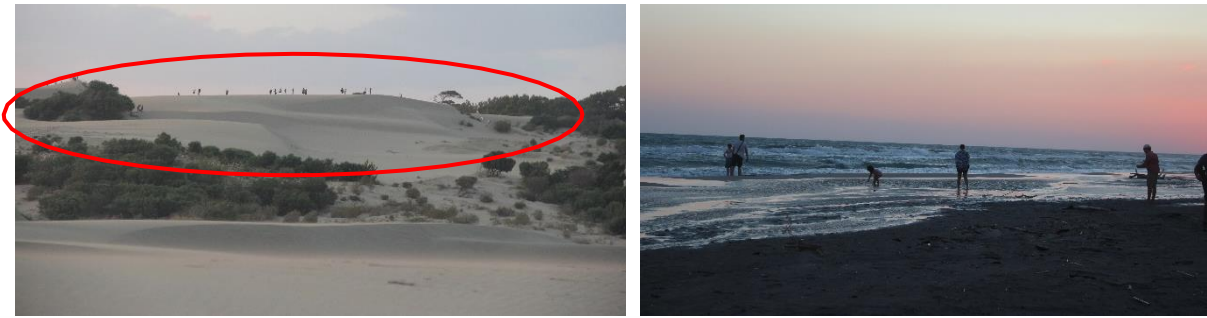
**Fig. 11. Patara SPA, Patara main beach. July 2021.** A-B: Lifeguard tower and boats, surrounded by a low wooden fence, inside the nesting zone, too close to the shoreline. Note litter (red circle). C: Approx. 100 parasols (red circle) for users to place as they wish. A wooden walkway (red arrow) extends a few metres into the nesting zone. D:





**Fig. 12. Patara SPA. July 2021.** Vehicle tracks observed on several sections: a) Patara main beach, near sand dunes (note the partly displaced protective grill against predation); b) Çayağzı Beach, near the entrance point; c) Çayağzı Beach; d-e) Letoon Beach, in front of the camping facility; f) Letoon Beach, further north; g) Özden Beach, to the south of Green Park.





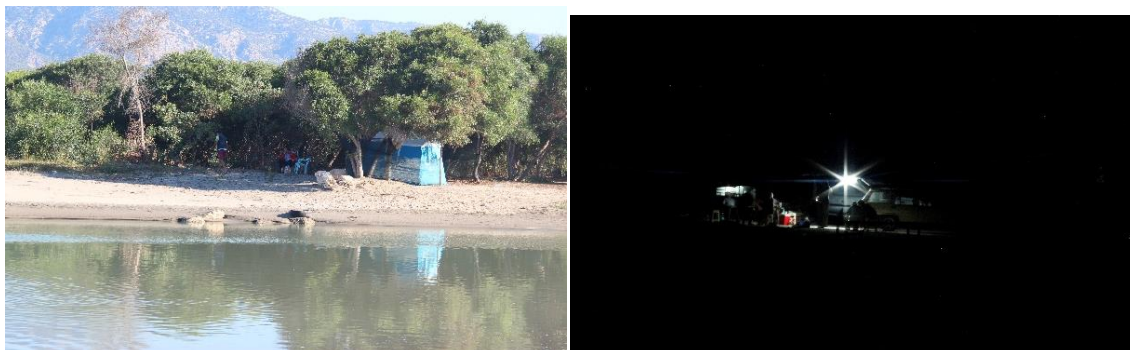
**Fig. 13. Patara SPA, Patara main beach. July 2021.** a) People watching the sunset at the entrance point on top of sand dunes, no access control; b) people accessing the beach through sand dunes, after sunset.



