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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

36th meeting
Strasbourg, 15-18 November 2016

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File open

Hydro power development within the territory of Mavrovo National Park ("the former Yugoslav Republic of Macedonia")

- REPORT BY THE GOVERNMENT -

Document prepared by
the Case File Working Group, "The former Yugoslav Republic of Macedonia"

The report has been tabled in the form it has been submitted by the national authorities, who are responsible for its content

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Republic of Macedonia
Government of Republic of Macedonia

REPORT OF THE GOVERNMENT OF REPUBLIC OF MACEDONIA

GOVERNMENT REPORT IN RELATION TO COMPLAINT NO. 2013/1: DEVELOPMENT OF HYDRO-POWER PROJECTS WITHIN THE TERRITORY OF MAVROVO NATIONAL PARK IN REPUBLIC OF MACEDONIA

Date: 10/10/2016

The report shall be used or reproduced verbatim without any modifications to the format or the content, including the reference to the name of the country - Republic of Macedonia.

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List of Acronyms

EIA – Environmental Impact Assessment

ELEM – JSC Macedonian Power Plants

IUCN – International Union for Conservation of Nature

MNP – Mavrovo National Park

MoEPP – Ministry of Environment and Physical Planning of Republic of Macedonia

NGO – Non-Governmental Organisation

PIMNP – Public Institution Mavrovo National Park

SC – Standing Committee of the Bern Convention

SEA – Strategic Environmental Assessment

1. Background

Refer to the July 2016 report by Macedonia for detailed background and analysis of the open case file.

The Bureau reviewed this report and produced the following decision at its last meeting on 5-6 September 2016 (notification sent to Macedonia on 26/09/16):

> The Bureau thanked the authorities of Republic of Macedonia for providing their timely report and for their efforts in quickly starting the implementation of the recommended measures, including the plans for the establishment of a national program for the recovery of the Balkan Lynx.
>
> The Bureau noted the concerns expressed by the complainant and decided to keep the case-file open and to request the national authorities to report to the Standing Committee on the status of the new SEA study, on the process leading to its preparation and launching and on any other relevant measure they consider important.

2. Update on Implementation of Recommendation No. 184 (2015)

We would like to again reiterate that the foreseen government projects in MNP have been suspended in accordance with the Recommendation.

As explained in detail in our July 2016 Report, the SEA for the management plan of MNP will begin once the Law for Re-proclamation of the National Park has been adopted by the parliament.

3. Request for Information

In the July 2016 report to the Bureau Macedonia provided detailed analysis of the complaint, concluding that the complainant's claims related to the open case file are exaggerated and unfounded. Nevertheless Macedonia stayed committed to implementing the Recommendation of the Bern Convention.

We note that Macedonia provided detailed expert review of the on-the-spot appraisal report before the 2015 SC meeting, while the relevant institutions have been continuously open for providing scientific and other information to national and international NGOs, which seem to be largely ignored.

As we stated in our July 2016 report, further discussions on the open case file in relation to impacts on the hydro projects on the natural values in MNP, including the Balkan Lynx, must be based on verified scientific national and international evidence.

Therefore Macedonia requests the Bureau to advise its own position on our assessment of the complaint in our July 2016 report.

Macedonia also requests the Bureau to immediately seek further information from the complainant elaborating the impact of the hydro projects, particularly Boshkov Most and Lukovo Pole, on the following:

- direct destruction of forests
- fragmentation of wildlife habitats, and
- severe disturbance of water sources

As part of this additional information to be provided by the complainant, we request specific explanation on the claim that the hydro power developments in MNP will endanger the Lynx lynx balcanicus and other large mammals.

4. International NGOs on the Open Case File

At the 2015 Bern Convention Standing Committee meeting some international non-government organisations such as Euronatur and IUCN were vocal against the projects in MNP and provided official statements at the meeting. We encourage these and other interested organisations to put forward scientific evidence that will demonstrate the hydro power developments will endanger the Balkan Lynx and other large mammals.

Euronatur seem to have been particularly vigorous in their campaign against Boskov Most and Lukovo Pole projects in MNP over the last several years, supporting the domestic NGOs, international campaigns and so on.

Euronatur was a partner in the Program for Recovery of the Balkan Lynx 2005-2015 (refer to Macedonian July 2016 report for more details) with potential interest for future engagement in Macedonia and the region. While good intentions in raising environmental issues and supporting conservation work are welcome, it would represent a good practice on Euronatur's part to ensure their actions do not give rise to perceptions of conflict of interest.

Therefore it is incumbent on this organization to put forward substantiated evidence in support of their claims and it should be well placed to do that given its long-term involvement with the Balkan Lynx Project in MNP and the broader region.

5. Other

Additional information from the complainant referenced in the Bureau Decision notification of 26/09/16, which appears to have been provided to the Bureau in July 2016, is riddled with inaccurate and misleading information. We regret to conclude that the practice of publically presenting unchecked, inaccurate and misleading information has been ongoing for a number of years.

We encourage the complainant to follow proper consultation avenues and to contact the Ministry of Environment and Physical Planning of Macedonia to obtain up-to-date information before presenting to the Bern Convention and/or the wider public domain.

Our relevant institutions have been and remain open for all stakeholders and welcome constructive discussions on this or other issues to relevant to protecting the environment and improvement of the regulatory processes in Macedonia.

Republic of Macedonia
Government of Republic of Macedonia

REPORT OF THE GOVERNMENT OF REPUBLIC OF MACEDONIA

GOVERNMENT REPORT IN RELATION TO COMPLAINT NO. 2013/1: DEVELOPMENT OF HYDRO-POWER PROJECTS WITHIN THE TERRITORY OF MAVROVO NATIONAL PARK IN REPUBLIC OF MACEDONIA

Date: 22/07/2016

The report shall be used or reproduced verbatim without any modifications to the format or the content, including the reference to the name of the country - Republic of Macedonia.

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NGO – Non-Governmental Organisation

PIMNP – Public Institution Mavrovo National Park

SC – Standing Committee of the Bern Convention

SEA – Strategic Environmental Assessment

1. BACKGROUND

Mavrovo is a large national park covering 73,088 ha in the North-West of Republic of Macedonia, first established in 1949over 11,750 ha. It is very rich in biodiversity, and has been continuously inhabited for millennia with current active population of around 9,000 across 37 settlements.

The park is managed by the Public Institution Mavrovo National Park (PIMNP) which under the national legislation has the responsibility for protection and management of natural heritage. PIMNPemploys 78 full time staff, 80% of which are directly involved in monitoring and protection of the flora and fauna 24 hours a day, including the ranger department, technical, scientific and engineering staff.

Mavrovo National Park (MNP)encompasses existing infrastructureincluding settlements, electrification infrastructure, roads, hotels and ski center, large scale hydro system (Mavrovo Hydro System) and so on.

The existing Mavrovo Hydro System and the planned hydro projects are of strategic importance for Republic of Macedonia. Mavrovo Hydro System is a unique and complex network of underground channels and pipes, tunnels, damsand a lake built after World War II. Proposed Lukovo Pole project has been envisaged as the third and final phase of the Mavrovo Hydro System, while Boskov Most is a stand-alone project partly located on the territory of Mavrovo National Park.

A complaint was submitted in March 2013 by NGO Eko-Svestfor possible breach of the Convention by Republic of Macedonia with regards to the development of hydro-power projects by the government-owned energy company Macedonian Power Plants (ELEM) within the territory of the Mavrovo National Park.

The complaint alleged that implementation of the hydro-power projects will result in destruction of forests, severe disturbance of water sources and fragmentation of wildlife habitats of numerous strictly protected species of plants, mammals, birds, amphibians and reptiles listed in Appendix I and II of the Bern Convention. The complaint focused on the *Lynx lynxbalcanicus*, claiming the species might be critically endangered if the projects are implemented.

The position of the Government of Macedonia has been that the planned hydro-power developments will not cause significant adverse impact on the biodiversity in National ParkMavrovo, including the Lynx population.

Following a period of exchange of information with the Macedonian focal point at the Bern Convention which manifested deficiency in quality information, the Bureau decided to open a case file in 2015 and to request an on-the-spot appraisal to the area with the objective of collecting more information for the preparation of draft recommendations to be submitted to the 2015 Standing Committee meeting.

