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TOURISM PLANNING IN THE NATURE PROTECTED AREAS – GRAND CANYON NATIONAL PARK CASE STUDY

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Tourism planning of natural protected areas becomes very important in the context of sustainable development. 20 years after the Earth Summit in Rio de Janeiro is important to raise the question of how Agenda 21, developed by the international community, is implemented in areas with special natural values.

Nowadays 58 national parks operates (2.8% of the surface of the country) in the USA. National Parks are managed by the National Parks Service and direct supervised by the Federal Ministry of the Interior.

Key words: tourism planning, Grand Canyon National Park, the international community.

1. Objective, scope of work, research methods

Point of reference is the Grand Canyon National Park, an area of particular scale in the U.S.A, but also in the world as a world heritage site. More than five million tourists visited annually South Rim in the Grand Canyon National Park.

The aim of the study is to identify the most important issues related to planning of tourism development in the Grand Canyon National Park and their evaluation. Particular attention was paid to the application of the tourism development zone concept in that area and solutions for tourist services, which allow the concept to be implemented. The aim of the study is also to point good practices for Polish environmentally valuable areas.

The study used secondary data analysis methods, direct interviews with the staff in Grand Canyon National Park (National Park Service) and direct observation. There are also used planning documents available to the park like General Management Plan, Program Management Plan and Strategic Plan.

2. Tourism planning in environmentally valuable areas- outline of issues

The issue of tourism planning for environmentally valuable areas has been developed over the last several decades. The reason is mainly an increase in environmental awareness, relationship between particular components of the environment and man, as well as consequences of human impact on the environment.

General principles for tourism development in accordance with the principles of sustainable development have been set up by the World Travel and Tourism Council, the United Nations World Tourism Organization and the Earth Council. These standards are summarized in the Agenda 21 for Tourism [1]. The issues contained in the document has pointed out, among others, to:

- educational function of tourism;
- respect for and understanding of the natural law, as well as the processes involved in maintaining the ecological balance of ecosystems;
- inspire awareness of social, cultural and ecological phenomena occurring in the environment;
- the importance of the local population in the process of creating, organizing tourism and reaping the economic benefits of this title.

Research on environmental pressure caused by tourism and recreation, aims to establish acceptable standards of human impact on nature so that it does not lose its value. These concern the following issues [2]:

- the natural resistance of ecosystems, especially their particular components (water, vegetation, topography) to use it for tourism and recreation;
- defining the maximum, permissible tourism environmental impact- tourism carrying capacity;
- assessment provided pressure (social demand) for different types of ecosystems- environmental impact assessment (EIA);
- determination of the natural environment degradation degree.

The first global study on tourism carrying capacity have emerged in the 60's, which was associated with the rapid development of mass tourism and increase in negative impact on the environment [3].

The concept of sustainable tourism, based on a model of sustainable development, should seek to strike a balance between the values of the natural environment, development of tourism industry and tourist traffic in the region [4].

Among methods of tourism planning can be distinguished: expert method, social and intermediate expert and social method. The main advantage of the expert method is relatively objective approach to the problem, the ability to use knowledge, experience, experts, and other entities (best practices).

On the other hand, there is a problem of insufficient communication with the local community, its expectations, the lack of regional identity of experts and the lack of specificity of the region.

Social method eliminates these problems, but there are other drawbacks associated with lack of objectivity, excessive attachment to the current problems, the lack of a broader perspective on the planning process [5]. From his point of view, method which takes into account the involvement of expert and local groups seems to be optimal one.

In the planning process we have to face many challenges. To face these challenges should be addressed in a number of principles, among others [6]:

- clear criteria for evaluating possible solutions to planning should be set;
- planning requires diverse knowledge (scientific, technical, management experience);
- planning requires public participation;
- uncertainty and risk should be included in the plan;
- the aspect of time and space should be taken into account in the plan;
- the personal and financial requirements for the implementation of solutions should be taken into account in the plan;
- natural and cultural heritage is the basis for other values and benefits from protected

areas;

– the management of valuable natural areas exists in order to protect the natural and cultural heritage.

