MONITORING REPORT

LIFE+ Nature project LIFE09NAT/LT/00581
"Development of Pilot Ecological Network through Nature Frame Areas in Southern Lithuania"

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Foreword

In May 2014, restored and newly dug ponds were investigated for presence of amphibian and invertebrate colonization. Particular attention was paid to the species listed in the Annexes II and IV of the Habitats Directive. The methodology used for investigation was minimum 30-minutes dip netting one pond through vegetation zones and all depth more shallow than 1.5 m. Even though majority of the ponds were newly dug (dug 2013 autumn – 2014 spring) and had not yet developed the vegetation needed for the target species, this investigation already suggested positive results of the first colonisations.

Since the project had 7 target areas, this report shortly describes separately for each target area landscape features, distribution of the target species, names conservation activities and summarises results of species observations.

Target area around Juodabale LT01

Base-line data

The target area connects surroundings of Metelys and Obelija lakes, Juodabalė Herpetological Reserve, European pond turtle subpopulation in Ročkiai village, Avižieniai, Šlavantai villages to Petroškai Reserve. Size of the area is 5048ha. Sporadic turtle distribution of single individuals was observed around Metelys and Obelija lakes. Juodabalė Herpetological Reserve (together with subpopulation in neighbouring Ročkiai village, which does not have a status of protected area) is estimated to be the third biggest turtle population in Lithuania (>40 individuals).

Juodabale is known as turtle habitat for a long time and was designated as herpetological reserve in the 70'ties. Despite of the drying out of the whole reserve no conservation and restoration measures were conducted for a long period. The turtles moved to other places around. After the first restoration activities in the end of the 90'ties turtle resettled the area. The situation of the aquatic habitats is very favourable and suitable nesting sites are very near. This is probably the reason that the age structure of this local population is very good having juveniles from different years. The whole area with the amount of water allows a bigger population. Therefore this population can have the important function as source population for the much smaller or even extinct neighbouring populations in Parocke, Rockiai, Didyjis and Seirijai.

From Zvikeliai to Veisiejai no concrete data about Emys orbicularis occurrences exist but many natural wet places (many lakes, small rivers and ditches) could be inhabited by turtles or at least used for migration.

Small populations of P.fuscus, B.calamita, B.viridis, T.cristatus inhabit the whole area. B. bombina, R.arvalis, R.lessonea bigger local populations. There are big populations of B.bombina, T.cristatus, R.arvalis (approx. 500 individuals) in Avižieniai and Šlavantai.

Conservation actions in the area

54 aquatic habitats were created, 8 ponds restored, water level raised by 10 dams, 10 egg laying places for Eo created, 1 sand pit restored, 2 Natura 2000 areas designated in the area. Majority of these habitats were created autumn 2013.

Results of inventory

Protected amphibian species were observed in 11 newly created habitats and 1 restored habitat (Table 1). E.orbicularis were observed in 7 ponds.

Table 1. Distribution of the target species in the target area LT01.

Pond no.	Target area	Action	R. l.	R. a.	B. b.	T. c.	P. f.	B.c.	H.a.	E.o
101	LT01	C1	+	+						+
Juodabalė 1	LT01	C1	+	+	+					
Juodabalė 162a	LT01	C1	+	+						
Juodabalė 165	LT01	C1			+					
Juodabalė 166	LT01	C1			+					
Ročkiai 174	LT01	C1								+
Ročkiai 175	LT01	C1	+	+	+					
Ročkiai 177A	LT01	C1	+	+	+					
Ročkiai 178	LT01	C1	+	+						
Ročkiai 199	LT01	C1		+						
Ročkiai 199 A										+
Ročkiai 200	LT01	C1		+						
Ročkiai 216a	LT01	C1			+					
102	LT01	C2	+							+
Ročkiai 199A	LT01	C2								+
Ročkiai 176	LT01	C2								+
Ročkiai 177	LT01	C2								+

Target area around Bestraigiškė forest LT02

Base-line data

The area is a migration corridor Juodabale/Ročkiai to Bestraigiškė and further to Kučiuliškė. The area here is hilly, many parts are open and not so many deciduous and pine forests are located in the whole area. Most of the wetlands are almost dried out and overgrown, except one rather big natural wetland. Artificial ponds are situated close to farms. A big number of farms and lands are abandoned; some farms are mainly used for leisure time on weekends and vacation. Generally,

abandoned places are threatened by overgrowth. The big loss of wetlands and places suitable for nesting makes survival of turtles and amphibian populations rather difficult.

