

**SZENT ISTVÁN
EGYETEM**

**Regional and touristic aspects of nature protection –
a survey of green areas in Budapest**

Summary of the PhD dissertation

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1 BACKGROUND AND AIMS

The versatile natural landscape of Budapest, capital of Hungary is outstanding in Europe, despite that the large scale construction projects of the past 150 years have deteriorated or destroyed natural values with an ever increasing speed. However, the existing green areas significant enough for conservation are a source of severe social conflicts. Political decision makers, professionals of public administration, official and civilian conservationist and the inhabitants all have differing views on the use of these areas. Although, the proportion of protected natural values has risen in the past few years in the capital, the total area of green territories has been considerably shrinking.

Based on my previous experience, surveys and analyses presented here, I wish to prove that it is worth conserving and maintaining protected areas, because on the long run they can be profitable, lightening the financial burdens of local governments and the state. The best use of protected areas is including them in tourism. Besides this, protected areas can be managed by relying on external sources (tenders, volunteers etc.). These possibilities can be utilized not only at well-known ecotouristic attractions, but also at protected areas in Budapest. However, protected areas can only be managed by professional management, financing and laws. Furthermore, in order to preserve natural, near natural and anthropogenic green or protected areas that ensure that the city would be sustainable and attractive tourists, environmental, social and economic interests should be coordinated with political decisions concerning the capital.

To support the above views, the following hypotheses were set up based on my previous research.

H1: The preservation of protected and other green areas ensures ecologically sustainable land use in settlements.

H2: Owing to wider tender possibilities and voluntary work, Duna–Ipoly National Park, educational institutions and NGOs can manage protected areas more cost-effectively than the Municipality of Budapest.

H3: The administrative organization of nature protection is rather complicated and not uniform in the capital. Consequently, the management and maintenance of protected areas is the most effective in those areas where NGOs take an active role.

H4: Neither the management of protected areas, nor the declaration of protection is effective enough, owing to the large number of participants and the strong political influence on the processes.

H5: Protected areas can produce direct profit, especially the ones that offer products or services for tourists. These are mainly the protected areas of national importance managed by Duna–Ipoly National Park.

H6: Visitors wish to conserve natural values, but they also want to use protected natural areas for recreation or as a public park. The only way to achieve this is to use areas in an ecotouristic manner.

H7: Concerning protected natural areas in Budapest, however high the natural value of an area is, natural properties will not serve as the main attraction of a certain territory. A certain area should not only be assessed because of its natural values and its significance as a protected area, but also from a touristic point of view, using the “touristic ecoindex”.

This study does not give a comprehensive analysis of all protected areas in Budapest. Sample areas have been selected to serve as a basis for the development of this “touristic ecoindex”, which is created here with the help of international literature.

2 DATA AND METHODS

Having reviewed the relevant literature, and relying on my previous experience, I compiled a questionnaire in autumn 2014. The 22 questions focused on the following topics: (i) general knowledge about protected natural areas, (ii) voluntary work, (iii) reasons for visiting protected areas, and visiting habits, (iv) possible uses of protected areas, (v) arising needs and problems when visiting protected areas in Budapest. I did not aim at asking people open to ecotourism or engaging in regular nature tourism. Rather, I focused on “average” people, who only occasionally visit nature. At the same time, I wanted to explore the needs for development and innovation, and to learn how inhabitants wish to use natural areas in an urban environment.

The sample size was $n=380$, and 104 questionnaires could be used for analysis. This means 27% of respondents provided answers. Regarding the size of the population in Budapest and the low proportion of respondents, the results of the questionnaire cannot be regarded as representative. The questionnaire could be filled out online in 2015 and 2016. In the course of the compilation of the questionnaire, I used the Contingent Valuation Method (CVM) out of economic techniques based on explored preferences.

Besides questionnaires, I also conducted interviews with 7 local government representatives. I selected the representatives so that there should be (i) a member of the General Assembly of Budapest, (ii) a representative from a district without a protected natural area (Pesterzsébet, District XX), (iii) a representative from a district with a protected natural area, (iv) a representative from a district where the local government plays an active role in the management of a protected area (Csepel, District XXI), (v) representatives from all political parties of the Parliament.

Using literary sources and my own criteria formulated while visiting several protected areas in 2015–2016, I developed an indexing method for measuring

the tourist attracting power of a given natural area. This is the “touristic ecoindex”.

I visited more than half of protected areas in Budapest, and selected six sample territories serving as a basis for case studies: Naplás Pond Nature Reserve, Sas Hill Nature Reserve, Soroksár Botanical Garden Nature Reserve, Szemlő Hill Cave Nature Reserve, Tamariska Hill Nature Reserve, Tétény Plateau Nature Reserve (*Figure 1*).

