

Changes at Yanıklar/Akgöl beaches, Turkey, in 2016

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KURZFASSUNG

Seit 23 Jahren ist die Universität Wien daran beteiligt, als Gäste diverser türkischer Universitäten, Niststrände der Unechten Karettschildkröte (*Caretta caretta*) zu betreuen. Dieses Jahr nahmen wir auf Einladung der Universität Pamukkale am Naturschutzprojekt in Fethiye, einer kleinen Küstenstadt im Südwesten der Türkei, teil.

Wie jedes Jahr, stellt das Dokumentieren der Veränderungen an den Niststränden in Çalış, Yanıklar und Akgöl einen wichtigen Teil unserer Arbeit in Fethiye dar. Hiermit ist es möglich, etwaige Probleme für den Nisterfolg und deren Auswirkungen auf das Nistverhalten von *Caretta caretta* zu erkennen.

Innerhalb unserer Datenaufnahme an den Stränden von Yanıklar und Akgöl wurden Sonnenbetten, Sonnenschirme, und Pavillons gezählt, welche es den Meeresschildkröten erschweren, ihre Nester an gewohnten, geeigneten Stellen zu legen. Lichter und Scheinwerfer wurden beobachtet, um den Grad der Lichtverschmutzung, im Vergleich mit den letzten Jahren, an diesen Strandabschnitten zu erfassen. Weitere Problematiken wie Müll und Fischerei stellen weiterhin ein großes Risiko für das Überleben der Hatchlinge und adulten Tiere dar und wurden ebenfalls fotografisch festgehalten.

Seit letztem Jahr prägt nun auch, neben den bereits seit längerem ortsansässigen Luxushotels „Majesty Club Tuana“ und „Majesty Club Lykia Botanika“ und dem schlichteren „Karaot Restaurant“ in Akgöl, die riesige Hotelanlage „Barut Sensatori Fethiye“ den Osten von Yanıklar Beach. Diese nimmt, wie auch die anderen großen Hotelanlagen, große Teile der Strände und somit auch wichtige Nistplätze für *Caretta caretta* ein. Eine durchaus positive Veränderung war am westlichsten Teil von Akgöl zu beobachten. Hier waren letztes Jahr 20 Sonnenliegen genau auf einem der Nist-Hotspots von *Caretta caretta* platziert, diese Liegen wurden auf 14 Stück reduziert und vor das Restaurant verschoben.

ABSTRACT

Twenty-three years ago, the University of Vienna joined the sea turtle conservation program in Fethiye, a small coastal city in the southwest of Turkey, involving Turkish universities. Since then, our university has been sending students to Turkey every nesting season to monitor the nesting sites of the loggerhead sea turtle (*Caretta caretta*). This year, we served as volunteers at the invitation of the University of Pamukkale.

Since the first year of our conservation efforts we have been documenting the changes, typically caused by humans, along the beaches Çalış, Yanıklar and Akgöl. This approach enables recognizing potential problems for the nesting behaviour and nesting success of *Caretta caretta* in an early stage.

For our monitoring at the beaches Yanıklar and Akgöl, we counted beach facilities such as sunbeds, parasols and pavilions. These facilities can cause major difficulties for the sea turtles, which may turn back to sea to choose other, nearby nesting sites. Not only beach facilities, but also light and litter pollution play important roles for our conservation program and are compared with past years.

During the last two decades, the western parts of Yanıklar Beach were transformed into touristic areas by the luxury hotels “Majesty Club Tuana”, “Majesty Club Lykia Botanika” beach and the smaller “Karaot Restaurant” on the westernmost end of the beach called Akgöl. On the eastern side of Yanıklar, another major hotel – “Barut Sensatori Fethiye” – was built in 2014 and is now operating for the second year. This hotel, like the others, occupies considerable sections of the beach, including important parts of the sea turtle nesting area. A positive change although was recorded at the westernmost end of Akgöl. Here, for example, the Karaot Restaurant had 20 sunbeds directly on one of the nesting hotspots of *Caretta caretta*. This year only 14 sunbeds were used but were moved away from the hotspot.

INTRODUCTION

According to Casale & Margaritoulis (2010), Fethiye represents one out of 21 major nesting grounds of the loggerhead sea turtle in Turkey.

