Conservation of White Storks
(*Ciconia ciconia*) in Lithuania

LIFE07 NAT/LT/000531

Action E.5 Monitoring of project achievements

Monitoring report II

Occupancy of artificial nesting platforms installed during the project before April 2011

Vilnius, 2012

Introduction

Monitoring of the occupancy of artificial nesting platforms for White Storks, installed during the project on electricity poles (Actions C.1 and C.2) and on roofs of buildings (Action C.3), is part of the projects' Action E.5 – Monitoring of the project achievements.

Results of monitoring of platforms installed before the breeding season of 2010 revealed an exceptionally high occupancy rate of platforms installed on overhead electricity line poles (87%) and rather low occupancy rate of platforms installed on roofs of buildings (*ca*. 30%). Based on this information, and recalling that a 75% occupancy rate threshold was set in the project proposal below which old nests were not to be removed during the installation of artificial nesting platforms, a cautious approach was recommended for further installation of artificial nesting platforms on roofs of buildings during the following season of platform installation.

Since the aim of monitoring of installed artificial nesting platforms is to record the occupancy of these platforms (i.e. the presence of a nest) rather than breeding success of birds, the monitoring fieldwork was carried out throughout the year, weather permitting – starting at the beginning of the breeding season in 2011 (May) and ending at the beginning of the following breeding season (April 2012).

Monitoring of platforms on overhead electricity line poles

The second season of platform installation on overhead electricity line poles started after the breeding season of 2010. In total, 1020 nesting platforms were installed on overhead electricity poles during the second season (623 platforms in eastern Lithuania and 397 – in western Lithuania), bringing the grand total of installed platforms on overhead electricity line poles to 1741 (Table 1). Thus, the initial target of 1760 installed artificial nesting platforms was almost achieved already after the second season of platform installation. Locations of all the nesting platforms, installed before the breeding season of 2011 are shown in Figure 1.

Considering the very high occupancy rate of nesting platforms on overhead electricity line poles, observed during the first monitoring season and the greatly increased target number of platforms to be installed during the project, the monitoring fieldworks during the second season were limited to a sample of platforms, primarily focusing on the newly installed platforms as well as on previously installed but recorded as unoccupied during the first monitoring season. Thus, a sample of *ca*. 50% of the newly installed platforms was visited during the second monitoring season as well as a number of previously installed but unoccupied platforms (Figs 3–12).

The overall occupancy rate of nesting platforms on overhead electricity line poles, updated with the data from the second monitoring season, did not change significantly, compared to the first season – it was just slightly lower at 86%. It is interesting to note, that platforms recorded as unoccupied during the first season following installation in 2010, in most cases remained unoccupied also during the second season, i.e. during the 2011 breeding season. One possible reason for this may be that these unoccupied platforms were installed in place of not well established nests where birds either did not breed successfully or did not attempt to breed at all after building the nest, hence they did not form a strong bond with the nest location and moved to an alternative nest site the following year.

Given such a high success rate of nesting platforms installed on overhead electricity line poles, no change in platform installation strategy is necessary for the remainder of the project.

Table 1. Number of platforms, installed before the breeding season of 2011 on overhead electricity line poles in different municipalities of the country.

Municipality	Number of platforms	Municipality	Number of platforms
Akmenė	11	Panevėžys	41
Alytus	44	Pasvalys	6
Anykščiai	48	Plungė	23
Biržai	45	Prienai	33
Druskininkai	4	Radviliškis	8
Elektrėnai	2	Raseiniai	48
Ignalina	41	Rietavas	13
Jonava	20	Rokiškis	51
Joniškis	13	Šakiai	42
Jurbarkas	37	Šalčininkai	25
Kaišiadorys	37	Šiauliai	46
Kalvarija	62	Šilalė	18
Kaunas	22	Šilutė	18
Kazlų Rūda	15	Širvintos	5
Kėdainiai	34	Skuodas	28
Kelmė	27	Švenčionys	35
Klaipėda	33	Tauragė	8
Kretinga	22	Telšiai	35
Kupiškis	23	Trakai	18
Lazdijai	97	Ukmergė	70
Marijampolė	22	Utena	127
Mažeikiai	54	Varėna	37
Molėtai	70	Vilkaviškis	120
Pagėgiai	18	Vilnius	18
Pakruojis	21	Zarasai	46

Monitoring of platforms on roofs of buildings

Following the recommendations of the platform occupancy monitoring report for the 2010 season, when rather low occupancy rate of artificial nesting platforms on roofs of buildings was recorded, installation strategy for platforms on roofs of buildings was altered accordingly during the second season of platform installation – only nests abandoned (unoccupied by either breeding or non-breeding birds) during at least two previous breeding seasons were removed during the installation of artificial nesting platforms on roofs of buildings. In cases, where a nest on a roof was in very poor condition, but was still occupied by birds, a new platform was installed in the vicinity of the existing nest without removing it, thus providing the opportunity for birds to re-settle on the new platform, but without destroying the old nest.

