

Strasbourg, 31 August 2017  
[files29e\_2017.docx]

**T-PVS/Files (2017) 29**

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE  
AND NATURAL HABITATS

**Standing Committee**

37<sup>th</sup> meeting  
Strasbourg, 5-8 December 2017

---

**File open**

**Presumed degradation of nesting beaches  
in Fethiye and Patara SPAs  
(Turkey)**

**- REPORT BY THE COMPLAINANT -**

*Document prepared by  
MEDASSET - Mediterranean Association to Save the Sea Turtles*

**UPDATE REPORT BY THE NGO**  
**LOGGERHEAD SEA TURTLE (*CARETTA CARETTA*) CONSERVATION**  
**MONITORING IN FETHIYE AND PATARA SPAs, TURKEY**

- 31 August 2017 -

Document presented by  
MEDASSET - the Mediterranean Association to Save the Sea Turtles  
for the 37<sup>th</sup> Standing Committee Meeting of the Contracting Parties to the Convention on the  
Conservation of European Wildlife and Natural Habitats (Bern Convention)

**CONTENTS:**

- *Loggerhead sea turtle (Caretta Caretta) Conservation Monitoring In Patara Spa, Turkey*
- *Loggerhead sea turtle (Caretta Caretta) Conservation Monitoring In Fethiye Spa, Turkey*

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

MEDASSET hereby submits an update report to the second Bureau Meeting of the Bern Convention (August 2017) on the conservation status of sea turtle nesting beaches in Patara Specially Protected Area (SPA) in Turkey.

### ***Contents:***

- *BACKGROUND*
- *UPDATE*
- *CONCLUSION & RECOMMENDATIONS*
- *REFERENCES*
- *MAPS & PHOTOS*

### **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 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 to the Standing Committee on progress made. 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 (Figure 1-Figure 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 presents 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 shows 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. In our view this 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 the 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 in 2014 (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 Housing Cooperatives and that the request of one of the cooperatives to exchange their land for lands outside the protected area was not accepted by the 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 asphalted. 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, there was no improvement in the conservation status of the nesting beaches and conservation problems remained: lack of management staff and insufficient nest monitoring personnel, poor beach furniture management, lack of zoning and information, nearshore fishing, vehicle access, horse riding and derelict facilities on beaches, etc. There were no signs of new efforts or conservation activities, with the exception of litter collection. At the same time, construction of the summer house development in the 3rd Degree Archaeological site of the SPA continued; once completed the summer population increase will likely increase the pressures and disturbances presently occurring.

## UPDATE

*Patara nesting beach description (Figure 1-Figure 2): the 12 km beach is split in a north and south beach by the Esen river that meets the sea in the middle of the SPA. At its northern end the beach is bordered by the Özden river. There are 5 access points. At the North beach there is an entry point at the Özden river outlet (Özden beach) and another entry point at the Esen river (Letoon beach). At the South beach there are three entry points: at the mouth of the Esen river (Çayağzı beach), at the middle of the beach on the top of the dune, and at the south end of the beach (Patara main beach)*

### **Survey observations on the implementation of Recommendation No. 182:**

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

To our knowledge there was no improvement in Patara’s legal protection or management. No local management unit was responsible to design and enforce measures, regulations and fines in the protected area.

- 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;***

(i) The so called “Pink Bar” has been removed and there are no further facilities in that area besides the camping area in the back. (Figure 4). No noticeable improvement at Letoon beach; the former SPA facilities that are not in use, remain on the beach in decay; old shower pipes are still supplied with water and used by visitors on the nesting beach (Figure 5 - Figure 8).

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

Outside Patara main beach, visitors who bring their own beach umbrellas can insert them in the nesting area (Figure 9), as no zoning or delimitation of the nesting zone exist, with the exception of the Patara main beach area (Figure 10). At Patara main beach, the number of furniture provided for rent has significantly increased since last year: at least 500 sunbeds (+20%) and 160 umbrellas inserted randomly were noticed. The 5-6 rows of sunbeds extend about 80m in length and cover the whole width from the sea to the beach bar (situated towards the back of the beach) (Figure 11, Figure 12). The volleyball court and the three vertical wooden pathways that lead to the sea from the beach bar, form an additional barrier for nesting turtles trying to reach the nesting zone (Figure 14 - Figure 16). Sunbeds were stacked during the night although there are suspicions that it is not yet considered a standard practice (Figure 13). Although the two remaining old wooden posts are meant to delimit the nesting zone (Figure 10), it seems the zoning is inaccurate and furniture is placed partly inside the nesting zone. No caged nests were noticed within the sunbed area this year.

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

Access is possible via the 2 entry points at the Esen river and at the top of dunes. Two to four wheeled vehicle tracks were observed all along the beach entering from Esen river (Figure 17, Figure 18). On the road leading to the archaeological site and Patara main beach, during daytime there was a barrier and a guard collecting an entrance fee. There was no guard and the barrier was open during night-time. At Özden beach, a chain is placed at the beach entrance, with a sign prohibiting motorized vehicles to drive on the beach (Figure 19).

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

Artificial light coming from camping areas at Esen river has little influence on the beach area. The illumination from the camping areas was visible only from the roads leading to the beach (Figure 20, Figure 21). At Özden beach (west end of Patara beach), the street lamp behind the beach was turned off during night time (Figure 22). It should be noted that there were neither adult sea turtle tracks nor nests found during the survey. Nevertheless, there were no visitors at the beach at night.

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

(v) Nearshore fishing activity was observed in the area around Esen river (Figure 23, Figure 24).

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

(iv) There is a camping area behind the north entry of Özden beach at the dune-entry point and the area around Esen river is used as a picnic or camping area.

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

(v) Evidence of horse riding and use of 4x4 vehicles on the beach was found in limited parts along the beach (Figure 25).

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

(viii) No information was found about fines for non-compliance.

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

There is no local management team present to control the protected area and enforce regulations. The only personnel present is the nest monitoring team from the Adnan Menderes

University which does not have the responsibility or authority to charge fines or enforce measures. The day-time guard controlling the road barrier and entry fee for the Patara archaeological site does not seem to have any responsibility for the nesting beach.

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

No new construction work for the summer house village in the cooperatives' land inside the 3rd Degree Archaeological area, was observed.

