

THE RESERVED AREAS OF GEORGIA**T.K.Patarkalashvili*****Technical University of Georgia, the Centre for Studying Productive Forces and
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Protected areas are a key to our present and future biodiversity. They provide hope for a protected planet. Well-managed protected areas not only conserve nature but provide wealth of essential ecosystem services that benefit communities and provide solutions to global challenges such as water provision, food security, human health and well-fare, disaster risk reduction and climatic change. Georgia is notable for its biodiversity. About 400 trees and bushes of different species grow there. Among them such relicts and endemic species as: *Pinus pithyusa*, *Pinus eldarica*, *Buxus colchica*, *Rhamnus imeretina*, *Quercus pontica*, *Staphylea colchica*, *Rhododendron ponticum*, etc. Until 2005 there were 15 nature reserves, five hunting farms and one national park in Georgia. Now there are 14 nature reserves, 11 national parks, 19 state sanctuaries, 41 natural monuments and 2 protected landscapes with total territory of 600 597 hectare. It is 8,6% of the country's territory. For last 20 years the reserved areas of Georgia increased three times. 75% of them are covered with forests. The reserved areas are located in all characteristic climatic parts of the country-in west and east, in plains and highlands, in subtropical and subalpine zones. In reserved areas, along with different representatives of flora, many species of fauna are preserved. For the last period population of most species of animals and birds increased. For example, from animals: brown bear, wild cat, common marten, Eurasian badger, grey wolf, red fox, nutria, Asiatic jackal, European lynx, Caucasian squirrel, Eurasian otter, east and west Caucasian tur(goat). From birds: hillock eagle, tawny owl, rock partridge, hawk, griffon vulture, Caucasian blackcock, turkey vulture, Eurasian woodcock, wood pigeon, goshawk, white stork, crow, Eurasian jay, pheasant. The number of some animals and birds remained at the same level and some decreased. In general the situation now is stable.

One of the important ways of conservation and restoration of biodiversity of a country is creation of extensive network of protected natural territories. Specially protected natural areas are geographical territories, that are under special state-level Protection in order to safe and maintain biodiversity of nature. Rare and typical ecosystems, habitats for rare species, landscapes that are peculiar, beautiful and geomorphological formation, as well as territories, significant for recreational and educational purposes are preserved on these areas. Georgia is notable for its biodiversity. About 400 trees and shrubs of different species grow in our forests. The best way of their protection and preservation, as well as many species of fauna, for next generations lies through increasing network of protected natural areas.

At the beginning of the 20th century, there were only a handful of protected areas in the world, although many have existed for generations. Today, there are approximately 200 000 protected areas in the world, which cover around 12% of the world's land and around 3 % of the oceans.

Protected areas provide a wide range of social, environmental

and economic benefits to people and communities worldwide. They are a tried and tested approach that has been applied for centuries to conserve nature and associated cultural resources by local communities, indigenous people, governments and other organizations.

Protected areas are vital to response to some of today's most pressing challenges, including food and water security, human health and well-being, disaster risk reduction and climate change.

As the world continues to develop at a rapid pace, pressure on ecosystems and natural resources intensifies. Protected areas, when governed and managed appropriately and embedded in development strategies, can provide nature-based solutions to this pressure and take their place as an integral component of sustainable development.

From reserved areas in Georgia are organized: nature reserves, national parks, state sanctuaries, natural monuments and protected landscapes. According to new system of categories of protected areas classified by IUCN in 2014 there are the following type of categories: 1a-strict nature reserve; 1b-wilderness area; II-natural

park; III- natural monument or feature; IV-habitat/species management area; V-protected landscape/seascape and VI-protected area with sustainable use of natural resources [1,2] If we compare our categories of protected areas with the categories of IUCN we will see that only the definition of the III-d category does not correspond to new classification of IUCN and the appropriate legislative changes should be made. It must be noted that the new categories of IUCN are recognized by international bodies such as the United Nations and global standard for defining and recording protected areas and as such are increasingly being

incorporated into government legislations.

