



Lithuanian Fund for Nature



Project LIFE05NAT/LT/000094 "Protection of European pond turtle and threatened amphibians in the North European lowlands"

CONSERVATION PLAN FOR THE AFTER-LIFE PERIOD

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Preface

This text constitutes the last deliverable of the LIFE project „Protection of European pond turtle and amphibians in the North European lowlands, prepared as to best respond to the relevant requirements of the EU Commission. It presents an account of the current situation in the area of concern, as this generally falls within the wider nature protection system of the countries covered by project, and maps future conservation and management needs.

As is illustrated, the conclusion of the project finds the overall nature protection system of three countries in a peculiar situation characterised by full uncertainty about future political decisions and approaches. It is for this reason that this text should be strictly understood as a “consultation” text built upon scenarios and estimations about future options, opportunities and threats. It is only for those parts concerning plans and strategies, that it should be understood as expressing certainty about future conditions.

This text will help to illustrate dedication of nature conservation organisations in every rather very different countries in their political, cultural aspects for one joint aim – protection of threatened reptile and amphibians.

Introduction

An ongoing decline of the European Pond turtle, *Emys orbicularis* and the Fire-bellied toad, *Bombina bombina*, is now documented throughout the North European lowlands. Additionally, the decline of the Great crested newt *Triturus cristatus* is recognised in Estonia, Finland, Germany and Denmark and is suspected in Poland and Lithuania.

Based on population genetics theories, the long term goal of this project is that each surviving population of the turtles reaches a size of at least 500 adults. However, today very few turtle populations meet this criterion as most of them are between 10 and 50 adults. Thus the short term goal of at least the slow growing turtle populations is 50 to 100 individuals. If the available habitat is restricted (e.g. within intensively-used landscapes), the criterion can only be met by creating new habitats, and in some extremely small populations of *E. orbicularis* in Germany and Poland the only option is to rear and release turtles.

There will be a transfer of knowledge concerning pond projects for the conservation of amphibians and small genetically eroded amphibian populations from projects in Denmark, Estonia, and Germany to Lithuania and Poland. Furthermore, meta-population concepts and genetic strategies developed for amphibian conservation in Denmark, Estonia and Germany will be applied and modified to turtle conservation in Lithuania, Germany and Poland. Knowledge on the conservation and biology of the European Pond turtle will be transferred between regions in Lithuania, Germany and Poland, and from these 3 countries, which have the largest turtle populations of the north European lowlands, knowledge will be distributed to the edge distribution areas of Latvia and Denmark. The active protection of aquatic habitats of *E. orbicularis*, *B. bombina* and *T. cristatus* will also support a number of annex IV amphibian species on the same sites. An ongoing decline of the European Pond turtle, *Emys orbicularis* and the Fire-bellied toad, *Bombina bombina*, is now documented throughout the North European lowlands. Additionally, the decline of the Great crested newt *Triturus cristatus* is recognised in Estonia, Finland, Germany and Denmark and is suspected in Poland and Lithuania.

1. General recommendation on management activities for after life period

The project experts propose a list of activities, which could be performed within protected sites for the management of habitats.

