

DETAILED FINAL REPORT.



To establish a protected zones around the Raptors nests - the way to preserve both key Raptors populations and biodiversity generally.

Objectives and results of the Project. The main content.

1. The analysis of satellite images and maps of forest management: We take materials from national nature parks "Gomil'shans`ky Lisy", "Slobojansky", "Sviaty Gory", "Golosiivsky" and "Dvuritshans`ky" and from some forestries:

- a) Kharkiv region: Dergachi forest, Isyum forests, Balakliya forests, Zmiyv forests; Kharkiv city forest-park zone;
- b) Kyiv region: Teteriv forest, Kyiv city forest-park zone.

This objective was fully achieved.

2. Search for Raptors` nests: We conducted a survey in national nature parks "Gomil'shans`ky Lisy", "Slobojansky", "Sviaty Gory", "Golosiivsky" and "Dvuritshans`ky" and from some forestries:

- Kharkiv region: Dergachi forest, Isyum forests, Balakliya forests, Zmiyv forests; Kharkiv city forest-park zone;
- Kyiv region: Teteriv forest, Kyiv city forest-park zone.

Thus, all planned territories were surveyed and there are 58 000 ha or 0.6% from all forest covered areas in Ukraine (1.5% from natural forests) and 11% from old forests in Ukraine (maps 1, 2, 3 and 4).



Left-Fig.1: White-tailed fish (sea) Eagle (*Haliaeetus albicilla*) nest in Polesie forests, Kyiv region of Ukraine. Right-Fig.2: Eurasian Sparrowhawk (*Accipiter nisus*) nest. Polesie forests, Kyiv region of Ukraine.



Left-Fig. 3: Black Stork (*Ciconia nigra*) nest. Polesie forests, Kyiv region of Ukraine. Right-Fig. 4: Juniper and pine forest, Polesie, Kyiv region of Ukraine: one of the old forests plots which are received a conservation status as a result of our project.



Left-Fig.5: Black Stork (*Ciconia nigra*) nest and adult bird. Polesie forests, Kyiv region of Ukraine. Right-Fig. 6: Eastern Imperial Eagle (*Aquila heliaca*) near the nest. Isyum forestries, Kharkiv region of Ukraine.



Left-Fig. 7: Polesie bogs with alder, Kyiv region of Ukraine. One of the old forests plots which are received a conservation status as a result of our project. Right-Fig. 8: Fantastic old pine and mixed forest with wild cherries, near Kyiv city (Kyiv forest-park zone, Darnytsa). One of the old forests plots which are received a conservation status as a result of our project.



Fig.9 and 9a: Forest-steppe landscapes in Kharkiv region (National nature park "Gomil'shans'ky Lis") – one of the most important Raptors` habitats in Eastern Europe (most characteristic species: Common Buzzard, Honey Buzzard, Eastern Imperial Eagle, Long-legged Buzzard, Booted Eagle, Northern Hobby).



Fig. 10 and 10a: Nest-site (now – one of the protected zones) and nest of White-tailed sea (fish) Eagle (*Haliaeetus albicilla*) in Izyum district, Kharkiv region of Ukraine.



Left-Fig.11: Nest and nestling of Common Buzzard (*Buteo buteo*). National nature park "Slobojansky", Krasnokutsk district, Kharkiv region of Ukraine. Now – protected area around the nest. Right-Fig. 12: Juvenile White-tailed sea (fish) Eagle (*Haliaeetus albicilla*), born in a nest that is located within the protected zone. This protected zone was created by us within the framework of this project.

