



**WHITE STORK (*CICONIA CICONIA*)  
CONSERVATION IN LITHUANIA**

**LAYMAN'S REPORT**

## PROJECT RATIONALE

From times immemorial, White Stork has been considered a symbol of Lithuanian countryside, living next to people, therefore directly related to human environment and the way of life. White Stork is not only a part of the cultural heritage, reflected in our folklore, but also an inseparable part of the human-transformed agricultural landscape, i.e. important element of our country's natural heritage. Therefore, White Stork is considered Lithuania's national bird, symbolising harmonious coexistence of humans and nature. White Storks are not deterred by arable land if it neighbours meadows and pastures with fragments of wetlands – this bird is quick to adapt to and take advantage of human activities both in search for food and in building nests on homestead rooftops or in surrounding trees.

Since only single pairs nest away from people, White Stork population development is closely related to countryside development and changes in farming practices and agricultural landscape. Intensification of agriculture, resulting in decline of natural meadows and wetlands, expansion of monocultures and increased use of chemicals, deteriorated feeding conditions for White Storks. After Lithuania regained its independence, and small-scale farming was re-established, favourable feeding conditions for White Storks were restored, while remaining farmsteads provided safe refuges for rearing the young. As a result, White Stork remained a common breeding species in Lithuania, its abundance surprising visitors from Western Europe, where these birds have declined heavily or disappeared altogether due to very intensive agriculture. Furthermore, while this species was declining in other countries, in Lithuania it was increasing. However, changes unfavourable for White Storks are taking place at an increasing rate in Lithuania. Farmsteads and traditional villages with large trees, suitable



for White Stork nests, are disappearing. Expanding areas of monocultures with intensive use of chemicals (fertilisers, pesticides and herbicides), transformation of wet fertile meadows into arable land, secondary drainage of recovering wetlands, and, of course, disappearance of traditional farmsteads deteriorate breeding conditions for White Storks. Lacking suitable nest-sites, White Storks increasingly often build nests on water towers, electricity line poles, where they encounter new problems – electricity wires break under the weight of massive nests, short circuits occur through the nest material, thus disrupting the power supply. Finally, bird droppings accelerate corrosion of electricity wires thus reducing their longevity. Therefore, during the last decade, discussions about the need for White Stork conservation became more frequent, primarily focusing on the issues related to their nest-sites. This encouraged the Ministry of Environment together with scientific and non-governmental organisations, as well as electricity distribution companies to think about the ways of solving the arising problems. Thus a concept of White Stork conservation project was born, which was implemented by the Lithuanian Ornithological Society along with the partners – Institute of Ecology (currently – Nature Research Centre) and electricity distribution companies – Rytų skirstomieji tinklai and VST (later merged into AB LESTO).



### WHERE THE PROJECT TOOK PLACE?

Since White Stork is widely distributed in Lithuania and during the breeding period does not occur only in large forests and vast raised bogs, it can be concluded that the project took place on the entire territory of Lithuania. **All** areas, suitable for White Storks to breed, were visited during the nest inventory, **all** discovered nests were registered, problematic nests were managed on electricity lines in the **entire** country, appeal for the installation of nesting platforms on roofs of buildings was addressed to the **entire** population, while educational and awareness raising actions also targeted the **entire** population of the country. Therefore the project can be safely called a national White Stork conservation project.

### WHO FINANCED AND IMPLEMENTED THE PROJECT?

The project was financed by the European Community's Financial Instrument for Environment LIFE+ and co-financed by the Lithuanian Ministry of Environment and the project partners – Lithuanian Ornithological Society (LOD), Nature Research Centre (GTC) and AB "LESTO" (LESTO). GTC and LESTO were responsible for the implementation of concrete project actions, described in detail below, while the LOD was responsible for the overall coordination of the project and reporting to the LIFE+ programme.



## PROJECT SCOPE

The main aim of the project was to collect information on the current status of White Storks in Lithuania and subsequently improve the breeding conditions of this species in the country, involving the public and electricity distribution companies in the process.