1. **Reduction of mud layers** must be accomplished in autumn (**September-October**). Turtles move to mud layers for hibernation, that's why no mud will be removed in known hibernation sites.
2. **Bush and tree cutting in dried out wetlands, at pond shores and near ponds** must be carried out in early spring [**February(-March)**] before starting active season of turtles and most of the amphibian species as well before starting of the nesting period of bird species. A regular cutting of ligneous vegetation in early spring reduces the sprouting again in the long run.
3. **Taking out non-ligneous aquatic vegetation:** The non-ligneous aquatic vegetation e.g. Typha spec. which leads to a fast overgrowth of open water-covered areas must be taken out. The work will be conducted during summer and early autumn time (**July-September**) after the most stressful time (mating and egg deposition) of the turtles and amphibians and before hibernation. Turtles can hibernate in areas covered with vegetation.
4. **Bush and tree cutting at existing nesting sites and in other open south exposed areas** must be arranged between autumn and spring (**November-February/March**) [after "autumn-" (September-October) and before "spring-hatching" (April-May)]. Some cut bushes and trees can be left next to the places as hiding sites for turtles. Females walk often to nearby hiding sites after egg deposition.
5. **Improvement of nesting sites (reduction of non-ligneous aquatic vegetation and loosening the ground/soil):** The soil surface of nesting areas with a higher vegetation cover must be slightly loosened in late spring (**beginning of May**) to open overgrown areas and to reduce the vegetation cover, especially in fenced nesting areas. Soil should be loosened up to a depth of 5 cm.
6. **Bush and tree cutting in abundant meadows, pastures and arable land** must be implemented between autumn and spring (**November-February/March**).
7. **Mowing in abundant meadows, pastures and arable land** must be performed in late summer (**August**) after the most stressful time of turtles [egg deposition (middle of May until End of June)] and before possible "autumn- hatching" (September-October). Additionally, yearly hay cutting will be attained in cooperation with local farmers in the same areas.
8. **Fencing of nesting areas:** Bigger nesting sites which are used by several females needs to be protected against predation with a permanent wild fence. Fencing must be led permanently (**all-the-year**).
9. **Grazing regime:** Grazing activities with hardy grazers must be undertaken **all-the-year**. All areas which are used regularly for nesting or which are at least suitable for turtle nests sites will be excluded from yearly grazing. Some areas inclusive all nesting sites and usual migration routes used by the females during nesting period will be excluded from grazing during nesting period (middle of May until end of June). Additionally, grazing activities with usual milk cattle, horses, sheep and goats will be achieved in cooperation with local farmers in the same areas.

Additional information for the management plans/ Regulation of activities for private landowners and forestry:

Forestry management within the protected zone should be adapted and regulated in regard to the requirements of *Emys orbicularis*. **Cutting and removal of trees should not be accomplished during nesting period (middle of May until end of June)**, because females will be stressed and disturbed during their nesting migrations. Nests can also be destroyed if cut trees are carried or heavy transport machines drive across nesting areas. Nesting areas must be excluded as transport ways for trees.

Meadow management within the protected zone should be adjusted and conducted in consideration of the requirements of *Emys orbicularis*, too. **Hay cutting near nesting areas may not be carried out before 15th of June**, because females will be stressed and disturbed as well as even killed by machines during their nesting migrations. Extensive grazing activities within the protected area can be continued. However, **during nesting period (middle of May until end of June) farmers should desist from grazing activities near by nesting areas** because females will be stressed and interfered with trampling cattle during their nesting migrations and egg depositions.

1. After-LIFE Conservation Plan for German sites

1.1. Preservation and Management of Habitats

In the course of the current EU-LIFE-project well-suited habitats for the target species could be established through purposeful measures and management throughout all of the project's areas. Additionally management plans aimed at the target species for a timeframe until 2025 could be worked out and were approved by the authorities of the protected areas (Naturpark Märkische Schweiz and Biosphärenreservat Schorfheide Chorin) and the nature conservation authorities.

Therefore it is guaranteed that the specific recommendations concerning the preservation of habitats and management will be incorporated into the caring and development plans as well as into the management plans for the NATURA-2000 areas of the nature park Märkische Schweiz and the biosphere reserve Schorfheide-Chorin.

For the european pond turtle (*Emys orbicularis*) and for the great crested newt (*Triturus cristatus*) national action plans have been worked out and have been approved and fine-tuned with the ministry of environment, health and consumer protection.

Simultaneously to the EU-Life-project the ministry of environment of the state of Brandenburg enacted a species conservation programme for the firebellied toad and the common tree frog (MLUV 2009). This programme was influenced a lot by the present project.

Through purchases of area in the protected areas nature park Märkische Schweiz (DA 02) and in the biosphere reserve Schorfheide Chorin (DA 03) a substantial proprietary judicial foundation for the long term conservation of core habitats of all three target species was formed.

In this way nesting sites that are essential for survival and residential-waters of a pond turtle population (DA 03) could be secured and measures for establishing biotops for the reintroduction of pond turtles could be realised as well.