In Mikabaliai/ Demeniškiai *Emys orbicularis* exists but no data regarding status of local population are available in Demeniskiai. Local people observe sometimes turtles in one part of a very big but in many parts shaded and overgrown wetland. 2012 one predated nest was found on a sunny open slope in a distance of 200-300 m to the big wetland. Concerning the size of the wetland a bigger local population could be presumed but without accurate turtle observations no status is given until now. Single nesting females/ turtle nests were registered in Zvikeliai. Status of this local population is totally unknown until now. Small populations of *P.fuscus, R.arvalis, L.agilis* are found in the area.

In Paserninkai the main turtle observation is at a nesting site and in very small ponds in the neighbourhood of nesting site in the south of the village close to the Bestraigiske forest. Here the turtles started to come to lay eggs, when the egglaying sites closer to Bestraigiškė pond overgrew (9 egg clutches were recorded in 2012). Since the state of Bestraigiškė pond is deteriorating and two ponds are dug for turtles close to the egg laying sites several turtles have moved to these ponds. 2014 summer 6 turtles raised in LZS were released to the ponds.

Otherwise no local population of *Emys orbicularis* was registered in Paserninkai in the last 60 years, but maybe this area was never inhabited by turtles. The only observation of 1 animal was made 20 years ago in a very small pond close to Dydijis. Probably the connection between northern populations e.g. Rockiai, Juodobale and Dydijis with the southern populations in Bestraigiske/ Vainiunai and Veisiejai was/is via Mikabaliai and not via Paserninkai.

There is a small local population of *Emys orbicularis* in Bestraigiškė. 20 turtles were observed and 18 caught in 2008. The 2 youngest animals were older than 10 years. Therefore, a lack of juveniles exists. This indicates that juveniles live in other places or there was no successful reproduction in the last 10-15 years. In 2012 only 2 adults could be observed and the death of at least 2 individuals was noticed. Probably the local turtle population is declining. Several *B.bombina* males are calling in a shallow forest pond 54.180096, 23.79786 (WGS).

Emys orbicularis local population is extinct in Vainiūnai. There are *R.arvalis, R.lessonea* populations. With the increasing habitat destructions with the construction of melioration ditches and the drying out of many wetlands the local turtle population became extinct. The local population was a connecting link between the local populations in Bestraigiske and Kuciuliske (airline distance > 6 km) and should be reactivated. Due to the big loss of wetlands today the migration for turtles and amphibians is much more difficult because only one small river (Seira) could be used partly as wet migration corridor. Furthermore many open lands is abandoned now and threatened by overgrowth.

Conservation actions in the area

12 aquatic habitats created, 4 restored, 1 dam built and 1 egg laying site created. All these actions were carried out spring 2014. Therefore the target species were still not observed in the ponds.

Target area around Kučiuliškės Herpetological Reserve LT03

Base-line data

Many areas in and around Krikstonys are used as arable land, meadows and pastures, but many places are abandoned because of the general extinction of farming on a small scale. Most of the natural wetlands and swamps around the village are overgrown and dried out. The village itself has a lot of ponds because almost every farm has its own pond for the use for cattle, ducks, fish, etc. However, the farm ponds are mainly artificial and deeper having steep open shores and less aquatic

vegetation as well as being situated very close to roads and buildings. 4 km distance from Krikštonys to Kučiuliškė are mainuly long time abandoned agricultural lands with obergrown wetlands. Kučiuliškė Herpetological Reserve consists of about 18 different types of ponds and wetlands. Some of these ponds are temporary, only a small number of ponds are permanent but these are the largest in the area. Many of these ponds were restored in previous projects in the last 13 years. The big variation of the aquatic habitats create good possibilities for E.orbicularis during the whole year. Meadows, pastures, deciduous and pine forests as well as sandy dry grasslands belong to the area. Some meadows have been being managed by cattle grazing since 2006. Others places are abandoned and not managed until now.

