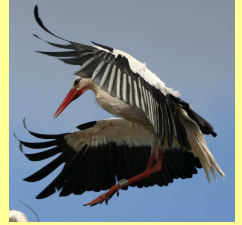




Satellite Telemetry of the White Stork (Ciconia ciconia) - Selected Migratory Routes -

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Since 1990 the ornithological station Loburg has been committed to satellite telemetry research of the white stork in cooperation with the Max Planck institute for ornithology in Radolfzell. This scientific work has opened up entirely new possibilities of migration research and of protecting birds along their migratory routes.

The central part of the poster is dedicated to the female white stork "little princess" (German: Prinzesschen), who received the ring no. KA 0749 of the ornithological station Hiddensee and a satellite transmitter at our station in Loburg in 1994, enabling us to monitor and record her extraordinary migration performance in the following years. Her migratory route had a length of roughly 11,000 km crossing 22 countries up to the South end of South Africa. A large part of her migration was also tracked by following her in land vehicles and aircraft resulting in unique film documentaries and camera pictures (German TV channels: ZDF, MDR, ARD). In 1994 the Federal Republic of Germany published a special stamp in her honour. Regardless of her death, which was probably due to old age, near Johannesburg in South Africa in December 2006, she has become the most famous wild bird for many people.

Further satellite telemetry studies with the white stork were made possible by the financial support of "LOTTO Saxony-Anhalt" for the ornithological station in Loburg. This sponsoring has allowed us to seamlessly continue two decades of uninterrupted research. The aim of this last project is to learn more about potential changes of stork migration influenced by climate change. In the year 2008/2009 satellite transmitters were attached to three more white storks: Albert von Lotto, Louis Henri and Leopold. Their migratory routes across Europe, Asia and Africa are shown here. These birds are special, because they are travelling particularly long distances. There is evidence that especially those storks who migrate towards the Southwest across the Iberian Peninsula have considerably shortened their migratory routes as a consequence of the climate change. Further studies will reveal whether the eastbound storks will also shorten their migratory routes and, if they do, to what extent.



Prinzesschen used to carry a satellite transmitter for more than 10 years



male stork with transmitter „Albert von Lotto“ and female partner „Mina“



extensively used grass land offers food abundance



orphan stork hatchlings in temporary care at the ornithological station

The white stork in danger in Germany and on the migratory routes

Due to its broad range of food types the white stork is a key environmental indicator for the species diversity of our countryside. Between 2004 and 2009 the white stork population has declined from 1142 nesting pairs (in German: Horstpaare HPa) to 770 nesting pairs in Mecklenburg Vorpommern, which is the German state with the second highest population of white storks in Germany. Similar tendencies have been observed in the other East German federal states, where the majority of the German white stork population live: about 70%.

The main reason for the striking decline is the dramatic change of land management and land use in recent years, especially the following measures:

- Pasture land was dug up and converted to agricultural land. This land is now used mainly for corn and oilseed rape cultivation. As a consequence these areas have been completely lost as a source of food for the storks.
 - More intense use of grassland and reuse of formerly unused agricultural land and wetlands resulted in a significant reduction of food (insects, mice, amphibians and reptiles)
- Additional hazards to the white storks are collision with high and medium voltage power lines, electrocution by power lines and shooting during hunts on their migratory routes.

A different land use would offer a way out for the white stork and put an end to the decline of species diversity.

There are several effective ways to do this:

- Stop converting pastures and fallow land to agricultural land. Use second and intermediate crops for bio gas plants instead of rape and corn.
- Give incentives for mother cow husbandry and other forms of grazing cattle husbandry (also for small holders), because this type of use will increase the areas of potential food sources for the white stork and many other wild plants and animals.
- Stimulate and develop extensive farming methods (organic farming) and support the layout of broad strips with wild plants at the edges of fields.
- Strict protection of flood plain forest areas and restoration of the natural state of regulated courses of creeks and rivers

In addition it is important to minimize the direct threats for the white storks and to safeguard sustained protection in the following ways:

- Energy providers must implement the laws regulating the protection of birds at medium voltage power lines.
- Support for the protection of storks in Mediterranean and African countries, especially on the migratory routes. It is particularly important to minimize the threats in the known en-route stopover areas and to optimize the stork's food resources there.
- Strong support for the commitment of volunteers, the government and researchers for the protection of wildlife and environment, including the protection of the white stork.

The necessary funds for the maintenance of the biodiversity can be obtained by reallocating funds for major projects and by changing the rules for agricultural subsidies. One example are the construction projects at Elbe, Saale, Donau and other rivers. Scrapping these projects would free enormous sums for the above mentioned, ecologically worthwhile activities.

The ornithological station in Loburg and its mission

The ornithological station in Loburg was founded in 1979 by private stork protectors to serve as a reception centre for injured storks and orphaned clutches with the main aim to release as many storks as possible into the wild. The ornithological station serves as a competent point of contact for all questions and problems concerning white storks.

In addition to taking care of white storks we have a wide range of activities:

- coordination of NABU's federalist workgroup for the protection of storks and instruction of a state-wide network of stork custodians (NABU is the Nature And Biodiversity Conservation Union, one of Germany's main environmental associations)
- Stock taking of the stork population and species protection activities
- Modern scientific research like the application of satellite telemetry to record migratory stork routes. Another example: we study how to improve the quality of the biotope in the areas of highest density of stork population
- Scientific documentation, creation of films, publication of research results and figures of the stork population and adaptation to environmental education
- practical activities to rearrange biotopes (protection of habitat) and to reduce hazards in the countryside
- Practical advice and active help for installing and taking care of white stork nests
- Organization and hosting of conferences, exhibitions, talks, field trips and workshops
- Contact and cooperation with other organizations and relevant institutions who are working for species protection like universities, ecological centres, groups of dedicated individuals, societies, resident corporations: in Germany and on the international level

Since its foundation the ornithological station in Loburg has accommodated and taken care of more than 1400 storks. Approximately 70 % of the birds were released into the wild successfully. Every year there are up to 10,000 visitors. There are many attractions stimulating visitors to make a tour round the facility. The ornithological station is open daily from 10:00 a.m. to 05:00 p.m. The ornithological station in Loburg is being maintained by a board of trustees heading a non-profit association of friends of the station with presently more than 300 members.

