Completed by 30.10.2022

OPTIMIZING THE MANAGEMENT OF NATURA 2000 NETWORK IN LITHUANIA (LIFE IP PAF-NATURALIT), NO. LIFE16 IPE/LT/016

FINAL REPORT ON THE INVENTORY OF INSUFFICIENTLY KNOWN SPECIES OF COMMUNITY IMPORTANCE

Summary

The objective of sub-action A.1.1 of the project "Optimizing the management of Natura 2000 network in Lithuania" is to carry out an inventory of the species of the European Community whose national status is insufficiently known.

In Lithuania and its territorial sea, there are 54 types of natural habitats of the European Community importance and 101 species of plants and animals of Community importance found that have special protected areas established for them, and more than 40 species of Community importance that need strict protection.

Even though Habitats Directive 92/43/EEC and the Birds Directive 2009/147/EC obliges the member states to investigate the factual status of the species of Community importance, the status of some species of Community importance remains insufficiently known, because there is a lack of data about the distribution of such species around the country, the sizes of their populations and so on.

During the implementation of the action, from 2018 to 2022, an inventory of 33 species of Community Importance (see Table 1) across the entire Lithuania was carried out. New localities were registered, conservation status, conservation objectives and conservation meassures were proposed for every species studied. In accordance with the proposals of experts, the species that were selected for the inventory were the ones whose status was evaluated as being insufficiently known.

Table 1. The list of insufficiently known species of Community importance selected for the inventory

Species listed in the Habitat Directive	Species listed in the Bird Directive
1. Lycaena helle	*1. Alcedo atthis*
2. Oxyporus mannerheimii	*2. Milvus migrans*
3. *Euphydryas aurinia*	*3. Calidris alpina schinzii*
4. Myotis brandtii	*4. Limosa limosa*
5. Nyctalus leisleri	*5. Numenius arquata*
6. Pipistrellus pigmaeus	*6. Calidris pugnax (=Philomachus pugnax)*
7. Buxbaumia viridis	*7. Lyrurus tetrix (=Tetrao tetrix tetrix)*
8. Dicranum viride	8. *Ciconia nigra*
9. Botrychium simplex	9. *Vanellus vanellus*
10. Najas flexilis	*10. Aythya ferina*
11. Aldrovanda vesiculosa	*11.Mareca penelope (=Anas penelope*)
12. Dianthus arenarius ssp.arenarius	*12. Spatula querquedula (=Anas querquedula)*
13. Agrimonia pilosa	*13. Perdix perdix*
14. Vertigo geyeri	
15. Rhynchocypris percnurus	
16. Cobitis taenia	

17. Sabanejewia baltica	
18. Boros schneideri	
19. Mesosa myops	
20. Phryganophilus ruficollis	

Conservation experts of the Methodical-Analytical Centre of the State Service for Protected Areas Under the Ministry of Environment covered inventory of 20 species (of these, experts of Agriculture Academy of Vytautas Magnus University and administration of Dzukija National Park and Čepkeliai Strict Nature Reserve inventoried 2 species) and inventory of 13 species was covered by external experts from Nature Research Center, Nature Heritage Fund, Lithuanian Ornithological Society and Lithuanian Fund for Nature.

Final reports on the inventory of insufficiently known plant, insect, mollusc, fish, bat, and bird species are included in the annexes of the final report on the species inventory.

I. Summary of the inventory of insufficiently known plant species (*Najas flexilis, Aldrovanda vesiculosa, Dicranum viride, Buxbaumia viridis, Botrychium simplex, Agrimonia pilosa* and *Dianthus arenarius ssp.arenarius*)

Najas flexilis

Najas flexilis is a very rare species which was found only in 2 lakes of Lithuania before the start of the inventory. Currently, there is only one SCI (Sungardo ežeras) established for the conservation of *Najas flexilis*.

From 2019 to 2021, the search for *Najas flexilis* was conducted in 26 lakes. *Najas flexilis* was found in three of the lakes that are located in the north-eastern part of the country: in Avilys lake (Zarasai district) – 2 places, in Ažvintis lake (Ignalina district) – 2 places and in Dūkštas lake (Ignalina district) – 3 places.