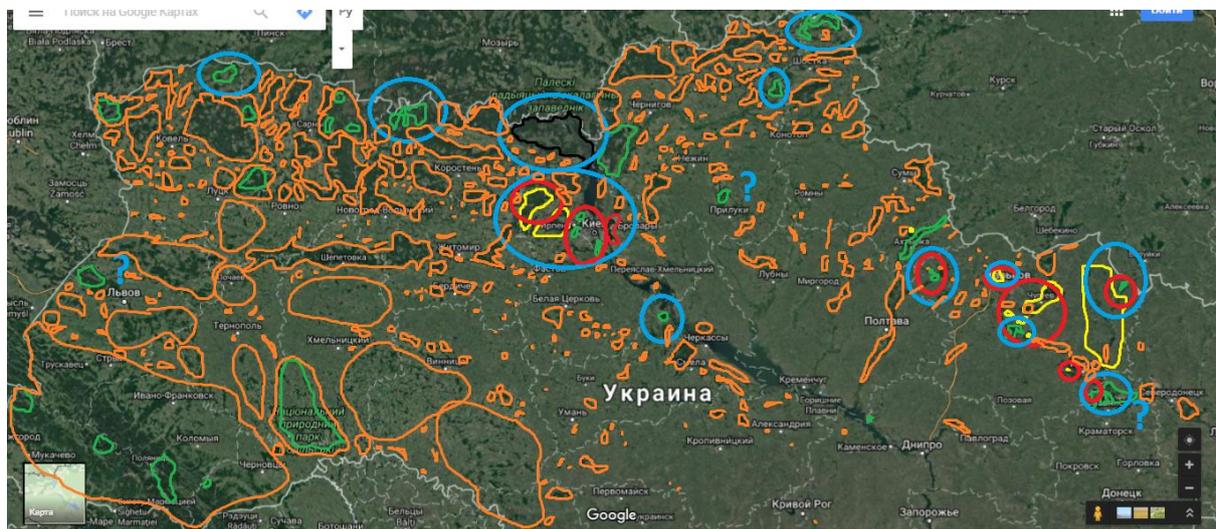
3. Drawing up a list of protected areas around the nests: 348 protected areas, total about 18030 ha; these territories occupy about 0.2% from all forests in Ukraine or about 3.5% from all old forests in Ukraine, or about 3.5% from all forests in National parks and Nature reserves in Ukraine. Unfortunately, most of Ukrainian protected forest have a purely formal conservation status: not more, that 20% from protected national forests have real strictly protected status in fact. Thus, our work under this project allowed to protect about 17 – 20% from all forest-covered territory of Ukraine,

where these conservation efforts will have a real positive effect and 100% from our project plan (see map 1, 2, 3 and 4).

Species (Raptors and other birds):

Total – 348 protected areas, include such species` nest sites as:

Bird	Protected zones
Tawny Owl (<i>Strix aluco</i>)	19
Common Crane (<i>Grus grus</i>)	4
Black Stork (<i>Ciconia nigra</i>)	8
Hen Harrier (<i>Circus cyaneus</i>)	2
Honey Buzzard (<i>Pernis apivorus</i>)	5
Eurasian Sparrowhawk (<i>Accipiter nisus</i>)	9
Northern Goshawk (<i>Accipiter gentilis</i>)	7
Common Buzzard (<i>Buteo buteo</i>)	240
Long-legged Buzzard (<i>Buteo rufinus</i>)	10
Short-toed Eagle (<i>Circaetus gallicus</i>)	7
Booted Eagle (<i>Hieraetus pennatus</i>)	13
Eastern Imperial Eagle (<i>Aquila heliaca</i>)	4
Lesser Spotted Eagle (<i>Aquila pomarina</i>)	3
Greater Spotted Eagle (<i>Aquila clanga</i>)	1
Black Kite (<i>Milvus migrans</i>)	3
White-tailed fish (sea) Eagle (<i>Haliaeetus albicilla</i>)	3
Northern Hobby (<i>Falco subbuteo</i>)	10



Map 1. National parks and Nature reserves (green); territories which were investigated during the project (red); real protected forests and territories, where we can to control a forestry activities and where our conservation activity will have a positive effect (blue); forestries, who showed initiative in Raptors conservation (yellow); Chornobil` zone – a territory with special status (black); forests (both protected and not protected) which have a purely formal conservation status or haven`т any special conservation status and where our conservation activity (efforts) will haven`т a positive effect (orange).

Some other rare species which were given attention in our project (populations of which are protecting now thanks to the creation of protected zones around the Raptors` nests): successful implementation of the project allowed to protect populations of all forest species of Fungi, Plants, Reptiles, Amphibians, mammals, Insects and Birds. These protected zones not only for Raptors but also for more than 1000 Fungi species, about 500 Plant species, more than 3000 Insects species, 40 species of Mammals, 131 species of Birds, 10 species of Reptiles and 7 species of Amphibians. Some of these species are globally and locally threatened and included in the red lists – both global international and national Ukrainian. Among them there are 27 Plant species, 5 Fungi species, 2 species of Reptiles, 37 Birds species, 16 Mammals species and more than 100 Invertebrates species. Inside the protected zones there are numerous populations of European Green Lizard (*Lacerta viridis*) – about 200 – 300 mature individuals, hundreds of Vipers (*Pelias nikolskii*, *P. berus*) specimens (500 – 1000) and 300 – 500 mature individuals of Smooth Snake (*Coronella austriaca*) and thousands of such Amphibians, as *Triturus cristatus*, *Lissotriton vulgaris*, *Bufo bufo*, *Pelobates fuscus*, *Hyla arborea*, *Rana arvalis* and *Rana temporaria*.