Fethiye is one of 12 special protected areas of Turkey (Lambropoulos 2016), and the government is therefore responsible for protecting the area against human and natural impacts, for raising public awareness and for finding solutions to combine tourism and the conservation of the *Caretta caretta* population (see chapter 1, this report). Tourism has clearly changed the natural habitat of *Caretta caretta* in a negative way. Even though Yanıklar and Akgöl Beach are generally more natural than Çalış Beach, the big hotels in this area have an impact on sea turtle nesting. Apart from garbage, light pollution also endangers adults and disorients hatchlings. Raising awareness and educate locals and guests seems to be a possible solution.

This year, the sea turtle conservation efforts started in June. In contrast to last year, due to a smaller number of students joining the program this year, we only had one home base located behind “Keyif Café” behind the Çalış Beach promenade.

MATERIAL & METHODS

Since early July we conducted morning shifts every day, starting from the camp in alıř Beach at 5 a.m., walking to Small Beach and from there on we monitored Yanıklar Beach, which is 4.5 km long, until the westernmost end called Akgöl, which is another 1 km long. Our task included not only counting and measuring the sea turtles and their nests, but also recording the numbers of changes at the beach, mainly caused by touristic activities, and comparing them with the data of past years. We counted sunbeds, parasols and pavilions and took photographs of the unchanged and changing conditions of the beach. This included illegal sand removal sites, fireplaces, vehicle tracks, garbage and the presence of information signs along the beach. For this purpose, we photographed and noted all new, unusual or unnatural situations and findings such as vehicle tracks, dangerous litter left behind by beach guests or fishermen, hatchling tracks going into the wrong direction because of lights and other relevant occurrences. The present contribution focuses on the two beaches Yanıklar and Akgöl.

RESULTS

Site description

Beyond the large “Majesty Club Tuana” and “Majesty Club Lykia Botanika”, the new Hotel “Barut Sensatori Fethiye”, built in 2014, has played an important role in the changing face of Yanıklar Beach (Herzog & Kniha 2014). On the westernmost end of the beach, known as Akgöl, a small cabin selling refreshments was built some years ago, but this year it wasn’t in use. Nearby is the “Karaot Restaurant”. There are also smaller facilities between “Lykia Botanika” and “Tuana”, namely “Yonca Lodge”, “Onur Kamp” and “Doęa Camp”. In between the new “Barut Sensatori Fethiye” and “Small Beach” there is a smaller restaurant now named “Deniz Incisi Restaurant” (Fig. 1).



Figure 1 Aerial view of Akgöl and Yanıklar Beach

Abbildung 1 Satellitenbildaufnahme der Strände Akgöl und Yanıklar (Photo: Google Maps 14.10.2016)

General condition of the beach

The whole beach from Yanıklar to Akgöl varies in key characteristics such as beach composition, width, steepness or frequency of human or natural impacts. There is a tendency for *Caretta caretta* to nest in particular, so-called “hotspots” (Kluge et al., 2015). The westernmost end of Akgöl is one of these hotspots, even though many tourists and local residents frequent this beach section. The beach area between the so-called “lonely tree” landmark and Majesty Club Lykia Botanika is also frequently used by *Caretta caretta* as a nesting site (see chapter “Emergences and Nesting Activities of Loggerhead Turtles in Yanıklar and Akgöl”, this report). In this area, litter pollution is a big problem; most of the garbage here is being washed ashore from the sea.

Information signs

Entering Yanıklar Beach from the east (Çalış-directed) side, you can find the first information sign. The next sign is located after Barut Sensatori Fethiye directly before the bridge leading across the stream. This one is a TUI-Information sign. The Majesty Club Lykia Botanika has one big, but old and bleached information board. In front of Karaot there are only two sign posts, remnants of an information board installed several years ago. A new and informative sign is positioned beside the pavilions at Akgöl (Fig. 3).

Beach facilities

“Barut Sensatori Fethiye” has the biggest amount of beach facilities by far (Fig. 4, 5, 6). The number of furniture items increased since last year; there are now 35 more sunbeds and 64 more parasols (Tab. 1). Every parasol has a fixed table on it. Wooden cross walks connect the beach facilities (Fig. 7).

The facilities were set up in 6 rows, occupying almost the whole beach. Nonetheless, a nesting zone is free of sunbeds, at least in the wider parts of the beach. In front of the hotel, tourist boats are able to dock at the long pier. Around the pier, there’s a buoy-bordered swimming area (Fig. 8). Last year, 11 nests were located in front of “Barut Sensatori Fethiye” (Svalina & Werner 2015), this year there was not a single nest in front of it.