In addition to feeding conditions, availability of suitable nesting sites is one of the main factors, limiting the population size of White Storks. This is particularly true in Lithuania. In the past White Storks used to build their nests on roofs of farmstead buildings and in old large trees surrounding farmsteads, where platforms for nests were often installed by local people. However, changing farming practices and economic situation in the countryside resulted in disappearance of traditional farmsteads, falling apart of old buildings and inability of ageing country people to take care of nests in trees, which, over time, overgrew with branches and became inaccessible to birds. Thus traditional nest sites of White Storks were disappearing. Since White Storks turned out to be capable of adapting to changing situation and started building nests on electricity line poles, it appeared that the birds found a solution. However, this gave rise to a new problem – birds became unwelcome by electricity distribution companies, because they disrupted electricity supply – electricity wires started breaking under the weight of massive nests, nest material and even birds themselves often caused short circuits. All this resulted in a conflict between conservationists and the public favouring White Storks and the electricity distribution companies and electricity users affected by power supply disruptions. The solutions were necessary in order to allow White Storks to safely breed in their newly discovered nest sites. Installation of nesting platforms on electricity line poles was selected as an optimal solution – they compensate for the lack of traditional nest sites in the countryside,



and, at the same time, ensure uninterrupted power supply to the end users.

Locations, numbers and types of artificial nesting platforms needed were determined according to the results of the country-wide White Stork nest inventory, also taking into account requests by the public. Thus, nesting platforms, resembling tall mushrooms, started appearing on electricity line poles all across the country, while special wooden platforms were installed on roofs of buildings in order to protect them from the impact of massive nests. This large scale initiative produced good results, therefore it should continue to be implemented in the future. The inventory of White Stork nests has revealed that the population of this species is rather numerous in the country at present, but it also requires strong efforts in order to secure suitable breeding conditions and favourable conservation status for the species in the future. This can only be achieved through a concerted effort of the public, first of all by continuing a long-standing tradition of taking care of this bird, which is considered a national bird of Lithuania. Installation of new nest sites or maintenance of old nests should become a tradition on par with planting of trees or animal care. This was the main message of the awareness raising activities of the project.



## WHAT PROJECT OBJECTIVES WERE SET?

### The following objectives were set during the project:

- To carry out a country-wide White Stork nest inventory and to present the collected data in a public internet database with the possibility of feedback;

- After analysing the nest inventory data and the legal basis for the protection of White Stork nests, to prepare the White Stork Species Action Plan;

- To legalise targeted protection of the most important areas for the White Storks;

- To investigate and update the designs of artificial nesting platforms for White Storks;

- To install at least 1760 nesting platforms in place of nests on electricity line poles and at least 500 nesting platforms in place of problematic nests on roofs of buildings;

- Through a variety of media, to inform the public about the biology, ecology, distribution and abundance of White Storks in the country, their conservation needs and conservation measures implemented during the project, as well as about the future perspectives of the species' conservation.



## HOW OBJECTIVES HAVE BEEN ACHIEVED?

The project started with the formation of the project implementation team and preparatory actions – inventory of White Stork nests, technical study of artificial nesting platform designs, review of the legal issues related to the protection of the species. This was followed by the analysis of collected information, implementation of concrete conservation measures, public information activities, supervision of project implementation and monitoring of project achievements.

During the White Stork nest inventory, all areas suitable for White Storks to breed were visited by the surveyors – all villages (including those located in forests), settlements and even uninhabited agricultural areas. All discovered nests were thoroughly described in a special nest card, their coordinates were recorded, nests and their surroundings were photographed. All this information was stored in a specially designed GIS database. The collected information is also available to the public through an on-line GIS database, which also has a feedback function. Visitors of this database may provide feedback on the status or occupancy of the registered nests, as well as to provide information on new nests or nests not registered during the inventory.

Designation of a legal protection status for areas most important for White Storks was proposed after the analysis of nest inventory data. Special methodology was developed for identification of the currently protected areas with the highest numbers and densities of breeding White Storks.





*Survey tracks of the White Stork nest inventory in 2009–2010*

White Stork Species Action Plan was prepared after evaluating the conservation status of the species, legal background of species protection and threats arising to this species. Measures for conservation of White Stork population in Lithuania are also proposed in the Species Action Plan.

