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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

31st meeting
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Other complaints

**Sea turtle mortality in the British Sovereign Base
Areas (SBAs) of Episkopi and Akrotiri
(Cyprus)**

REPORT BY THE GOVERNMENT

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SEA TURTLE MORTALITY IN THE CYPRUS SOVEREIGN BASE AREAS

Response of SBA Administration to the complaint submitted to the Bern Convention in relation to marine turtles by MEDASSET, Terra Cypria and Episkopi Turtlewatch.

1. SBAA Fisheries Legislation

The current SBAA Fisheries Ordinance and Regulations (attached in e-mail) were made in 2005. A small amendment to the Ordinance in relation to amateur fishing was made in 2005 as well. No other amendments have been made since then. **The claim in the complaint that the Ordinance was amended after 2007 to change the depth for casting nets from 10 metres to 5 metres is inaccurate. The 5 metre limit for casting nets was introduced by Regulation 8 of the SBAA Fisheries Regulations 2005.** These Regulations mirror the equivalent provisions of the Republic of Cyprus Fisheries Regulations. The 5 metre limit applies to the whole of Cyprus with the exception of Lara Beach which is the most important turtle nesting area in Cyprus. The limit there is 20 metres.

2. Nesting within the SBAs

The tables below show the nesting interest at Akrotiri and Episkopi bays.

Episkopi Bay

Year	Loggerhead	Green
1998	10	2
1999	3	
2000	No monitoring of nests	No monitoring of nests
2001	2	
2002	1	
2003	3	
2004	6	
2005	2	
2006	13	
2007	12	
2008	5	
2009	18	
2010	15	

Akrotiri Bay

Year	Loggerhead	Green
1994	15	5
1995	19	6
1996	20	1
1997	16	
1998	No monitoring of nests	No monitoring of nests
1999	13	6
2000	11	7
2001	23	3
2002	23	
2003	5	1
2004	17	2
2005	10	
2006	24	3
2007	33	
2008	20	5
2009	49	5
2010	40	12

As it can be seen from the Tables, nesting activity has increased in the last few years.

3. Dead turtles

The searching effort for dead turtles was intensified during 2009 and 2010. In addition to the two Turtlewatch groups which are patrolling the nesting beaches daily during the nesting period, the Environmental Wardens, SBA Police Officers, Customs Officers and Area Office Field Assistants are on the look out for dead turtles. The additional resources have been covering the whole of the coastline and not just the turtle nesting areas. As a result, the majority of dead turtles are spotted soon after their washing up on the beaches. The claim in the complaint that dead turtles are often reported one to two days after being first found is inaccurate as the area is patrolled on a daily basis during the nesting season.

It should be noted that some information (measurements, species) is missing on some of the dead turtles either because they were only seen in the water, or were buried before any measurements were taken. Also, there may have been some double counting. Therefore, data on dead turtles can only be used safely for extracting the general trend. In fact the trends, as presented below, were similar in the last two years.

In 2010, 60 dead turtles were recorded within WSBA. The majority were juvenile Green turtles (33). There were at least 14 adult Loggerhead female turtles, 1 adult Green female, and 1 adult Green male. Information is not accurate on the rest of the deaths. At least 10 out of the 14 adult Loggerhead females and at least 10 Green turtles were decomposed. There is no accurate information as to the level of decomposition of 23 turtles.

It is worth noting that between 09/12/2010 and 17/12/2010, 8 dead turtles were found at Akrotiri Bay. During that period the fishing activity within the bay was zero to minimal, due to rough sea conditions. This, in combination with the fact that the majority of these 8 turtles were decomposed is an indication that the death took place at locations away from the bay.

In 2009, 50 dead turtles were recorded within WSBA. There were 12 adult Loggerhead females, 27 Green juveniles, 4 adult Loggerhead males and 2 adult Green turtles. A post mortem study was carried out during 2009. Autopsies were carried out on only 14 turtles as the majority were found at a decomposed state. Six out of the 14 turtles studied were significantly decomposed. This is an indication that the percentages presented in the complaint as to the level of decomposition of turtles are not accurate.

During the two years of systematic recording of dead turtles the figures are quite similar, with juvenile Green turtles being the majority of deaths (54% in 2009 and 55% in 2010) followed by adult Loggerhead female turtles (24% in 2009 and 23% in 2010).

