

Conservation assessment of two important loggerhead turtle (*Caretta caretta*) nesting beaches in Turkey

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Background

The Convention on the Conservation of European Wildlife and Natural Habitats, herein referred to as the Bern Convention, came into force during June 1982. Through its adoption, contracting parties are legally committed to improving national conservation policies to protect wild flora and fauna and their natural habitats, with an emphasis on regional cooperation which provides protection to endangered and vulnerable migratory species.

The Standing Committee governs the convention and consists of all contracting parties in addition to observers of the states and organisations. Its role is to adopt recommendations for achieving the Convention objectives, monitor its implementation and provide guidance. Unique to any other international convention is its case-file system, wherein complaints by NGOs or individuals can report breaches of the agreement by contracting parties. This system is not written within the provisions but was implemented in 1984 through the Committee and has proved to be an invaluable informative feedback tool to evaluate the contracting parties' implementation of the Convention. MEDASSET has been a permanent observer of the Bern Convention since 1988.

Sea turtle species are listed under Appendix II (Strictly protected fauna species) of the Bern Convention. Although the Mediterranean sub-population of loggerhead turtles is listed as Least Concern on the IUCN RED list, this classification contains a caveat that it is conservation dependent; meaning that the status is reliant on maintaining the current conservations efforts (Casale 2015).

Turkey hosts the second highest number of loggerhead turtle nests in the Mediterranean, approximately 27% (Margaritoulis et al. 2003), with nesting concentrated on the western and southern coastline. The highest density of nesting for loggerheads (>20 nests/yr) occurs at 18 beaches, which includes Patara (av. 117 nests/yr) and Fethiye (av. 89 nests/yr) (Hochscheid et al. 2018). Both sites are designated Special Protected Area (SPA) and additionally the ancient

city of Patara is nationally protected as a 3rd Degree Archaeological Site (Casale & Margaritoulis 2010).

Patara and Fethiye are under extreme pressure from coastal development and disturbances primarily attributed to the tourism industry. Continued development without adequate planning and consideration, exacerbated by ineffective management, causes habitat degradation and destruction of the nesting beaches and disregards the obligations to the Bern Convention. As a contracting party to the Bern Convention, Turkey has committed itself to ensuring the protection of this species.

Patara case history

Threats to Patara were first raised by MEDASSET to the Standing Committee in 1988 and in 1996 a Case File was opened. Following resolutions to most of the problems highlighted in the previous Case Files the case closed in 2001, with Turkish ministries asked to continue reporting on the remaining unresolved issues. MEDASSET continued to monitor Patara's conservation status and after reporting a continued lack of progress on the remaining issues and a new emerging threat related to the construction of 450 to 700 villas in the area, a new Case File was opened and Recommendation No. 182 (2015) adopted. Once again, the Turkish government was urged to take urgent action to improve the management and conservation status of Patara.

Fethiye case history

Since 2008, MEDASSET has monitored and reported on the lack of management, poor spatial planning and increased development along Fethiye's coastline, due to tourism development. Following continued reports of failures to address the expanding tourism problem and insufficient management, a Case File was opened jointly with Patara SPA (2012/9). The Standing Committee encourage the Turkish authorities '*to work together towards greater accountability, cooperation and responsibility*'.

2019 conservation assessment

MEDASSET has continued to monitor the conservation status annually and report to the Bern Convention on the implementation of the Standing Committee's adopted recommendations for these important loggerhead turtle nesting sites. Funding support from the BCG ensured that these vital assessments continued during 2019. MEDASSET visited Patara SPA (Special Protection Area) and Fethiye SPA in August 2019, coinciding with the peak tourist and loggerhead nesting seasons. The following presents a summary of the survey findings in relation to each of the measures (*italics*) under Recommendation No. 182, Patara and No. 183, Fethiye (2015). The full report was submitted to the 39th Standing Committee (MEDASSET 2019).



Fig. 1. Patara SPA GoogleEarth Map. White star: construction site of summer house village. a) new second road connecting villas and Gelemis village. b) archaeological site fee collection point with daytime vehicle barrier. Nos 1-5 are entry points: 1: Patara main beach entry point, snack bar & beach furniture; 2: entry point via sand dunes, connecting beach with summer house village; 3: Çayağzı beach entry point & illegal beach bar (est. 2014, closed in 2015); 4: Letoon beach entry point and abandoned SPA information kiosk; 5: Özden beach entry point, bar, camping site, 4x4 rentals (Özden river outlet). Esen river outlet lies between Nos 3-4.