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

Few litter was found on the beach and most of it seemed to be washed ashore by the sea or the river. At some parts of the beach- stretch litter was found accumulated in patches due to wind and erosion. (Figure 26-Figure 28)

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

Predation of eggs and/or emerging hatchlings takes place along the beach. Most of the nests were not protected against predation; when used, predation cages may be ineffective as their design does not prevent animals from digging nests (Figure 29-Figure 31). There were no stray dogs observed at the time of the survey.

**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;***

Though most of the nests in Patara main beach area were marked with cages, some of them were still just marked with sticks (Figure 32-Figure 34). Predation cages buried in the sand for some nests may be ineffective (see above).

**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;***

The monitoring team from Adnan Menderes University that was on-site at the time of appraisal consisted of only three experienced volunteers. Their contract is limited to one season and started in mid-May.

**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;***

There are no new information signs about the protected area or nesting site. At Patara main beach, existing old signs include: a sign at the parking space, now partly hidden by vegetation, informing about the SPA and the regulations; a sign in Turkish informing that the beach is a sea turtle area, placed along the wooden pathway from the parking area to the beach (Figure 35, Figure 36); an information board at the wooden pathway leading to the beach bar informs about the night access restrictions (Figure 37, Figure 38). At the beach entrance there is an information kiosk which the monitoring team operates two times a week, though it was not observed in operation during the survey (Figure 39, Figure 40). The nesting zone is not clearly delimited and there are no new zoning efforts. At Patara main beach, only two old wooden posts remain, indicating the nesting zone and the area that visitors are allowed to use and are likely to be missed by the visitors (Figure 10). In addition to being unclear, the zoning is likely inaccurate. There is no such zoning in the rest of the 12 km beach.

**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;***

To our knowledge the local community is not actively involved in the conservation or management of the protected area; the best efforts of the monitoring team from the Adnan Menderes University met with very little response by the local community. The few information signs on the

beach only inform about basic regulations and there is lack of information on the ecological value of the area.

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

- Summer house village in the 3rd Degree Archaeological area: no new construction work was noticed. There are two asphalted roads leading to Gelemis village so far. The road leading to the beach entry point via dunes is used frequently by cars.
- Night access to the beach, though rare, is possible via all five entry points as there are no guards or barriers at night.
- Esen river remains murky and with a strong odour; the possibility of pollution due to poor wastewater management should be further examined.
- Dune conservation: No new plantations were observed but no dune conservation/restoration efforts were visible.

### **CONCLUSION & RECOMMENDATIONS**

**In 2017, there was no significant improvement in the conservation status of the nesting beaches in Patara. Conservation problems such as lack of management staff and insufficient nest monitoring personnel, lack of zoning and information, nearshore fishing, predation, vehicle access etc. remain. Implementing the envisaged measures of Recommendation No. 182 (2015) is necessary for the adequate and proper management and protection of the SPA.**

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

- Urgently implement Recommendation No. 182 (2015); revise the SPA management plan and implement a comprehensive and updated action plan; strengthen management and rules enforcement, and ensure adequate protection of the natural and archaeological site; allocate the necessary financial and human resources for sea turtle monitoring of the entire beach and for the SPA management and rules enforcement.
- Address the concerns raised in MEDASSET's complaint regarding the summer house construction project, its scale, the associated impacts, the lack of an EIA and of a carrying capacity study.
- Inform about plans to manage beach business to operate on the sand dunes and sea turtle nesting beaches.

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

- Discuss the case file at the 37<sup>th</sup> Meeting of the Standing Committee.
- Encourage Turkish authorities to provide further information on the case as requested above
- Urge Turkish authorities to implement Recommendation No. 182 (2015).

**REFERENCES - DOCUMENTS SUBMITTED TO THE BERN CONVENTION**

Available online at [www.medasset.org](http://www.medasset.org) or  
[www.coe.int/t/dg4/cultureheritage/nature/Bern/default\\_en.asp](http://www.coe.int/t/dg4/cultureheritage/nature/Bern/default_en.asp)

CoE Reference

T-PVS (96) 53 A MEDASSET	Conservation of loggerhead turtles, <i>Caretta caretta</i> , and construction projects on the beach of Patara, Turkey.
T-PVS (96) 53 MEDASSET	Conservation of loggerhead turtles, <i>Caretta caretta</i> , and construction projects on the beach of Patara, Turkey. (Brief Update on action to “Save Patara” 1989-1996).
T-PVS (97) 45 MEDASSET	Marine turtle conservation in Patara, Turkey.
T-PVS (98) 49 MEDASSET	Marine turtle conservation in Patara, Turkey.
T-PVS (99) 69 MEDASSET	<i>Caretta caretta</i> in Patara, Turkey.
T-PVS (2000) 57 MEDASSET	Conservation of the marine turtle, <i>Caretta caretta</i> , in Patara Turkey.
T-PVS (2001) 72 MEDASSET	Review of nature conservation situation in Patara SPA, Turkey.
T-PVS/Files (2002) 14 MEDASSET	Update report and review of nature conservation measures in Patara SPA, Turkey.
T-PVS/Files (2003) 12 MEDASSET	Update report and review of nature conservation measures in Patara SPA, Turkey.
T-PVS/Files (2004) 13 MEDASSET	Update report and review of nature conservation measures in Patara SPA, Turkey.
T-PVS/Files (2005) 09 MEDASSET	Update report and review of nature conservation measures in Patara SPA, Turkey.
No T-PVS reference (2007) MEDASSET	Update report and review of nature conservation measures in Patara SPA, Turkey.
No T-PVS reference (2009) MEDASSET	Update report and review of nature conservation measures in Patara SPA, Turkey.
No T-PVS reference Complaint (2012/9) MEDASSET	Complaint to the Bern Convention: construction of summer houses within Patara SPA, Turkey.
T-PVS/Files (2013) 09 MEDASSET	Update on loggerhead sea turtle ( <i>Caretta caretta</i> ) conservation monitoring in Patara SPA, Turkey.
T-PVS/Files (2014) 16 MEDASSET	Update on loggerhead sea turtle ( <i>Caretta caretta</i> ) conservation monitoring in Patara SPA, Turkey.
T-PVS/Files (2015) 34 MEDASSET	Update on loggerhead sea turtle ( <i>Caretta caretta</i> ) conservation monitoring in Patara SPA, Turkey.
T-PVS/Files (2016) 35 MEDASSET	Update on loggerhead sea turtle ( <i>Caretta caretta</i> ) conservation monitoring in Patara SPA, Turkey.

