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AND NATURAL HABITATS

Standing Committee

41st meeting

Strasbourg, 29 November – 3 December 2021

Follow-up to Recommendation No.95 (2002)

**Recommendation No. 95 (2002) on the
conservation of marine turtles in Kazanlı Beach
(Turkey)**

- REPORT BY THE NGO -

*Document prepared by
MEDASSET*

UPDATE REPORT BY THE NGO

Marine Turtle Conservation in the Mediterranean

FOLLOW-UP OF RECOMMENDATION NO. 95 (2002) ON THE CONSERVATION OF MARINE TURTLES IN KAZANLI BEACH (TURKEY)

15 August 2021

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

for the 41st Standing Committee Meeting of the Contracting Parties to the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)

MEDASSET hereby submits an update report to the 2nd Bureau Meeting of the Bern Convention (September 2021) on the conservation status of sea turtle nesting beaches in Kazanlı, Turkey.

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SUMMARY

Kazanlı in southern Turkey is among the top three most important green turtle (*Chelonia mydas*) nesting beaches in the Mediterranean. Conservation problems were first reported to the Bern Convention in 1999 and have since been discussed regularly at its annual Standing Committee Meetings. In 2000 and 2001, MEDASSET alerted about the release of toxic waste into the sea from the beachside Soda Chrome Factory and seawater sample analysis revealed chromium concentration 13.500 times higher than permitted levels. A case file was opened in 2000, followed by Recommendation No. 95 (2002) “on the conservation of marine turtles in Kazanlı beach (Turkey)”.

MEDASSET visited Kazanlı in July 2021 to assess the implementation of Recommendation No. 95 (2002): nineteen years since its adoption, progress is limited and significant issues remain. Insufficient action was observed in relation to five measures that require continual implementation, resulting in widespread litter (Point 3), lack of nest monitoring (Point 5), lack of information (Point 7), and signs of agrochemical pollution (Point 14). Further information is required in relation to chemical discharge monitoring (Point 5). Seven measures have not been implemented to date: Points 1, 9, 11, 13 on greenhouse & building removal; Point 4 on light pollution reduction, while of particular concern is the lack of implementation of:

- Measure No. 6 on erosion control: there is no apparent action, erosion continues at an alarming speed, representing a major threat which can undermine all conservation efforts.
- Measure No. 10 for removal of the 1.5 million tons of toxic waste located next to the nesting beach, posing a severe hazard to human health, the natural habitat and the sea turtle population.

MEDASSET particularly reiterates its concern regarding the reports on development plans in Kazanlı (Rec. Point No.8: environment plan and resources).

MEDASSET calls upon the authorities to:

- Urgently implement all outstanding measures under Recommendation No. 95 (2002).
- Safeguard Kazanlı nesting beaches against any coastal build-up
- Provide information, maps and details in relation to the “Kazanlı Tourism Development plan”/“Kazanlı Beach Arrangement Project”, and the designation of “Sustainable Development and Controlled Usage” areas and “Nature Conservation” areas

MEDASSET calls upon the Bern Convention Standing Committee to:

- Follow-up Recommendation No. 95 (2002) at the 41st Meeting of the Standing Committee.
- Urge Turkish authorities to fully implement Rec. No. 95 (2002) with no further delay and request the abovementioned information.

DETAILED UPDATE.

See Table 1 and Fig. 1-3 for location, sections and main structures of Kazanlı

MEDASSET visited Kazanlı, Turkey, in July 2021 to assess and document the conservation situation on the nesting beaches.. The following presents the survey findings in relation to each of the measures under Recommendation No. 95 (2002).

1. Remove as a matter of urgency, the row of greenhouses closest to the sea in beach section K3; remove, as soon as feasible, other greenhouses in beach section K3 through the appropriate legal and administrative procedures and restore that space to favour turtle nesting:

Greenhouses in beach section K3 remain in place and most of them are actively used (Fig. 4). Continuing coastal erosion has exposed the mixture of gravel, stone and cement under the sand (Fig. 5). Tall reeds border the sea-facing sides of greenhouses, and artificial slopes made with boulders and large pieces of rubble can be seen in front of the reeds (Fig. 6). Despite the very little sandy area suitable for sea turtle nesting, tracks and nests can still be seen in the section (Fig. 7). When compared to 2017 images, some sand has accumulated in front of the boulder sets (Fig. 3, 5, 6). For further restoration, it may be necessary to remove the dirt road at the section's northern end (Fig. 8), as it passes too close to the beach and the nests located here, with hatchlings crawling towards the road due to the disorienting effect of Soda-Chromium factory's lights (Fig. 9). It is also advised to remove the small drainage pipe at the section's northern end as any discharge from it directly flows onto the nesting beach (Fig. 10). No information could be obtained about the purpose of a hedged area filled with different construction materials towards the north of section K3, which was also observed in 2019 (Fig. 11). An update is needed in relation to the legal steps for the "renewal of cadastral work" and the transfer "to public property" of "lands beyond the shore edge line" as per the 2019 Government report.

2. Moving the taxi parking area away from the beach as a matter of urgency:

There is no designated taxi parking area near the beach in any of the sections. However, vehicles park directly behind and on the nesting beach in several sections in K1 and K2, causing light pollution and disturbances due to loud music and human presence (near the restaurants in K2, near the trees in front of the wedding hall between K2 and K1, and in an empty plot towards the summerhouse complex in K1) (Fig. 12-14). Vehicle tracks were observed on the nesting beach as several uncontrolled vehicle entry points exist in all sections (Fig. 15-16).

