Technical support to prioritize biodiversity monitoring indicators (species and habitats) for 10 Georgian PAs to support the development of standardized PA-specific Management Effectiveness Assessment plans *(Biodiversity Monitoring Indicators)*

Deliverable #1

Detailed action plan and time table with brief description of methodology to be used during the assignment; Detailed list of stakeholders; Table with long working list of indicators and potential/actual pressure that affects them.

Draft

Irakli Shavgulidze

May, 2020

1   Approach and methodology

1.1   Selecting indicators

The process of selecting biodiversity monitoring indicators will begin with the analysis of all existing information and documents such as the management plans of the target protected areas and other legal or policy documents in which PA goals and objectives are set out, main values as well as current threats and priorities are described. We will then define clear objectives and target for the monitoring program, define the question which should be answered and compose a long working list of biodiversity indicators for each of the major threats of the target PAs to serve as the baseline information for prioritization phase. This list will be organized in a table which will include the descriptions of actual or estimated state of the indicator (species/habitat) if available as well as potential/actual pressures that affect them. In subsequent stages the knowledge of the current or potential threats to each of the indicator will help us analyse the causal link between the state of indicator and threat/pressure as well as elaborate on the potential of improved management effectiveness i.e. possible management responses that may be proposed in order to reduce the pressures/threats and eventually improve the status of the indicator.

The final draft of the long list of indicators will be shared with the beneficiary and the donor for feedback and discussed and finalized if possible through a virtual joint consultation meeting with the participation of APA, BFD, CNF, UNDP.

We will also elaborate a list of experts and stakeholders with whom we will work on the prioritization of PA biodiversity indicators through a series of meetings in the following phase. Stakeholder meetings will be conducted mostly by Skype due to the Covid-19 pandemic with the key beneficiaries (MoEPA, APA, Agency of Wild Fauna Protection) and with key experts from relevant organisations including experts form all relevant fields such as botanists, habitat specialists, zoologists from veracious specific zoological disciplines (e.g. ornithologists, entomologist, herpetologists, etc.) that have experience of working with PAs and/or in the field of biodiversity monitoring. The meetings will be conducted individually or in smaller thematic groups. This as well as all subsequent phases will be carried out in close cooperation and direct involvement of the assigned representatives of the key beneficiaries.

As a result of the above meetings and interviews, we will gather preliminary views and suggestions from the key experts with regard to specific indicators for each target PA. During this process we will also carefully consider the goals and objectives of a given PA as set out in their management plan or similar documents. We will also discuss and agree on suitable approach and methods as well as the criteria which we will use for selecting the final long list of indicators.

The project team will compose a draft set of criteria beforehand to discuss them with the experts. It may include the following scientific and conservation criteria:

1. Indicators (species and habitats) identified in respective management plans representing key ecological values of specific PA
2. National significance (such as red listed species, outstanding economic, cultural or social significance, etc.)
3. International and regional significance such as Emerald species and habitats.

4. Indicators of threats to biodiversity (such as poaching, excessive grazing, pathogens, timber extraction, tourism, climate change, etc.)
5. Invasive species
6. National biodiversity indicators

Subsequently, we will work closely with APA, BFD, CNF to prioritise the long list of indicators. This process will consider the following: (i) practicality – *How effectively can the results of the indicator monitoring be translated into the management of the given PA?* (ii) Cost-effectiveness – *What are the available methods (those that can yield credible results) and how accessible and cost-effective are they*? (iii) Feasibility – *Do/will we have sufficient human and financial resources to implement the indicator?* (iv) Sustainability – *Is it likely that the indicator can continuously be assessed in future under realistic assumptions in terms of funds, skills and other resources?*

The result will be a draft short list of indicators, which will be made available in the form of a Google document to facilitate the prioritization process. It will also be presented and discussed in a summary workshop (virtual workshop unless the situation with the Covid-19 pandemic permits otherwise) attended by the beneficiary and by all the key stakeholders and experts. Finally, we will have a final agreed short list of indicators for each of the target PAs. If needed, additional explanatory meetings and discussions will be carried out within APA and with the management of individual PAs.

1.2   Ten-year monitoring plan

A ten-year biodiversity monitoring plan will be elaborated for the target PAs through a participatory process. We will share and discuss the draft plan and proposed methodology and protocols as appropriate with the beneficiaries and key stakeholders.

