Joint Danube Survey 3

Indicators for River Dynamics

Danube-wide monitoring of Little Ringed Plover and Sand Martin

DANUBEPARKS – Network of Protected Areas in the Joint Danube Survey

SOUTH EAST EUROPE
Jointly for our common future

DANUBEPARKS 2.0
network of protected areas STEP

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Little Ringed Plover and Sand Martin – Indicators for processes of river dynamics

River dynamics and active morphological processes are vital for the river ecosystems and necessary for forming a variety of important high valuable habitats with characteristic biocoenosis.

The two characteristic species for these habitats are the Little Ringed Plover and the Sand Martin. The Little Ringed Plover lives on bare or sparsely vegetated **gravel or large sand banks**, laying its brilliantly disguised eggs on blank sediment. The Sand Martin needs **steep natural river banks** to burrow its nest. Both habitat types can only exist if there is **enough dynamic to ensure natural morphological processes**.

Due various human activities (e.g. embanking and straightening of the Danube and its tributaries) many habitats of high natural value **vanished** in the past centuries and decades. As a result, the formerly widespread distributions of both species along the Danube are now reduced only to the remaining sections with sufficient river dynamics. Important breeding sites demonstrate valuable river sections in terms of dynamic river habitats and for this reasons both species are excellent indicators for the high natural value habitats.

The monitoring

DANUBEPARKS is a **network of 15 protected areas in 9 countries** along the Danube. The goal of the network is to preserve and restore the most valuable habitats of this international river, thus safeguarding an important part of Europe's natural heritage for future generations.

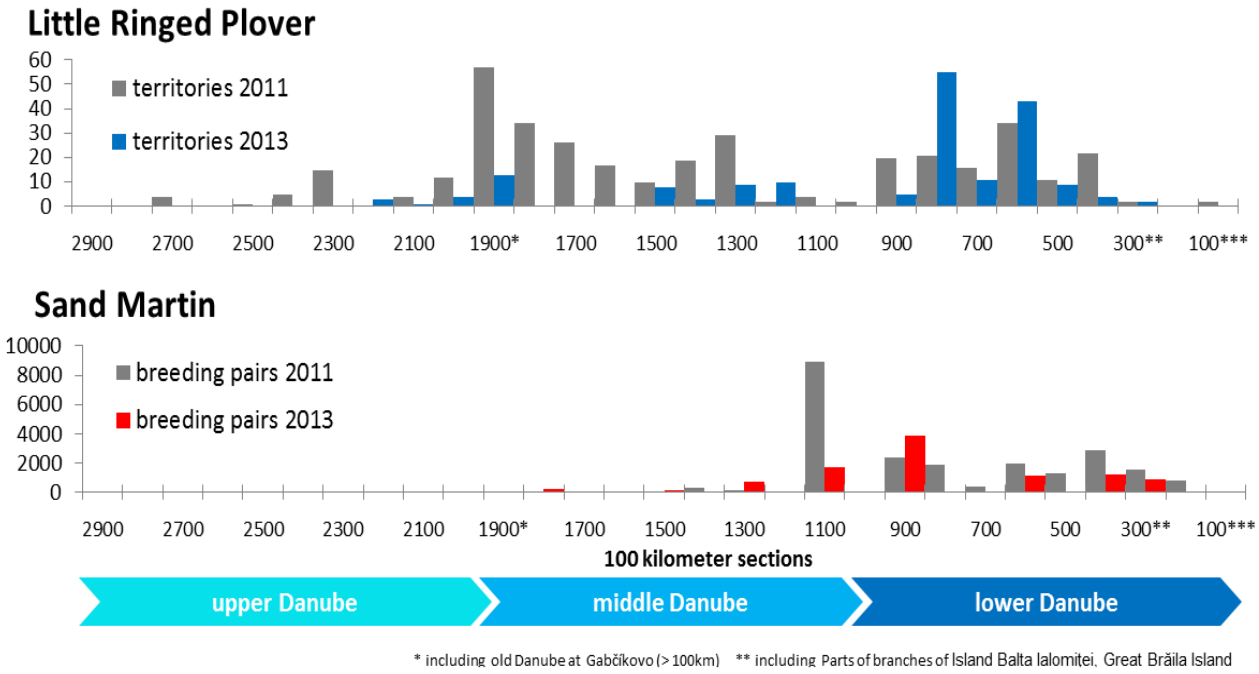
After the first successful implementation in 2011, the monitoring of the Little Ringed Plover and the Sand Martin was continued from May to July 2013. **More than 30 experts from all protected areas** accomplished the monitoring– from the source of the Danube to the Black Sea. Also, some of the most important tributaries (such as Drava, Sava and Prut) were included this year. Overall **more than 3.500 kilometers** were surveyed from small boats by the scientists!

The aim of the monitoring is to identify hot spots of these species as **priority areas for conservation of dynamic habitats**, as well as gaps in their distribution

to highlight their needs and the **potential for river restoration**. Compared to the first year of monitoring in 2011, the year 2013 was – due to the immense flooding – a very difficult year not only for the birds but also for the scientists.

Results of the monitoring

In 2013 about 10250 breeding pairs of Sand Martin and 180 breeding pairs of Little Ringed Plover were counted – for both species this is half as much as in 2011. The main reason for this difference was the impact of the flooding in June 2013. Nevertheless the preliminary results of 2013 and the results of 2011 both show the high natural value of the Lower Danube and the need of river restoration of the Upper Danube.



As a result of embanking and the construction of hydro power plants along the Upper Danube the Sand Martin has completely vanished and the Little Ringed Plover only occurs in very few remaining free flowing parts of the Danube. But the fact that the highest density of Little Ringed Plover was detected in one of these last free flowing parts – in the National Park Donau-Auen, Austria – shows the high importance and the potential of these areas.

The results show that **river restoration projects** on the Upper Danube and the **consistent protection** of the remaining **high natural value habitats** – especially islands – along the whole Danube and its tributaries are necessary to preserve their ecological value.

Funding and Partnership

DANUBEPARKS – Network of Protected Areas – is funded within the framework of the European Union funding program ETC - South East Europe (ETC-SEE). The program enables an intense cooperation of project partner in conservation management, protection of species, river restoration, monitoring and tourism. The monitoring of the Little Ringed Plover and Sand Martin is part of and financed by the project DANUBEPARKs STEP 2.0.

The integration of the monitoring in the Joint Danube Survey is important to analyze and discuss the results of the monitoring in an integrated way with other scientific disciplines and directions. Due this integrated way the quality of the results of the monitoring rises and will be given more importance.

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