3. Periodically removing the plastic debris from the beach:

As per previous years, two beach clean-ups took place after the 2020 nesting season: one in December 2020 by local NGO "Akdeniz Üçüncü Göz Eğitim ve Gençlik Derneği" (Third Eye Mediterranean Society) and Akdeniz Municipality, with local volunteers and Erasmus students; and one on June 5th 2021, by the NGO, Municipality, parliament members, sportsmen, local and foreign students, neighbourhood representatives, and residents of Kazanlı.^{1,2} Beach usage principles during the nesting season were also published on newspapers in early June 2021 on behalf of Prof. Dr. Serap Ergene (Mersin University) who has led nest monitoring over the years.³ The Soda-Chromium Factory states on its website that "coast cleaning activities are carried out every year before spawning season to support the protection of the turtles" although the factory's name was not mentioned in any of the news.⁴ Nonetheless, plastic debris (greenhouse nets, Styrofoam packaging, plastic bags and

¹ www.sokaktanhaber.com/2020/12/kazanli-sahili-caretta-carettalar-icin-temizlendi

² www.sabah.com.tr/mersin/2021/06/08/kazanli-sahilindeki-caretta-yuvalama-alanlari-temizlendi

³ www.cnnturk.com/turkiye/carettalar-mersin-sahillerine-yumurta-birakmay-a-basladi

⁴ www.sisecam.com.tr/en/about-us/corporate-social-responsibility

empty bottles) was observed on all beach sections with varying density. Sections K1 and K2 were heavily littered at the rear of the beach and less directly on the beach (Fig. 17-19). K3 and K4 were considerably more littered (Fig. 4, 6, 8, 10, 20). This indicates the need for more frequent debris removal and better waste management.

4. Screening the lights of the municipality of Kazanlı and the Soda-Chrome factory so as to avoid photopollution on the beach:

In K1, lights from the summerhouse complex “Onur Sitesi” were intense around 23:00 (Fig. 21), although most of them were turned off after 00:30. The lights observed in 2019 at the wastewater pumping facility were turned off, and the small minibus parking place was removed. At the abandoned building in the eastern part of section K1, the first floor was occupied, emitting white lights at night (Fig. 22), though the streetlight next to the building has been removed. All other streetlights in the section are fitted with orange bulbs. In K2, “Sahil Balık” Restaurant was using somewhat dimmed lights (though still causing light pollution), and bright lights from “Denizkızı Restaurant”, “Cemre Café” and the recreational area illuminated the beach until midnight (Fig. 23, 13). Though not observed during the survey, “Cemre Café” hosts weddings that are likely to take place in the evening (Fig. 24). Parked vehicles also caused intense light pollution (see point 2). The football court and the wedding hall were both closed during the survey (Fig. 25-26). Lights from the Soda-Chromium Factory cause severe light pollution, strongly affecting both K4 and K3, causing hatchlings disorientation (Fig. 27, 9). The Factory’s lights are visible from all sections, including from neighbouring beaches beyond K1 and K4. The dirt road in K3 passes very close to the sea, leading to light pollution from cars passing by and parking near the shore (Fig.8).

5. Maintain monitoring of the chemical waste discharge into the sea by the chrome factory; establish a reliable and permanent monitoring of nesting activities in the beach and make an independent assessment of potential burden of the natural environment of Kazanlı, with substances released by the soda-chrome factory; assess the potential risk of effluents of the soda-chromium factory to wildlife;

According to the 2017 and 2019 Government Reports, chemical waste from the Soda-Chromium Factory is treated in two different industrial waste treatment facilities belonging to the Factory, and waste is analysed by an accredited laboratory, and “discharged chemical compound levels are below the limits”. The factory’s website also states the same, but the actual analysis results cannot be found on the Factory’s website or on any government websites. The screen in Kazanlı town, which used to show effluent analysis was entirely removed in 2021. The Factory’s discharge channel drains directly into the sea of section K4 (Fig. 3). Just beyond K4, there are at least seven pipes extending into the sea; it is unclear if these are draining chemical waste from the Factory or from elsewhere (Fig. 28).

Though in most previous years Mersin University was involved in nesting monitoring, a team of the national NGO EKAD (Ecological Research Society – active in monitoring Belek and other nesting sites) started nest monitoring at the beginning of July 2021, though no personnel was observed during the survey/ At the time of the present survey, all nests in K1 and K2 had been identified and marked with sticks bearing the nest numbers (Fig. 29). Gulls, a predator of hatchlings, were observed along K2 and K1 (Fig. 30). Crab tracks were widespread, especially in K2 and K3; however, predation was only observed in K3 and K4 (Fig. 31). Two dead adult sea turtles were seen in K3, and one beyond the northern border of K4, all unattended (Fig. 32). The local NGO “Third Eye Mediterranean Society” reported that they also monitored nests and released hatchlings (Facebook posts May 22nd, July 22nd).⁵ Use of large bright white torches (that the local NGO team used for hatchling release) should be avoided.⁶ The local NGO also reported placing low fencing on July 20th “in order to save the baby sea turtles not to go wider areas on the beach.”⁷ It is advised to maintain an adequately staffed permanent expert team in the region, which will start fieldwork in May in order to identify and protect all nests as necessary.

⁵ www.facebook.com/3rdeyemed/photos/a.2171169826339204/3717363198386518

⁶ www.facebook.com/3rdeyemed/videos/3884081851714651

⁷ www.facebook.com/watch/?v=3877993082323528

6. Setting in place a monitoring of beach erosion, so as to take remedial measures as needed:

There is no information regarding erosion monitoring on nesting beaches in Kazanlı. Several projects have been mentioned in the Government Reports submitted to the Bern Convention, but there has been no solid outcome. The only measure taken seems to be the arbitrary use of boulders and concrete/cement structures (Fig. 6, 8, 33-34). Erosion remains a critical problem, severely affecting sections K3 and K4 in particular (Fig. 4, 5-6, 19b), where the small beach is non almost non-existent and a large portion of the shore is entirely bordered by boulders (Fig. 8, 10, 35). Although gravely ineffective, it may be very slightly preventing further loss of sand (Fig. 36). Erosion seems to also be affecting section K2 (Fig. 37). Coastal engineering studies should be immediately launched to evaluate manmade structures that are further accelerating erosion.⁸ A setback zone in K3-K2 and maintenance of the setback zone in K1 (that is empty with the exception of two buildings - see point 9 & 14) can protect the nesting beaches from further erosion. We strongly advise against any coastal build-up in any of these zones in K1, 2, 3. The broadening of the road lining K2 indicates possible development, which is of great concern. Of concern, possible sand movement was observed in K1, forming high slopes in the dunes that form the nesting zone: though adults can crawl over, hatchlings cannot. Dunes in this area need to be under strict control, considering also the sea daffodils (*Pancretium maritimum*) that are present; including around the summerhouse complex, indicating it is built on top of the dune system (Fig. 44).