Table 1 Beach facilities at Barut Sensatori Fethiye 2015 & 2016, in 5-6 rows, *no data;
Tabelle 1 Anzahl der Strandeinrichtungen von Barut Sensatori Fethiye 2015 & 2016, in 5-6 Reihen aufgestellt *keine Daten;

Beach facilities – Barut Sensatori Fethiye	2015	2016
Sunbeds	210	245
Parasols	104	168
Wooden pavilions	*	21

The “Majesty Club Tuana” has fewer sunbeds than in the last 4 years (Tab. 2). This year, however, they also put 8 pavilions on the beach. This hotel also owns a pier and a buoy-bordered swimming area.

Table 2 Beach facilities at Majesty Club Tuana 2012 – 2016, Pavilion-like sunroofs 5x5 m size, in 2-3 rows, *no data;
Tabelle 2 Strandeinrichtungen von Majesty Club Tuana 2012 – 2016; Pavillonartige Sonnendächer 5x5 m groß, in 2-3 Reihen aufgestellt, *keine Daten;

Beach facilities – “Majesty Club Tuana”	2012	2013	2014	2015	2016
Sunbeds	170	*	254	246	167
Tables	*	*	*	*	5
Sunroofs	*	*	40	*	27
Pavilions	*	*	*	*	8

“Majesty Club Lykia Botanika” decreased their number of sunbeds (Tab. 3). Their sunbeds were beneath in total 38 sunroofs with a size of 2x4 metres. They set up a beach volleyball court next to the sunroofs (Fig. 9). Also this year, there are tourist boats docking at the pier (Fig. 10). There were only two nests in front of Majesty Club Lykia Botanika this year.

Table 3 Beach facilities at Majesty Club Lykia Botanika 2012 – 2016, 2-3 rows *no data;
Tabelle 3 Strandeinrichtungen von Majesty Club Lykia Botanika 2012 – 2016, in 2-3 Reihen aufgestellt, *keine Daten;

Beach facilities – Majesty Club Lykia Botanika	2012	2013	2014	2015	2016
Sunbeds	120	145	*	190	125

During the last five years, Yonca Lodge has increased the number of furniture items (Tab. 4).

Table 4 Beach facilities at Yonca Lodge 2012-2016, in one row, *no data;

Tabelle 4 Strandeinrichtungen von Yonca Lodge 2012 – 2016, in einer Reihe aufgestellt, *keine Daten;

Beach facilities – Yonca Lodge	2012	2013	2014	2015	2016
Sunbeds	19	19	11	*	26
Wooden pavilions	2	2	2	3	3
Parasols	5	5	10	*	0
Tables	*	*	*	*	9

The numbers of beach facilities of Onur and Doğa Kamp were pooled in the following table, altogether they increased the amount of beach facilities: this season they put tables and parasols on the beach (Tab. 5). 9 of these tables had 4 chairs each.

Table 5 Beach facilities at Onur and Doğa Kamp 2012 – 2016, in 2 rows, *no data;

Tabelle 5 Strandeinrichtungen von Onur und Doğa Kamp 2012 – 2016, in 2 Reihen aufgestellt, *keine Daten;

Beach facilities – Onur and Doğa Kamp	2012	2013	2014	2015	2016
Sunbeds	16	29	*	*	73
Wooden pavilions	0	1	1	1	3
Parasols	0	0	0	0	3
Sunroofs	4	1	1	1	3
Tables	*	*	*	*	15

The cabin selling refreshments in Akgöl (Fig. 11) was not in use this year and beanbags were no longer present (Tab. 6). Unfortunately, this part of the beach was heavily modified otherwise: a total of 14 wooden pavilions belonging to the “Karaot Restaurant” were erected on the back edge of the beach. A few of these had been positioned there last year, but had been removed. The ground has apparently been raised several centimetres to serve as a foundation for the wooden pavilions (Fig. 12). There was a decrease of sunbeds in front of the Karaot Restaurant: now there are 14 sunbeds, each with a parasol, instead of 20 beds like in the last years (Tab. 6). At the end of Akgöl, in front of the pavilions, there are no sunbeds or tables anymore (Fig. 13).

Table 6 Beach facilities at Akgöl Cabin and Karaot Restaurant 2012 – 2016, in 2 rows, *no data;

Tabelle 6 Strandeinrichtungen Akgöl und Karaot Restaurant 2012-2016, in 2 Reihen aufgestellt, *keine Daten;

Beach facilities - Karaot Restaurant + Akgöl Cabin	2012	2013	2014	2015	2016
Sunbeds	27	20	20	20	14
Wooden pavilions	3	12	12	11	14
Parasols	7	1	1	11	14
Roofed terrace/canopy	*	1	1	2	0
Tables	*	*	*	7	2
Beanbags	*	*	*	8	0

The former Karataş Buffet is named Deniz Incisi this year and it has reduced the amount of sunbeds, parasols and tables since last season (Tab. 7).