MAPS & PHOTOS

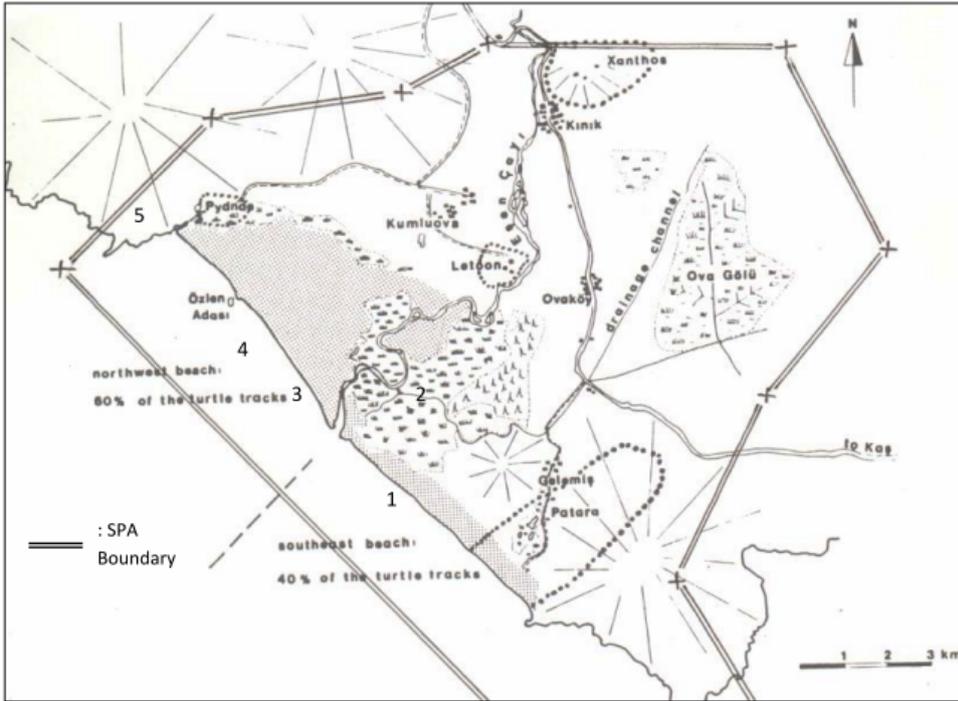
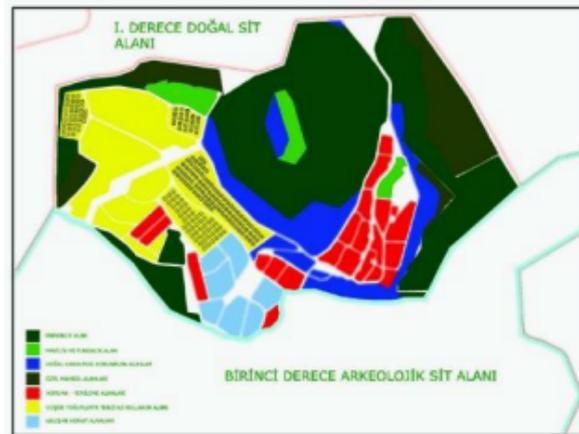


Figure 1 Patara SPA. Patara main beach is No. 1, entry point via sand dunes is No.2. Çayağzı beach is No. 3 (Esen River outlet at the north edge of the south beach), Letoon beach is No.4 (Esen River outlet at the south end of the north beach) and Özden beach is No. 5 (next to Özden river outlet). Map Source: Baran I., and M. Kasperek. 1989. Marine Turtles Turkey: Status Survey 1988 and Recommendations for Conservation and Management. WWF, Heidelberg, 123 + iv pp



Figure 2: Patara SPA Satellite Map. White arrow: construction site of summer house village. “a”: new second road connecting villas and Gelemis village. “b:” is archeological site fee collection point with daytime vehicle barrier. No. 1-5 are entry points: 1 is Patara main beach entry point, snack bar & beach furniture; 2 is entry point via sand dunes, connecting beach with summer house village; 3 is Çayağzı beach entry point; 4 is Letoon beach entry point & abandoned SPA information kiosk; 5 is Özden beach entry point, bar, camping site, (Özden river outlet). Esen river outlet lies between No.3&4.



**Figure 3: EPASA Management Plan Map of Patara SPA “3rd Degree Archaeological Site”** (see blue area in: Patara SPA Satellite Map. White arrow: construction site of summer house village. “a”: new second road connecting villas and Gelemis village. “b:” is archeological site fee collection point with daytime vehicle barrier. No. 1-5 are entry points: 1 is Patara main beach entry point, snack bar & beach furniture; 2 is entry point via sand dunes, connecting beach with summer house village; 3 is Çayağzı beach entry point; 4 is Letoon beach entry point & abandoned SPA information kiosk; 5 is Özden beach entry point, bar, camping site, (Özden river outlet). Esen river outlet lies between No.3&4.). Construction is allowed in the red and blue areas, which include Gelemis village, and in the yellow area which includes the summer housing cooperative lands.



**Figure 4: Çayağzı beach:** the so called “Pink Bar” has been removed and there are no further facilities in that area besides the camping area in the back.



**Figure 5: Letoon beach:** the former SPA facilities that are not remain on the beach in decay; old shower pipes are still supplying water



**Figure 6: facilities in decay**



**Figure 7: leaking water pipe**



**Figure 8: wet sand around leaking pipe and tube**

**Letoon beach:** the former SPA facilities that are not in use, remain on the beach in decay; old shower pipes are still supplying water and are used by visitors on the nesting beach





**Figure 7: Outside Patara main beach: visitors insert beach umbrellas in the nesting area**



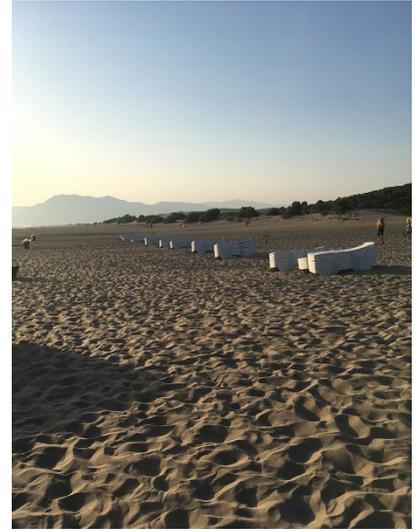
**Figure 8: Outside Patara main beach: no zoning or delimitation of the nesting zone**