The plan will answer the following questions:

- ✓ **How?** (overall approach/methodology, data collection methods for each indicator, data analysis and interpretation methodology)
- ✓ **When?** (time table of activities/workplan)
- ✓ **Who?** (certain activities/components of the monitoring process such as data collection may be implemented by PA administrations or jointly by the administration and external experts; some activities will need higher degree of involvement of external experts and partners)
- ✓ **By what resources? (**the ten-year plan may include an overall assessment of resources, while more details may be provided in annual workplans).

The final plan will be presented to the beneficiaries as well as key stakeholders for their feedback and approval.

Provided the COVID-19 situation allows, one physical meeting will be conducted in the final phase to present to a wider audience (i) the prioritized short list of indicators with causal links to potential threats/pressures and respective methodologies and (ii) the 10-year work plan. If a physical meeting is still not recommended, then a virtual meeting only with the participation of the beneficiaries and key stakeholders will be organized.

2 List of stakeholders/experts

Table below shows the list of experts with whom meetings and interviews will be conducted during the prioritisation process of biodiversity indicators.

Organisation	Expert
Agency of Protected Areas (APA)	Khatuna Tsiklauri
	Avto Mikaberidze
Biodiversity & Forest Department (MoNPA)	Karlo Amirgulashvili
	Mariam Sulkhanishvili
	Salome Nozadze
	Christian Goenner (Centre for International Migration (CIM) expert)
National Forest Agency	Natia Iordanishvili
	Giorgi Mamadashvili
Ilia State University	Zura Javakhishvili
	Lexo Gavashelishvili
	Davit Tarkhnishvili
	Kati Batsatsashvili
	Bela Japoshvili
	Jimsher Mamuchadze
Tbilisi Zoo	Zura Gurielidze
WWF Caucasus Programme Office	Nugzar Zazanashvili
	Maka Bitsadze
Campester/Institute of Zoology	Ioseb Natradze
	Sasha Bukhnikashvili
SABUKO	Natia Javakhishvili
Institute of Botany	Davit Kikodze
	Niko Lachashvili
Tbilisi Botanical Gardens	Ketevan Barblishvili
Batumi Botanical Gardens	Zura Manvelidze
	Nino Memiadze

3 Time-table of activities.

Activity/Months & weeks	May 2020		June 2020				July				August			
	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1. Analyse PA management plans and/or other relevant documents and compose a long list of indicators (key species/habitats), their estimated state as well as threats and possible management responses if applicable.	▓													
2. Discuss the preliminary results with APA and PA administrations if needed to clarify any issues.		▓												
3. Finalize the draft indicators through a virtual meeting with the participation of APA, BFD, CNF, UNDP.		▓												
4. Elaborate draft selection criteria and protocols for virtual/physical meetings and discussions with experts and stakeholders with clear set of objectifies depending on the specific topics of a meeting.		▓												
5. Plan the detailed time-table of stakeholder/expert meetings.			▓											
6. Conduct a series of stakeholder/expert meetings			▓	▓	▓									
7. Analyse the results of stakeholder/expert meetings						▓								
8. Share and discuss the results of stakeholder/expert meetings with APA, BFD, CNF, UNDP and hold additional meetings with APA if necessary; produce the final short list of indicators.						▓								
9. Prepare a draft 10-year plan for monitoring of short-listed indicators for individual PA's with proposed protocol template/factsheet for each indicator.							▓	▓	▓					
10. Finalise 10-year plan for monitoring of short list indicators for individual PA's											▓	▓		
11. Presentations and report from the final meeting (in case conducted).													▓	

4 Long list of indicators for the target PAs

Table #1: Algeti NP

Indicator	Current sate of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
1. Brown bear (*Ursus arctos*)		Poaching Disturbance	Improved law enforcement incl. control and preventing illegal hunting; Ensure sustainable visitor numbers.	
2. Roe deer (*Capreolus capreolus*)		Poaching Disturbance	Improved law enforcement incl. control and preventing illegal hunting; Ensure sustainable visitor numbers.	
3. Eurasian lynx *(Lynx lynx)*		Poaching Non-conservation friendly forestry	Improved law enforcement incl. control and preventing illegal hunting; Maintain old growth forest stands	
4. *Egyptian vulture (Neophron percnopterus),*		Persecution	Improved law enforcement; Organise "vulture restaurants" if appropriate; Develop birdwatching	
5. Forest and meadow ecosystems				
Priority Emerald species				
Callimorpha quadripunctaria				
Canis lupus				
Rosalia alpina				
Ursus arctos				
Barbastella barbastellus			Protect/maintain old-growth forest sections	
Lutra lutra				