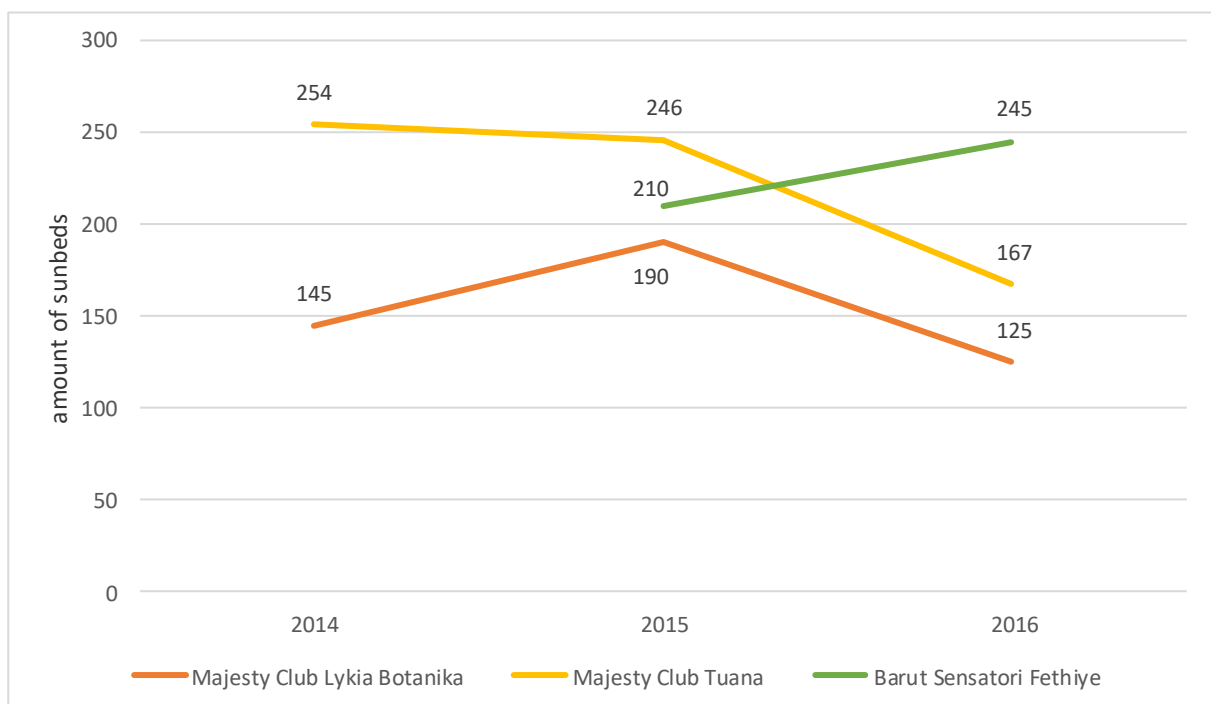
Table 7 Beach facilities at Deniz Incisi Restaurant 2012 – 2016, in 2 rows *no data;
Tabelle 7 Strandeinrichtungen von Deniz Incisi 2012 – 2016, in 2 Reihen aufgestellt, *keine Daten;

Beach facilities – Deniz Incisi Restaurant	2012	2013	2014	2015	2016
Sunbeds	19	47	20	43	27
Parasols	10	0	9	11	9
Tables	0	5	*	14	6

Looking at the general course of the amounts of sunbeds over the last years, it is noticeable, that two of the big hotels, namely Majesty Club Tuana and Lykia Botanika, decreased their number of sunbeds during the last year (Graph 1). The Barut Sensatori Fethiye, however, even put 35 more sunbeds than last year (Graph 1).

