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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee
20th meeting

Strasbourg, 27 November – 1 December 2000

Possible new file

**Green turtle (*Chelonia mydas*)
on the Turkish Mediterranean coasts**

Kazanli, Akyatan and Samandag

Report by
MEDASSET
The Mediterranean Association to Save the Sea Turtles

Introduction

The Green turtle is globally endangered, and **critically endangered** in the Mediterranean where its distinct population is separated from all others.

Past commercial exploitation for food exports (1930 - 1983) led to a massive decline in its breeding stocks and which has been worsened recently by the adverse pressures from fishing (particularly trawling), pollution, and a loss or deterioration of its nesting beaches. Its breeding is now essentially confined to beaches in western and north-eastern Cyprus, and on Turkey's eastern Mediterranean coast.

Its shallow water feeding areas of sea grass beds and its over-wintering localities remain equally at risk.

It is a long lived animal requiring upwards of 30 years for maturity and hence for population recruitment. Any hope of preventing the slide to extinction of this unique Mediterranean reptile must now depend on prompt conservation actions directed particularly towards its few remaining mature females (now probably less than 500).

Concern for the conservation plight of the Mediterranean's marine turtles by the Bern Convention led in the early 80s to their initiation of an Expert Working Group on the problem. Their work and the 1988 WWF survey of nesting beaches on the Turkish coast led to a series of formal Recommendations which covered the needs of the Green turtle and its habitats. Soon after, the Barcelona Convention also addressed the problem and more recently arrived at a specific Protocol.

But, despite all these efforts, meetings and fine words, very little has changed regarding its Turkish habitats, apart from some serious instances of worsening situations. Bern Recommendations Nos. 7 (87), 8 (87), 12 (88), 24 (91) & 66 (98) should have helped to restore populations had they only been better implemented, but in too many and current aspects they have remained unfulfilled.

The seriousness of the situations at Kazanli and Samandag was well illustrated at the Herpetofaunal Expert Group meeting in 1998 by the showing of a DKHD video made for the Convention; this was shown again for most delegates attending the 1998 Standing Committee.

MEDASSET accordingly contracted experts in summer 1999 and 2000 to further assess the situation and advise the Convention on specific conservation needs.



Summary of Assessments

1 KAZANLI 4.5 Km.

The best stretch of nesting beach (K1), which had till recently supported the Green turtle's highest nest concentration per Km. in the Med., had been almost lost to erosion caused by:

- a. the construction of a jetty for the adjacent Soda-Chrome factory;
- b. the removal of sand dunes for sand and agriculture and the erection of large plastic greenhouses right down to the shore.

Pollution remained acute; apart from the discharge of all sewage from Kazanli into the sea, that from the Soda-Chrome now coated the sea bed white. Some 'Green' turtle adults were even found with a hard white deposit covering head and shell alike.

All beaches (K1, 2 & 3) have excess plastic and other litter which acts as a hazard for hatchlings trying to reach the sea, and may also cause under-heating of nests. Light pollution from the factory's unshielded bright lights and from the Altinkum beach hotel (K1/2) has been augmented by flood-lit football in a cage immediately behind K2, and by an increasing numbers of refreshment cabins.

Dogs are adding to the natural predation on nests and hatchlings by crabs, and there is uncontrolled visitor access at night.

Only 300 m east of K2, three blocks of 8 storey apartments have been constructed as summer houses in the Adanalioglu (cf. Kazanli) municipality which has ambitions for increased tourism.

Further east, towards the Tarsus river, there are rumours of a major tourism development "on the scale of Belek". Recent reports suggest that some building foundations may already have been started.