Following the issue of the on-the-spot appraisal report in October 2015, the Government of Macedonia provided a detailed commentary on the report, highlighting a number of key issues:

- The appraisal was not focused on assessing whether the development of hydro projects is in compliance with national legislation for environment and nature protection
- Short duration of the on-the-spot appraisal mission– experts only 2 days in the country, 1 day meetings in Skopje and only 1 day in the field. The time is grossly inadequate to cover various relevant stakeholders and the site areas in question
- Inaccurate information in the report
- Using reference information which is not scientifically accepted or verified
- Key scientific and planning documents have been either marginally considered or completely neglected in the report

These deficiencies raised serious doubts about the suitability of the terms of reference for the appraisal and the necessary grasp on the relevant issues on the part of the on-the-spot appraisal team, which in our view led to unrealistic conclusions and resulted in inappropriate recommendations by the Bureau to the 2015 Standing Committee.

Considering the strategic importance of the planned hydro-power plants in Mavrovo, as soon as the issue was elevated in October 2015 the Government of Macedonia established a working group to undertake in-depth analysis of the case, present relevant information at the 35th Standing Committee meeting in December 2015, and work with the Bureau until the open case file is resolved.

Following the Mavrovo open case presentations, discussions and mini-drafting group discussions at the 2015 Standing Committee meeting, the following recommendationswere adopted. It is noted that the Government of Macedonia acknowledged certain deficiency in quality of information provided in the past, highlighted the issues with the appraisal report, and proposed an additional on-the-spot appraisal mission be organized at the earliest opportunity; the proposal was not accepted by the Standing Committee. Adopted recommendations:

1. Suspend the implementation of all government projects, in particular the hydropower plants foreseen and related infrastructure, within the territory of the Mavrovo National Park, until a Strategic Environmental Assessment will be completed taking into account the following point of the Recommendation, putting specific emphasis on cumulative effects of all planned development activities on the territory of the Park, also taking into account social aspect; the assessment needs to consider the regional long-term effects, on the water regimes of the Drin and Vardar rivers;
2. In the frame of the assessment above, address the specific conservation needs of those species of fauna and flora for the conservation of which the Mavrovo National Park bears special responsibility, including the species and habitats for which this site was nominated as candidate Emerald site; take into account the results of the analysis recommended under the point above when adopting the Management plan for the area;
3. Keep the Standing Committee regularly informed about the progress in the implementation of this Recommendation

On insistence from the Albanian delegation to the Standing Committee to call international lenders to abandon the projects in the Mavrovo National Park, despite the reactions from the Macedonian side the following statement was also included in the recommendations:

"Invites international financial institutions to consider the results of the strategic environmental assessment when deciding on the financing of the hydropower projects in the Park".

The preamble of the recommendations highlighted the need to expedite the adoption of the law for re-proclamation of the national park and adopt the new management plan, an encouragement welcomed by the Macedonian Government.

On 31stof May 2016 the Secretariat requested a new report from the Government of Macedonia for its upcoming meeting on 5-6 September 2016 with updated information on:

- the implementation of Recommendation No. 184 (2015) of the Standing Committee to the Bern Convention on the planned hydropower plants on the territory of the Mavrovo National Park
- the status of the hydropower projects Lukovo Pole and Boskov Most, including their strategic impact assessmentand howitcomplies with the Recommendation
- the progress in the official adoption of the Management Plan of the Mavrovo National Park and its compliance with the Recommendation
- the aim and status of the law on re-proclamation of the Mavrovo National Park
- the status of the small privately funded hydropower plants in the Mavrovo National Park
- the progress in the implementation of the national program for monitoring and recovery of the Balkan Lynx

Report Structure

Responses to these questions have been provided in sections 2 to 7 of this document.

Section 8 and the appendices provide additional important information in relation to the open case file.

Section 9 provides summary and conclusion of this report.

2. UPDATE ON IMPLEMENTATION OF RECOMMENDATION NO. 184 (2015)

The Government of Macedonia is following Recommendation No. 184 (2015) of the Standing Committee to the Bern Convention on the planned hydropower plants on the territory of the Mavrovo National Park in Republic of Macedonia.

Implementation of the foreseen government projects in the National Park have been suspended until a Strategic Environmental Assessment is completed (recommendation #1).

PIMNP is preparing the tender documents for consultancy services for the SEA on the management plan of MNP, which will be launched once the Law for Re-proclamation has been adopted, in accordance with the provisions of the national legislation. Refer to sections 3, 4 and 5 and Appendix Bof this report for details explaining the regulatory process pertinent to proclamation of national parks and adoption of management plans.

No action can be reported on recommendation #2 as it is part of activities in recommendation #1.

On recommendation #3, this report is part of the regular informing of the Standing Committee on the progress with the implementation of the recommendations.

3. STATUS OF HYDRO-POWER PROJECTS BOSKOV MOST AND LUKOVO POLEINCLUDING THEIR STRATEGIC IMPACT ASSESSMENT AND HOW IT COMPLIES WITH THE RECOMMENDATION

Boskov Most and Lukovo Pole projects are in different stages of development and permitting. No construction-related activities have occurred to-date.

Boskov Most status

EIA approved by MoEPP in 2012, extension obtained in 2015.Following the obligations and requirements of the approved EIA several studies concerning environmental protection, biodiversity and social impactshave been developed including:

- Annual Report on pre-construction biodiversity survey
- Annual Report on pre-construction environmental monitoring
- Aquatic biodiversity survey for Mala Reka catchment
- Biodiversity Mitigation Strategy
- Landscape Master Plan (LMP), Visual Impact Assessment and Landscape Design
- Resettlement Action Plan

Lukovo Pole status

Lukovo Pole is in early stages of development. Environmental permitting process has not commenced yet. In keeping with the national legislation, international obligations and best practice for development of similar projects the developer will in due time address all environmental issues that need to be covered in appropriate and transparent manner.

Strategic Impact Assessment

In relation to the Bureau question about ***Strategic Impact Assessment***, we emphasize that such document does not exist in the national legislation. Republic of Macedonia has transposed the SEA and EIA directives (85/337/EEC and 2001/42/EC) into the Law on Environment, which is the national framework pertinent to environmental permitting process for development of projects. This has

already been stated by the Government of Macedonia on a number of previous occasions, including the 35th meeting of Standing Committee.

The Recommendation is about conducting a **Strategic Environmental Assessment** on the management plan for MNP.

4. PROGRESS WITH ADOPTION OF NP MAVROVO MANAGEMENT PLAN AND ITS COMPLIANCE WITH THE RECOMMENDATION

Refer to Appendix B for description on the Macedonian legislative framework and process in relation to proclamation of national parks and adoption of management plans.

Following adoption of the Law for Re-proclamation by the National Parliamentthe management plan for MNP will be finalized and adopted by the PIMNP upon approval by MoEPP.

MNP management plan will be finalized after completion of the Strategic Environmental Assessment process, taking into account the Standing Committee Recommendations.

5. THE AIM AND STATUS OF THE LAW ON RE-PROCLAMATION OF THE MAVROVO NATIONAL PARK

In accordance with the Law for Nature Protection (introduced in 2004), the responsible authority for nature protection (MoEPP) is obligated to conduct valorization of the natural heritage in the country and prepare acts for proclamation.

According to the provisions of the Law, existing protected areas, including MNP, shall be subject to re-proclamation based on study for revalorization of values of the protected area.

Refer to Appendix B for detailed description on the legislative framework and process in relation to proclamation of national parks and adoption of management plans.

A brief summary of the re-proclamation process for MNP is provided in the table below.

Activity	Timing	Status
Re-valorisation Study for Mavrovo National Park		
Re-valorisation study completed (included public consultation)	2011	Completed
Re-valorisation study additional clarifications with stakeholders	2012	Completed
Management Plan for Mavrovo National Park		
Draft management plan for MNP completed (included public consultation)	2012	Completed
Strategic Environmental Assessment of the management plan (contingent on adoption of the Law for Re-proclamation)	2016	Pending
Final Management Plan (contingent on adoption of the re-proclamation law and completion of SEA)	2016	Pending
Law for Re-proclamation of Mavrovo National Park		
Government approval of re-proclamation notice by MoEPP	2013	Completed
Public hearing on the proposal for re-proclamation	2013	Completed
Draft re-proclamation law	2014	Completed
Draft law institutional review	2014	Completed
Revised draft law to include latest international practices	2015	Completed
Regulatory impact assessment	2015	Completed
Display of the draft law on the national register of electronic regulation of the Republic of Macedonia (ENER)	2015	Completed
Public call for review of draft law (issued to government and NGO)	2015	Completed
Public hearing on the draft law for re-proclamation	2015	Completed
Public meeting with Debar Municipalityon request from the local government (*)	2015	Completed
Align draft law with comments from legislative department	2015	Completed
Final draft, public hearing including comments	2015	Completed
Final draft law on hold	2015 -	Pending

(*) The entire territory of MNP belongs to the Mavrovo-Rostusheand Gostivarlocal governments. Debar municipality is a neighbouring local government.