7. Promote public awareness on the presence and interest of marine turtle nesting in Kazanlı, addressed in particular to local population:

Signage on the nesting beaches has further decreased resulting in an severe lack of information on regulations. As of July 2021, the only information sign in the entire area was on K1 (Fig. 38), which stated “*this is a sea turtle nesting beach*”, without any additional information or warnings about beach usage. Signs in K2 and K3 observed in previous years had been removed. A local NGO “*Akdeniz Üçüncü Göz Eğitim ve Gençlik Derneği*” that has been working in the region with local and international volunteers for a long time, provides information on its website to raise public awareness about sea turtles, and occasionally announces on various platforms activities in Kazanlı, including beach cleanings, visits and presentations at schools.⁹

8. Fully implementing the existing environment plan and assure the necessary financial and human resources to this end

As of August 2021, there is no update on the Kazanlı Tourism Development plan, except for news on Çukurova Airport stating the airport will be opened in 2022¹⁰. The road broadening behind K2 section (Fig. 39) may be a part of the tourism development plan, but this needs further clarification. Akdeniz Municipality’s strategic plan for 2020-2024 also mentions a “Kazanlı Beach Arrangement Project”.¹¹ Coastal development may pose a serious threat to the nesting beaches. Further information, maps and details need to be provided by the Government.

9. Removing the illegal building in beach section K1

The illegal building in K1 has not been removed and its first floor is still occupied (Fig. 40) and lights can be seen at night (Fig. 22).

10. Removing as appropriate the hazardous waste accumulated over the years close to the beach as a result of industrial activities:

Since the 1990s, 1.5 million tons of toxic waste, that has a high concentration of toxic chromium (Cr 3+/6+) compounds and is a by-product of the Soda-Chromium Factory activities, is deposited directly next beach section K4. The waste neutralization and landfilling started in 2010, but despite

⁸ e.g. in section K3: greenhouses as per point 1, coastal dirt road, coastal wall of school playground which could be reallocated to the property further inland behind the school, walled drainage channel outlet next to the school, etc

⁹ www.thirdyemed.org.tr/index_en.html

¹⁰ www.ntv.com.tr/ekonomi/bakan-karaismailoglundan-cukurova-havali-mani-acik-lamasi,I0EPz-KH7k6-IfLmuV0kEg

¹¹ www.akdeniz.bel.tr/files/files/18112020134844890.pdf

Government commitments, it has yet to be completed. The 2019 Government Report stated that the waste are “neutralized, pressed, and then deposited in a temporary landfill which is surrounded by an impenetrable geomembrane covering”. However, 700.000 tons of the toxic waste still remained next to the Mediterranean Sea, despite commitment in 2009 that the removal would be completed by 2019. The “temporary” landfill area of the neutralised waste also continues to be too close to the beach and the sea, inside the Factory grounds (Fig. 41). In 2021, no significant change was observed in the sizes of waste deposit piles comparing to 2019 (Fig. 42-43). Information on progress is required and efforts need to be intensified. The situation poses a high risk threat to the environment and human health.

11. Considering the removal of the wedding hall of Kazanlı from the beach, to be relocated elsewhere:

The wedding hall in section K2 has not been removed, but was closed during the time of our survey, though it was active in 2019 (Fig. 22).

12. Applying appropriate treatment to sewage waters from Kazanlı, so as to free the back of the beach from pollution:

As noted in point 5 and 14, there area drainage channels reaching the sea in all sections. Legislation on wastewater treatment facilities states that any waste containing heavy metal is strictly prohibited from entering the system and violations are subjected to a fine (“KÖP”), a cease and desist order, and a lawsuit that may be filed by any local authority. Sewage water from Kazanlı is pumped to Karaduvar treatment facility (west of the Soda Chrome Factory), where it is treated before being released to the sea; however, the facility’s ability of detect and/or removing heavy metals and other toxic materials still needs confirmation. Monthly analysis reports of wastewater treatment can be found on the website of the Mersin Water and Sewerage Administration.¹²

13. Looking for an appropriate solution to remove houses on the beach that were constructed legally:

The huge summer house complex “Onur Sitesi” remains on the dunes in section K1 (Fig. 44) and is a source of light pollution after 00:30 (Fig. 21). Authorities should collaborate with experts and ensure that owners adopt appropriate landscaping and lighting. In disregard of the Recommendation, on 21/10/2020 (Decision No. 223159) the complex was included in the “Sustainable Development and Controlled Usage Area”, despite the fact that the adjacent nesting beach area is included in the “Natural Site - Qualified Natural Conservation Area” (Fig 45).¹³

14.Reducing the impact of agrochemical products in the area around Kazanlı:

Drainage channels reaching the sea (Fig. 46) are possible sources of agrochemical contamination, and analysis reports are required. Channels adjacent to the main road behind K2 and K1 were also observed to be quite polluted (Fig. 47). As noted in point 5 there are a few drainage channels reaching the sea in sections K4 and K3 though their source is unclear and information is required. Drainage pipes and new greenhouses beyond K1 and K4 should also be monitored as they directly affect sea water quality. Akdeniz Municipality strategic plan for 2020-2024 mentions several projects on promoting agricultural practices, including organic agriculture, and environmental recycling.¹⁴ The composted fertilizer production unit, at the back of the K1 beach (Fig. 48) may have been established within the scope of these projects. An update on the bio-farming attempts and the project “Integrated pest management in undercover vegetables and fruits” is required with details of practices.