During the second season of platform installation, 268 nesting platforms were installed on roofs of buildings, thus bringing the grand total of platforms on roofs of buildings to 374 by the beginning of the breeding season of 2011 (Table 2, Fig. 2).

Because of the low occupancy rate, observed during the first monitoring season, and the change in strategy of platform installation, all newly installed artificial nesting platforms on roofs of buildings as well the ones recorded as unoccupied during the first season were either visited during the second season of platform monitoring fieldwork, or the household owners were contacted for the information on the occupancy of nests installed on their buildings (Figs 13–20).

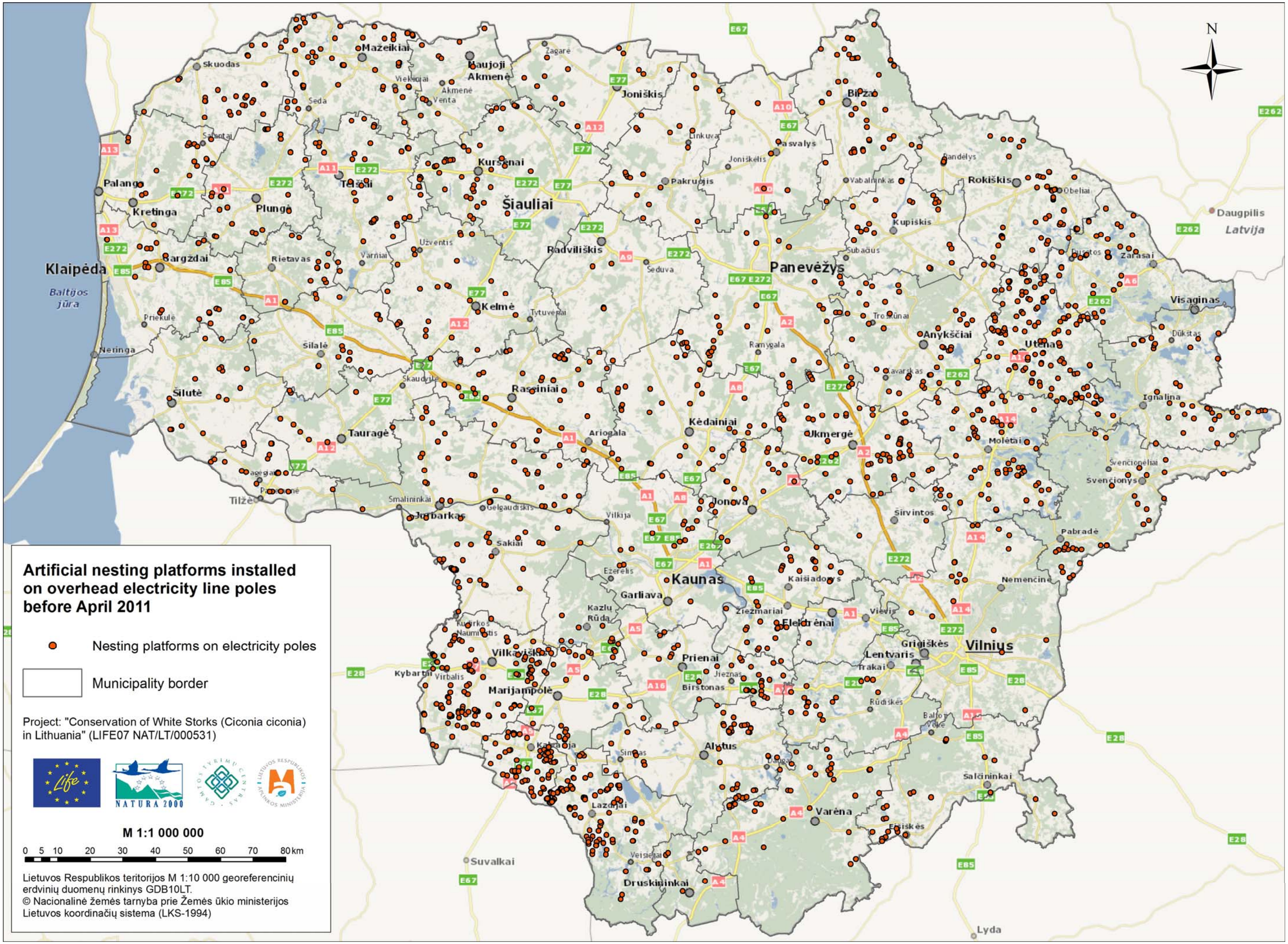
The observed overall occupancy rate during the second monitoring season (including the platforms recorded as occupied during the first monitoring season) was even slightly lower than during the first monitoring season (breeding season of 2010) – *ca*. 25%. This decrease was most likely also influenced by the change in platform installation strategy. Very strong nest-fidelity, characteristic of White Storks, resulted in birds often ignoring the new nesting platform installed in the vicinity of an old nest, despite that nest being of poor condition. However, further deterioration of old nests is usually inevitable and it is very likely that birds will re-settle on the new platforms in the near future. Furthermore, even when not used for building the nest, such platforms in the vicinity of the old nest are almost always used by birds for resting. On the other hand, it is likely that the nests abandoned for several previous breeding seasons and replaced by the artificial nesting platforms, will be further gradually occupied as new pairs of maturing birds re-occupy previously abandoned areas by birds for various reasons. Nests that were abandoned due to their deteriorating conditions are likely to be occupied sooner than nests that were abandoned due to changes in environmental conditions in the vicinity of the nest.