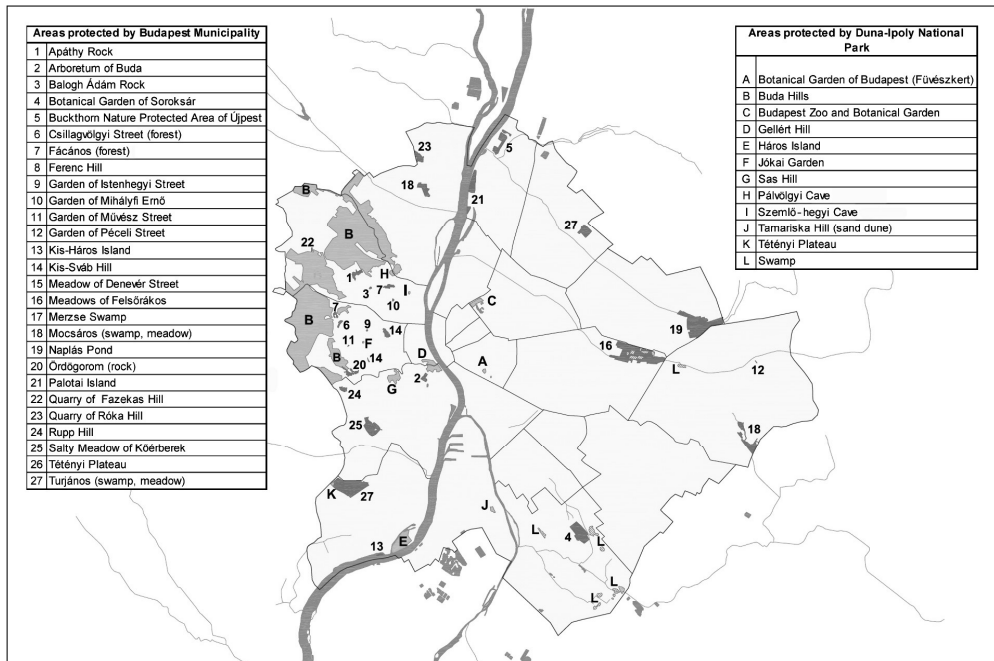


Figure 1 Protected areas in Budapest, with different levels of protection (own work)

Additionally, in the course of primary data collection, I collected data from the Duna–Ipoly National Park Directorate, the Municipality of Budapest, and the local governments engaged in the protection of natural values. I received data on the maintenance, management, and participation of organizations in these processes from 2009 to the present day. Additionally, I collected data online on the management, maintenance, costs and incomes of protected areas. Besides the above sources, I also relied on the databases available at www.palyazat.gov.hu and <http://eupalyazatiportal.hu> to gather information on incomes from tenders.

To analyse the participation of the civilian sector in nature conservation, I primarily relied on my own experience as a member of an NGO. I also collected information from Ferenc Kecskés, botanist; Attila Gergely PhD, botanist (Zöld Jövő Environmentalist Association); Ottó Merkl PhD, zoologist (Hungarian Natural History Museum). These experts also helped me to learn about the natural values of the protected areas.

3 RESULTS

Almost 7% of the total territory of Budapest is protected by law. According to the 25/2013 decree of the Municipality of Budapest, in the territory of the capital there are 27 protected areas of local importance, 11 protected areas of national importance and 6 “ex lege” protected marshes. The treasure trove of natural values is further enriched by 12 natural memorials (11 trees and a geological profile). Most of the protected areas have complex natural values, but each of them has a main attraction that was the primary cause for conservation. Territories in Budapest were not declared protected at an even pace. The first wave of declaration started in the 1970s, but most of the areas received protected status in the 1990s. Owing to the scarcity and the length of this process, several valuable habitats might have deteriorated.

3.1 The maintenance, human ecologic importance and financing of protected natural areas

It is indispensable to see the current state of a natural value to be able to treat and maintain it properly. It must be decided whether intervention is necessary, and if yes, at what level and in what manner. Almost half (48%) of the territories are in very good condition, while one third (33%) are in good condition. The rest needs direct intervention in order to conserve the natural values.

As for the human ecologic significance of green areas in the capital, their role in forming the climate of the city is important. Furthermore, they help to capture

dust, they produce oxygen, and trap CO₂, and they also play a significant role in noise protection. Their role in recreation is also prominent, while they function as an agora. In several parts of the city, the only green area to reduce environmental harm and burden is a protected natural area.

Natural values of local importance are managed by Főkert (gardening company of Budapest) as a public service. The territories are guarded by the Budapest Environmental Guard. Natural values of national importance are generally managed and guarded by the Duna–Ipoly National Park (DINP). Additionally, certain areas are managed by universities.