Observations on other activities and impacts: Several boats were placed directly on the nesting zone at night; most were also observed in 2019.

¹² “Mersin Su ve Kanalizasyon İşleri Müdürlüğü”: www.meski.gov.tr/pages/TesisDetay.xhtml?tesisId=9: and www.meski.gov.tr/pages/AnalizSonuclari.xhtml Analysis reports only include results for suspended solid matter, biochemical and chemical oxygen need, total nitrogen and phosphorus. The facility’s units and technical details are available at: www.suvecevre.com/yayin/557/mersin-karaduvar-atiksu-aritma-tesisi_16485.html#.YQ5LYIgzHs

¹³ <http://webdosya.csb.gov.tr/db/turkce/sitalani/kazanli-mahallesi--8230-45164-20201103141419.pdf> ;

¹⁴ www.akdeniz.bel.tr/files/files/18112020134844890.pdf (Pages 64, 67, 68)

ANNEX: BACKGROUND

Green turtles are globally endangered¹⁵ and in the Mediterranean researchers estimate that only 784 green adult female turtles nesting in the region, laying about 1.164-2.674 nests per year.¹⁶ The species is listed in the Bern Convention Appendix II as strictly protected fauna species for which Contracting Parties are required to take legislative and administrative measures to ensure their special protection.

The beach of **Kazanlı** in southern Turkey is one of the most important green turtle nesting areas in the Mediterranean. In 1988, it boasted the highest density of green turtle nesting in the Mediterranean.¹⁷ More recently, it was listed as among the top three most important green turtle nesting beach in the Mediterranean, together with Akyatan and Samandag beaches. In 1988-2006, 43-403 nests/year were recorded and 176–562 nests/year in 2006-2011.¹⁸ According to the government report TPVS (2019) 49, an average of 1267 nests were recorded in 2017-2019. Part of Kazanlı nesting beach is nationally designated as a 1st Degree Natural ‘SIT’ Protected Area. The total length of the beach is 4.5 km. Surveys in the 1980’s identified a number of serious **threats**, which increased in subsequent years and although confirmed and reported by numerous researchers and conservationists, the responsible authorities failed to take action for several years. As a result, the nesting beach is subject to serious deterioration.

MEDASSET has been monitoring Kazanlı nesting beach and reporting on conservation problems since 1999. Main threats identified are: erosion, wastewater and toxic waste pollution, litter, sand extraction, light pollution, agriculture (greenhouses) on the rim of the nesting beach, coastal fishing during the nesting season, disturbance to the species during nesting and lack of public awareness. To the rear of the beach, sits the Kromsan Soda Chrome Factory that has deposited 1.5 million tons of hazardous toxic waste, directly next to the Kazanlı nesting beach. The waste has a high concentration of toxic chromium (Cr 3+/6+) compounds, and is a by-product of the factory’s activities in the 1990s (1984-1998 according to the Government report TPVS 2019 49). This mountain of waste is covered with a plastic sheet (in reaction to Recommendation No 95). The removal of this hazardous waste from the beach is of high priority for environmental and human health. In 2000 and 2001, MEDASSET alerted about the release of toxic waste into the sea off the nesting beach from the beachside factory. Seawater samples, which MEDASSET analysed, were found to contain chromium concentration 13,500 times higher than permitted levels. More than 23 green turtles were found dead. Discharges into the sea resulted in turtles emerging to nest with their body encrusted with white CaCO₃.

Bern Convention & the Kazanlı Case

The situation at Kazanlı has been reported several times in the Recommendations of the Bern Convention Standing Committee. In **1998** the Standing Committee adopted **Recommendation No. 66 on the conservation status of some nesting beaches for marine turtles in Turkey**, and urged the Government of Turkey to “*take urgent measures to restore the beach, remove the adjacent greenhouses and the solid waste, particularly plastics; and resolve the pollution problem from the soda chrome factory*”. To encourage conservation action, the Standing Committee opened a case file (No. 2000/1) at its 20th Meeting in **2000**. Further concerns about inadequate protection of the sea turtle population and discharge of toxic waste into the sea, finally led to an **on-the-spot appraisal mission in 2002** (TPVS/Files 2002 2), following which the Standing Committee issued a specific **Recommendation No. 95 (2002) on the conservation of marine turtles in Kazanlı beach (Turkey)**, with 14 conservation measures.

As some of the measures were implemented by the Turkish authorities, and considering that a better overall protection of the area had been achieved, despite MEDASSET’s call to maintain the

¹⁵ IUCN Red List of Threatened Species, www.iucnredlist.org

¹⁶ Hochscheid et al. (2018). Sea Turtles in the Mediterranean Region: MTSG Annual Regional Report.

¹⁷ Baran & Kasperek 1989, Yerli & Demirayak 1996

¹⁸ Kasperek et al. 2001, Casale & Margaritoulis 2010, Turkozan *et al.* 2015

case file open, the Standing Committee at its 24th Meeting in **2004** provisionally closed the file, requesting that the Turkish Government continues to report on progress on the implementation of the 14 recommended conservation measures. However, the Turkish Government did not report on the conservation status of Kazanlı in 2005, and no delegation attended the **2005** Standing Committee Meeting. In **2006**, the Turkish Government submitted a brief report (T PVS/Files 2006), but did not attend the Standing Committee meeting. In **2007**, the issue was discussed at the Standing Committee, which decided not to re-open a file, but to request that the Turkish Authorities submit a report in 2008.