Left-Fig.13: European Green Lizard (*Lacerta viridis*) – a rare species, Red List of Ukraine. Kyiv region, National nature park “Golosyivsky”. Right-Fig.14: Carpenter Bees (*Xylocopa violacea* and *X. valga*) are two rare species which inhabit an old pine forests of Europe. Red List of Ukraine.



Left-Fig. 15: Eastern European Viper (Adder) (*Pelias nikolskii* = *Pelias* = *Vipera berus nikolskii*) in National nature park "Gomil`shans`ky Lisy" (Kharkiv region, Ukraine). Right-Fig. 16: Smooth Snake (*Coronella austriaca*), immature.



Left-Fig. 17: European tree Frog (*Hyla arborea*). Right-Fig. 18: Common Toad, or European Toad (*Bufo bufo*).

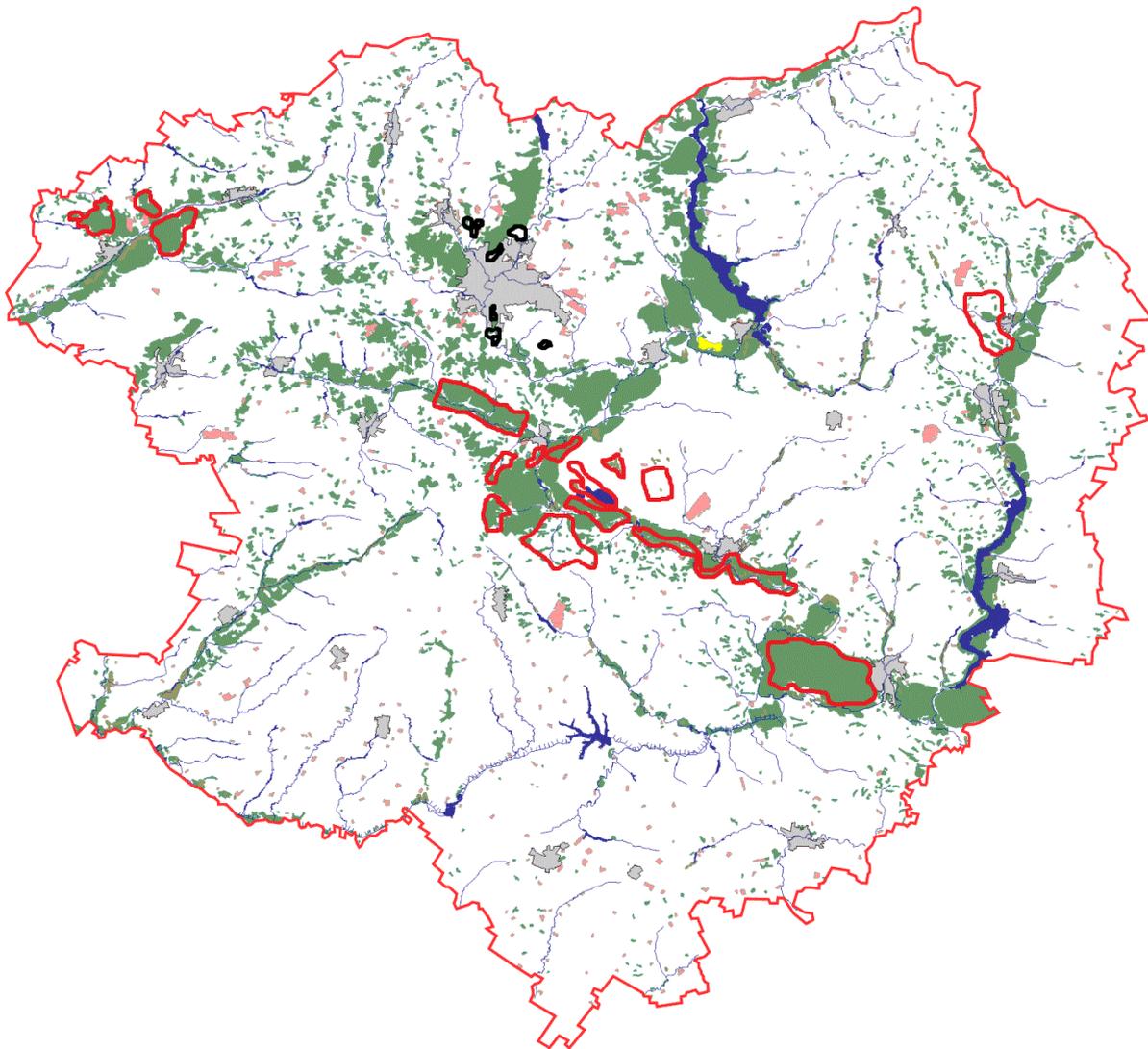


Fig.19: European Stag Beetle (*Lucanus cervus*), National nature park "Gomil`shans`ky Lisy" (Kharkiv region of Ukraine).