Until 2005 there were 15 nature reserves, five hunting farms and one national park in Georgia. Now there are 14 nature reserves, 11 national parks, 19 state sanctuaries, 41 natural monuments and 2 protected landscapes with total territory of 600597 hectare. (table1) [3]

According to 1990 registry of the state forest fund of Georgia, the total area of reserved territories occupied 200591 hectare [4], with 15 nature reserves (168872 hectare), 5 hunting farms (12283 hectare)

Table 1. *The reserved areas of Georgia by categories on 2013*

N°	Name	Total area, hectare
		Georgia
	Nature reserves	140672
1	Babaneuri	862
2	Batsara	2 986
3	Bitshwinta-mjusera	3 645
4	Borjomi	14 820
5	Vashlovani	10 143
6	Tusheti	12 627
7	Kintrishi	10 703
8	Lagodekhi	19 749
9	Liakhvi	6 388
10	Mariamdjvari	1 040
11	Ritsa	16 229
12	Sataphlia	330
13	Phskhu-Gumista	40 819
14	Kobuleti	331
	National parks	352 566
1	Algeti	6 822
2	Borjomi-Kharagauli	61 235
3	Vashlovani	24 610
4	Tbilisi	23 218
5	Tusheti	69 515
6	Kolkheti	22 600
7	Matshakhela	8 733
8	Mtirala	15 806
9	Phshav-Khevsureti	75 843
10	Kazbegi	8 687
11	Djavakheti	13 498
	State Sancuaries	70 393
1	Adjameti	5 117
2	Asa	3 943
3	Gardabani	3 484
4	Tetrobi	3 100
5	Ilto	6 971
6	Iori	1 336
7	Katsoburi	295
8	Lagodekhi	4 702
9	Nedzvi	8 992
10	Kobuleti	439
11	Ktsia-Tabatskuri	22 000

12	Korugi	2 068
13	Chachuni	5 200
14	Kartsakhi	158
15	Suldi	309
16	Khantchali	727
17	Bugdasheni	119
18	Madatapha	1 398
19	Sataphlia	34
	Natural Monuments	2 378 *
1	Abano's mineral Lake	---
2	Alazni's Chala	204
3	Artsivi's Kheobis	100
4	Baldi's Canyon	6
5	Columns of Bodorni Rock	18
6	Bgveri's Cave	---
7	Gabzaruli's Lake	---
8	Goderdzi's Fossil Forest	36
9	Gotskadili's Canyon	13
10	Dashbashi's Canyon	669
11	Didgele's Cave	---
12	Tetri's Cave	2
13	Truso's Travertines	4
14	Jason's Cave	---
15	Abasha river's Falls	99
16	Melouri's Cave	---
17	Motena's Cave	2
18	Mukhuri's Falls	14
19	Nagarevi's Cave	---
20	Navenakhevi's Cave	---
21	Nazodelao's Cave	12
22	Okatse's Canyon	70
23	Okatse's Falls	---
24	Oniori Falls and Tobi's first Cave	33
25	Otskhomuri's Falls	9
26	Prometheus' Cave	47
27	Roshki's	118
28	Sakajia's Cave	---
29	Samshvildao's Canyon	475
30	Satsurbli'a's Cave	---
31	Sakhiznari's Rock	336
32	Solkota's Cave	---
33	Takhti -Tepha's cave	10
34	Tobi's Falls and Arsen Okrodjanashvili's Cave	73
35	Keterisi's Mineral Travertine	1
36	Gvliana's Cave	---
37	Tsutskhvati's Cave	---
38	Tskaltsitela's Kheobis	22
39	Khomuli's Cave	---
40	Djvris Ugeltekhili's Travertine	3
41	Djortsku's Cave	2
	Protected Landscapes	34 708
1	Tusheti	32 518
	Kintrishi	3 190

* Natural monument with fixed areas and borders included in the state register

** Area isn't defined yet.

and one national park (19436 hectare). So, the total reserved areas in Georgia increased three times and it is 8,6% of the country's territory. About 75% of reserved areas are covered with forests.

The first nature reserve in Georgia was established in 1912 in Lagodekhi. Today there are 14 nature reserves with total area of 140672 hectare. They are located in all parts of the country – in west and east, in plains and highlands, subtropical and subalpine zones.