These principles should be considered in the tourism development zoning concept (management zones) of valuable natural areas. Tourism development zoning concept in the region, is one of the tools of tourism management in the valuable natural areas, in accordance with the principles of sustainable development. The concept provides opportunities for development while maintaining ecological balance, economic, social and cultural.

The idea behind the concept is to determine the areas of the zones designated for different levels of tourist use intensity. The use of tourism development zoning concept has a number of advantages, including [7]:

- arrangement of tourism use in different areas (focus on selected types and forms of tourism, as well as being aimed to selected segments of the market);
- a positive impact on the preservation of the natural environment by resigning from the types of tourism that cause environmental degradation;
- arrangement the investment possibilities in the zones by establishing a list of permitted types of potential investment.

One of the reason why national parks exist as a form of nature protection is to provide a various forms of tourism and recreation. The area should not be infused with anthropogenic elements and must be devoided of large space objects [8]. The degree of tourism development varies according to the size of the park and the type of zone.

The national parks are proposed to designate extensive use zone (the most valuable natural enclaves), concentrated use zone (in areas with high absorbency natural) and holiday settlement. Each zone names vary depending on the area.

The basis for the preparation of zoning plan is to analyze natural and non-natural conditions and tourism infrastructure. According to the spot-zoned concept for tourism development can be distinguished several stages of planning:

- determination of the zones spatial extent (border) for tourism development based on selected criteria;
- determination of the preferred forms of tourism development for each zone;
- developing rules for tourist access to the zones and reconcile nature conservation with tourism.

3. Management principles of the nature protected areas in the U.S.A

Managing the system of national parks and the National Parks Service Programs (SPN) in the U.S.A is legally authorized in the U.S. Federal Constitution, public law, proclamations, decrees (executive orders), regulations, directives of the Secretary of the Interior and the Assistant Secretary for Fisheries, Wildlife and Parks. National Parks Service policy must be consistent with the above policy and regulatory authorities [9].

Planning rules in the parks sets the NSP Management Policies (2006). They concern the general planning principles, the main item of the planning and decision-making and planning levels in the park. The planning process is very complex, accurate, and consistent with the assumptions

Table 1

Major Elements of Park Planning and Decision-making*

General planning principles	Major Elements of Park Planning and Decision-making
<p>Decision-making process- continuous, dynamic cycle, involving local communities, comprehensive decisions, logical and measurable outcomes.</p>	<p>Foundation statement- includes objectives of the park, the importance of resource and legal framework.</p> <p>General Management Plan- defines the natural and cultural resources that are to be achieved and maintained over the years, defines the conditions for visitors to understand and appreciate the importance of park resources, identifies the types and levels of management, the use by visitors and development, which are suitable for the maintenance of the desired conditions, identify indicators and standards for maintaining the desired conditions.</p>
<p>Scientific and technical analyzes- in the planning process are used the best available scientific and technical analysis of the protection and use of resources as possible. Interdisciplinary analyzes and tiered. Identification of alternatives in the context of: consistency with the objectives of the park, the quality of visitor experience, the impact on park resources, short-term and long-term costs, environmental consequences, which may extend beyond the boundaries of the park.</p>	<p>Program Management Plan – detailed document, showing how to implement the General Management Plan.</p> <p>Strategic plans- introduce 1–5 year goals and directions, as well as long-term, measurable goals. Progress in achieving the objectives measured every year.</p> <p>Implementation Plans- plans introduce a specified purpose of conducting activities in the park, which will help to achieve long-term goals.</p>
<p>Public participation- public consultation in the planning process of all local groups associated with the park.</p>	<p>Annual Performance Plans- includes annual goals and annual work plan, which should lead efforts in the fiscal year.</p>
<p>Goals orientation–identifying and accomplishing long-term, measurable goals and objectives on an annual basis. Achieving the objectives will be periodically assessed and reassessed, taking into account new knowledge or previously unforeseen circumstances.</p>	<p>Annual Performance Reports- summarizes the results of the annual accounts for the annual goals.</p>

* Source: Own work based on the Management Policies, 2006, US. Department of Interior, National Park Service.