Lynx lynx				

Table #2: Mtirala NP

Indicator	Current sate of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
1. Brown bear (*Ursus arctos*)		Poaching	Improved law enforcement incl. control and preventing illegal hunting;	
2. Roe deer (*Capreolus capreolus*)		Poaching	Improved law enforcement incl. control and preventing illegal hunting;	
3. River otter (*Lutra lutra*)		Persecution/Illegal killing	Improved law enforcement incl. control illegal fishing in the river.	
4. Caucasian salamander (*Mertensiella caucasica*)				
5. Forest species affected by pathogens *Castanea sativa, Buxus colchicus, etc.*			Implement measures that are compatible with PA regulations and conservation objectives.	
6. Alien invasive plants			Implement measures to control/eradicate alien plants as appropriate	
7. Cochic forest			Restriction of visitor access to sensitive areas;	
Priority Emerald species				
Callimorpha quadripunctaria				
Canis lupus				
Rosalia alpina		Sanitary cuts of infected/old trees	Maintain old beech trees.	
Ursus arctos				
Barbastella barbastellus				

Lutra lutra				
Lynx lynx				
Myotis bechsteini				
Rhinolophus euryale		Destruction of roosting sites	Protect roosting sites.	
Vipera kaznakovi				
Lacerta clarkorum				
Myotis bechsteini		Destruction of roosting sites	Protect roosting sites.	

Table #3: Kintrishi PA

Indicator	Current sate of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
1. Brown bear (*Ursus arctos*)		Poaching	Improved law enforcement incl. control and preventing illegal hunting;	
2. Eurasian lynx *(Lynx lynx)*		Poaching Non-conservation friendly forestry	Improved law enforcement incl. control and preventing of illegal hunting; Maintain old growth forest stands.	
3. Chamois (Rupicapra rupicapra*)*		Poaching	Improved law enforcement incl. control and preventing illegal hunting;	
4. River otter (*Lutra lutra*)		Persecution/Illegal killing	Improved law enforcement incl. control illegal fishing in the river.	
5. Caucasian salamander (*Mertensiella caucasica*)				
6. The brown river trout (*Salmo trutta*)		Illegal fishing;	Improved law enforcement incl. control and prevention of illegal fishing.	

7. Caucasian grouse (*Lyrurus mlokosiewiczi*)		Poaching	Improved law enforcement incl. control and prevention of illegal hunting.	
8. Forest species affected by pathogens *Castanea sativa, Buxus colchica, etc.*			Implement measures against forests pests that are compatible with PA regulations and conservation objectives.	
9. Alien invasive plants			Implement measures to control/eradicate alien plants as appropriate	
10. Endemic trees and shrubs (*Betula medvedewiii, Quercus pontica, Taxus baccata, Rhododendron ungerni*)		Illegal cutting; Pathogens.	Improved law enforcement incl. control of illegal cutting. Eco-education.	
11. *Alium adjaricum*		Excessive collection		Endemic
12. *Lillium szovitsianum*				
13. Cochic forest			Restriction of visitor access to sensitive areas;	
Priority Emerald species				
Callimorpha quadripunctaria				
Canis lupus				
Rosalia alpina		Sanitary cuts of infected/old trees	Maintain old beech trees.	
Ursus arctos				
Barbastella barbastellus				
Lutra lutra				
Lynx lynx				
Rhinolophus euryale		Destruction of roosting sites	Protect roosting sites.	
Vipera kaznakovi				
Myotis bechsteini		Destruction of roosting sites	Protect roosting sites.	

Table #4: Machakhela PA

Indicator	Current sate of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
1. Brown bear (*Ursus arctos*)		Poaching	Improved law enforcement incl. control and preventing illegal hunting;	
2. Chamois (Rupicapra rupicapra*)*		Poaching	Improved law enforcement incl. control and preventing illegal hunting;	
3. River otter (*Lutra lutra*)		Persecution/Illegal killing	Improved law enforcement incl. control illegal fishing in the river.	
4. Caucasian salamander (*Mertensiella caucasica)*				
5. Forest species affected by pathogens *Castanea sativa, Buxus colchicus, etc.*			Implement measures that are compatible with PA regulations and conservation objectives.	
6. Alien invasive plants			Implement measures to control/eradicate alien plants as appropriate	
7. Cochic forest		Non-sustainable forestry activities	Ensure control of illegal cutting; Implement forest management; Restriction of visitor access to sensitive areas;	
Priority Emerald species				
Canis lupus				
Rosalia alpina		Sanitary cuts of infected/old trees	Maintain old beech trees.	
Ursus arctos				
Barbastella barbastellus				
Lutra lutra				

