

EDITORIAL/UPDATE

Welcome to issue 15 of *Turtle News*. I am pleased to report that 2004 was a successful nesting season for both the green and loggerhead turtle nesting in N. Cyprus, and a large proportion (> 80%) of clutches hatched, thanks to our successful caging/hatchery programme. MTCP recorded 173 clutches laid by green turtles and 225 by loggerhead turtles on the three zones monitored (see figure 1). In the Karpaz, the Department of Environmental Protection recorded a further 301 green and 37 loggerhead turtle clutches; a particularly good year for green turtles.

In addition, 2004 was a hugely successful research year, with 4 green turtles and 1 loggerhead turtle being tracked via satellite, and live on the internet <www.seaturtle.org/tracking/> (see article on page 4), two green turtles having cameras mounted on their shells (see article on page 1) and 16 turtles being deployed with geolocation units (a project in conjunction with British Antarctic Survey). These studies meant a lot of extra work for the team...thank you to all of those involved, especially Wayne who broke all records for the number of continuous nights on the beach!

On a more sombre note, having visited Cyprus in June for the first time in 2 years, I was shocked at the level of development that has occurred and the speed at which it is progressing. Thankfully, Alagadi Beach (the 5th most important nesting beach of the green turtle in the entire Mediterranean) itself is protected by local law, and we hope that this means that development will not be permitted here; but the decision to route a temporary road (still in place some 18 months later) through its delicate dune system in 2003 does not bode well. *Cont. overleaf:*

CAMERAS ON TURTLES!

This summer we were fortunate to be loaned two underwater digital cameras, purpose built for use on seals, by Dr Sascha Hooker of the Sea Mammal Research Unit, University of St. Andrews. The primary aim of this study was to determine the inter-nesting behaviour of marine turtles in the Cyprus (i.e. do they feed between laying clutches). We decided to attach the cameras to green turtles for two reasons; they show greater fidelity to their nesting beach than loggerhead turtles and therefore we would have a greater chance of retrieving these devices; the nesting behaviour of green turtles is far more protracted, thus giving us a greater amount of time for attachment. Each camera is embedded in a resin block and has an in-built time-depth recorder, which has two functions; as the name suggests it records the time and depth of each dive; it also acts as a device to activate the camera at the desired depth.

On the night of the first deployment, we were still frantically fashioning a suitable attachment housing. As we were putting the finishing touches to the housing, we received a call on the radio that one of our target green turtles was nesting at the furthest end of the beach. We hurriedly grabbed the necessary equipment and set off at speed. The housing consisted of two parts; a wooden base plate that was glued to the top of the carapace using a two-part epoxy resin and into which the camera fitted snugly. The second part of the housing was a shaped metal plate that sat on top of the camera and screwed to the wooden base plate with four screws. This top plate kept the camera securely in position and provided some added protection to the camera's lens and flash. With green turtles notorious for cleaning their shells by scratching them on overhanging rock we were not taking any chances! *Cont. overleaf:*



Photo: Green turtle nesting on Alagadi Beach at dawn.

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Sadly, as in 2003, no clutches of either species were laid on the beach featured in *Turtle News 14*, situated one mile west of Esentepe Beach, across the back of which the new north coast road was routed. These are the only two years since 1992 that no nesting has been recorded at this beach. So, have we lost this beach as a nesting site to these endangered species? It looks like it. We hope that due consideration will be given to the route of the remaining section of road that is still with the planners.

Wayne Fuller, Project Leader for the past three years is taking a step back next year to concentrate on completing his PhD studies. He will still however be involved in co-ordinating the project in 2005 and for the foreseeable future. Joni Walker, whom many of you will have met, will be taking over as Project Leader in 2005. She is currently busy selecting her team!

The Marine Turtle Research Group have at last moved into our new offices at the University of Exeter in Cornwall campus. Check out the web site if you are interested in a BSc in Conservation and Ecology or an MSc in Conservation and Biodiversity: <<http://www.uec.ac.uk/biology/>>.

As always, please email me if you are able to receive *Turtle News* as a pdf <abroderick@seaturtle.org>.

Best Wishes to all for 2005.

Annette Broderick

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The attachment of the first camera went smoothly and the turtle returned to the sea. A couple of nights later we attached the second camera. Now all we could do was hope and pray that the turtles would return to nest on the same beach in 10-14 days time. One of the team observed a 'camera turtle' whilst snorkelling off Alagadi Beach so we knew that at least one of the units had stayed on!

Two weeks later, after much nail biting and many emails, the call came from one of the night patrols, that one of the camera turtles was on the beach and attempting to nest, so off we ran, screwdriver in hand. We arrived at the turtle and once she had finished laying we removed the four fastening screws and lifted the camera out of the wooden housing. As we were removing the first camera the call came from about 20 metres away that the other camera turtle was on the beach. So after we had removed the first camera we walked 20 metres along the beach and removed the second one. Well it could not have been any easier, what were we worrying about!

The next thing was to download the images on the cameraif there were any. Once downloading started we could see there were 1700 images.