**Figure 9: Furniture provided for rent: 500 sunbeds in 5 rows at Patara main beach**



**Figure 10: Furniture provided for rent: 500 sunbeds in 5 rows at Patara main beach**



**Figure 11: Sunbeds put together in several patches at sunset at Patara main beach**



**Figure 12: Wooden pathway and sunbeds at Patara main beach**



**Figure 13: Wooden pathway at Patara main beach**



**Figure 14: Volleyball court at Patara main beach**



**Figure 15: vehicle tracks along the beach entering from Esen river. Note track of sea turtle crossing the vehicle track**



**Figure 16: vehicle tracks along the beach entering from Esen river**



**Figure 17: a chain and a prohibit sign at beach entrance of Özden beach**



**Figure 18: illuminations from camping areas at Esen river**



**Figure 19: illuminations from camping areas at Esen river**



**Figure 20: street lamp at Özden beach**



**Figure 21: Nearshore fishing activity at Esen river**



**Figure 22: Nearshore fishing activity at Esen river**



**Figure 23: Horse riding marks along the beach**



**Figure 24: Litter presence. Note the turtle nest marked with wooden sticks.**



**Figure 25: Litter accumulated in patches due to wind and erosion**



**Figure 26: Litter presence at some parts of the beach-stretch**



**Figure 27: Predation - all nests without predation cage were predated**



**Figure 28: Predation - predation cages don't seem to prevent predation**



**Figure 29: Predation - all nests without predation cage were predated**



**Figure 30: Nests in Patara main beach: marked with sticks and caged.**



**Figure 31: Nests in Patara main beach marked with sticks**



**Figure 32: Nests in Patara main beach**



**Figure 33: Sign at Patara main beach, view from parking area**



**Figure 34: Sign at Patara main beach, view from beach entry**



**Figure 35: Sign at Patara main beach next to the information kiosk.**



**Figure 36: Signs at Patara main beach**



**Figure 37: Information kiosk at Patara main beach**



**Figure 38: Information kiosk at Patara main beach**

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

MEDASSET hereby submits an update report to the second Bureau Meeting of the Bern Convention (August 2016) on the conservation status of sea turtle nesting beaches in Fethiye Specially Protected Area (SPA) in Turkey.

### ***Contents:***

*BACKGROUND*

*UPDATE*

*CONCLUSION & RECOMMENDATIONS*

*REFERENCES*

*MAPS & PHOTOGRAPHS*

### **BACKGROUND**

The loggerhead sea turtle (*Caretta caretta*) nesting beaches in Fethiye (Muğla Province, Turkey) are among the 12 most important nesting beaches in Turkey.<sup>1</sup> Recently, the northernmost green turtle nest was also recorded here (Patara previously held this record).<sup>2</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>3</sup> Fethiye's importance increases because of the relatively higher proportion of male-producing nests.<sup>4</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>5</sup> Threats to the nesting population have constantly been increasing since 1993-4.<sup>6</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>7</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>8</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*”.

---

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

<sup>2</sup> Fellhofer-Mihcioglu *et al.* 2015

<sup>3</sup> Yılmaz *et al.* 2008

<sup>4</sup> Kaska *et al.* 2006

<sup>5</sup> Ilgaz *et al.* 2007; Katilmis *et al.* 2013

<sup>6</sup> Oruç *et al.* 2003

<sup>7</sup> See references.

<sup>8</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.

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>9</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".

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 lead 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.

In 2016, there was no improvement and the conservation status of the nesting beaches has mostly deteriorated: lack of management, poor beach furniture management, lack of zoning and information, nearshore fishing, no vehicle access control, more fixed structures, no light pollution control, etc. There were no signs of new efforts or conservation activities. The only exception was litter collection and irregular beach furniture management in 1.5 of 8 km of the nesting beaches.

## UPDATE

*Nesting beach description (Figure 1): the 8 km beach is split in three main sections: Çalış, Yanıklar and Akgöl. Çalış is 2.5km long, separated from the other two beaches by a small rocky peninsula. A river (Kargı) marks the border between Yanıklar (4.5km, including Karatas beach) and Akgöl (1km). For a detailed description of the Fethiye SPA nesting beaches see MEDASSET, September 2009.*

---

<sup>9</sup> T-PVS/Files 2010 23 (Government report); Authority's letter in Annex 1 of MEDASSET, December 2011

MEDASSET visited the area in July 2017 to assess and document the conservation situation on the nesting beaches in Fethiye SPA. 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;**

New road structures are not observed in the areas of Karakas, Yaniklar and Çalış Section A, however no restoration efforts are apparent. At the beach of Çalış Section B, new beach bars are under construction (Figure 3-Figure 5) and the concrete platform still remains (Figure 6-Figure 8). No new information or official news has been received on the final decision regarding the government plan to construct a shipyard on the nesting beaches.

**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;**

There is no apparent restoration effort. Permanently fixed equipment, volleyball courts and children's playgrounds remain on the beach. At the north end of Akgöl beach, the sandy nesting areas are occupied by 14 pavilions (Figure 9- Figure 10) and showers are used at the back end of the beach (Figure 11). The sports facilities, however have been removed. Furthermore, Karaot Buffet removed the volleyball court, decreased the number of beach furniture provided and maintains 1 wooden pavilion. However, it still offers camping tents, hence there is night-time beach use and human presence.

In Karatas beach, the "Deniz Incisi Buffet" playground remains on the upper part of the nesting beach and now includes a wooden walkway and 38 sunbeds arranged in 3 rows (Figure 16, Figure 17). The beach equipment of the Barut TUI Sensatori Resort occupies most of the beach section between the waterline and the hotel: a snack bar, a sports station, sport facilities, vertical and horizontal wooden walkways, umbrellas, 21 pavilions and 250 sunbeds in 6 rows. There is daily wash of the walkways and the sunbeds; the sand around the sunbeds and walkways is being flatted, compressed and smoothed also on a daily basis. The regular compression of the sand and the water runoff makes the sand unsuitable for nesting, by altering sand temperature, moisture and compactness. Furthermore, grass plantation has grown further onto nesting area at the west end of the pavilions (Figure 12-Figure 15).