The conservation of the habitats that are essential for the survival of the target species in the project areas requires periodical caring activities (s. management plans). In the future these are secured on four levels:

10. Contractual nature conservation / landscape conservation, financed by the state of Brandenburg
(DA 01, 02, 03, 05)
11. Extensive small farmer's usage (DA 01, 02, 03, 04, 05)
12. Voluntary activities by members of different NGOs instructed by AGENA e.V. in very sensitive habitats (e.g. residential-waters and nesting sites of *Emys orbicularis*).
13. Caring activities in the scope of the tasks of the forest authority in forests, alder fen woods and woods in all project regions.

1.2. Conservational Breeding, Population Reinforcement and Resettlement of *E. orbicularis*

In the scope of the EU-LIFE-project the extinction of two relict populations was successfully prevented by the means of population reinforcement. This proven strategy shall be used in the future as well. The goal is the stabilisation of the populations and its independent continuity in the natural habitat.

To the present date this goal can be seen as being accomplished or being nearly accomplished in the project regions DA 03 and DA 04. The monitoring will show, whether the previous population reinforcements are successful in the long term.

The unpredictable massive rise of the racoon and raccoon dog populations led to increased losses in the numbers of adult as well as juvenile and subadult pond turtles (Schneeweiß & Wolf 2009, s. attachment). With that said it is currently unforeseeable how long it will take until we can finally quit population reinforcement. In the project areas DA 01, DA 02 and DA 05 surprisingly high racoon and raccoon dog densities were noticed. Habitats for the return of European pond turtles were setup to a sufficient degree in all three areas. The planned return was preceded by studies concerning the population ecology of the racoon. Beyond that management plans for the local racoon and raccoon dog populations are currently worked out by AGENA e.V. in collaboration with the hunting administration and the local active hunters.

A reintroduction of the European pond turtle in the relevant areas appears to be useful when the management for racoon and raccoon dog populations shows success.

Because of the limited capacity of the conservational breeding and because of demographic reasons resettlements primarily in the surrounding of existing relict populations are planned in the following years. This means that suitable areas for neighbouring populations are prepared nearby to the isolated populations of the areas DA 03 and DA 04.

Conservational breeding, population reinforcement and resettlement are already contractually secured through new funding by the Heinz Sielmann Stiftung and the Klara Samariter Stiftung.

1.3. Predator Management

Because of the massive immigration of racoon and raccoon dog into the pond turtle habitats, predator caused losses have increased and developed into population endangering aspects. Because of this the predator management was – different from what was originally planned – integrated into the pond turtle project. In the areas DA 03 and DA 04 box traps are operated continuously in the area of pond turtle habitats (except for the closed season). The goal is the reduction of the local racoon and raccoon dog population. Beyond that by means of this procedure it is prevented that pond turtle-orientated eating habits spread among the predator population.

During the LIFE-project a good collaboration has developed between AGENA e.V., the forest, the protected area administration and the local hunters.

For all habitats of the European pond turtle hunters of the forest administration and private hunters could be won for a long term predator management. The department of nature protection of the state Brandenburg supports this purpose with allowances for the concerned hunters.

1.4. Monitoring

Based on the foundation of the evaluation criteria for the target species worked out during the EU-LIFE-project, long term monitoring is planned in all 5 project areas and has been agreed upon by all participating authorities and administrations of protected areas.

The biotope and population data that has been gathered during the area evaluation was fed into the project database as well as into the nationwide species cadastre for the distribution of native amphibians and reptiles. Thus it is ensured that nature conservation administrations of the regions and of the state have access to this data in the future.

This data pool forms a decisive foundation for the monitoring as well.

For the European pond turtle in Brandenburg the future monitoring looks as follows:

Monitoring of habitats (water levels in the ponds, vegetation/succession u.):
annually at least 3 times

Monitoring of populations: total census at least once in 6 years, egg deposition/reproduction annually

Monitoring of climate, nesting sites: permanently

In the time to come the habitats and populations of the firebellied toad and the great crested newt will be inspected once every six years regarding their state of preservation.

The results of the monitoring constitute the foundation for the evaluation of the management. If the intended favourable state of preservation cannot be retained or reached, the causes have to be questioned and if necessary the management and measures have to be reworked and modified accordingly.