The process for re-proclamation of MNP has been complicated by a set of subjective and objective circumstances since its inception, and eventually stalled when the Bern Convention case file was opened.

Closing out this process is imperative for MNP and we expect the process to accelerate in the near term with adoption of the re-proclamation law potentially inQ3/Q4 of 2016, or possibly after the elections in Macedonia.

6. STATUS OF SMALL PRIVATELY FUNDED HYDRO PLANTS

Following the Recommendation of the Standing Committee the Government of Republic of Macedonia suspended all government projects on the territory of MNP. This includes Lukovo Pole and Boskov Most projects as well as future concessions for small/micro hydro power plants on the territory of MNP.

The privately funded small/micro hydro plants in development before December 2015 are not subject to the Recommendation. Concessioning for the remaining planned small/micro hydro plants within the territory of MNP has been suspended.

7. THE PROGRESS IN THE IMPLEMENTATION OF THE NATIONAL PROGRAM FOR MONITORING AND RECOVERY OF THE BALKAN LYNX

The Government of Macedonia has commenced activities in relation to establishment of a national program for recovery of the Balkan Lynx. The program objective is protection and securing favourable conditions for increasing the population of the Balkan Lynx through conservation and reproduction activities. This will also support future initiative for listing of Balkan Lynx on the Bern Convention strictly protected species list.

A project concept was prepared in January 2016 (refer to Appendix D).

The Government of Macedonia approached the Bern Convention Bureau in February 2016 for assistance in sourcing funding for the national research program. The Bureau recommended funding besourced from established international donors with support from the national budget.

Initial contacts have been made with some potential donors and we plan to intensify and broaden the search, including donors that have previously supported the Lynx research in the country. Due to the political situation in Macedonia we are yet to secure the state funding and firm up the schedule for the program.

8. COMMENTARY ON THE COMPLAINT

According to the complainant, the construction of several hydro-power plants and supporting infrastructures (roads, bridges and transmission lines) will result in:

- direct destruction of forests
- severe disturbance of water sources, and
- fragmentation of wildlife habitats – the home of numerous strictly protected species of plants, mammals, birds, amphibians and reptiles listed in Appendix I and II of the Bern Convention
- the complainant emphasized that some of these species, namely the Lynx lynx balcanicus, might be critically endangered if the projects are implemented

These claims are grossly exaggerated which is illustrated by the following considerations.

Direct destruction of forests

The total surface of the Protected Area National Park Mavrovo is 72,415 ha, of which approximately:

- 33,180ha (45.8%) are covered by forest ecosystems
- 35,600ha (49.2%) are under mountain ecosystems (high-mountain grasslands)

- 1,700ha (2.3%) are covered by aquatic ecosystems (reservoirs, rivers, streams, glacial lakes and temporary pools)
- 1,530ha (2.1%) are under arable land, and
- 400ha (0.6%) are settlements

Forest inventory conducted in 1967, which is the earliest reliable data available on forestry in MNP, registered 27,182ha of forest ecosystems, while the 2010 inventory established a total area covered with forest of 33,179ha. This represents 22% increase in the area covered with forest ecosystems in MNP over that period. This indicates the positive trend in the improvement of the forest ecosystems, a testament to the good management practices at MNP.

The planned dams and lakes for Boskov Most and Lukovo Pole hydro projects are located in areas without forest. Forest areas impacted by the projects - mainly by the water intakes and supporting infrastructure - are minimal. It is important to emphasize that both Boskov Most and Lukovo Pole projects are located entirely within the area for sustainable use of the national park, at locations avoiding impact on priority habitat types or important plant and animal species.

For Lukovo Pole the impacted forest will be around 15ha, representing 0.045% of the total forest ecosystems in MNP. For Boskov Most the impact on forest ecosystems is insignificant and in the order of around 0.005% of the total forest ecosystems in MNP. Notwithstanding, in accordance with the national legislation the projects will compensate for the loss of forest, including replanting measures, as defined in the environmental permitting process.

Table 1 Summary of project affected forest ecosystems before compensation

	Affected Forest Ecosystems (appx)	Total MNP Forest Ecosystem (appx)	% affected before compensation
Lukovo Pole	15 ha	33,179 ha	0.045 %
Boskov Most	2 ha	33,179 ha	0.005 %
Total	17 ha	33,179 ha	0.05 %

The processes followed in the development of the projects will ensure minimization of impact on forest ecosystems within the territory of MNP.

Severe disturbance of water sources

The key hydrological and ecological issues concerning development of hydro power projects in MNPare related to the following:

- Impact on aquatic habitats and species downstream of intakes and dams (applicable to both Lukovo Pole and Boskov Most)
- Impact of water diversion on associated watersheds (applicable to Lukovo Pole only)

Both aspects are being considered in the permitting process.

The national legislation pertinent to development of hydro power projects imposes determination of minimum acceptable biological flow as one of the key criteria in relation to impact on downstream aquatic habitats and species.

Boskov Most and Lukovo Pole projects are being developed on the basis of acceptable environmental flow releases rather than minimum acceptable biological flow, which is the best international practice.

Lukovo Pole project will undertake a specific hydrology study which will provide input into the project detailed design. The minimum acceptable biological flow for Boskov Most was initially determined in the EIA document and was subsequently updated to environmental flow release by the detailed aquatic biodiversity study. This approach satisfies the national requirements and best international practices for development of such projects in relation to impact on aquatic habitats.

In relation to water diversion on associated watersheds, the Strategic Environmental Assessment on the MNP management plan will provide information in relation to potential cumulative effects on

the catchment areas within the park, which will be reflected in the plans for water management in the MNP.

Irrespective of the requirements of the Recommendation, the EIA process for Lukovo Pole envisaged addressing the cumulative effects taking into account the trans-boundary effects on the water regimes of Drim and Vardar rivers, in accordance with the national environmental permitting requirements and international best practice.

The processes followed in the development of the projects will ensure avoidance of risks for unrecoverable disturbance of water sources.

Fragmentation of wildlife habitats

Habitat fragmentation, by definition, is the "breaking apart" of continuous habitatinto distinct pieces.

The impacts from the planned projects on fragmentation of habitats in MNP will be minimal considering the following:

- The environmental permitting framework through the EIA process imposes requirements and constraints to be followed in the design and construction of the projects
- The maximum affected area by the projects (permanent and temporary) is approximately 490ha, representing 0.67% of the total area of MNP (72,415ha)
- The permanent (long term) affected area is around 0.26% of the total area of MNP
- The design philosophy for both projects adopted avoidance of habitat fragmentation as a primary consideration through utilization of existing roads and transmission line corridors and maximization of underground construction for channels and tunnels

For clarification, hydro projects comprise permanent and temporary infrastructure:

- Permanent infrastructure comprises lakes, access roads, transmission lines, intakes, underground channels, tunnels and pipelines
- Temporary infrastructure is only used during construction and includes access roads, construction camp and facilities and so on

Table 2 Summary of projects footprint

	Total area of MNP	Maximum affected area	Permanent affected area
Lukovo Pole	72,415 ha	320 ha / 0.44 %	170 ha / 0.23 %
Boskov Most	72,415 ha	170 ha / 0.23 %	20 ha /0.027 %
Total	72,415 ha	490 ha / 0.67 %	190 ha / 0.26 %

In addition, in the process of preparation of MNP Management Plan (2012-2021) an evaluation of direct threats to biodiversity was conducted on the basis of IUCN "threats assessment tool" standard form, supported by the World Bank and the World Wildlife Fund (WWF). The evaluation results in relation to the threats defined under number 3[1]and number 7[2]of the tool, dealing with construction of hydro power plants (Lukovo Pole and the Boskov Most) and Habitat fragmentation, showed ranking as "low threats".

Thus, it is unreasonable to suggest that implementation of the hydro projects will result in fragmentation of wildlife habitats. As described above, it is important that the issues have been taken into account and any risks, albeit minimal, will be managed through the national permitting process.

[1]Energy Production and Mining within the Protected Area: Threats from production of non-biological resources (3.3. Energy generation, including from hydropower dams);

[2]Natural System Modifications: Threats from other actions that convert or degrade habitat or change the way the ecosystem functions (7.2. Dams, hydrological modification and water management/use; 7.3a.Increased fragmentation within the Protected Area; 7.3b. Isolation from other natural habitat: deforestation, dams without effective aquatic wildlife passages).