In Yaniklar, equipment and facilities of the Hotel Lykia Botanika include 2-3 rows of sunbeds and permanent shades (100 sunbeds), wooden walkways and sports facilities (Figure 18, Figure 19). Katranci Beach resort (a split part of Botanika) has placed 18 sunbeds in 2 rows with permanent shades and a wooden path (Figure 20, Figure 21). Doga Camping provides 25 sunbeds and a volleyball court (Figure 22) and Onur Camping, 20 sunbeds, a permanent shade and 1 pavilion. Yonca Lodge has placed 20 sunbeds, 2 pavilions and dinner tables in an area which includes nests.

In Çalış beach Section A, showers and cabins remain on the edge of nesting beach since 2012 and shower water leaks directly onto the nesting beach. A total of 450 sunbeds in 1 – 3 rows has been placed on the beach. (Figure 23- Figure 26) In Çalış Section B, business have further expanded onto the beach (Ceviz beach, My beach, unnamed bar under construction); showers on the beach, wooden pathways and carpets, a volleyball court and a playground that were placed last year, remain in the nesting zone. (Figure 29-Figure 46)

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

The river bed in Akgöl forms its way to the sea again, and there is no evidence of sand extraction (Figure 48). In Karatas beach, there is regular sand movement next to the Barut TUI Sensatori Resort (Figure 49, Figure 50) and daily flattening of the sand (Figure 51). Regular sand movement was evident also in Yaniklar (Figure 52) and in Çalış Section B (Figure 27).

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

No further planted vegetation was witnessed with the exception of Çalış beach Section B, where new plantations were observed at the My Beach Restaurant (Figure 53).

- 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;***

No information on the recommended mapping and zoning action has been received. Furthermore, there is no zoning or demarcation of nesting zones, which should be considered very difficult in Çalış and Yanıklar, since the turtles seem to use the whole beach width for nesting. A slight decrease in beach furniture provided was observed in some beaches, mostly because of a decline in tourist arrivals. In Karatas beach, neither the Barut TUI Sensatori Resort nor the “Deniz Incisi Buffet” (former Karatas Buffet) remove the sunbeds at night, which is also the case of Hotel Lykia Botanika, Katranci and Club Tuana in Yanıklar beach. In Çalış beach Section A, sunbeds are not removed properly at night and people can move the sunbeds and sleep on the beach (Figure 55). Karaot buffet in Akgöl, has placed stable pavilions at the backside of the beach and 20 sunbeds, which remain at the beach during the night (Figure 54). In Section B, businesses place 3 - 5 rows of beach furniture on the nesting beach without removing them at night. It seems there is no restriction, supervision or management regarding the location and density of the furniture, which occupies the nesting zone. Additional sunbeds were placed on the beach by the new “Surf Blue Cafe” and wooden platforms were installed at Petunya (Figure 47).

- 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;***

Akgöl beach has the largest sandy area suitable for nesting in the area. In the last years the sandy area has been severely damaged due to touristic development adding pressure to the nesting activity. At the north end of Akgöl beach, the sandy nesting areas are occupied by 14 pavilions (Figure 9-Figure 10) and showers are used at the back end of the beach (Figure 11). Furthermore, camping was observed and bonfires were lit in the picnic areas on the beaches of Akgöl (Figure 72, Figure 73). However, a decrease in beach furniture and some limited beach furniture management was witnessed, and the sports facilities have been also removed. The beach sections that consist of cobbles and stones, not suitable for nesting that could be used by beach business following SPA guidelines.

- 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 is severe on all beaches and there were no apparent new efforts to mitigate the problem. Beach businesses operate at night with lights and loud music, and have made little adjustments to reduce light pollution. In Yanıklar nesting beach, Hotel Lykia Botanika and Hotel Club Tuana continue to turn off beach lights and pier lights after midnight, however still light from the area influences the beach (Figure 58). Artificial lights from Karaot Buffet in Akgöl beach, also do not turn off by night. Along Çalış Section A, 17 of 24 street lamps are painted black on the seaward side. At all other beach sections, bright street lamps lead to severe hatchling disorientation (Figure 59). Wedding ceremonies at the beach were very popular this year. In Çalış Section B, wedding ceremonies are organized at night, with music, lights and crowd on the beach and Petunya beach club and Bacrac are especially designed and equipped for that (Figure 60-Figure 62). The Karatas nesting beach is affected by the Barut TUI Sensatori Resort’s two security floodlights and the Deniz Incisi Buffet’s artificial light that shine on the nesting beach (Figure 56, Figure 57).

**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;***

Vehicles were observed on all beaches, due to the lack of barriers or guards. An irregularly controlled barrier is located on the road leading to the west end of the beach at Akgöl; on Saturday and Sunday there is personnel during the day to collect an entry fee. During the day cars park at a flattened area at the back end of the beach. (Figure 63) There is no vehicle access control at Yanıklar and Karatas beaches, which are frequently used as a picnic zone. (Figure 64-Figure 67). This year, the truck on the beach of Karakas, selling snacks and renting beach equipment was not present. In Çalış Section B the only barriers to hinder cars from entering the beach are in front of Sunset Apartments and Jiva Resort (cement spaces for plants, parallel to road and beach) and there some sand-hills towards the end of the beach; however, there are numerous other access points (Figure 68-Figure 70). The picnic areas are widespread along the beaches. Picnic areas are especially crowded in Çalış beach Section B and Karatas (small beach area).

**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;***

In Karatas, maritime traffic still very active; BARUT TUI Sensatory Resort provides several new motorized water sport boats. In Yanıklar and Çalış, less water sport activities were observed probably due to a decrease of tourists in general in the area (Figure 71).

**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);***

Monitoring and conservation of the sea turtle nests were carried out by Pamukkale University, starting in early June, though nesting began in May. The contract is again short-term, for one season only. No information about recommended assessments (i)-(iii).

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

There is uncontrolled visitor access at night. Camping was observed on the beaches and bonfires were lit in the picnic areas on the beaches of Akgöl (Figure 72, Figure 73), Yanıklar (Figure 74, Figure 75), and Çalış Section B (Figure 76). There is no night time restriction for the operation of the beach businesses hence lights, music and people disturb nesting and hatching. Many of them close at around midnight. As mentioned, beach weddings take place at Çalış Section B (Figure 60- Figure 62).