Lynx lynx				
Vipera kaznakovi				

Table #5: Vashlovani PA

Indicator	Current state of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
1. Brown bear (*Ursus arctos*)	Extremely small population; Up 10 individuals.	Poaching	Improved law enforcement incl. control and preventing illegal hunting; Minimise conflict with local farmers.	
2. Persian gazelle (*Gazella subguturoza*)	Increasing	Poaching; Disturbances associated with livestock grazing and tourism.	Improved law enforcement incl. control and preventing illegal hunting; Ensure sustainable visitor numbers.	
3. Eurasian lynx (*Lynx lynx*)		Poaching; Depletion of food base (chukar, hare, etc.)	Improved law enforcement incl. control and preventing illegal hunting;	
4. *Large birds of prey and vultures*		Persecution Pesticides	Improved law enforcement; Organise "vulture restaurants" if appropriate; Develop birdwatching	
5. Chukar partridge (*Alectoris chukar*)		Poaching Disturbances associated with grazing; Field fires.	Improved law enforcement incl. control and preventing illegal hunting;	
6. Pheasant (*Phasianus colchicus*)		Poaching; Disturbance associated with grazing; Field fires.		

Indicator	Current state	Direct threat/pressure affecting indicator	Possible management response	Comment
7. Arid light woodlands	Decreasing	Illegal cutting for fuelwood; fire Grazing.	Improved law enforcement incl. control and preventing of illegal cutting	
Priority Emerald species				
Canis lupus				
Ursus arctos				
Gazella subguturoza		Poaching; Disturbance associated with livestock grazing	Protect/maintain old-growth forest sections	
Lutra lutra				
Lynx lynx				
Panthera pardus				
Rhinolophus mehelyi		Disturbance incl. from tourists	Protect roosting sites.	
Testudo graeca				

Table #6: Javakheti PA

Indicator	Current sate of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
Marbled polecat (*Vormella peregusna*)		Poaching; Disturbance from agricultural activities	Improved law enforcement; Sustainable grazing management	
River otter (*Lutra lutra*)		Persecution; Poaching.	Improved law enforcement incl. control of illegal fishing.	
Migratory water birds		Poaching	Improved law enforcement	
Nesting water birds		Illegal hunting	Improved law enforcement	
Nesting colonial water birds (Armenian gull, Dalmatian pelican, great white pelican)		Illegal hunting; Disturbance.	Improved law enforcement Establishment and management of breeding sites.	
White stork		Disturbance	Eco-education	
Priority Emerald species				
Canis lupus				
Lutra lutra				

Erebia medusa polaris				
Ligularia sibirica		Habitat loss due to draining/climate change	Maintain small watercourses (e.g. by preventing draining) (Main threats:)	
Lycaena dispar				
Meesia longiseta		Habitat loss due to draining/climate change	Protect habitat (rich fens) e.g. by preventing draining	

Table #7. Tusheti PA and Tusheti PL

Indicator	Current state of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
1. Bezoar Goat (*Capra aegagrus*)	About 310 individuals	Poaching; Disturbance	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2013
2. East Caucasian tur (*Capra cylindricornis*)	About 1500 individuals	Poaching; Disturbance	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2014
3. Red deer (*Cervus elaphus*)		Poaching; Disturbance	Improved law enforcement incl. control and prevention of illegal hunting.	
4. Leopard (*Panthera pardus*)		Poaching; Lack of pray base Disturbance	Improved law enforcement incl. control and prevention of illegal hunting.	
5. Forest pests				
6. Forest habitats				
7. Pastures		Overgrazing; Climate change.	Sustainable pasture management	
Priority Emerald species				
Callimorpha quadripunctaria				
Canis lupus				
Ursus arctos				
Capra aegagrus				