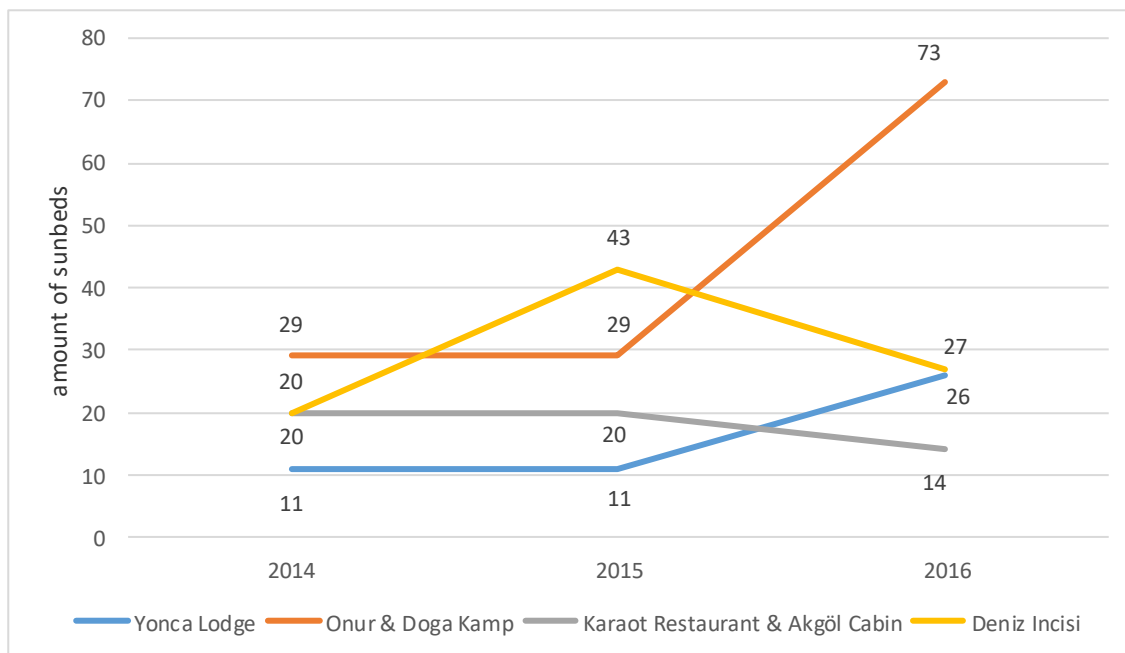
While Deniz Incisi and Karaot Restaurant put fewer sunbeds than in the last years, Yonca Lodge and Onur & Doğa Kamp increased their number of sunbeds (Graph 2). Onur & Doğa Kamp together put more than twice as much sunbeds than in the last years (Graph 2).

Even though certain hotels increased their amount of sunbeds, there are in total 72 less sunbeds in whole Yanıklar and Akgöl beach than last year.



Graph 1: Trend of numbers of sunbeds of Majesty Club Tuana and Lykia Botanika and Barut Sensatori Fethiye.

Grafik 1: Verlauf der Anzahl an Sonnenbetten von Majesty Club Tuana und Lykia Botanika und Barut Sensatori Fethiye.



Graph 2: Trend of numbers of sunbeds of Yonca Lodge, Onur & Doğa Kamp, Karaot Restaurant & Akgöl Cabin and Deniz Incisi. Data of Onur & Doğa Kamp was pooled in this Graph.

Grafik 2: Verlauf der Anzahl an Sonnenbetten von Yonca Lodge, Onur & Doğa Kamp, Karaot Restaurant & Akgöl Cabin and Deniz Incisi, Daten von Onur & Doğa Kamp in dieser Grafik zusammengelegt.

Fishing

A few hundred metres after the picnic area (Fig. 1), where a small stream comes out of the woods, people fished almost every morning. When the fishermen left, a lot of fishing devices such as bait and fishing lines remained on the beach. These lines are dangerous both for hatchlings and for adult loggerhead turtles.

Vehicles on the beach

Cars and other vehicles such as excavators or their tracks were often encountered on the beach, mostly at Akgöl Beach or between Majesty Club Tuana and Lykia Botanika. Most of the excavators working on the beach were observed to dig out sand, put new sand on the beach or to landscape the beach in front of the hotels.

There are at least 7 streets providing the vehicles access to the beach. Behind Karaot Restaurant, a street is going parallel to the beach, leading to the westernmost end of Akgöl. Cars can park directly on the beach, near the nests (Fig. 14). An employee of Karaot Restaurant was also observed to drive from the restaurant to the pavilions at the end of the beach to clean them up. A broad road next to Majesty Club Tuana also leads directly to the beach. Next to Yonca Lodge and Doğa Kamp there are in total 3 beach accesses. For one of these roads, parts of the woodland were destroyed by tractors this season, apparently providing access from a hotel facility located in the midland, called “Oasis Village”, to the beach (Fig. 15).

Between the lonely tree landmark and Majesty Club Lykia Botanika, we observed vehicle tracks going along the beach. One car track even ran over a nest (Fig. 16). Some of these tracks entered the beach from a road (Fig. 17) coming out of the woodlands between Lonely Tree and Majesty Club Lykia Botanika.