2. After-LIFE Conservation Plan for Polish sites

2.1.Site: *Brzeźno*

Task No.	Task	Who is responsible (proposals)
1	Dig ponds (1-5)	RDOŚ Gorzów Wielkopolski, RDLP (Regional Forestry Agency) Szczecin
2	2-6 places around Brzeźno Lake and Brzeźno Małe should be deepened. In such places minimum 3x3m big and maximum 1,5-2m deep water should stay whole year.	RDLP (Regional Forestry Agency) Szczecin Międzychód forest inspectorate)
3	Agreements between Regional Environmental Protection Agency (RDOŚ) in Gorzów and Regional Forestry (RDLP) Szczecin (preceded by consultations with Międzychód forest inspectorate) concerning clearing edge of the forest where nest of turtle was found (in 1998). In a case of evidence of breeding of turtle that place should be qualified as non-forestry land (it should be 5m from the edge of the field wide).	RDOŚ Gorzów Wielkopolski RDLP Poznań, Międzychód forest inspectorate
4	Seasonal clearing bushes and herbs, that is higher than 20 cm, at the edge of forest and field, especially at the west site, south-east exposure. This activity should take place in a strip 4m wide (2m wide in forest and 2m at the field, when it is not cultivated).	Międzychód forest inspectorate
5	Agreements with land owner of the field at the potential reproduction site should be made concerning land cultivating. One solution is land tenancy or buying edge of the field.	Land owner, RDOŚ Gorzów Wielkopolski
6	Preparing hibernation shelters for <i>Bombina bombina</i> and <i>Triturus cristatus</i> , should be made, that will be used also by other amphibians, reptiles and small mammals. They are made by stones, trunks etc. Bottom of this construction should be deeper ca. 1.0m in the ground.	NGO, Międzychód forest inspectorate
7	Monitoring of the site	Volunteer, students, NGO
8	Scientific studies	Zielona Góra University

2.2.Site: *Drzeczkowo*

Task No.	Task	Who is responsible (proposals)
1	Agreements between Regional Environmental Protection Agency (RDOŚ) in Poznań and Regional Forestry Poznań (RDLP) (preceded by consultations with Karczmą Borową forestry inspectorate) concerning changing in forest land qualification some part of marshes with	RDOŚ Poznań and Regional Forestry Agency Poznań (RDLP)

	hibernation site for turtles.	
2	Agreement with church concerning restoration of ponds (removing of vegetation, deepening ponds, building system of ponds; buying or land tenancy etc.).	Church authorities NGO
3	Restoration of hibernating site (deepening, building dams, clearing of trees and bushes).	Karczma Borowa forestry inspectorate, NGO
4	Restoration of 2 ponds (building dams, removing vegetation).	Karczma Borowa forestry inspectorate, NGO
5	Creating buffer zones near all ponds 5-10m (minimalising impact of surrounding fields).	NGO, land owners
6	Agreements between Regional Environmental Protection Agency (RDOŚ) in Poznań and Regional Forestry (RDLP) (preceded by consultations with Karczma Borowa forestry) concerning changing in forest land qualification some part of potential reproduction area (into non-forest land).	RDOŚ Poznań and Regional Forestry Agency Poznań (RDLP)
7 Establish	Preparing with stake holders principles of land use.	Stake holders, NGO, RDOŚ Poznań
8	Creating hibernation shelters for <i>Bombina bombina</i> and <i>Triturus cristatus</i> , should be made, that will be used also by other amhibians, reptiles and small mammals. They are made by stones, trunks etc. Button of this construction should be deeper ca. 1.0m in the ground.	NGO, Karczma Borowa forestry inspectorate,
9	Monitoring, scientific studies	University of Poznań

2.3. Site: Rybocice

Task No.	Task	Who is responsible (proposals)
1 B	Building new small dams with a view to keep water in channel near reproduction sites	Rzepin Forestry inspecorate, NGO
2	Agreements with road owner concerning building a culvert	Stake holders, NGO, Rzepin Forestry inspectorate
3	Seasonal clearing of reproduction sites (new and old one).	Rzepin Forestry inspectorate
	Restoration of 2 ponds (building dams, removing vegetation)	Stake holders, NGO, Rzepin

