

X-Tag Update

In our winter newsletter we unveiled our new smaller next generation archival pop-up tag – the X-Tag, which we had been developing over the last two years. Over the last six months as we geared up to produce these new tags, we have been receiving data back from prototype X-Tags and those deployed in the first major project to use them. These first data sets have been impressive, proving the design under real field conditions.

Figures 1 and 2 show data from a standard rate X-Tag deployed on a Sailfish on December 7, 2006 off Stuart on the east coast of Florida. The tag was programmed to collect data for 3 months. It popped off on schedule on March 7, 2007 and subsequently transmitted to Argos for 23 days as it was carried by the Gulf Stream up the eastern seaboard of the USA. During this period 91% of its archived data set was successfully retrieved through the Argos system. Temperature and depth data were recorded at 15 minute intervals together with sunrise and sunset times for each day of the 3 month deployment.

Figure 1 shows the estimated track of the fish in purple determined from the archived times of sunrise and sunset each day, the track having been refined with recorded sea surface temperatures using the techniques of Nielsen et al.* The yellow track shows the subsequent drift of the tag as determined by Argos; 85% of the Argos fixes were Class 1 or higher.

Figure 2 shows the vertical movements of the fish over the 3 month deployment at 15 minute intervals, together with the associated temperature readings.

Other deployments of X-tags have resulted in similar data sets.

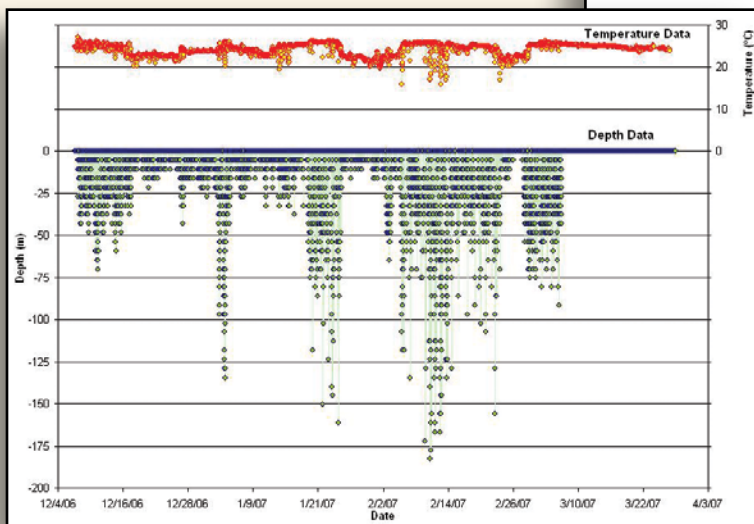
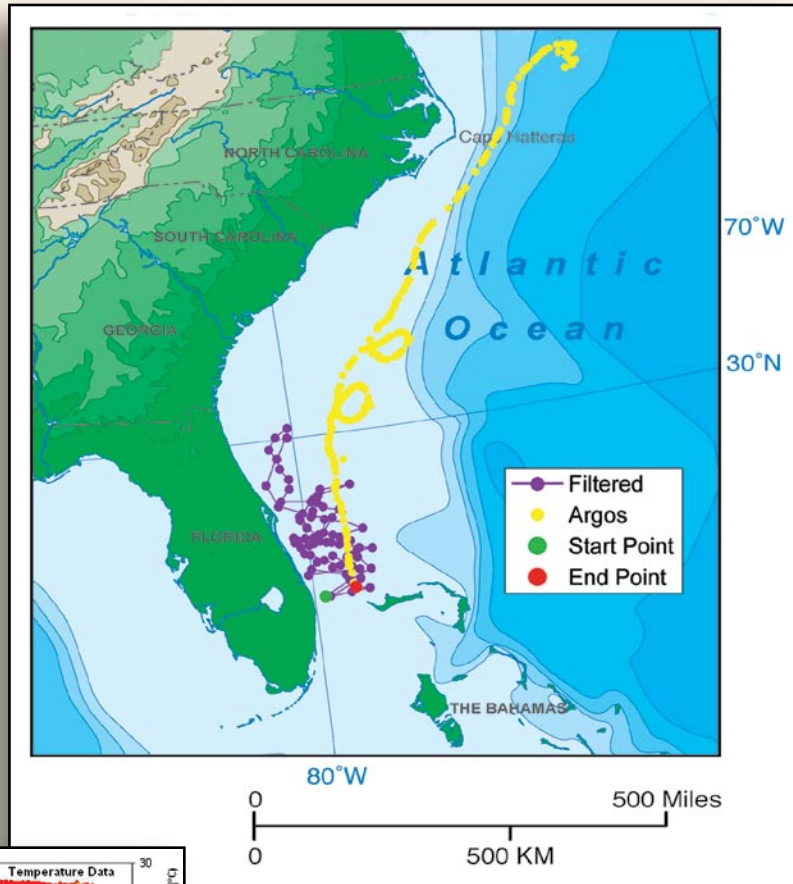


Figure 2; Temperature and depth data transmitted back through Argos from the same prototype X-Tag and sailfish as Figure 1. Samples were recorded at 15 minute intervals for the whole 3 month deployment, 91% of these measurements were successfully transmitted back through Argos without error.

Figure 1; The movements of a sailfish, tagged off Stuart, Florida, over the three month period between December 7, 2006 and March 7, 2007 as estimated from the sunrise and sunset times recorded by a prototype X-Tag. The subsequent drift of the popped up tag in the Gulf Stream is shown in yellow.

We are very pleased with the initial results from these new tiny X-Tags; they verify its operation and give us confidence that this new tag can be used to gain valuable data from much smaller pelagic fish than has been possible before now.

We would like to thank Cookie Murray, Anthony Mendillo and their friends aboard the Cookie II, together with Lucy Howey of NSU for deploying prototype X-Tags for us.

*Fisheries Oceanography 15:4, 314-325



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Entries that are published in Tracker News will receive a prize.