4. Cause of death

The main cause of death appears to be incidental entanglement in fishing nets. This includes mostly drowning and a small proportion of deliberate killings. This, however, is not an isolated problem occurring within SBA waters only, which could be rectified through modification of the existing SBAA Fisheries legislation, as recommended in the complaint. This issue should normally be the same around the whole coast of Cyprus and the whole of the Mediterranean. According to IUCN, “a recent review of sea turtle by-catch in the Mediterranean estimated over 150,000 captures per year (all species, sizes and origin combined) within the basin (over 50,000 by pelagic longlines, 40,000 by trawls, 35,000 by demersal longlines and 30,000 by set nets) and in excess of 50,000 deaths per year” (Sea turtles in the Mediterranean, Distribution, threats and conservation priorities, IUCN Report 2010).

The Report on the Republic of Cyprus within the IUCN Report indicates that set nets constitute a threat to turtles.

The report on nesting activity at Northern Cyprus within the same report also indicates that the incidental fisheries catch is a major threat to turtles. The report mentions that the average number of turtles caught by fishermen is 4 turtles/year/boat.

5. Addressing the issue

The problem within the SBAs mirrors the wider picture in the rest of the Mediterranean and there is nothing particular or exceptional about the specific area. The claim in the complaint that there is a danger of localised extinction of the Loggerhead population is not based on scientific grounds and needs further investigation in correlation with other data, such as nesting, death location and total local population and its composition.

The claim that the change in the depth for casting fishing nets from 10 to 5 metres caused an increase in deaths, is based on the wrong assumption that the limit changed in 2008 whereas in reality it was in force in 2005, 2006 and 2007 when Turtlewatch reported very few deaths. Additionally, in order to establish the trends in deaths a consistent methodology is required. This only took place in the last two years as far as the SBAA can confirm. In order to evaluate how significant the numbers of dead turtles washing up on SBA beaches are to the turtle conservation interest, one needs to put the deaths and the wider turtle interest (nesting, feeding and wider habitat association) within the bay, in context with the rest of Cyprus on a consistent, long-term basis.

Furthermore, the preliminary results of the turtle survey undertaken by the SBAA Environment Department indicate that the proposed change from 5 to 10 metres of depth for casting nets not only may not contribute to an improvement of the situation, but in some cases it may even make it worse (please see table below with preliminary survey results). This issue, however, needs further study and analysis, especially in relation to the nesting interest.

In order to assess the importance of the bay to the marine turtle interest, a comparison must be made with the rest of Cyprus. It would be useful to extend the current survey within Akrotiri-Episkopi Bay to the rest of the coastline towards Akamas.

In the meantime, two of the SBAA aerial surveys were extended to cover a small area in the Republic (up to Cape Aspro). These showed that similar turtle presence extends beyond the SBA boundary. The preliminary results of the fishermen interviews, as outlined below, suggest that there has been a considerable increase in the sightings of turtles both within the SBAs and the RoC during the last few years.

Recognising that controlling offences in the sea is very difficult and that the entanglement of turtles in nets is inevitable due to the intrinsic conflict between fishing and turtles, the SBAA is utilising its resources as best as possible to address the issue. Enforcement and conservation actions included a lot more than fishermen education as mentioned in the complaint. Emphasis was placed on problematic aspects on the Foreshore, enforcement of the legislative provisions for depths and allowable times for nets in the water as well as on conservation practices to safeguard minimum intervention on nesting turtles and hatchlings.

A summary of actions undertaken by SBA Police, Customs and Environment Department during the 2010 turtle nesting season is presented below:

Enforcement of legislation and conservation activities

- During the period 1/04/2010- 30/11/2010 twenty-three cases were reported and dealt with by the SBA Police in relation to Foreshore offences. These covered offences such as driving on the foreshore, pollution of the sea, dumping refuse on the foreshore, parking on the foreshore and placement of objects on the foreshore. Seventy - four written cautions were administered in relation to placement of objects on the foreshore, driving, or passing through the foreshore and anchoring or parking of vehicles or boats. A total of 750 man hours were spent on foreshore patrols.
- 22 joint SBA Police Marine Unit and Customs patrols enforcing the Fisheries Ordinance and the Protection and Management of Nature and Wildlife Ordinance were undertaken.
- 7 joint SBA Police and Marine Unit patrols enforcing the Fisheries Ordinance and the Protection and Management of Nature and Wildlife Ordinance were undertaken.
- 93 SBA Police Marine Unit patrols for the enforcement of the Fisheries Ordinance and Protection and Management of Nature and Wildlife Ordinance were undertaken. During patrols the Marine

Unit distributed to fishermen leaflets on turtle conservation. 5 warnings were made and 13 verbal cautions were issued to Fishermen.