At the **2008** Standing Committee Meeting, the Turkish Government reported on progress to implement measures listed under Recommendation No. 95 and further informed that the Soda Chrome Factory's plan to set up a landfill site had been delayed, and that the solid waste treatment would commence in July 2009, while the operation of the landfill was set to begin in November 2009 (T PVS/Files 2008 10). MEDASSET called on the Government of Turkey, to start implementing without delay plans to put the hazardous waste in a safe location, far from the green turtle nesting beach and the sea.

According to the March **2009** Bureau Meeting Report, the Turkish authorities reaffirmed their intention to remove the hazardous waste from Kazanlı Beach, but notified that "it would take some time". They confirmed that the construction of the waste neutralisation facility was underway and was expected to be completed as planned. EIA studies were being carried out for the waste storage site. According to the report submitted by the Government to the 2009 Standing Committee Meeting, the waste disposal facility was to be finished by October 2009. At the 2009 Meeting, the delegate of Turkey reported on progress on the implementation of Recommendation No. 95, and informed that the removal of the toxic waste was to start soon, an investment had been made to establish a neutralization plant, and that waste removal will take eight or ten years (T PVS/Files 2009 11). MEDASSET welcomed progress made, and highlighted that together with the toxic waste management several points remain unsolved, such as the severe coastal erosion which requires more drastic measures by the authorities.

During the 30th Standing Committee Meeting in **2010**, though Kazanlı was not on the Meeting's agenda, and following MEDASSET's intervention, the Turkish delegate briefly informed that nest monitoring continued and that the toxic waste neutralisation facility was established within the chromium factory's grounds and that the process has started.¹⁹ Two hundred thousand tons of chromium had been neutralised and were kept within the Factory's grounds, until transferred to a landfill site, which had not yet been defined. MEDASSET called upon the Turkish Government to continue reporting regularly to the Convention on all issues concerning Kazanlı, especially on the toxic waste management and erosion problems. The request was reiterated via email to the Secretariat in **2011** and through an intervention during the **2012** Standing Committee. To our knowledge, no government report had been submitted since 2009.

At the **2013** Standing Committee Meeting, the Turkish delegate informed about measures, including: awareness raising targeted at visitors; local volunteer beach cleaning activities; light screening by the municipality; seasonal vehicular traffic bans; chemical analysis showing waste compounds from the chromium factory to be well below standard values. Illegal buildings and greenhouses remain on the beach. No information was provided on the remaining measures, such as the severe beach erosion problem. Information reported on the removal of the toxic waste was the same as reported in 2010, therefore, there seemed to be no tangible progress (for details see T-PVS/Files (2014) 58).

In **2014**, the Turkish delegate's oral statement at the Standing Committee Meeting addressed all measures under Recommendation No. 95. MEDASSET welcomed the continuation of awareness raising, nest monitoring, efforts to reduce agrochemical pollution, municipal sewage and industrial wastewater discharge monitoring. A single beach cleanup before the nesting season was reported. The

¹⁹ MEDASSET Announcement. 14/12/2010, Bern Convention, Council of Europe: Sea Turtle Conservation Problems in Cyprus & Turkey

report was unclear regarding whether light pollution reduction measures were indeed taken or if there were only discussions with the municipality and factory about this issue. The 1.5 million tons of solid toxic waste remain next to the nesting beach, there was no update on the amount of waste neutralised during 2011-2014 and the only positive news was that the permanent landfill for the neutralised waste should start to operate in 2015, as the EIA was completed in 2014. Regrettably, removal of greenhouses and illegal buildings had not progressed, pending an ongoing shoreline delimitation court process. Lastly, there was a complete lack of measures to monitor or manage erosion. As announced in the delegate's oral intervention, in Dec. 2014 the Ministry made a study visit to ARCHELON (Athens, Greece) regarding the management of nesting sites. During the visit, MEDASSET participated in a discussion session on beach erosion and invited an expert geologist who, after noting the severe erosion in Kazanlı using satellite imagery, identified the river dams in the surrounding area as the possible key source (as has been suggested in MEDASSET's reports) and provided some general guidance on potential measures.

At the **2015** Standing Committee meeting, the Turkish delegate presented a report on the 14 points of Recommendation No. 95 (2002): preliminary work was underway regarding a beach erosion project and 46.593 tons of the neutralised chemical waste stored in a temporary landfill facility in the factory, had been transferred to a permanent landfill (T- PVS/Files 2015 49).

At the **2017** Standing Committee meeting, the Turkish delegate informed that the beach erosion project was not launched and no action has been taken to deal with the erosion problem, and that 183 thousand tons out of the 1.5 million tons (only 12.2%) of the neutralised chemical waste stored in the temporary facilities had been transferred to a permanent landfill (T-PVS/Files 2017 45). MEDASSET's survey and report confirmed that the huge amount of toxic waste remains next to the nesting beach and erosion is accelerating at an alarming speed. Despite government reports, light pollution remained a major problem, abandoned buildings and greenhouses have not been removed, summerhouses and a wedding hall continue to operate in the nesting area, and information signs are severely lacking.

At the **2019** Standing Committee meeting, MEDASSET reported the lack of implementation of Recommendation No 95 to tackle conservation problems such as coastal erosion, litter, sand extraction, light pollution, coastal fishing during the nesting season and lack of public awareness. the According to the Government report "the amount of chromium neutralized in this facility is around 800.000 tons." MEDASSET noted the slow progress in removing the toxic waste, despite government commitments that the process would be completed by 2019. The Standing Committee urged the Turkish authorities to implement all points of Recommendation No. 95 (2002) and requested an updated report in 2021.

