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Sucha Beskidzka,
Babia Gora National Park, Poland



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Case Study

**Results and prospects of development of ecological tourism in
Crimea
by the example of the Yalta mountain - wood natural reserve
and other objects of natural-reserved fund of Ukraine**

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General Introduction

Problems of ecotourism development in Ukraine got recently urgent, in particular in Crimea Region, which is a unique southern Black Sea region of Ukraine. These special problems are connected to the general processes of integration of our state in the world community, ratification of some basic international documents on biodiversity, and transboundary influences on environment.

On the one hand, there are given all conditions for the development of ecotourism as most "sparing" form of this economic activity, on the other hand, the given development restrains a number of factors, including economic and natural. The fragile coastal and mountain ecosystem of Crimea requires a special approach on the management of ecotourism.

1 Nature Reserve Net of Ukraine as basis for ecotourism development

The Nature-Reserve Net (NRN) of Ukraine links the natural richness of the Country and contents especially protected natural territories of different status (nation-wide and local). In 1999 NRN included 6.728 territories and objects with a total area of 2.354,2 hectares, that covers 3,9% of State territory.

The Ukraine contributes following categories of protected areas:

- 4 Biosphere reserves (226,7 hectares or 9,6 % share of the total area of the Ukraine),
- 16 Natural reserves (113.7 hectares, 4.8 %),
- 10 National Nature Parks (492,3 hectares, 20.9 %),
- 2.384 Reserves (1.001,8 hectare, 42.6 %),
- 2.963 Nature Sanctuaries,
- 34 Dendrology Parks (1,42 hectares, 0.06 %),
- 514 Parks - Monument of landscape art,
- 22 Botanical gardens (2,02 hectare, 0.1 %),
- 12 Zoological parks (0,4 hectares, 0.02 %),
- 26 Regional Landscape Parks (404.8 hectare, 17.2 %), and
- 746 Reserved Natural Boundaries (78,6 hectares, 3.3 %).

In 1998 the ecological net of Ukraine has been extended by 108 objects or 145 thousand hectares. The perspective net of natural-reserved objects of Ukraine includes, for example, within the limits of the Autonomous Republic Crimea "Tarkchankut Natural Reserve" (round about 20 thousand hectare), the "Crimean National Park" (round about 25 thousand hectare, rough term reserved - 2015), National Park "Chatir-Dag" (5 thousand hectare, 2014), etc. (S.Popovich, M.Stetsenko's data, 1999).

In 2001 Ukraine NRN contented already 6.939 territories and objects with the total area of 2.508.7 hectares that are 4,16 % of the total area of Ukraine. In the period since 1992 (for 9 years) the total area of the country PZS has increased almost twice to 1191.9 thousand hectares. This extension took place for the account concerning new categories of nature protection territories - Biosphere Reserves, National Parks and Regional Landscape Parks (from "the National report on a condition of the surrounding natural environment in Ukraine in 2000").

The system of NRN in the Ukraine forms the potential for ecological sound tourism. The development of ecotourism activities in National Parks and Park-Monuments of Landscape Art is based on the "Projects of the organization of territory" which contents the functional zoning in view of the development of various kinds of tourism, including ecological sound

tourism. So, for example in the "Carpathian National Park" tourism development started in the 70-80 of the 19th century; in this time nearly 50 ecological routes were developed and maintained (information by Gotsul L.F., 1990). "Shatsky National Park" is annually visited by 100.000 tourists.

However, any National Park is an object of overlapping interests. In the second half of the 20th century the awareness of "dichotomy ideas" arose, in which the conflict is initially incorporated. Preservation of nature can hardly be combined with millions of visitors. In many parks recreational use began to influence the nature more strongly, than protection strategies can manage. National Park administrations now face the question how to influence the behaviour of tourists from the view of nature protection (Zabelin, 1987, with 3).

Even more difficulties are caused by the tasks of wildlife management in the Biosphere Reserves and National Parks of Ukraine; the different economic activities, including ecotourism, are considerably limited.

The situation of ecotourism development differs in the regions of the country. The highest concentration is in the western and southwest regions of Ukraine where various natural landscapes are preserved. Carpathian Mountains and Crimea are part of this area. However, it is necessary to note, what exactly similar vulnerable mountain territories are priority objects of ecological sound tourism. Hence, there is a dilemma connected to the basic question: how it is possible to develop tourism, not causing essential damage to vulnerable especially protected mountain territories, and keeping a biological diversity. The situation is aggravated also with that in Ukraine. At administrative level the concept of ecological sound tourism which would generate the basic tourism development framework now is still not accepted.