4		Forestry inspecorate, RDOŚ Szczecin
5	Agreements between Regional Forestry (RDLP) in Szczecin, preceded by consultations with Rzepin forestry, and RDOŚ Gorzów Wielkopolski concerning changing in forest land qualification some part of potential reproduction area (into non-forest land)	RDOŚ Gorzów Wielkopolski, Rzepin Forestry inspectorate,
6	Preparing new potential reproduction site, near road Kunice-Rybocice	NGO, Rzepin Forestry inspectorate
7	Monitoring and scientific studies	University of Zielona Góra

2.4. Site: Gogolice -Kosa

Task No.	Task	Who is responsible
a)	Building few dams in Gogolice to stabilise ground water level	Mieszkowice Forest Inspectorate, NGO
b)	Building two dams at Kosa river	Mieszkowice Forest Inspectorate, NGO
c)	Building few ponds on private land (or buying land)	NGO
d)	Clearing from trees and shrubs ponds site and channelsite	Mieszkowice Forest Inspectorate, NGO
e)	Rebuilding migration routes for turtle (along Kosa river)	Mieszkowice Forest Inspectorate, NGO
f)	Preparing potential reproduction sites near road Smolnica-Warnice.	Mieszkowice and Debno Forest Inspectorate, NGO
g)	Seasonal removing trees at Gogolice stand.	Mieszkowice and Dębno Forest Inspectorate, NGO
h)	Buying of parcel 334-339	RDOŚ Szczecin NGO,
i)	Agreements with Regional Forestry (RDLP) in Szczecin preceded by consultations with Mieszkowice and Dębno forestry inspectorate, concerning changing in forest land qualification some part of potential reproduction area (into non-forest land).	Regional Forestry (RDLP) in Szczecin
j)	Monitoring and scientific studies	University of Szczecin, University of Zielona Góra

2.5. Site: Młodno

Task No.	Task	Who is responsible
1.	Building few small ponds for turtle and amphibians, especially in north part.	RDOŚ Gorzów Wielkopolski
2.	Building potential hibernating site in few places, after finding with telemetry existing hibernation sites.	NGO, Cybinka Forest Inspectorate
3.	Removing of trees and shrubs from channel site.	Cybinka Forest Inspectorate, NGO
4.	Removing overmuch vegetation (mostly root-stocks)	Cybinka Forest Inspectorate, NGO
5.	Building more dams if the drying of peat bog will proceed.	Cybinka Forest Inspectorate, NGO
6.	Agreements in Regional Forestry (RDLP) in Zielona Góra preceded by consultations with Cybinka forestry concerning changing in forest land qualification some part of potential reproduction area (into non-forest land).	RDOŚ Gorzów Wielkopolski
7.	Improving of migration route for turtles along one stream.	Cybinka Forest Inspectorate, NGO
8.	Monitoring of site	Cybinka Forest Inspectorate, NGO
9.	Education	Cybinka Forest Inspectorate, NGO

2.6. Site: Drawiny

Task No.	Task	Who is responsible
1.	Agreements between Regional Environmental Protection Agency (RDOŚ) in Gorzów Wielkopolski and Regional Forestry (RDLP) Zielona Góra (preceded by consultations with Smolarz forestry inspectorate) concerning changing in forest land qualification some part of marshes between Kosin Mały and Kosin Duży lake. Establishing local protection area.	Regional Environmental Protection Agency (RDOŚ) in Gorzów Wielkopolski
2.	Restoration of pond	Smolarz forestry inspectorate, NGO
3.	Rebuilding small ponds in the area of old brickyard (20-50 m2).	Smolarz forestry inspectorate, NGO
4.	Buying, compensation or land tenancy of pond	NGO
5.	Land tenancy or buying land, where ponds are. Creating habitats for amphibians and turtle. Rebuilding slopes of ponds, which now are too steep.	NGO
6.	Agreements between Regional Environmental Protection Agency (RDOŚ) in Gorzów Wielkopolski and Regional Forestry (RDLP) Zielona Góra	Regional Environmental Protection Agency (RDOŚ) in