Taking the results of the inventory into account, the establishment of 3 SCIs for *Najas flexilis* conservation is proposed.

Aldrovanda vesiculosa

Up to now, *Aldrovanda vesiculosa* has been detected only in the north-eastern part of Lithuania, in 5 lakes of Ignalina district: Alksnas, Apvardai, Daržinėlė, Dysnai and Rūžas. The largest and most numerous population currently known in Lithuania is Rūžas lake population, which consists of approximately 100 000 individuals. It may be one of the amplest populations currently in Europe. At present, only one SCI – Rūžo ežeras – is established for the conservation of *Aldrovanda vesiculosa*.

During the inventory of *Aldrovanda vesiculosa* that was carried out during the period from 2019 to 2021, *Aldrovanda vesiculosa* was found only in its previous known locations: Alksnas, Apvardai and Dysnai lakes. These lakes are proposed as sites for the conservation of *Aldrovanda vesiculosa*.

Dicranum viride

Before the start of the inventory, *Dicranum viride* was found only in several places in Lithuania. Only one Natura 2000 Site of Community Importance (hereinafter – SCI) has been established for the protection of this species – Drausgirio miškas (LTVIK0002). During the inventory, *Dicranum viride* was detected in 13 investigation sites in total. It is proposed to assign 11 locations for *Dicranum viride* conservation.

Buxbaumia viridis

Inventory of this species was performed in 59 localities during 2018-2022. In spite of efforts devoted, the species was not registered in any site visited. It could be conluded that *Buxbaumia viridis* was extinct in Lithuania. Therefore, some further studies should be continued.

Botrychium simplex

Inventory of this species was performed in 175 localities during 2018-2022. Till this study, the species was protected only in Žemaitija National Park, but more exact data was lacking. After the inventory, two populations of the species were registered, one in Žemaitija National Park and another – in Pajūris regional park. The species was inlcuded in the list of protected species of the latter site and conservation objectives were formulated as well.

Agrimonia pilosa

After the inventory of species during 2018-2022, approximately 160 finding places are known in Lithuania. Of these, 103 sites are in protected areas. The majority of populations were registered in Northern, Eastern and South-western Lithuania. The species was included into 10 SACs, as well 2 SCIs will be proposed as new ones.

Dianthus arenarius ssp.arenarius

Inventory of this species was performed in 209 potential localities throughout Lithuania during 2018-2022. Of these, the species was registered only in 8 sites, all of them located in Southern Lithuania. Five populations are registered in Dzūkija National Park, while 3 sites are still not protected, and they will be proposed as SCIs in the future.

II. Summary of the inventory of insufficiently known insect species (*Boros schneideri, Mesosa myops, Phryganophilus ruficollis, Lycaena helle, Euphydryas aurinia* and *Oxyporus mannerheimii*

Boros schneideri

Boros schneideri is mainly spread in the eastern part of Lithuania: in the districts of Ignalina, Molėtai, Anykščiai, Švenčioniai, Jurbarkas and Tauragė, where the majority of sites are located in Viešvilė Strict Nature Reserve. Besides that, some singular sites are known to be in the districts of Jonava, Kaunas, Kaišiadorys and Šalčininkai. There are 16 SCIs established for the conservation of *Boros schneideri* in Lithuania.

During the inventory of *Boros schneideri* in 2020–2021, the studies of this species were conducted in 31 selected locations. In ten of them, *Boros schneideri* larvae and adult beetles were detected. Based on the results of the studies, three areas as complying to the SCI criteria are proposed to be established for the conservation of *Boros schneideri*.

Mesosa myops

In Lithuania, studies into the spread of *Mesosa myops* had not been carried out, and, up to now, there were only 2 accidental sites of it known. There are no SCIs established for the conservation of this species.

In order to carry out an inventory of *Mesosa myops*, 11 potential areas in the south and mid-part of Lithuania were selected. After the inventory of *Mesosa myops* in 2020–2022, *Mesosa myops* was not found in the said areas, thus the status of this species in Lithuania seems to be as non-residential species.