The processes followed in the development of the projects will ensure avoidance of wildlife habitats fragmentation risks within the territory of MNP.

Impact from implementation of the hydro projects on Balkan Lynx

The claim that implementation of the hydro projects will make the species critically endangered is unreasonable.

Balkan Lynxis already a critically endangered species according to the IUCN Red list (included in November 2015) and the discussion should be focused on whether the projects will introduce further risks to Lynx population in MNP.

Key internationally recognized threats to the Lynx, in the order of importance, include illegal hunting, fragmentation of habitats and food deficiency. The key threats to the Lynx population in MNP according to recent studies, in the order of importance, are small Lynx population base, illegal hunting and depletion of the prey population.

The processes followed in the development of the hydro projects will ensure avoidance of wildlife habitats fragmentation risks for Balkan Lynx within the territory of MNP. The remaining threats are addressed through the ongoing management activities by PIMNP, and should be enhanced through a national protection and conservation program.

9. SUMMARY AND CONCLUSIONS

Below is a summary of the key points in this report and concluding remarks.

Standing Committee Recommendations

The Government of Macedonia is following the recommendations of the Standing Committeein relation to this open case file.

The government projects in MNP have been suspended in accordance with the Recommendation.

As explained in sections 3, 4 and 5 the SEA for the management plan of MNP will be completed once the Law for Re-proclamation of the National Park has been adopted by the parliament. The outcomes from the SEA will be reflected in the management plan and the development projects within the park. We are unable to make firm commitments due to the political situation in Macedonia, however efforts are being made to complete these activities before the next meeting of the Standing Committee.

Effects of the planned hydro power projects on biodiversity and the Lynx

As discussed in section8,potential adverse effects on forestry, fragmentation of habitats and disturbance of watercourses that might have an impact on biodiversity and Balkan Lynx have been grossly exaggerated by the complainant.

The processes followed in the development of the projects will ensure:

- projects are entirely located within the area for sustainable use of the national park
- minimization of impact on forest ecosystems within the territory of MNP
  - 0.05% of the total forest area in MNP affected by the hydro projects
  - compensation measures to mitigate forestry impacts
  - projects locations avoid impact on priority habitat types or important plant and animal species
- avoidance of risks for unrecoverable disturbance of water sources
  - use of environmental flow release approach - best international practices
  - scientifically based aquatic biodiversity studies defining natural values, potential impacts and mitigations measures informing the environmental flow releases

  - cumulative effects taking into account the trans-boundary effects on the water regimes of Drim and Vardar rivers (applicable only for Lukovo Pole)
- avoidance of wildlife habitats fragmentation risks within the territory of MNP
  - design approach for avoidance of habitat fragmentation as a primary consideration
  - the maximum affected area by the projects (permanent and temporary) is approximately 490ha, representing 0.67% of the total area of MNP (72,415ha)
  - the permanent (long term) affected area is around 0.26% of the total area of MNP
- avoidance of potential impacts to Lynx population in MNP
  - design approach for avoidance of habitat fragmentation
  - inclusion of mitigation measures for large mammals over the life cycle of the projects
  - support to national protection and conservation program

Refer to Appendix C for basic details on the existing and planned hydro infrastructure in MNP.

Adherence to the national legislative requirements for development of hydro projects

Development of the hydro projects in Macedonia is governed by a set of legislative requirements, including:

- Energy Law
- Law on Construction
- Law for Environment
- Law for Protection of Nature
- Law on Water
- Law on Forests
- Law on Pastures
- and other laws and regulations

As an EU candidate Republic of Macedonia is in process of harmonization of the national legislation with the EU legislation which involves transposition of a number of EU directives. The transposition of EU directives with relevance to development of hydro projects, such as EIA and SEA EU directives, has been completed, while other are in advanced stages.

In addition, Republic of Macedonia is a signatory to a number of international Conventions and organizations relevant to protection of environment and nature.

The national legislative framework defines the environmental permitting process ensuring the objectives for protection of environment and nature are fulfilled throughout the project lifecycle.

Conclusions

The planned hydro projects are of strategic importance to Republic of Macedonia. The projects are located on the fringes of the park within the zone of sustainable use and have small footprint relative to the overall size of the park – refer to map in Appendix C. Their potential impact on the natural values of MNP and appropriate mitigation measures should be assessed through the national environmental permitting framework taking into account stakeholder concerns supported by verified and published scientific data.

This complaint is based on exaggerated claims about risks from the proposed hydro projects to the natural values of MNP through direct destruction of forests, severe disturbance of water sources and fragmentation of wildlife habitats, with focus on the Balkan Lynx.

Relevant national institutions have on multiple occasions since the very early stages provided detailed information and explanations to the national and international NGOs addressing their concerns in relation to impacts on natural values by development of the hydro projects in MNP.

The processes followed in the development of the projects will ensure minimal impact on forest ecosystems within the territory of MNP, avoid risks for unrecoverable disturbance of water sources and wildlife habitats fragmentation and potential impacts on Balkan Lynx.

In addition to the continuous conservation activities by PIMNP, rather than unjustifiably focusing domestic and international NGO networking on the hydro projects as a threat, improvement of Lynx status should be pursued through stepping up efforts for addressing internationally recognized key threats such as illegal hunting (within, and across country borders which is a particular challenge) and prey availability. In 2016 MoEPP launched a long-term national initiative for protection and conservation of the Balkan Lynx and other large mammals, which should further improve the status of large mammals in MNP and its surroundings.

The management practices at the MNP since its proclamation strive toward balanced sustainable development covering social and economic improvement while providing continuous protection of its natural values. Its track record is demonstrated by enabling continuity of the settlements, tourism development, sustaining traditional values and cultural heritage, and implementation of strategic infrastructure, while maintaining its natural values as proven by the Study for Re-valorization of the Natural Values of Mavrovo National Park (2012).

As a custodian of one of the biodiversity hotspots in Europe, PIMNP is dedicated to protection of natural values and welcomes working with research organizations and other parties with interest in improvement and promotion of natural values on equal partner basis. Research projects and NGOs are expected to demonstrate teamwork in working together with MNP, strive to achieve high level of professional approach and bona fide commitment to improving the capacities of PIMNP.

Adherence to national environmental permitting framework and applying requisite scientific basis in development of projects is the only way to properly cover the nature protection aspects. The due process has been followed in the development of the hydro projects by the investor and relevant government stakeholders, and this should be the primary consideration for the Standing Committee.

It is important to note that the relevant Macedonian institutions including MoEPP and PIMNP are yet to receive convincing verified scientific evidence that implementation of the projects will have adverse impacts to the natural values of the park, including the Balkan Lynx. The Bureau is encouraged to seek further information on this from the complainant. We expect future discussions with regards to impacts on the natural values by the hydro projects in MNP to be supported by recognized national and international evidence.

The Standing Committee recommendation to carry out a SEA on the management plan for PIMNPis misplaced. A SEA for the management plan for the MNP was always going to be carried out once the re-proclamation law was passed and the management plan adopted by the PIMNP, as prescribed by the relevant national legislation. The SC recommendation only reinforced that requirement. We anticipate the re-proclamation law procedure to be expedited and the management plan adopted in near future.

The on-the-spot appraisal was a good opportunity to clarify the key issues by obtaining quality information about this case but has failed to address key aspects, namely projects' compliance with legislative and procedural requirements, while in our view also falling short on the technical and scientific assessments.

Notwithstanding, the Government of Macedonia is following the Recommendation and will work with the Standing Committee until the case is closed.

Appendix A.

SUMMARY ON THE STATUS OF LYNX POPULATION IN THE MAVROVO NATIONAL PARK

Introduction

The Balkan Lynx (*Lynx lynx balcanicus*) was firstly reported as a separate sub-species in 1941. According to the DNA analysis it is different from the Carpathian sub-species (*Lynx lynx carpathicus*), geographically separated by the Danube River. Lynx is protected by two laws in Republic of Macedonia:

- Law for Nature Protection
- Hunting Law

Initial steps for protection of the Balkan Lynx in Macedonia were taken in 1949 when hunting was banned in the law for hunting.

Understanding the current status of the Balkan Lynx requires analysis of historical data of the population status to establish scientifically based knowledge on the main threats in order to undertake efficient measures to minimize the negative impacts and conduct additional mitigation or restoration measures.