Another road was enlarged from a gravel to a considerably wider asphalt surface during our stay in Fethiye. This road comes from the direction of Çalış Beach, connects to an access road to Barut Hotel and leads to Small Beach (Fig. 18).

Overall, road access to Yanıklar Beach is apparently being expanded. This, for example, enables fishermen to drive to their fishing spots by motorscooter (Fig. 19).

Fireplaces

Beyond the dangers of making fire, having picnics on the beach leads to big amounts of litter all over the beach and the adjacent woodlands. In most cases, food and utensils for preparing and eating food are left on the beach at the picnic area next to the Barut Sensatori Fethiye (Fig. 21). Moreover, some people camped at the beach for several days (Fig. 22).

Litter pollution

Litter pollution was a major problem at Yanıklar and Akgöl Beach in recent and it continues to be a problem. Some of the garbage on the beach is left behind by tourists (Fig. 20), but the rest is washed ashore from the sea.

Around picnic area and at the end of Akgöl, big heaps of garbage were left behind by beach visitors. Even though trash cans are available, they are surrounded by litter because they are apparently not being emptied often enough.

Light pollution

Although the lights were not recorded in this season for Yanıklar Beach, lights there do continue to disturbing the hatchlings at night: many hatchling tracks went away from the water and into the vegetation.

One such strong light is behind the Karaot Restaurant. In a positive development, the light was sometimes turned off after we drew the owner's attention to the problem.

Tourism in general

People visited the tourist facilities, and swimming and sunbathing took place in front of the hotels. The nesting hotspot of *Caretta caretta* at the end of Akgöl was a touristic hotspot as well (Fig. 13). There were no sunbeds anymore, but the new pavilions were heavily used.

Finally, Small Beach is a commonly visited spot. During our morning shifts we occasionally encountered people who had clearly spent the night there, leaving heaps of garbage behind.

Other

Deep, illegal sand removal sites were recorded between the lonely tree landmark and Majesty Club Lykia Botanika (Fig. 23). Barut Sensatori Fethiye flattens the beach in front of the hotel every morning. Great amounts of pesticides were sprayed to get rid of insects. (Fig. 24). In addition, the staff watered the wooden cross walks between their pavilions (Fig. 25), moistening the adjoining sand.

DISCUSSION

A certainly positive change was the decrease of beach facilities at the end of Akgöl Beach (Fig. 26). Although it seemed like Karaot removed its wooden pavilions, some of the pavilions at the westernmost end of Akgöl were apparently those removed from the beach section in front of „Karaot Restaurant” (see Fig. 2).

Even though, the total amount of beach facilities decreased, the beach in general is still broadly occupied by beach furniture. Sites, that are not used by hotels seem more natural, but they are still frequently visited by beach guests, campers and fishermen. These sites, that are out of hotel property, don't seem to be cleaned by anyone, litter pollution is a big problem here. Cleaning up the beach at this sections seems to be inefficient, because litter is constantly washing ashore. Nevertheless, litter brought to the beach by guests could be prevented or reduced by trash can emptying and by regular beach controls to remind people not to stay overnight or to leave trash behind.

Fishing activities are present like in the last years. Fishing facilities that are being left behind on the beach can cause serious problems for the loggerhead turtles, it's not rare to find them dead with flippers cut half apart because a fishing line was wrapped around the flipper. Also the propellers of boats can be fatal for sea turtles. These and more problems are discussed in detail in the chapter about dead sea turtles in Fethiye.

Vehicles on the beach still represent a big problem. Beyond the dangerous vehicles themselves, their tracks present an additional problem for hatchlings: they must cross such tracks, which can be a dozen or more centimetres deep, to reach the water. Closing off the beach accesses like streets and roads leading to the beach should help prevent cars driving along the beach. This should have a positive impact on the conservation of sea turtles.

Some actions taken by the beach visitors created the impression that awareness and knowledge about *Caretta caretta* is missing here. Watering the nest on purpose – perhaps in the mistaken intention of cooling it down during a hot day – had catastrophic results despite the good intentions. This watering of the sand can be fatal for a turtle nest: in front of Majesty

Club Lykia Botanika, for example, a nest was totally rotten upon excavation because hotel guests kept watering the nest. Also watering activities of hotel employees, with the aim to keep planted grass on the beach green, could lead to the same outcome.