- Customs conducted daily coastal land patrols and intercepted vessels launching or being retrieved from sea. Owners were checked to confirm that they had a valid fishing licence according to the type of fishing equipment they might have had on board the vessel. Various verbal & written warnings were issued to owners found fishing with rods without a valid licence. Various seizures were made from owners fishing with spear guns without a valid licence.
- Customs made a total of six seizures involving illegal fishing with nets. The owners of nets were not known in two cases and nets were officially destroyed. Compound penalties were paid in the other four cases.
- In February 2010, Customs Officers conducted individual liaison meetings with 14 professional fishermen based at Zapalo and Akrotiri. Information was gathered in an effort to prevent illegal fishing activities. Customs officers gave fishermen education leaflets on turtles and a copy of the times when fishing with nets is not permitted according to the Fisheries (Consolidation) Ordinance 2005. Customs Officers also met with the Treasurer and Chairman of the Limassol Professional Fishermen Committee and asked him to pass on information leaflets to professional fishermen who are based in Limassol but fish in SBA Waters.
- Several turtle boat surveys which also involved the patrolling of the coastline, were conducted by the Environment Department, Customs and the SBA Police Marine Unit.
- SBA Police, Customs and the Environment Department maintained regular contacts in an effort to address effectively the various issues.
- Regular contacts were maintained with Akrotiri Turtlewatch and Episkopi Turtlewatch.
- The Environment Department maintained regular contact with the RoC Department of Fisheries and Marine Research and the Cyprus Wildlife Society addressing various conservation issues.
- Customs maintained regular liaison and had co-operation with the RoC Department of Fisheries and Marine Research. Matters discussed included procedures on illegal fishing activities and information on persons holding fishing licences and the conditions included in fishing licences.

Education of fishermen

Regular contacts were established with local fishermen in an effort to increase awareness and sensitivity in relation to turtles. As a result, fishermen reported 8 cases they have liberated turtles from fishing nets in the last 10 months.

Environment Department turtle survey

The general objectives of the survey are to confirm turtle presence within Episkopi and Akrotiri Bays and the connection fishing activities have with the dead turtles washing up on the beaches. The next phase of the survey will be a correlation of the turtle interest with marine habitats.

The survey started at the end of May 2010 and continued until the beginning of January 2011. It involved aerial and boat surveys. The intention is to continue the survey until 2012. This year it will begin at the end of March in order to cover the mating season as well, which was mostly missed in 2010.

Boat surveys

Only one boat survey was conducted in 2010, as it became immediately evident that the value of boat in comparison to that of aerial surveys was limited. It was, therefore, decided that boat surveys would be replaced by diving/snorkelling surveys to gather more specific information at particular areas on turtles and their habitat association. Four such surveys were carried out in 2010 and they will be intensified in 2011.

The preliminary results of these surveys include sightings and photography of a number of turtles, the big majority of which was green.

Aerial surveys

Thirteen aerial surveys were carried out between June 2010 and January 2011, using zigzag transects between the coast and the 100 metre isobath. The detailed analysis of the results has not been completed yet but the number of sightings and the depths they were seen are presented in the attached table. A map showing all the sightings of the 13 surveys is also attached.

As the table indicates, less than 10% of the sightings were in less than 10 metres of depth, a little over 29% were in a depth of 10 to 20 metres, almost 33% were seen in depths ranging from 20 metres to 30 metres, almost 20% were seen in depths ranging from 30 metres to 50 metres and less than 10% were seen in depths over 50 metres. A Mann-Whitney test was carried out, which proved that there is a statistically significant difference between the observations at less than 10 metres and those at more than 10 metres of depth, at the 99% confidence level.

These results do not agree with the ones reported by Episkopi Turtlewatch which claim that most sightings were in depths ranging from 4 - 15 metres and that the gatherings concentrated consistently in the area bounded by the west tip of Evdhimou beach and the west side of Curium beach. The claim in the complaint that SBAA personnel reported orally to Episkopi Turtlewatch that their findings mirrored those of ETW in terms of depths is also inaccurate. The methodology used by ETW in their surveys as originally discussed with SBAA, was inaccurate as it included estimation of depths without the use of GPS and circular flights, with probable double counting.