The absence of a similar Official Concept has negative effects on the development of ecotourism which has significantly improved recreational resources. Territories of an improving recreational network of Ukraine with the total area of about 7.7 million hectare, that is 12.7 % of the state territory, are concentrated in Black Sea's, Crimean, Carpathian and other regions. From this resource potential only 2.3 - 2.5 million hectares today are used. The greatest recreational pressure is visible at the shore of the AÇIÎ-Black Sea coast (from "The National report on a condition of the surrounding natural environment in Ukraine in 2000").

2 Institutional and legislative framework

Different Committees in the Supreme Soviet of Ukraine are dealt with the topic of tourism development and protection of the natural environment

- The Committee of youth politics, physical training, sports and tourism;
- The Committee of an ecological politics, wildlife management and liquidation of consequences of the Chernobyl accident;
- The State tourist administration of Ukraine,
- And others.

The control over processes of ecological tourism, especially in borders of NRN, it is carried out by the Ministry of ecology and natural resources of Ukraine, and the Nature Protection Office of Public Prosecutor. In the Autonomous republic Crimea the Ministry of Resorts and Tourism, the Republican Committee on ecology and natural resources, Republican committee on Forestry and Hunting are engaged in similar questions. In Crimea "the Crimean Association of travel agencies" (CATA) operates widely enough whose members have special licenses for tourist activities and are engaged including in the organization of

ecological tourism. However, an special Committee on ecological tourism in Ukraine and in Crimea is absent.

Now in Ukraine the Law "About tourism" in which it is necessary to provide a definition "ecological tourism" is developed. The name "ecological tourism" frequently is used by many travel companies for a more successful promotion of the goods in the service market as the word "ecotourism" sounds more attractively, than simply "tourism". However ecological tourism is not simply a beautiful word, it is a completely independent phenomenon: it means a way of visiting various regions with a careful attitude to environment, and also to traditions and customs of local residents which are the in the central interest of travellers and tourist operators.

An official definition of the concept "ecological tourism should be based on the following principles:

- Sustainable use of natural resources;
- Maintenance and preservation of the natural, social and cultural variety;
- Careful planning, on basis of a comprehensive approach, by integration of ecotourism in regional development plans;
- Support of local economy; participation of local population in development of tourism and reception of financial and other advantages from tourism;
- Increase of a level of ecological awareness of visitors; close cooperation of the organizations of a various structure; training of the personnel;
- Reduction of over consumption and expenses " (Moraleva, Ledovskhikh, 2001, with. 30).

3 Potentials, chances and challenges in ecotourism development

Now ecological tourism occupies a very insignificant volume in tourist business in Ukraine and in Crimea. But the demand for it constantly grows. When people travel, they do not only want to get in contact with the nature and culture of the country. They understand that it is impossible to break a way of life which was developed over centuries. More and more high requirements are demanded by travel companies. It is much more pleasant for tourists to live in a building which is constructed from local materials and taking place in architectural harmony with surrounding constructions and the natural environment. The products of local manufacture prepared under local recipes should be included in local dishes. As a rule, in that case for work with tourists the local population is widely involved. Therefore ecological tourism contributes in the beginning modestly, and further - to more significant rise of economy in region. Thus "ecological tourists" penetrate into problems of an environment, for example, preservation of woods, struggle against forest fires and more. Besides they receive an opportunity to get closely acquainted with original culture of local residents. For local residents ecological tourism is a unique chance to be presented all over the world.

The World knows already many successful projects in the field of ecological tourism, for example in some countries of Asia, Africa and Latin America. The basic emphasis in these projects is that visitors respect local traditions and customs and become for some time part of local communities / families by accepting them.

Problems of ecological tourism have got urgent in Crimea - a traditional recreational region of Ukraine where annually 5 - 8 Million people come to have a rest (at an aggregate number of local population of all about 2 million person). The maximal carrying capacity is attained in seaside and mountain parts of Crimea which is, on the one hand, the most attractive area to ecological tourism, on the other hand – one of the most vulnerable, fragile territories.

4 Possible solution strategies

Let's consider, how this problem is solved by the example of the Yalta mountain - Forest Nature Reserve (further - YMFNR).

The Yalta Mountain-Forest Nature Reserve was created in 1973. This picturesque Crimean territory of 14.523 ha is located in the south-west of the area. It has a length of 45 km coastal zone of the Black Sea from the west to the east, from Foros to Ghurzuph and is surrounding the city Big Yalta. The reserve contains Mountains of 380-1.200 m a.s.l., and shore areas. The highest top is Lopata Mountain with 1.406 m and Ah-Petry Mountain with 1.320 m.