Historical data on Lynx population in Republic of Macedonia

Earliest scientific estimates of the Lynx population in MNP date from the beginning of 20thcentury.The monograph study on the Balkan Lynx by Miric (1981) provides detailed analysis on the historical distribution of Balkan Lynx on the Balkans. Summarized data from this source is presented below:

- In the period 1920-1929 only in Tetovo, 34 individuals of Lynx from Shar Planina Mountain have been killed.
- Kappus (1932) in burrier shops in Skopje in the year 1928 has recorded 15 skins of Lynx originating from Shar and Korab Mountains.
- In the period 1965-1974 the population status was relatively stable ranging 121 individuals in Macedonia, 11 individuals in Monte Negro, 73 individuals in Kosovo, 75 individuals in Albania and 5 individuals in Greece.
- 1974 data provided by Kuzman Ugrinovski (former director of the Mavrovo National Park) indicates presence of stable Lynx population of 19-22 individuals on the following localities within the boundaries of the Mavrovo National Park: Adjina Reka (6-7 individuals); Lazaropole (5-6 individuals); Brzovec (8-9 individuals).

Based on historical data the population status of Lynx in MNP is stable and ranges between 19 and 22 individuals.

Mavrovo National Park'sdata on Balkan Lynx

PIMNP is continuously working towards protection of Lynx and other large mammals. As part of its operational activities PIMNP carries out regular surveillance of the large mammals including the Balkan Lynx in accordance with standard survey protocols. According to PIMNP records, the Lynx population in MNP ranges between 18-22 individuals and has been stable over the last 20 years, which is consistent with the 1974 data presented by Miric (1981).

The horizontal distribution of the Lynx, according to the Park's records, is evidenced across most of the forested territory. It is worth noting that presence of Lynx at the wider area of the Lukovo Pole reservoir has not been recorded.

It is also worth noting that PIMNP has never received a formal request by non-government stakeholders to formally provide data on the Balkan Lynx on the territory of the Park.

Recent estimates on the status of Balkan Lynx within the MNP and its surroundings

Some recent estimates of the Balkan Lynx population came from European report in 1990 (Breitenmoser & Breitenmoser-Würsten) based on questionnaire survey methodology. The survey was repeated in 2001, and reported a Balkan Lynx population of approximately 20 individuals in MNP based on desktop analysis and questionnaire interviews. Data from such sources is typically characterized bylimited accuracy and reliability.

A Lynx recovery program was launched in 2005 by international NGO organizations supported by local NGOs (Lynx Recovery Program 2006-2015).Information available to the Government stakeholders from this project indicates Lynx population estimate of 14-20 individuals on the territory of MNP, which corresponds with PIMNP estimates.

Based on historical and recent estimates the population status of Lynx in MNP is stable and ranges between 14 and 22 individuals.

Lynx Recovery Program 2006-2015

In 2005 two international organizations, EuroNatur (Germany) and KORA (Switzerland) expressed interest in conducting research activities for Lynx conservation in Macedonia and partnered with a local NGO in Macedonia – Macedonian Ecological Society (MES), for the following projects:

Project Title / Duration	Finance Donor / Partners
Balkan green belt as corridor for wolf, bear and lynx (2005-2006)	BfN / MES, EuroNatur, PPNEA
Program for lynx recovery I (2006-2009)	MAVA / MES, KORA, Euronatur, PPNEA
Program for lynx recovery II (2010-2012)	MAVA / MES, KORA, Euronatur, PPNEA
Status, ecology and occupancy of lynx on Macedonian and Albanian territory (2010-2012)	SNSF / MES, KORA, PPNEA, Univ. Cyril &Methodius, Univ. of Tirana
Program for lynx recovery III (2013-2015)	MAVA / MES, KORA, Euronatur, PPNEA

These projects were undertaken on the territory of the MNP and the surrounding areas in Macedonia, as well as Albania, Kosovo and Montenegro.

The work carried out over the several phases of this program in MNP included local stakeholder capacity building, basic research using photo traps, research using radio transmitters, occupancy of territory and habitats, investigations of Lynx diet and measures for increasing availability of food, raising awareness.

The project research concludes that the Lynx population is stable and confirms the population data from historical and PIMNP records.

This project provides contribution toward further understanding of the Balkan Lynx status on the territory of MNP. Information from this project has been included in the Study for Re-valorization of Mavrovo National Park as well as the draft management plan of MNP, and will be taken into consideration in the development of the national long-term monitoring and recovery program of the Balkan Lynx.

However despite the successes, there have been significant issues with the execution of this program which regretfully led to bad relationship between PIMNP and the project participants for the best part of the execution of the program.

Contractual and legal issues

- Despite PIMNP efforts there has been no success in signing a formal cooperation agreement between PIMNP and the Project
- PIMNP having difficulties to gain insight into the project scope at the initial stages of the project
- According to the Law, research in the national park can be undertaken only with the consent of the authorities of the park. PIMNP is of the view that certain activities during the project implementation were in breach of the Law
- Several illegal entries of research staff and NGOs documented by the PIMNP
- Verbal agreement given by PIMNP for filming a documentary about the MNP based on understanding it would be of promotional nature for the park. PIMNP has not received a copy of the film to-datenor has it been granted the opportunity to use it for promotional purposes
- PIMNP dissatisfied with the outcomes from the human capacity building component of the Project
- PIMNP has been providing human and material resources in support of the Project in good faith for the benefit of protection of natural values, without compensation. No tools, equipment or materials have been handed over to PIMNP over the life of the project (photo traps, vehicles etc.)

Information available to PIMNP from the research

- Until 2012 no information was received
- From 2013 some documents were received on PIMNP insistence
- Scientific papers and academic works prepared on the basis of the project activities have not been volunteered to PIMNP
- Transfer of data from the Project to PIMNP has not occurred

In conclusion, PIMNP as the responsible entity for protection of natural values in the park feels it has not been a beneficiary from the implementation of the project, nor has obtained significant human capacity building benefit over the 10-year period.

As a lessons learnt, efforts should be made by key stakeholders to ensure high level of professionalism and transparency in execution of projects, as well as practicing appropriate stakeholder management on part of projects and NGOs.

Appendix B

LEGISLATIVE FRAMEWORK PERTAINING TO NATIONAL PARKS IN REPUBLIC OF MACEDONIA

Legislative Framework pertaining to National Parks in Republic of Macedonia

The Law for Nature Protection (the Law) is the governing legislative instrument in Republic of Macedonia for protection of nature, achieved through protection of the biological and habitat diversity, natural heritage and natural rarities.

Under the Law, natural heritage covers the following categories: protected areas, protected or strictly protected wild species, characteristic minerals speleological objects and natural rarities.

A system of protected areas is established for protection of biodiversity within natural habitats, natural processes, as well as abiotic characteristics and landscape diversity. With the act of proclamation of a protected area it obtains natural heritage status.

The Law defines the following categories of protected areas in accordance with the IUCN standards:

Category I-a	Strict natural reserve
Category I-b	Wildlife area
Category II	National park
Category III	Natural monument
Category IV	Natural park
Category V	Protected landscape
Category VI	Multi-purpose area

The national park category is defined as a natural spatial area (land or water) covering one or more preserved or insignificantly modified ecosystems, with particular multiple natural values, established for the purposes of protection of ecological processes as well as species and ecosystem characteristics associated with the area.

Proclamation and protection of national parks provides the basis for maintaining the natural and cultural heritage in the area. The national park has a multifaceted purpose - ecological, scientific/research, cultural, educational and recreational.

National parks are established as public institutions. The national park is responsible for preparation and adoption of the management plan, upon approval from the relevant national institution for nature protection (Ministry for Environment and Physical Planning of Republic of Macedonia - MoEPP). The management plan describes the state of the characteristic natural values subject to protection being grounds for the natural heritage status, prescribes the special measures and activities for protection, and provides details on the planning and management of the national park.

The Law prescribes integral management over the entire territory of a national park in a manner that will ensure:

- Protection of the natural areas of national and international importance for cultural, scientific, educational and recreational purposes
- Stability of the ecological processes and diversity through permanent protection of the representative physical-geographical regions, biocenosis, genetic resources and species in authentic state
- Creating conditions for development of tourism in accordance with the principles of sustainable development

- Achieving cultural, scientific, educational and recreational goals while maintaining the natural state of the area

The Law provides for sustainable use of the natural resources in a manner that does not endanger the survival of the species and their natural balance.

In accordance with the Law for Nature Protection (introduced in 2004), the responsible authority for nature protection (MoEPP) is obligated to conduct valorization of the natural heritage in the country and prepare acts for proclamation.