(Table 1). The decision-making process involves all social groups associated with the park, the process is dynamic, where changes are possible on the basis of its analysis.

The basis for decisions concerning the development of the park is a series of planning documents at various levels of generality. The primary, and at the same time indicating the general direction of development of the General Management Plan.

4. The tourism potential of the Grand Canyon National Park

Grand Canyon National Park today encompasses approximately 487 350 hectares of public land on the southern end of the Colorado Plateau. It is a globally significant natural resource containing scenic vistas known throughout the world. In recognition of its significant values, Grand Canyon National Park was designated as a world heritage site on October 26, 1979.

Current tourism potential is closely related to the natural values of the park.

The 446 kilometer length Colorado River is the axis of the canyon development. The Colorado River established its course through the canyon about six million years ago, and likely evolved from pre-existing drainages to its current course. Geologic processes, including erosion of tributaries and slopes, and active tectonics continue to shape the canyon today [10].

The park contains several major ecosystems from the mixed Mohave deserts scrub of the lower canyon to the coniferous forests of the North Rim. Many species of plants and animals make up these diverse ecosystems. While many wild creatures live out their entire lives within the protected park area, migratory species also benefit from the temporary sanctuary that the park affords [11].

In the Grand Canyon NP live 373 species of birds, 91 species of mammals, 57 species of reptiles and amphibians. One reptile, three mammal and one mollusk species are known only from the Grand Canyon region. At least nine species of insects are endemic to Grand Canyon; and six fish species are endemic to the Colorado River basin. Among the 1,750 plant species 9 are endemic. Seven species of animals living in the park are endangered like; California condor, humpback chub, southwestern willow flycatcher, Mexican spotted owl, Kanab ambersnail, Yuma clapper rail, and desert tortoise [3].

The Grand Canyon is also a place with rich cultural values. The area is related to six Native American Tribes. In this area are present 7 National Historic Landmarks.

Qualities of the environment and cultural heritage have been used for the development of tourism – geotourism, hiking, rafting, biking ect. The most developed areas in the Park are: South Rim (Hermit's Rest, Grand Canyon Village, and Desert View), North Rim (Bright Angel Point and Walhalla Plateau), Tuweep, Corridor trails (primarily the Bright Angel Trail, the North and South Kaibab Trails, the River Trail, and the Old Bright Angel Trail) [3]. Specific examples of the tourism infrastructure are regarded to South Rim.

5. Management zones for tourism development in the Grand Canyon National Park

The objectives of the Grand Canyon National Park in the visitor experience have been formulated so as not to cause a significant impact on the environment, and at the same time give the opportunity to learn from the environment. Among the main of them should be listed [3]:

- provide a diverse range of quality visitor experiences, as appropriate, based on the resources and values of the Grand Canyon, compatible with the protection of those resources and values;

- provide access that is appropriate and consistent with the character and nature of each

landscape unit and the desired visitor experience;

- consistent with park purposes and the characteristics of each landscape unit, preserve and protect the maximum opportunities in every landscape unit of the park for visitors to experience the solitude, natural conditions, primitiveness, remoteness, and inspirational value of the Grand Canyon;

- provide equal access to programs, activities, experiences, and recreational opportunities for individuals with disabilities, as appropriate and consistent with the levels of development and inherent levels of access in areas within the park;

- provide a wide range of interpretive opportunities and information services to best assist, inform, educate, and challenge visitors;

- educate and influence the public through positive action to preserve and protect the world they live in, including but not limited to the park;

- provide a safe, efficient, and environmentally sensitive transportation system for visitors, employees, and residents, consistent with management zoning and resource considerations, emphasize nonmotorized modes of transportation wherever feasible;

- develop visitor use management strategies to enhance the visitor experience while minimizing crowding, conflicts, and resource impacts;

- provide visitor and employee facilities and services, as necessary and appropriate, in or adjacent to areas dedicated to those uses or in appropriate disturbed areas.