	concerning changing in forest land qualification some part of potential reproduction area (into non-forest land). It should be made after finding nests.	Gorzów Wielkopolski and Regional Forestry (RDLP) Zielona Góra
7.	Seasonal clearing of reproduction site and four potential reproduction sites	Smolarz forestry inspectorate, NGO
8.	Creating hibernation shelters for <i>Bombina bombina</i> and <i>Triturus cristatus</i> , should be made, that will be used also by other amphibians, reptiles and small mammals. They are made by stones, trunks etc. Bottom of this construction should be deeper ca. 1.0m in the ground.	Smolarz forestry inspectorate, NGO
9.	Monitoring of sites and scientific researches	University of Zielona Góra

3. After-LIFE Conservation Plan for Lithuanian sites

3.1. Kučiuliškės kaimo apylinkės – LTLAZ0001 Pasiūlymai tvarkymui

Lentelė. Gamtotvarkos priemonių sąrašas

Tvarkymo zona	Veiksmas (pagal 3.2)	Aprašymas
1	2, 4	Sausumos buveinę, ypač aplink vandens telkinį, reikia prižiūrėti pagal 4 veiksmo detalizavimą. Restauruotą vandens telkinį prižiūrėti pagal 2 veiksmo detalizavimą.
2	5	Šioje zonoje nešalinami kelmiai ir nuovirtos.
3	1, 4	Rekomenduojama iškasti 5 naujus vandens telkinius bei prižiūrėti sausumos buveinę pagal 4 veiksmo detalizavimą.
4	5	Šioje zonoje patvenkus drenuojantį kanalą užtvindytas miškas. Rekomenduojama vakarinėje dalyje 4a zonoje palikti negyvą medieną nekirstą, o 4 b zonoje, kurioje vyrauja aukštapelkė, išimti dalį negyvos medienos.
5	1, 2, 4	Šioje zonoje aptikta raudonpilvės kūmutės jaunikių. Projekto metu buvo iškastas 1 naujas vandens telkinys, 2 vandens telkiniai restauruoti, kuriuos reikia prižiūrėti pagal 2 veiksmo detalizavimą. Rekomenduojama iškasti dar 2 (500m ² dydžio ir 0,7 m gylio) vandens telkinius kūmučių sub-populiacijos sustiprinimui. Augmenija aplink vandens telkinius turi būti šalinama pagal 4 veiksmo detalizavimą.
6		krantų ganymas neleidžiant per daug suvežėti krūmams.
7	2, 5	1 naujai iškastas vandens telkinys turi būti prižiūrimas reguliariai iškertant ataugančią augmeniją. Pažymėtoje dalyje turi būti atkurta pelkė
8	2, 4	Šioje zonoje 2 vandens telkiniuose buvo stebėtas sėkmingas skiauterėtojo tritono veisimasis. Projekto metu buvo iškasti 3 ir restauruoti 2 vandens telkiniai, kuriuos reikia prižiūrėti pagal 2 veiksmo detalizavimą. Aplink vandens telkinius sausumos buveinė turi būti prižiūrima kaip nurodyta 4 veiksmo
9	2, 5	1 naujai iškastas vandens telkinys turi būti prižiūrimas reguliariai iškertant ataugančią augmeniją