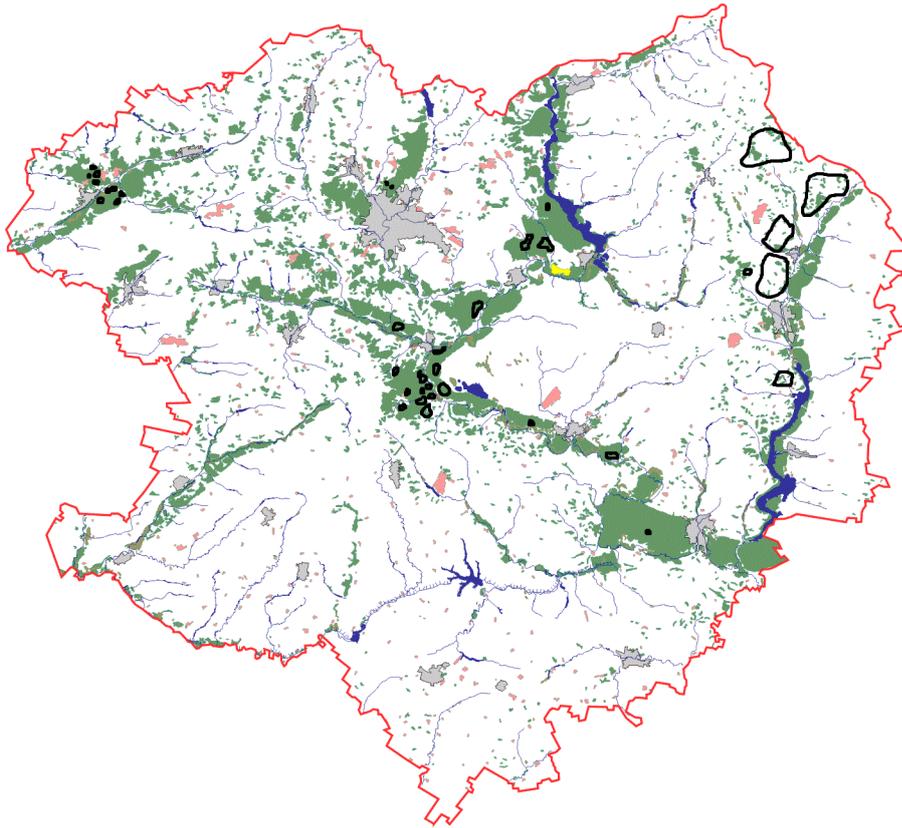
4. Justification of status of protected areas – first stage: 140 territories were officially received the status of protected areas, and these territories covered about 5 570 ha (see maps 1, 2, 3 and 4).

5. Justification of status of protected areas – second stage: in process of work: materials are submitted to the appropriate authorities and await approval. There are about 12 460 ha, which are divided between 208 projected protected areas (see maps 1, 2, 3 and 4).