A special place in the management of protected areas is to plan, according to the idea of zoning. They were four main management zones [3]:

- Natural zone – This zone includes lands that will be managed for the preservation, protection, and interpretation of cultural resources and their settings and to provide for their use and enjoyment by the public. Cultural resources that are key to the purposes of the park will be included in this zone (NPS 1988d 2:7).

- Development Zone – includes lands that will be managed to provide and maintain facilities serving park managers and visitors. It will include areas where park development or intensive use may substantially alter the natural environment or the setting for culturally significant resources. Impacts associated with such development will be mitigated to the greatest extent possible. The development zone will encompass the facilities themselves and all associated lands directly modified as a result of their continuing management .

Seven distinct developed areas are included in the development zone.

- Transportation Subzones – Transportation subzones connect development zones and include primarily paved road corridors and rail corridors to a width appropriate for safe travel.

- Utility Subzone – The utility subzone of the development zone includes all utility corridors, such as the existing powerline corridor into Grand Canyon Village from the south, the corridors from Grand Canyon Village to Desert View and to Hermits Rest, and from the north park entrance to Bright Angel Point.

Over 90% of the park will be managed as wilderness, in accordance with the park's 1993 wilderness proposal.

6. Examples of tourist facilities in the Grand Canyon National Park

The most intensive tourist facilities are present in a development zone. Among tourist infrastructure can be specify: accommodation (logging), catering, parking lots, visitors

center, hiking trails and nature trails. In the South Rim available to visitors are 907 lodging units and several campgrounds.

There were a lot of interesting solutions designed to reduce pressure on the environment. Road access to the park is limited to the development zone. At the entrance to the park visitor pays a one-time charge for admission \$20 per car or shows annual pass valid for every national park in the whole USA. At the entrance is obtained National Park map with a description of the main attractions and information about the area and information about conditions and facilities in the Park.

Visitors park their cars in the vast parking lots, where already move on foot or use shuttle bus that distributes them to their final destination. In the South Rim operates eight large parking lots which are close to the visitor center and shuttle bus stops. In 2011 year the shuttle bus system was used by over 5.5 million passengers, from the establishment of the system in 1978 it was in total almost 98 million passengers.

Since 2010, the system works all year round, not just during peak traffic. The shuttle bus system has many advantages, both for the user and the surrounding environment. Buses leave from the visitors center to several designated sites in the Park, places from which to explore the park on their own way (points Jumper trails) or places where you can enjoy amazing views of the canyon. Coach schedule is tailored to the needs of tourists, buses depart every 15 minutes from 6:30 am to one hour after sunset and every 30 minutes between 5-6:30 am. This is a free option to move around the park.

The South Rim you will see three driving tours:

- red route – Hermit Rest Route, passing 11- kilometer stretch takes 80 minutes, the shuttle stops at nine overlooks westbound;
- blue route –Village route – a 50-minute round-trip route provides transportation between the Grand Canyon Visitor Center, hotels, restaurants and campgrounds;
- yellow route – Kaibab/Rim Route – a 50-minute round-trip route stops at five view stops and Grand Canyon Visitor Center

A very important place in the park is visitor center. In the whole park operates six of them, two in the South Rim (Grand Canyon Visitor Center, Verkamp's visitor center).

Visitor centers meet the educational, information functions and visitors can buy souvenirs there. Here you can plan your visit, see the park movie and learn about the Grand Canyon with the Park's newest exhibits, book and gift shop, bicycle rental, food service. Very interesting is the movie about the Park, highlighting the most important things concerning geology, processes, animals of the Grand Canyon. At the visitor center is also available Ranger, with whom you can discuss topics related to the park.