3.2. Metelių regioninis parkas (Juodabalės zoologinis draustinis) – LTLAZ0010

Pasiūlymai tvarkymui

Lentelė. Gamtotvarkos priemonių sąrašas

Tvarkymo zona	Veiksmas (pagal 3.2)	Aprašymas
1	1, 4, 5?, 6, 7	Stebimas sėkmingas raudonpilvių kūmučių veisimasis, sub-populiacijai sustiprinti rekomenduojama iškasti du naujus vandens telkinius (500m ² ir 1000 m ² dydžio), ganyti mišku neapaugusią teritoriją aplink vandens telkinį, kuriame šiuo metu veisiasi kūmutės, bei įrengti vieną žiemavietę. Taip pat pažymėtoje teritorijoje reiktų įrengti žiemaviečių varliagyviams.
2	1, 7	Rekomenduojama iškasti 4 naujus 500m ² dydžio vandens telkinius raudonpilvėms kūmutėms
3	1, 4, 6, 7	Šioje zonoje rasta raudonpilvės kūmutės jauniklių ir skiauterėtojo tritono lervų. Tačiau šiuo metu buveinė nėra tinkama šiems varliagyviams, jų ten aptinkama labai mažai. Rekomenduojama iškasti 2 naujus 1500m ² dydžio vandens telkinius, sausumos buveinę aplink juos ganyti arba šienauti. Taip pat zonoje reikia įrengti 1 žiemavietę.
4	1, 4, 6, 7	Šioje zonoje rasta raudonpilvės kūmutės jauniklių. Tačiau šiuo metu buveinė nėra tinkama šiems varliagyviams, jų ten aptinkama labai mažai. Rekomenduojama restauruoti 5 vandens telkinius (1000m ² dydžio), įrengti 1 žiemavietę, teritorija turi būti ganoma arba šienaujama
5	4, 7	Šią zoną rekomenduojama ganyti arba šienauti, kad ji būtų tinkama raudonpilvėms kūmutėms
6	4, 6, 7	Šioje zonoje rasta raudonpilvės kūmutės jauniklių. Tačiau šiuo metu buveinė nėra tinkama šiems varliagyviams, jų ten aptinkama labai mažai. Šią zoną rekomenduojama ganyti arba šienauti bei įrengti 2 žiemavietes. Kaip ten su tuo melioracijos užtvėnkimu? Ar ten dar reikia naujų vandens telkinių?
7	1	Rekomenduojama iškasti 4 naujus 500m ² dydžio vandens telkinius raudonpilvėms kūmutėms
8	3, 8	Zonoje stebėti baliniai vėžliai ir sėkmingas skiauterėtųjų tritonų veisimasis. Reikia uždėti žvaigždutę Tc Rekomenduojama atkurti uždumblėjusius ir užaugusius vandens telkinius bei paaiškinti žemės savininkams apie biologines vertybes, esančias šalia jų sodybos
9	1	Rekomenduojama iškasti 5 naujus 500m ² dydžio vandens telkinius raudonpilvėms kūmutėms

.3. Petroškų miško BAST (LTLAZ0020)

Pasiūlymai tvarkymui

Lentelė. Gamtotvarkos priemonių sąrašas

Tvarkymo zona	Veiksmas (pagal 3.2)	Aprašymas
1	5	Varliagyvių žiemaviečių ir rudens sausumos buveinės išsaugojimui turi būti: ▪ Nekertamas brandus lapuočių miškas ▪ Nešalinami kelmiai ir nuvirtę medžiai
2	2, 4, 7, 8	Šioje zonoje yra 3 restauruoti vandens telkiniai (dviejuose iš jų užfiksuotas sėkmingas skiauterėtojo tritono veisimasis). Vandens telkinius reikia prižiūrėti pagal 2 veiksmo detalizavimą. Zonoje stebimi ir baliniai vėžliai, todėl prižiūrint vandens telkinius reikia atsižvelgti į šios rūšies poreikius. Sausumos buveinę aplink vandens telkinius reikia prižiūrėti pagal 4 veiksmo detalizavimą. Ši zona yra aplink sodybą, ji stipriai įtakojama žmonių veiklos, todėl žemės savininkų švietimas yra būtinas.
3	1, 4	Šioje zonoje siūloma iškasti 4 naujus (vieną 500 m ² ir tris 1500 m ² dydžio) vandens telkinius. Vandens telkinius kasti naudojantis techniniu brėžiniu (pav. 1) atsižvelgiant į dirvožemio granulimetrinę sudėtį. Naujai iškastus vandens telkinius reikia prižiūrėti pagal 2 veiksmo detalizavimą. Sausumos buveinę aplink vandens telkinius reikia prižiūrėti pagal 4 veiksmo detalizavimą.
4	2, 4, 7	Šioje zonoje reikia prižiūrėti vieną restauruotą vandens telkinį ir išsaugoti mišku bei krūmynais neapaugusią pievą
5	2, 4, 7, 8	Šioje zonoje reikia prižiūrėti 5 restauruotus vandens telkinius ir išsaugoti mišku bei krūmynais neapaugusią pievą. Zonoje buvo aptikti skiauterėtieji tritonai ir raudonpilvės kūmutės ir vėžliai. Ši zona yra aplink sodybą, ji stipriai įtakojama žmonių veiklos, todėl žemės savininkų švietimas yra būtinas.
6	2, 4, 7	Šioje zonoje reikia prižiūrėti vieną restauruotą vandens telkinį ir išsaugoti mišku bei krūmynais neapaugusią pievą. Vandens telkinys yra svarbus ir kaip balinių vėžių buveinė, o šlaitas iš rytinės pusės kaip vėžių kiaušinių dėjimo vieta.
7	2, 4, 7	Ši zona yra ypač svarbi kaip balinių vėžių radimvietė, tačiau viename vandens telkinyje yra užfiksuotas ir skiauterėtojo tritono veisimasis.