Table 2. Number of platforms, installed before the breeding season of 2011 on roofs of buildings in different municipalities of the country.

Municipality	Number of platforms	Municipality	Number of platforms
Alytus	18	Panevėžys	8
Anykščiai	4	Plungė	5
Biržai	4	Prienai	18
Elektrėnai	7	Rietavas	10
Ignalina	5	Rokiškis	15
Jonava	2	Šakiai	6
Joniškis	1	Šalčininkai	4
Jurbarkas	7	Šilalė	18
Kaišiadorys	4	Šilutė	20
Kalvarija	8	Širvintos	6
Kazlų Rūda	1	Švenčionys	32
Kaunas	4	Tauragė	40
Kėdainiai	1	Telšiai	10
Kupiškis	2	Trakai	3
Lazdijai	8	Ukmergė	7
Marijampolė	23	Utena	14
Mažeikiai	6	Varėna	4
Molėtai	17	Vilkaviškis	18
Pagėgiai	1	Vilnius	10
Pakruojis	1	Zarasai	2

Figure 1 (next page). Distribution of artificial nesting platforms on overhead electricity line poles installed before the breeding season of 2011.

Figure 2 (page 7). Distribution of artificial nesting platforms on roofs of buildings installed before the breeding season of 2011.


Artificial nesting platforms installed on overhead electricity line poles before April 2011
Nesting platforms on electricity poles
Municipality border
Project: "Conservation of White Storks (Ciconia ciconia) in Lithuania" (LIFE07 NAT/LT/000531)
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Grigiškės
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Latvija
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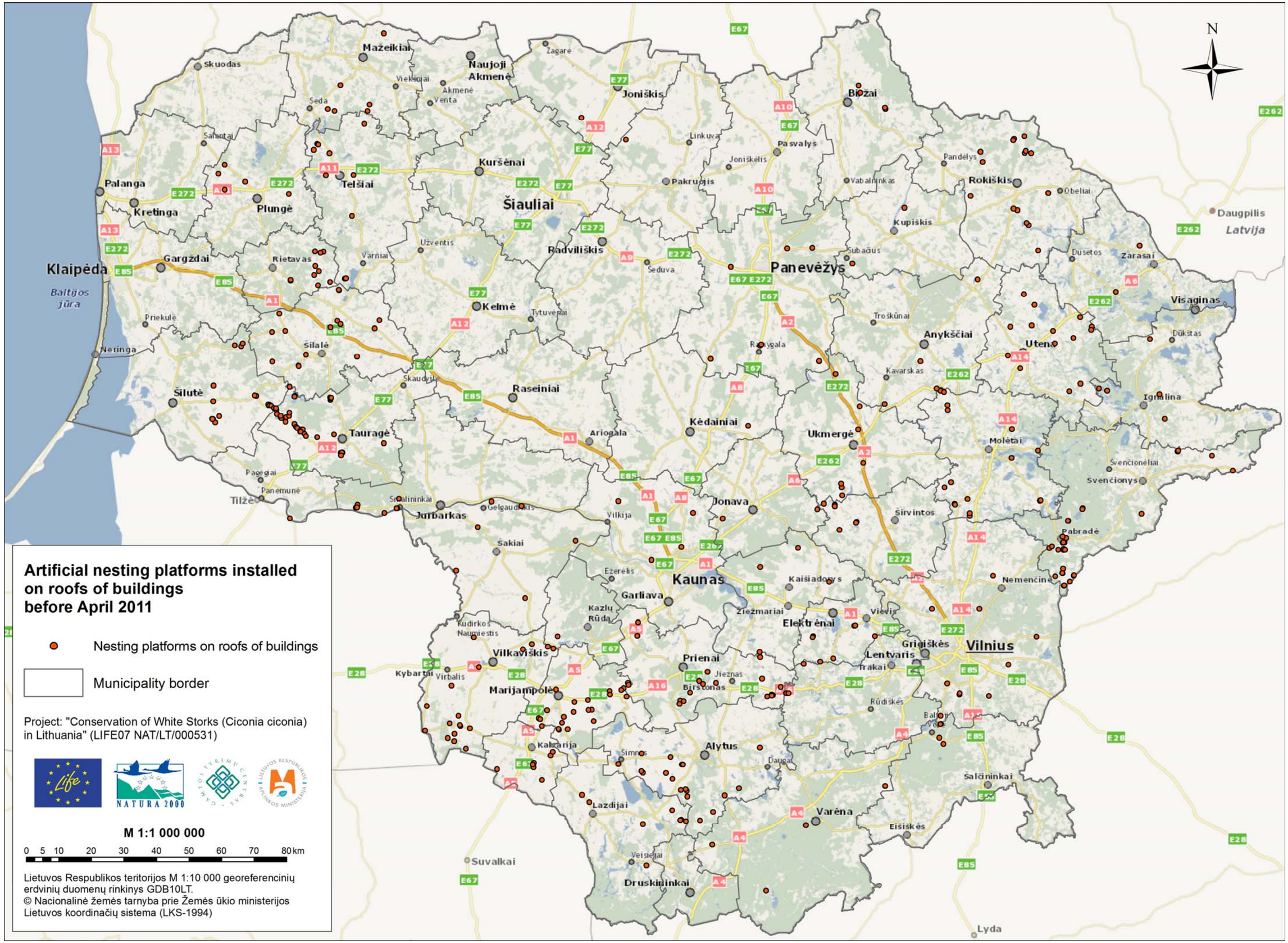