**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 Section A, the Çalış Tourism and Promotion Association collected trash every morning while re-arranging sunbeds (Figure 79). There was far less litter in this section. In Yanıklar garbage is collected in designated locations outside of bins (Figure 77, Figure 78). No similar efforts were taken in the other nesting beach sections which were littered as per every year.

**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;***

See below

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

No local management unit, no apparent increase of management & control resources. No apparent rules enforcement or fining for noncompliance. Visitors can access the beach at night, move the sunbeds and sleep on the beach without any fine. No guards or rangers were present. In Çalış Section A, Çalış Tourism and Promotion Association personnel is present to manage beach furniture but they

do not have the capacity or competence to raise awareness and/or control beach access. The nest monitoring team does not have the capacity nor the authority to enforce 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 mainly unchanged compared to 2016 and hence there is lack of information in most nesting beaches and the public is largely unaware of regulations and the protected status of the beaches. Signage is poor, derelict, hidden or inexistent in most of the beaches (Figure 80-Figure 83).

**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;***

Nest predation is still a problem in the SPA; incidents of nest predation by foxes and dogs was observed in Yanıklar and Çalış. However, in Yanıklar all nests that were discovered by the monitoring team were protected with predation cages.

## **CONCLUSION & RECOMMENDATIONS**

In 2017, there was no significant improvement in the protection and management of the sea turtle nesting beaches in Fethiye SPA. Habitat destruction continues, business expand on the sandy sections of the nesting beaches, further reducing available habitat and increasing disturbances. Lack of effective management, poor beach furniture management, lack of zoning and information constitute a threat to the conservation status of the nesting beaches in Fethiye. Implementing the envisaged measures of Recommendation No. 183 (2015) is necessary for the adequate and proper management and protection of the SPA. Without urgent conservation action and management, the recorded negative nesting trend will not be reversed and the few remaining areas in Fethiye SPA that have not been damaged will continue to be encroached upon by unplanned and unsustainable development.

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

- Discuss the case file at the 37<sup>th</sup> Meeting of the Standing Committee.
- Urge Turkish authorities to implement Recommendation No. 183 (2015)
- Encourage and assist Turkish authorities to implement management and conservation measures.

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

- Urgently implement Recommendation No. 183 (2015).
- Revise/produce a SPA management plan that will cover both the land and marine areas, and will include a clear description of permitted land uses and activities. Allocate the necessary financial and human resources that will ensure enforcement of regulations and measures by authorities.

## REFERENCES

- Canbolat, A.F. 2004. A review of sea turtle nesting activity along the mediterranean coast of Turkey. Biol.Conserv. 116: 81-91
- Bann C. & E. Başak. 2013. Economic Analysis of Fethiye-Göcek Special Environmental Protection Area.GEF-funded 2009-13 Project PIMS 3697: Strengthening the System of Marine & Coastal ProtectedAreas of Turkey. Technical Report Series 11.
- Fellhofer-Mihcioglu C., Rameder E., Lambropoulos M., Stachowitsch M., Atatunc K., Canbolat A.F. 2015.The westernmost Mediterranean record of a nesting green turtle, *Chelonia mydas*: Fethiye beach, Turkey, Aegean sea. In: Kaska, Y., Sonmez, B., Turkecan, O., Sezgin, C. (Eds). Book of abstracts of 35th Annual Symposium on Sea Turtle Biology and Conservation. MACARTpress, 250pp. Turkey.
- Ilgaz, C., Türkozan, O., Özdemir, A., Kaska, Y. & M. Stachowitsch. 2007. Population decline of loggerhead turtles: two potential scenarios for Fethiye beach, Turkey. Biodiversity and Conservation16: 1027 – 1037.
- Kaska, Y., Ilgaz, Ç., Özdemir, A., Bafkale, E., Türkozan, O., Baran, & M. Stachowitsch. 2006. Sex ratio estimations of loggerhead sea turtle hatchlings by histological examination and nest temperatures at Fethiye beach, Turkey. Naturwissenschaften, 93:338-343.
- Katilmis, Y., Baskale, E., Polat, F., Azmaz M., & Y. Kaska. 2013. Decline of loggerhead turtle nests on Fethiye beach, Turkey. In: Tucker, T., Belskis, L., Panagopoulou, A., Rees, A., Frick, M., W
- Margaritoulis, D., R. Argano, I. Baran, F. Bentivegna, M.N. Bradai, J.A. Camiñas, P. Casale, G. De Metrio, A. Demetropoulos, G. Gerosa, B.J. Godley, D.A. Haddoud, J. Houghton, L. Laurent & B. Lazar. 2003. Loggerhead turtles in the Mediterranean Sea: present knowledge and conservation perspectives. In: A. Bolten & B E. Witherington (Eds.). Loggerhead Sea Turtles. Smithsonian Books, Washington pp.175-198.
- Oruç, A., Türkozan O. & H. Durmuş. 2003. In the Tracks of Marine Turtles: Assessment of Marine TurtleNesting Sites 2003. WWF, Istanbul. 96pp.
- Türkozan, O. 2000. Reproductive ecology of the loggerhead turtle, *Caretta caretta*, on Fethiye and Kızılot beaches, Turkey. Chelonian Conservation and Biology 3:686-692.
- Yılmaz, C.,Türkozan, O., F. Bardakçı. 2008. Population genetic structure of loggerhead turtles, *Caretta caretta*, in Turkey based on mtDNA sequences, 3rd Mediterranean Conference on Marine Turtles.

## MEDASSET REPORTS & COMPLAINT

(Available at: [www.medasset.org/en/resource-centre](http://www.medasset.org/en/resource-centre))

- T-PVS/Files (2016) 35 MEDASSET. October 2016. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye SPA, Turkey.
- T-PVS/Files (2015) 34 MEDASSET. September 2015. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye SPA, Turkey.
- T-PVS/Files (2014) 16. MEDASSET. March & August 2014. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye SPA, Turkey.
- T-PVS/Files (2014) 16. MEDASSET. March & August 2014. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye SPA, Turkey.
- T-PVS/Files (2013) 9. MEDASSET. March & September 2013. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye, Turkey.
- T-PVS/Files (2012) 42. MEDASSET. September 2012. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye, Turkey.
- (No T-PVS reference). MEDASSET. December 2011. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye, Turkey.

