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MASTER THESIS

Principles of environmental protection within conservation areas

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Engineering Ecology
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Principles of environmental protection within conservation areas

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Objectives of thesis

- To Choose countries and their sites.
- To find common principles and their differences in protected areas.
- To improve these policies from the investigated countries.
- To find the most practical and useful policy from the investigated countries and to improve it.

Methodology

Doing this research, we followed next methodology:

-Questionnaire among tourists in protected areas on the examined countries

-Interview with employees from chosen NPs in the examined countries

-Analysis of the literature

-Description of the study area

The proposed extent of the thesis

50 pages

Keywords

environmental assessment; environmental management, environmental legislation, national parks, policy, protected areas, ecosystem conservation

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Recommended information sources

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Declaration

I declare that I wrote my diploma thesis independently, and that I have stated all the information sources and literature, I used. Neither this thesis nor any substantial part of it has been submitted for the acquisition of another or the same academic degree. I consent to the lending of my dissertation for study purposes. By affixing his or her signature the user confirms using this dissertation for study purposes and declares that he or she has listed it among the sources used.

In Prague, / /2021
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Egor Zamotaev

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Abstract

Over the last decade environmental problems have become important in the world, so the European Union established some rules and requirements for environmental protection. All the countries of the European Union should follow these rules but at the same time they have their own regulations on environmental assessment.

The object of our research is to compare environmental principles within the countries, to find the most effective ones, and to determine whether the governments' guidelines in the protected areas correspond to the declared priorities and objectives. These include environmental assessment, strategic plans, environmental legislation, and management of conservation areas within the countries of the European Union. In our research we chose four countries with similar environments and compared their ecological strategies along the above criteria. To achieve this goal, we analysed the data from the governments', employees', and tourists' points of view. To do this, we used methodology which consisted of a questionnaire, several interviews, and an analysis of the research and a literature review. A sociological survey in a form of questionnaire among tourists was carried out within Germany, Austria, the Czech Republic, and Poland, while the analysis of the relationship of the answers between the countries was performed in IBM SPSS Statistics 27. The interviews were held with representatives from the national parks in the examined countries, while the analysis of the literature was based on the research work in these and other national parks in the countries of interest. The data of the protected areas was analysed with ArcGis, in which all the maps were drawn.

The findings of the research work were controversial: each country's policy and legislation framework had their pros and cons. The analysis of the results from governmental and sociological points of view showed that the lowest number of ecological conflicts with the highest amount of conservation areas was in Germany, the most effective management was in Austria, the most available for the general public legislation framework was found in the Czech Republic, and the highest ecological awareness with the highest number of partnerships in the protected areas was discovered in Poland. Nevertheless, we found similarities not only in strategies but in people's needs as well (e.g.: a lack of trash bins within the examined countries).

Taking this into account, we combined the strongest points of the ecosystems' conservation measures of all the examined countries and formulated ideas regarding which plans are better to implement in future in order to maintain ecological and socio-economic sustainability.

Keywords: environmental assessment, environmental management, environmental legislation, national parks, policy, protected areas, ecosystem conservation

Abstrakt

Během posledního desetiletí ve světě, nabyly na vážnosti i důležitosti problémy životního prostředí, a proto Evropská Unie stanovila některá pravidla a požadavky na ochranu životního prostředí. Všechny země Evropské Unie by se těmito pravidly měly řídit, ale také mají zároveň své vlastní předpisy o posuzování vlivů na životní prostředí.

Cílem našeho výzkumu je porovnat environmentální principy v jednotlivých zemích, najít ty nejefektivnější a zjistit, zda vládní směrnice v chráněných oblastech odpovídají deklarovaným prioritám a cílům. Patří mezi ně posuzování vlivů na životní prostředí, strategické plány, legislativa v oblasti životního prostředí a správa chráněných oblastí v zemích Evropské unie. Vybraly jsme v našem výzkumu čtyři země s podobným prostředím a porovnali jsme jejich ekologické strategie podle výše uvedených kritérií. Abychom tohoto cíle dosáhli, analyzovali jsme údaje z pohledu vládních, 'zaměstnanců' a 'turistů'. K tomu jsme použili metodiku, která se skládala z dotazníku, několika rozhovorů a analýzy výzkumu a literární rešerše. V Německu, Rakousku, České republice a Polsku byl proveden sociologický průzkum ve formě dotazníku mezi turisty, zatímco analýza vztahu odpovědí mezi zeměmi byla provedena v IBM SPSS Statistics 27. Rozhovory proběhly se zástupci z národních parků ve zkoumaných zemích, zatímco analýza literatury vycházela z výzkumných prací v těchto a dalších národních parcích v zájmových zemích. Data chráněných oblastí byla analyzována pomocí ArcGis, ve kterém byly nakresleny všechny mapy.

Zjištění výzkumné části byly kontroverzní: politický a legislativní rámec každé země měl své klady a zápory. Analýza výsledků z vládního a sociologického hlediska ukázala, že nejnižší počet ekologických konfliktů s nejvyšším počtem chráněných území byl v Německu, nejúčinnější plán o péči byl v Rakousku, nejdostupnější pro obecně veřejnoprávní rámec byl nalezen v České republice a na bázi nejvyššího ekologického povědomí s nejvyšším počtem partnerství v chráněných oblastech bylo zjištěno v Polsku. Našli jsme však podobnosti nejen ve strategiích, ale i v potřebách lidí (např. Nedostatek odpadkových košů ve zkoumaných zemích).

S ohledem k našemu zjištění, jsme spojili nejsilnější stránky ochranných opatření ekosystémů všech zkoumaných zemí a formulovali myšlenky, které plány v budoucnu lépe implementovat, aby byla zachována ekologická a socioekonomická udržitelnost.

Klíčová slova: environmentální hodnocení, environmentální management, environmentální legislativa, národní parky, politika, chráněná území, ochrana ekosystémů

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Vocabulary

BNatSchG – Bundesnaturschutzgesetz, Federal Nature Conservation Act
Bundesverfassungsgesetz – Austrian constitution
Bundesländer - Provincial Governments
CAA - Civil Aviation Authority
CDP - Community Development Plan
EIA – Environmental Impact assessment
EU – European Union
FFH-Directive - Council Directive 92/43/EEC
GPAP – Global Programme on Protected Areas
IUCN – International Union for Conservation of Nature
NP – national park
PAs – Protected Areas
PP - plan or programme
WCPA – World Commission on Protected Areas
GWC – Global Wildlife Conservation
SDS CR - Strategic Framework for Sustainable Development of the Czech Republic
SEA – Strategic Environmental Assessment
SPA – special protected areas
VNP - Verein Naturschutzpark

I. Introduction

Over the last decade environmental problems have become important in the world, so the European Union established some rules and requirements for environmental protection. All the countries of the European Union should follow these rules but at the same time they have their own regulations on the environmental assessment. In our research we chose four countries with similar environments and compared their ecological strategies. The research area is national parks in the Czech Republic, Poland, Germany, and Austria. In this research we are focusing not only on basic principles of environmental protection and conservation in the examined countries but also on media activity which is a part of successful management both on governmental and on private levels. Thus, in our study we investigate historical values which led to the creation of these policies, economical values which include governmental funding and partnerships, ecological strategies of the examined countries, and media activity which can help to increase tourism and to maintain socio-economical value of these places.

This thesis is divided into literature review and methodological parts. In the literature review we are doing analysis on:

- European policies and laws.
- Principles of European environmental protection in conservation areas within countries.
- Environmental strategies in the chosen countries.
- Methodologies are used for maintaining governmental targets in ecological and socio-economical sustainability.

In the methodological part we are focusing on:

- Analysis of protection areas of the chosen countries from touristic point of view.
- Interviewing representatives of the protected areas.
- Comparison of the most common problems in the protected areas.
- Analysis of the used strategies in protected areas and their practical solution.
- Analysis of media activity in research areas.
- Choosing the best strategy of protection plan.
- Implementation of a new plan based on the analysis of the areas which will include environmental, economic, and sociological values.

II. Aim of the research

The Aim of the research is to compare European conservation strategies and principles in four countries of the European Union, to find the most effective ones, and to determine whether the governments' guidelines in the protected areas correspond to the declared priorities and objectives. To achieving this aim we use next goals:

- To choose countries and their sites.

- To find common principles and their differences in protected areas.

- To improve these policies from the investigated countries.

- To find the most practical and useful policy from the investigated countries and to improve it.

III. Literature review

III.I Introduction to conservation areas

Ecological problems are important nowadays due to such consequences as greenhouse effect, the growth of ozone layer, and cutting the forests. Since the world started to change rapidly and urbanization increased it is necessary to organize the structure of management plans, to develop green-strategies, and to create more conservation areas. These are some of the reasons why quality management in protected areas is currently a topic of intense national and international debate among nature conservationists (Kemkes, 2008).

To understand the topic correctly lets firstly divide the definitions of conservation areas and protected areas. Conservation area – an area of notable environmental or historical interest or importance which is protected by law against undesirable changes. Protected areas (PAs) are that locations which receive protection because of their natural, ecological, or cultural values. PAs – national parks, wilderness areas, community conserved areas, nature reserves – are the world foundation of biological conservation. They (PAs) safeguard nature and cultural resources, improve live hoods, and drive sustainable development. A national park – is an area of scenic beauty, historical and scientific interest, maintained and preserved by national government for purposes of conservation of "wild nature" and recreational use. A nature reserve is a protected area of importance for flora and fauna or features of geological or other special interests, which is reserved and managed for purpose of conservation and to provide special study and research. This may be designated by government institutions in some countries, or by private landowners, such as charities or research institutions. The level of their protection is less that than in national parks.

It is necessary not only to provide help for conservation areas but also to create these conservation areas. For the last decades conservation measurements were improved by SEA and EIA processes. Mostly, SEA and EIA requirements are regulated by European regulations, but these processes are still different between countries. Help is also provided by conceptual frameworks and management plans.

A conceptual framework is an analytical tool with several variations and contexts (social science, marketing, applied science, art, etc). It can be applied in different categories of work where an overall picture is needed. Conceptual frameworks are particularly useful as organising devices in empirical research. This type of research relies safely on evidence obtained through direct or indirect observation or experience. We used such type of method in our analytical part of research. Management plans support the preservation of park resources, collaboration with partners, and provision for visitor enjoyment and recreational opportunities. These plans provide the basic guidance for how parks will carry and statutory responsibilities for protection of park resources unimpaired for future generations while providing for appropriate visitor use and enjoyment. Management plans should be documents that identify the key features or values of protected area, clearly establish the management objectives to be met and indicate the action to be implemented.

In this research work we focused on the strategies and principles in four European countries which have similar environment: Czech Republic, Germany, Austria, and Poland. We will observe the structure, differences, and similarities of their governmental framework.

III.II Environmental Assessment

Environmental Assessment can be defined as identifying and evaluating the environmental impacts of existing and proposed projects, by conducting environmental studies to mitigate relevant negative effects prior to making decisions. It is a process that evaluates potential environmental impact of project before it is begun. The purpose of EA is to evaluate possible environmental effects, to suggest remedies, to deal with adverse effects, and to predict if these remedies will be successful. It should be noted that assessment which indicates potential for substantial and/or long-lasting damage can lead to modifications of the proposed projects or its cancellation.

Depletion of natural resources by human activities and subsequent environmental degradation make it necessary for the planning authorities to count on sound information about possible environmental consequences of development actions. One of the tools to satisfy these needs is the procedure of EIA. This procedure involves systematic identification and evaluation of the impacts on the environment caused by a proposed project. EIA is now applied worldwide in various forms. EIA has been in use for over 30 years in many developed countries. More than 100 countries now have national EIA requirements.

Why is EIA needed?

- The natural environment is the foundation of the world economy and our social well-being.
- Past development practices have almost degraded the natural environment.
- Increasing development pressures (urbanization, resource use) will inevitably accelerate environmental degradation unless sustainable environmental management practices are adopted.

The purpose of EIA is to ensure the protection and conservation of the environment and natural resources including human health aspects against uncontrolled development. The long-term objective is to ensure sustainable economic development that meets present needs without compromising future generations' ability to meet their own needs. EIA is policy and management tool for both planning and decision making.

Management practices for the environment help maximise both environmental and economic benefits. Many management practices are available, but decision makers must find practices which are suited to a particular project. A risk assessment will help distinguish which management practices are the best, by doing risk analysis based on an examination and evaluation of alternative practices. The ultimate goal is to find best management practices that will find way to reasonable solutions, reduce stakeholder resistance to projects, and contribute to an overall improvement of quality of life. By integrating science, economics, legal and sociable interests, these best management practices will lead to a better project management and a better project.

III.III History of protected areas in European Union

Environmental assessment is a process that plays an integrative role, where the social, economic, and biological values are combined and creates an organized structure that covers all the values in protecting nature.

Protected Area – an area of land or sea especially dedicated to the protection of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means. In addition to conserving biological and cultural diversity, it is now widely recognized that many PAs also have important social and economic functions. Among cultural and biological diversity are the protection of watersheds, soil, and coastlines, and among social and economic functions are supporting tourism and recreation. Many protected areas are also home to communities of people with traditional cultures and knowledge: these assets also need protection. All these considerations have to be taken into account when preparing Management Plans to PAs and other conservational zones. While the discussions among authorities started earlier, then only in 1993 the introduction of strategic environmental assessment was proposed. That introduction plan obligated authorities to implement environmental considerations before the adoption phase of a basic plan of implementation. In other words, attempt the environmental conservation from the initial stage of policy makers to the latter stage of project implementation. (FY1999 Project, 2005)

At the same time history of national parks in Europe is more or less complicated. It should be noted that protected areas exist for hundreds of years, and firstly they were used as royal and game forests. Only in 19th century they started to be protected by different social organizations. The first real protected areas were declared in Germany in the 1820 at the area where the territory of current Czech Republic lays nowadays. Same year conservationist societies were created in Switzerland and in Netherlands, which were held in parallel with the developing of management of protected areas. An idea of "national park" as a protected area appeared only in the 20th century while the concept of NP has been established since the 19th century in the USA. First national parks were created as, privately owned, smaller protected areas. The US-inspired national park concept by its raising popularity was the main model in Germany in creating national parks (Tyrrell, 2012). It should be also noted that most of the European national parks set up during the First World War were following the US-concept of national parks – smaller and own private areas of land use established in less populated areas. Throughout the first half of the 20th century another definition and type of management a protected area appeared in the form of the nature reserve, which led to expanding of the meaning "protected area". In 1948, the beginning of second half of 20th century, the International Union for Conservation of Nature (IUCN) was established to promote the conservation of nature worldwide and only in 1969 year they formally defined the term "National Park". In 1969 the International Union for Conservation of Nature (IUCN) declared a National park to be a relatively large area with the defining characteristics which were further expanded in 1971.

These include:

- The minimum size of 1000 hectares of protected zones.
- Statutory legal protection.