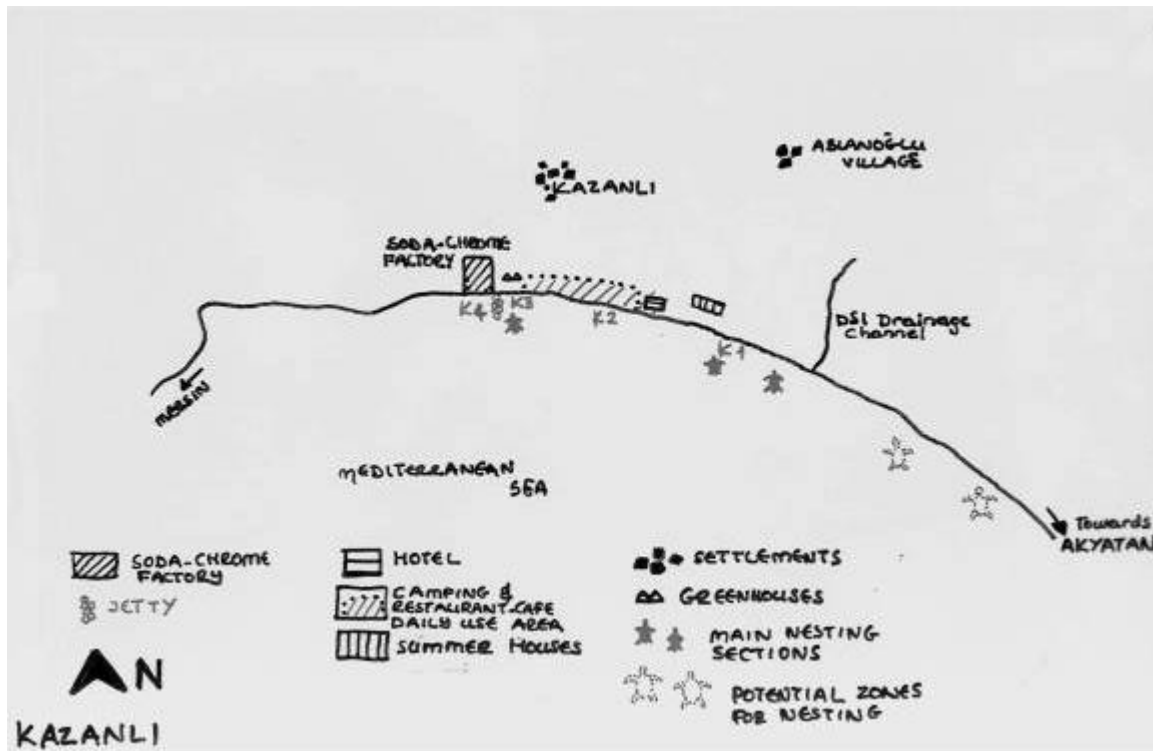
Regardless of the known national and international importance for the Green turtle, and of extant Bern Recommendations since 1988, no protective status has yet been afforded to any beach or offshore area at Kazanli.

The entirety of the above situation clearly reflects a number of urgent problems for the Turkish government to resolve, but we must also credit some welcome local improvements since a more environmentally conscious Mayor was recently elected :

- Beach-side roads behind K1 & 2 have been closed and replaced further inland.
- Some plastic greenhouses at K3 and some buildings at K1 have been removed.
- Part of the beach threatening jetty in K3 has been removed.
- Public awareness via local media, signs, a Turtle Festival this May, and the adoption of a turtle as the municipal symbol for Kazanli.

Other significant improvements were said to be planned for the future, given due political and financial support. eg. removal of the rest of the jetty; removal of more greenhouses and restoration of the dunes; removal of the Altinkum hotel.

Despite all of the current adversities, perhaps most remarkably, female Greens are still returning to nest. Successful incubation is however limited, especially on K3 where any recovering beach remains narrow (4 m) to non-existent.



2. AKYATAN 22 Km (6 -10 Km of central core)

This area is jointly designated as a Ramsar site, Permanent Wildlife Reserve, and Natural SIT. Although there is no specific protective status for its marine turtles, or relevant measures within its management plan, the latter designation does cover the nesting beach.

A major EU funded research project was confined to the site's botanical status.

Tourism

While direct pressures from urbanisation and the main tourism industry are mostly absent, domestic tourism is increasing :

Camp sites now exist at both ends of the beach and the important central area is too easily accessed by summer visitors from the holiday camp for army families.

There is a growing holiday facility development westwards at Tuzla; several thousand campers use the beach, small apartment blocks and holiday houses are spreading at the beachward end of the road from Tuzla.

At the eastern end, there is pressure to use the beaches from the town of Karatas, while a beachside camp site and lights have already depressed nesting.

Pollution

Sea-borne litter is not regularly cleared from the beaches even during the nesting season, and tractors are not prevented from driving over some of the most sensitive nesting zones.