3.2 Incomes, tenders and expenditure of nature conservation; management of protected areas in Budapest

State owned companies constantly suffer from lack of funds and shortage of staff. Non-profit NGOs could help official organizations to manage these territories. NGOs work more profitably owing to voluntary work. Between 2007 and 2011 NGOs received 21,681,000 HUF as contractors, and a sum of 17,097,310 HUF was granted for them through tenders to manage protected natural areas. In comparison, state owned Főkert got 164,883,108 HUF between 2007 and 2015 for similar tasks. Between 2015 and 2016 NGOs obtained 45,988 HUF per hectare for treating habitats for conservation purposes, while Főkert fulfilled the same task for 195,539 HUF per hectare.

Protected areas are mostly managed from state budget. Other sources include entrance fees and tenders, which are open for DINPI, universities and NGOs. However, for the management of locally important natural values, only the General Assembly of Budapest can provide considerable amounts. Furthermore, most locally important natural values do not produce income, so state financing is indispensable for their management. Significant grants are provided by EU and LIFE for the national parks (*Figure 2*), and their protected areas produce some income. But these amounts do not fully cover expenses.

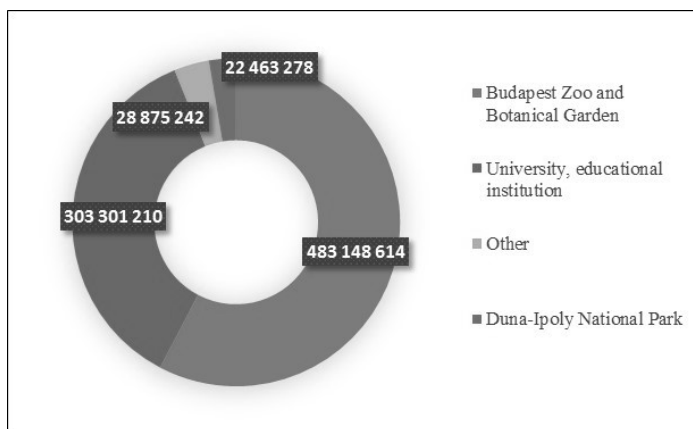


Figure 2 Average sums of grants given for nature conservation purposes in Budapest and Pest County between 2007 and 2013 by KMOP and ÁROP (own work, based on data from www.palyazat.gov.hu)

Some protected areas that are managed by universities can produce some income, but the expenses far exceed this sum. My research has proved that the income of protected areas is rising due to growing public interest (*Figures 3–4*).

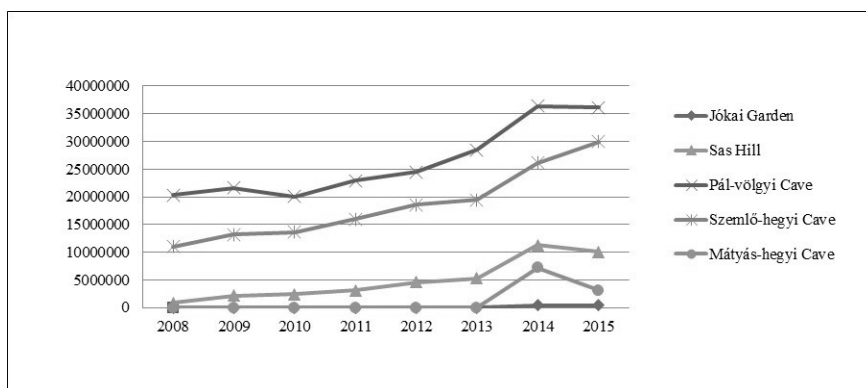


Figure 3 Incomes of protected areas managed by DINPI between 2008 and 2015, HUF (own work, based on data from DINPI)

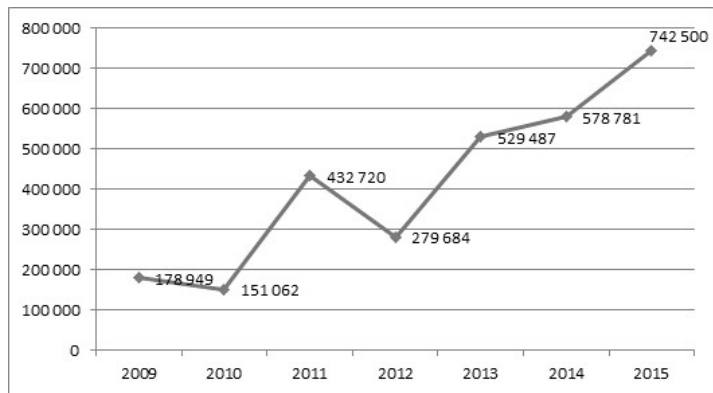


Figure 4 Income from entrance fees in Soroksár Botanical Garden Natural Reserve between 2009 and 2015, HUF

(own work, based on data from Soroksár Botanical Garden)

In addition to the constant lack of funds, the duality of public administration also makes the management of protected areas difficult. Although locally important natural areas are managed by the Municipality of Budapest, local governments also have a say in problems of nature conservation. Furthermore, decisions in Budapest are often made on political grounds, instead of professional expertise. As the decisions made by the General assembly of Budapest are practically impossible to change, only the minister in charge can declare an area protected. Unfortunately, national parks cannot influence the decision making process of local governments and the ministry enough.