- Budget and stuff sufficient to provide effective protection.
- Prohibition of exploitation of natural resources.
- Visitors are allowed to travel only within limited areas in the park to minimize their contact with wildlife.

Later, in 1996 European Commission started consideration of introduction of Strategic Environmental Assessment – SEA for certain plans and programmes. In 2001, EU Council approved this proposal by its Directive 2001/42EC, and it became binding for EU member countries since 2004. Moreover, such protection measures as Natura 2000 were created same years.

Nowadays it is more than 127,000 protected areas all around Europe which cover almost 25% of Europe according to the data of European Environmental Agency. These sites are known as Sites of Community Importance (SCI) – 231 types of habitat and 911 animal and plant species, and Special Protection Areas (SPA), designated for 194 species of birds (Sundseth and Creed, 2008). Each state was supposed to provide legal protection of the Natura 2000 sites within its territory (Scheuer, 2005). The overall effectiveness of nature conservation regimes largely depends on the management capacities of PAs authorities, which are on the frontline of implementing conservation measures, monitoring, tourism management, and environmental education (Chape et al., 2008; Leverington et al., 2010; Robinson et al., 2017). These authorities are increasingly assigned the role of negotiating and finding a compromise among various local economic and social interests, thereby expanding their range of competences (Brockington et al., 2006; Cent et al., 2014; Sandbrook, 2015).

III.IV Protected areas and problems they face

As it was previously mentioned, the concept of protected areas has appeared for at least several hundred years ago in a form of private or communal game landscapes and small protected gardens. Preservation of natural biological habitats for their own value originated relatively recently (Adams and Hutton, 2007). After all the transformations the objective of protected areas changed to provide a conservation of biodiversity and measuring of the progress of such conservation with such main purposes as supporting scientific research and promoting geo-conservation, education, and geo-tourism. These purposes differ between authors but we followed IUCN concept declaring that the purposes for which particular protected areas are managed widely and should be divided in a special classification: (1) scientific research, (2) wilderness protection, (3) preservation of species and genetic diversity, (4) maintenance of environmental services, (5) protection of specific natural and cultural features, (6) tourism and recreation, (7) education, (8) sustainable use of resources from natural ecosystems, and (9) maintenance of cultural and traditional attributes (Glazer, 2013). All the PAs are protected by such programmes as IUCN, World Commission on Protected Areas (WCPA), Global Programme on Protected Areas (GPAP), and others. GRAP priority areas include valuing and conserving biodiversity, deploying nature-based solutions to global challenges, and governing nature's use and sharing its benefits equitably. This way, we can use classification of GRAP's priorities which combines classifications listed above.

Despite PAs are under protection of government and such programmes as IUCN and GRAP, when conservation planning provides a structured approach with specific targets to ensuring the long-term maintenance of biodiversity, they still face some environmental conflicts. Such conflicts include human activities, sport events, geographical conflicts, and even environmental activities of PAs.

Protected areas are needed not only for conserving nature but also for provisioning services (water use, food, raw materials, medical and genetic resources, etc), regulating services (storing and sequestering carbon, purification and detoxification of water, air and soil, pollination), cultural services (recreation and tourism), and other socio-economic values. Main threats to biodiversity are habitat degradation and loss, habitat fragmentation, overexploitation, invasive species, pollution, and climate change (Groom et al., 2006). The use, exploitation and transformation of renewable and non-renewable natural resources that ensure the current global economic growth has caused changes and significant losses of biodiversity (Hautier et al., 2015) and has led to conflicts between biodiversity conservation and development (M.Crranza et al., 2020). As M. Carranza says, these conflicts can be seen between natural persons, organizations, private companies and/or the authorities, which are publicly expressed (e.g.: news articles, protests) and show divergences of opinions, positions, interests and demands for the affectation of human rights, derived from the access, and use of natural resources, as well as for the environmental impacts of economic activities (Sabatini, 1994; INDH, 2015).

We decided to show the most common conflicts that face PAs in the table listed below (Fig.1):

Problems	Conflicts
Mining	Flora and soil removal; surface and groundwater and glaciers pollution (Villagrán, 2006). Drilling and blasting noises, habitat destruction, animal migration.
Agriculture and farming	Habitat loss and land cover change, replacing native forest leads to loss of the original ecosystem.
Territorial planning for touristic purposes	Habitat fragmentation and ruining of ecosystems.
Human-wildlife approach (also known as human-wildlife interaction)	They (conflicts) arise when the interests of two or more parties compete for some specific aspect of biodiversity and when at least one of the parties perceives that its interests have been sacrificed at the expense of the interests of the other party (White, 2009).
Sport activities	Ecosystem destruction, changing of touristic traits, sound and light noises for birds and other animals (e.g.: ski skiing in Alps).
Environmental activities	Noise, ecosystem destruction by ruining natural habitats by humans.
Geographical conflicts (procedural conflicts)	Conflicts between local authorities and borders when the territory has to be extended (e.g. situation of extending PAs in Poland).
Hunting	Conflicts between hunting activities and nature conservation.

Figure 1. Main conflicts in PAs

Nevertheless, all these conflicts have strong attitudes and its weaknesses. That is why we created SWAT analysis based on the information from the sources and on our knowledge (Fig.2):

SWAT analysis				
Conflicts	**Strengths**	**Weaknesses**	**Opportunities**	**Threats**
Mining	Economical value, long-term international relationships.	Removal of soil, flora, and fauna loss.	Long-term economic benefits, improving of international cooperation.	Biodiversity loss, difficult to recreate.
Agriculture and farming	International economic value, strengthen of local economy and support of small businesses.	People's removal, habitat destruction.	Long-term and short-term economic benefits, maintaining local economy.	Land cover change, loss of native biodiversity, invasive plant, and species.
Territorial planning for touristic purposes	Economical value, international attraction.	Habitat destruction.	Long-term economic benefits, social education.	Ruining of ecosystems, social argues between neighbouring countries.
Human-wildlife approach (also known as human-wildlife interaction)	Economical value, research discovering, red book of creatures owning by countries, touristic attraction, rising conquering between workers.	Political argues, scientific argues, loss of working places, more difficult to get a job for a good-skilled worker.	Scientific discovers after rivals.	International conflicts, segregating of society between arguing authorities, social values.
Sport activities	Economical value.	Changing of touristic traits, sound, and light noise.	Social attraction, economical strengthen of the country, supporting local and small businesses, social education.	Ruining of ecosystems, plastic pollution, greenhouse effect.
Environmental activities	Economical value.	Noise, ruining of native ecosystem.	Bringing sponsorship from attracted businesses, social attraction and education, support for endangered species.	Ruining of traits and disturbing wildlife by noise, pollution.
Geographical conflicts (procedural conflicts)	Economical value.	Political argues.	To maintain agreements between countries.	Biodiversity loss, habitat destruction, social conflicts.

Hunting	Economical value.	Mostly for private organizations.	Upcoming visitors from different countries which will economically help not only for inviting countries but also to small businesses.	Flora and fauna loss, endangering animals, loosing of human factor, social values.
Social media activity	Economical value, social value.	A lot of wea point of PAs can be showed to the society by social media.	Involvement of local and international visitors, social education.	Economical threat if PA does not meet shown criteria in social media advertisements.

Figure 2. SWAT analysis

After our examination of the most common problems, we created a table comparing common pros and cons between chosen countries (Czech Republic, Germany, Austria, and Poland) which you can find in a methodological part of this research.

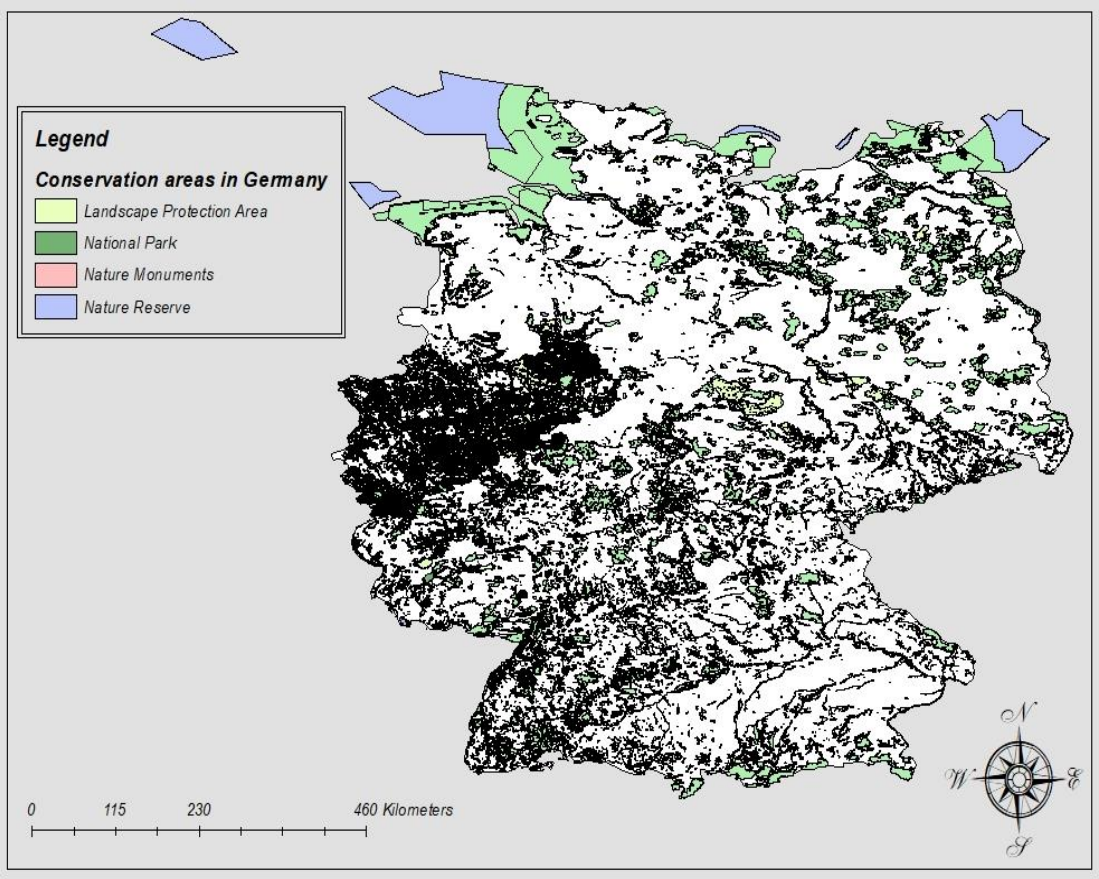
III.I.V Protected areas in Germany

National parks, nature parks, and biosphere reserves especially are touristic attractions especially in Germany. According to the findings of some scholars, almost up to 50 percent of German population prefer to spend free time and their holidays in different types of protected areas. At the same time such tendency towards spending more leisure time in and around nature also means pressure on the environment. According to statistical data, almost 10,5 million national park tourists in a strict sense with a high national park orientation generate a turnover of roughly 431 million euro per year which is equivalent to 2,1 billion euro per year summed from the data of all national park tourists, which are around 51 million visitors. Terrestrial protected areas (% of total land area) in Germany was reported at 37.75 % in 2018, according to the World Bank collection of development indicators, compiled from officially recognized sources. According to biodiversity informational system of Europe, there are 22843 protected areas in Germany (16 national parks). The protected area network in Germany is strongly influenced by nationally designated sites, which make up 59% of the total area covered by protected areas (Map 1).

In Germany, the primary legal priority of national parks is to protect endemic species and ecological integrity. However, the designation of national parks also follows political rationales of local authorities of providing tourism. Unfortunately, most studies in Germany in this field fail to provide comprehensive primary data, probably because the free access policy in German national parks makes it difficult and costly to gauge visitor numbers and draw representative visitor samples (Mayer et al.,2010).

According to the report from international workshop, “management of protected areas is noticeably increasing its efforts to include nature-based tourism into the wide range of tasks and responsibilities – fitted to the individual landscape’s potentials and needs” (Engels et al., 2015).

To maintain economic and environmental issues government implemented Keynesian multiplier analysis, which has gained most of the attention not only in Germany but also in Austria. This approach helps to evaluate economic impact of tourism in PAs. The main challenge for the evaluation of the regional economic impact of tourism are the diverse links to different sectors. In addition to assessing the number of visitors and the various relevant visitor groups, the level of tourist expenditures is of major importance in Keynesian multiplier analysis. By this approach it was evaluated that the expenditures of day-trippers and overnight visitors in Biosphere Reserves are significantly higher than in German National Parks. Moreover, scientist found out that German population prefer to spend holidays in biosphere reserves than in national parks (Merlin & Kraus, 2013).

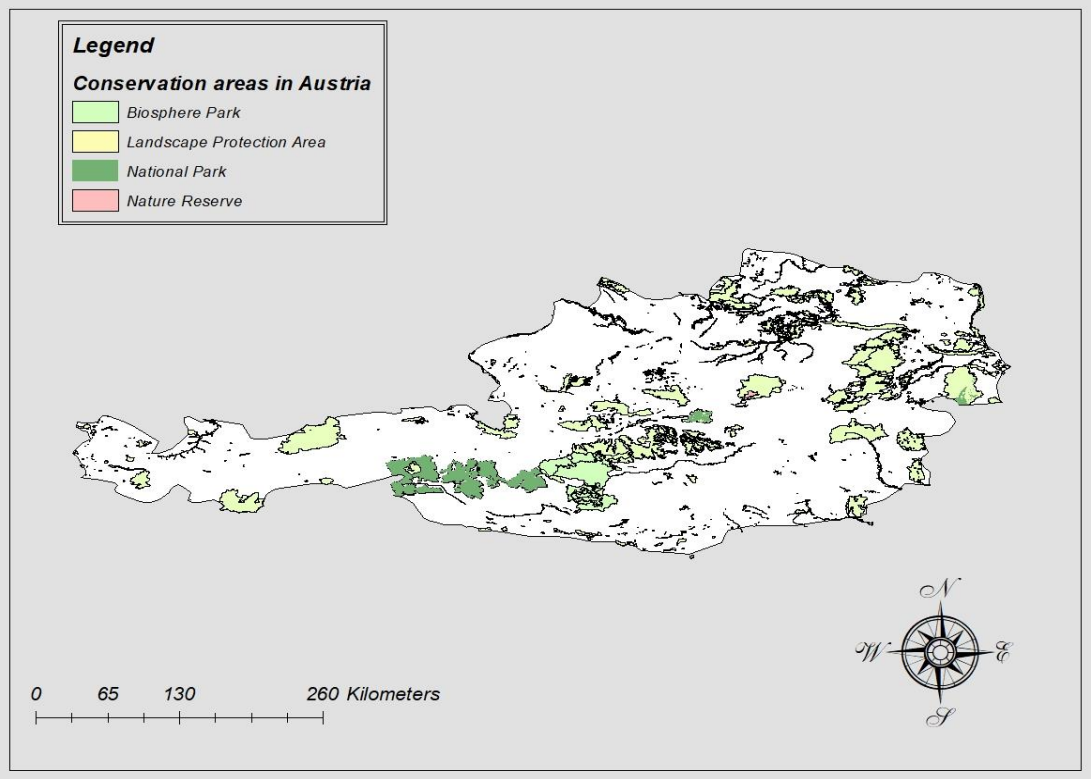


Map 1: List of national parks in Germany.