		Sausumos buveinė turi būti ganoma arba šienaujama pagal 4 veiksmo detalizavimą (be to, ji turi būti netrikdoma vėžlių kiaušinių dėjimo periodu), o vandens telkiniai turi būti prižiūrimi, kad pernelyg neužaugtų, tačiau juose turi likti užtekčiai augmenijos tarp kurios galėtų pasislėpti baliniai vėžliai, t.y. nereikia iškirsti visų gluosnių, taip pat vandens telkinyje rekomenduojama palikti nuvirtusių medžių ir kelmų
8	1, 3, 4, 5, 7, 8	Ši zona yra už saugomos teritorijos ribų, tačiau ji yra svarbi varliagyvių meta-populiacinės struktūros palaikymui. Todėl šioje zonoje rekomenduojama restauruoti varliagyviams tinkamus vandens telkinius, prižiūrėti mišku neapaugusias sausumos buveines, išsaugoti brandų lapuočių mišką, vykdyti varliagyvių monitoringą ir žemės savininkų švietimą.

2.4. Bestraigiškės kaimo apylinkės

Pasiūlymai tvarkymui

Bestraigiškės miško balinių vėžlių populiacijos išsaugojimui svarbu išlaikyti nenusausėjusią miško balą bei vykdyti lizdaviečių apsaugą jas aptveriant nuo plėšrūnų.

2.5 Žuvinto ežero ir Buktos miško BAST (LTALY0005)

Pasiūlymai tvarkymui

Lentelė. Gamtotvarkos priemonių sąrašas

Tvar kym o zona	Veiksmas (pagal 3.2)	Aprašymas
1	1, 4	Rekomenduojama iškasti 5 (500m ² dydžio, 0,7 m gylio) vandens telkinius raudonpilvėms kūmutėms. Zoną aplink vandens telkinius rekomenduojama ganyti
2	2, 4	Projekto metu iškastos 5 kūdros raudonpilvėms kūmutėms, pastebėti jaunikliai. Kūdras reikia prižiūrėti pagal 2 veiksmo detalizavimą, taip pat teritoriją aplink kūdras reikia ganyti
3	1, 4	Rekomenduojama iškasti 2 (500m ² dydžio, 0,7 m gylio) ir 1 (1000 m ² dydžio, 1,2 m gylio) vandens telkinius raudonpilvėms kūmutėms. Zoną aplink vandens telkinius rekomenduojama ganyti
4	1, 4	Rekomenduojama iškasti 2 (1000m ² dydžio, 0,7 m gylio) vandens telkinius raudonpilvėms kūmutėms. Zoną aplink vandens telkinius rekomenduojama ganyti
5	2, 4	Projekto metu iškastos 4 kūdros raudonpilvėms kūmutėms, pastebėti jaunikliai. Kūdras reikia prižiūrėti pagal 2 veiksmo detalizavimą, taip pat teritoriją aplink kūdras reikia ganyti
6	1	Rekomenduojama iškasti 5 (500m ² dydžio, 0,7 m gylio) ir 5 (1000 m ² dydžio, 1,2 m gylio) vandens telkinius raudonpilvėms kūmutėms.