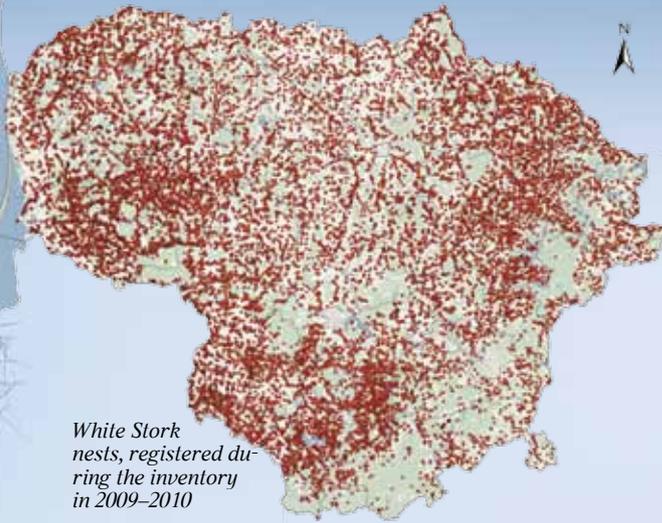
First of all, artificial nesting platforms on electricity line poles were installed instead of nests, which posed greatest threat to birds themselves (due to possible short circuits or electrocution) and to electric power supply, because, in addition to interfering with power line maintenance works, falling massive nests often cause line breakages. However, it was attempted to transfer as many nests as possible from direct contact with power lines onto artificial nesting platforms.

Artificial nesting platforms on roofs of buildings were installed in place of old nests, which due to their size posed threat to the roofing material, were in critical condition, or had already fallen apart. If the nests were still inhabited and in fair condition, but were likely to deteriorate in the near future, nesting platforms were installed next to them. In some cases nesting platforms on roofs were installed in new places, particularly in the vicinity of overgrowing nests in trees, or if there was an obvious shortage in nest sites as evidenced by frequent fights among birds for the existing nests.

The effectiveness of the installed nesting platforms was evaluated during the monitoring action.

Public information and awareness raising was organised through various means of information: national press, websites, TV, radio, project website, public events, as well as through project notice boards, White Stork nest webcam with live streaming, and other information products: leaflets, film, TV slots, book, Layman's report.

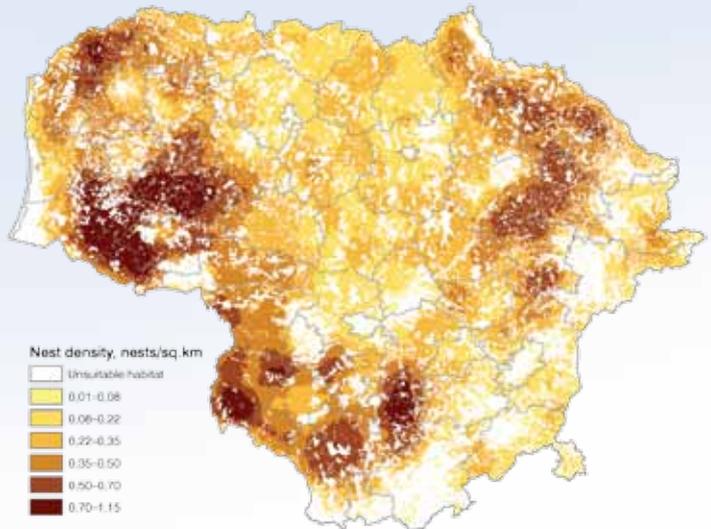
## PROJECT ACTIONS AND THEIR ACHIEVEMENTS



*White Stork nests, registered during the inventory in 2009–2010*

**A.1. Inventory of White Stork nests in Lithuania (Responsible – GTC).** The inventory was carried out in 2009–2010 by more than 20 specially trained observers, who covered several hundred kilometres in search for nests and registered more than 21000 White Stork nests. GPS receivers were used to record survey tracks and locations of recorded nests. Each nest and its surroundings were photographed, detailed information about each nest was recorded in a special nest card.

**A.2. Elaboration of White Stork nest GIS database and data analysis (Responsible – GTC).** All the information collected during the White Stork nest inventory was stored in a specially designed GIS database at the Laboratory of Avian Ecology of the Nature Research Centre. In this database data were error-checked and corrected, data analysis necessary for the implementation of other project actions – preparation of species action plan (Action A.5), identification of the most important areas for White Storks (Action A.6), selection of nests for direct management actions (Actions C.1–C.3), preparation of the book on White Storks in Lithuania (Action D.6), implementation of monitoring (Action E.5), was carried out. Information accumulated in this database is accessible for the public through an interactive on-line GIS database (Action D.4). After the analysis of collected data, Lithuanian breeding White Stork population was estimated at 19500 breeding pairs, i.e. 0.30 breeding pairs/km<sup>2</sup>. Comparing with the available results of the international White Stork survey of 2004–2005, this is the highest breeding density of this species in its entire breeding range.