To sum up, Germany has good measures of evaluation of economical values from its population and uses special analysis for it but at the same time it doesn't provide any support to international tourists. Main purposes of PAs in Germany are to protect nature and to encourage people to know more about environment that surround them, but it works only for German population and not for visitors. At the same time the main conflicts in German PAs are territorial planning for touristic approaches and agriculture and farming.

III.I.VI Protected areas in Austria

Nowadays, protected areas in Austria as well as in other countries are expected to contribute to regional development (Mose & Weixlbaumer, 2002; Simmen et al., 2006), which is achievable through implementing tourism or so-called “eco-tourism”. The encouragement of protected area tourism compatible with conservation is one way, especially in infrastructurally weak regions, to support future regional development (Laurens & Cousseau, 2000). Ecological tourism has a significant role in Austrian economy and provides financial support and promotion to conservational zones. Moreover, ecological tourism serves as an essential argument for the creation of new protected areas (T.Hammer & D.Siergist, 2008). Sensitising guests to nature, culture, and landscape concerns is another important aspect of a nature-based tourism accompanied by a professional information strategy (Siegrist 2006). It is important to provide management to PAs because according to biodiversity informational system of Europe, it is only 1565 protected areas in Austria (6 national parks) which cover 26.08% of the land (Map 2) compared to German statistics.



Map 2:List of national parks in Austria.

There are many scientific works about nature-based tourism and protected areas in Austria. In most of them also included information about finances and funding. We found a table of Austrian main objectives to achieve sustainable environment compared to touristic approach. It consists of 14 objectives and called “Success factors of protected area tourism”. Among them are:

- Adequate resources (especially financial) for the management of the protected area.

- Contacts between representatives of the PA management and local or regional tourism organisations.
- Project-related cooperation between different groups of actors.
- Institutionalisation of a responsible body with a broad range of different partners.
- Marketing strategy.
- Integration of services on offer in protected area tourism into the regional tourism services chain.

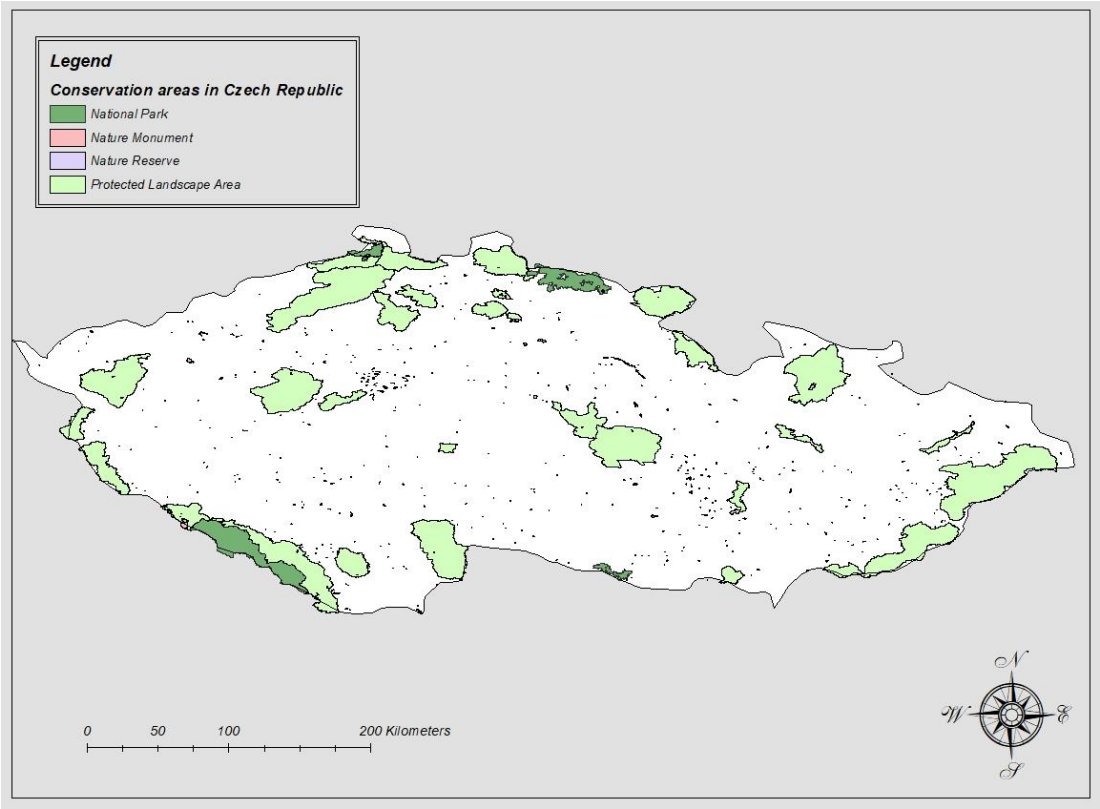
One of the examples of Austrian management of protected areas is Hohe Tauern national park. It is the largest park in the Alps based in 1971 with its further extension in 2001 and covers almost 2000 square km. The main priority of the Park is to encourage visitation in certain areas by provision of very good services and hiking on well-managed, long-established trails, to remove the likelihood of visitors wandering into fragile and sensitive areas (Synge, 2004). The Park has around 30 visitor centres, which are mostly located in a village, close to the church, and are shared with other organizations so that the building is a resource for the local community too (Synge, 2004). This way, the structure of management resolves such conflicts as territorial planning and farming. It should be noted that Austrian government also found solution in encouraging people to visit nature places. Some sources say that instead of giving an opportunity to people to walk by their own, government organized tours and guides in PAs. These tours help to encourage people, they maintain economy, provide job for local people, and they save trails and environment from destruction by people.

To sum up, Austria does not have structural database of visitors of their PAs but at the same time have a well-done management of protected areas, their financial support, encouraging people, and resolving local conflicts maintaining regional economy. Main priorities of PAs in Austria are encouraging people to visit nature place, saving the environment, and supporting tourism. In our point of view, they have a success in achieving all these goals. Among main conflicts in Austrian PAs are human-wildlife approach, sport activities, and environmental activities.

III.I.VII Protected areas in Czech Republic

In Czech Republic like in other examined countries one of major priorities of environmental protection is the sustainable development and the economic support in the protected areas. In the Czech Republic. According to biodiversity informational system of Europe, there are 3840 protected areas (4 national parks) which cover 21.87% of landscape. There are 25 protected landscape areas in Czech Republic, which cover around 13.6% of the country (Map 3). The protected area network in Czech Republic is strongly influenced by national sites and their interaction with Natura 2000 sites, with 79% of the total area covered by nationally designated protected areas and their overlap with Natura 2000 sites. According to professor Kajala, the majority of protected areas are at the same time scenic and interesting recreation and tourism destinations that attracted tourists even before they were established as the protected areas (Kajala et al., 2007). Although the main purpose of environmental protection is nature conservation, the legislation usually allows for a certain amount of recreation and research as well (Mikulec & Antouskova, 2010).

Interrelationship between tourism and a protected landscape area plays an important role and that is why it is important to use some indicators and analytical systems to measure their influence. Indicators can translate physical and social science knowledge into manageable units of information can provide crucial guidance for decision-making process (Gorner & Cihar, 2012). Suitable indicators describe and analyse trends and mutual relationships of the three pillars of sustainable development – environmental, social, and economic (Parris & Kates, 2003).



Map 3: List of national parks in the Czech Republic.

One of the strong points of Czech Republic is that the government tries to implement different strategies and PPs. One of them is "The National Biodiversity Strategy of the Czech Republic 2016-2025". It is a conceptual document with the main priorities in the field of conservation and the sustainable use of biodiversity within the territory of the country. Based on analysis of the document we found 4 priorities and 20 objectives. Priorities of the strategy are:

- Society Recognising the Value of Natural Resources.
- Biodiversity Flourishing in the Long Term and Protection of Natural Processes.
- Environmentally Friendly Use of Natural Resources.
- Providing Up-to-date and Relevant Information.

In this strategy involved such authorities as The Ministry of the Environment, which coordinates the State Program; The Ministry of Education, Youth and Sports, which provides environmental education, and other authorities and private organizations. Tourism strategies are also included there. It should be noted that tourism deals with a number of international organisations specialised in nature and landscape protection such as IUCN or EUROPARC. There is currently monitoring of

attendance in many Czech destinations, especially in the special protection landscape areas and in NP. Czech Republic has its own measuring system to count the number of visitors in PAs. Monitoring of attendance is done by qualitative monitoring. Unfortunately, The Czech Republic has such weak points as a lack of systematic and long-term monitoring of the impacts of visitors on various landscape and natural elements (Mach et al.,2016).

Some sources say that for the last decade government tries to implement visitor management system. Its objectives are based on the general conception of sustainable development, which is based on looking for, defining, reaching and developing dynamic equilibrium of environmental (Zelenka & Kacetl, 2013), economic, socio-cultural, and regional aspects of the state and development of society and nature (Nováček, 2010). Among the main tools of visitor management are:

- Access management with managed visitor flow in getaways to the given destination (Beunen, Regnerus, & Jaarsma, 2008).
- Optimizing touristic paths and trails for visitors.
- Suitable infrastructure (instructive boards, visitor and information centres).
- Price policy (setting different prices in various seasons in order to decrease seasonality, higher price level in the most frequently visited places in order to change spatial concentration of visitors, analysis of the visitor's willingness to pay (Chung et al, 2011)).

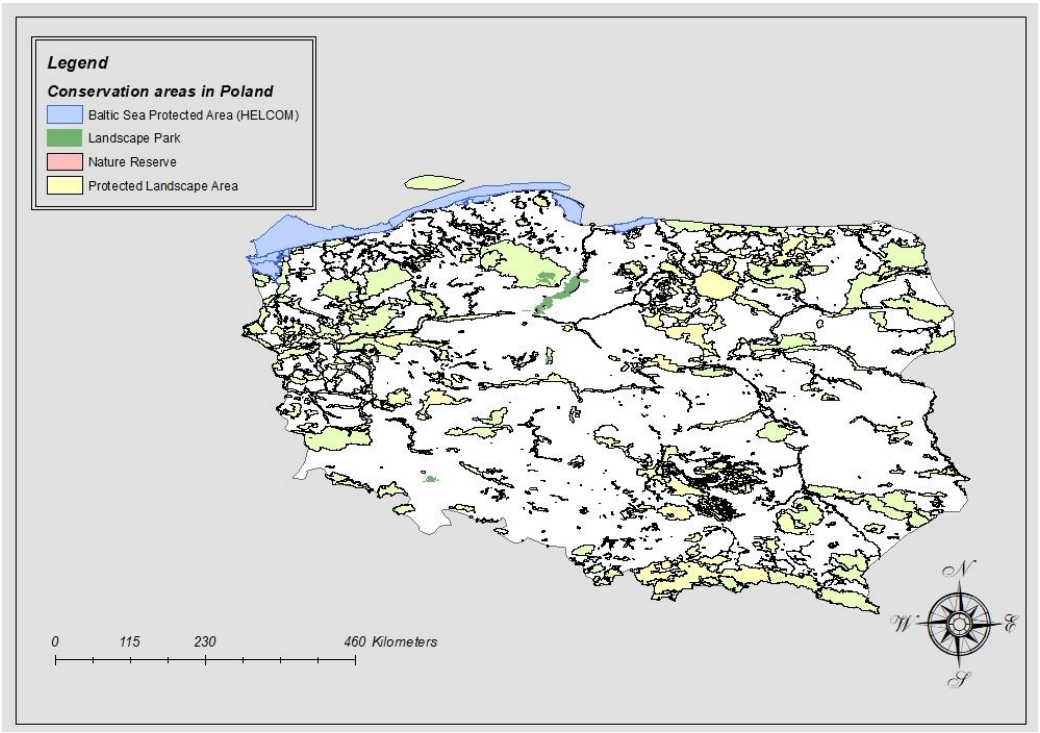
As we can see, this tool is similar to the Austrian one. To sum up, Czech Republic has a good structure of short-term monitoring of visitors and evaluation of different PAs, but at the same time it has lack of resources and data. One of the strong points of Czech Republic is that they have a lot of implemented PPs and strategies and a good international cooperation with other countries and organizations. Unfortunately, there is still lack of monitoring and media activity in PAs, and still the main priorities of PAs are not tourism but recreation and environmental sustainability. Main priorities of Czech PAs are maintaining and enhancing the ecological stability, conserving the open landscape, and halting the decline in biodiversity. In our opinion this is also a reason why such a lot of PPs and strategies have been implemented and such tools as visitor management are only in decision process. Unfortunately, due to history main conflicts in Czech Republic are mining and agriculture and farming.

III.I.VIII Protected areas in Poland

According to biodiversity informational system of Europe, 3036 protected areas (23 national parks) in Poland which cover 39,58% of landscape. Based on existing legislation the Spatial System of Protected Areas has been drafted recently by the Polish Academy of Sciences, Committee of Natural Resources Protection. Three categories of protected areas are distinguished: national parks and nature reserves, landscape parks, and protected landscape areas.

In Poland each national park is established by a separate legal act - National Protection Act – of 16 April 2004, no 92. The document defines National Park as an area of at least 1000 hectares with its natural, educational, social, scientific, and cultural values which are all protected at that surface. The National Park is created "to preserve the biodiversity, resources, the components of inanimate nature and

landscape values and to restore the proper state of the resources and components of nature...” (Ustawa o ochronie przyrody, 2009). Nowadays there are 23 national parks located in the different landscape zones (Map 4), and only 13 of them present any geo-touristic potential (K. Widawski & Z. Jary, 2019).



Map 4: List of National Parks in Poland.

Unfortunately, the vast majority of protected areas in Poland such as national parks and biosphere reserves serve for tourist function of economical purposes – against of keeping natural heritage and rehabilitating nature. That is why promotion of both less known national parks as well as popular landscape parks and other PAs should be equal. Putting together the tendency to look for alternative form of tourism traffic with less popular protected areas is a chance to develop real balanced tourism, especially agro- and eco-tourism (Spychała & Graja-Zwolińska, 2008).

In Poland as in other examined countries also exists the cooperation between tourism and environmental protection. There are many legislative regulations adopted by the Polish parliament to preserve nature and to promote tourism (Ostrowski, 1984). These are the most important we found:

- Polish People’s Republic ensures the protection and rational shaping of the natural environment, which is of national common value (Article 12 of the Polish Constitution).
- The law on the protection and shaping of the natural environment and included such regulations to the law of protection as spa areas, state-owned forests management, protection of agricultural areas, etc.