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- No T PVS reference (2009). MEDASSET Update on Green Turtle (*Chelonia mydas*) Conservation Monitoring in Kazanlı, Turkey
- T PVS/Files (2013) 52. Report by the NGO: MEDASSET
- T PVS/Files (2014) 58. Report by the NGO: MEDASSET
- T PVS/Files (2015) 45. Report by the NGO: MEDASSET
- T PVS/Files (2017) 34 Report by the NGO: MEDASSET

RELEVANT RECOMMENDATIONS OF THE STANDING COMMITTEE:

- No. 7 (1987) On the protection of marine turtles and their habitat;
- No. 8 (1987) On the protection of marine turtles in Dalyan and other important areas in Turkey;
- No. 12 (1988) Concerning the protection of important turtle nesting beaches in Turkey;
- No. 13 (1988) Concerning measures for the protection of critical biotopes of endangered amphibians and reptiles;
- No. 24 (1991) On the protection of some beaches in Turkey of particular importance to marine turtles;
- No. 66 (1998) On the conservation status of some nesting beaches for marine turtles in Turkey;
- No. 95 (2002) On the conservation of marine turtles in Kazanlı beach (Turkey)

ANNEX: TABLE, MAPS & PHOTOGRAPHS

Table 1. Locations of some points of interest in Kazanlı. Records taken by “GPS Coordinates, developed by Fundroid 3000”, with an accuracy of 8-14 m, and cross-referenced with Google Earth.

	COORDINATES	DEFINITION
K1	36°48'14"N - 34°47'14"E	Southern end of K1 and the SPA
	36°48'22"N - 34°46'17"E	Sea turtle nesting beach sign in K1
	36°48'30"N - 34°46'32"E	Abandoned building
	36°48'29"N - 34°46'16"E	Semi dried-up drainage outlet, near abandoned building
	36°48'33"N - 34°45'54"E	Dried drainage outlet
	36°48'40"N - 34°45'27"E	Cemre Café
K2	36°48'41"N - 34°45'24"E	Wedding Hall (K1-K2 border)
	36°48'39"N - 34°45'13"E	Sahil Restaurant & Football court
	36°48'40"N - 34°45'09"E	Recreation area (Sea Turtle Shaped Park)
	36°48'40"N - 34°45'04"E	Denizkızı Restaurant
K3	36°48'41"N - 34°44'52"E	Drainage outlet (K2-K3 border)
	36°48'43"N - 34°44'33"E	End of nesting beach. boulders by the very close-by road
	36°48'40"N - 34°44'27"E	Remains of the jetty (K3-K4 border)
K4	36°48'41"N - 34°43'43"E	Northern end of K4 and the SPA
	36°48'40"N - 34°43'25"E	The 6+1 pipes to the west of Soda Chromium Factory
	36°48'35"N - 34°43'09"E	The very large concrete pipe



Fig. 1. Location of Kazanlı, Turkey, among major nesting sites.

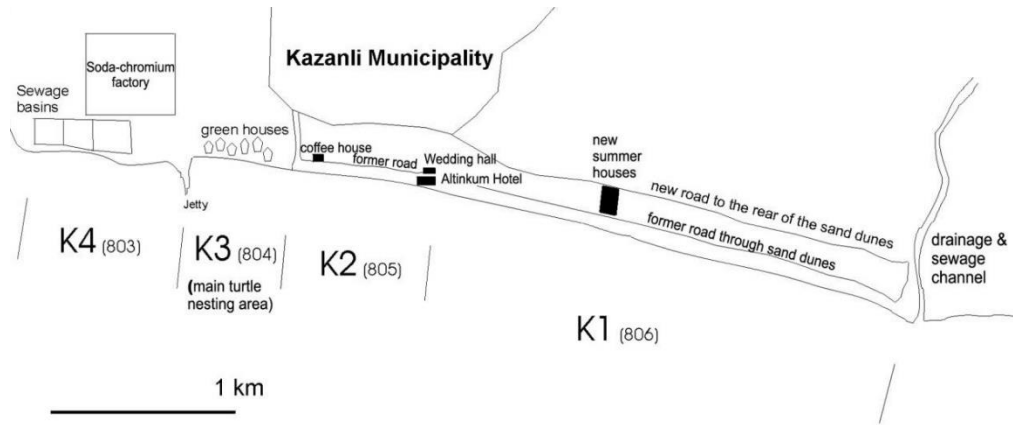


Fig. 2. Sections of Kazanlı nesting beach and coastal infrastructure. *Source: Kasparek et al., 2001*

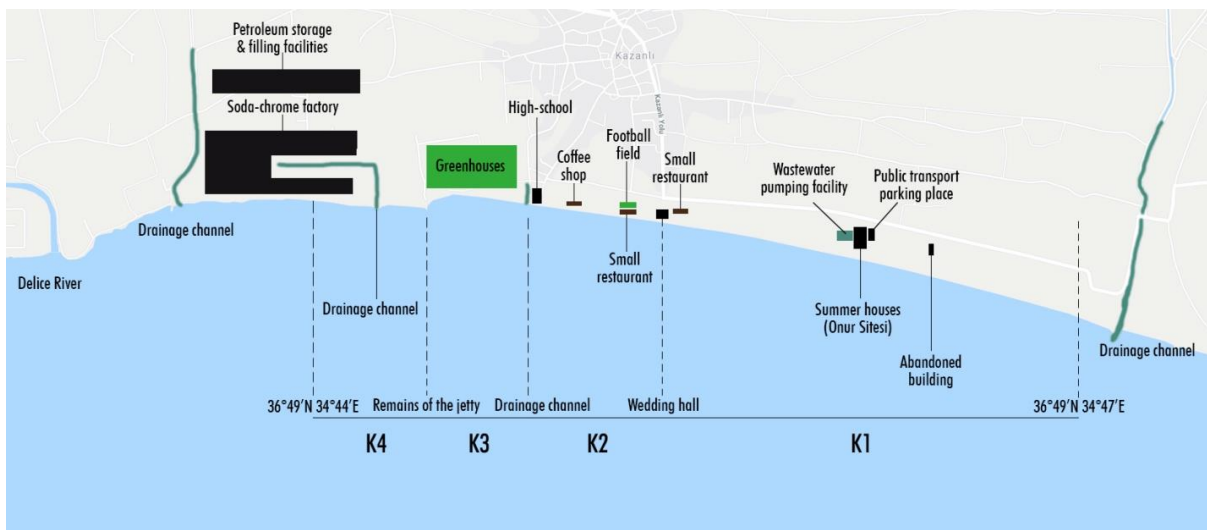


Fig. 3. Updated map of Kazanlı nesting beach sections and coastal infrastructure.