In **Krikštonys** *Emys orbicularis* (very) small local population, *Bombina bombina* big population, *Triturus cristatus* , *Rana arvalis,* and *Rana lessonea* populations. The area is known as turtle area for a long time. Probably 50 years ago the local population was much bigger. The current status of the local population is unknown due to the lack of good data. No pond e.g. inhabited by several individuals is known. Probably a very small local population is existing here today because the current habitat situation is very unfavourable for the turtles. In **Karklynai – Mangarotas** villages *Emys orbicularis* probably extinct local population, *Bufo viridis* big population, *Rana arvalis* population, *Bombina bombina* small population. Regarding the conditions of the northern distribution range of species a big local population with long-term viability of *Emys orbicularis* (more than 70 individuals) is in **Kučiuliškė**. Also *T.cristatus, B.bombina, R.lessonea* populations. *Emys orbicularis* very small population in **Drapaliai**. One adult turtle was observed 1997, the same animal was caught also 2001 in a small pond close to a farm. In 2001 a female and a young turtle were caught in the same place and the owner observes yearly single individuals there. In 2011 1 adult turtle was observed migrating near the main sandy road to Bardziunai. 1 Juvenile and 1 adult were observed in 2013 and 2014. This area is the closest turtle area to the local population Kuciuliske like Karklynai but was probably in former times much stronger than the Karklynai population. It is one important part of the corridor Krikstonys – Vilkiautinis. In former times this area consisted of a couple of different types of wetlands in strong connection with open hilly areas with southern expositions for nesting. These favourable conditions could allow a bigger number of turtles to live here. Nowadays, the big lack of aquatic habitats and of suitable nesting areas makes the survival of this quite small population almost impossible without adequate conservation measures. If the turtles use aquatic habitats on both side of the main road to Straciunai/Bardziunai e.g. ponds in the village and the lake “Drapalis” isn't exactly known. Today the road is still a sandy road, and the traffic isn't so much so that the turtles have a chance to survive crossing the road. But in future with road improvements the number of cars and trucks will distinctly increase and be a danger for the turtles of this corridor. There is a big population of *B.bombina* in Drapaliai village, and *Rana arvalis* population. **Margai** area is one important part of the corridor Krikstonys – Stračiūnai because it connects Drapaliai with Straciunai. The general size of the wetland could allow a bigger number of turtles to live here. Today the wetland is totally unfavourable for the turtles due to the dense overgrowth of the pond and the open areas and the very close located sand pit. Without adequate conservation measures this area goes completely lost as turtle habitat although it has the important function in the corridor Krikstonys – Vilkiautinis. Nearby the functioning gravel pit is a small abandoned gravel pit. A large population of *Bombina bombina* was observed there.

Conservation actions in the area

19 aquatic habitats were created, 15 ponds restored, water level raised by 8 dams, 8 egg laying places for Eo created, 1 Natura2000 area designated and 41 Eo juveniles released to 3 sites. These activities were carried out autumn 2013.

Results of inventory

Protected amphibian species were observed in 12 newly created habitats and 4 restored habitats (Table 2). E.orbicularis were observed in 2 ponds.

Table 2. Distribution of the target species in the target area LT03.

Pond no.	Action	R. l.	R. a.	B. b.	T. c.	P. f.	B.c.	H.a.	E.o
23	C1	+		+	+				
23b	C1	+		+	+	+			
25	C1	+			+				
Kučiuliškė 4	C1		+	+					
Gudonys 8 B	C1	+		+					
Karklynai 1	C1	+	+	+	+				
Karklynai 2	C1	+	+	+					
Karklynai 5	C1	+	+	+	+				
Drapaliai 2	C1	+	+	+	+				+
Drapaliai 2A	C1	+	+	+	+				
Drapaliai 3	C1	+		+					
Drapaliai 6	C1			+					
Gudonys 2	C2	+							
Gudonys 5	C2			+					
Drapaliai 1	C2			+					+
Drapaliai 5	C2	+			+				

Target area around Stračiūnai Reserve LT04

Base-line data

Many areas in and around Straciunai are used as arable land, meadows and pastures but many places are abandoned because of the general extinction of farming on a small scale. A lot of different types of aquatic habitats e.g. natural wetlands, swamps as well as some lakes are located around the village. Many of them especially the smaller ones are overgrown, even dried out and no longer suitable for turtles. The village itself has a lot of ponds because almost every farm has its own pond for the use for cattle, ducks, fish, etc.. Therefore the farm ponds are mainly artificial and deeper having steep open shores and less aquatic vegetation as well as being situated very close to roads

and buildings. These kind of ponds are unsuitable for turtles on long-term but can be inhabited by them for short-term stays. There is a lack of open slopes with southern exposition, which could be suitable for nesting. Abandoned land is too densely vegetated or overgrown with trees (pines) and/ or too shaded. Some areas are unfavourable for turtle nests due to an increase of agricultural use destructing open land up to the forest aisle.