One of the oldest parks in Poland is Bialowieza Park. It is Poland’s first national park created in 1920 with a protected zone that covers about 4,747 ha. It is interesting about the park that only a tiny part of the core area is open for tourists, and then only with guides. Another strong point about Bialowieza is that the Park has both its own scientific capacity and close links with the various research institutes, not only

those that have placed themselves at its door but also others around the country (Synge, 2004). This one of examples of Polish organization of national parks. Mostly these parks are not covered by such regulations and they have to find funding and financial support from different organizations.

To sum up, Poland has an opportunity to create a great basis of NP and other PAs, but in fact they only use these parks for economic values. Even in such conditions of looking for financial support of different organizations, park management creates strong relations and collaborations with and between different institutions as well as Bialowieza Park. Main purposes of PAs in Poland are protecting particular elements of the environment and maintaining tourism, but in fact we can see that a lot of measures are put into developing tourism. This way, main conflicts in Polish PAs are human-wildlife approach and geographical conflicts.

III.II. Development of conservation ecological strategies in Europe

III.II.I Strategic plans in Germany

Description of German legislation framework should be started of how they define conservation areas and national parks. The German Federal Nature Conservation Act defines National Parks as large areas, which have special characteristics. These areas should meet the requirements for a nature conservation area in the greater part of their territory, which have not been affected by human activities at all or changed at a small scale. This way, such areas should have natural habitats without any human intervention and by their own natural progression and succession. A National Park is also defined as Category II by IUCN classification: “Protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities” (IUCN: Protected Area Categories). After all that was mentioned it should be mention that the criteria for National Parks in Germany are oriented on the criteria of the International Union for Conservation of Nature and Natural Resources (Boehn, 2020). After these definitions we can suppose that German government has two main purposes for National Parks and Conservation Areas – to protect nature and to encourage people to know more about environment that surround them.

German environmental awareness started to develop in the early 1970s when the society began to perceive nature and environment as a factor that needs protection. Nevertheless, the legislator defined targets of environmental protection in the Federal Nature Conservation Act only in 1977. These targets are legally binding in Germany as a general principle (§ 1 Abs. 1 of the new BNatSchG) as of March 1st, 2010. Due to § 1 Abs. 1 of BNatSchG, main environmental targets are biodiversity, the functioning of the ecosystem and its services (including the regenerative capacity of the natural resources), and protection and security of biological diversity, unique places, and beauty as well as the value of nature and landscape succession.

Another relevant legislation is the Council Directive 92/43/EEC applied at 21st of May 1992 on the conservation of natural habitats and of wild fauna and flora species (FFH-Directive), which also became legally binding in Germany with the amendment of the Federal Nature Conservation Act in 1998 (Hausotte & Benisch, 2017).

The FFH-Directive provides the legal basis for nature protection together with Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds within the EU. The wild living species of flora and fauna in the EU have to be protected and preserved in all the areas together with areas protected by the bird protection Directive, the special protected areas (SPA) form the network Natura 2000 (Hausotte & Benisch, 2017).

The history of evolution and introduction of SEA strategic plans demonstrates the city of Erlangen. In May 1990 the corresponding SEA started its scoping process and in the same year the City Council decided to revise its land-use plan. At that moment SEA process was divided in two steps. The first one included examination of the area, writing a draft, and making first public participation. Thus, from May to October 1992 was forced for dealing with a first appraisal of the site alternatives for settlements and an assessment focussing on landscape ecology issues while assessing research area with a conducting a so-called "conflict map", showing all potential ecological conflicts. Then, the first public participation phase took place and its results have been taken into account from February to August 1993.

The second step included more detailed examinations, which have been undertaken within EU research project with scientific evaluation integrated in it (Hübler et al, 1995). In November 1993 new planning intentions were formulated to conduct new examinations and only in October 1994 preliminary SEA document was completed, taking into consideration both SEA steps and special examinations. The main structure of assessment is shown on the figure 3 below:

Area	**Indicators Regarding Imission Protection (IP)**	**Interim Assessment Assessment of IP - Indicators**	**Indicators Regarding Landscape Ecology (LE)**	**Interim assessment assessment of LE - Indicators**	**Final Overall Assessment (IP and LE Indicators**
In all 57 areas, see below.	Quantitative.	Quantitative.	Quantitative.	Quantitative.	Qualitative.

Figure 3. General Structure of the Summarising SEA Documentation

Summing up it should be pointed out, that during the introduction of land-use plan and integrated landscape plan municipal authorities of the City of Erlangen served as coordinating people. Simultaneously, the environmental authorities were fully involved in both processes. The SEA was not designed as an integral part, but as an integral part in developing the certain plan phases (Sheate & Dagg, 2001). By being introduced in all the steps, SEA changed the objectives and positively influenced the final decision-making party, even so its effectiveness was limited. It should be also mentioned that above all the positive effects such weaknesses as socio-economic ones still prevailed. Even if SEA influenced decision-making process, not all SEA results were considered by sponsors, investors, and political stakeholders. Such a judgement means, that in the consideration of the decision-makers some of the suggestions made in the SEA have been less considered than socio-economic ones (Sheate & Dagg, 2001**).** The last, but not the least is that all these processes were changed several times by municipal authorities and public voting which affected the German structure of SEA and EIA processes in a future.

Overall, the analysed SEA case study of the land-use plan of the city of Erlangen and the integrated landscape plan can be rated as a full and effective SEA,

and as a special kind of integration due to combining both plans **(**Sheate & Dagg, 2001**).** This is why it is a good example not only of a history of developing SEA processes but also of combining different parties and different spheres such as society, economy, political structures, etc. All these levels are necessary for introducing nature conservation areas and all the parties should be equal as SEA process was at that moment.

These processes are still used in Germany. Regional authorities have a permission to exercise on behalf creation of parks which means that government cannot implement landscape plans without decision of the Land authorities, adopted in consultation with the environment and infrastructure ministers. It should be clearly emphasised here that the Federal Act does not inflict the obligation on specific Land authorities to get the approval of local authorities (municipalities and district-level bodies) in upcoming decisions concerning the creation of a new national park. Similar legal regulations are in force in Austria (Sześciło, 2011).

III.II.II Strategic plans in Austria

In Austria SEA started at the end of 1997 and only at the beginning of 1999 the land-use plan was approved. The first completed SEA project of land use was applied in Styria, one of Austrian provinces with the capital city of Graz. The integration of SEA project according to the EU proposal was one of the main challenges in that project and its cost was approximately 20% of the overall money. Which is also interesting is that the assessment of the effects of the three concepts (the local development concept, the land-use plan, and the building regulation plan) included not only environmental ones, but socio-economic ones as well as German land-use project in the City of Erlangen had. This structure allowed the decision-making party to identify potential conflicts between ecological, economic, and social interests and their impact on each other clearer. The difference from Germany is that Austria has developed a digital channel for public services and a single participation portal also covering environmental policies. (The EU Environmental Implementation Review, 2019). It should be noted that EIA processes were implemented by The Austrian Act on Environmental Impact Assessment and Public Participation, Federeal Law Gaz. 697/1993 (Petek, 1998) that started in 1994 but had no SEA provisions.

In Austria like in Germany spatial planning is a competence of nine provinces, but not of the federal government. According to Austria's constitution "Bundesverfassungsgesetz", the federal governments' competence is to hold sectoral regulations in areas that come within the responsibility of the national government. At the local level the municipalities are responsible for the three local spatial planning concepts: the local development concept, the land-use plan, and the building regulation plan (Sheate & Dagg, 2001)

Among other differences in the in the Austrian frameworks in land-use planning between other examined countries is that screening procedure is predominantly done as case-by-case examination. Only three provinces (Lower Austria, Carinthia, Tyrol) stated by law that SEA is obligatory for the CDP (Community Development Plan). For all other PPs (plans or programmes) and for amendments of PPs case-by-case screening has to be done. Screening leads to the

consequence that for example in the Province of Lower Austria about 10% of planning processes undergo a full SEA (Maxian, 2007).

In our opinion, one of the weaknesses of such system is that after screening procedure makes a statement, then decision makers, stakeholders, and the public might not pay any further attention to environmental affairs during the spatial planning process. In that way screening would even spoil environmental efforts (Stöglehner, 2007), as, for example, the search for environmentally better performing alternatives is no longer considered necessary (Stöglehner, 2010).

On nature conservation value, some progress has been achieved in terms of designating special areas of nature conservation as part of Natura 2000 network and formulating measures and objectives for the protection of species and habitats depending on agricultural and local management. However, the rates of progress varied from one province to another. In the 2017 EIR report, the main challenges identified for Austria for the implementation of EU environmental policy and law were necessary to complete the process of designating sites for the Natura 2000 network and to improve air quality. Austria has not yet organised an EIR national dialogue that would help it to maintain challenges mentioned above. In 2017, the Commission set up the TAIEX-EIR peer-to-peer (EIR P2P) tool to facilitate peer-to-peer learning between experts from national environmental authorities. This means that Austrian government tries to implement common organization framework for the whole country but not for specific regions.

It should be repeated that the establishment of protected areas is governed by such legislation as nature protection laws of nine Provincial Governments ("Bundesländer"), National Park Laws, and international frameworks like Ramsar Convention, Alpine Convention, etc. Concerning the management of protected areas, the National Park Laws as well as the EU Habitat Directive also launched specific requirements. Both the management and the establishment of protected areas in the context of Natura 2000 was guided by the respective EU Directives of nature protection (Council Directive 79/409/EG on the conservation of wild birds and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora).

Concluding, Austrian framework is similar to the German, but the government has introduced digital channel for public services, - they pay more attention to screening procedure, and for the last decade they started to focus on nature conservation trying to maintain objectives and priorities from Natura 2000 network and depending on the EU environmental policy.

Which is interesting about Austrian legislation is that they support tourism in conservation areas (e.g.: they provide touristic trails). For example, The Großglockner High Alpine Road, which is open only from May to October, is spending 2 million € to make it safer for visitors. There are also daily guided tours to the glacier, as well as weekly tours to see wildlife habitats. The aim is to encourage people to visit nature place and at the same time to save the environment.

As the IUCN Guidelines on Sustainable Tourism in Protected Areas state, "Protected areas need tourism, and tourism needs protected areas". Tourism provides recreation, which is a stated as objective of most protected areas. Furthermore, it is the opportunity for enlightened environmental education, the results of which will win allies for conservation in general. After all, tourism creates jobs and generates income

for the local economy, and makes peripheral regions less isolated (Synge, 2004). There is a special list of national parks in Austria created by Austrian government, where some of them are older than 150 years. It shows that Austria has an organized framework for attracting tourists to maintain economic, social, and environmental values.

III.II.III Strategic plans in Czech Republic

Compared to previous countries, Czech legislation is clearer. Most of the of the rules, requirements, and statements can be found at governmental websites which is a great plus, because government is open to the society and shows all the processes they do. The SEA process has been applied in the Czech Republic in 2001 while EIA process has been implemented since 1992. The need to provide environmental assessment has evolved after beginning of the awareness of the limits of the development and irreversible impacts of anthropogenic activity on the environment (e.g.: mining) and even now CR is focusing on these principles than on tourism or social environmental education.

After observing the information, we found that the priorities of sustainable development are classified into five areas: 1. Society, people, and health; 2. Economy and innovation; 3. Spatial development; 4. Landscape, ecosystems, and biodiversity; 5. A stable and secure society. In our research we focused on Priority 4. This priority is subdivided into three parts:

- Landscape conservation as a prerequisite for biodiversity conservation (4.1).
- Responsible farming and forestry (4.2).
- Adaptation to climate change (4.3).

Due to our research, we need only the Priority 4.1: “Landscape conservation as a prerequisite for biodiversity conservation “. The main objectives of this priority are improving the effectiveness in landscape use, and thus slowing the loss of open landscape and undeveloped areas, will both enhance the stability and the functions of the landscape and improve the trends in the condition of biodiversity; Maintaining and enhancing the ecological stability of the landscape and supporting its functions, especially through sustainable landscape management; Conserving the open landscape; Halting the decline in biodiversity. Thus, objectives and priorities are clear and understandable on how government wants to preserve nature and landscape.

In 1956 year the first law on state nature protection on the territory of current Czech Republic was applied, Act No. 40/1956 Coll. on State Nature Protection. The subjects of the future protection were protected areas, biosphere reserves, nature monuments, plant and animal species, minerals, and palaeontological findings. In 1992 Act no. 114/1992 Coll. on Nature and Landscape Protection was passed based on the principles of prevention, protective measures, sustainable usage of natural resources, conserving and rehabilitating nature. Nowadays conservation and protection of PAs are under state and international laws and directives.

As they say: “The role of the Strategic Framework for Sustainable Development of the Czech Republic (SDS CR) is to establish a consensual framework for the preparation of other materials of a conceptual nature and can thus be considered an important starting point for strategic decision-making within individual

departments, for interdepartmental cooperation, and for collaboration with interest groups." And this determines what was mentioned above about open structure of Czech government.

Above all, the Czech Republic established Nature and Landscape Protection Act in which one of the statements is that general nature and landscape protection comprises protection of landscape, species biological diversity, natural and aesthetic values, as well as conservation and considerate use of natural resources. Act no. 114/1992 Coll., on Nature and landscape protection defines next areas of protection: landscape, species (flora and fauna), and inert components of nature and landscape. It means that these three areas are protected against damage, destruction, any change of landscape, hunting and collection of flora and fauna in the preserved places, including other human activities. As it was mentioned before, there are governmental websites that show all the relevant information about PPs and other processes and all of them are followed by governmental and European laws and directives. For example, projects within the scope of the EIA are mentioned in Appendix 1 of the Act on Environmental Impact Assessment and their scope is extended by NATURA 2000 framework.

Special Nature and Landscape Protection is one of the most important instruments for nature and landscape protection. Act no. 114/1992 Coll., on Nature and landscape protection as amended defines six categories of specially protected areas as an important instrument in site protection, which include national parks, protected landscape areas, national nature reserves, nature reserves, national nature monuments, and nature monuments. We suggest that Czech legislation is aimed mainly on the protection and improvement of conservation areas or rather than on its development and attracting society to visit and to support them. (Ministry of the Environment of Czech Republic, 2021). Creation and extension of PAs is under decision of the Ministry of the Environment and Agency for Nature Conservation and Landscape Protection of the Czech Republic, which decides the level and kind of protection. One of the definitions of criteria for PAs we found was: "Terrestrial protected areas are totally or partially protected areas of at least 1,000 hectares that are designated by national authorities as scientific reserves with limited public access, national parks, natural monuments, nature reserves or wildlife sanctuaries, protected landscapes, and areas managed mainly for sustainable use" (Ministry of the Environment of the Czech Republic, 2021). We used these criteria in the following research.