*White Stork nests densities in suitable habitats*



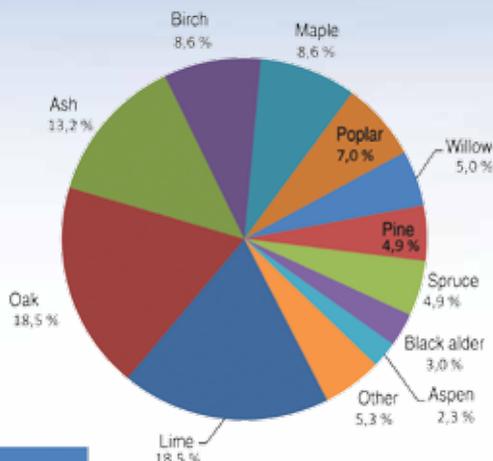
**A.3. Elaboration of White Stork nest management measures (Responsible – GTC).** Under this action, construction of nesting platforms was analysed – their durability, stability, resistance to loads and other operational characteristics. As a result, nesting platforms of optimised design were produced and installed on electricity line poles and on the roofs of buildings during the project. Furthermore, a qualified engineer produced recommendations for the protection of electricity wires from excess corrosion under the White Stork nests. In some cases, these additional measures were implemented by LESTO already during the project.

**A.4. Adjustment of legislation related to the protection of White Stork nests (Responsible – LOD).** In 2009, lawyers from the legal firm “Zabiela, Zabielaite ir partneriai” carried out analysis of environmental legisla-

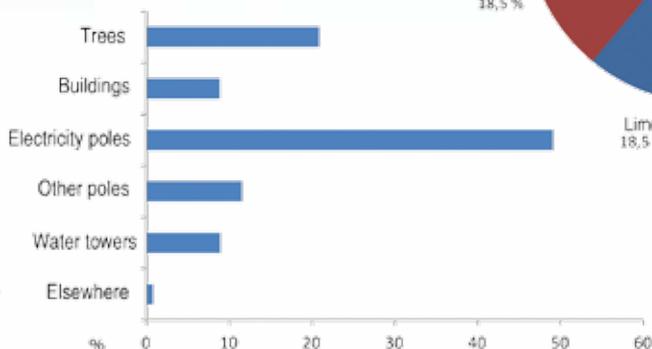
tion in order to assess, whether it ensures the protection of White Stork nest sites in Lithuania. They concluded that the current legislation provides adequate protection for White Stork nests on water towers, electricity line poles and communication line poles. This legislation does not contradict the rules for the exploitation of electricity lines, and White Stork nests located on electricity line poles may be appropriately managed by transferring them onto specially installed nesting platforms.

**A.5. Elaboration of White Stork species action plan for Lithuania (Responsible – GTC).**

The Species Action Plan was based on the analysis of the nest inventory data and subsequent assessment of the species conservation status, as well as on the legal analysis and the assessment of threats. The Species Action Plan approved by the minister of environment contains a clearly defined White Stork conservation strategy for Lithuania.



*Distribution of White Stork nests in different tree species in 2009–2010*



◀ *White Stork nest sites in 2009–2010*





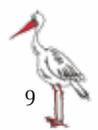
*Identified most important sites for White Storks in Lithuania*

**A.6. Identification of most important sites for White Storks in Lithuania (Responsible – LOD).** Five territories, most important to White Storks – containing the highest number of breeding birds and the highest density, were selected according to the results of the White Stork nest inventory. Since it was decided to select such areas among the already protected areas, five regional parks were nominated – Salantai, Varniai, Rambynas, Vištytis and Meteliai. In the nearest future these regional parks will be

assigned the status of SPAs, i.e. they will become a part of the Natura 2000 network.