Fig. 4. Kazanlı. Section K3. July 2021. Greenhouses on the nesting beach, with heavy litter in front of them. Note that some sand has accumulated in front of the boulders.



Fig. 5. Kazanlı. Section K3. July 2021. Exposed stone and cement mixture under the sand.



Fig.6. Kazanlı. Section K3. July 2021. Reeds and artificial slopes made out of boulders in front of the greenhouses. Note plastic nets from the greenhouses and other litter on the nesting beach.



Fig. 7. Kazanlı. Section K3. July 2021. Adult sea turtle tracks (red circle) on limited sandy area in front of the greenhouses.



Fig. 8. Kazanlı. Section K3. July 2021. Dirt road at the section's northern end, too close to the sea. Note heavily littered shore. Street lights and Soda-Chrome factory's lights are shown in the red circles



Fig. 9. Kazanlı. Section K3. July 2021. Hatchling tracks disoriented to the right, towards the artificial sources.



Fig. 10. Kazanlı. Section K3. July 2021. Small drainage pipe at the section's northern end.



Fig. 11. Kazanlı. Section K3. July 2021. Construction materials piled near the beach.



Fig. 12. Kazanlı. Section K2. July 2021. Vehicles parked behind the trees in front of the wedding hall, in view of the beach



Fig. 13. Kazanlı. Section K2. July 2021. Light pollution from the vehicles, restaurants and cafés.



Fig. 14. Kazanlı. Section K1. July 2021. Several vehicles parked at the empty plot between the restaurants and the summerhouse complex.



Fig. 15. Kazanlı. Section K1. July 2021. Vehicle tracks on the beach.



Fig. 16. Kazanlı. Section K1. July 2021. Vehicle tracks on the beach.



Fig. 17. Kazanlı. Section K1. July 2021. Plastic debris and other litter at the rear (top) and on the beach (bottom).



Fig. 18. Kazanlı, Section K2. July 2021. Plastic debris and other litter on the nesting beach. Note the boats in the nesting zone.



Fig. 19. Kazanlı, Section K2. July 2021. Plastic debris and other litter on the nesting beach. Note the boats in the nesting zone.



Fig. 20. Kazanlı, Section K3. July 2021. Plastic debris on beach: a) piles of greenhouse nets in the beach dunes (Coordinates 36.8120264654455, 34.74549461110521) b) plastics and other litter; c) nylon covering material; d) greenhouse nets and tires.

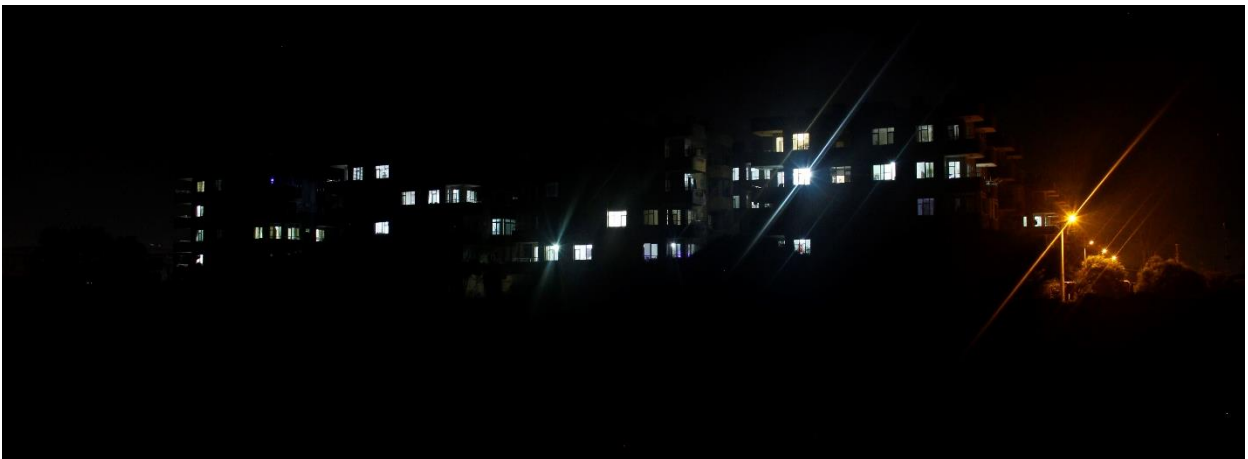


Fig. 21. Kazanlı, Section K1. July 2021. Lights from summerhouse complex "Onur Sitesi".



Fig. 22. Kazanlı. Section K1. July 2021. Lights from the occupied 1st floor of the abandoned building.



Fig. 23. Kazanlı. Section K2. July 2021. Somewhat dimmer lights from the Sahil Balık Restaurant.



Fig. 24. Kazanlı. Section K2. June 2021. “Cemre Café” hosts weddings that are likely to take place in the evening Source: <https://goo.gl/maps/CZg6DvifDwKopUc5A>



Fig. 25. Kazanlı. Section K2. July 2021. Football court closed at the time of the survey.



Fig. 26. Kazanlı. Section K2. July 2021. Wedding hall, closed at the time of the survey.



Fig. 27. Kazanlı. Section K4. July 2021. Light pollution from the Soda-Chromium factory.