Nevertheless, it is difficult to find some information about history of SEA and EIA processes. Even if we can find all the laws and requirements at the governmental websites, it is almost impossible to find some information about experience in introducing it. Moreover, we did not find any information about supporting of these places by tourist attraction so we cannot say anything positive about socio-economic sphere. Even if ecological sphere in the Czech Republic is improving rapidly, but research about impact on economic and social spheres has to be done.

III.II.IV Strategic plans in Poland

History of Polish environmental projects including both SEA and EIA processes starts from 1990 year but has a lasting chronicle over two decades. Mostly, the subject of discussion in nature conservation areas was the expansion of these parks. Over the period 1990-2010 this procedure has been topic to legislative amendments which without doubt had impact on the effectiveness of implementing ideas concerning expansion of the areas covered by national parks. Some scientists think that the breakdown in the development of a network of national parks in Poland coexisted with a change in the legal regulations for creating national parks introduced by the Act of 7 December 2000 on Amendment of the Act on Nature Conservation, which became in force from 2 February 2001.

As we think, the crucial moment of conserving and building national areas was an amendment to the Act on Nature Conservation (Parliamentary paper no. 1476, Sejm of the Republic of Poland, 3rd Term) submitted in October 1999, which included regulatory changes for expanding national parks. After all the discussions Polish Sejm (the lower house of Polish Parliament) decided to add the key art. 14, sec. 7b, granting a power of veto to local government authorities in the decision-making process concerning the creation or expansion of NPs (national parks).

For example, on 19 October 2010 Municipal Council of the Hajnówka refused approval for the expansion of the Bialowieza National Park. The reasons for the opposition of local authorities include lack of reliable and comprehensive information about the actual consequences of the creation of the park. The resistance of the local communities effectively stopped for years any efforts to create new national parks and PAs, which deprived the Government of one of the basic instruments for the implementation of the national ecological policy. In accordance with art. 146 of the Polish Constitution, the Council of Ministers has the authority "to manage the state's internal policy", including ecological policy (art. 146, sec. 1 of the Polish Constitution). Furthermore, the Council of Ministers has authority over "issues of national policy" (art. 146, sec. 2 of the Polish Constitution).

Thus, we can see that all the power is concentrated in the hands of local authorities and even nowadays Polish government tries to change this situation, because the process should include participation of all stakeholders. For this reason, the current procedure for creation of national parks, in principle dispossessing central government of the possibility to act on this issue, leads to violation of a clear constitutional division of authority and spheres of activity between the Council of Ministers and local government authorities. The case in Constitutional Tribunal might be initiated only by selected entities – group of members of Parliament or Ombudsman (Sześciło, 2011).

It should be noted that creation of PAs is under strict requirements in Poland nowadays. Among following are:

- Area is more than 1000 ha in Poland.
- The area has been put under protection by the central authorities of a country, has well-defined legal background, organized management, own staff and established borders, and is financially supported from the country’s budget.
- Protection includes eliminating, or restricting and monitoring, economic or other commercial activities.

- PAs are made available for visiting, with some conditions and restrictions.

The main function of all the conservation areas in Poland is to protect particular elements of the environment, including species of plants and animals from deterioration. Activities that are allowed in the vast majority of protected areas include tourism, recreation, and farming. Tourism purposes are among the basic forms of use and sources of income for local communities, especially in case of national parks and landscape parks, even though uncontrolled number of visitors is a threat for protected areas (Partyka, 2003).

Concluding, conservation areas and their change (e.g.: expansion and creation) are still under governmental discussion.

III.II.V Comparing of environmental strategies among chosen countries

Based on the research of legislation framework and environmental strategies of PAs we created a table that shows their commons and differences (Fig.4):

Fig.4 Differences of environmental strategies within countries

Country	Land-use plan	Starting of SEA	Starting of EIA	Authorities involved	Relevant legislation	Landscape use	Decision-making parties	Purposes of PAs	Criteria for PAs
Czech Republic	Undergovernmental legislation.	2001	1992	Local authorities, Municipal Authorities, Ministry of the Environment; Agency for Nature Conservation and Landscape Protection.	Nature and Landscape Protection Act (Act no. 114/1992); Constitution of the Czech Republic; Act No. 17/1992 Coll. on the Environmental.	As can be extended or changed by Ministry of Environment and Agency for Nature Conservation.	All the relevant authorities involved, under governmental decision.	Maintaining and enhancing the ecological stability. Conserving the open landscape. Halting the decline in biodiversity.	A landscape of a specific type may be a protected heritage area, whether it is a composed landscape with architecturally-valuable building. Terrestrial protected areas should be at least 1,000 hectares that are designated by national authorities.

Germany	Landscape planning is a competence of provinces.	1990	Federal EIA Act 1991/2002	Landscape planning is a competence of provinces but land-use plan should be implemented with the decision of municipal and environmental authorities. Federal act does not impose the obligation on specific Land authorities to obtain the approval of local authorities.	BNatSchG; FFH - Directive; Council Directive 79/409/EEC; Federal Nature Conservation Act	Government cannot implement landscape plans without decision of the Land authorities.	Municipal authorities serve as coordinating people, environmental authorities are fully involved; There is no any digital channels for public services .	To protect nature. To encourage people to know more about environment that surround them.	Conservation area should be in the greater part of the territory, which have not been affected by human activities at all or at a small scale. They should have natural habitats without any human intervention.
Austria	Landscape planning is a competence of provinces.	1997	1993	Spatial planning is a competence nine provinces, but not of the federal government.	Bundesverfassungsgesetz; Community Development Plan; National Park Laws; Austrian National Environmental Plan.	Government cannot implement landscape plans without decision of the Land authorities; There is no common system for implementation, each province is responsible for its own territory and regulations.	Screening procedure is mainly done as case-by-case examination; Digital channel for public services and a single participation portal also covering environmental policies.	To encourage people to visit nature place. To save the environment; to support tourism.	There is no special criteria, but requirements for establishing PAs should be followed by National Park Laws, international frameworks (Ramsar Convention) and be governed by nature protection laws of nine provinces.

Poland	Local authorities.	1990	1990	A power of veto to local government authorities in the decision-making process concerning the creation or expansion of national parks.	Act on Nature Conservation (Parliamentary paper no. 1476, Sejm of the Republic of Poland, 3rd Term).	Under governmental discussion, Council of Ministers.	A power of veto to local government authorities in the decision-making process concerning the creation or expansion of national parks but final decision is made by Council of Ministers.	To protect particular elements of the environment, including species of plants and animals. To maintain tourism.	PA should be more than 1000 ha; The area has been put under protection by the central authorities of a country, has well-defined legal background, organized management, own staff and stablished borders, and is financially supported from the country's budget.

Figure 4. Differences of environmental strategies within countries

Among similarities of the examined countries we found relevant legislation, purposes of PAs, and criteria for PAs. All the PAs in the European Union should follow requirements that are mentioned in Natura 2000, IUCN, EU environmental policy, Council Directive 79/409/EG (birds), and Directive 92/43/EEC (flora and fauna). At the same time criteria for PAs in Germany, Austria, Czech Republic, and Poland are oriented on IUCN criteria for creation and expansion of PAs, while their common purpose is protecting and recreating nature.

In our opinion, lessons from the history of evolution of legislation framework of conservation areas and ecological conflicts in the observed countries may be worth learning for a long-term, even if the framework structured in each country.

IV. Methodology

Doing this research, we followed next methodology:

- Questionnaire among tourists in protected areas on the examined countries.
- Interview with employees from chosen NPs in the examined countries.
- Analysis of the literature.

Questionnaire was created in Google Sheets, consisted of 9 questions, and was spread in social media groups and between people from the examined countries. Some of the questions were in a form of test, others had open answer. Questions in the questionnaire are:

- Where are you from?
- How often do you visit nature parks/protected areas in your country?
- How much are you ready to pay for entrance (€)?
- Do you look for any information about protected areas in your country before visiting it?
- Is it easy to find information about nature parks and protected areas in the selected countries?
- Which sources do you use to find information?
- Do you order tours/excursions in protected areas/nature parks in the selected country?
- How can you describe environmental situation in nature parks in your country (Good condition/plastic pollution/etc)?
- What can you advise to improve management of nature parks and other protected areas in your country?

After analysing answers from questionnaire, we used structural statistical analysis to find out if there any relationship between countries in the given answers. For this task we used Chi-Squared Test. Tables were created in Excel and the test was done in IBM SPSS Statistics 27. For all the questions assumptions were not met with minimum requirement of 5 observations in each category, so we made statistical analysis using Fisher-Freeman-Halton Exact Test (Fisher Test).

Interview was held in online form with employees from NPs and consisted of 5 questions:

- What are the main objectives of NP protection?
- What are the main natural habitats in the German/Austrian/Czech/Polish NP?
- What are the main artificial habitats in the German/Austrian/Czech/Polish NP?
- What are the main threats to nature in the protected area?
- What are the main conflicts between the interests of commercial use and the interests of nature protection and how are these conflicts resolved?

Analysis of the literature was made in a form of comparison tables based on the literature part from this thesis and other research articles. The data of the protected areas was analysed with ArcGis, in which all the maps were drawn.

IV.I Description of study area

Research was created on the basis of analysis of the literature. It was decided to make research in the neighbouring countries: Czech Republic, Germany, Austria, and Poland. The main reason for choosing these countries was their environmental similarity but different principles of environmental assessment in national parks and protected areas. We choose one national park in each country where we interviewed employees.

Germany. "Nationalpark Bayerischer Wald" is a national park in the Eastern Bavarian Forest near German's border with the Czech Republic, where it cooperates with the Czech NP Šumava. The park was founded on 7th of October in 1970 and was the first national park in Germany. Nowadays NP covers over 24,250 hectares and forms the largest contiguous area of forest in Central Europe together with the neighbouring Czech Bohemian Forest the Bavarian Forest.

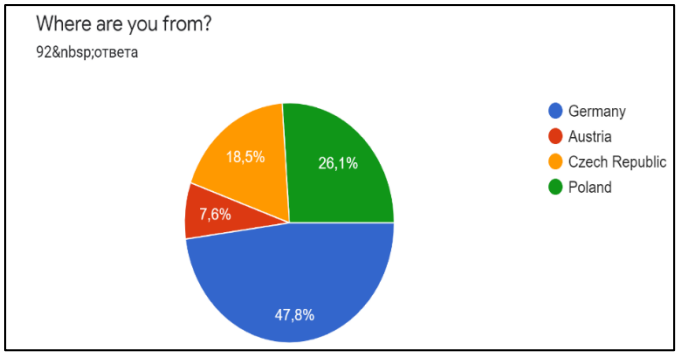
Austria. "Nationalpark Kalkalpen" was established in 1997, internationally recognised as a national park since 1998 by IUCN category II, and Natura 2000 area since 2004. The park covers zone of 20,850 hectares and consists of 89% nature zone and 11% of conservation area. This park is famous mostly for its forest area: 81% of forest, 8% of mountain pine, 6% alpine pastures and meadows, and 5% of rock and scree landscape. The main attraction of NP is Austrian first heritage beech forests. The beech forests of the Kalkalpen National Park and the with Dürrenstein Wilderness Area create the beech distribution area of the Alps about 7,120 hectares of beech forests and represented by the World Heritage Site.

Czech Republic. Podyjí National Park is a national park in the South Moravian Region which has an area of 63 square kilometres. Podyjí is one of the Czech Republic's four national parks and it protects near-natural forests along the deep Dyje River valley. The well-preserved state of the biome of the park is cited as being unique in Central Europe. This Park covers not only Czeck part but also Austrian part, which also makes this park unique. From the first view, this Park is positioning itself to covering mostly birds, but when you are there you understand that its cover all the biotops there such as salamanders. Podyji Park is divided in different zones and areas. Some of them are created for adults and children, others are defined by animals and architecture. Park is located in the one of most architectural meaningful areas of Prague. You can find there a lot of museums around.

Poland. "Białowieski Park Narodowy" is in the north-east part of Poland and covers the area of 10 517,27 hectares where a protection zone of the state commercial forest occupies an area of 3224,26 hectares. The Park was founded in 1921. Białowieża National Park is famous for its last natural forest at the European Lowland Area with its primaeval character, identical with the one which covered the area of deciduous and coniferous forests years ago. Białowieża National Park is famous by its forests, which are presented by large amounts of deadwood and by the presence of typical natural forest species. The symbol of the Park is a European bison, because Białowieża NP is the last mainstay for the lowland European bison, where the process of its reinstatement started. At present, there are approximately 500 European bisones, which is the biggest population of European bisones in the world. Moreover, Białowieża National Park is the only one Polish natural property designated by UNESCO as a World Heritage site.

V. Results

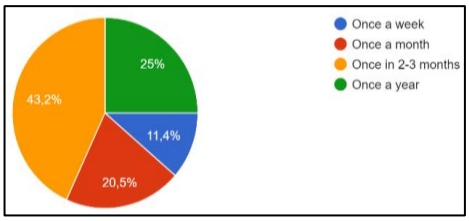
V.I Questionnaire



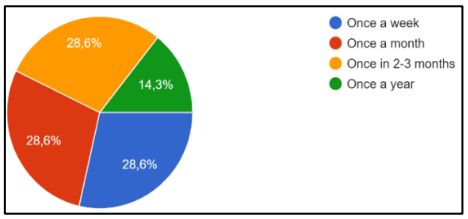
Picture 1. Where are you from?

In the questionnaire form of research participated 92 people (Pic.1): 44 from Germany, 24 from Poland, 17 from Czech Republic, and 7 from Austria. In this chapter you will find compared diagrams with answers from the examined counties and their interpretation.

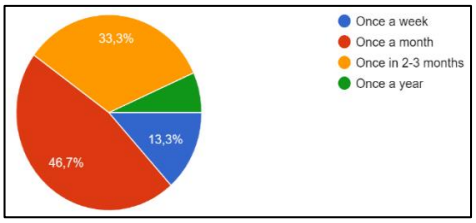
How often do you visit nature parks/protected areas in your country?



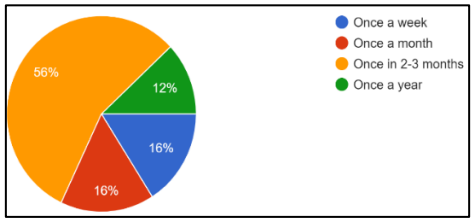
Picture 3. Germany, frequency of visits.



Picture 2. Austria, frequency of visits.



Picture 4. Czech Republic, frequency of visits.



Picture 5. Poland, frequency of visits.

These diagrams (pic.2-5) show how often people visit nature parks and other protected areas in the examined countries. As we can see, the most common answers vary from once in 2-3 months to once in a month. It is interesting, that between examined countries, Czech Republic is the one with the highest rates of visiting once in a month, while others prefer to go to nature once in 2-3 months. It can be explained by environmental education and ecological strategies created and implemented by government to protect and to rehabilitate nature and with a well-developed connectivity of touristic routes and trails with public transport availability.