3.3 The description of sample territories and the “touristic ecoindex”

The sample territories of my case studies have a lot in common. They feature significant natural values, some territories present complex values, their management is solved, each sample territory has a nature trail, but guided tours are not provided everywhere. Some territories are not in a good condition, e.g. Tétényi Plateau Nature Reserve. With some exceptions, their role in scientific research and environmental education is outstanding. While some places offer

excellent touristic services, e.g. Sas Hill Nature Reserve, others lack infrastructure, e.g. Tamariska Hill Nature Reserve. Almost all sample areas boast some memorials of cultural history or some other interesting feature. Not all territories are accessible for the disabled. Most areas are only seasonally interesting, e.g. Soroksár Botanical Garden Nature Reserve, but show caves can be visited all year round, e.g. Szemplő Hill Cave Nature Reserve. Panoramic views are only relevant in hilly regions.

Protected areas might differ significantly concerning their infrastructure, natural values and services offered. However, at Budapest sites managed by DINPI (e.g. Sas Hill, Buda Protected Area), high level infrastructure is created to attract tourists: nature trails, public footpaths, lookout towers with a panoramic view, spots for photography, places to show fauna and flora). Similar development is witnessed at some of the locally important sites. Soroksár Botanical Garden gives an overview of the flora of the region. Nature trails are also created, e.g. at Naplás Pond Nature Reserve, Rupp Hill Nature Reserve, Tétényi Plateau Nature Reserve, Kis Sváb Hill Nature Reserve and Merzse Marsh Nature Reserve.

The values assigned for the touristic marketability of sample territories are between 0 and 1, exceptions are marked. One degree is 0.25, the final value depending on the number of elements. The maximal value is 33 points. The “touristic ecoindex” makes it possible to compare natural areas. It helps to determine the direction for development for tourism and nature conservation. However precious the natural values of a territory are, these are not enough to attract tourists. *Table 1* shows the calculation of the touristic ecoindex for the sample territories.

Table 1 Touristic ecoindex of sample protected areas (own work)

Criteria		Naplás Pond NR	Sas Hill NR	Soroksári Botanical Garden NR	Szemlő Hill Cave NR	Tamariska Hill NR	Tétényi Plateau NR (locally important)
		value					
1. Natural value and scientific significance	Geodiversity	0,25	0,75	0,5	1	0,5	0,75
	Biodiversity	0,5	1	0,75	0,25	0,5	1
	Scientific analysis	0,25	1	1	1	0,75	1
	Role in scientific research	0,25	0,75	1	1	0,25	0,75
	Local importance	1	1	1	1	1	1
	Regional importance	1	1	0	1	0	0
	National importance	0	1	0	1	0	0
International importance	0	0	0	1	0	0	
2. Human ecology	Hiking possibilities	0,75	0,5	0,75	0,75	0,25	0,75
	Recreation (relaxation)	1	0,75	0,75	0,5	1	1
	Health care	0	0	0	1	0	0
	Water	1	0	0,75	0	0	0
3. Educational value	Nature trail, information boards	1	1	1	1	1	0,75
	Brochures	0	1	1	1	0	0,75
	Internet site	0	1	1	1	0	1
	Guided tours	1	1	1	1	0	1
	Special field trips for children and students	1	1	1	1	0	1
4. Accessibility, infrastructure	Accessibility (public transport)	0,5	1	0,25	1	0,5	0,25
	Information centre	0	1	0,75	1	0	0
	Benches	0,75	1	0,75	1	0,25	0
	Wheelchair accessible	0,5	0,75	0,5	0,75	0,25	0,25
	Litter receptacles	0,75	1	0,5	1	0,5	0
	Walking paths	0,75	1	1	1	0,5	0,5
	Rain shelter	0	1	0	1	1	0
	Toilet	0	1	0	1	0	0
Fire place	1	0	0	0	0	0	
5. Nature conservation	State of the area, degree of degradation	0,75	1	1	1	0,5	0,5
	Level of protection	0,5	1	0,5	1	1	1
	Wetland habitat	1	0	0,75	0	0	0
	Area	1	0,5	0,75	0,5	0,25	1
6 . Other	Cultural values (historical, religious, archeological, technological values)	0,5	1	0,5	1	1	0,5
	Landscape (colours, structure of the area, panoramic view)	0,5	1	0,5	1	0,25	0,5
	Seasonality (concerning natural values and programs)	0,5	0,75	0,25	1	0,5	0,25
Sum		18	25,75	19,5	27,75	11,75	15,5