Nature reserves conserve regional rare and typical ecosystems and biodiversity of local nature, habitats of rare species of fauna, landscapes, that are peculiar, beautiful and characteristic for different regions of the country, geological and geomorphological formations, as well as territories, significant for recreational purposes. Besides cultural, aesthetic and spiritual values, associated with nature, are conserved on these nature reserves.

In nature reserves of Georgia grow such relicts and endemic trees and bushes as: *Pinus pithuisa*, *Pinus eldarica*, *Quercus pontica*, *Buxus colchica*, *Rhamnus imeretina*, *Rhododendron ponticum* etc [5-9].

Until 2005 there was only one national park in Georgia-Tbilisi national park. Now there are 11 national parks with total area of 352566 hectare. They are located in all characteristic climatic zones of Georgia. National parks are broad areas which are characterized by outstanding nature formations of national significance, landscapes and cultural heritage, landscapes which are untouched by human activities or nearly natural. Diversity of biotops, abundance of cultural and historical monuments and peculiarities of cultural environment are preserved in natural parks. Visitor use for inspirational, educational, cultural and recreational purposes at a level which will not cause significant biological degradation to the natural reserves are managed on national parks. Besides, the needs of indigenous people and communities, including subsistence resource use, in so far as these will not adversely affect the primary management objective are taken into account. For last ten years many national parks have been modernized for visitors many small hotels, guesting houses and paths for excursions have been built for tourists as well as parkings, objects for eating and other services have been organized. Among reserved areas there are 19 state sanctuaries (70 393 hectare) which, as we have already noted correspond habitat/species management area, by new system of categories of reserved areas. This kind of protected area aim to protect particular species or habitats and management of this priority.

The primary objectives of this category is to maintain, conserve and restore species and habitats which are usually

under threat, as well as to maintain populations of particular species which might include artificial habitat creation, supplementary feeding or other active management systems. Sanctuaries are not withdrawn from commonly used lands forever like nature reserves, but some human activities are restricted on their territories for a time. By agreement with local land users may be restricted : ploughing , hay-mowing , grazing, collecting wild fruit, berries and mushrooms, hunting and fishing, using chemicals, tourism and other kind of organized resting, prospecting, using water from sanctuaries for irrigation, movement of mechanized transport in off-roads, etc [10].

Natural monument or feature is a reserved area to protect a specific natural monument such as: geological and geomorphological features, waterfalls, cliffs, caves, fossil beds, rock farms, valleys. In cultural view natural monument or feature may be: cave dwellings, ancient tracks, sacred graves, springs, mountains, sea caves, etc. Natural monuments or features generally are quite small protected areas but often have high visitor value. They protect natural rarities and have scientific, cultural, historical, aesthetic and ecological value.

Today, there are 41 natural monuments and features in Georgia with total area of 2 378 hectare. From natural monuments and features should be noted: Abano`s mineral lake, Mukhuri, Okatse and Otskomuri falls, Alazni`s chala. From geological and geomorphological formations should be noted such canyons as: Gotskaduli, Dashbashi, Samshvildao, Okatse; caves: Motena, Jason, Melouri, Prometheus, Roshki, Takhti-tepha, etc. From travertines: Truso, Katerisi, Dzvrivis ugeltekhili. From rocks: Bodorni, Sakhiznari, etc.

Among reserved areas of Georgia there are two protected landscapes: Tusheti (31 515 hectare) in east part of the country and Kintrishi (3 190 hectare) In west part of the country. Both protected landscapes are territories remarkable for original and diverse landscapes and special beauty. The goals of these territories ate to protect and preserve the cultural environment and landscapes characteristic for these peculiar regions of the country in all their diversity, as well as to ensure the preservation of environment appropriate for recreation of society and for tourism and use environment friendly management methods. These protected areas must provide opportunities for enjoyment, well-being and socio-economic activity through recreation and tourism, as well as natural products and environment services.