In every conservation program, information signs play an important role as attention-gaining media. Regularly and strategically spaced information signs and the preservation of these signs is necessary to keep beach guests informed. It's important to restore or renew such signs every year because they are often damaged or even destroyed by strong winds, storms, or vandalism (Fig. 2).

It's not only the behaviour of the guests that needs to be better controlled, the actions set by hotel managers and their employees are counterproductive for sea turtle conservation efforts. Not only do these hotels occupy large parts of the beach, they also put sand layers over the stony areas for the comfort of their guests. For this purpose, they take considerable amounts of sand from other parts of the beach or from somewhere else to smooth out the beach. It could be assumed that these various sorts of sands have different sizes of sand grains. The problem is, that the smaller the sand grains, the smaller the space between the grains and therefore less oxygen for the hatchlings inside a nest.

Another poor conduct is that most of the major hotels flatten the beach in front of the hotel every morning (Fig. 27). This activity leads to an enormous pressure on the sand: the sand becomes compressed and digging into it for a few centimetres is really hard. We assume that this would lead to high energy loss for a sea turtle to dig a nest in this area, perhaps explaining why there are no or only a few nests in front of such big hotels like the Barut Sensatori Fethiye.

In conclusion, a lot of public relations work and education about *Caretta caretta* are still needed in Fethiye. Actions should be taken to raise the public's awareness and to save the appropriate space for these animals. Obligated information seminars for hotel guests for example could help to combine tourism with conservation programs. It should be possible to enable people to enjoy their holiday but at the same time allow sea turtles to lay their nests undisturbed, to leave their nests in natural conditions and to let the hatchlings find the sea without becoming disoriented.

The continued high nest numbers in Yanıklar and Akgöl Beach over the last few years seems to imply that the sea turtles are withstanding the unpredictable impacts of nature and tourism. Nevertheless, it would be incorrect to say that the situation at these nesting sites is tolerable.

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APPENDIX



Figure 2: Remains of an information sign next to Karaot Restaurant in 2014, in the background the pavilions that this year are stationed at the end of Akgöl (Fig. 12); (Photo: M. Stachowitsch)
Abbildung 2: Reste eines Informationsschildes neben Karaot Restaurant in 2014. Im Hintergrund jene Pavillons, die heuer am Ende von Akgöl platziert sind (Abb. 12);



Figure 3: A new information sign at the end of Akgöl. Note cars parked in background next to the pavilions (Photo: M. Stachowitsch).
Abbildung 3: Neuer Informationsschild am Ende Akgöls. Im Hintergrund parkende Autos.



Figure 12: Pavilions (formerly at Karaot Restaurant) at the end of Akgöl – a nestinghotspot. (Photo: project camera, S. Wagner)

Abbildung 12: Karaots Pavillons stehen nun am Ende von Akgöl, ein Hauptnistareal.



Figure 11: In 2015, a beach shop was set up in Akgöl, (Photo: M. Stachowitsch)

Abbildung 11: 2015 war eine Strandkabine in Akgöl in Verwendung;



Figure 26: Dense beach furniture (but fewer pavilions) at the Akgöl nesting hotspot in 2015. The nesting site is cluttered even without guests. Shop visible on right side. (Photo: M. Stachowitsch)
 Abbildung 26: Die vielen Strandeinrichtungen 2015 versperrten den Strand auch ohne Strandbesucher.



Figure 13: People barbecuing at Akgöl Beach, in the background the pavilions. This year, fewer beach furniture was put on the beach (Fig. 26), nests are marked with a red circle. (Photo: M. Stachowitsch)
 Abbildung 13: Strandbesucher grillen am Strand in Akgöl, im Hintergrund die Pavillons. Heuer waren weniger Strandmöbel aufgestellt (Abb. 26). Nester mit rotem Kreis markiert.



Figure 14: Many cars are parking at the end of Akgöl. (Photo: M. Stachowitsch)
Abbildung 14: Parkende Autos Ende Akgöls;



Figure 17: A road emerging from the forest and leading directly to the beach in Yanıklar; (Photo: project camera, S. Wagner)
Abbildung 17: Eine Straße aus dem Wald führte direkt an den Strand in Yanıklar;



Figure 16: Vehicle tracks ran over predation grid of a nest. (Photo: M. Stachowitsch)
Abbildung 16: Autos Spuren verliefen über das Prädationsgitter eines Nestes;



Figure 20: Heaps of litter were left behind by beach guests. (Photo: M. Stachowitsch)
Abbildung 20: Müllhaufen wurden von den Strandbesuchern zurückgelassen.