Chi-Square Tests

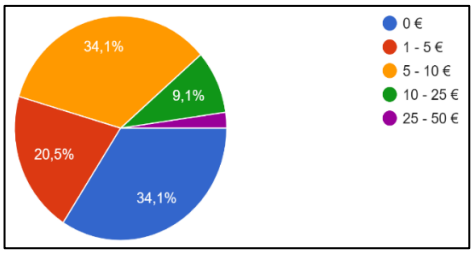
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	12,227[a]	9	,201	,201
Likelihood Ratio	11,878	9	,220	,301
Fisher-Freeman-Halton Exact Test	11,579			,197
N of Valid Cases	92			

Picture 6. Chi-Square Test, visiting of PAs.

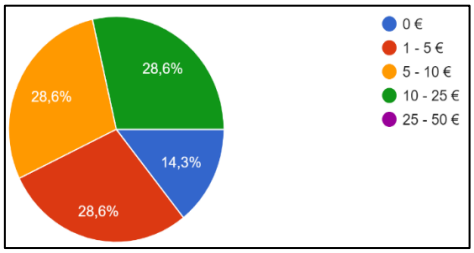
For answering the question if there any relationship between countries in visiting nature parks we used Fisher Test (Pic.6), where hypothesis 0 mentioned that there is no relationship between countries in visiting nature

parks, and hypothesis 1 with a relationship between countries in visiting nature parks and other protected areas. P-value for this test is equal 0.197 (>0.05), which means that we cannot reject hypothesis 0 – there is no relationship between countries in visiting nature parks and other protected areas.

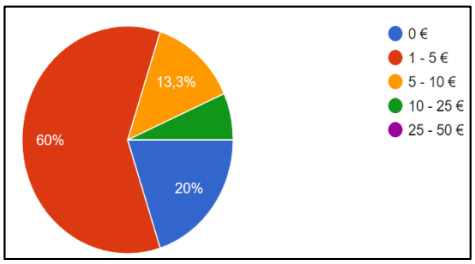
How much are you ready to pay for entrance (€)?



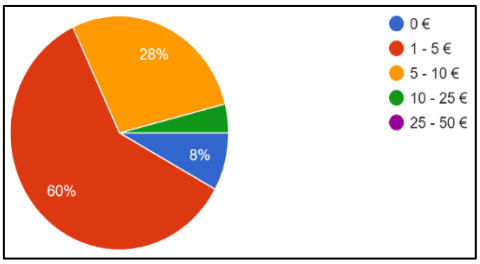
Picture 7. Germany, entry fee.



Picture 8. Austria, entry fee.



Picture 9. Czech Republic, entry fee.



Picture 10. Poland, entry fee.

Again, among countries (pic.7-10) the willingness to pay is commonly from 1 to 5 euros for a ticket. It is interesting that due to previous question people in Germany are ready to pay also from 5 to 10 euros for a ticket while in other countries the statistics shows from 1 to 5 euros. The hypothesis 0 for this question is that there is no relationship in willingness to pay observed amount of money within countries. Hypothesis 1 says that there is a relationship in willingness to pay observed amount of money within countries.

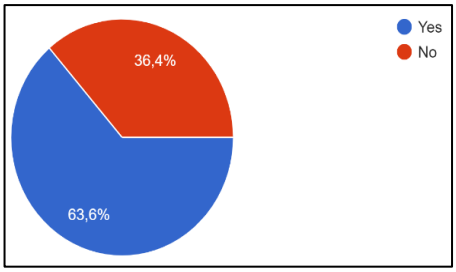
Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	19,266[a]	12	,082	,095
Likelihood Ratio	19,932	12	,068	,069
Fisher-Freeman-Halton Exact Test	19,994			,032
N of Valid Cases	92			

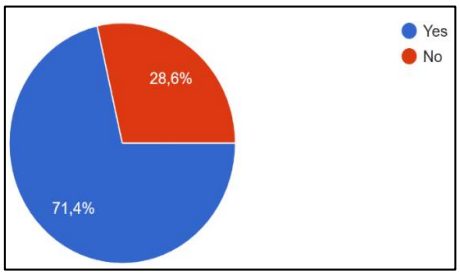
Picture 11. Chi Square Test of willingness to pay

According to Fisher Test, p-value is equal 0.032 (>0.05), which means that we can approve hypothesis 1 - there is a relationship in willingness to pay observed amount of money within countries. This can be explained by same environment and governmental measures to environmentally educate people and to support environment protection and rehabilitation.

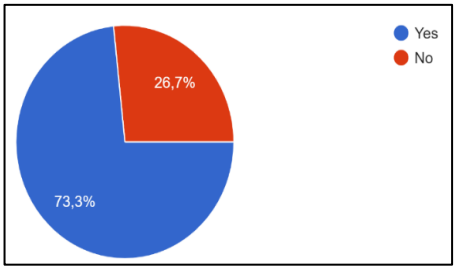
Do you look for any information about protected areas in your country before visiting it?



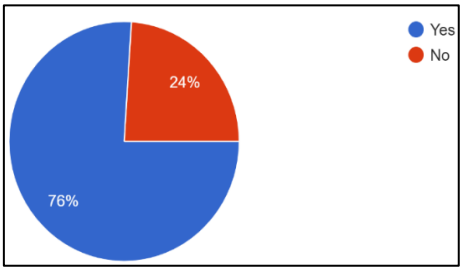
Picture 12. Germany, Information before visiting.



Picture 13: Austria, Information before visiting.



Picture 15. Czech Republic, Information before visiting.



Picture 14. Poland, Information before visiting.

As we can see, people from all the examined countries (Pic.12-15) mostly look for an information before visiting protected area. We used Fisher Test to discover if there any relationship between countries in the given answers of searching any information about PAs before visiting it. Hypotheses 0 was that there is no relationship between countries in the given answers. Hypothesis 1 was that there is a relationship between countries in the given answers.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	1,460[a]	3	,692	,711
Likelihood Ratio	1,468	3	,690	,720
Fisher-Freeman-Halton Exact Test	1,409			,718
N of Valid Cases	92			

a. 2 cells (25,0%) have expected count less than 5. The minimum expected count is 2,13.

Picture 16. Chi Square Test of searching for information.

According to Fisher test, p-value = 0,71 which is > 0,05. This way, we cannot reject hypotheses 0 – there is no relationship between countries in the given answers of searching any information about PAs before visiting it.

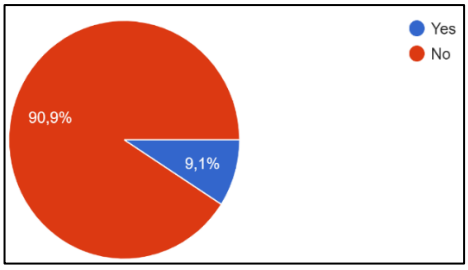
The question about searching for any information is compared to the next one "**Is it easy to find information about nature parks and protected areas in the selected countries?**", where in all of the countries from 80 to 85% of participants answered "yes".

In the question "**Which sources do you use to find information?**" we wrote a variety of answers such as Instagram, Facebook, Twitter, Park's website, and Other. In all of the countries the most answers were "Park's website", and then with a lower rate "Instagram". It is interesting, that in Germany, Austria, and Poland people also chosen "Facebook", while in Czech Republic participants preferred "Twitter". In all the countries in the answer "other" people wrote "google" or "tourist websites".

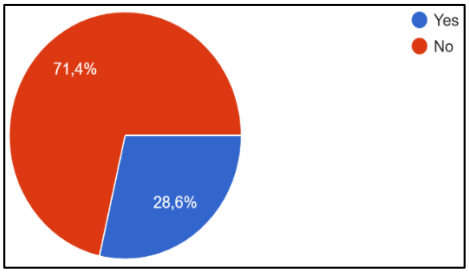
Analysing these charts, we can see that only in Austria people use all the available sources which can be explained by governmental politics of mass media spread of protected areas. This question gave us interesting results showing media

activity of the country compared to environmental awareness which is a part of a good management plan-use.

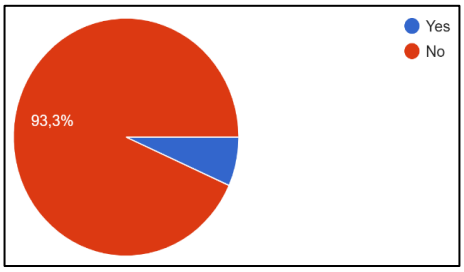
Do you order tours/excursions in protected areas/nature parks in the selected country?



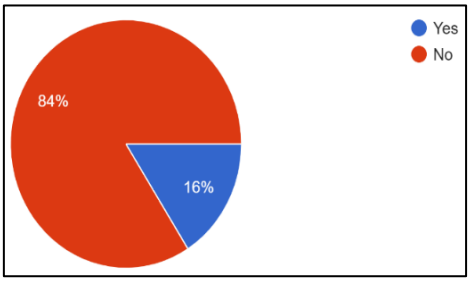
Picture 17. Germany, tours/excursions.



Picture 18. Austria, tours/excursions.



Picture 19. Czech Republic, tours/excursions.



Picture 20. Poland, tours/excursions.

As we can see from these diagrams (Pic.17-20), most of the participants don't order any tours in protected area. This can be explained that this questionnaire was answered mostly by people in an age of 21-30 who is going to such trips as independent, but not family ones. For this question our hypothesis 0 was that there is no relation in ordering excursions within countries, while hypothesis 1 was that there is a relation in ordering excursions within countries. According to fisher Test, we have a p-value = 0,4 (>0.05), so we cannot reject hypothesis 0 – there is no relation in ordering excursions within countries

We also had two question with opened answer where we gave to participants an opportunity to express their thoughts. In the question "**How can you describe environmental situation in nature parks in your country (Good condition/plastic pollution/etc)?**" in all the examined countries the most common answer was "good condition". In Germany, the most popular answer was "very good condition" or similar ones with some answers concerning plastic pollution in different areas. In Austria all the answers were "great condition", while in Czech Republic people answered, "quite good condition", with most of the answers mentioning touristic trails and their good connectivity. In Poland answers were controversial – some wrote that parks are in good condition, other that they are in weak condition. The most popular answers in Poland were that condition of the Park and pollution there depends on the area (e.g.: "Big problem with wild garbage dumps in Ojcowski National Park or with ordinary plastic pollution in Tatra Mountain National park but others, less popular Among tourists or placed further from cities are in good condition" (punctuation and grammar are saved)).

The last question of our questionnaire "**What can you advise to improve management of nature parks and other protected areas in your country?**" brought us some ideas about future implementations. From all the countries the most common answer was "to install more garbage bins" In Germany people advised to create more advertising, differentiation of NPs and PAs, because mostly people do not even know that they are on protected area which can be explained by number of PAs in Germany. It was interesting for us to receive multiple feedback from German population with an idea to create more information desks about activities, environment and history in the parks with English translation, to advertise PAs more, etc, so we can say that that their idea is to provide more education on different levels for locals and tourists. In Austria most people answered that they are satisfied with current situation but advices to maintain transition to the parks and to create more "green" activities. In Czech Republic as in Austria, all the answers contained information that people enjoy situation in the parks nowadays. At the same time some of the answers also consisted of such information as "More educational tours can be hold, so that people will be more aware of the importance of that particular area" (grammar and punctuation are saved). In Poland there were more advices than in other examined countries. People advised to improve transition, to install garbage bins, to create maps and tourist routes, more education and promotion. One of the examples of such answers is "There is few nature parks which are not very well promoted, and people don't even know that there is something worth to see there. Lack of organised excursions to main attractions, and these which are possible to attend often Aren't very amusing - seem targeted for school groups" (grammar and punctuation are saved), which mostly contains all the answers about Poland mentioned above.

V.II Interview

This part will be written in a form of interview between me and representatives from national parks of the examined countries.

V.II.I Nationalpark Bayerischer Wald, Germany

Interview was held with one of previous workers of the park – Chiara Sopart.

What are the main objectives of NP protection?

→ The main objectives are the renaturation of habitats and the sheltering of endangered and protected species. The main approach is to apply as little management as possible ("let the nature be nature") and to trust in the natural balance of the system. The main renaturation targets are wetlands. Nesting Boxes are added for bird species like owls. Hiking trails might be blocked in order to shelter species like the Peregrine falcon. Monitoring ensures the functionality of the measures. Furthermore, the reintroduction of species like the lynx were successfully executed. Other rare species found in the Park are the capercaillie or the *Diphasiastrum oellgaardii*.

What are the main natural habitats in the German NP?

→ The three main forest habitats are composed of Mountain spruce forest, mixed mountain forest and alluvial spruce forest. Another important habitat type are Bogs with mosses, grasses and dwarf shrubs alternating with bog eyes and mountain

pines. A dense network of rivers with a length of over 760 kilometres runs through the national park. In addition, the Rachelsee, a former glacial lake, is the only natural lake in the national park. Block fields in the mountain region consisting of granite blocks provide a habitat for lichens and ground beetles. Scattered islands of mountain pines and dwarf shrubs protrude from the boulders.

What are the main artificial habitats in the German NP?

→ So called "Schachten", islands in the forests, are high-lying, forest-free areas that were created through past grazing. On the water side there are so called "Klausen", historical man-made lakes that used to be created by people for wood drifts.

What are the main threats to nature in the protected area?

→ I could not find so much here, but from when I was working there it is the tourism. There are many tourists that are respectful towards the nature, but there always are a view that throw their trash around and let their dogs run free. There was one story where a dog tried to attack a lynx and they are highly protected. The lynx fled onto a tree, but he was stressed afterwards, and this should not happen. I guess otherwise it is quite fine regarding the nature in the park. There was a big bark beetle invasion in the past and they just let it happen. This led to the upcoming of many new habitats and species in the area and since then they let the nature do it´s thing and it is working. The nature is balancing itself.

What are the main conflicts between the interests of commercial use and the interests of nature protection and how are these conflicts resolved?

→ Like mentioned above the main problems are tourists that act disrespectful towards the nature. Some take protected flowers home or pollute the environment. To prevent this, there are always several people monitoring the park and there are many information places, and some areas are restricted from entering. There are also special areas for playing or having a barbeque, that are not in the protected areas and many guided tours that give information on the area and its value. The other problem is the management of the surrounding. Like mentioned above the park let the nature be nature. If there is a bark beetle plague, they let it happen. It is fine inside the park, but they have to make sure that the beetles don´t attack the commercial forests in the surrounding of the park. Therefore, there are constant checks to see if the trees in the border area need to be cut down or not.

V.II.II Kalkalpen National Park, Austria

Interview was held with the help of Simone Mayrhofer.

1. What are the main objectives of national park of Kalkalpen protection?

→Process conservation, but also education and recreation (see IUCN targets of nationalparks)

2. What are the main natural habitats in the Austrian NP?

Kalkalpen NP is a forest national park. Therefore, we have mainly forest habitats. Beech and mixed beech forests are the main natural vegetation. In higher elvations we also have spruce, larch and dwarf pine forests.