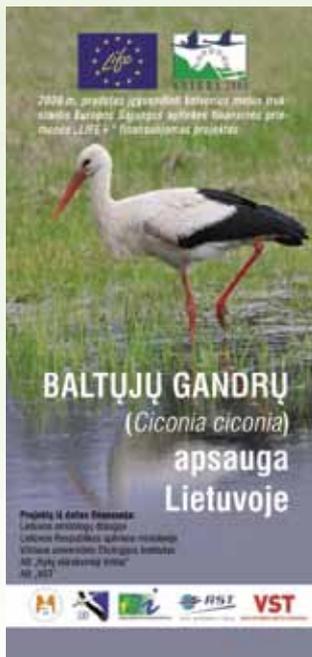
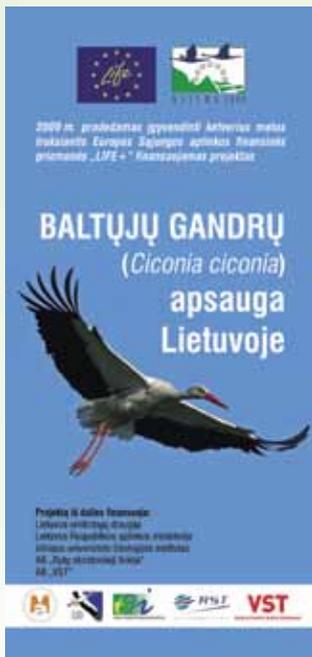
**C.1.-C.2. Erection of nesting platforms on overhead electricity line poles (Responsible – LESTO).** Two project partners started the implementation of these actions at the beginning of the project – “Rytu skirstomieji tinklai” and VST. Together they committed to produce and install at least 1760 updated nesting platforms in selected locations. After the merger of these companies their commitments were taken over by the AB “LESTO”. This company not only fully implemented this commitment, but, after saving some funds, greatly exceeded it – altogether 3200 nesting platforms for White Storks were installed on electricity line poles during the project. It was foreseen in the project proposal that old electricity line poles will be replaced by new ones during the installation of nesting platforms. However, in most cases this was not necessary, and the saved funds were used to increase the number of platforms installed on the existing electricity poles.





**C.3. Erection of nesting platforms on roofs of buildings (Responsible – LOD).** In accordance with the project proposal, 500 artificial nesting platforms were installed on roofs of buildings during the project. In most cases this was done where old nests had fallen down or the existing ones were damaging the roof. In some cases nesting platforms on roofs were installed in new places, particularly if frequent White Stork fights over the existing nests, clearly indicating a shortage in suitable nests sites, were reported by the local people. Nesting platforms on roofs were also installed where nests in trees or entire trees with nests were reported to have perished in the vicinity. Savings from the installation of nesting platforms on roofs, after the approval of LIFE+ programme administrators, were used for the management of White Stork nests in trees. This was an additional project action. Specialist from the Lithuanian Arboricultural Center managed 20 White Stork nests in trees in particularly poor condition. This was done mostly by cutting back branches around the nests, but in some cases also by repairing or replacing the nesting platforms. This was more of a demonstration action, which showed the effectiveness of such measures and allowed estimating the required time costs.

**D.1. Production and distribution of project leaflets (Responsible – LOD).** Two project leaflets were produced as planned – an introductory one (5000 copies) and a more detailed one (2000 copies). In response to the need in further awareness raising, the project produced an additional leaflet in 2000 copies about the installation of artificial nesting platforms for White Storks on roofs of buildings and the LOD experience in such activities. All the leaflets were distributed during the public events and to various stakeholders.



**D.2. Production and erection of project notice boards (Responsible – LOD).** Five project notice boards have been produced and installed in different regions of the country: first of all near the well-known White Stork colony in Rambynas Regional Park; in Nemunas River Delta, which boasts one of the most numerous breeding populations of White Storks in Lithuania; in Valkininkai, with very dense aggregation of breeding White Storks; and in Central and Northern Lithuania – Krekenava and Biržai Regional Parks.



**D.3. Creation and maintenance of project website (Responsible – LOD).** A separate website was created and maintained for publicising the project – <http://www.ciconia.lt>. In addition to news, related to the project and White Storks, official project documents, deliverables and awareness raising material,