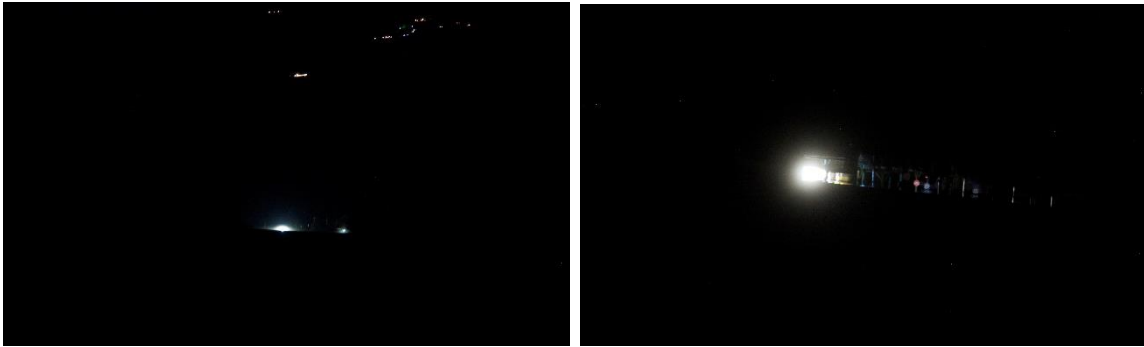
**Fig. 14. Patara SPA, Patara main beach. July 2021.** Lights of gendarmerie vehicle checking the entrance point on top of sand dunes, around 20:15, possibly for evacuating people.



**Fig. 15. Patara SPA, Çayağzı Beach. July 2021.** a) Vehicles at both sides of Eşen River, and vehicle tracks on the beach; b) a van parked right by the shoreline.



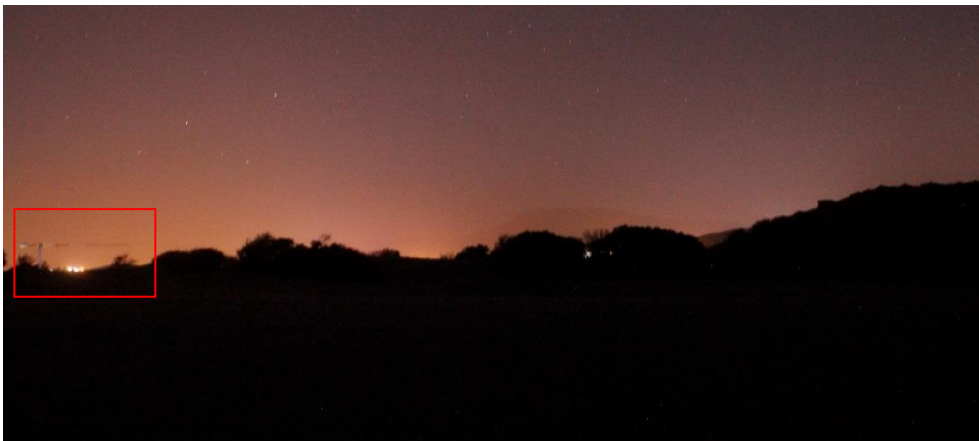
**Fig. 16. Patara SPA, Letoon Beach. July 2021.** a) Camping at the southern end, right by the Eşen River, where vehicles can access the beach; b) vehicles and camping, causing light pollution at night.



**Fig. 17. Patara SPA, Patara main beach. July 2021.** Lights from the facility, dimmed but still visible as they are blueish white.



**Fig.18. Patara SPA, Patara main beach. July 2021.** Two orange street lamps visible from the beach.



**Fig.19. Patara SPA, Patara main beach. July 2021.** Crane in archaeological site, not in operation.



**Fig. 20. Patara SPA, Letoon Beach. July 2021.** Camping on the southern end of the section, causing light pollution on both sides of Eşen River. Note the fishing rod (right).