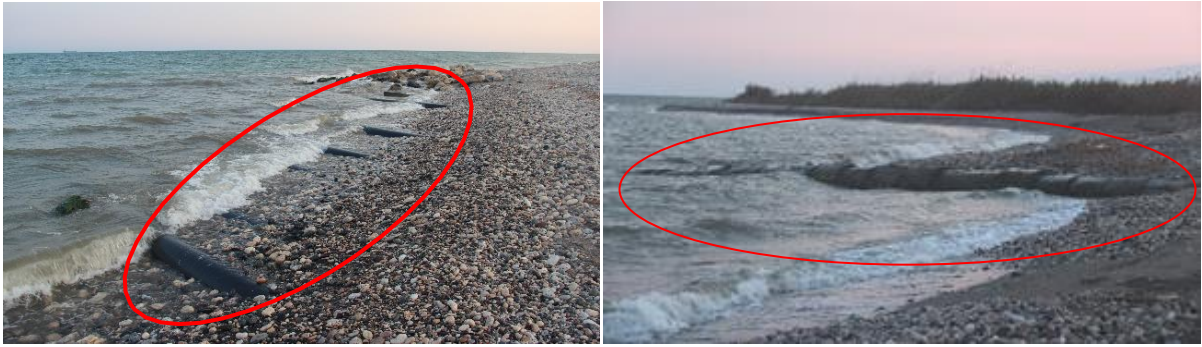


Fig. 28. Kazanlı. July 2021. Pipes extending into the sea beyond the northern border of K4: a) six small pipes, close to the factory's northern end; b) one large concrete pipe, further away from the factory.



Fig. 29. Kazanlı. July 2021. Nests marked with sticks bearing nest numbers in K1 and K2.



Fig. 30. Kazanlı. Section K1. July 2021. Gulls, one of the known predators of hatchlings.



Fig. 31. Kazanlı. Section K3. July 2021. Nests predated by crabs and dogs.



Fig. 32. Kazanlı. July 2021. Shells of dead stranded adult sea turtles: left) two in K3; right) one beyond the northern border of K4.



Fig. 33. Kazanlı. Section K2. July 2021. Arbitrary use of boulders in front of the local schoolyard.



Fig. 34. Kazanlı. Section K3. July 2021. Use of rubble in front of the greenhouses.

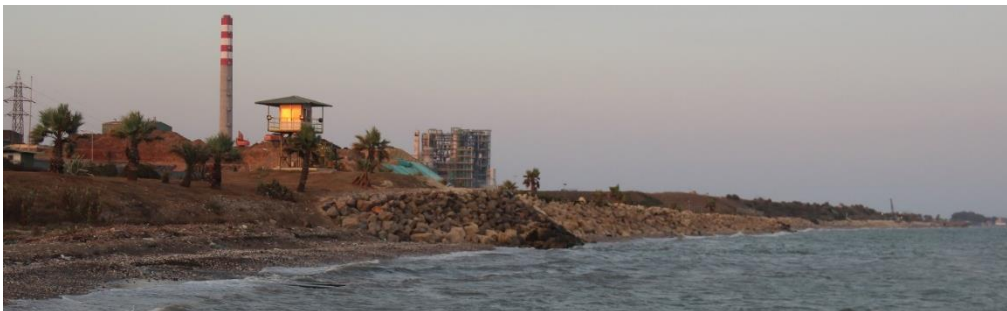


Fig. 35. Kazanlı. July 2021. Boulders entirely bordering the shore line in K4 and K3.



Fig. 36. Kazanlı. Section K3. July 2021. Satellite imagery showing coastal erosion progress. Top: 2007; middle: 2018; bottom: 2020 (Source: Google Earth).



Fig. 37. Kazanlı, Section K2. July 2021. Satellite imagery showing coastal erosion progress. Top: 2007; middle: 2018; bottom: 2020 (Source: Google Earth).



Fig. 38. Kazanlı, Section K1. July 2021. The only information sign in the entire area, states “this is a sea turtle nesting beach”.



Fig. 39. Kazanlı, Section K1. July 2021. Construction work for broadening of the road behind the nesting beach.



Fig. 40. Kazanlı, Section K1. July 2021. The illegal, abandoned building, still standing on the beach with its 1st floor occupied.



Fig. 41. Kazanlı, Section K4. July 2021. Toxic and neutralised inside the Soda-Chrome Factory complex, next to the beach and sea (red arrows).



Fig. 42. Kazanlı, Section K4. Soda-Chrome Factory toxic waste deposit piles: top: 2019; bottom: 2021.



Fig. 43. Kazanlı, Section K4. Satellite imagery of the Soda-Chrome Factory. Toxic waste deposit area is marked with a red rectangular shape. Top: 2007; bottom: 2020. (Source: Google Earth).



Fig. 44. Kazanlı, Section K1. July 2021. Summer house complex, “Onur Sitesi”, with sports courts (red rectangle) in dune area; note sea daffodils (red circle). Right: sea turtle tracks (red arrows).



	Doğal Sit-Nitelikli Doğal Koruma Alanı
	Doğal Sit-Sürdürülebilir Koruma ve Kontrollü Kullanım Alanı

Fig. 45 . Kazanlı, Section K1. The huge summer house complex “Onur Sitesi”, constructed on the dunes, has been included in the “Sustainable Development and Controlled Usage Area” (green area), despite the fact that it is built within the nesting beach area included in the “Natural Site - Qualified Natural Conservation Area” (blue area).



Fig. 46. Kazanlı. July 2021. Example of drainage channels reaching the sea Left: K1 southern end. Right: K2-K3 border.



Fig. 47. Kazanlı. July 2021. Polluted drainage channels adjacent to the main road behind K2 and K1



Fig. 48. Kazanlı, Section K1. July 2021. Composted fertilizer production unit at the back of the beach.