Lutra lutra				
Lynx lynx				
Panthera pardus				

Table #8. Pshav-Khevsureti PA

Indicator	Current state of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment
1. Bezoar Goat (*Capra aegagrus)*	About 50 individuals	Poaching; Disturbance Tourism	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2013
2. Eastcaucasian tur (*Capra cylindricornis)*	70-143 individuals	Poaching; Disturbance	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2014
3. Chamois (*Rupicapra rupicapra)*		Poaching; Disturbance	Improved law enforcement incl. control and prevention of illegal hunting.	
4. Eurasian Lynx (*Lynx lynx)*		Poaching; Disturbance Lack of prey base	Improved law enforcement incl. control and prevention of illegal hunting. Reintroduction of prey species	
5. Bearded vulture (*Gypaetus barbatus)*		Persecution	Improved eco-education	
6. Egyptian Vulture (*Neophron percnopterus)*		Persecution Poisoning (?)	Improved eco-education	
7. Caucasian grouse (*Lyrurus mlokosiewiczi)*		Poaching Grazing	Improved law enforcement incl. control and prevention of illegal hunting. Special grazing regimes/restrictions.	
8. Caucasian snowcock (*Tetraogallus caucasicus)*		Poaching	Improved law enforcement incl. control and prevention of illegal hunting.	

Indicator	Current state	Direct threat/pressure affecting indicator	Possible management response	Comment
9. *Darevkia caucasica, D. rudis, D. rejugini*				
10. Dinnick's Viper (*Vipera dinniki*)		Persecution; Intensive grazing	Targeted eco-education;	
11. The brown river trout (*Salmo trutta*)		Illegal fishing;	Improved law enforcement incl. control and prevention of illegal fishing.	
12. Forest (exploited and burned plots, intact plots)				
13. Rock, scree and wet areas vegetation				
14. Red list wooded plants (Quercus macranthera, Betula raddeana, Ulmus glabra, Sorbus hajastana)		Illegal cutting	Improved law enforcement	
15. *Primula darialica*		Climate change		
16. *Symphyoloma graveolens*		Climate change		
Priority Emerald species				
Canis lupus				
Ursus arctos				
Capra aegagrus				
Lutra lutra				
Lynx lynx				
Panthera pardus				
Vipera kaznakovi				

Table #9 Lagodekhi PA

Indicator	Current state of indicator (assessed or estimated)	Direct threat/pressure affecting indicator	Possible management response	Comment

	Indicator	Current state of indicator	Direct threat/pressure affecting indicator	Possible management response	Comment
1.	Red deer (*Cervus elaphus*)	Minimum 74 individuals	Poaching; Disturbance incl. from tourists	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2018
2.	Eastcaucasian tur (*Capra cylindricornis*)	Minimum 505 individuals	Poaching; Disturbance incl. from tourists	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2019
3.	Brown bear (*Ursus arctos*)		Poaching; Disturbance incl. from tourists	Improved law enforcement incl. control and prevention of illegal hunting.	
4.	Caucasian grouse (*Lyrurus mlokosiewiczi*)	Up to 700	Poaching Disturbance incl. from tourists and sheep grazing	Improved law enforcement incl. control and prevention of illegal hunting;	The assessment carried out in 2003
5.	Monitoring of sensitive and vulnerable habitats		Climate change		
6.	Pastures		Overgrazing	Special grazing regimes/restrictions.	
7.	Invasive species			Implement measures to control/eradicate alien plants as appropriate	
Priority Emerald species					
Callimorpha quadripunctaria					
Canis lupus					
Rosalia alpina					
Ursus arctos					
Barbastella barbastellus					
Lynx lynx					

Table # 10 Kazbegi PA

Indicator	Current state of indicator	Direct threat/pressure affecting indicator	Possible management response	Comment

	(assessed or estimated)			
Eastcaucasian tur (*Capra cylindricornis*)	About 800 individuals	Poaching; Disturbance incl. from tourists and sheep grazing	Improved law enforcement incl. control and prevention of illegal hunting;	The assessment was carried out in 2014
Chamois (*Rupicapra rupicapra*)	149-319 individuals	Poaching; Disturbance incl. from tourists and sheep grazing	Improved law enforcement incl. control and prevention of illegal hunting;	The assessment was carried out in 2014
Eurasian Lynx (*Lynx lynx*)		Poaching; Disturbance	Improved law enforcement incl. control and prevention of illegal hunting;	
Brown Bear (*Ursus arctos*)		Poaching; Disturbance	Improved law enforcement incl. control and prevention of illegal hunting;	
Long clawed mole vole (*Prometheomys schaposchnikovi*)				
Kazbeg birch mouse (*Sicista kazbegica*)				
Caucasian Snowcock (*Tetraogallus caucasicus*)		Poaching;	Improved law enforcement incl. control and prevention of illegal hunting. Special grazing regimes/restrictions.	
Caucasian grouse (*Lyrurus mlokosiewiczi*)		Poaching Grazing	Improved law enforcement incl. control and prevention of illegal hunting. Special grazing regimes/restrictions.	
Bearded vulture (*Gypaetus barbatus*)		Persecution	Improved eco-education	
Egyptian Vulture (*Neophron percnopterus*)		Persecution	Improved eco-education	
Eurasian griffon (*Gyps fulvus*)		Persecution	Improved eco-education	