The Reserve includes the 4 different forest areas:

- Gourzuf's forest with 3.967 hectare;
- Livadia's forest with .4836 hectares;
- Alupka's forest with 2.619 hectares;
- Opolznevoe's forest with 3.101 hectares.

The other land uses are:

- Wood grounds 11.296 hectare, 206 hectare of them are cleared;
- Not wood grounds 3.227 hectare, from them are used 4 hectares as agricultural land, 73 hectare for haymaking, 30 hectares for built up grounds, 7 hectares as reservoirs, 155 hectares as roads, and 2.958 hectare for other purposes.

The central manor of reserve is: highway Doloskoe, dormitory Sovietskoe, Yalta, 98651.

The reserve has some outputs to the Black Sea. The border of YMFNR has more than 200 km length. The Northern border of the reserve passes Aj-Petry, Yalta and Nikita yajlas - i.e. on woodless to flat tops of Crimean Mountains. The Eastern border goes downwards to sea on a southern macroslope of mountains in area of Gurzuf, western - at Foros. The southern border of reserve has the most complex configuration, it passes above a circle motorway Sevastopol - Simferopol bends around borders numerous southern foreland settlements leaves to sea.

The area of the Big Yalta in which the reserve is located, includes two cities (Yalta, Alupka), 21 settlement of city type, 8 settlements and 1 village. The administrative centre of the region is the city of Yalta with 90 thousand inhabitants. Within the borders of the Big Yalta on the area of 27.230 hectare live about 163 thousand persons.

The reserve is nature protection, research establishment of nation-wide value, is part of natural-reserved fund of Ukraine and is protected as national property for which a special mode of protection is established.

Sites of the soil and water space with all natural resources have been completely excluded from economic land use and referred to reservation according to the current legislation of Ukraine. The problem is that there is no buffer zone at present time which protects the area against transboundary negative influences.

The activities in the Biosphere Reserve are guided by following regulations:

- the Constitution of Ukraine,
- Laws of Ukraine "About protection of the surrounding natural environment", "About natural-reserved fund of Ukraine ", "About scientific and scientific and technical activity", "About resorts", and

- sub legal acts, e.g. the acts of the Autonomous republic Crimea and "Regulations about YMFNR".

The control over activities in the Reserve is carried out by following authorities according to the current legislation of Ukraine:

- Ministry of ecology and natural resources of Ukraine,
- State Committee of Forests Ukraine,
- Republican committee on forestry and hunting of the Autonomous republic Crimea, and
- other specially authorized bodies of the state executive authority.

The primary goals of the reserve are:

- Preservation of natural complexes and objects in its territory;
- Carrying out of scientific researches and the supervision directed on studying and development of scientific bases of protection, preservation and restoration mountain - wood biocenosis in Crimea;
- Creation of conditions for restoration of number, preservation of a genofund of rare and typical plants and animals;
- Preservation of unique communities of Crimean pine which have big anti erosion, aesthetic, improving value;
- Restoration of other endemic and relic plants;
- Maintenance of protection of territory of reserve with all his{its} natural objects, observance of a special mode of territory;
- The organization of a fire-prevention protection service of woods, their protection against wreckers and illnesses;
- Maintenance of the ecological balance in region;
- Carrying out of ecological and educational work, including in the form of ecological tourism.

Management of reserve is carried out by its special administration whose structure includes corresponding scientific divisions, a protection service, economic and other services, including the organization of ecological tourism.

In the territory of the reserve any economic and other activities which contradict the special purpose are forbidden, for example activities which break the natural development of processes and the phenomena, cause threat of harmful influence on its natural complexes and objects (like construction of buildings and roads, linear and other objects of transport and communication; cultivation of fire, the device of parking of transport, run and pasture pets, prospecting works, preparation of plants, hunting, carrying out of military manoeuvres and educational shoots, etc.).

The protection of the reserve includes a system of legal, organizational, economic, and educational instruments focussed on preservation, restoration and sustainable use of resources according to the regulations of the nature protection legislation of Ukraine. Protection of reserve is assigned to service of the state wood protection which is part of service of the state protection of natural-reserved fund of Ukraine.

All kinds of the responsibility carry out the following principles:

- Precaution;
- Restoration - Compensation (provide restoration in the natural environment);
- Incentive (the economic instruments of the responsibility);
- Repression (are connected to measures of punishment).

Following measures in YMFNR are supposed:

- Preservation and restoration of natural complexes (e.g. regenerative works)
- Carrying out of research works (e.g. collection of scientific material)
- Carrying out of sanitary and other cabins;
- Construction of buildings and other objects for needs of reserve;
- Use of resources of reserve in borders of the carrying capacity;
- Carrying out of ecological educational work according to report "Position about educational activity of reserves and national natural parks of Ukraine", for example the arrangement of ecological tracks, use of carstic cavities - including for the purposes of ecological tourism.