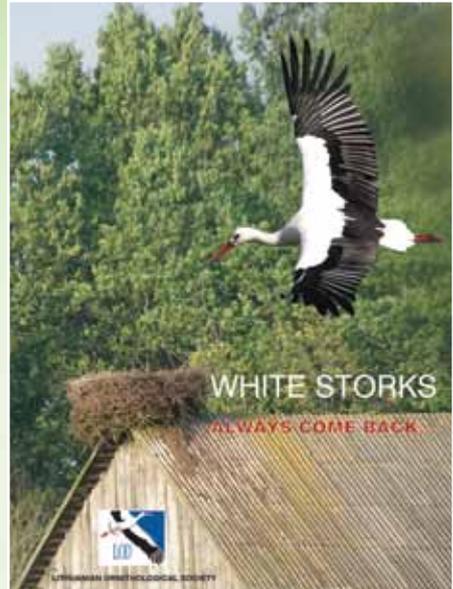
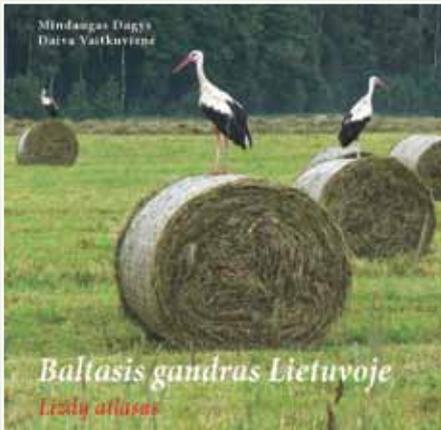
it contains a link to the interactive on-line GIS database of White Stork nests (Action D.4). Since 2010, visitors of the website may follow the life of a White Stork family in a nest near Vilnius through a live webcam transmission (Action D.5; responsible – LOD). The news section of the project website is visited by at least 50 unique visitors each day.

**D.4. Development and maintenance of interactive on-line White Stork nest GIS-based website (Responsible – GTC).** This on-line GIS database accessible at <http://ecogis.ekoi.lt/ciconia>, contains information on more than 21000 White Stork nests, registered during the White Stork nest inventory in 2009–2010. Each visitor of the database may search for a particular location according to its address or coordinates, may view photographs of each registered nest – more than 100000 photographs in total. A feedback function is implemented in the database, there-



fore visitors may submit information about newly established White Stork nests, about the occupancy of the registered nests, about the disintegration or destruction of nests. Such information may be submitted along with photographs or video material. Information, received through feedback, will be periodically verified and included into the main database.

**D.6. Drafting, production and distribution of a book “White Stork in Lithuania. Nest Atlas” (Responsible – GTC).** This well illustrated book is designed following the scheme of an atlas. It contains detailed information on the abundance, distribution and densities of breeding White Storks in the entire country and in different municipalities, nest management measures implemented during the project, statistical data on nest locations and distance between nests, breeding success, species’ ecology and biology. As planned, the book was published in 1000 copies, which were distributed to various stakeholders, administrations of protected areas, authorities related to nature conservation and protection, municipalities, environmental NGOs, libraries, project partners and participants, as well as to various nature-oriented educational institutions.



**D.7. Production of a film on the White Stork in Lithuania (Responsible – LOD).** The film was produced entirely by the LOD (filming, production, sound). In 2011, it was selected as the best nature film in Lithuania and received the award on the name of famous nature films producer – Petras Abukevicius. The film was broadcasted on national and regional TV, and, according to the signed agreement, it will be shown on InfoTV channel also after the end of the project. In order to reach a wider audience and to use it for public education, 2700 copies of DVDs have been produced instead of the planned 700 copies. 1800 of these copies have been distributed to schools of secondary education, while the remaining ones have been distributed to information centres of protected areas, environmental organisations, nature protection and municipal institutions, as well as during the public events, organised by the project.



**D.8. Public awareness raising in media (Responsible – LOD).** More than 10 articles about the project objectives and implemented actions, as well as species' conservation issues have been published in the national press. Further 49 press releases and publications have been released in on-line media. Four short video clips about the project's public events and achievements have been produced and broadcasted on a national TV. The project, its results and peculiarities of White Stork life have been presented on two national radio programmes. Short interviews were given to several regional TV and radio programmes during the organised public events.

**D.9. Public events – the White Stork Day (Responsible – LOD).** Four public events, primarily targeting young audience and coinciding with the return of White Storks to Lithuania, were organised in springs of 2009–2012. During the last public event, organised together with other NGOs – Lithuanian Fund for Nature and Foundation for the Development of Nature Protection Projects, a lot of attention was focused on the 20th anniversary of the EU financial instrument for environment – LIFE programme, which funded this project. Annual visits to the White Stork colony in Rambynas Regional Park were organised for the most active participants of the public events from schools and orphanages. Furthermore, in 2011 and 2012, the project prepared special programmes, related to White Stork conservation, which were presented to the public at the festival “Naisių vasara”. In total, more than 50000 visitors attended these public events.