Figure 19: Fishermen on a motorscooter at Yanıklar Beach. (Photo: M. Stachowitsch)
Abbildung 19: Fischer auf dem Motorrad in Yanıklar.



Figure 21: Barbecue grid left behind on Yanıklar Beach. (Photo: M. Stachowitsch)
Abbildung 21: Ein zurückgelassener Grillrost am Strand in Yanıklar.



Figure 18: A newly widened and asphalted street now goes from Çalıř Beach directly to Small Beach. (Photo: M. Lambropoulos)

Abbildung 18: eine neu ausgebaute Straße führt nun von Çalıř Beach direkt zu Small Beach;



Figure 23: Deep illegal sand removals created big craters at Yanıklar Beach. (Photo: M. Lambropoulos)

Abbildung 23: Illegale Sandaushebungen erzeugten riesige Krater in Yanıklar;



Figure 10: Majesty Club Lykia Botanika at the Pier: boats are able to dock here. (Photo: M. Stachowitsch)

Abbildung 10: Aussicht auf Majesty Club Lykia Botanika, am Pier können Boote anlegen;



Figure 9: A new beach volleyball court was built next to Majesty Club Lykia Botanika. (Photo: M. Stachowitsch)

Abbildung 9: Ein neuer Beachvolleyballplatz neben Majesty Club Lykia Botanika.



Figure 8: Each of the three big hotels in Yanıklar Beach has its own buoy-bordered swimming area, this picture shows the swimming area of Barut Sensatori Fethiye; (Photo: M. Stachowitsch)
Abbildung 8: Jedes der drei großen Hotels in Yanıklar hatte sein eigenes Bojenumzäuntes Schwimmareal, hier ist das Schwimmareal von Barut Sensatori Fethiye zu sehen;



Figure 27: The beach in front of Majesty Club Botanika was flattened by heavy machines. Note wooden walkway with nest next to it; (Photo; project camera, S. Wagner)
Abbildung 27: Der Sand vor Majesty Club Botanika wurde mit schweren Fahrzeugen geglättet. Zu beachten ist der Holzweg mit einem Nest direkt daneben;



Figure 4: Aerial view of Barut Sensatori Fethiye, major parts of the beach are occupied by tourism facilities; (Photo: Google Maps, 17.10.2016)

Abbildung 4: Sattelitenbildaufnahme von Barut Sensatori Fethiye, große Teile des Strandes werden von Strandeinrichtungen belegt;



Figure 7: In 2015, nests were laid in front of the new Hotel Barut Sensatori Fethiye; wooden cross walks connecting the facilities were a barrier to sea turtles. This year, grass was planted along the walkway (Fig. 25); (Photo: M. Stachowitsch)

Abbildung 7: 2015 gab es einige Nester vor dem neuen Hotelkomplex Barut Sensatori Fethiye, Holzwege verbinden die Strandeinrichtungen miteinander, entlang der Holzwege wächst heuer Gras (Abb. 25);



Figure 5: Barut Sensatori Fethiye: 5-6 rows of sunbeds; (Photo: project camera, S. Wagner)
Abbildung 5: Barut Sensatori Fethiye besitzt 5-6 Reihen von Sonnenbetten;



Figure 6: Wooden pavilions, in total 21, are occupying the beach in front of Barut Sensatori Fethiye;
(Photo: project camera, S. Wagner)
Abbildung 6: 21 Hölzerne Pavillons verstellen den Strand vor Barut Sensatori Fethiye;



Figure 24: Dense pesticide clouds coming out of the Barut Sensatori Fethiye complex; (Photo: project camera, S. Wagner)

Abbildung 24: Dichte Pestizidwolken kommen aus dem Hotelareal von Barut Sensatori Fethiye;



Figure 25: Watered walkways and wet sand at Barut Sensatori Fethiye. Grass is already growing next to the wooden walkways. (Photo: M. Stachowitsch)

Abbildung 25: Der Strand um das Barut Sensatori Fethiye werden bewässert, Gras wächst bereits entlang des Holzweges;



Figure 15: Destroyed vegetation for a new street going from Oasis Village directly to the beach next to Yonca Lodge; (Photo: project camera, S. Wagner)

Abbildung 15: Teile des Waldes wurden gerodet, um neue Straße von Oasis Village zum Strand neben Yonca Lodge zu ermöglichen;



Figure 22: Campers at the picnic area next to Barut Sensatori Fethiye; (Photo: project camera, S. Wagner)

Abbildung 22: Camper in der Pick-Nick-Area neben dem Barut Sensatori Fethiye;