Patara (Fig. 1) Recommendation No. 182

1. *Urgently ensure that Patara nesting beach receives appropriate legal protection and management.* No local management unit, such as guards or rangers, were present. ‘Zabita’ officers working under the local municipality with limited enforcement authority, who have the ability to implement fines, check permits and licences, were observed; however, there is seemingly little to no enforcement.

In the framework of an ongoing process to re-determine the SPA’s zoning launched in 2017, a part of Patara’s sand dunes was included in a new ‘Strictly Protected Zone’. Maps of the new zoning of the SPA section under Muğla region’s jurisdiction were not available. The status of the re-zoning process is unknown.



Fig. 2. Patara SPA. Patara main beach. Boardwalks from the beach bar to waterline (late pm).



Fig. 3. a) Vehicle tracks on Letoon beach; b) Patara SPA, Esen river mouth. Vehicle access and preparation for evening barbecue and overnight camping.

2. Urgently set up, enforce and monitor the implementation of strict regulations which:

(i) *prohibit further development on the beach and enable the removal of abandoned illegal facilities and implement sand dune restoration activities.* Unused and derelict SPA facilities are still present, and an old fence line is still visible, marking a clear limit between beach and the dune systems.

(ii) *regulate the extent of beach furniture and ensure its removal from the nesting zone at night.* Lack of zoning was apparent as visitors could place umbrellas anywhere. Zoning management occurred around a beach bar with 450 sunbeds and 150 parasols covering an area of approximately 2500m² (100m long and 25m wide). Sunbeds were stacked at night, but placed at the front of the beach, forming barriers for nesting turtles. Additionally, infrastructure barriers were present in the form of a lifeguard tower, permanent boardwalks, a boat, kayaks and a volleyball pitch (Fig. 2). Furthermore, access is not controlled and people move and use the sunbeds after the permitted time.

(iii) *prohibit access of vehicles by placing barriers at the beach entrances.* Vehicle tracks were observed at several places (Fig. 3a). Accessible points still existed for smaller vehicles at various locations. The main road to Patara beach is controlled during the day but the barrier is open overnight and access is unrestricted.

(iv) *prohibit illumination of the beach.* Lights were visible at several locations, but no evidence of hatchling disorientation was witnessed. Whilst these have limited impact, more shading would improve the situation. It is likely that once the summer house village construction is completed, light pollution will increase.

(v) *prohibit fishing with nets from the beach.* Seine fishing from the beach was observed.

(vi) *prohibit camping on the beach and riversides in view of the beach.* Overnight camping in the dunes was apparent after permitted hours, with evidence of numerous fires. At the riverside, campervans were observed with a volleyball pitch and the area continues to be used as a picnic and camping area in sight of the beach (Fig. 3b).

(vii) *prohibit horse riding and 4x4 or quad safaris on the nesting beach.* Horse-riding was observed in the dunes. Vehicle tracks (cars, motorbikes, scooter, tractor) were recorded along the beaches.

(viii) *define fines for non-compliance with above regulations.* No information was observed about fines for non-compliance.

3. *Ensure that adequate financial and human resources are allocated for the control, management and enforcement of regulations.* No local management unit or guards were present to enforce regulations and fines in the protected area.

'Zabita' officers were seen on the early morning and late afternoon (Fig. 4); however, there is seemingly little to no enforcement – officers saw people camping in the dunes, and vehicles at the river mouth setting up for barbecues in late afternoon/evening, but there was no apparent action taken.

4. *Continue to prevent uncontrolled human settlement behind the beach.* No new constructions were observed directly behind the beach; however, within the 3rd Degree Archaeological area, construction work for the summer house village continues. It seems that 20 additional houses have been built, some of which are in the 1st and 3rd Degree Archaeological area. There are local reports that the new houses were not granted permission but seem to be benefiting from law No. 1787 dated 06/07/2018 on construction 'amnesty'. There are two asphalt roads and the road leading to the beach entry point via dunes is used frequently by cars.



Fig. 4. Patara SPA. 'Zabita' patrol at Çayağzı beach entrance. New sign in the foreground.



Fig. 5. a) Caged nest with signage; b) Predation protection metal grid; c) Predated nest.