Activity on development of ecological tourism in YMFNR passes under the direction of the scientific department of reserve and the protection service which develops ecological routes, and monitors a level of carrying capacity. Ecological tourism in the reserve is based on the use of existing tracks, routes, parking, and roads.

Employees of reserve (foresters, scientific employees, guides), and representatives of Crimean organizations on tourism and excursions cooperating with the reserve administration are acting in business of ecotourism.

The Reserve is annually visited by 10.000 up to 30.000 visitors in ecotourism groups. The reserve offers is not only hiking ecological routes, but also automobile, speleological, bicycle and horse tracks, as well as ski and sledge routes in the Winter. All of them use the big popularity. One ecological route is connected with the passenger aerial ropeway "Miskhor - Aj-Petry" which combines some versions of ecological tourism on a way of movement, durations, saturations (including on aerial ropeway, foot, horse, mountain-skiing, automobile, speleological, etc. - uses special attention of visitors depending on a season, desire and recreation opportunities).

5 Description of natural values

Let's finish on features of the nature of the reserve so attractive to ecological tourism.

The upper and middle steep parts of the slopes have 30-40°, and the low slightly parts 10-20°. The tops of the range named locally as "yajlas" (that mean pastures in the Tatar language) represent hilly plateau with some karst cavities, depressions, grottos.

The territory of reserve contains numerous small streams and rivers, the largest of them are the rivers Wuchangs - Su and Derekojka. On a day time surface in reserve leave more than 300 sources which have water the Big Yalta.

The **climate** of the lowest part of the reserve is similar to that the Mediterranean, and becomes more moderately cold and moist on the tops of "yajlas." The average annual temperature is 13 °C, in January 3,5 °C, in July 24 °C. Frost-free period is 247 days and the snowing period continues only 11 days in average. The average annual atmospheric precipitation is 550-560 mm.

On "yajlas" places climate is moderately cold and moist that is typical for the mountain condition. Average annual temperature here is less: up to 5,7 °C, in January -4°C, in July 15,4 °C. Frost-free period continues 150-160 days, snowing period 110 days. Average annual atmospheric precipitation is 960-1050 mm.

Brown soils that were formed locally in the Mediterranean climate condition then changed onto other similar soil forms on the tops of these mountains (Reserves and National Nature Parks of Ukraine, 1999, with. 98).

Flora of the reserve is representing 1.363 species of vascular plants, of 509 genes and 100 families. Some numerous examples of the following representative plant groups: Aster (12,2 %), Leguminosae (9,4 %), Gramineae (8,3 %), Cruciferae (5,7 %), Rosea (5,6 %), Lamiacea (5,2 %), Umbelliferacea (4,2 %).

The long-lived herbs is prevailing here (54,8 %). Other places represent the one-year-old plants (34,3 %); bushes, semi-bushes and small bushes (only 10,9 %), and among them only one endemic gene - Rumia. About 8 % of species are endemic (some flowers and trees) (on data Shelag-Sosonko, Diduh, 1980). In the reserve 183 moos species (60 % of Crimean flora) and 154 species of lichens are found.

The **landscape structure** of reserve differs caused by the geological structure of territory, in the significant sizes, presence high-altitude climatic zone.

The reserve can be characterized by five types of vegetation:

1. Woods (formations *Junipereta excelsae*, *Pineta pallasiana*, *Pineta sosnovskyi*, *Querceta pubescentis*, *Querceta petraeae*, *Carpineta betulii* and *Fageta orientalis*),
2. Steppes (*Zerneta cappadocicae*, *Festuceta rupicolae*, *Cariceta humilis*, *Stipeta lithophilae*),
3. Savannah (*Hordeeta bulbosi*, *Hordeeta leporini*, *Aegilopseta biuncialis*, *Achnathereta bromoidis*, etc.),
4. Tomilarian (*Teucrieta chamaedri*, *Teucrieta jailae*, *Helianthemeta stevenii*, *Thymeta callieri*, *Thymeta taurici*, etc.),
5. Meadows (*Alopecureta pratensis*, *Arrhenanthereta elatii*, *Brizeta australis*, *Alchemilleta*, etc.).

Diverse vegetation of the reserve is creating four altitudinal belts.