According to the provisions of the Law, existing protected areas shall be subject to re-proclamation based on study for revalorization of values of protected area.

Upon completion of the re-valorization study a draft law for re-proclamation is prepared and submitted to the Government by the competent authority (MoEPP). Subsequently, MoEPP is responsible for the public consultation process in accordance with the provisions of the Law. The final draft of the law for re-proclamation is then submitted to the Government, and it comes into force when adopted by the National Parliament.

Once the law is in force the national park is obligated to prepare a new management which will be adopted by the board of the national park.

Appendix C

DESCRIPTION OF EXISTING AND PLANNED HYDRO INFRASTRUCTURE IN NATIONAL PARK MAVROVO

Description of Existing and Planned Hydro Infrastructure in National Park Mavrovo

The Mavrovo Hydro System is of strategic importance for the country. It is a unique and complex network of pipes, underground tunnels, dams, and a lake built in two phases: 1947 to 1957 and 1969 to 1975.

The system comprises the following infrastructure:

- 1330ha surface area of Mavrovo Lake at dam maximum level
- three large hydro power plants totaling 200MW installed capacity – one upstream and two downstream of Mavrovo Lake (Vrben, and Vrutok and Raven respectively)
- Catchment area of 52,100ha including Vardar and CrnDrim catchments
- 131 km underground channels and tunnels
- 260 km of access and maintenance roads
- 6km aboveground steel pipework
- 30 intakes

Planned hydro projects in MNP are of strategic importance for Republic of Macedonia.

The projects have been incorporated in the highest planning document of Republic of Macedonia - the Spatial Plan of Republic of Macedonia (2004-2020), section 2.4 Water Resources and Water Infrastructure adopted by the Parliament in 2004, as well as the Water Economy Basis of Republic of Macedonia (1973).

Development of Boskov Most and Lukovo Pole projects is based on the following national strategic documents:

- The Strategy for Energy Development of Republic of Macedonia 2010 – 2030 (2010)
- Strategy for Utilization of Renewable Energy sources in Republic of Macedonia 2010-2020 (2010)
- National Renewable Energy Action Plan (2011)

Strategic Environmental Assessment for the Strategy for Energy Development was completed and approved by the MoEPP in 2010, providing the environmental framework for further development of these projects

Lukovo Pole project as the third and final phase of the Mavrovo Hydro System has the function of collection of overflow created during spring period unable to be collected with the existing system, comprising the following:

- 170ha surface area of Lukovo Pole lake at dam maximum level
- one small hydro power plant totaling 5.0MW installed capacity
- 12 km underground channels and tunnels
- 9 km of maintenance road along the new channel, existing road for access to the maintenance road
- 3km underground steel pipework
- 5 intakes

Boskov Most project is a stand-alone project not associated with the Mavrovo Hydro System, partly located within the Mavrovo National Park territory. Comprises the following:

- 20hasurface area of Boskov Most lake at dam maximum level
- hydro power plant totaling 71.5 MW installed capacity
- 20km underground channels and tunnels
- 11 km of maintenance road along the new channel,3km new access to the maintenance roads
- 1.0 km above and underground steel pipework
- 6 intakes

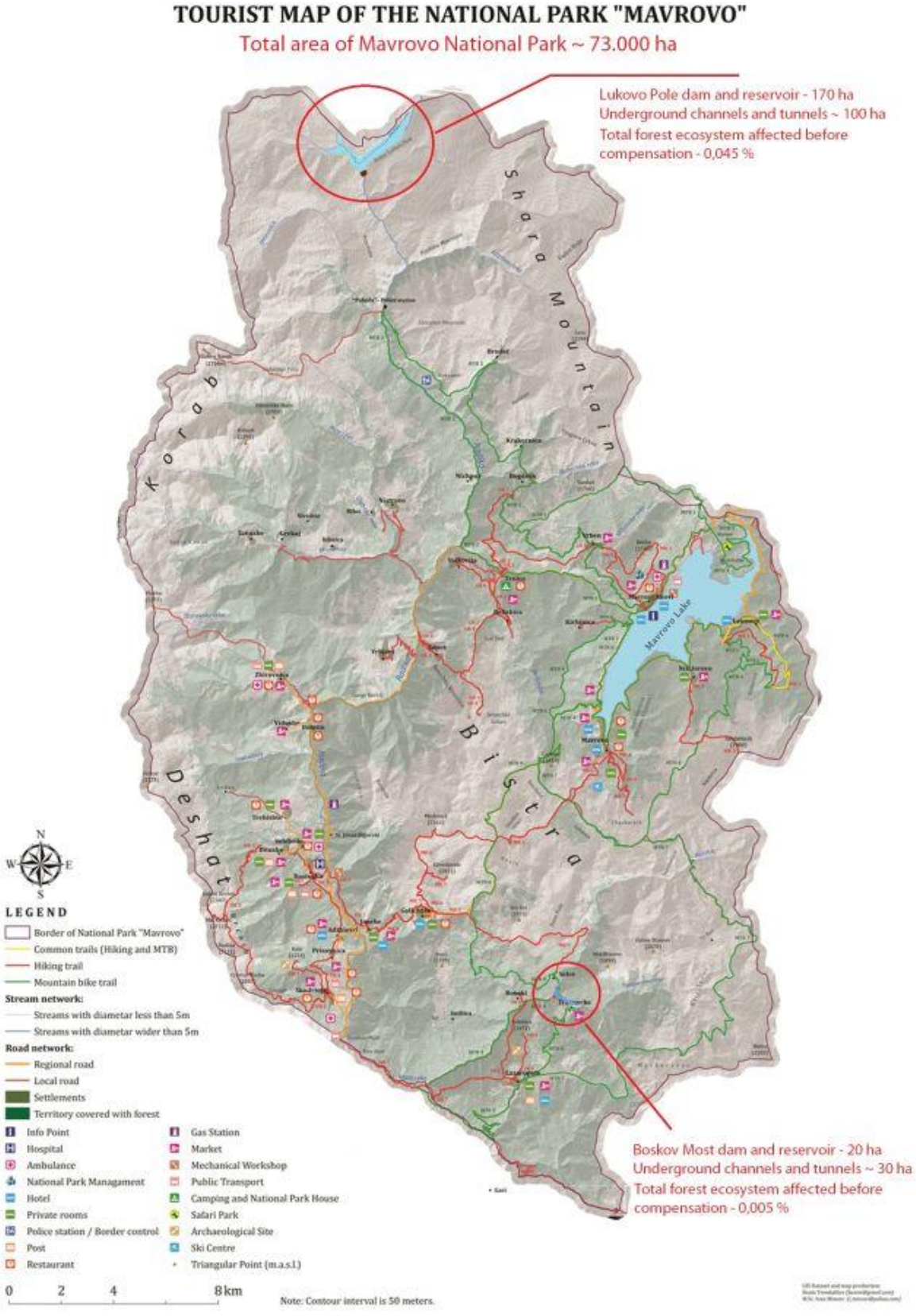
The projected maximum affected area by the projects Boskov Most and Lukovo Poleduring construction is approximately 50 ha. This includes above and underground infrastructure - lakes, access roads, transmission lines, intakes, channels, tunnels and pipelines, and represents 0.67 % of the total territory of the NP Mavrovo (72,415ha). The total affected area during operations once construction is completed will be significantly lower.

The permanent impact on the territory of MNPfrom implementation of the projects comes from the new dams with lakes, which will cover approximately 190 ha which represents 0.26 % of the total territory of the MNP.

The planned accumulation Lukovo Pole will cover an area of around 170ha representing 0.23% of the total surface of the Park, while Boskov Most accumulation will cover around 19ha which is 0,03% of the total surface of the Park.

The projects will not build new roads or transmission routes; instead upgrade of existing infrastructure is planned.

Refer to the map below for visual representation.



Appendix D

NATIONAL LYNX RECOVERY PROGRAM – PROJECT CONCEPT

Government of Republic of Macedonia
Ministry of Environment and Physical Planning

Project Concept:

National Program for Monitoring and Recovery of the Balkan Lynx (*Lynx lynx balcanicus* Buresh, 1941) in Republic of Macedonia

1. INTRODUCTION

The conservation of Balkan lynx populations is one of the key conservation challenges in Macedonia and in Europe today.

According to data currently available the Balkan lynx can only be found in the dense forest and remote areas in Western Macedonia, mainly in the mountain ranges across the Macedonian-Albanian border.

It appears that the lynx population is declining over the last 30 years however the rate of decline cannot be quantified from the available literature.