The highest ecoindex was assigned to Szemlő Hill Cave and Surface Natural Reserve. The most outstanding natural value of the reserve is of geological nature, and they also offer complex services. The show cave has constructed trails, full infrastructure, it provides health services. It is open all year round and offers an astonishing panorama of the city. Moreover, owing to the HUSK/0801/2.2.1/0153 international tender, the cave is internationally acknowledged and is in the centre of attention. The lowest value was assigned to Tamariska Hill Nature Reserve, although this is an area of national importance. However, this status was not assigned to the hill on professional grounds. Although its natural values can be regarded as significant, its infrastructure is low, it plays a relatively modest role in education, its general nature conservation value is medium, it is small and it offers natural values only during the summer. (The recently created historical museum and calvary, however, are enjoyable all year around.)

3.4 Results of the questionnaire and the interviews

Respondents of a questionnaire voluntarily or involuntarily are inclined to give biased answers (strategic bias, information bias, starting point bias). Therefore, the above biases should be kept in mind when analyzing the data. Furthermore, the relatively low size of the sample ($n=380$) and the low responding rate (27%), the following results should be regarded with slight reservations.

91% of respondents considered nature conservation as an important issue in Budapest; most of them guessed the number of protected areas is around 5 in the capital, and very few people visit these territories regularly. The majority of youngsters under 19 have never been to a protected area or visits one rarely. The average visiting time is 16–60 minutes. The main attractions are: panoramic view, possibility to hike, clean air.

For the overwhelming majority of respondents it is very important to maintain protected areas inside the city, and the green areas play a key role for them in the formation of a liveable city. Respondents agree that protected areas can

produce income. Most people would use natural areas as public parks or as protected areas, with some touristic use. Concerning the decision making process on the declaration of protection, most respondents would assign this responsibility to professional bodies (e.g. national park, green authorities). In their views, the management should be in the hands of the government and the Municipality of Budapest. A lot of people would help nature conservation with voluntary work, or by offering 1% of their income tax. They agree that revenues should be partly spent on nature conservation irrespective of whether a certain area produces incomes or not. The majority thinks that decision makers do not take into consideration the wishes of the inhabitants in questions regarding nature protection. Several respondents would not pay entrance fees when visiting a protected area – they are willing to pay if some services are offered. Some people, however, would pay in all circumstances (*Figure 5*). The most crucial problem is littering. The respondents would welcome litter receptacles, information boards, benches, mobile toilets and rain shelters on the protected areas.