Indicator		Direct threat/pressure affecting indicator	Possible management response	Comment
		Helicopter flights Tourism (such as recreational infrastructure incl. a zipline and operation)		
Golden eagle (*Aquila chrysaetos*)		Persecution	Improved eco-education	
Great rosefinch (*Carpodacus rubicilla*)		Habitat destruction		
Guldenstadt's Redstart (*Phoenicurus erythrogastrus*)		Habitat destruction		
Great Rosefinch (*Carpodacus rubicilla*)				
Dinnick's viper (*Vipera dinniki*)		Persecution Overgrazing		
Arabis kazbegi				Narrow local endemic
Campanula belidifolia				Narrow local endemic
Ranunculus baidarae				Narrow local endemic
Delphinium caucasicum		Overgrazing Climate change		Narrow local endemic.
Primula darialica				Narrow local endemic
Ranunculus lojkae		Overgrazing Climate change		Narrow local endemic
Cladochaeta candidissima				Caucasian endemic genus.
Priority Emerald species				
Canis lupus				
Ursus arctos				
Lutra lutra				
Lynx lynx				

Table #11. BKNP

Indicator	Current state of indicator	Direct threat/pressure affecting indicator	Possible management response	Comment

	(assessed or estimated)			
1. Forest features (burned areas, treeline, large windblown trees)				
2. Forest pests				
3. Invasive species				
4. Red deer (*Cervus elaphus*)	300-500 individuals	Poaching; Disturbance incl. from tourists Large infrastructure development	Improved law enforcement incl. control and prevention of illegal hunting.	
5. Chamois (*Rupicapra rupicapra*)		Poaching; Disturbance incl. from tourists and sheep grazing Large infrastructure development	Improved law enforcement incl. control and prevention of illegal hunting.	
6. Roe deer (*Capreolus capreolus*)		Poaching; Disturbance incl. from tourists Large infrastructure development	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2015
7. Brown bear (*Ursus arctos*)	38-47 individuals	Poaching; Disturbance incl. from tourists Large infrastructure development	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2014
8. Wolf (*Canis lupus*)		Poaching/Persecution Disturbance incl. from tourists Large infrastructure development	Improved law enforcement incl. control and prevention of illegal hunting; Eco-education;	
9. Lynx (*Lynx lynx*)	8-15 individuals (Borjomi side only)	Poaching; Disturbance Large infrastructure development	Improved law enforcement incl. control and prevention of illegal hunting.	The assessment carried out in 2014
10. Otter (*Lutra lutra*)		Poaching; Disturbance Large infrastructure development; Depletion of food base/Illegal fishing; Water pollution (in lake Tabatskuri)	Improved law enforcement incl. control and prevention of illegal hunting and fishing; Eco-education;	

11. Caspian Snowcock (*Tetraogallus caspiuss*)		Poaching; Disturbance incl. from tourists and sheep grazing	Improved law enforcement incl. control and prevention of illegal hunting. Special grazing regimes/restrictions.	
12. Caucasian grouse (*Lyrurus mlokosiewiczi*)		Poaching; Disturbance incl. from tourists and sheep grazing.	Improved law enforcement incl. control and prevention of illegal hunting. Special grazing regimes/restrictions.	
13. Water birds		Poaching; Collecting bird eggs; Unsustainable mowing	Improved law enforcement incl. control and prevention of illegal hunting. Mowing regimes/restrictions.	Ktsia-Tabatskuri Lake
14. *Galanthus spp.*		Illegal grazing in forest; Climate change	Improved law enforcement i.e. control of illegal grazing in forest	
Priority Emerald species				
Callimorpha quadripunctaria				
Canis lupus				
Rosalia alpina				
Ursus arctos				
Barbastella barbastellus				
Lutra lutra				
Lynx lynx				
Rhinolophus euryale				
Vipera kaznakovi				