(No T-PVS reference). MEDASSET. April 2011. Destruction of Sea Turtle Nesting Beaches in Fethiye SPA, Turkey.

(No T-PVS reference). MEDASSET. March 2011. Update on Loggerhead sea turtle (*Caretta caretta*) Conservation Monitoring in Fethiye, Turkey.

T-PVS (2010) 08 E. MEDASSET. March & September 2010. Implementation of Recommendation No. 66 (1998) on the conservation status of some nesting beaches for marine turtles in Turkey.

(No T-PVS reference). MEDASSET. Sept 2009. Complaint to Bern Convention addressing the threats facing the loggerhead sea turtle (*Caretta caretta*) nesting beaches in Fethiye, Muğla province, Turkey.

(No T-PVS reference). MEDASSET. September 2008. Sea turtle nesting beach degradation in Çirali and Fethiye, Turkey.

MAPS & PHOTOGRAPHS

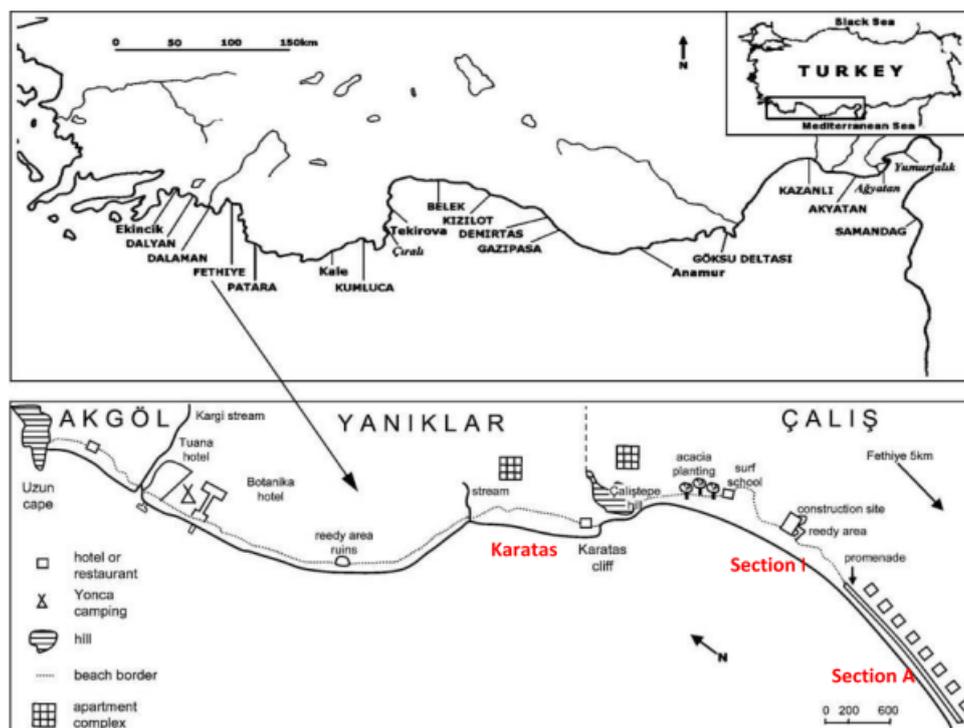


Figure 1: TOP: Fethiye among important nesting beaches. BOTTOM: Fethiye nesting beach sub-subsections; developments since 2006-7 are not shown here. Source: Ilgaz et al.,



2007.

Figure 2: Fethiye SPA. Çalış Section B. 2003 – 2013 satellite imagery comparison shows the continual coastal build-up, planting of sandy area and occupation of nesting beach, in conflict with Recommendations. Note how the sandy area (nesting zone) has been occupied and in most parts only the pebbly zone near the waterline is development-free.



**Figure3: Bar 'My Beach' at Çalış Section B; note nest**



**Figure 4: Ceniz beach bar at Çalış Section B**



**Figure 5: New beach bar at Çalış Section B**



**Figure 6: Concrete platform at Çalış Section B**



**Figure 7: Concrete platform at Çalış Section B**



**Figure 8: Concrete platform at Çalış Section B**



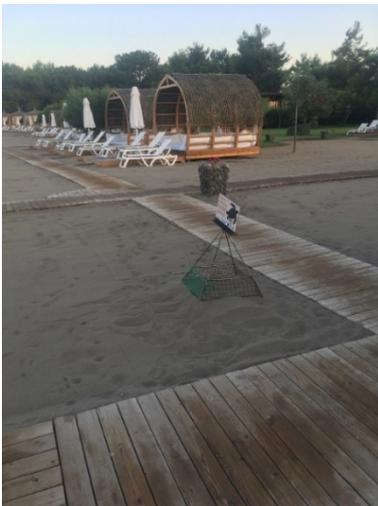
**Figure 9: Structures at Akgöl Beach**



**Figure 10: Structures at Akgöl Beach**



**Figure 11: Hut with showers and camping at Akgöl beach**



**Figure 12: Beach facilities of the BARUT TUI Sensatory Resort**



**Figure 13: flatted, compressed and smoothed sand in front of the BARUT TUI Sensatory Resort**



**Figure 14: Beach facilities of the BARUT TUI Sensatory Resort**



**Figure 15: plantation of grass grows further onto nesting area at the west end of the pavilions at BARUT TUI Sensatory Resort**



**Figure 16: Equipment and facilities of the Deniz Incisi Buffet**



**Figure 17: Equipment and facilities of the Deniz Incisi Buffet**



**Figure 18: Equipment and facilities of the Hotel Lykia Botanika**



**Figure 19: sports facilities of the Hotel Lykia Botanika**



**Figure 20: Equipment and facilities of the Katranci Beach resort**



**Figure 21: Equipment and facilities of the Katranci Beach resort**



**Figure 22: sunbeds at the Doga Camping**



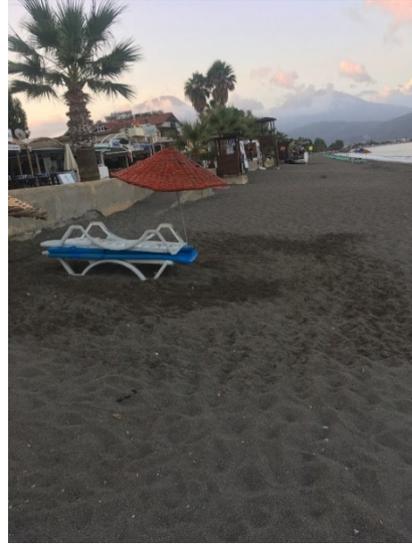
**Figure 23: rows of sunbeds at Çalış section A**