The Cukurova Delta (of which Akyatan forms a seaward part) has the most extensive cotton farming in Turkey. Pollution is widespread from agricultural chemicals which leak into the irrigation canals and to the sea via direct drainage channels.

Predation

The single biggest hazard to successful recruitment here is now probably due, ironically, to the strict protection of the afforested hinterland. Here, hunting is forbidden and as a result nest and hatchling predation can reach unsustainable levels for these endangered turtles.

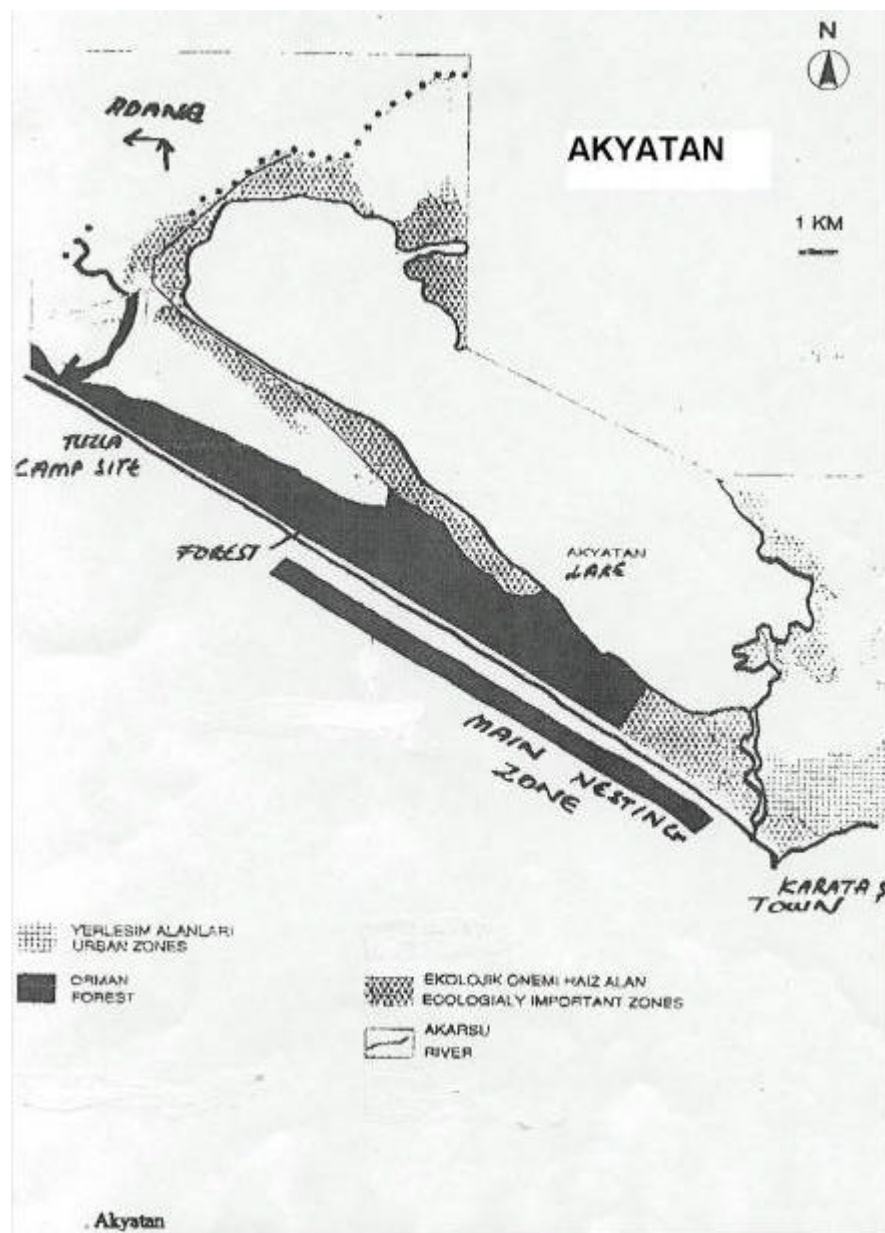
Research over recent seasons has shown nest losses at levels from 26% to highs of 63.8% and 75%, and from foxes and golden jackels alone.