- Starting from the seashore till altitude of 400-450 m above the sea level large areas of original rocky oak forest can be found (*Quercus bubescens*) with plots of tall juniper (*Juniperrus excelsa*) and pistachio (*Pistacia multica*). Just here only grow 5 indeciduous species, among which *Arbutus andrachn*, *Ruscus hypoglossum*, *R. ponticus*, *Cristus tauricus*. Because of chopping pressure it has been changed by densely bushed plant named in Ukrainian "derzy-derevo koluche".
- A wide belt of the Crimean pine forest occupied altitudes from 400 m till 900 m. Crimean pin forest is climbing up the rocks till plateaus "yajlas".Mediterranean species dominate at the bottom of a mountain, but other species (rocky oak, hardbeam, ash) inhabit at the tops.
- The third group of the forest belts of 900-1200 m above the sea level is forming on table-lands by Koch pin (near Gurzuf city) joined of common pin, and by typical beech forest.
- The tops of "yajlas" are dominated by specific meadow steppes, which have been changing by the small bushes associations - on precipitous slopes plots, and by meadow associations - on karst descent. In the steppe prevail 2 relic species named in Ukrainian "typchak skelny" and "bromopsis kapadokyjsky". Some plots demonstrate nice silver spots of stone mat-grass (*Stipa lithophila*).

Many species of the mentioned plants, forming associations in the reserve, are registered in the **Red Data Book** of Ukraine (tall juniper *Juniperus excelsa*; pistachio - *Pistacia mutica*; Crimean pin and Koch pin; stone mat-grass (*Stipa lithophila*)), etc. A lot of other plants with

interesting Ukrainian names are also in the Red Data Book of Ukraine, for example, "krayekuchnik persytsky" (*Cheilanthes persica*), "adiant veneryn volos" (*Adiantum capillus-venerus*); and prairie smoke (*Pulsatilla nigri-cans*), tall juniper (*Juniperus excelsa*), many orchids, flowers, etc.

Diversity of nature conditions and vegetation provide high diversity of **animals** of the reserve, in spite of the fact that it is not so rich in comparison to the continental. 37 species of mammals inhabit here (72 % of relevant taxon part of the Crimean fauna), 150 birds (50 %), 16 reptiles (66,6 %), 4 amphibians (75 %). Following mammal are typical: common hedgehog, European hare, forest-and field-mouse, weasel, musteline, roe, etc. Large group of chiropters, which dwell the in caves, buildings, woods, etc are registered in the Red data Book of Ukraine having original Ukrainian names: "pidkovonis velyky" (*Rhinolophus ferrumequinum*), "nichnytsa trykolirna" (*Myotis emarginatus*), "shyrokovukh yevropejsky" (*Barbastella barbastella*), "netopyr kazanovydney" (*Pipistrellus savii*), etc.

Numerous Crimean animals differ from continental typical forms and are defined by scientists as isolated endemic sub-species: Crimean mountain fox, small shrew, Crimean stone marten, Crimean common deer, etc.

Many animals were introduced into Crimea and then have been acclimatizing successfully ("squirrel", "moufflon", and „wild boar“).

Bird world represents 150 species, among of which 40 species are nesting. Passerines are very numerous in the local forests. Once can find swifts and pigeons on the cliffs. The birds of pray became rare (sparrowhawk, peregrine; falcons; steppe, field and meadow kestrels; *Aquila heliaca*).

Reptile species are not numerous (lizards, racers; gecko). Amphibian represented by 3 species, including common hyla.

Invertebrate world is the richest, in spite of absence of the typical continental species (chafers, carabuses, "appolons"), but cicada and butterfly species and others are numerous and some of them are registered in the Red Data Book of Ukraine, for example, 2 mantis (*Empusa pennicornia*, *Bolivaria brachyptera*), "machaon" (*Papilio machaon*), "polixena" (*Zerynthia polyxena*), etc. " (Reserves and National Nature Parks of Ukraine, 1999, with 100, 102).

It is necessary to note, that the Yalta reserve is entering the **Emerald network of Europe**. Ukraine has joined the **Bern Convention** (1979) according to the Law of Ukraine from October, 1996. The Bern Convention and a number of other documents of the European union (Bird Directive, Habitats Directive, etc.) are those mechanisms on the basis of which the ecological net Pan European is formed.

Especially protected natural environments in borders YMFNR according to the Bern Convention are: continental steppes - are submitted by mountain meadow steppes (yajla, the general area 1.636 hectare or 11.3 % from the area of reserve), beechen woods (975.3 hectare, 6.7 %), oaken-hombean woods (549.1 hectare, 3.8 %), the mixed woods in gorges and on slopes (538.1 hectare, 3.7 %), thermophilic and subMediterranean oak woods – (2.257,4 hectare, 15.5 %), light forests from a juniper high (10.5 hectare, 0.1 %), woods from pine Sosnovsky (863.3 hectare, 5.9 %), and woods with domination of pine Palasse (5600.1 hectare, 38.6 %). Thus, 12.429,8 hectare or 86 % of territory of the Yalta reserve concern to a category of special protected natural environments according to the Bern Convention.