Interviews of fishermen

The SBAA Environment Department interviewed local fishermen using the fishing shelters at Akrotiri and Zapalo (Episkopi). Most fishermen have indicated that they have been seeing many more turtles in the last few years compared to the past, both within the SBAs and in the Republic. This is confirmed by others as well such as divers and snorkelers. Fishermen also reported that the majority of turtles are seen in deeper waters. Detailed results from the interviews will be presented in the Report on the Survey which will be drawn up in due course. In terms of turtles getting entangled in fishing nets, the general impression gathered from the interviews is that on average, professional fishermen catch about 2-3 turtles per year in nets.

A detailed analysis of the interviews is needed however before any conclusions on incidental turtle catches is extracted. Fishermen mentioned that turtles were caught both in the SBAs and the Republic of Cyprus. It should be noted that some fishermen were reluctant to discuss some of the questions. This factor will be taken into account when analysing interview results.

6. Allegations contained in the complaint

SBAA is not taking any actions because it does not wish to upset the fishermen....

No such statement was ever made. What was made clear to Turtlewatch was that the SBAA would not unilaterally and without solid grounds change its legislation. Consultation and agreement from the Republic in necessary and local fishermen would be notified of any such intention to amend existing legislation as a stakeholder affected by the change. It is also in the best interest of turtle conservation to pursue constructive liaison with fishermen in parallel to law enforcement.

No action taken against the Mayor of Episkopi for inciting people to break the law.....

The SBA Administration discussed the issue with the Mayor. He confirmed that his statement was misrepresented by the media and his intention was under no circumstances to incite anyone to kill turtles.

Reports by Lifeguard outpost on 12/08/2010 that the number of “accidentally” killed turtles increased following statements of mayor of Episkopi that turtles need controlling.....

The statements of the mayor of Episkopi were made on 22/07/2010. The allegation in the complaint that he numbers of deliberately killed turtles increased between that date and 12/08/2010 is inaccurate. There was one dead turtle on 26/07/2010 (the one shown on Fig.7 in the complaint) which had a blow on the head, thus suggesting a deliberate killing. Another three deaths were reported between 22/07/2010 and 12/08/2010. One of them was a very decomposed juvenile Loggerhead and

the other three were juvenile Green and their death was attributed to net drowning. No deaths were reported at Episkopi Bay between 03/08/2010 and 22/08/2010.

Head of SBAA Environment Department reported to Terra Cypria that amendments to fishing regulations are unnecessary.....

No such statement was ever made. The only comment made to Terra Cypria was that no recommendations for a change in the Fisheries Regulations can be made without proper justification and before the completion of the survey and the analysis of results.

7. Conclusions

- a. The conflict between fishing and marine turtles is general and not isolated within Episkopi Bay.
- b. Some of the dead turtles washing up at Episkopi Bay probably come from locations away from the bay, as Episkopi Bay is a catchment basin for a big marine area and many turtles wash up at a progressed decomposition state.
- c. The number of dead turtles washed up at the bay was 60 in 2010 and 50 in 2009. The trends in relation to previous years cannot be established with accuracy, as previous searching effort cannot be confirmed.
- d. During the last two years over 50% of dead turtles found was juvenile Green and over 20% adult Loggerhead.
- e. A big proportion of turtles washed up on the beach probably died from drowning in nets and a smaller killed deliberately when caught in the nets. Some other deaths could be from other causes.
- f. General information suggests that there have been many more sightings of marine turtles in Cyprus during the last few years in comparison with the past.
- g. The nesting interest at both Akrotiri and Episkopi is showing an increasing trend.
- h. Further studies are needed to complete a picture for the turtle interest in the area in context with the rest of Cyprus and the significance of the death rates.
- i. Based on the results of the studies at f above, appropriate actions should be agreed with the authorities of the Republic of Cyprus.
- j. Policing to enforce current legislation both on the foreshore and at sea will continue.
- k. The proposed change of fishing depth from 5 to 10 metres does not, preliminarily, seem to be an effective measure to address the issue, although this needs further investigation.
- l. Simplistic conclusions, recommendations and actions which can cause more damage than benefit should be avoided.

8. Attachments

The following documents are available at the Secretariat:

- SBAA Fisheries Ordinance and Fisheries Regulations
- Table: Aerial survey data

Map showing the total number of turtle sightings during the aerial surveys