Phryganophilus ruficollis

Public data shows that, before the start of the inventory, *Phryganophilus ruficollis* was found once in Lithuania. During the inventory of 2020–2021, 12 areas were investigated. Unfortunately, *Phryganophilus ruficollis* is yet to be detected. Moreover, while reviewing the collections of Kaunas T. Ivanauskas Zoological Museum, it became apparent that the previously-published data about *Phryganophilus ruficollis* detection in Lithuania was erroneous due to incorrect species identification, thus it is ought to be assumed that the said species has not been registered here and does not live in Lithuania.

Lycaena helle

The status of this very rare species was unclear, and there were only 5 records till the inventory. Inventory of this species was performed in 66 localities during 2018-2022. Of these, 7 sites were inhabited by the studies species. Four populations were discovered as new for Lithuania. Some data was used for the already established SACs, and one new SCI will be proposed.

Euphydryas aurinia

Inventory of this species was performed in 97 localities during 2018-2022. Of theses, *E. aurinia* was found in 33 sites. 12 populations were still uknown in Lithuania. The species was included into 13 already existing SCIs, while 1 SCI was newly proposed.

Oxyporus mannerheimii

It is one of the most problemic species, as there were practically no data aboout it from Lithuania till the inventory of the species. Inventory of this species was performed in 198 localities during 2018-2022. Of these, 118 finding places of the species were registered. It was already included in some SCIs, and other SCIs will be supplemented with the species data, so there will be no necessity of establishing new protected areas.

III. Summary of the inventory of insufficiently known fish species (*Rhynchocypris percnurus*, *Cobitis taenia* and *Sabanejewia baltica*)

Rhynchocypris percnurus

There is no reliable data regarding the spread of *Rhynchocypris percnurus* in Lithuania. Until the start of these investigations, there were only nine known water bodies in the entire country, where *Rhynchocypris percnurus* has been found. However, there were no SCIs established for *Rhynchocypris percnurus*.

During the inventory of *Rhynchocypris percnurus* that took place in 2020–2021, 60 habitats in the entire Lithuania, suitable for the said species, were examined, assessed and thoroughly described. Based on the investigations conducted, currently, there are 12 known sites of *Rhynchocypris percnurus* in Lithuania. For the conservation purposes of this species, it is proposed to supplement the list of SCI values of Meteliai Regional Park, by including *Rhynchocypris percnurus*.

Cobitis taenia

Cobitis taenia is not a rare species in the suitable habitats of Lithuania, but the Natura 2000 areas, established for the conservation of the said species, are not distributed evenly enough.

Besides 26 SCIs, where *Cobitis taenia* is conserved at present, 26 new locations of the said species were registered during the inventory. 12 areas for the conservation of *Cobitis taenia* are proposed.

Sabanejewia baltica

Sabanejewia baltica have been found in Lithuania relatively recently. Due to this, its spread in the country was not sufficiently clear before the start of the said inventory.

During the inventory of *Sabanejewia baltica* that was carried out in 2020–2021, 30 potentially suitable habitats around the entire Lithuania and 3 additional habitats were examined. During the investigations, *Sabanejewia baltica* was registered in as many as eleven newly examined locations. Based on the results of the investigations, seven areas (1 new and 6 current SCIs) are proposed for the conservation of *Sabanejewia baltica*.

IV. Summary of the inventory of insufficiently known mollusc species *Vertigo geyeri*

Vertigo geyeri

Inventory of this species was performed in 51 localities during 2019-2021. Of these, 43 sites were inhabited by the species. It was realized that 19 populations belong to 16 SCIs, while it was already included as a value only in 2 SCIs. At least 13 populations will be proposed for the protection in the already established SCIs.

V. Summary of the inventory of insufficiently known bat species (*Myotis brandtii, Nyctalus leisleri* and *Pipistrellus pigmaeus)*

Myotis brandtii

Inventory of this species was performed in 2019–2022. According to the unified methodology, 4503 individuals of bats were registered. *M. brandtii* was registered 44 times. During the inventory, mainly single individuals were found. The species seems to be quite rare in Lithuania, more commonly found in Southern, South-eastern, Northern and Central Lithuania.

Nyctalus leisleri

Inventory of this species was performed in 48 sites during 2019–2022. According to the unified methodology, 4503 individuals of bats were registered. *N. leisleri* was was registered 113 times. The species seems to be rare in Lithuania.