In 1997 for the first time wild boar were found predating the main nesting zone.

Marine

The shallow offshore approaches are important for feeding – but see below for the adverse effects from fishery bycatch, both legal and illegal. Current assessments for a World Bank funded thermal power station to be sited eastwards towards the Karatas end of Yumurtalik Bay could result in the Green's noted marine habitat being seriously jeopardised here.

This habitat has not been protected as proposed in Recommendations 7, 8, & 66.



3. SAMANDAG 10.3 Km (central core of 5 Km.)

This area can be sub-divided into the southern Meydan beach; the main 'Asi' nesting zone to each side of the Asi river; the Seyh Hidir beach northwards to the Seyh Hidir Tomb; the northernmost Cevlik beach.

Erosion

Three dams on the Asi river helped initiate beach erosion from 1954, since when, extensive sand winning sanctioned by the Antakya Governorship continued until 1991 by when most of the exploitable sand (including the sand dunes) had gone. Coastal (and beach) erosion increased from 54m in 1993 to 192m by 1996. Much of the densest nesting at Seyh Hidir was also lost. Even in summer 2000, Greens were found climbing over the remnant dune edge to prospect inland only to find minimal sand !

Tourism

New holiday houses of 150 units have been built at the southern edge of Meydan beach.

Towards the southern (and sensitive) part of Seyh Hidir a line of one storey local holiday houses have been built in this increasingly popular location.

A four storey hotel has been built prominently at the beach at Seyh Hidir Tomb, and financed by the Treasury Ministry !

Cevlik beach now has two to three storey buildings on the landward side of its parallel beach road.

during *Pollution*

The Seyh Hidir beach suffers badly from light pollution from new houses; that from the Treasury's building reaches the Asi river mouth.

Cevlik beach is similarly effected by street and entertainment establishment lighting; while holiday houses now likewise threaten the Meydan beach.

The Samandag beaches are amongst the most litter covered in the Mediterranean; much of this is international in origin and continually sea-borne via ships and other coasts towards the Gulf of Iskendrum 'cuI de sac'. The plastic wastes are particularly problematic to marine turtles, their nests, and hatchlings, but no regular removal is apparently attempted even in the nesting season.

Dead cattle and horses were also common on the beaches which attracts scavengers such as dogs risking more potential predators on nests.