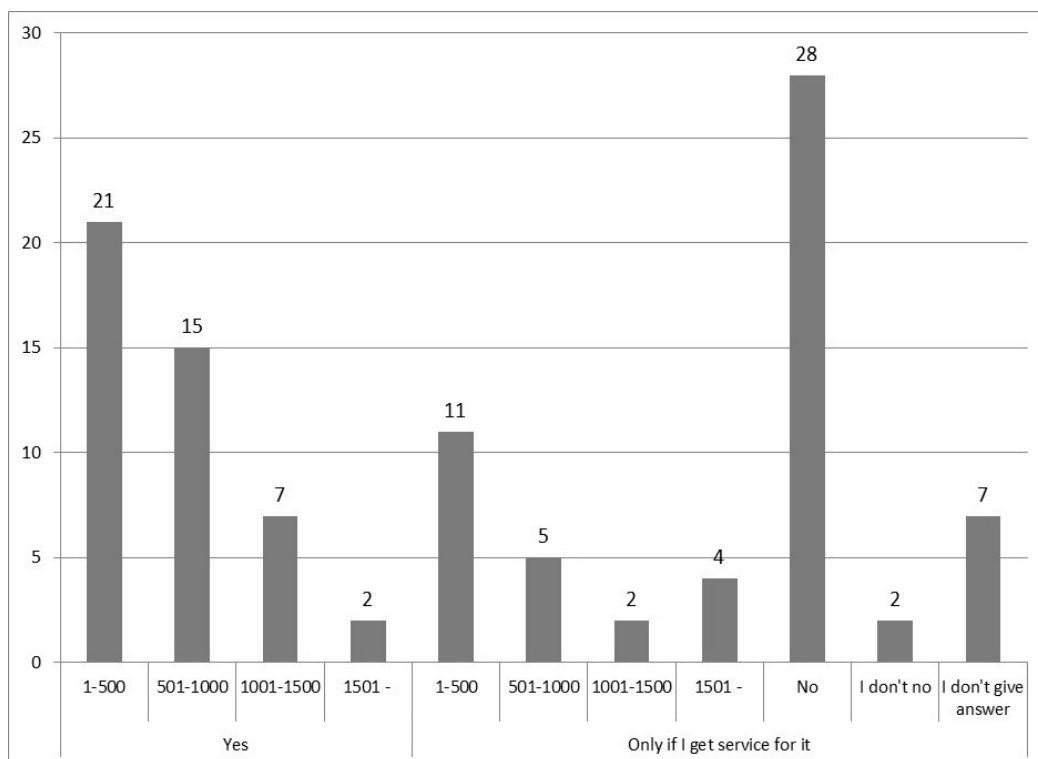


Figure 5 Are you willing to pay an entrance fee when visiting a protected area in Budapest? If yes, how much? (person)

The above results suggest that it is worth developing the infrastructure at protected areas (e.g. installing litter receptacles and benches), vandalism should be suppressed and existing nature trails should be maintained properly. New (interactive) information boards should be set up, while old and damaged boards should be removed. The number of destinations with an entrance fee should be increased; however, services should also be provided (e.g. guided tours, brochures etc.). It must be noted, however, that at certain protected areas no infrastructural changes should be done, as these would destroy the near natural habitat (e.g. Háros Island Nature Reserve). At other places, the development should always disturb nature as little as possible, keeping the landscape relatively intact. Infrastructural development is badly needed at certain territories (e.g. Tétényi Plateu Nature Reserve).

I selected local representatives for my interviews with a general knowledge on nature conservation, i.e. who are not professional environmentalists. The main focus of the interviews was how politicians see the situation of nature protection in the capital, and what the role of local governments and representatives in this problem is.

In sum, all respondents regard nature protection in Budapest as an important issue, but it should not be a priority in all cases. They regard preparation of decisions important, because in the lack of this, representatives cannot decide responsibly. They think the declaration or lifting of protection should be based on the decision of local representatives, but their role should be diminished in the process. As the decision making process concerning locally important values is in the hands of the General Assembly of Budapest, the districts would want to have more say in this question. At present, decisions concerning their territories are passed without them.

Representatives agree that it is acceptable if the management of these areas is coordinated by the Municipality of Budapest. Resources should be provided by the state, either directly or non-directly. Without state help protected areas cannot be managed and maintained, these territories cannot be regarded as market actors. NGOs are underrepresented in nature protection, although their contribution is badly needed. Local representatives think that protected natural areas are important because they enhance the quality of the environment and make the settlement more attractive, but they agree that protected areas have no economic value.

3.5 New scientific results

The primary and secondary research conducted here gave the following new results.

1. Primary research proves that the protected areas in Budapest are of small or medium sized. 51% of protected areas are below 10 hectares. Most protected areas are in Buda, and the largest protected area is also here. Secondary data

prove that green territories in Budapest have shrunk considerably in the past 70 years. The existing green areas are strongly fragmented and mosaic. However, the number of officially protected areas has considerably risen.

2. Secondary data prove that the human ecological significance of protected areas is enhanced by the fact that in certain districts only these serve as active green areas for recreation.

3. Primary research has proved that the dual system of public administration in the capital is also present in nature conservation. This sector includes several actors owing to its scientific significance and its role in settlement development. The declaration of a new protected area is often decided on political grounds, while professional bodies and civilians can only express their views.

4. Primary research has proved that the management and maintenance of protected areas is acceptable. However, maintenance is done by several actors, has a fragmented structure and is not always cost-effective.

5. Primary research has shown that in Budapest (Central Hungary Region) the most successful agents for winning tenders concerning nature conservation were the Duna–Ipoly National Park (DINPI) and universities (ELTE, SZIE/Corvinus). NGOs (MME, Zöld Jövő, Csepeli Zöld Kör) maintaining locally important protected areas have received grants only from Hungary for their projects. Incomes of protected areas do not cover the expenses of maintenance. However, the increasing number of visitors and tender possibilities might change this situation. Presently, protected areas cannot be maintained without state funds.

6. In the course of indexing sample territories, it has been proved that biological or geological values serving as a basis for touristic attraction cannot be sold on their own.

Territories with extra services are more attractive. The highest ecotouristic index was given to those sample protected areas which can offer complex touristic services all year around.

7. The most important results of the questionnaire survey are the following. The overwhelming majority of respondents (91%) considers the existence of nature conservation areas in Budapest important. Most of them would use these areas as public parks, while others as protected areas without any infrastructural changes. Maintenance should not be treated as an economic problem, as state funds should be provided. Some visitors (21%) would only pay entrance fees if services are also provided. The most important problem with protected areas is the lack of infrastructure.