3. What are the main artificial habitats in the Austrian NP?

→Forest roads, former spruce forests

4. What are the main threats to nature in the Kalkalpen National Park?

→Climate change, financial reduction

5. What are the main conflicts between the interests of commercial use and the interests of nature protection and how are these conflicts resolved in Kalkapen National Park?

→There are no conflicts you described. We have no commercial use in Kalkalpen NP. No forest use. We only do some bark beetle management on the borders of the parc. No hunting – we only have a game regulation to preserve natural vegetation. We also have some alpine pastures and meadows. The utilisation is necessary to preserve them. The farming underlies the criteria of organic farming and is agreed with the nationalpark administration.

V.II.III Národní park Podyjí, Czech Republic

An interview between me and one of park keepers - Lenka Reiterova.

1. What are the main objectives of NP protection?

→The long-term goals of the protection of national parks are directly defined by Act 114/1992 Coll., On nature and landscape protection, as follows:

Preservation or gradual restoration of natural ecosystems, including ensuring the undisturbed course of natural processes in their natural dynamics in the predominant area of national parks (abbreviated: enabling natural dynamics).

Preservation or gradual improvement of the state of ecosystems, the existence of which is conditioned by human activities, important for biodiversity, in the remaining territory of national parks (abbreviated: support for biodiversity).

This results in other main goals especially for the Podyjí National Park:

Maintaining or improving the condition of NP protection items differentiated according to individual zones.

In the zone of nature and close to nature, priority is given to maintaining the status of habitats and populations of species bound to the undisturbed course of natural processes, in the zone of concentrated care the protection of habitats and species bound to permanent human care. In the zone of the cultural landscape, the goal of nature protection is not set.

Preservation of the integrity, area, and degree of conservation of habitats that are the subject of protection of individual EVL and conservation or natural (in the

extreme case artificial) increase of populations of species that are the subject of protection of individual EVL and PO Podyjí.

In some cases, in fulfilling this goal, it is possible to interfere to a limited extent with natural development even in the natural zone and close to nature.

2. What are the main natural habitats in the CZ NP?

→This park covers mostly sand-stone habitats, river and waterside valleys, forest habitats. Mostly this park is covered by mountains and hills, so there are a lot of lichen covering stones. (fig.6)

It should be noted that there are many nests found in the ground and lichen.

3. What are the main artificial habitats in the CZ NP?

→I enclose a table of habitats that are subject to the protection of the national park. The nomenclature is taken from the publication Chytrý, M., Kučera, T. et Kočí, M. (2001): Catalog of Habitats of the Czech Republic. - Agency for Nature and Landscape Protection of the Czech Republic, Prague, 304 pp. The table (Fig.5) contains natural, semi-natural and artificial habitats, which are the most important in the Dyje region. The code of artificial habitats begins with the letter X. Other important artificial habitats are forest plantations of non-native coniferous and deciduous trees (especially spruce and acacia - X9A and X9B) and intensive agricultural land (fields X2, vineyards X4 and intensively used meadows X5).

Code	Biotope
K4	Low xerophilic scrub
L2.2	Valley ash-alder meadows
L3.1	Hercynian oak forests
L4	Rubble forests
L5.4	Acidophilic beech forests
L6.5	Acidophilic thermophilic oaks
L7.1	Dry acidophilic oaks
L8.1	Bore continental pines
X7B	Ruderal herbaceous vegetation outside settlements, conservation-significant stands
X12A	Raids of pioneer trees, conservation-significant vegetation
X13	Non-forest tree plantings outside the headquarters

Figure 5. Habitats that are subject to the protection of the NP in CR

It should be noted that this table doesn't show all the areas of protection but show some of them. Mrs Reiterova sent me that table via email.

4. What are the main threats to nature in the protected area?

→Currently, the main threats in the area in terms of nature protection include an extreme increase in attendance, accumulation of nutrients in ecosystems, drought, the spread of invasive species and reducing the migratory permeability of the surrounding landscape.

5. What are the main conflicts between the interests of commercial use and the interests of nature protection in the PLA and how are these conflicts resolved?

→In the Podyjí National Park, one of the biggest threats from commercial use is:

1) increase in traffic in connection with the advertising of tourist agencies. Collective events are subject to an exception and are usually not permitted by the National Park Administration.

2) intensification of conventional agriculture. However, most such changes on agricultural land are subject to an exception from the law, therefore the NP Administration can easily regulate the situation by not granting such an exception.

3) the growth of "air tourism". At present, this is probably the worst controllable risk - low flights of small aircraft cause disturbance of birds, but also other wild animals, especially during the nesting period, in general the high frequency of flights disturbs the peace in the area (which is also negatively perceived by visitors). However, the Civil Aviation Authority (CAA) is responsible for regulating this activity, not the Ministry of the Environment. Ministry is currently preparing negotiations with the CAA with an effort to achieve the establishment of such rules that will ensure sufficient protection of natural values.

In general, a major threat is the attempt to use the "brand" of the national park (which is not registered in any way, so it can be freely used by anyone) to promote any goods or services, even completely unrelated to nature and its protection. This in turn causes increased tourist interest in the area, as well as efforts to locate establishments (factories, shops, etc.) or events (sports or cultural events, filming, etc.) as close as possible to the territory of the National Park or directly into it. Advertising promotion cannot be regulated too much; when locating establishments or activities in the territory, these are mostly activities related to an official act of the NP Administration (exception, binding opinion, etc.), so they can be regulated directly by the NP Administration.

V.II.IV Białowieża National Park, Poland

Interview was held with the help of Małgorzata Karczewska and was translated from polish language. Interesting fact that most of the NPs that answered sent back links of their websites or different protection acts.

What are the main objectives of NP protection?

→Most of them can be found at our website, but you but you will also find the main goals in the Nature Conservation Act. Objectives of our park are multiple: protection of natural, scientific, landscape values within the Park area, identification, and estimation of threats, carrying out scientific researchers and their initiation, making the park area accessible for research to the other scientific-researching units, and others.

What are the main natural habitats in the Białowieża National Park?

→Białowieża National Park protects the best-preserved fragment of Białowieża Forest – last natural forest at the European Lowland Area, having the primaeval character, identical with the one which covered the area of deciduous and coniferous forests years ago.

What are the main artificial habitats in the Białowieża National Park?

→Park consists of variety of plant communities: forests, brush woods, water plants, meadow and peat bog plant communities, and others.

What are the main threats to nature in the protected area?

→ Ruining of artificial routes and disturbing of natural ecosystem.

What are the main conflicts between the interests of commercial use and the interests of nature protection and how are these conflicts resolved in the Białowieża National Park?

→They are described in our Protection Plan. Main conflicts are:

- An indication of the areas for scientific, educational, tourist, recreational, sports, amateur fishing and fishing purposes;

- An indication of the places for manufacturing, commercial and agricultural use;

- Arrangements for studies of the conditions and directions of spatial development.

They are defined in “plan ochrony dla Białowieskiego Parku Narodowego”, where you can also find solutions of resolving these conflicts.

Based on the interviews we created a comparison table of NPs in the observed areas (Fig.6):

Questions	**Countries**			
	Czech Republic	**Germany**	**Austria**	**Poland**
Main objectives	Preservation or gradual restoration of natural ecosystems. Maintaining or improving the condition of NP protection.	Renaturation of habitats. Sheltering of endangered and protected species. To apply management.	Process conservation. Education. Recreation. IUCN targets.	Protection of species and any environmental values, maintaining research. Main objectives are provided by Nature Conservation Act.
Main natural habitats	Sand-stone habitats, river and waterside valleys, forest habitats.	Mountain spruce forest, mixed. mountain forest, and alluvial spruce forest.	Forest area.	Forest area.
Main artificial habitats	All mentioned in a table of habitats of Czech Republic.	"Schachten" - islands in the forests that were created through past grazing.	Forest roads, former spruce forests.	Variety of plan communities.
Main threats	Extreme increase in attendance. Accumulation of nutrients in ecosystems. Drought. Spread of invasive species. Reducing the migratory.	Tourism, free-walking dogs.	Climate change, financial reduction.	Erosion of soils, unauthorized use of national park resources.
Main conflicts between commercial use and nature protection and how they resolved	Increase in traffic in connection with the advertising of tourist agencies. Intensification of conventional agriculture. The growth of "air tourism". Environmental activities.	Human-wildlife approach, territorial planning for touristic purposes.	There is no commercial use in Kalkalpen NP and in other Austrian NP.	Indicating of the areas for different use purposes, valuating the measures for indicating.

Figure 6. Comparison tables of NPs.

V.III Analysis of the literature

Analysing literature review and other scientific articles, we discovered differences and similarities between the examined countries in the structure and organization of conservation areas. Main purposes of conservation areas environmental, provision, and regulatory, cultural, socio-economic, while main conflicts are mining, agriculture and farming, territorial planning for touristic purposes, human-wildlife interaction, sport activities, environmental activities, procedural conflicts, and hunting. The main conflicts of the countries can be found in Fig. 7, where:

+ = they don't have

- = they have

Conflicts that PAs meet	Countries			
	Czech Republic	Germany	Austria	Poland
Mining	+	-	-	+
Agriculture and farming	+	-	-	+
Territorial planning for touristic purposes	+	-	+	-
Human-wildlife approach (also known as human-wildlife interaction)	+	+	+	+
Sport activities	-	+	+	-
Environmental activities	+	+	+	+
Geographical conflicts (procedural conflicts)	+	-	+	+
Hunting	-	-	-	+
Social media activity	-	-	+	-

Figure 7. Comparison of PAs conflicts between countries

The main principles in conservation areas in Germany are protecting endemic species and ecological integrity. One of other main purposes in PAs is educational one, providing knowledge about environment to people. Germany has the one of the biggest protected areas in the world – about 22843. German environmental awareness started to develop in the early 1970s, while SEA processes began in 1990, and EIA one year later, in 1991. For conserving nature, German authorities try not being involved in the organisation of national parks, nature parks, biosphere reserves and other conservation areas, but at the same time they have quit good measures of evaluation of economical values from its population. According to BNatSchG, FFH -Directive Council Directive 79/409/EEC and Federal Nature Conservation Act, conservation areas should have natural habitats without any human intervention in the greater part of the territory. Landscape planning is a competence of provinces which allows regional authorities to exercise on behalf creation of parks. It should be also mentioned about German legislation that Municipal authorities needed only as coordinating people, while there

are not any digital channels for public services. As for other cons, there are no common data sources on the tourist management of PAs in Germany. Nevertheless, it was found several research works combining visitor management data with main conflicts. For example, in the biosphere reserve Thuringia main conflicts of interest in touristic use are pathways and trails, some of which are disturbance sensitive area such as the pathway through the core area (Moder & Hellmuth, 2002). It is interesting that in this research was a discussion with tourism-specialists, local authorities, forest administration, different employees, and relevant NGO (Kleine-Herzbruch, 2000), as well as in this work there was a multiple analysis of data after discussion with tourist and employees.

Compared to Germany, Austria has a lot of common things such as similar legal regulations and spatial planning (Sześciło, 2011). At the same time, it has only 1565 protected areas in Austria (biodiversity information system of Europe) with modern techniques of management structure and improvements in ecological tourism, which help the government to protect nature without structural database of visitors. Effective management of PAs covers all the national principles of protection, which are created to save the environment, to encourage people to visit nature place, and to support tourism, and to maintain regional economy. According to research work in the Kalkalpen Park by R. Pekny, the primary objective of visitor management should not be a quantitative increase of the number of visitors, but rather a qualitative improvement (Pekny & Leditznig, 2002). The main conflicts in Austrian PAs are human-wildlife approach, sport activities, and environmental activities. In Austria SEA started at the end of 1997, while EIA started 4 years earlier, in 1993. As it was mentioned before, spatial planning in Austria is a competence of provinces within the responsibility of the national government according to Bundesverfassungsgesetz, and the screening procedure is done mainly by case-by-case. The establishment of protected areas is governed by nature protection laws of nine Provincial Governments, Community Development Plan, Austrian National Environmental Plan, National Park Laws, and international frameworks such as Ramsar and Alpine Convention. There are no special criteria for establishment of PAs, but requirements should be followed by all the authorities mentioned above.

In the Czech Republic there are 3840 protected areas. the main purpose of protection is nature conservation, the legislation usually allows for a certain amount of recreation and research as well (Mikulec & Antouskova, 2010). SEA processes started in 2001, while EIA has a beginning from 1992 year. The need to provide environmental impact assessment has evolved in the context of impacts of anthropogenic activity and its influence on the environmental sustainability. One of the pros of Czech legislation is that all the strategies, PPs, and documents can be found on governmental websites. All of the PPs are followed by SDS CR, which role is to establish a consensual framework for the preparation of other materials of a conceptual nature. At the same time, one of the cons of Czech legislation framework are the lack of visitor monitoring and media activity in PAs. As it was mentioned before, environmental awareness arrived due to increasing anthropogenic influence on the environment, which lead to such main principles as maintaining and enhancing the ecological stability, conserving the landscape surface, and halting the decline in biodiversity, while there is no word about environmental education and tourism in conservation areas. These purposes are adjusted mainly by Nature and Landscape Protection Act no. 114/1992, Constitution of the Czech Republic, and the Act No. 17/1992. Creation of PAs is the responsibility firstly of Ministry of Environment and

only then of Agency for Nature Conservation which is also governmental authority giving the level of protection. According to Czech legislation, a landscape of landscape with architecturally valuable buildings may be a protected heritage area, but each PA should be at least 1000 hectares. At the same time, all the protected areas follow IUCN target, EU environmental policy, Council Directive 79/409/EG (birds), Directive 92/43/EEC, Natura 2000, etc. Nevertheless, tourist and education are not among main principles of environmental protection of conservation areas, they can be found in different strategies and governmental PPs. As it was mentioned in one of the sources, it is important to use some indicators and analytical systems to measure influence of tourism and a protected landscape area (Gorner & Cihar, 2012). These indicators can be questionnaire forms and statistical applications. As Mederly mentions, everything related to the quality of any aspect of the environment of the area (Mederly et al. 2004). Anyway, the most available for the general public legislation framework was found in the Czech Republic.