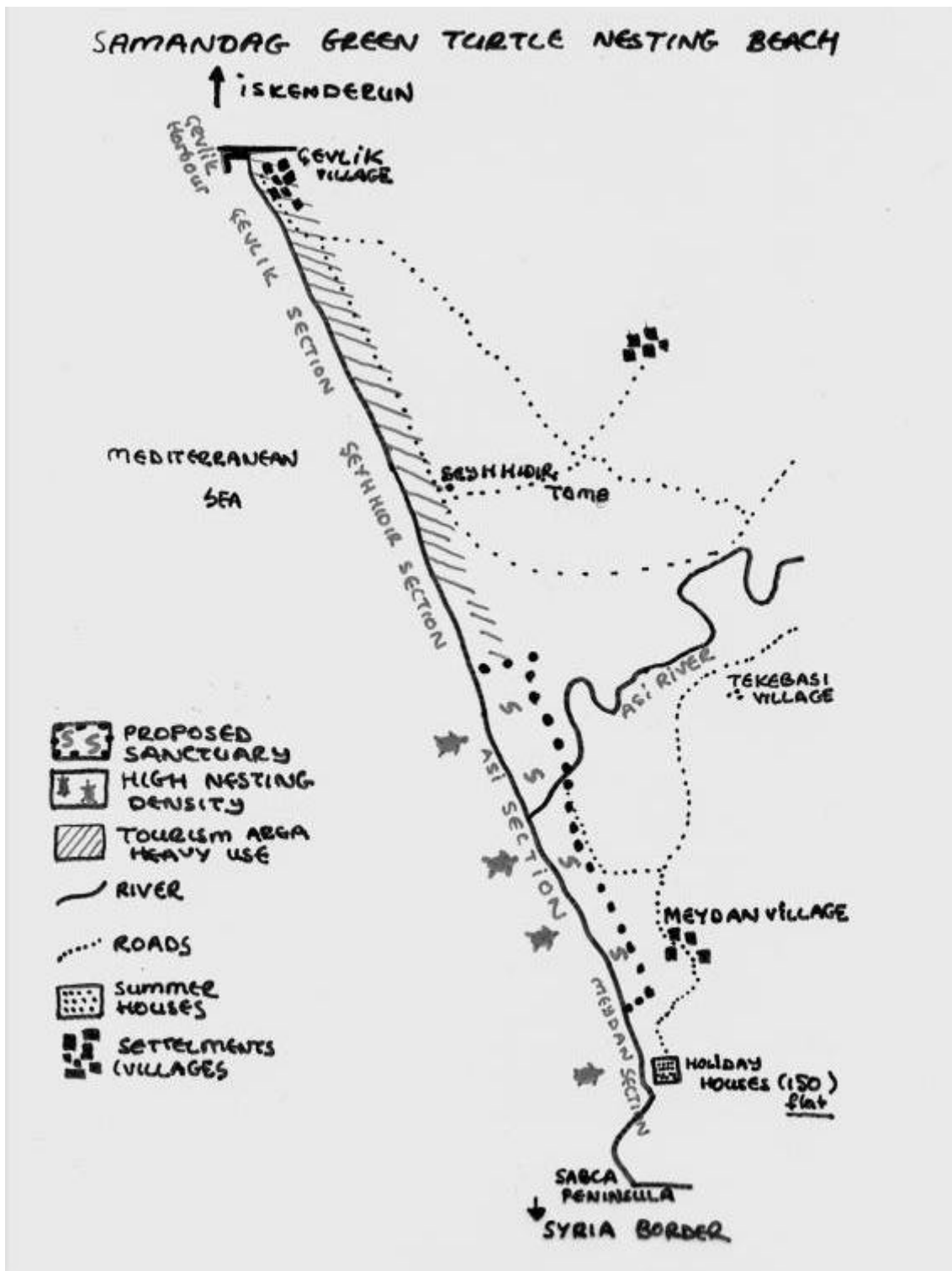
Other

There is some local hostility towards marine turtles which are seen sometimes as an obstruction for land tenure and use of the beach.

This has not stopped the damaging use by fishermen's tractors of nesting zones each side of the Asi.

The sand dunes show signs of recovery but remain in a critical condition and in urgent need of restorative measures. This is also needed to enhance the suitability of the nesting beach.

On the positive side, there were indications of support for future turtle conservation measures discussions with the current Mayor .



4. COASTAL FISHERIES, BY-CATCH, MARINE PROTECTION.

Previous Recommendations (7, 8, & 66) dealt with some aspects of the above but the results of recent NGO surveys show that this must be given much more immediate attention.

WWF(1996) revealed that less than 50% of Turkish fishermen were aware of the marine turtles' legal protection. The many caught do not seem to be sold although individual turtles were still consumed/utilised by some fishermen.

Then, 194 registered trawlers were in operation in the Green's most important marine feeding and refuge areas of the shallows of Mersin and Iskendrun Bays. Bottom and shrimp trawling are regularly 'confused' since only the former is legally allowed within 3 nautical miles of the coast.

Annual captures (including Loggerheads) ranged from a stated 4 to 500 per boat; One Karatas based trawler estimated 40 per year, with overwintering Greens found at depths of only 20m between Karatas and Yumurtalik.

The option of using Turtle Excluder Devices(TEDs) in Mediterranean trawling was seen as of dubious benefit, and was problematic for fish trawling cf. shrimps.

DHKD (1997) found more than 250 fishing boats based at Karatas and representing 15% of the whole Mediterranean trawl fleet. Unfortunately for turtles, Karatas lies midway between Akyatan's nesting refuge and Yumurtalik's overwintering area.

Sampling only 12 such boats between September 96 and May 97, 306 Greens (116 Loggerheads and 437 *Trionyx*) were entrapped in the trawling nets, and key localities were noted. Most Greens were caught between December and February thus confirming their overwintering phase; all ages/sizes were caught but pre-dominantly young immatures.

About 10% of these captured Greens were classified as weak or comatose, with only very occasional wounded or dead.

Protection efforts for the marine environment were found to be almost non-existent in Turkey.