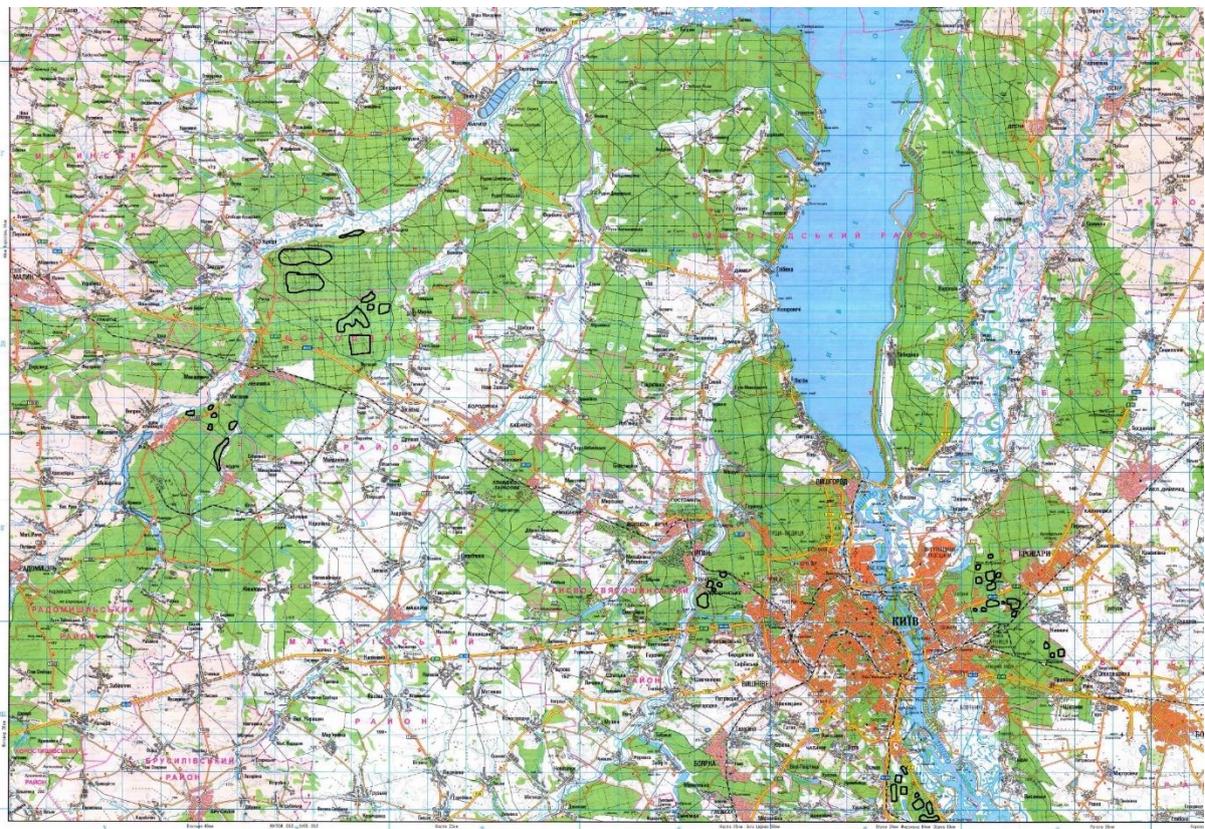
6. Justification of nature protected areas and development of scientific justification: within the framework of this project, there are 6 local reserves were justified; total territory of such proposed protected areas is 466,159 ha; these reserves are called upon to protect not breeding places only but hunting areas too (see map 2).



Map 2. Proposed protected areas (new nature reserves – black, expansion of existing strictly protected areas - red), Kharkiv region of Ukraine.



Map 3. Protected zones around the Raptors' nests in Kharkiv region, Ukraine.



Map 4. Protected zones around the Raptors' nests in Kyiv region, Ukraine.

7. Development of recommendations on forest management taking into account with necessity of forest bird's protection: recommendations for the protection of Raptors` nesting sites have been improved. Recommendations are developed for the protection of populations of woodpeckers in forests where intensive logging were developed too; all relevant materials were published and sent to the Ministry of environment protection and to the Agency of forestry and forest management. We have developed a system of logging, with no decline a number of populations of Woodpeckers and Raptors. The main provisions of such recommendations are: logging territory must be lesser as 5 ha with width of cutting area not more than 50 m; For 100 hectares of forest it is necessary to leave at least 5 plots of intact forest 10 ha each, or 5 pairs of plots 5 ha each (10 plots, 50 ha total).

8. Biotechnical measures for the deployment of artificial nests (baskets) for owls and small falcons were started. These measures conduct in national nature park "Gomil'shans`ky Lisy" in Kharkiv region of Ukraine together with volunteers and young zoologists.

9. Education work with forestry employers, conservation volunteers and young zoologist and biologist: 3 workshops for forestry staff were held, 6 excursion and classes for conservation volunteers and young zoologist and biologist. Prepared 2 articles (for the newspaper) and 2 video (for the local news channel).

Photos of our field works



Fig. 20:



Fig. 21: Excursion for young zoologists: children are interested and they are actively involved in research





Fig. 22: Hanging of artificial nests (baskets) for owls and small falcons together with young zoologists and volunteers in National nature park "Gomil'shans'ky Lisy". March 2017.



Fig. 23: Forests survey from the air: the using of quadcopter.

We hope that we can continue to work in this direction and do all to protect the Raptors' nest-sites and old forest biodiversity generally.

Thank you for supporting our work!

With the best regards,

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Ukraine, Kharkiv-city 3 November 2017.**