8. As a result of the structured interviews, it is evident that local representatives want to maintain their role in the decision making process concerning nature conservation. However, they do not support political hegemony. They agreed that the suggestions of professional organizations should be built into decisions made by representatives (Figure 6). Although they consider nature protection as an important factor influencing the quality of the environment and the image of the city, representatives do not consider it as a priority.

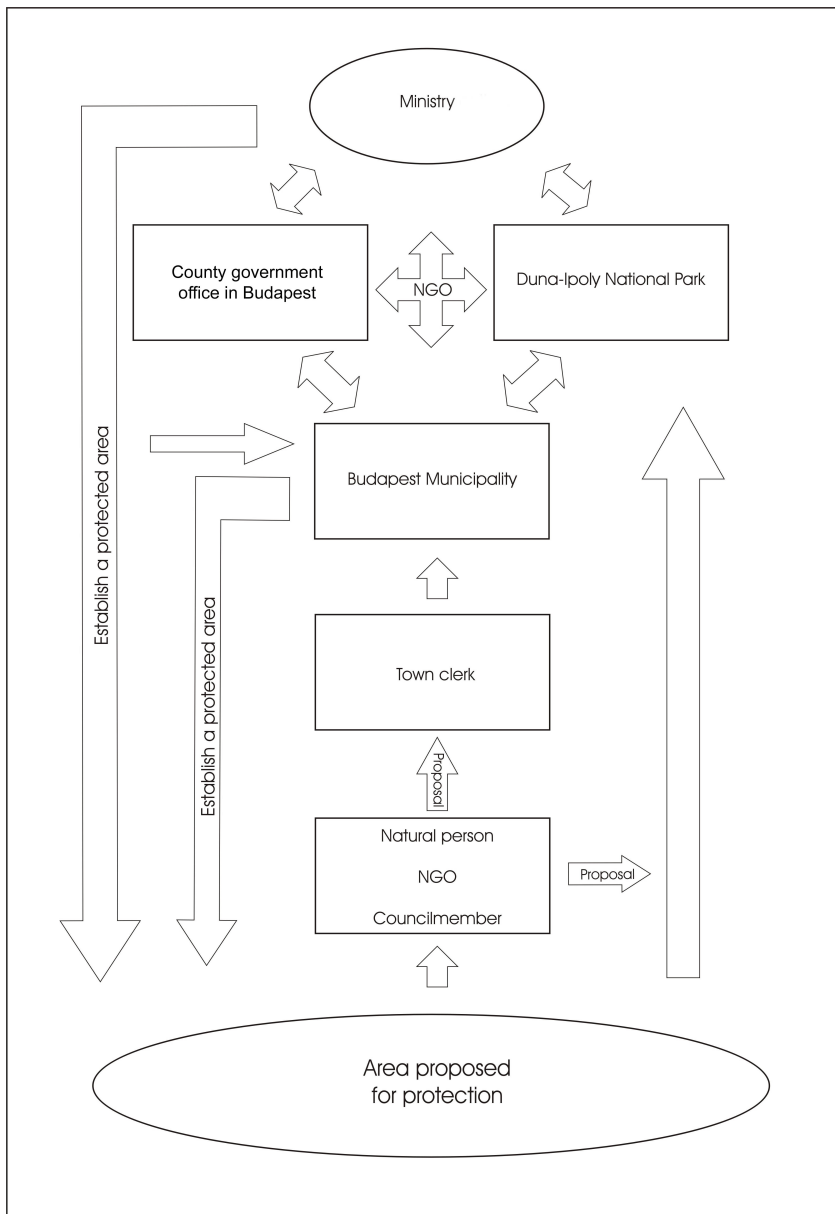


Figure 6 The process of declaring an area protected in 2016 (own work)

4 CONCLUSIONS, SUGGESTIONS

Using Budapest as an example, I have suggested that it is worth maintaining protected natural areas inside settlements, because besides their human ecological and natural values, they can be managed profitably on the long run. Profit may arise from tenders and touristic services. The management of protected areas should take the human ecological needs of inhabitants into consideration besides conserving the natural values of protected areas. The income centered use of protected areas can be provided by Duna–Ipoly National Park and universities.

In order to conserve natural values that serve as the main attraction of protected areas, these territories must be maintained in a way that serves conservation. These territories can be managed most effectively if the national park, the local government and NGOs join forces.

Areas already protected or worth protecting should be surveyed and assessed in order to ensure the sustainable touristic development of these territories. An indexing method was introduced here (“touristic ecoindex”), which helps determine the directions for development. However, this tool is only useful if decisions about protected areas are made by professionals instead of politicians. In the latter case, decisions are often made on political grounds, which threatens the basic interests of nature conservation.

4.1 Assessment of hypotheses

The hypotheses formulated above have generally been proved by the survey.

H1: The conservation of protected and other green areas ensures ecologically sustainable settlement use. Furthermore, these protected areas fulfill the human ecological needs of inhabitants.