(A joint research project into the possible application of TEDs in Turkey was programmed from September 1997 via the NGO. TUBITAK and Ege University. Results and conclusions are not known.)

MEDASSET's direct investigations during 1999 and 2000 confirmed that the offshore fishermen from Mersin (Kazanli), Karatas (Akyatan), and Cevlik (Samanadag) were continuing to accidentally capture Greens. Most captures were related to Yumurtalik Bay, a known overwintering area.

More than half of the boats break the trawling prohibition within the 3 mile zone as there is little or no enforcement.

Local people at Kazanli and Samandag believe that most of the dead turtles washed ashore have been drowned in fishing nets.

Fishing pressures are also damaging in terms of the potential disruption to the Green's important sea-grass beds. This would be drastically increased should the recent NE.Atlantic method of 'physical' trawling (scraping) of the sea bed be applied in this part of Turkey.

More specifically, the shallow sea in front of Kazanli is subject to intensive fishing, including illegal trawling. In the main, these local fishermen do not like turtles because of the damage they can do to their nets. Dead turtles are too regularly found washed up on the beach.

Akyatan' s Greens are undoubtedly effected by the economic fishing pressures based at nearby Karatas. Their trawlers have been seen to violate the 3 mile limit, even outside of the legal fishing season.

Fishing pressures at Samandag are comparatively less and as night fishing is banned in respect of + - 69 its border with Syria. However, most of the fishing appears based on the most sensitive nesting zone, at the Asi river mouth.

Recommendations

Pursue the number of valid and extant elements already contained within the requirements of the Bern Recommendations 7, 8, 12, 24 & 66.

From those and our recent findings we are able to propose clear priorities.

KAZANLI

- Overdue national protection of the nesting beaches, sand dunes, and marine surrounds, should be designated in 2001.

- Governmental support should be given to the local municipality to aid.

The restoration of K3 by the immediate removal of the remaining factory jetty and of the rest of the greenhouses.

The shielding of factory lights and/or their switching off during the breeding season.

The shielding of all other intrusive lights.

Removal of plastics and regular cleaning of litter on the nesting beaches.

Closure/removal of the Altinkum beach hotel.

AKYATAN

- Turtle conservation requirements must be included without further delay within the management of the protected area.

- Protect the marine surrounds and enforce against current illegal trawling.

- Measures must be taken before the next nesting season to offset serious predation by mammals based in the protected forest. Fencing out from the beach for at least the central nesting area, and/or culling is urgently needed. Nest caging could be considered for short-term alleviation, but is labour intensive, artificial, relatively impractical, and far from a sustainable method.

- Green turtle needs must dictate any siting options for a new power station.

SAMANDAG

- Overdue national protection of the nesting beaches should be designated without further delay.

A 4 Km strict sanctuary should be included at the Asi mouth.

- Removal of plastics must be undertaken before the next nesting season and thereafter by regular cleaning (non-mechanical during the nesting season).

FISHERIES/MARINE

- Create marine sanctuaries for the overwintering and feeding areas off Mersin, Cukurova, and Yumurtalik.

- Enforce against trawlers fishing within 3 miles and out of season.

- Apply the use of TEDs where relevant to reducing turtle trauma and deaths.

- Ensure that public awareness initiatives for fishermen stem nationally, rather than just locally and unofficially by NGOs.



Plate 1: **Kazanli K3** - Erosion of beach; plastic green-houses; flood-lit football cage new beach hotel.



Plate 2: **Kazanli K2** – Loss of dunes and beach to coastal road (recently closed and resited inland).



Plate 3: **Kazanli** K1 – Loss of dunes; new buildings (note Sodachrome Factory – K4).



Plate 4: **Kazanli** nesting Green turtle coated in chemical waste from Sodachrome Factory



Plate 5: **Akyatan** - protected forest (and predator refuge), immediately inland of nesting beach.



Plate 6: **Samandag** – Build up of sea-borne litter over nesting beach; note high percentage of plastic waste.



Plate 7: Close up of sea-borne litter confirming its international sources



Plate 8: Remnant dune ridge as all that remains of **Samandag's** sand dunes.



Plate 9: Green Turtles' nesting route now involves climbing this **Samandag** dune ridge.



Plate 10: Unsuccessful nesting search by **Samandag** Greens due to lack of sand inland.