Fig. 21. Patara SPA, Özden Beach. July 2021. Lights on beach by Green Park (business closed during survey)

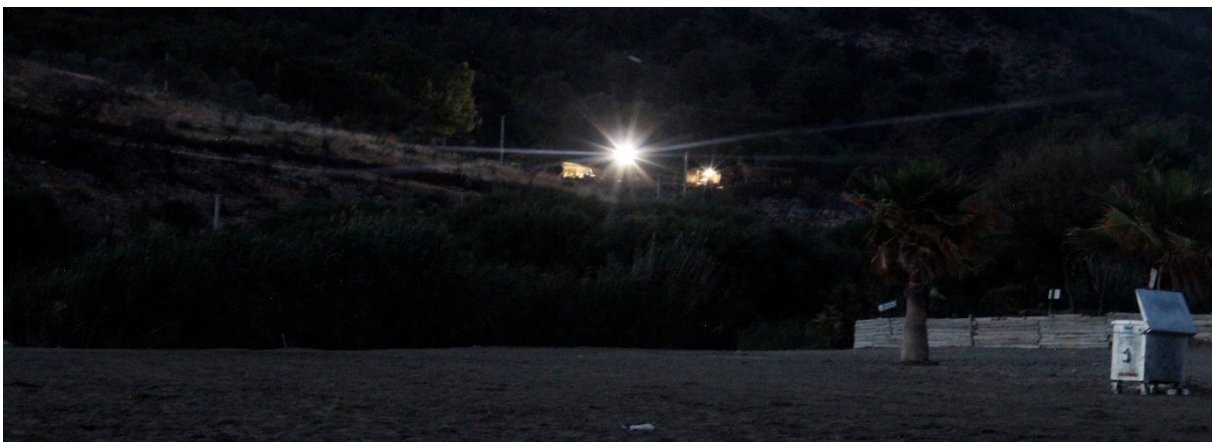


Fig. 22. Patara SPA, Özden Beach. July 2021. Light sources at the back of the beach. Note the streetlights turned off.



Fig.23. Patara SPA, Özden Beach. July 2021. Bonfire on the small beach at the northern side of Özden River.







**Fig. 24. Patara SPA. July 2021.** Fishing lines and nets (red circles) among litter in (clockwise): a) Çayağzı Beach, far from the river mouth; b) Letoon Beach, near a predated nest (note white eggshells); c) Özden Beach, to the south of Green Park, near vegetation.



**Fig. 25. Patara SPA, Çayağzı Beach. July 2021.** Dried tree branches used to shade and store fishing equipment (lines, crates, etc). Note tracks and litter.





**Fig. 26. Patara SPA, Patara main beach. July 2021. Clockwise:** a) Horses for rent near the entrance point at the top of sand dunes; b) “Horse Tour , Dune - Beach” ad; c) horse manure further down the dunes.



**Fig. 27. Patara SPA. 3<sup>rd</sup> Degree Archaeological area July 2021.** Construction of a large building with water slides, within the cooperative area borders.





**Fig. 28. Patara SPA. July 2021.** Litter on the beach: a-b) main beach, around the sand dunes; c-d) plastic and glass bottles, and dense driftwood around the sand dunes; e-f) litter and driftwood in Çayağzı; g) litter on a nest, Çayağzı; h-i) litter thrown near the vegetation around the campsite in Letoon; j) a bullet case (red circle), among other litter in Çayağzı.