The flora and fauna of reserve characterize the big richness, an originality, presence of a

significant amount endemic, rare, disappearing kinds requiring for protection. So, in reserved territory 4 kinds of plants (*Onosma polyphylla*, *Lagoseris purpurea*, *Steveniella satyrioides*, *Paeonia tenuifolia*), are demanding special protection, and are included in appendix Nr. 6 of the Resolution.

The same appendix contents a number of fauna representatives of reserve. Especially protected mammals are submitted, first of all, Chiroptera: *Rhinolophidae* (*Rhinolophus ferrumequinum*, *Rhinolophus hipposideros*, *Barbastella barbastellus*, *Myotis bechsteini*, *Myotis oxygnathus*, *Myotis emarginatus*).

The list of local or migrating kinds of birds of the reserve included in the appendix of the Resolution Nr. 6 is great. It is first of all Falconiformes (*Aegyrius monachus*, *Aquila chrysaetos*, *Aquila clanga*, *Aquila pomarina*, *Circaetus gallicus*, *Gyps fulvus*, *Hieraaetus pennatus*, *Falco columbarius*, *Falco peregrinus*, *Falco vespertinus*). Protected kinds of Coraciiformes are: *Alcedo atthis*, *Merops apiaster*. Typical to kinds are *Strigidae*: *Aegolus funereus*, *Bubo bubo*. On reserved open spaces have found refuge *Crex crex*, *Caprimulgus europaeus*, *Lullula arborea*, *Anthus campestris*, *Troglodytes troglodytes fridariensis*, *Sylvia nisoria*, *Ficedula albicollis* and *Ficedula parva*, *Emberiza hortulana* - Garden porridge and *Plectophenax nivalis*. In doubt there is an opportunity of a presence in territory of reserve of the rare kind - *Ciconia nigra* - the Stork black.

Special protection demand also Reptiles - Kowtowing (Reptiles) and Amphibians: *Emys orbicularis*, *Elaphe situla*, *Triturus cristatus*. From invertebrates to this category concern *Coleoptera*: *Cerambyx cerdo*, *Lucanus cervus*, *Rosalia alpina*.

Thus, the appendix of the Resolution Nr 6 includes 4 kinds of plants and 38 kinds of animals of reserve.

The list of rare protected kinds from the Red book of Ukraine, the international lists is even more impressive. So, from 182 kinds of the plants brought in the **European Red list** of animals and plants, taking place under threat of destruction on a global scale (1991), in territory YMFNR 24 kinds are represented that makes about 13 % of the list. From 541 kinds of the plants brought in the Red book of Ukraine, in territory YMFNR grow 75 kinds that makes about 14 % of this list. In the reserve are present one endemic kind - *Rumia Hoffm.* - and 115 endemic kinds, belonging to 62 sorts and 26 families. Seven species are local endemic and grow only in territory of reserve and its vicinities. They should be brought in the appendix of the Resolution Nr. 6: *Adenophora taurica* (Sukacz) Juz., *Euphrasia taurica* Ganesch., *Heracleum pubescens* (Hoffm). Bieb., *Lamium glaherrimum* (C. Koch) Taliev, *Ranunculus dissectus* M.B., *Seseli lehmannii* Degen, *Sobolewskia lithophila* M.B.

In the European Red list of "animals and the plants which are taking place under threat of destruction on a global scale" (1991) enter 16 kinds of animals from YMFNR. In total in territory YMFNR 68 kinds of rare animals from 382 kinds are brought in the Red book of Ukraine (i.e. 18 % from the "Red Book" kinds of Ukraine). Special protection require: *Haploembia solieri*, *Euscorpium tauricus*, *Acherontia atropos*, *Bolivaria brachyptera*, etc.

6 Potential ecological impacts caused by ecotourism and recommended instruments of management

The most significant factor of **negative anthropogenic influence** on reserved ecosystem is forest fires. Only 52 local forest fires are registered in 2000, the total area destroyed by fire is 14 hectare. In total for the last quarter of the century in territory of the Yalta Mountain - wood

natural reserve 20 fires in one year are fixed, on the average more than 500 cases of forest fires, the total area gone by fire during these years is 1000 hectare. The main reason is anthropogenic influence for example lightings, only 3-5 % of cases fires result from natural reasons. Protection of a wood from fires and forests recovery is one of the main tasks of reserve alongside with preservation of genetic fund of living organisms.