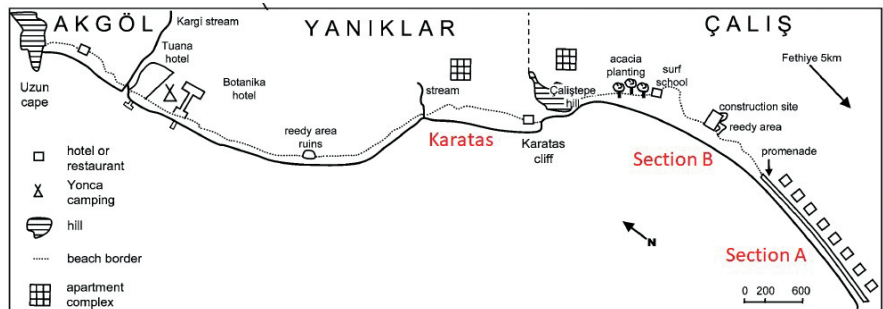


Fig. 6. Fethiye nesting beach subsections; developments since 2006-7 are not shown here. Source: Ilgaz et al. 2007.

5. *Ensure that litter is periodically removed from the beach and dunes.* Bins were present at certain areas; however, litter was observed around the river mouth and under the trees, where no bin facilities existed. For the former it is not possible to determine the origin (washed down the river, washed onshore).

6. *Address the problem of predation.* Non-systematic predation protection was apparent with some nests caged in main tourist areas and those outside had protected grills (Figs 5a & b). Evidence of predation was apparent at certain areas (Fig. 5c), with over 35 nests observed dug and with broken egg shells; it was not clear if they were all dug up pre or post emergence but at least eight nests exhibited hatchling tracks indicating recent emergences.

7. *Ensure the proper fencing of all nests in areas with high human presence during the day.* Non-systematic protection applied; nests at Patara main beach near sunbeds were caged; elsewhere nests were mainly marked with sticks or simple nest markers.

8. *Urgently set up long-term conservation and research programmes.* Monitoring was observed at the South beach but not the North beach. In combination with nests observed unprotected it would indicate insufficient personnel to effectively monitor the 12km beach.

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.* Improved signage was placed at several beach entrances (Fig. 4); however, this was still lacking at some access points. Caged nests also had information signs (Fig. 5a). Five markers delimit the nesting zone around the beach restaurant; but the zoning is not clear and not enforced. The markers are approximately 40-50m from the water line and nests were seen on both sides, hence it seems zoning remains inaccurate (nesting in Patara occurs 10-80m from the waterline, average 25.80m; Olgun et al. 2016). There is no zoning in the rest of the 12km nesting beach.

10. *Improve information and education of the local community about sea turtle nesting.* No information available, kiosks were not manned.

Fethiye (Fig. 6) Recommendation No. 183

1. *Stop any further development of permanent structures along the entire coastal area of the nesting site complex.* Seven jetties/docks and concrete platforms (some installed after Rec. No. 183 was issued) have not been removed. Additional building had been completed at a tourist resort (Fig. 7).



Fig. 7. Fethiye SPA. Karataş. Top: 2003; bottom: 2019. Barut TUI Sensatori Resort installed permanent structures on the previously pristine nesting beach. Several pavilions and extra sunbeds (left circle), the first two sunbeds rows, a walkway and water sport tent are inside the nesting zone. In 2019 the Resort expanded westwards (red rectangle) further increasing capacity. Google Earth imagery.

Neighbouring coastal wetland burnt and flattened in 2017 has been drained and levelled, ready for development.

According to local civil society groups, four more hotels are currently being planned. An EIA has been obtained for one of these hotels and another avoided this procedure by decreasing the capacity below the 400 beds threshold. Overall, the additional hotels, with an expected capacity of over 2,600 rooms, will cover the whole shoreline and their cumulative impact will lead to irrevocable destruction of the nesting beach.

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.



Fig. 8. a) Hotel pavilions, boardwalks, sunbeds and lawn planted on sand inside nesting zone; b) Fethiye SPA. Çalış Section B. Sunbeds occupy the nesting beach and are not removed at night.

2. *Remove any structure from sand zones.* There is no evidence of any form of restoration, nor of any form of mitigation of the development in the area. Permanently fixed structures are found on all of the nesting beaches, with some areas nearly completely covered in mobile beach furniture. In certain areas the extent of these structures leaves virtually no unoccupied sandy area.

3. *Stop sand extraction and ensure the application of deterrent penalties for these illegal activities.* There was no evidence of sand mining; however, there was evidence of digging and sand/gravel moving around the river mouth and sand being moved/piled at certain areas.

4. *Remove planted vegetation, with a view to restore the remaining sandy beach.* Bushes, trees and grass planted on the nesting beaches in previous years have not been removed and continue to expand onto the nesting beach and transform the natural profile of the beach (Fig. 8a). Lawns and palms around hotels and businesses remain, in addition to plantations by new businesses.