However, all of the first few images were black; our hearts sank. A few seconds later clear images appeared and some great pictures. In total there were 2400 images from the two cameras and the images showed; the turtle in sea grass beds (see photo below), other turtles, fish, and best of all a turtles view of Alagadi Beach and Beshpamak mountain range beyond.

All in all the deployments were a complete success, and the images and data show that the females were moving around in seagrass beds during the inter-nesting period, indicative, although not conclusive, of feeding. These data are currently being analysed in more detail and will be published in a peer-reviewed scientific journal. All of the publications of the MTRG are available as pdfs on our website at <www.seaturtle.org/mtrg/publications/> along with details of our other projects around the globe.

This study was the first time, to our knowledge, that a camera has been placed on a green turtle at sea. Such pioneering research is crucial to understanding the endangered species which we are trying to conserve, both locally and globally.

Wayne Fuller

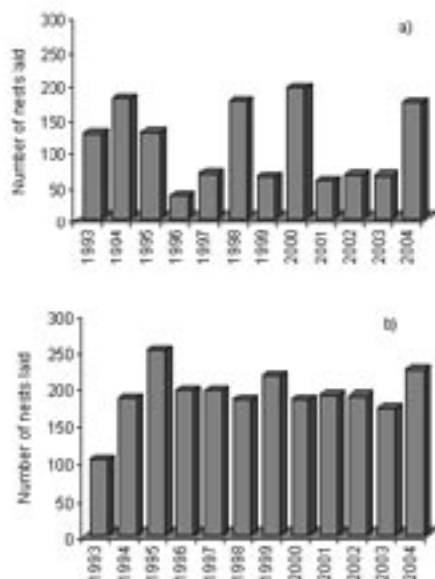


Figure 1. Number of clutches recorded in zones 4 and 5 of a) green and b) logger-head turtles in N. Cyprus 1993-2004.



Photo: Turtle moving in the seagrass beds with female's head in the foreground.

Collaboration with Turkish Project

In 2004, the MTRG was invited by Dr Ali Fuat Canbolat of Hacettepe University/ Ecological Research Society – Turkey (EKAD) to assist in a satellite tracking study at Yumurtalik Beach, Turkey. On behalf of the MTRG, Dr Fiona Glen, past MTCP leader, attached 4 transmitters to green turtles nesting at Yumurtalik. These green turtles were also tracked live on the web site and the project received a lot of publicity (see photo)! *Tracking Turkey's Marine Turtles* is sponsored by BTC (Baku-Tbilisi-Ceyhan Pipeline Company) and NERC. In 2005 an additional 4 transmitters will be attached.

MTCP was also invited to send two volunteers to support a British Council initiative *Connecting Futures in Turkey* organised by EKAD. Niall Rauh and Catherine McIvor were selected to represent the MTCP and had a great time visiting other turtle projects, exchanging knowledge. Below Niall reports on their trip:

"The opportunity to travel to Turkey and meet other turtle biologists from Turkey and Greece was one which I was keen to accept! Upon arrival at the EKAD base in Belek representatives from each of the three invited turtle groups (Archelon (Greece), MTCP (UK) and EKAD (Turkey)) gave a presentation on their projects. The following day, in keeping with turtle tradition, we got up at 5:30 to walk the two beaches that EKAD oversee at Belek. On that morning we were checking for fresh nests and comparing monitoring methodologies as we walked. Later that day EKAD gave a presentation illustrating the threats faced by turtles at the beaches that they monitor. These beaches are either dominated by large hotels (some are cooperative, others not), or have a natural forest behind them, which may seem perfect but brings with it predators of both eggs and hatchlings. Aliki, speaking on behalf of Archelon, described the 'Blue Flag' scheme used in Greece and Crete, whereby if a hotel implements the recommended turtle friendly adjustments to their premises, they can proudly display a blue flag outside the hotel. This system is so successful that blue flags are highly sought after. The reward of the flag promotes the hotel as eco-friendly, something more and more tourists are looking for when choosing their package holiday. EKAD added that the only way forward for turtle protection and conservation is to 'win' the people over to their way of thinking, through education and awareness. I too believe in this manner of action. If the people feel proud, as they do in Northern Cyprus, of the marine turtles that come to nest on their shores; then they feel they have a vested interest in the turtles' well being, be it from an eco-tourism point of view or national pride.

The other motivation for bringing the three groups together, aside from sharing methodologies and approaches towards tourism, was to visit the important nesting beaches along the whole southern coast of Turkey from Yumurtalik to Dalyan. The first leg of our journey took us from Antalya to Yumurtalik, a 20 hour journey involving a stunning coastline and a few detours! We met the Yumurtalik team of EKAD as well as MTRG representative Dr. Fiona Glen, there to attach four satellite transmitters to green turtles. After seeing the local beaches, predominately used by green turtles, we were to assist the local EKAD team with night work. One of the females that nested that night was to have the last remaining satellite transmitter placed on her. We watched the attachment and the local press, who got excellent shots (see picture).