The vulnerability of the natural-reserved fund of Ukraine is defined by the absence of a buffer zone, and relative **easy access**. The reserve is located in the area of dense populated Southern coast of Crimea with numerous settlements, developed system of roads and tracks, presence passenger aerial ropeway "Miskhor - Aj-Petry", in an environment of farmland - vineyards, tobacco and plantations.

In reserve exists a historically developed network of general purpose roads (Yalta - Bakhchisarai, Yalta - Àëóøðà, Sevastopol - Simferopol, etc.) and well-known tourist tracks - Botkin's, Shtangeev's, Taraktash, Jewish functions, etc., fascinating scientific. The listed tourist tracks function in reserve during last 100 years. The organization of this anthropogenic activity within the framework of ecological tourism is an optimal opportunity from all points of view.

According to the nature protection legislation in Ukraine, use of territory of reserve has to stay within the **carrying capacity** which is elaborated annually by the Ministry of ecology and natural resources of Ukraine on the basis of scientifically-based petition on the part of reserve (according to "the Instruction on the order of an establishment of limits on use of natural resources in borders of territories and objects of natural-reserved fund of nation-wide value" from May, 11, 1994). In these limits volumes of all kinds of activity are precisely specified, including ecotourism, (for example, quantity of the persons in day on a concrete route), and also places of localization of this activity (routes, tracks, places of stops, etc.) are defined. The Crimean institute of ecology and designing takes part in development of scientific substantiations of recreational and other kinds of pressure, and also representatives of the NGO "Ecology and the Peace", not only a scientific department of reserve, but also Open Company".

Development of scientific substantiations for reception of similar limits on ecological tourism is a new direction of nature protection activity. The "Crimean institute of ecology and designing" developed the scientific based carrying capacity for the territory state botanical reserve in 1998 on an ecological route "Settlement New Light - cape Kapchik - Shalyapin's grotto". In this work for the first time in Ukraine calculation of linear recreational pressure is made for reserved landscapes that is more justified on development of ecological routes and allows increasing ecological capacity of territory in a considerable way.

The constant **increase in recreation** in Crimea is caused by escalating demand of the population to rest in natural wood areas. By estimation of experts KievSRI (town-planning) in the whole area of Crimea the demand for wood recreational resources claims round about 480 thousand hectare; even if all woods of mountain nature reserve Crimea will be used for recreational purposes it will provide satisfaction of the population in wood ecological tourism by the little more than on 60 %.

Natural ecotourism's potential of a mountain wood is the ability of woods and mountains to influence positively the physical and mental condition of persons, to provide restoration of serviceability and increase of labour productivity.

As the practice has shown, unregulated tourism development has negative impacts on the biodiversity of the reserved territory, whether the impacts of controlled ecotourism are adjustable. The overloading of the carrying capacity results in increasing density of soils,

reduced speed of water absorption, changes in the organic compound of a superficial layer of soil, mechanical damages of vegetation. Any change of the physical soil conditions results in fast degradation of yajlas vegetation.

The mountain woods are able to face the big recreational demand with fewer impacts under the prerequisite that the infrastructure for ecological tourism is well-equipped and maintained.

To get the maximal effect from recreational use without damaging the biodiversity of mountain woods, the management should be based on the following principles:

- Optimization of contact of the person with the nature (creation and arrangement of the tracks, special glades, the equipment of places of rest, camp-fires, etc.);
- The rational use of a mountain - wood landscape providing uniform distribution of visitors in a zone of ecological tourism;
- Management of movement ecotourism;
- Preservation of ecological equilibrium.

One aspect of work was the search for transition measures from prohibitive actions to a consistent steady wildlife management and to find significant financial assets for the protection as well as to develop a compensation strategy for the increasing volumes of ecotourism and guarantee the stabile development of unique mountain - wood territory of Crimea. One chance in developing ecotourism is the possibility to get the necessary financial resources to fulfil the tasks of NRN protection in Ukraine.

Development of ecotourism holds positive potentials for Crimea and the Ukraine as a whole and particular for the Yalta Mountain - wood natural reserve. This unique reserve is not only a potential part of the Emerald network of Europe, but also potential area for further development of ecotourism. The history of functioning of ecological tracks in reserve lasts already more than 100 years.

Two basic structures handle with ecological tourism within the limits of nature protection: the scientific departments and protection services which develop ecological routes and monitor anthropogenic pressure.