There is a small population of *Emys orbicularis* in **Stračiūnai**, estimated less than 30 (high moor area (54.14125, 23.961345 (WGS)) < 20 individuals; lake Tabalis < 10 individuals). There are big populations of *Bombina bombina* and *Rana lesonae*, populations of *Triturus cristatus* and *Bufo viridis*, small population of *Pelobates fuscus*.
Lake Zervynas (54.129709, 23.937573 (WGS)) was designated as herpetological reserve in 1973 because of the observations of turtles by local people. Today inhabitants still catch the turtles while fishing illegally in the lake. The lake is generally not adequate for turtles but probably the shallow parts could be inhabited by them. But nowadays these parts are densely overgrown and fully shaded with alder forest. Presumably these parts have small water only in early spring after melting of snow. Small population of *Bombina bombina* inhabits the lake Zervynas. Small population of *Pelobates fuscus* was found in a small overgrown wetland in the fields nearby the lake Zervynas.
Current turtles observations are possible in different other places. One place is the high moor area in the northern part of the area (54.14125, 23.961345 (WGS)) where 9 individuals were observed in 2004 and 4 animals caught. In 2006 2 adults were noticed, and in 2009 1 female was captured. In 2011 some hundred meters far away from the high moor pond 1 destroyed nest was found on a afforested slope with sandy ground and southern exposition (54.141543, 23.949399 (WGS)). This slope was afforested in the last 10 or 20 years. This area was designated as Natura 2000 named "Stračiūnų kaimo apylinkės (LTLAZ0039)" after LIFE Project NELEAP proposal. A big *Bombina bombina* population inhabits this moor, *Triturus cristatus* breeding success is also noticed here.
Another predated turtle nest was found near lake Šauliukas and a local man observed one turtle in the lake (54.125515, 23.931558 (WGS)). More data about nesting sites are lacking in the whole Straciunai area. The second place where people recognize turtles regularly is the lake "Tabalis" (54.134591, 23.955278 (WGS)). People living close to the lake observe every year single individuals moving on land probably females during nesting period. The lake in general isn't suitable but the shallow parts around could be used by turtles. Unfortunately, these more suitable parts are overgrown with trees and mostly shaded. *Bufo viridis* population was found to the south from lake Tabalis (54.12431, 23.958831 (WGS)) in a flooding which appeared few years ago after drainage system was broken.
The area is known as turtle area for a long time. Probably 50 years ago the local population was much bigger. The current status of the local population is unknown due to the lack of good data but probably the small local population is declining here today because the current habitat situation is not favourable for the turtles.
If the turtles uses aquatic habitats on both side of the main road to Bardziunai e.g. ponds in the village and the big wetland in Bardziunai (54.14125, 23.961345 (WGS)) isn't exactly known. Today the road is still a sandy road, and the traffic isn't so much so that the turtles have a chance to survive crossing the road. But in future with road improvements the number of cars and trucks will distinctly increase and be a danger for the turtles of this corridor.

Emys orbicularis with very small local populations in the area (**Bardziunai**: conservation status 5 or 6; **Geniai**: conservation status 5), local people observe the turtles, 2 destroyed nests were found near Geniai village (54.147827, 24.004137 (WGS)). Populations *of Bombina bombina*, *Rana lessonea*, *Rana arvalis*. *Lacerta agilis* is found on the sandy slopes.
This local population of *Emys orbicularis* is presumably an important connection between the local populations in Straciunai and Vilkiautinis. Regarding the "older" wetlands in the southern part there were a lot of suitable aquatic habitats for turtles some time ago which assumes the existing of a better local population here. Nowadays, the Barzdziunai and the Vilkiautinis turtles are separated by

a bigger road. Luckily is the traffic not so much until now but in future the number of cars and trucks will distinctly increase and be a big danger for the turtles of this corridor.