Artificial nesting platforms installed on roofs of buildings before April 2011

● Nesting platforms on roofs of buildings

☐ Municipality border

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Conclusions

Occupancy rate of artificial nesting platforms installed on overhead electricity line poles during the breeding season of 2011 was very high – 86% of platforms installed before the beginning of the breeding season were occupied by White Storks. No damaged platforms on overhead electricity line poles were recorded during the monitoring. Therefore, no change in installation strategy (i.e. removal of an old nest prior to platform installation) or to the design of platforms is necessary in the future.

Occupancy rate of artificial nesting platforms on roofs of buildings was rather low also during the second season of monitoring – ca. 25% of installed platforms were occupied by White Storks, as evidenced by the presence of a nest on the platform. Such a low occupancy rate was most likely a result of the replaced nests being abandoned for a number of years previously as well as the reluctance of birds to move from a deteriorating nest onto a new platform in cases where a new platform was installed in the vicinity of an occupied nest. However, the occupancy rate of platforms on roofs of buildings is likely to increase in the coming years as new maturing birds re-occupy previously abandoned areas. Nevertheless, the same adjusted strategy of platform installation on roofs of buildings should be continued to be used for the last season of platform installation, i.e. only nests abandoned for several previous breeding seasons may be removed, and only in exceptional cases, where there is a serious threat of a nest collapsing and causing damage to breeding birds or property, a nests occupied during the previous season may be removed and replaced with a nesting platform. Otherwise, a platform should be installed in the vicinity of the recently occupied nest without removing it.

Figure 3. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 4. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 5. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 6. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 7. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 8. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 9. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 10. Occupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 11. Unoccupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 12. Unoccupied White Stork nesting platform on an electricity pole, recorded during the monitoring.

Figure 13. Occupied White Stork nesting platform on the roof of a building, recorded during the monitoring.

Figure 14. Occupied White Stork nesting platform on the roof of a building, recorded during the monitoring.

Figure 15. Occupied White Stork nesting platform on the roof of a building, recorded during the monitoring.

Figure 16. Occupied White Stork nesting platform on the roof of a building, recorded during the monitoring.

Figure 17. Unoccupied White Stork nesting platform on the roof of a building, recorded during the monitoring.

Figure 18. Unoccupied White Stork nesting platform on the roof of a building, recorded during the monitoring.

Figure 19. Unoccupied White Stork nesting platform on the roof of a building, recorded during the monitoring.

Figure 20. Unoccupied White Stork nesting platform on the roof of a building, recorded during the monitoring.