Some efforts have been made for monitoring of the Balkan lynx in Republic of Macedonia in recent years, generally through projects implemented by non government organizations, such as Macedonian Ecological Society and Society for Protection and Conservation of the Environment (Albania). These projects attempted to gather information on the size and distribution of the lynx population in Macedonia, however the data available to-date is inconclusive.

There is a need for an integrated and comprehensive approach to the protection and population

revival of the Balkan lynx in Republic of Macedonia, which is the principle objective of the National Program for Monitoring and Recovery of the Balkan Lynx in Republic of Macedonia.

This program was initiated by the Ministry for Environment and Physical Planning (MoEPP) of Republic of Macedonia, which is the institution responsible for nature protection in accordance with the national legislation of Macedonia. The Directorate for Environment is responsible for the implementation of the program as the competent organ in the MoEPP in the field of nature protection.

This is a long-term project which will initially focus on the Balkan lynx with a view to expand to other large mammals. It will be implemented in cooperation will a range of stakeholders and interested parties. Currently planning and preparation of project documentation is underway, as well as efforts to secure long-term financing.

This project concept aims to provide basic initial information on the National Program for Monitoring and Recovery of the Balkan Lynx in Republic of Macedonia for potential donors and other interested parties.

Balkan lynx represented on the Macedonian 5 denar coin.

2. GENERAL SPECIES INFORMATION

Description of the Species

The lynx (*Lynx lynx*) is the largest cat species in Europe and the third largest predator species after the brown bear (*Ursus arctos*) and the wolf (*Canis lupus*).

Lynx's full body length is 70-130 cm while the males are larger than the females. The body height to the chest is around 70 cm and reaches weight of 18-30 kg.

It is characterized with strong legs and large furry paws. It has triangular ears pointed with black tufts and a short tail with a black tip. During the summer season the lynx has relatively short fur, reddish or brown base colour. In winter it is replaced by longer fur with base colour ranging from silver-grey to grey-brown. The fur is almost always marked dark spots varying in number and size. The chest, belly and the neck fur is white around the year. The lynx is a nocturnal solitary animal (with exception of the females with cubs in the first year), leads secluded life and its presence in a certain area can remain unnoticed for years.

Behaviour

The lynx feeds on rabbits, rodents, roe deer, wild boars, foxes and birds. As in other species of cats (Felidae) hunting large prey is a risk, therefore the lynx hunts large prey in the winter period when access to food is limited. The lynx will also feed on carrion when available. Adult lynx consumes 1-2 kg of meat per day and will take a few days to fully consume large prey. The usual hunting technique used by the lynx is stalking and jumping on its prey, but it can hunt from ambush in suitable conditions.

The lynx lives in areas of deciduous, mixed and coniferous forests, which are also inhabited by cloven-hoofed animals. In winter it can get down to lower altitudes following its prey and avoiding deep snow. The lynx is seldom found in areas of frequent wolf presence and there are known cases of wolf hunting and eating lynx. The lynx is mainly a nocturnal animal, most active during the evening and early morning hours, and can travel up to 20km in one night.

Its hunting range is 5-100 km^2 (20-60 km^2) depending on the local conditions and availability of food. Males and females dominate different parts of the areas they inhabit. The females typically use the central parts of the territory. The males typically move around the periphery of the territory

avoiding the main female movement areas, which gives them an opportunity to control the area around the female and the cubs and defend the territory against other males.

Mating Season

The mating season starts in February and ends in mid-April. Around end of May after 67-74 days of pregnancy the female gives birth to 1-4 kittens that are blind and helpless. They usually have greyish-brown fur which develops the characteristic colours at the age of around 11 weeks. The kittens commence taking solid food at 6-7 weeks. The female and kittens leave the den in 2-3 months, and the young leave the mother at the age of 10 months (before the next mating season).

Movement Tracks

Prints and tracks on the ground surface are the obvious indication of lynx presence in an area. Both the shape of the prints and track of its movement are important to identify lynx's presence. Lynx walks on its toes. It has five toes on the front paws (the last one does not touch the ground), and four on the hind legs. The claws are sharp but retract and do not leave print on the ground. Best places to look for lynx prints are in the vicinity of a killed prey or around water biotopes.

The paw print of an adult lynx has circular shape with a diameter of 7-8 cm. It can be confused with wild cat tracks which are smaller (3-3.5 cm) and similar to lynx's tracks in summer period.

Indications of Feeding

The lynx mainly hunt during the night. It can stay in the vicinity of the prey for several days. It always covers the prey much like the bear. The lynx feeds on small cloven-hoofed animal, particularly roe deer and wild goat. It hunts large prey mainly in winter due to its vulnerability in deep snow. It hunts the prey by biting the throat or the neck, but not on the back. The distance between the canine teeth tracks on the throat bite is 25-35 mm. The lynx eats the prey starting from the chest and the haunch.

Other Indications of Lynx Presence

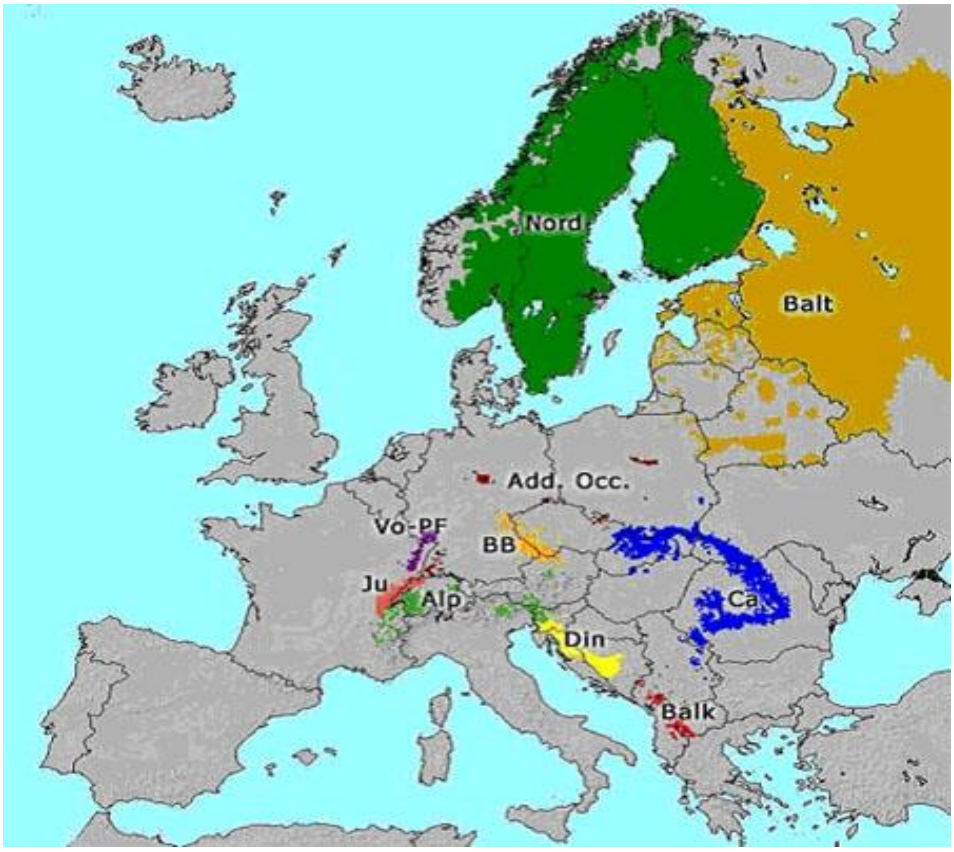
Lynx always mark their territory with scratches on tree trunks or urine.