Table 2. The number of animals by species in reserved areas of Georgia in 1995-2013

Animal species	Years						
	1995	2000	2005	2010	2011	2012	2013
Chamois (alpine)	672	807	594	552	577	1154	589
Striped Hyena	---	2	---	1	---	---	1
Brown Bear	213	265	325	543	710	382	533
Caucasian (Red) Deer	776	194	299	554	573	613	657
Wild cat	98	83	2507	511	253	359	446
Common Marten	475	476	1816	1598	1088	1113	728
Brown Hare	1046	948	551	3599	1321	1908	1396
Badger Eurasian	290	298	7018	828	585	594	725
Grey Wolf	210	310	224	626	563	260	586
Red (common) Fox	340	694	275	667	474	739	646
Bezoar (wild goat)	130	150	170	150	61	150	150
Nutria (Swamp beaver)	30	40	---	1293	240	950	1600
Asiatic Jackal	282	187	4173	9151	8899	9088	10246
Lynx European	39	37	63	85	77	74	1018
Wild Boar (Pig)	126	230	320	892	1563	541	97
Roe deer	759	735	1372	2613	2440	2592	801
Caucasian squirrel	780	130	50	1667	877	1329	3644
Eurasian Otter	10	20	168	411	204	374	513
East and west Caucasian Tur (Goat)	750	641	695	1455	1395	1470	2160
Leopard							
Goitred (Persian) gazelle	---	---	1	1	---	---	---
	---	---	---	7	7	---	---

Table 3. The Number of Birds by species is reserved areas of Georgia in 1995-2013

Bird Species	Years						
	1995	2000	2005	2010	2011	2012	2013
Mountain Eagle	79	44	38	51	29	16	79
Hillock Eagle	---	2	10	46	44	17	42
Tawny Eagle	---	10	10	---	---	---	---
Tawny Owe	176	419	531	30	347	441	714
Nightingale (common)	60	90	40	--	40	---	---
Grey (common)Partridge	---	---	100	---	82	85	---
Rock (Greek) Partridge	890	365	2120	4670	3455	695	2514
Lesser Spotted Woodpecker	2894	449	504	2311	1097	1220	321
Hawk (sparrow)	46	97	75	403	139	226	276
Griffon Vulture	15	28	80	116	114	26	191
Caucasian blackcock	412	780	982	845	791	439	1146
Turkey Vulture	---	12	42	184	140	41	267
Eurasian (common) woodcock	252	692	528	950	570	280	447
Wood Pigeon	670	---	375	362	16140	5140	3396
Goshawk	60	75	35	608	767	770	772
White Stork	---	---	10	20	20	20	137
Blackbird	2970	1930	1842	3652	12149	3280	1951
Falcon (duck hawk) Peregrine	12	--	16	18	1037	212	59
Caucasian snow-cock	641	702	766	645	400	280	575
Craw	90	310	150	35	200	<u>4782</u>	<u>1550</u>
Mistle Thrush	2340	1380	1100	210	220	---	---
Eurasian (common) jay	1440	1100	779	2158	2163	300	3435
Pheasant	20	45	166	647	670	---	2658
Black Kite	---	---	50	17	6613	219	56

In reserved areas of Georgia along with trees, bushes and biodiversity in general, many species of animals and birds are protected. In table 2 and table 3 are presented the dynamics of different species of animals and birds in 1995-2013 [1].

The analysis of table 2 and table 3 allows us to make the following conclusions: the number of some animals since 1995 have increased significantly for example: brown bear, wild cat, common marten, Eurasian badger, grey wolf, red fox, nutria, Asiatic jackal, European lynx, Caucasian tur(goat). The number of some animals remained approximately at the same level and some animals decreased a little. We have not information on leopard and Goitred(Persian) gazelle since 2010. The number of some birds in the same period, increased, for example: Hawk, Griffon vulture, Hillock eagle, Tawny owl, Rock partridge, Caucasian blackcock, Turkey vulture, Eurasian woodcock, wood pigeon, Goshawk, white stork, Crow, Eurasian jay, Pheasant. The number of some birds remained at the same level and some decreased a little, as white kite, falcon, Peregrine, Blackbird, lesser spotted woodpecker. In some species of birds we have not information for last years. In general we can say that the situation is stable.