To minimize the potential negative impacts of ecotourism it is necessary to follow some main principles, including:

- Precise observance of the nature protection legislation;
- The account of the international experience in sphere of ecological tourism;
- Functional zoning of the maintained reserved territory;
- Linearity of pressure (regulation of the demand in linear structures instead of extensive impacts);
- Development of mainly short-term ecotourism (as a rule: one-day);
- The regional approach to normalization of the anthropogenic pressure connected to ecological tourism;
- Promotion of ecological tourism as part of a healthy life;
- Development of a differentiated ecotourism based on the natural opportunities (including zoning of reserved territories suitable for ecotourism development; and defining the carrying capacity of each concrete territory), and structure of target groups (age, interests, a state of health, financial opportunities, etc.);
- Orientation on local sights (natural, cultural);
- Introduction of control measures like "environmental management" (ISO 14000, BS 750), management of wildlife and resources, and development of services for visitors.

For the successful development of ecotourism, particular in Ukraine, it is necessary to solve

a number of problems at global, regional and local level, including:

- Perfection of the legislative framework (acceptance of the law "About tourism", change of system of reception and registration of visas, better coordination of soil and nature protection legislation, better investment policy, system of local self-management in sphere of steady wildlife management);
- Overcoming of economic crisis;
- Achievement of political stability in the society;
- Development and acceptance at the state level of "the Concept of ecological tourism" with a statement of key rules and principles of the given kind of anthropogenic activity;
- Development of scientific bases of regional normalization of the demand arising by ecological tourism;
- Development of a corresponding infrastructure of ecological tourism;
- Ideas of ecological tourism are the most progressive and optimum for fragile coastal and mountain ecosystems, particular for objects and territories of natural-reserved fund, because they not only allow protecting the nature during sustainable use, but also promoting steady development of territory.

7 Necessary Elements for realization of sustainable ecological tourism instead of a summary

1. To enter a definition (concept) "The Project of planning, functioning and development of territory for ecological tourism".
2. To provide performance in structure "Projects of planning, functioning and development of territories for ecological tourism" a strategic ecological estimation (in view of requirements "Conventions on an estimation of influence on an environment in transboundary context"), including cumulative and indirect consequences.
3. To provide carrying out of obligatory ecological audit the projects of planning, functioning and development of territories for ecological tourism.
4. To provide obligatory licensing a kind of activity "ecological tourism".
5. To develop the international documents:
 - "The Technique of definition of allowable recreational press in territories for ecological tourism";
 - "Procedure of an establishment of limits of use of natural resources in territories for ecological tourism".
6. To provide application in territories for ecological tourism only the organized linear recreational press, having excluded area's disperse recreational press.
7. To carry out obligatory ecological audit of activity on realization of ecological tourism on concrete territories not less often than 1 time in 5 years.
8. To provide obligatory participation of the interested public in:
 - To ecological audit Projects of planning, functioning and development of territories for ecological tourism as at national, regional and local levels, and at the international level in transboundary context;
 - Public hearings results of ecological audit at the international, national, regional and local levels.
9. To develop "Procedure of an estimation and the obligatory list of criterions and indicators of an estimation of influence of ecological tourism on territory for ecological tourism":
 - International (the general (common) for all countries);
 - National (in view of interstate and regional features).

References

1. BS 750: Specification for Environmental management systems. London, 1992.
2. Gocul L.F.: tourism and recreation in the Carpatian state natural national park. - In National parks, their multipurpose value and problems of wildlife management. - Yaremcha, 1990, pages 28-30.
3. ISO 14000: Environmental management systems. Brussels: ISO, 1996.
4. Moraleva Í., Ledovskhikh E.: Ecological tourism in Russia. In magazine Protection of the wild nature, 3 (22), 2001, pages 30-34.
5. Popovich S., Stecenko M.: Prirodno-zapovednyj fund. In Ukraine`s econet development. Kiev, 1999, pages 42-52.
6. Priority-setting in Conservation: A New Approach for Crimea. - Washington, USA: BSP, 1999, 257 p.
7. Reserves and National Nature Parks of Ukraine. - Kiev, 1999, 232 p.
8. Sheljag-Sosonko J.R., Didukh JA.P.: Yalta Mountain - Forest national park. A botanico-geographical sketch. - Kiev, 1980, 184 p.
9. The National Paper about condition of the environment in Ukraine⁹ at 2000 year. - Ministries of ecology and natural resources , 2001, 184 p.
10. Zabelin N.M.: National Park. - Í., The Idea, 1987, 170 p.

Figures

Figure 1 - Map of the Yalta Mountain - Forest Nature reserve

Figure 2 - Southern slopes of Crimean mountains - are attractive to ecological tourism.

Figure 3 - Plateau Aj-Petry.

Figure 4 - The Crimean orchids - protected plants.