Taxonomy and Distribution

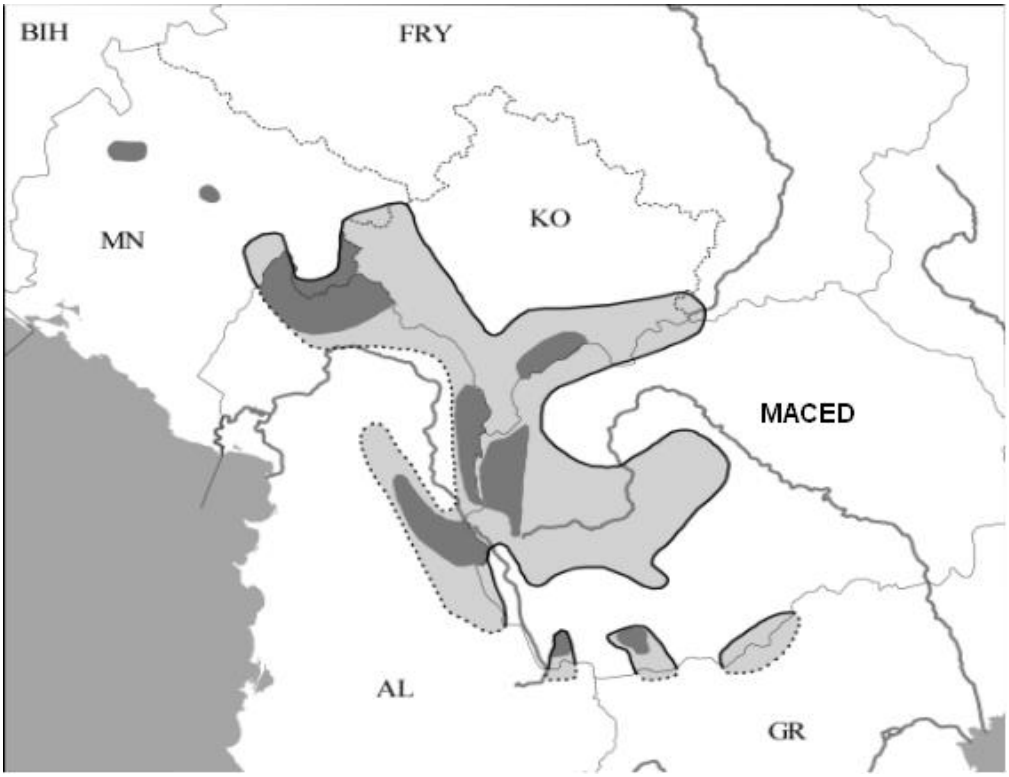
Lynx was present almost across all of Europe in the past but has disappeared from most countries of Central and Western Europe by the middle of the 19th century. Efforts are being made lately to re-introduce the lynx in these areas.

The accurate classification of the sub-species of the common lynx (Lynx lynx) is still subject to an ongoing debate, however on the basis of the current understanding there several sub-species have been registered one of which is considered to be extinct (*Lynx lynx sardiniae*). The sub-species *Lynx lynx martinoi* is present in the Balkans.

The first map below shows the distribution of populations (sub-species) of the European lynx (Lynx lynx) in Europe. The second map shows the distribution of the Balkan lynx in the 1970'sand today.



Map of distribution of populations (sub-species) of the European lynx (*Lynx lynx*): Nord-Nordic population, Balt-Baltic population, Ca-Carpathian population, BB-Bohemian-Bavarian population, Balk-Balkan population, Din-Dinaric population, Alp-Alpine population, Ju-Juric population and Vo-PF-Vosres-Palatian population. Add. Occ. (Additional Occurrences): Isolated populations with unclear origin and taxonomic status.



Map of distribution of the Balkan lynx in the 1970's (light grey, according to Miric, 1981) and today (dark grey).

Threats

The Balkan lynx population is exposed to various threats, many arising from human activities. The main threats observed in Macedonia are the following:

- Low population count and low reproductive potential
- Illegal hunting, which is one of the most serious threats
- Reduction in prey as a result of the illegal hunting and degradation of habitat
- Degradation of lynx's habitats and illegal deforestation
- Fragmentation of habitats and discontinuity of the bio-corridors due to infrastructure elements
- Disturbance from recreational and forest activities
- Direct and indirect competition with the wolf populations which inhabit the same habitats

3. NATIONAL LEGISLATION AND INTERNATIONAL PROTECTION REGIME

The Law for Nature Protection covers the protection of wild species in their natural habitats; therefore lynx protection in Macedonia is regulated under the provisions of this law.

Within the national legislation, the Balkan lynx (*Lynx lynx Balcanicus*) is included under List 1 – Strictly Protected Wild Species in Republic of Macedonia (Official Gazette of Republic of Macedonia number 139/11).

In accordance with the Hunting Law (Official Gazette of Republic of Macedonia number 20/1996) the lynx is defined a game under strict protection, ie. there is a permanent ban on hunting.

Republic of Macedonia is a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 2000. The Felidae spp. family is included in Appendix II of CITES, and the international trade with species from this family can be only performed with a CITES certificate issued by the Ministry for Environment and Physical Planning of Macedonia.

In November 2015 the Balkan lynx (*Lynx lynx Balcanicus*) was included in the critically endangered species category (CR) according to the IUCN criteria[1].

The "domicile area" of the lynx in Republic of Macedonia is the National Park Mavrovo (apprx 700 km^2) where lynx presence has been registered and represents a reproduction area.

4. PROJECT OBJECTIVES

General Objective:

The general objective of the project is protection and securing favourable conditions for reproduction of the Balkan lynx (*Lynx lynx Balcanicus*) population in Republic of Macedonia.

Specific Objective:

Development of a national system for monitoring and increasing the population of the Balkan lynx (*Lynx lynx Balcanicus*) in Republic of Macedonia.

5. MAIN PROJECT COMPONENTS

The following are the envisaged main project components.

1. Strengthening of the institutional capacity for protection of the Balkan lynx

1.1 Analysis of existing data and information on the Balkan lynx (Lynx lynx *balcanicus*) in Macedonia;

1.2 Establishment of a broader partnership between the relevant state institutions, national and international organisations, experts, NGOs, local population and stakeholders for management of protected areas;

1.3 Development of a methodology and program for monitoring of the Balkan lynx;

1.4 Training of relevant stakeholders on lynx monitoring;

1.5 Proclaiming new protected areas and establishment of bio corridors for the Balkan lynx;

1.6 Development and adoption of a National Strategy for Protection of the Balkan lynx;

1.7 Advancement of the cross-border cooperation for protection of the Balkan lynx;

1.8 Inclusion of the Balkan Lynx Recovery Program and the European Large Carnivore Initiative in the National program for monitoring and recovery of the Balkan lynx.

2. Advancement of the protection and conservation of the Balkan lynx

2.1 Selection of areas for monitoring Balkan lynx on national level;

2.2 Procurement of monitoring equipment;

2.3 Installation of monitoring equipment (photo-traps);

2.4 GPS tracking of movement;

2.5 Establishment of the population number of the Balkan lynx;

2.6 Development of maps of distribution and movement of the Balkan lynx;

2.7 DNA analysis to determine the taxonomic status of the Balkan lynx in Republic of Macedonia;

2.8 Expand the monitoring and reproduction activities to include other large wild animals.

3. Promotion and Raising Public Awareness

3.1 Organising a campaign "Lets preserve the lynx as a national symbol in Republic of Macedonia";

3.2 Preparation of an educational program on the importance of the lynx for various target groups;

3.3 Organising educational events beginning from the youngest population

3.4 Preparation of a national website for the Balkan lynx

4. Establishment of a Reproductive Center to Improve the Lynx Population

4.1 Establishment of the required legal framework;

4.2 Analysis of the necessary institutional capacity (staff and qualifications, locations, equipment);

4.3 Budget estimates for establishment and operations of the reproductive center;

4.4 Procurement of funds and establishment of the reproductive center.

4.5 Operate the reproductive center

6. PROJECT INDICATORS

The following are the main project indicators.

1. Improved institutional framework for protection and conservation of the Balkan lynx
2. Improved scientific base for the ecological status of the Balkan lynx
3. Raised public awareness and improved knowledge of the importance and status of the Balkan lynx
4. Increased population of the Balkan lynx in Republic of Macedonia

7. PROJECT LOCATION

Republic of Macedonia.

8. PROJECT DURATION

10 years.

9. PROJECT COMMENCEMENT

March 2016 (initial preparatory activities have commenced)

10. KEY STAKEHOLDERS

- Ministry for Environment and Physical Planning
- Ministry for Agriculture, Forestry and Water
- National Park Mavrovo
- National Park Pelister
- National Park Galichica
- National Park Jasen
- Public Enterprise Macedonian Forestry
- IUCN
- WWF
- Local Government
- NGOs
- Neighboring countries

11. PROJECT BUDGET ESTIMATE

The project budget estimate is provided in the table below. These estimates are indicative at this stage and will be revisited as the project activities and discussions with potential donors progress.

Component	Estimate EUR	Comment
Institutional framework and capacity	160,000	
Protection and conservation of the Balkan lynx	400,000	Estimate excludes other large mammals (planned)
Promotion and Raising Public Awareness	80,000	
Establishment of a Reproductive Center to Improve the Lynx Population	600,000	
Total	**1,240,000**	