

Freeing loggerhead turtles comes at a price

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This is a photograph of a loggerhead turtle (*Caretta caretta*) with a transmitter on its shell. Credit: Image: UB

When loggerhead turtles are accidentally captured by humans, a recovery process follows, the complexity of which varies according to the turtle's injuries. Spanish researchers have analysed the process of reintegrating these animals into the environment and they have discovered that there are changes in the behaviour of the turtles that have a complicated recovery process.

The study, which has been published in *Aquatic Conservation-Marine and Freshwater Ecosystems*, involved placing [satellite transmitters](#) on the shell of 12 healthy, wild loggerhead turtles' (*Caretta caretta*), and on 6 more that had spent a few months in a rehabilitation centre in the [Balearic Islands](#).

"The six animals from the centre were seriously affected when they were caught and they had a slow, complicated recovery process" Lluís Cardona, the main author of the study and researcher in the animal biology department in the University of Barcelona (UB) explained to SINC.

Upon being set free, three of the rehabilitated turtles showed changes in behaviour. "One died and the other two did not swim well and were very disorientated" Cardona, who compared their adaptation to the environment of these turtles with the twelve control ones, states.

"We received a signal each time they went up to breathe and from this we can tell what speed they swim at and the route they follow", the researcher comments. One of the most informative parameters regarding the animal's health is the time spent at the water's surface. "Turtles go up to breathe and thermoregulate. The time spent at the surface reflects their buoyancy control" the biologist highlights.

The cost of reintegration

Although the number of animals included in this study is not very high and they need more studies, the results show that when the rehabilitation is complicated, there is a percentage of animals that do not readapt to freedom.

"The underlying question of this project is when it is worthwhile recuperating and treating a turtle" the UB expert asks. At a time of limited resources and for the good of the animal itself, "the scientists have to work with veterinarians in the rehabilitation centres to establish protocols to determine when a turtle should be treated and when not" Cardona says.

Accidental captures

The six turtles in the study were rehabilitated in the Balearic Islands by the Aspro-Natura Foundation between 2004 and 2007. Of those, two had been hit by boats, two had throat and stomach injuries from fishing hooks, and the last two had injured their flippers in fishing nets.

"Most of these animals are caught accidentally by fishing hooks or trapped in trawler or trammel nets" the scientist explains. "A smaller percentage collides with boats or gets caught in abandoned nets or plastic".

However, the number of turtles caught by fishing hooks has reduced. "This decrease is due to the fact that fishermen fish at a deeper level at which there are fewer turtles, although they are still researching this final aspect" the biologist points out.

90% of [turtles](#) in the Balearic Islands' waters come from the USA. "In this country, the number of nesting females of this species has dropped" Cardona warns.

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