H2: The above financial calculations proved that the Duna–Ipoly National Park, educational institutions and NGOs can manage protected areas more cost-

effectively than the Municipality of Budapest. This is supported by the difference in employment costs and tender possibilities.

H3: The fact that the managing structure of nature conservation is fragmented is self-evident from the legal regulations. However, the hypothesis that “the management and maintenance of protected areas is the most effective in those areas where NGOs take an active role” could only be proved through case studies. NGOs – which work with volunteers and take an active role in the local community –, tend to take on tasks that state organizations cannot solve. This is exemplified the changes in management of Tamariska Hill Nature Reserve and Tétényi Plateau Nature Reserve.

H4: This study has proved that the separation of powers is far from satisfactory in nature conservation: roles, tasks, rights and controls are intermingled. Consequently, neither the management of protected areas, nor the process of declaring an area protected is effective enough, as several participants are present, and politics plays a decisive role in these processes. The exclusive role of political bodies in decisions concerning nature conservation should be diminished. Professional bodies should have more rights, and all those concerned should be consulted when declaring a territory protected.

H5: The financial analyses above have proved that protected areas produce direct income, especially if goods or services are provided for tourists. Nationally important protected areas managed by DINPI or state-owned universities provide complex services, i.e. the incomes are the highest there. This is underpinned by the relevant directive of the National Ecotourism Development Strategy.

H6: Visitors wish to conserve natural values, but they also want to use protected areas as public parks or recreational areas. The pure existence of protected areas provides space for these purposes, but the conservation of natural values is also important. The best solution is ecotourism according to the literature, which was proved by the questionnaire survey and the interviews here.

H7: This dissertation developed a “touristic ecoindex”, which helps to determine the touristic competitiveness of a given natural area. Based on this index, different areas can be compared. The application of the touristic ecoindex to sample territories has proved that protected areas in Budapest have outstanding natural values, visitors are attracted by other factors as well. This touristic analysis is a novel approach, as no such previous comparison of these territories is available. The indexing process can set the directions for development.

Based on primary and secondary research, the following suggestions are made.

1. While the proportion of active green areas has considerably decreased in the past years, the number and territory of protected areas has risen. A possible way to prevent further green area loss is to declare more territories protected. Thus protected status should not be lifted, and more areas should be declared protected.
2. Owing to the double administration system, the administration of protected areas is also fragmented in Budapest. This structure should be revised. The declaration of new protected areas should be done by professional bodies, and local representatives should not have exclusive rights in the decision making process. The main responsibility should be given to professional organizations, who must negotiate with all those concerned, and respecting the sovereignty of settlements and their interests in the development. The final decision should be passed by the General Assembly of Budapest or the ministry, based on the suggestions of professional bodies.
3. The respondents of the questionnaire voted for the government and the Municipality of Budapest as the managers of protected areas. However, this is not the best solution. Although the Municipality of Budapest manages these territories at a satisfactory level, for financial and professional reasons, the best solution would be if a state-funded professional body, namely the Duna–Ipoly National Park and NGOs managed these areas.

4. The development of protected areas can be helped by an index that shows the attractiveness of a given territory. This is the “touristic ecoindex” developed here, which is an inventory of touristic sources at the same time. Based on this index, the best sample territory is Szemlő Hill Nature Reserve, while the least attractive one is Tamariska Hill Nature Reserve. Low scoring areas should be developed and their marketing should be enhanced. Furthermore, management of these areas in order to conserve natural values should also be kept up or developed. While these developments should serve the human ecological needs of inhabitants, the biological and geological values should be maximally conserved.

5. The answers to the questionnaire have shown that people wish to use protected areas as public parks. Constructed paths, litter receptacles, benches are required. At the same time, natural values should also be preserved and presented to tourists. A good example for fulfilling both needs is the Sas Hill Nature Reserve, where recreational activities can be pursued, while natural values are also preserved. However, treating protected areas as simple public parks is unacceptable.

6. Local governments should only take on nature conservation tasks if costs can be covered by state funds or from local budget. However, strict cooperation with the national park (DINPI) is a must. NGOs should be included in the management process.

7. This study has proved that people under 19 have not visited protected areas in Budapest, or have done so very rarely. Consequently, environmental education should be given more emphasis in the curriculum, and education should be more practical.

5 PUBLICATIONS CONNECTED TO THE TOPIC OF THE DISSERTATION

Reviewed article/book in a foreign language:

Tenk András (2015): Destination Management of protected areas in Budapest. *Current Issues of Tourism Research*, Vol. 5/2015, No.1. pp. 20–30.

Tenk András (2015): Geoheritage and geotourism of protected areas in Budapest. *Transylvanian journal of tourism and territorial development* 2:(1) pp. 84–92.

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