**D.10. Production of this Layman's report (Responsible – LOD).**

**E.1. – E.7. actions devoted to the overall project operation, monitoring of its achievements and reporting (Responsible – all project partners).** Each project partner was responsible for the implementation of certain actions (as described above), while the LOD was responsible for the overall coordination of the project and reporting to the European Commission and the Ministry of Environment. In addition, GTC carried out the monitoring of the implementation of concrete conservation measures with periodical reporting.



## ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACT OF THE PROJECT



birds. Finally, in some cases White Stork nests had to be removed from live power lines due to disruptions of power supply. Therefore, it can be stated that as a result of this project, breeding of White Storks became safer with likely increase in productivity. Large number of nesting platforms installed on electricity line poles provided an opportunity to breed even for those pairs (usually inexperienced young birds) that were not able to find suitable nest sites due to intraspecific competition. This project experience as well as installation of nesting platforms on roofs of buildings, may be widely applied not only across Lithuania, but also in other countries, thus improving the species' status across its entire range. Since these measures have been tested proved to be effective in improving the status of the breeding population in the country, they may be officially legitimised.



Nesting platforms, installed on roofs of buildings, are also important in terms of environmental protection, since they also compensate for the lack of nest sites in trees or replace the deteriorating old nests. However, they are also important in several socio-economic aspects. Firstly, these platforms have been installed in place of old nests, which, due to their excessive size (they may weigh up to several hundred kg after rain), posed threat to roofs of building or even had already damaged the roofing material. Furthermore, aging house owners were physically incapable of removing the oversized nests from roofs of buildings and due to financial reasons

could not hire help. Therefore, such project activities are very important in socio-economic respect. This impact is further enhanced by the reduced number of power failures and associated maintenance costs as a result of managing nests on electricity lines.





Another important social consideration is the role of the preserved White Stork nests as a certain consolidating factor for the rural communities. Whites Storks have become a symbol of Lithuanian countryside and their absence by many may be felt as a certain loss of historic and cultural heritage.

## WHAT'S NEXT?

According to the requirements of the main financier of the project – the European Community's Financial Instrument for Environment LIFE+, actions implemented during the project must produce a long lasting environmental impact. This impact is discussed in the special "After-LIFE Conservation Plan", produced by the project partners.

It foresees that further strategic White Stork conservation actions must be planned according to the recommendations in the White Stork Species Action Plan, produced during this project. At the same time, protection of the most important areas for White Storks will be ensured in the designated SPAs for this species.

The GIS database of White Stork nests, created during the project, provides a good basis for further monitoring of White Stork nest sites. In the future, this database will be updated with information collected by the scientists of the Nature Research Centre and with information provided by the general public through the interactive on-line GIS database of White Stork nests.

Nesting platforms, installed on roofs of buildings, shall last for at least five years after the end of the project, while platforms installed on electricity line poles are expected to last even longer. The latter will be maintained by the electricity distribution company "LESTO", while the former will be maintained by the Lithuanian Ornithological Society. How-



ever, considering the limited durability of the nesting platforms under the influence of breeding bird activities and environmental factors, a project for the renewal of the existing platforms and installation of new ones should be planned in the long run. Furthermore, it has already been observed during the project than new breeding



pairs of White Storks keep building their nests on electricity line poles.

Long lasting effect of the project in the public information respect will be maintained by the five installed project notice boards, the film about the life of White Storks and the published book – White Stork nest atlas. The film will be broadcasted several times on the national INFO TV channel already after the project, while its DVDs may be used for years to come. Lithuanian Ornithological Society is committed to regularly updating information on the project website, devoted to White Stork conservation, for at least five years after the end of the project.





The main financier of the project “**White Stork (*Ciconia ciconia*) conservation in Lithuania**” (LIFE07 NAT/LT/000531): European Community’s Financial Instrument for Environment LIFE+



**Project co-financier:**

*Ministry of Environment of the Republic of Lithuania*



**Project partners:**

Coordinating beneficiary – *Lithuanian Ornithological Society*



Associated beneficiaries – **Nature Research Centre** (until 2009-12-31 – Institute of Ecology of Vilnius University) and **AB „LESTO“** (after the merger of initial partners – AB Rytų skirstomieji tinklai and AB VST)