Small new population of *Emys orbicularis* was discovered near village **Gailiūnai**. A turtle was observed and destroyed nesting sites were found. Also local people were observing migrating turtles on the local roads.

Conservation actions in the area

36 aquatic habitats were created, 10 ponds restored, water level raised by 3 dams, 11 egg laying places for Eo created, 1 sandpit restored. These activities were carried out spring, autumn 2013 and winter 2013-2014.

Results of inventory

Protected amphibian species were observed in 10 newly created habitats and 3brestored habitats (Table 3). E.orbicularis were observed in 1 pond.

Table 3. Distribution of the target species in the target area LT04.

Pond no.	Action	R. l.	R. a.	B. b.	T. c.	P. f.	B.c.	H.a.	E.o
32	C1	+	+		+				
Barzdžiūnai 3	C1		+						
Barzdžiūnai 4	C1		+						
Barzdžiūnai 5	C1		+						
Barzdžiūnai 7	C1		+						
Barzdžiūnai 8	C1		+						
Barzdžiūnai 9	C1		+						
Barzdžiūnai 13	C1		+						
Barzdžiūnai17	C1		+						
Barzdžiūnai 18	C1		+						
Kūdrėnai 1	C1								+
32a	C2					+			
Barzdžiūnai 1	C2		+						
Barzdžiūnai 11	C2		+						

Western part of Dainava forest LT05

Base-line data

Hilly area with small agricultural fields, meadows and natural overgrown depressions close to Merkinė town, was planned to restore a cluster of ponds. Mainly forested landscape to the north from Merkinė town, with some wetlands, forming a natural corridor in the forest, no habitat restoration activities planned from Merkinė to Vilkiautinis. From Vilkiautis is to Gailiūnai most of the area is open with arable land, meadows, pastures and a bigger part with abandoned places around Radyščius village. Single farms are situated in this area. The area consists of several different types of wetlands. Natural ponds are mainly overgrown and dried out. One huge wetland (a melioration ditch which was dammed a few decades ago – currently the main habitat of Vilkiautinis turtle population (54.127555, 24.042755 (WGS)) combined with a lot of close open places and sunny slopes are located here. Most of the slopes are densely overgrown with meadow vegetation and others and aren't suitable as nesting sites for turtles. The slopes become overshadowed by pine trees and shrubs.

There are 5 places where the local people observe turtles between **Merkinė and Lizdai** in the last decade. The sizes of the turtle populations are very small with few single individuals. Most of the local populations are nearly extinct or even extinct. The habitats are naturally overgrowing.

In **Radyščius - Vilkiautinis** for situation at northern border of species distribution quite big local turtle population, with the current data can be estimated more than 50 individuals (adults as well as some subadults and juveniles). Despite of the good population size the local population has a conservation status of 2 due to the big risk of fishing activities.

The local population of the huge wetland (54.127555, 24.042755 (WGS), Vilkiautinis turtle population) is known over a longer period. Local people notice turtles sometimes. Especially the fishermen observe and catch turtles regularly. Presumably a bigger number of turtles die in basket traps for fishes or after hurting with a fishing hook. Before this wetland was created local people used to notice the turtles in the surrounding natural wetlands, which are overgrown nowadays.

The first individual registration in 2011 indicates a bigger population with a different age structure which isn't typical for northern populations. More investigations are needed for the clarifications of the current status of the Vilkiautinis-population. Apart from the intensive fishing activities in one part of the wetland the general situation of the big wetland is quite favourable. Some parts of the wetland are densely overgrown but still a lot of parts are (more) open and consists of adequate habitat structures for the turtles for fulfilling their habitat requirements the whole year round. Possible and used nesting sites are close to the big wetland but many of them are quite unsuitable because of the locality, the substrate and the vegetation around. The turtles often lay eggs on the surrounding gravel roads. This indicates a lack of adequate egglaying sites. This population has probably the function as source population for the much smaller or even extinct neighbouring populations e.g. Bardziunai.
There is a population of *Bombina bombina* in Radyščius village (54.123979, 24.06562 (WGS)), also some individuals are found in the wetland of Vilkiautinis turtle population and the small wetlands around it. Breeding success of a small population of *Triturus cristatus* is observed in the small wetlands around Vilkiautinis wetland (the wetlands are rather overgrown). *Rana lessonae* form big populations there. *Lacerta agilis* is found on the sandy slopes.