Photo. Journalists and local dignitaries watch Fiona Glen attach a satellite transmitter to a nesting green turtle at Yumurtalik Beach, Turkey.

We then boarded our bus and began the return trip to Belek. Our next destination was Dalyan via Olympus and Patara, both nesting beaches for loggerhead turtles. The beaches at Dalyan are accessible by only two means: by a long road out of town, or by boat from the harbour. So with a boat and captain at our disposal we headed toward the sea, passing carved-out sarcophagi in the cliffs. At Dalyan a scheme to protect the turtle nesting zone has been very successful. A rope separates the nesting area for turtles from the sunbathers. The rope is permanently fixed and cannot be moved whilst tourists abide obligingly. There are posts marking out every 20 metres, similar to those used in Northern Cyprus. But for turtles nesting here the same sad pattern takes hold, no development, but high predation.

Thus we ended our turtle tour of Turkey, and hope that we shall be able to take up the offer to return again in the near future. We would like to thank the British Council and EKAD for making this trip possible.

Niall Rauh

P.S. Niall, Catherine and Fiona have just returned from a meeting in Ankara to discuss future collaborative projects.



Photo: A relieved Fiona after attaching the last of the four transmitters.

10,000 Year Old Turtle

I was woken from my sandy slumber by a student demanding I woke up as there had been a 10,000 year old turtle found at an archaeological dig at Tatlisu. On being woken from my much treasured sleep, I must admit my first thoughts were, its been there 10,000 years, another couple of hours aren't going to make a lot of difference. Well, I made my bleary eyed way up to the Goatshed, jumped into a 'nice' cold, refreshing shower, and was then ready to face the ancient world. Not quite sure where we were heading, I set off with a couple of Cypriot team members to help with navigation and translation. On reaching the village we asked for directions to the school where the archaeological dig was based. Once we had found out way to the school we were warmly greeted by the project leader Dr Muge Sevketoğlu and her assistant. We were shown into a room where the different artefacts are sorted and catalogued. I was then shown a small bone, and my heart sank, I thought "*I haven't got a clue if this is from a turtle or elephant*". Luckily I had taken along a CD of marine turtle anatomy. We searched through this and found a likely candidate. My next test was far simpler....a turtle lower jawbone, and I started to look like I new what I was talking about.

After checking through some more of their findings we were then taken down to the archaeological dig site where we were shown circular structures, which were the housing for these ancient people and then an area, which was believed to be the local municipal dump. This part of the dig site throws up some of the most interesting finds, and it did not disappoint this time, for this is where the 10,000 year old turtle had been found. And there it lay, a perfectly preserved turtle carapace. Like the refuse tips of today, these sites are a true reflections on how the people of this site lived their lives.

Wayne Fuller

2004 Satellite Tracking

This year we tracked four green turtles and one loggerhead turtle from Alagadi beach via satellite, and asked local school children to name two of our turtles. Naming of the turtles was a reward for coming top of their class in 2004 for students at Lapta Yavuzlar School. Aydan Akcamci and Cansu Coban were the two top scoring girls in the school and named the loggerhead turtle Puchi. Andac Anildi and Fikri Gurlu, the two top boys, named one of the green turtles Susan. The students also visited the project one evening to watch turtles along with some of their class mates and science teacher Dilek Ozden.

Unfortunately, Puchi's transmitter failed on her way south from Cyprus. Failure of a unit so soon after deployment and mid-sea, where a turtle is unlikely to encounter any objects such as rocks or other turtles to knock the unit off, is ominous and unusual. We cannot rule out the possibility that she was captured by a fishing vessel.

Susan is currently located off the coast of Libya as are green turtles Halide (named after the daughter of Savas Kalfaoglu, Department of the Environment Officer who has been a close colleague and friend since 1992) and Aydin (named after the wife of President Rauf Denktas). Our final green turtle Oya (named after the wife of Prime Minister Talat) headed north to Turkey and last transmitted in September.

In addition to our satellite tracking programmes in Cyprus and Turkey, in 2004 we continued to monitor marine turtle migrations via satellite telemetry in the Cayman Islands and North Carolina and initiated new programmes in the Cape Verde Islands (West Africa) and Montserrat (British West Indies). All of the programmes are on our web site at:

[<www.seaturtle.org/tracking/>](http://www.seaturtle.org/tracking/)

Annette Broderick

TCOT Final Report

The Marine Turtle Research Group, in collaboration with the Marine Conservation Society (UK), has recently completed the FCO/Defra funded project *Turtles in the Caribbean Overseas Territories (TCOT)*. The final report: *An assessment of the status and exploitation of marine turtles in the UK Overseas Territories in the wider Caribbean*, is now available to freely download as a pdf from our web site: [<www.seaturtle.org/mtrg/projects/TCOT/finalreport/>](http://www.seaturtle.org/mtrg/projects/TCOT/finalreport/)

The report focuses on Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat and the Turks and Caicos Islands.

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PDF of this newsletter available at:

<http://www.seaturtle.org/mtrg/projects/cyprus/>

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