CONCLUSION

Our research allows us to make the following conclusions: The reserved areas of Georgia for last 20 years increased three times and now equals 600 597 hectare. It is 8,6% of the country's territory. About 75% of reserved areas are covered with forests. They are located in all parts of the country-in west and east, in plains and highlands, in subtropical and subalpine climatic zones. The reserved areas of Georgia include: 14 nature reserves (140 672 hectare), 11 national parks (352 566 hectare), 19 state sanctuaries (70 393 hectare), 41 natural monuments (2 378 hectare) and 2 protected landscape (34 708 hectare); The number of some animals in reserved areas increased since 1995 like, brown bear, wild cat, common marten, Eurasian badger, gray wolf, red fox, nutria, Asiatic jackal, European lynx, Caucasian squirrel, Eurasian otter, east and west Caucasian tur(goat). The number of some animals

remained approximately at the same level and some decreased a little;

The number of some birds also increased for last 20 years. For example: Hillock eagle, Tawny owl, Rock partridge, Hawk, Griffon vulture, Caucasian blackcock, Turkey vulture, Eurasian woodcock, Wood pigeon, Goshawk, White stork, Crow, Eurasian jay, Pheasant. The number of some birds remained at the same level and some decreased like, white kite, Falcon peregrine, Blackbird, Lesser spotted woodpecker;

On some species of animals and birds we have no information for last years, like Goitred gazelle, leopard, Tawny eagle, Nightingale, Mistle thrush

The crisis for animals and birds in reserved areas of Georgia took place from 2000 to 2006. Now the situation is stable.

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ЗАПОВЕДНЫЕ ТЕРРИТОРИИ ГРУЗИИ

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Заповедные территории являются одним из основных факторов для сохранения и охраны биоразнообразия природы. Хорошо управляемые заповедные территории не только сохраняют биоразнообразие природы но и представляют разнообразные услуги местным жителям и визитерам. Заповедные территории предоставляют возможности решения таких глобальных проблем как водоснабжение, безопасность пищи, здоровье и благополучие человека, уменьшение риска глобальных катастроф и изменения климата. В заповедных территориях сохраняется естественный вид и размеры природных ландшафтов (геологическая и геоморфологическая система, растительный

покров и животный мир). Помимо этого заповедные территории являются эстетическим, этическим и культурным достоянием страны. Грузия отмечена своим биоразнообразием. Около 400 видов различных видов деревьев и кустарников растут в ее лесах, в том числе такие реликтовые и эндемические породы как: *Pinus pithyusa*, *Pinus eldarica*, *Quercus pontica*, *Buxus colchica*, *Rhamnus imeretina*, *Staphylea colchica*, *Rhododendron ponticum* и т.д. До 2005 года в Грузии насчитывалась 15 государственных заповедника, 5 охотничьих хозяйств и один национальный парк. В настоящее время функционируют 14 природных заповедников, 11 национальных парков, 19 государственных заказников, 41 памятников природы и 2 охраняемых ландшафта, с общей территорией 600597 га., что составляет 8.6 % от всей территории страны. Заповедные территории расположены во всех климатических зонах страны. За последние 20 лет территория заповедников увеличилась в три раза и это является положительным фактором. 75% заповедных территории покрыты лесами. Помимо представителей флоры, в заповедных территориях охраняются многие виды фауны. За последний период число большинства животных выросло, например: бурого медведя, дикой кошки, лесной куницы, барсука обыкновенного, серого волка, обыкновенной лисицы, нутрии (болотного бобра), шакала обыкновенного, рыси, белки кавказской, выдры речной, восточнокавказского (дагестанского) и западнокавказского (кубанского) тура. Из пернатых: орла степного, совы, куропатки (кеклики), ястреба обыкновенного, сипа белоголового, тетерева кавказского, грифа-индейки, вальдшнепа, вяхиря, ястреба-тетеревятника, аиста белого, вороны серой, сайки, фазана кавказского. Число некоторых видов животных и птиц осталось примерно на прежнем уровне и число некоторых видов уменьшилось незначительно. В целом можно констатировать что положение в настоящее время стабильное.