

More than 7,000 marine animals, terrestrial mammals and birds are tracked from the CLS data centre via the Argos satellite system.

## Eels viewed from space

**Pollution, habitat degradation, global warming and overfishing.** These are the threats to the eel and especially the European variety now protected in many countries of the European Union. To better understand and protect this species by discovering its migration patterns and breeding grounds, European scientists have launched a program to fit 200 eels with Argos tags.

Fifty silver eels have already had them fitted and been released 70 km west of Saint-Nazaire.

Specifically, scientists know very little about the migratory route and time taken by adult eels leaving continental European waters to reach the Sargasso Sea in the northeast Caribbean where it is believed that they reproduce. To lift the veil on the mysteries surrounding this species and to protect it before it becomes extinct, scientists will fit 200 eels with Argos tags by 2010.

These tags have been programmed to detach themselves from the animal after 6 or 12 months depending on the individual specimens. The Argos tags are equipped with a pressure sensor to determine the depth to which the eels dive for fish, a temperature sensor to find their preferred temperature and a light sensor that will allow scientists to estimate the longitude where the animal is located.

On every Earth day only two places are lit in exactly the same way. Knowing these two points, scientists can easily choose the most relevant. All this data is transmitted via the Argos satellite constellation and its network of 52 ground antennas and is then processed and relayed to scientists by the CLS Operations Centre in Toulouse. CLS has been operating the Argos system since 1986. The eels research programme brings together a consortium of European research institutions (Norway, Spain, Ireland, Switzerland, France, England, etc.). Twelve research institutes, including the French National Museum of Natural History, coordinated by the Centre for Environment, Fisheries & Aquaculture Science (Cefas) based in Lowestoft ([www.cefas.co.uk](http://www.cefas.co.uk)), are directly involved in the EELIAD scientific project to protect eels.



**200**

European eels will be fitted with Argos tags by 2010

**7,000**

Argos animal tags are operated by CLS, a subsidiary of CNES and IFREMER

**330**

staff

**3**

areas of operation

-  sustainable resource management
-  environmental monitoring
-  maritime safety

**3**  
specialist fields

-  location
-  collection of data
-  ocean observation



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