

Storks and frogs at Lake Uluabat, Turkey

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Lake Uluabat is a 13 000 ha shallow, eutrophic lake situated c30 km west of Bursa in north-west Turkey. The lake is an Important Bird Area, Key Biodiversity Area and Ramsar site, primarily because of its breeding and wintering bird populations. Following the site's declaration as a Ramsar site in 1998, a management plan was prepared and came into effect in 2002. However, three of the lake's key stakeholders, the State Water Authority (DSİ), the Municipality of Gölyazı and the fishermen, are not participating in the implementation of the plan and the lake is under increasing threat from a range of issues including water quality, changes in the hydrological regime, introduced fish species, over-exploitation of natural resources and habitat loss.

The most comprehensive breeding bird survey of the site had been carried out by ourselves in May-June 1998 (Welch & Welch 1998) for DHKD (then the BirdLife partner in Turkey). In the villages we counted the nesting Western White Storks *Ciconia ciconia* and learned that locals are afraid to have storks nesting on their houses because they believe that the snakes which birds sometimes bring into the nest can escape and end up in their houses. In many villages, birds have thus been discouraged from nesting on roofs (as per Plate 1) and a very high proportion now nest on electricity poles. This brings the birds into renewed conflict with local residents as the nests can short-circuit the power supply resulting in black-outs and fires which are disastrous for the storks, damaging to local property and expensive for the electricity company to repair. Collision with power lines is also a major cause of mortality in both breeding and migrating storks. In our report we therefore included a recommendation to provide nesting platforms for White Storks. In the lake's management plan, this idea was developed into a Stork-Friendly Villages activity.

In November 2003 a committee was established to begin to implement the management plan, and the Stork-Friendly Villages project was soon initiated, master-minded primarily by committee members Franziska and İsmet Arıcı. The project has seven aims. These are to:

- Count the breeding White Stork population annually.
- Determine the problems facing storks.
- Find conservation solutions to those problems.
- Enhance the environmental awareness of local residents.



Plate 1 (left). Nest of Western White Stork *Ciconia ciconia* on an old house in Karaoğlan, Lake Uluabat, May 2006. © Geoff & Hilary Welch.



Plate 2 (right). Platform-building with unperturbed Western White Stork *Ciconia ciconia*, Gölyazı, Lake Uluabat, May 2004. © Franziska Arıcı. Note – this method of platform attachment proved to be unstable and has since been modified.



Plate 3. Western White Stork *Ciconia ciconia* on nest platform, Uluabat, Lake Uluabat May 2007. © Geoff & Hilary Welch

- Improve the quality of life in the villages around the lake by preventing electrical black-outs and fires caused by storks.
- Reduce the repair costs of the electricity company.
- Promote an additional source of income for the local residents by attracting tourists to the stork villages.

In 2004, working in three pilot villages together with a range of locals and the electricity company TEDAŞ, the project replaced 3.5 km of standard cable with insulated cable (which makes the cables easier for the storks to see), one section of cable (particularly dangerous to migrating pelicans) was re-routed to run at low level alongside the bridge in Gölyazı, and 19 nesting platforms were erected (Plates 2 & 3). The storks immediately took to the platforms and the effect on breeding success has already been extremely encouraging with good chick productivity and a dramatic reduction in collisions with power lines. However, conflicts with locals – many of whom remain very negative about the storks – still occur, and the process of replacing cables and erecting platforms continues. By 2007 the number of nesting platforms erected had increased to 70.