**Figure 24: Beach facilities at Çalış section A**



**Figure 25: Leaking showers at Çalış section A**



**Figure 26: Leaking showers at Çalış section A**



**Figure 27: Surf Blue carpets and flattened sand at Çalış section B**



**Figure 28: Flattened sand at Çalış section B**



**Figure 29: Further expansion of business onto the beach at Çalış section B**



**Figure 30 : Further expansion of business onto the beach at Çalış section B**



**Figure 31: Further expansion of business onto the beach at Çalış section B**



**Figure 32: Further expansion of business onto the beach at Çalış section B**



**Figure 33: Further expansion of business onto the beach at Çalış section B**



**Figure 34: Further expansion of business onto the beach at Çalış section B**



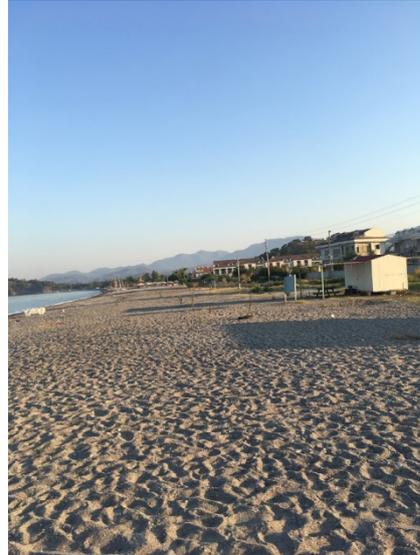
**Figure 35: Further expansion of business onto the beach at Çalış section B**



**Figure 36: Further expansion of business onto the beach at Çalış section B**



**Figure 37 Shower construction on the beach at Çalış section B**



**Figure 38: Plantations behind the beach at Çalış section B**



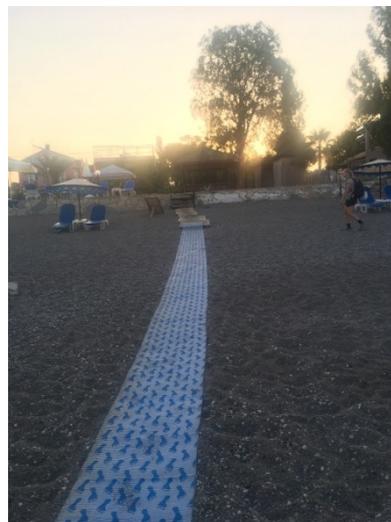
**Figure 39: Further expansion of business onto the beach at Çalış section B**



**Figure 40: Further expansion of business onto the beach at Çalış section B**



**Figure 41: Further expansion of business onto the beach at Çalış section B**



**Figure 42: Further expansion of business onto the beach at Çalış section B**



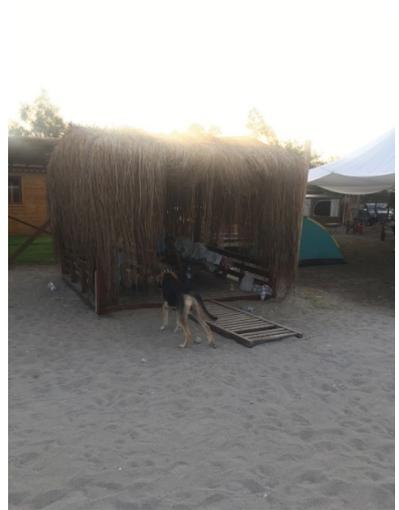
**Figure 43: Further expansion of business onto the beach at Çalış section B**



**Figure 44: Surf café at the beach at Çalış section B**



**Figure 45: Further expansion of business onto the beach at Çalış section B**



**Figure 46: Further expansion of business onto the beach at Çalış section B**



**Figure 47: Wedding ceremony platforms at Çalış section B**



**Figure 48: Akgöl - river bed forming its way to the sea**



**Figure 49: Karatas beach -Sand extraction next to Barut hotel Barut TUI Sensatori**



**Figure 50: Karatas beach -Sand extraction next to Barut hotel Barut TUI Sensatori**



**Figure 51: Karatas beach – smoothed and compressed sand**



**Figure 52: Yaniklar- Regular sand movement**



**Figure 53 : Çalış Section B -new plantations at My Beach Restaurant**



**Figure 54 : stable Pavilions at the backside of Akgöl beach**



**Figure 55: Çalış Section A -sunbeds**



**Figure 56: Karatas- two security floodlights of the Barut TUI Sensatori Resort's shine on the nesting beach**



**Figure 57: Karatas- Deniz Incisi restaurant at night**



**Figure 58: Yaniklar- Hotel Club Tuana turns off beach lights and pier lights at night after midnight, still light from the area influencing the beach**



**Figure 59: illumination on the beach at Çalış Section A**



**Figure 60: Wedding ceremonies at Çalış Section B**



**Figure 61: Calis Spor Café at night**



**Figure 62: Calis Sport Café at night**



**Figure 63: track marks at Akgöl**



**Figure 64: Karatas - no vehicle access control**



**Figure 65: Karatas - no vehicle access control**



**Figure 66: Yaniklar - no vehicle access control**



**Figure 67: Yaniklar - no vehicle access control-note nest marked with stones**



**Figure 68: Çalış Section A - area inaccessible to cars due to promenade wall**



**Figure 69: Çalış Section B**



**Figure 70: Çalış Section B**



**Figure 71: Çalış Section B- Surf blue track of water vehicle**



**Figure 72: bonfires at Akgöl**



**Figure 73: camping at Akgöl**



**Figure 74: camping at Yanıklar**



**Figure 75: bonfires at Yanıklar**



**Figure 76: camping at Çalış Section B**



Figure 77: Yanıklar



Figure 78: Yanıklar



Figure 79: Çalış Section A, nest cage used as trash bin



Figure 80: signs at Akgöl



Figure 81: signs at Akgöl



Figure 82: Karatas- No signs



Figure 83: Yanıklar- One hidden old sign at Botanika Hotel