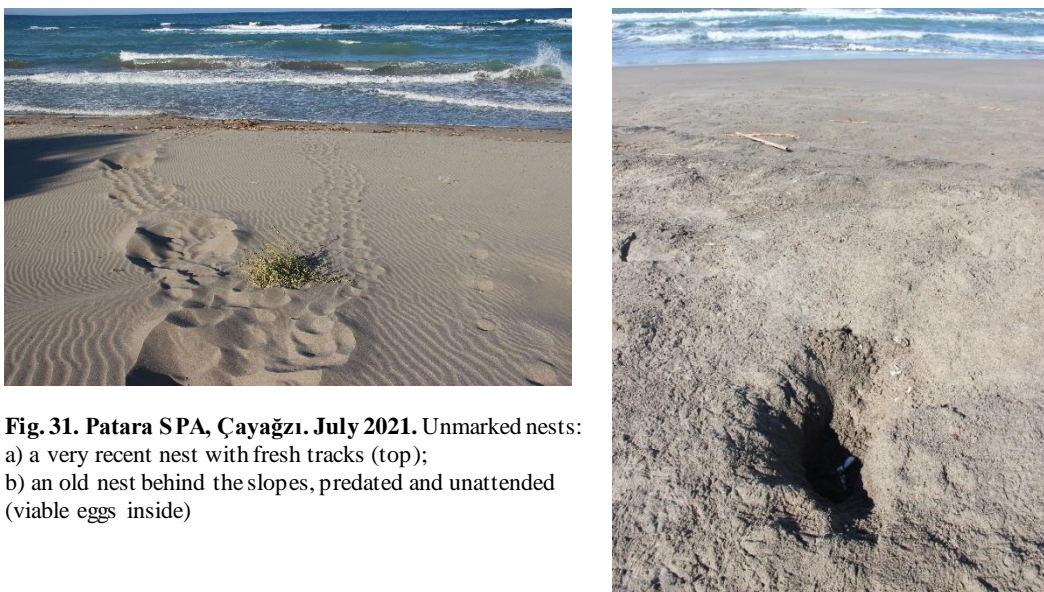




**Fig. 29. Patara SPA, Patara main beach. July 2021.** Partly dug-out and displaced protective grills.



**Fig. 30. Patara SPA, South beach. July 2021.** Predated nests: a-b) predated egg shells scattered around sand dunes; c) predated egg shells among litter in Çayağzı Beach.



**Fig. 31. Patara SPA, Çayağzı. July 2021.** Unmarked nests:  
a) a very recent nest with fresh tracks (top);  
b) an old nest behind the slopes, predated and unattended (viable eggs inside)





**Fig. 32. Patara SPA, Letoon Beach. July 2021.** Predated eggshells within the nesting zone.



**Fig. 33. Patara SPA, Özden Beach. July 2021.** Predated eggshells near near Green Park.



**Fig. 34. Patara SPA, Çayağzı. July 2021.** Predator signs on the beach: a) crab nest and tracks; b) dog paw marks.



**Fig. 35. Patara SPA, Patara main beach. July 2021.** Prism nest cages (red circle) around the facility.





**Fig. 36. Patara SPA. July 2021.** Simple plastic nest markers and sticks used in Patara main beach and Çayağzı Beach.



**Fig. 37. Patara SPA, Patara main beach. July 2021.** Signs at the parking area, concealed by the vegetation. Note that the umbrella usage is restricted within the first 20 metres away from the shoreline (“keep them out of that zone”), although nesting zone in Patara extends far beyond that.





**Fig. 38. Patara SPA, Patara main beach. July 2021.** Faded information sign at the beach entrance. The information kiosk and informative signs around it.



**Fig. 39. Patara SPA, Çayağzı Beach. July 2021.** Severely faded information sign, almost illegible, at the end of the road by Eşen River



**Fig. 40. Patara SPA, Çayağzı Beach. July 2021.** Signs at the beach entrance point adjacent to Eşen River.

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### Patara: REPORTS & COMPLAINT SUBMITTED TO THE BERN CONVENTION

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RELEVANT RECOMMENDATIONS OF THE STANDING COMMITTEE:

- Recommendation No 8 (1987) on the protection of marine turtles and their habitat  
Recommendation No. 12 (1988) ) concerning the protection of important turtle nesting beaches in Turkey  
Recommendation No. 24 (1991) on the protection of some beaches in Turkey of particular importance to marine turtles  
Recommendation No. 54 (1996) on the conservation of *Caretta caretta* at Patara  
Recommendation No. 66 (1998) on the conservation status of some nesting beaches for marine turtles in Turkey  
Recommendation No. 182 (2015) on the conservation of *Caretta caretta* and its habitat at Patara (Turkey)  
Recommendation No. 183 (2015) on the conservation, management, and restoration of Fethiye nesting beaches (Turkey)