There are 3036 protected areas in Poland where each national park is established by a separate legal act. The purpose of all the Polish protected areas is a tourist function (economic values). Main purposes of PAs in Poland are protecting particular elements of the environment and maintaining tourism, but in fact we can see that a lot of measures are put into developing tourism. According to Widawski K., even official websites of NPs do not indicate any values of nature at all. In the case of parks as Świętokrzyski, Pieniński, Gorczański or Magurski such information is just a part of wider descriptions not directly related to the values(Widawski K., Jary Z., 2019). In the case of Bialowieza National Park, local authorities must search for solutions of financial support such as inviting private organizations, institutions, and NGO. Some of projects of visitor management tried to be implemented there such as e-commerce project PAN Park. Due to this project, visitors have the opportunity to book accommodation and activities in advance and to get information on the region only on the website of each NP, which contains news, maps, and a regional calendar of events ongoing in the park (Kun, 2002). SEA and EIA processes are both starts from 1990 year but have a history of debates and changes over two decades. The subject of discussion that led such long history was the expansion of these parks in nature conservation areas. These discussions gave the power of creation and extension of PAs to local authorities, while the process should include all stakeholders. The current procedure involves Council of Ministers and local government authorities. All the protected areas should follow such requirements as to be more than 1000 hectares, to have well-defined legal background, organized management, own staff and established borders, and others. These requirements are written in such Polish legislation as Parliamentary paper no. 1476, Sejm of the Republic of Poland, 3rd Term. As it was mentioned before, the main purpose in Poland is economical value which allows such activities on the PAs as tourism, recreation and farming. At the same time, other principle of nature conservation in Poland except supporting tourism is protecting of particular environmental elements including flora and fauna. According to Widawski K., even official websites of NPs do not indicate any values of nature at all. In the case of parks as Świętokrzyski, Pieniński, Gorczański or Magurski such information is just a part of wider descriptions not directly related to the values (Widawski & Jary, 2019). In the case of Bialowieza National Park, local authorities must search for solutions of financial support such as inviting private organizations, institutions, and NGO. Some of projects of visitor management tried to be implemented there such as e-commerce project PAN Park. Due to this project, visitors have the opportunity to book accommodation and activities in advance and to get information on the region only on

the website of each NP, which contains news, maps, and a regional calendar of events ongoing in the park (Kun, 2002). Comparison of organisation structure of PAs can be found in Fig.8.

Organisational differences	**Countries**			
	Czech Republic	**Germany**	**Austria**	**Poland**
Social values	Attraction of people by education, creating available transport connection and info zones in PAs.	Protection of artificial natural zones with no-man use allowing people to spend time without any prohibitions.	Attraction of people by advertisements, social activities, and education.	Investment in commercial activities of the most popular PAs, attraction of local communities to maintain economic values.
Financial support (economic values)	Governmental and European support.	Country has strong measure of evaluation of economical values but only for locals.	Governmental and European support.	Commercial use.
Authorities involvement	Ministry, Agency.	Provinces, municipal and environmental authorities	Competence of nine provinces.	Local authorities, Council of Ministers.
Mass media support	Nothing or at low level.	Nothing.	Excellent.	Nothing.

Figure 8. Comparison table of organizational structure of PAs

VI. Discussion

Analysis of the research work gave us controversial results. According to Muhar et al., there are different methods of monitoring: interviews, direct observation, indirect observation, counting of access permits and tickets, counting devices, mapping of traces of use (Muhar et al., 2002) – in which ours was the method of interview. We found different analysis of tourist management and principles of protection areas through different research works, but we did not find any information or found lack of information about tourist experiences and its comparison among countries. For example, in the research work of professor Gorner in Sumava NP, the monitoring of visitors in the Šumava NP was divided into two thematic fields focused on the physical counting of visitors and tourist crossings (Gorner & Čihar, 2012). Other monitoring activities has been found in a database of Charles University in Prague which took sociological data in all four Czech national parks (Čihar et al. 2002). Other evaluations from stakeholder's point of view we carried out in different research works that mostly used the Delphi method to improve the economic and social development in terms of agriculture, tourism (Duglio et.al., 2019). Analysing the results from the questionnaire we also did a statistical analysis to discover the relationship between countries. For this purpose, we used Fisher Test. All the answers did not have any relationship between countries except the question of willingness to pay different amount of money (see chapter results). We also did a monitoring of conservation areas in a form of interviews and in analysing literature, relevant documents, and other sources. These three methodologies have been combined to discover the effectiveness of principles of environmental assessment in the examined areas.

Following the answers from questionnaire, we found out that in Germany 42% of people visit conservation areas once in 2-3 month, 33,3% of participants are ready to pay 0 euro or from 0 to 5, mostly they look for information before visiting nature parks, using such media as park's website and Instagram, and not ordering excursions. According to the information from the interview the main objectives are renaturation of habitats, sheltering of endangered and protected species, and to apply management, where the main threats are tourism, free-walking dogs, and no-guidance and management of visitors. It is interesting, that participants from the questionnaire in the suggestions and ideas advised to implement more ads, information boards, trash bins and dog bags, which is comparable to the answers from interview. Still, such conflicts as human-wildlife approach and territorial planning for touristic purposes exist which were provided by employee.

In Austria 28,6% of participants chose such variants as once a week/once a month/once in 2-3 months, while only 14,3% visit PAs once a year. The results also show that they are ready to pay for entrance from 1 to 25 euros. Participants look for information about PAs before visiting it, using such sources as Park's website, Instagram, Facebook, and Twitter, but don't order any kind of excursions in the places of visiting. According to the interview with employees, the main objectives are process conservation, education, recreation, and following IUCN targets, which is completely comparable with the answers of participants from the questionnaire. They described the quality of areas as "excellent" or "really good" and advised to create more eco-events, which shows not only the good structure of management, but evaluates the strategy and principles as working ones. Even main threats were described by

employees as climate change and financial reduction. At the same time, we didn't find any commercial conflicts to change the decrease of financial support. There is no commercial use in Kalkalpen NP and in other Austrian NP, because it is prohibited by law.

In Czech Republic 46,7% of participants visit PAs once a month and are ready to pay for entrance up to 5 euros. They look for information before visiting places of interest in park's website or facebook groups, but don't order any excursions or tours. According to the interview, the main objectives are preservation or restoration of natural ecosystems and maintaining or improving the condition of NP protection, which are described as "good condition with excellent tourist routes". At the same time, participants advise to promote awareness of nature conservation in media and schools, which brings us an idea of future implementation of social education and environmental promotion in future governmental strategies. Main threats are extreme increase in attendance, accumulation of nutrients in ecosystems, drought, spread of invasive species. This attendance can be explained by good quality of parks and tourist routes on the one hand. On the other, its attendance destroys natural habitats. The size of tourist flow in valuable natural areas affects the quality and conservation status of nature (Widawski & Jary, 2019). Without any doubt, this leads to such commercial conflicts as increase in traffic in connection with the advertising of tourist agencies, which should be required by government legislation.

In Poland 56% of tourists visit PAs once in 2-3 month as well as in Germany and 60% of them are ready to pay for entrance up to 5 euros. To look for any kind of information about conservation areas they help park's websites, facebook, and Instagram, but 84% don't order any kind of tours as in other examined countries. Main objectives are protection of species and any environmental values and maintaining research, other described in Nature Conservation Act. The results from questionnaire were different from information in the sources, while information from employees were brief. Participants of the questionnaire described the quality of PAs as "bad condition", "bad protection measures", "beautiful areas but undervalued", "rather good", "better condition, altered by human", "plastic pollution", etc. The main threats described by protection acts as well as in the literature the whole set of threats is pointed out repeatedly of which managers in the protected area are aware of (Kruczek Z., 2016). While the main threats provided in interview are indicating of the areas for different use purposes, valuating the measures for indicating, the society advices to put more trash cans in the parks, to do social and promotion of natural areas, renovating and management of abandoned castles, more policies driven by scientific data and care of the environment, more public campaigns highlighting responsible tourist behaviour, and even employment of more people for cleaning and providing works in PAs. While the main threats are indicating of the areas for different use purposes, it is better to focus on environmental protection as it is mentioned in one of the country's principles. This result shows us social ecological awareness, environmental education, and their care about environment instead of governmental principles.

Based on the analysis we created comparison tables of the main problems that PAs meet within countries (Fig.9):

Problems that PAs meet	Countries			
	Czech Republic	**Germany**	**Austria**	**Poland**
Touristic threat	Soil erosion, ruining of natural habitats.	Soil erosion, ruining of natural habitats.	Disturbing natural habitats by environmental activities.	Erosion of soils, unauthorized use of national park resources, uncontrolled penetration by tourists (Widawski K., Jary Z., 2019), plastic pollution.
Employees involved	Not fully.	Local communities mostly not involved.	Local communities involved.	Local communities mostly not involved, but NGO and different institutions work in the different areas of PAs management.
Main threats to nature in the PAs	Disturbing of natural habitats.	Plastic pollution and ruining of natural habitats due to not specifying protected areas.	Environmental activities.	Plastic pollution, ruining of natural habitats, geographical conflicts.

Figure 9. Comparison of the most common problems that PAs meet

Nature is not separate from humanity – our fates are intertwined. Together we live in urban or rural areas, the planet is our home. Major loss of tourism revenue can cause many parks to cut stuff and programmes (World Tourism Organization, 2013). Budgets cuts mean rangers and park's representatives have to do more than less. Small or private protected areas also have to reduce enforcement capacity and to postpone monitoring and management tasks. It can lead to illegal resource extraction, such as illicit logging. (Hockings & Dudley, 2020). Looking at long-term recovery, GWC (Global Wildlife Conservation) which works with protected and conserved areas worldwide to develop conservation strategies for both world life and world lands, recommends co-management arrangements, where indigenous people and local people are managers, supported by or in partnerships with government agencies. In many cases, it is the most effective, most cost-efficient, and most sustainable way of managing PAs.

According to one of the questions of our questionnaire we noticed social ecological awareness. In our opinion, general people can make a difference even without laws and/or prohibitions and requirements concerning landscape use and green activities. Our suggestions on activities while visiting your nearest park are to be responsible by staying on trails, to follow the park's guidelines, and to leave the place clean after your visit. Even these guidelines can be spread among people in social advertisements and mass media.

VI.I. Implementations and ideas

Concluding the discussion part, we came to some ideas which can improve environmental assessment and management of conservation areas. Among them short- and long-term implementations and ideas that can be implemented in the future.

Short-term ideas and implementations:

- Common problems and needs - lack of public attention. This comes for two main reasons — lack of interests due to unawareness of the danger/potential effect of a project/program or disbelief that the participation can make any difference. This way, it is possible to provide more public awareness by school education, eco-events, and different ads.
- To use social media as in Austria to attract more people and to create pages in social networks for providing general information about PAs and for promoting eco-events (socio-economical value).
- To install more trash bins.
- To set up informational boards in PAs translated in English

Long-term ideas and implementations:

- To create websites providing general information about local events, businesses, park's guidelines, and other activities (e.g.: PAN system in Poland)
- To create public-private partnerships such as used in Congo (Economist, 2020), which will maintain not only economic sphere but will save PAs from tourist disturbance.
- To provide sustainable tourism through guided tours the Park can absorb more visitors harmlessly than if the visitors stroll on their own (These tours can be implemented by public-private partnerships).
- Another option to promote sustainable tourism is the use of network called geo-parks, which seek to develop environmentally friendly tourism focused on learning about inanimate nature, landscapes and a series of human activities related to the use of natural resources.
- To implement fixed price entry fee – according to the questionnaire, up to 5 euros, which will maintain economical structure and psychologically will make people to feel more responsible for places of interest.
- To create visitor centres in the local communities (long-term economic benefits).
- Not only local authorities should be involved in organization of PAs (co-management).

VII. Conclusion

Collating information from sources and the insights from questionnaire's participants and park's workers, we found cons and pros in each environmental principle within countries. The main goal of each country is to disseminate principles and good rescue, recovery, and rebuilding to rescue to strengthen systems of PAs.

From our point of view, the most powerful strategies are Czech and Austrian. Nevertheless, it is a controversial question if each province or the whole state (Ministry) should be responsible for creation and extension of conservation areas. From one point of view, each province knows better the structure and conflicts in its state, which can provide better creation of PAs. On the other hand, final decision of the Ministry provides easier and faster decision-making process.

We think that Czech legislation framework shows the clearest and the most open to the society decision-making process and provides the good quality of implementation of strategies which is shown in the questionnaire and in the interview. Czech environmental principles correlate with current situation in PAs as well as the Austrian ones. At the same time, the most powerful management type is Austrian one which not only provides environmental sustainability and education but also provides workspace for local communities.

Unfortunately, we cannot say same words about Germany and Poland. Even if Germany shows the lowest number of conflicts among the countries, still any management have to be provided to decrease touristic threat to the environment. Current situation in Poland shows the weakness of the strategy and how its principles do not correspond with current situation. At the same time concerning the questionnaire public environmental awareness is higher than governmental organisation of management of PAs.

However, each country has its strong points which can be implemented in the future. We can use in a future Czech legislation, openness to the society and the structure of PAs with its informational boards of the flora and fauns translated in English, German economic analysis of evaluation such as Keynesian multiplier analysis, Austrian management system of PAs, and Polish PAN-system which combines in one website all the activities, description of PA, events, guides, and current projects. It is necessary to provide such a system because according to the answers of questionnaire, most of the people search the information before visiting conservation areas and such a system can make their life easier. Moreover, we can use answers from the questionnaire to implement more useful strategies and management plans. For example, most people do not offer any guidance or tours (Austrian management), but most of them are ready to pay for entrance some amount of money, which can be a good solution for maintaining financial support of protected areas, while more managers of PAs can be employed to guide free-walking people. At the same time, it can be implemented such system as multi-pass ticket for entrance of all NPs, like it is done in USA or in some countries of European Union for multi-entrance of museums. In a future, it can be possible to focus all the commercial use in the visitor centres but not in PAs as it is done in Austria, which will decrease several conflicts. At the same time, creating the common system of visitors and data will help in a future research. Agreements with universities will give workplaces for people and scientific growth of the country's data and evolution of the management types.

PAs should be managed equally throughout the country in no matter of their touristic attraction. If the transport connectivity, management, entrance prices, and rehabilitation works would be equal, then it will maintain social awareness, touristic interest, and local economy. Moreover, even the common system of prices and costs will bring not only economic benefits but will also implement indicator system for visitor management of PAs. After all, media support and social advertising have to be implemented in local (information boards translated in English) and national levels (e.g.: websites including information as in PAN-system and social pages).

PCAs (Protected Conservation Areas) have an important role to play in the prevention of ecosystem degradation and zoonosis and in maintaining essential ecosystem services upon which people depend for their health and well-being (IUCN, 2021).

There is not a strong case for greater investments for PCAs in the PPs for nature rehabilitation. These PPs, including the establishment of rapid response grants, the maintenance of essential services, and support of local communities should be followed by actions. These actions include promoting the health-related benefits of these areas, restoring management capacities, and implementing strategies that ensure equitable governance and benefit sharing mechanisms. Beyond that, PAs should be a central piece of economic stimulus packages, since they provide both short- and long-term economic benefits, assist vulnerable communities and address policy needs, while evolving national economies, and mitigating climate change.

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IX. Appendices

IX.I. Appendix 1: Map of PAs in the examined countries

Here you will see a map with polygons of protected areas in the examined countries.