Conservation actions in the area

16 aquatic habitats were created, 1 pond restored, water level raised by 2 dams, 4 egg laying places for Eo created, 26 Eo juveniles released to 3 sites. These activities were carried out spring, autumn 2013 and winter 2013-2014.

Results of inventory

Protected amphibian species were observed in 7 newly created habitats (Table 4).

Table 4. Distribution of the target species in the target area LT05.

Pond no.	Action	R. l.	R. a.	B. b.	T. c.	P. f.	B.c.	H.a.	E.o
1M	C1	+				+			
11DNP	C1	+			+	+			
11aDNP	C1	+			+	+			
10Ma	C1	+							
10Mb	C1	+							
11M	C1	+							
36c	C1	+			+				

Target area around Petroškai forest LT06

Base-line data

Forests cover almost half of the project area. The rest is agricultural land, where very extensive agriculture is carried out; a lot of this agricultural land was recently abandoned. Some of the abandoned meadows are being planted with forests. Most of the agricultural land and woodland is privately owned. Forests are used for collection of natural resources: berries, mushrooms. Timber cutting was carried out intensively in the last decade. This area is protected as Natura2000 area „Petroškų miškas“ designated for protection of E.orbucularis.

Mostly abandoned meadows surrounded by forest on the northern side. A small village nearby a lake on the southern side of the area. Abundant of overgrown, dried out wetlands and sandy hills. During ECONAT project a new Natura2000 for E.orbicularis „Paveisiejų kaimo apylinkės“ was established there.

Emys orbicularis a better population in **Petroškai**, for the whole area can be estimated > 30 turtles; adults and juveniles from different years could be registered in 2008. Probably the turtles are subdivided in 2-3 local populations. Turtle observations are noticed in the north- and southwestern parts or surroundings of the Petroškai forest. They live partly in the forest but also in the open places. Bigger local populations of *T.cristatus, R.lessonea, R.arvalis, L.agilis*, small populations of *B.bombina, P.fuscus, H.arborea* noticed in Petroškai.

Separate individuals of *E.orbicularis* observed in the southern part of **Paveisiejai** area in the recent years. According to the local people abundant population of *E.orbicularis* was in the northern part few decades ago, when the wetlands contained water. Egglaying site was recorded each year of ECONAT project duration on the gravel road side Petroškai – Kučiūnai. Paveisiejai area is in between Petroškai turtle population and a small turtle population of Pazapsiai. Large populations of *R.arvalis* and *L.agilis* are observed here. Bigger populations of *T.cristatus* and *P.fuscus* are observed here. Separate individuals of *E.orbicularis* observed in the southern part of **Pazapsniai** area in the recent years.

Conservation actions in the area

15 aquatic habitats were created, 6 egg laying places for Eo created, 26 Eo juveniles released to 2 sites, 229 Ha juveniles released to 1 site, 1 Natura 2000 site designated. These activities were carried out spring 2012.

Results of inventory

Protected amphibian species were observed in 13 newly created habitats (Table 5). E.orbicularis were observed in 6 ponds.

Table 5. Distribution of the target species in the target area LT06.

Pond no.	Action	R. l.	R. a.	B. b.	T. c.	P. f.	B.c.	H.a.	E.o
601	C1	+			+			+	+
602	C1	+	+						+
608	C1	+	+		+				+
612	C1	+			+				
613	C1	+			+				
614	C1	+			+				+
616	C1	+			+				+
617a	C1	+							
617b	C1	+							
623a	C1	+							
623b	C1	+							+
628	C1	+							
629	C1	+							

Target area around Baltoji Ančia herpetological reserve LT07

Base-line data

The areas start on the very border of Belorussia, on the coast of river Nemunas. Artificially forested with pines few decades ago. Several houses are in the villages, mainly converted into summerhouses. A number of wetlands, which are almost overgrown, are in the area. From Varviškė to Kapčiamiestis areas are artificially forested with pines few decades ago. Currently, mainly dry uniform pine forests. A rivulet of Sirguškė with some opening and floodings and a river of Baltoji Ančia also with some openings and flooding flow through the forest. There are several wetlands in the forest. From Kapčiamiestis to Ilgininkai is a diverse area with villages, forests, lakes, agricultural and abandoned fields. The ponds are converted into village ponds, not suitable for the target species. From Kapčiamiestis to Kalveliai is a diverse area with villages, forests, lakes, agricultural and abandoned fields. The ponds are converted into village ponds, not suitable for the target species. There are some floodings, which appeared after ceramic drainage pipes were broken few years ago. These floodings are still not overgrown with vegetation and are favourable places of *H.arborea* in the area.