The project held its first Stork Festival in 2005 in the village of Eskikaraağaç and attracted several hundred visitors who were able to see and hear about the work that had taken place, to learn more about storks and to buy a variety of locally made products, several with a stork theme. In addition to raising the profile of the work at Uluabat, the festivals are increasingly being used as a forum to bring together people working on storks throughout Europe. In 2007, the third festival was preceded by a workshop in Bursa, organised by the Nilüfer Yerel Gündem 21 (Local Agenda 21) and funded by the Municipality of Nilüfer, to discuss the problems of the lake. This was attended by over 60 people including academ-



Plate 4. International representation at the Stork Festival, Eskikaraağaç, Lake Uluabat May 2007. © Geoff & Hilary Welch



Plate 6. Richard Griffiths, Hilary Welch and Franzı Arıcı, Lake Uluabat May 2007. © Geoff & Hilary Welch



Plate 5. Stork Festival banner, Eskikaraağaç, Lake Uluabat May 2007. © Geoff & Hilary Welch

ics, local and national Turkish government staff, conservation and environmental NGOs, students, and stork workers from Bulgaria, Germany, Greece, Poland and Slovenia, many of whom are involved in the European Stork Villages initiative – see www.euronatur.org for more details (Plate 4).

Since our survey in 1998 there have been worrying changes at the lake, including an apparent disappearance of the normally very numerous and vocal frogs (a local variant of *Rana ridibunda*) in 2005. Research revealed that this may well have been a result of massive

commercial collecting of frogs for export to Europe and elsewhere, but because of all the other influences on the lake, such as water quality deterioration, it was considered that this and possibly disease might also be contributory factors. Because amphibians are a major food source for storks and many heron species at Uluabat, it is important to understand what is going on in the food chain. Thus, with a grant from OSME's Conservation and Research Fund, Dr Richard Griffiths, a specialist in amphibian ecology from the Durrell Institute for Conservation and Ecology (DICE), University of Canterbury, UK, attended the 2007 Stork Festival (Plates 5 & 6) and gave a presentation at the workshop on the importance of amphibians in wetland ecosystems. DICE is at the forefront of providing training and assistance for linking local capacity building and research to conserve biodiversity and promote sustainable development – for more information see www.kent.ac.uk/anthropology/dice/. At the end of the workshop those attending agreed that the priority issues to be tackled at the lake are pollution, changes in hydrology and habitat destruction, all issues for which there are already agreed activities in the lake's management plan. Finding a way to ensure the management plan is effectively promoted and used is the key to solving the lake's major problems. Active championing of the management plan needs to focus on ensuring the active participation of all stakeholders, education (at all levels), monitoring of key indicators (possibly including amphibians), and further small-scale conservation activities such as those already initiated by the stork project and which have already proved to be so valuable.

To achieve this local capacity must be increased. For example, in order to carry out the monitoring, a local biology graduate and past leader of the University Bird Group, Asuman Aydın, has been encouraged to apply and has been successful in obtaining a place on the Conservation Biology Masters course at DICE. Finding the funding for her course is next. Locally, further small-scale conservation initiatives continue to be developed, one of which is to provide good amphibian habitat (and hence improve stork food supplies) at Eskikaraağaç and Uluabat. Thus, after the main formalities of the festival a small group including Richard Griffiths and ourselves made a site visit to an area of wet grassland and reedbed near Eskikaraağaç to discuss what could be done. Richard's knowledge proved invaluable for outlining comparatively simple excavation and reprofiling works which he was confident would provide the improved breeding habitat needed. Since then funding has been obtained from the EU-REC fund to enable the work to be carried out in the spring/summer of 2008.

The Uluabat stork project is an excellent example of what can be achieved by volunteers with vision and determination working only with encouragement and a small or non-existent budget; the success to date is entirely due to the hard work and determination of Franziska and İsmet with small amounts of financial support cajoled from friends, colleagues and local business. The support of the Provincial Directorate of the national electricity company, TEDAŞ, has also been instrumental to success. It is hoped that, using storks as the flagship for the lake, sustainable support will finally be forthcoming to solve Uluabat's more fundamental water problems. Then the lake can become a prime example of cooperation between local communities, government, business and NGOs in the participatory management of an internationally important wetland.

REFERENCE

Welch, G & H Welch. 1998. *Breeding bird survey of Uluabat Gölü Ramsar site - 15 May to 20 June 1998*. Unpublished report to DHKD, Turkey.

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