5. *Map coast using long-term data, maps and imagery to identify the past, current and potential most suitable zones for sea turtle nesting. Enforce beach furniture removal/stacking at night along the entire nesting beach complex.* There was no evidence of any zoning along the entire beach. Beach furniture is not removed or stacked at night along 6.5km of the 8km of the nesting beaches. At Karataş and Yanıklar, over 700 sunbeds, associated parasols, pavilions, boardwalks and AstroTurf cover the beach, some located within the nesting zone, which are not cleared at night (Fig. 8b).

Only at two locations was furniture (600 sunbeds and 300 fixed parasols) observed being stacked overnight. However, these were either left at the front of the beach or moved and used overnight. Overall, the area is nearly

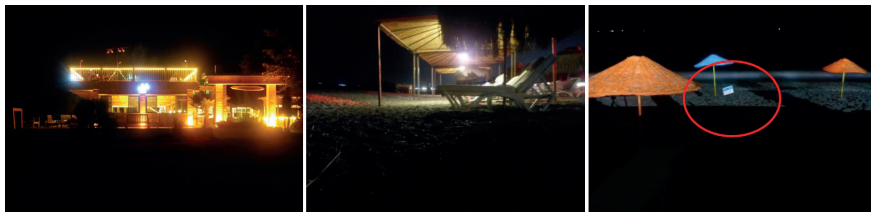


Fig. 9. Fethiye SPA. Çalış. Beach bar lights on the nesting beach. Red circle marks nest cage.

completely covered in tourism infrastructure leaving minimal available nesting area.

6. *Prohibit the use of beach furniture and other structures or facilities on the sandy zones of Akgöl beach, regulate use, and carry out the necessary controls to check enforcement.* Akgöl beach has the largest sandy zone suitable for nesting in the area and is under severe pressure from tourism development. Pavilions and businesses occupy the beach with bathroom facilities and camping, sunbeds and parasols, picnic tables and a boat on the beach. A new establishment was recorded providing two tables with shades, three fire pits, a volleyball court and a boardwalk on the beach. At the rear of the beach, an area is flattened from parked cars.

7. *Reduce light pollution to a minimum along the whole coast during the nesting/hatching season.* Light pollution is severe on all beaches and there were no apparent new efforts to mitigate the problem. Beach businesses operate at night, many of them until midnight, with lights and loud music, and have made no adjustments to reduce light pollution (Fig. 9).

8. *Build permanent barriers on the roads to prevent vehicles from accessing the beach, designate parking spaces and official picnic areas away from the beach.* Vehicular tracks were seen on all beaches except Çalış A, with access points available at various locations along the beach. Popular picnic spots were identified with fires made directly on the beach.

9. *Regulate maritime traffic during the nesting/hatching season.* Multiple outlets for motorised water sport activities were observed though little activity was recorded nearshore. All available evidence suggests nothing is in place to regulate boat traffic; only floating ropes seen to delimit swimming areas.

10. *Set up long-term research and conservation programmes conducted by a permanent team recruited on a long-term perspective.* Monitoring and conservation of the sea turtle nests were carried out and a team of three

members were seen, but the information desk was not staffed and the project seemed understaffed, with inadequate manpower.

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 to all beaches at night and no restrictions for beach businesses. Camping, fires and barbecues were observed along all beaches.

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.* Bins were located at certain areas of the beach, but litter was piled up in other areas. At Karataş, no bins seemed to be available, though hotel staff were seen litter picking, and some litter was observed at the back of the beach.

13. *Set up adequate regulations and enforcement for the measures above. Define and enforce fines for noncompliance with above regulations, and*

14. *Ensure that adequate financial and human resources are allocated to the control and management of the beaches.* There was no local management unit, guards or similar personnel present in the SPA and no apparent increase of management and control resources.

15. *Improve information to local community and tourists about sea turtle nesting and sustainable use of the beach.* Signage has not largely been improved and is insufficient, and unclear, hence the public is largely unaware of regulations and the protected status of the beaches. Some regulations were observed at certain locations. Nobody was observed at the information booth.

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 are caged in areas with dense touristic activities, and have predation cages (protective grills) in more remote places.

Decision

The Standing Committee took note of the updated information provided by the Turkish authorities and acknowledges the efforts made for monitoring the turtle nests and improving scientific knowledge. However, the Committee expressed again its concern regarding the numerous measures set in Recommendation No. 182 and No.183 (2015) which remain unaddressed as pointed out by the complainant.

The Standing Committee requested again that the Turkish authorities develop and provide a detailed and time bound action plan for complying with the provisions of the above Recommendations, elaborated in close liaison with relevant actors, including civil society organisations.

The file remains open.

Acknowledgements

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