There are bigger local populations of *H.arborea, T.cristatus,* and *B.bombina* in the area of **Baltoji Ančia - Varviškė**.

Single individulas of *H.arborea* heard in the forest between **Varviškė and Kapčiamiestis**.

There are bigger local populations of *H.arborea*, *R.lessonea* between **Kapčiamiestis and Ilgininkai**, *T.cristatus, B.bombina, P.fuscus, B.calamita, L.agilis* local populations. *E.orbicularis* was observed several decades ago before melioration.

Kapčiamiestis – Kalveliai *H. arborea* several small sub-populations, two bigger populations in the north from Kapčiamiestis. *R.arvalis, R.lessonea, L.agilis* populations, *B.calamita* small population.

Conservation actions in the area

12 aquatic habitats were created, 10 restored, 2570 Ha juveniles released. These activities were carried out autumn 2011.

Results of inventory

Protected amphibian species were observed in 9 newly created habitats and 6 restored habitats (Table 6).

Table 6. Distribution of the target species in the target area LT07.

Pond no.	Action	R. l.	R. a.	B. b.	T. c.	P. f.	B.c.	H.a.
1a	C1	+					+	+
2	C1	+						+
2a	C1	+						+
13	C1							+

13d	C1			+				
14a	C1	+		+	+	+	+	+
14b	C1	+						+
15,1	C1	+			+			
15,2	C1	+			+			
9	C2	+						
13b	C2	+		+				
13c1	C2	+		+	+			+
15a2	C2	+						
8 b	C2	+	+		+			
21	C2	+	+					+

Impact assessment of the conservation actions

The pool frog (Pelophylax lessonae) was the fastest colonizer of the new ponds. Adults of this species were found in 49 ponds, including 9 where eggs were found. Only in 2 out of the 49 ponds, adults of the edible frog (P. esculentus) were found, indicating that the dominating green frog in the ponds dug and in the area to be the pool frog. The moor frog (Rana arvalis) was the second most successful and fast colonizer of the new ponds. Its larvae were found in 24 ponds. Both juveniles and adult frogs were found feeding on the edges of several other ponds.
Eggs of the great crested newt (Triturus cristatus) confirmed the presence of this species in as many as 20 ponds. It is considered a successful fast colonization of the newly created habitats by this species. The presence of eggs and sometimes small larvae indicates the growth of new sub-populations in the area. The red-bellied toad (Bombina bombina) was a rather successful colonizer and was heard in 12 ponds and in some ponds with up to 10 males. No tadpoles were found as month since May is too early for tadpoles of the red-bellied toad.

Tadpoles of the spadefoot toad (Pelobates fuscus) were found in 5 ponds. The above investigation found no green toads (Bufotes viridis) or spadefoot toads (Epidalea calamita) in the newly dug ponds. These toads were heard during the mating season and later on their tadpoles were found in several newly dug ponds during the other investigations of the project area.

Ponds for the European tree-frog (Hyla arborea) were dug earlier (autumn 2011 – spring 2012) than majority of the other ponds. During investigations in 2013 and 2014 (including night visits), males of the tree-frogs were heard in 10 ponds.

Majority of amphibian species (except Hyla arborea) were inventoried during the day time; this method reduces the number of results, since night calling males are unaccounted for. However, the first results of amphibian inventories indicated the growth of new sub-populations in the EN area.

Even though dip netting is obviously not the best method for investigation of the pond turtle (Emys orbicularis) distribution, 2 young turtles of this species were caught in one pond by the standardized method of dip netting in 30 minutes. Observation of the restored and newly created habitats found the pond turtles sun basking in 16 ponds. The turtles were observed in various areas of the EN, mainly in the restored or newly created habitats, which are less than 1km away from the bigger turtle populations. One can therefore assume that these ponds are already inhabited by turtles on a more constant basis than migration. In order to observe migration of turtles, different methods of investigation should be used, for instance, mark-recapture in different sub-populations for several years.