Pipistrellus pigmaeus

Inventory of this species was performed in 49 sites during 2019–2022. According to the unified methodology, 4503 individuals of bats were registered. According to the unified methodology, 4503 individuals of bats were registered. *P. pigmeus* was registered 294 times. It seems that the species is not rare in Lithuania, and it is widespread throughout the country, especially in Southern and Eastern Lithuania.

VI. Summary of the inventory of insufficiently known bird species (*Alcedo atthis, Milvus migrans,* (*Calidris alpina schinzii, Limosa limosa, Numenius arquata, Philomachus pugnax, Lyrurus tetrix, Ciconia nigra, Vanellus vanellus, Aythya farina, Mareca penelope, Spatula querquedula,* and *Perdix perdix*).

Alcedo atthis

Inventory of this species was performed in 50 water pools during 2019–2022. The efforts comprised 570 km of rivers. The species was registered in 42 sites. Of these, the individuals of species were registered more than once in 32 studied sites, while single or individuals or signs of activity were registered at 10 sites. There were no individuals seen at 8 studied sites.

Milvus migrans

Inventory of this species was performed in 140 sites during 2019–2022. The results show that there were 52 sites with the species registered. There were 80 sites where single individuals of the species were observed. There are practically no data about the species from Western and Northern Lithuania.

Calidris alpina schinzii

The species is very rare in Lithuania, and its population‘s decrease was observed during the last two decades. Inventory of this species was performed in 27 sites during 2019–2022. No data about breeding pairs wss gathered. Single individual was observed only once during the breeding season. There are still 8 sites having favourable habitat conditions, and 5 sites are potential for the species. .

Limosa limosa

Inventory of this species was performed in 55 sites during 2018–2022. Of these, 22 sites were inhabited by the species. In total, 35 pairs, 5 teritorial individuals and 9 nests were registered. Populations of the species are mainly concentrated in 3 regions of Lithuania.

Numenius arquata

Inventory of this species was performed in 94 sites during 2019–2022. Some sites were revisited twice. The species was registered in 21 per cent of territories studied. Earlier the species mainly inhabited marshes, but nowadays it is also found in agricultural fields (nests were registered in the latther habitat as well).

Calidris pugnax

Inventory of this species was performed in 54 sites during 2018–2022. The species was present in 23 territories. 2179 males, 692 females and 13 breeding competitions of males were observed. Some potential SPAs were suggested for the conservation of species.

Lyrurus tetrix

Inventory of this species was performed in 58 sites during 2018–2022. Some territories were revisited twice. The species was registered in 55 % of territories. The species lives in big bogs, sometimes is quite common.

Ciconia nigra

Inventory of this species was performed in 55 sites during 2018–2022. Of these, 40 sites were inhabited by the species. Mainly single individuals were registered. A big part of nest was found outside protected areas.

Vanellus vanellus

The species is quite widely distributed throughout Lithuania, but its population drastically decreased during the last three decades. Inventory of this species was performed in 82 sites during 2019–2021 with the aim to calculate its population size in Lithuania. According to the data gathered and mathematical calculations, there are 36 500 – 100 000 pairs of the species studied.

Aythya ferina

Inventory of this species was performed in 54 sites during 2018–2022. Of these, 24 sites were inhabited by the species. In total, 157 males, 75 females, 21 pairs,14 breeds, and 47 nests were registered. The majority of recors are located in Eastern and Southern Lithuania, while it was exceptionally found in fish ponds in Western Lithuania.

Mareca penelope

Inventory of this species was performed in 57 sites during 2018–2022. Of these, 23 sites were inhabited by the species. In total, 65 males, 7 females and 20 pairs were registered. It was mainly found in fish ponds.

Spatula querquedula

Inventory of this species was performed in 96 sites during 2018–2022. Some sites were revisited. 34 per cent of sites were inhabited by the species. The species was not registered in Central Lithuania. The species is declining in Lithuania.

Perdix perdix

The species is quite widely distributed throughout Lithuania, but its population drastically decreased during the last decades. Inventory of this species was performed in 844 site plots during 2019–2021 with the aim to calculate its population size in Lithuania. According to the data gathered and mathematical calculations, there are 10 000 - 15 000 pairs of the species studied.