The advantage of the tourism offer of the Grand Canyon National Park is Park Rangers Program. Rangers Programs are a form of lectures, thematic excursions in the park, aimed at visitors. Discussion concerns such as nature (protecting endangered California condor in the U.S.) or geology of the park. Events are held at a pre-specified calendar. In 2011, 965 presentations was presented under the Environmental Educational Program dedicated to schools of different types, whose customers were almost 29 thousand young people and almost 31 thousand sworn in Junior Rangers.

In 2011 there were 2158 presentations under Rangers Program (Interpretive Walks, Talks and Program) addressed to ordinary visitors, attended by nearly 219 thousand people

in the whole Park. The programs concern a great many issues related to the Grand Canyon. For example, in the season of autumn 2012 in South Rim was organized seven events per day; Rim Nature Walk (exploring what lives and grows along the South Rim during a walk), Mother Point Talk (about some of many treasures of the Grand Canyon, topic vary daily); History Walk (stories of people's enduring relationships with Grand Canyon on a walk), Condor Talk (learning about endangered California Condor and its reintroduction of the northern Arizona); Geology Walk (discovering the Grand Canyon geologic history); Elk – ology (discovering the elk survival their behavior understanding and learning about the park's management concerns); Evening program (presentation on the Grand Canyon's natural and cultural history). Depending on weather conditions and availability of personnel are also offered Special Programs such as fossil walks, Kolb Studio tours, moon walks, talks and old graveyard tours. Park Ranger Program is an amazing opportunity to arouse interest in nature among the visitors.

General assumption in terms of tourist information is that the visitors coming to the park do not know anything about the park, but when they are leaving already know a lot.

In the Park are held various types of special events throughout the year like Earth Science Week, National Fossil Day, Grand Canyon Music Festival, etc.

Visitors to the Grand Canyon can enjoy more than 940 km various routes, including one of the most picturesque – 21 km hiking and biking Rim Trail. You can select among routes from low levels of difficulty to the more demanding as the South Kaibab Trail, Bright Angel Trail or Hermit Trail in South Rim.

Each visitor receives information about the risks like heat exhaustion, heat stroke, hypothermia, falling rock, etc, that are associated with hiking in less accessible areas and how to behave in such situations.

From year to year, there is an increase in number of people who wander in more inaccessible places. In the year 2011 13 536 backcountry permits were issued and have been registered backcountry user nights as a number of 93 178.

7. Conclusions and recommendation for Polish National Parks Management

Grand Canyon National Park is a very good example of the development and support of tourism in the American style.

Foundation of 90% of its area as an area of park wildlife, while also giving the possibility of exploration of nature, familiar with the problems of human sensitization on issues of wildlife and local communities this is without any doubts an example of managing the compliance with the principles of sustainable development. A characteristic feature of this model is the feeling that you can take everywhere and everything can be experienced.

It seems that a number of solutions could be adapted by the Polish National Parks Management.

In particular, the tourist information, tourist development (parks, shelters, restrooms, a more compact area maintenance), and the approach to the tourists.

There is an underdeveloped field to provide information on wildlife issues in national parks, in a more innovative and unconventional way, the model can be here Park Ranger Program tailored to the realities of the Polish parks. The aim should be to activate young people and sensitize them on environmental issues. The key point seems to increase the availability and dissemination of information about park in the park in places shaped

similar to of the American visitor center.

Polish parks in many cases have shortages of basic infrastructure like trash bins, toilets, information or a more sophisticated program. In many places, the problem is lack of parking lots, in a situation where individual tourism becomes more and more popular.

Should be revised approach to the management and planning of tourism in environmentally valuable areas for the benefit of wildlife and visitors.

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ПЛАНУВАННЯ ТУРИЗМУ НА ПРИРОДООХОРОННИХ ТЕРИТОРІЯХ НА ПРИКЛАДІ НАЦІОНАЛЬНОГО ПАРКУ ГРАНД-КАНЬЙОН

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Мета дослідження полягає у виявленні найважливіших питань, пов'язаних з плануванням розвитку туризму в національному парку Гранд-Каньйон, та їхньої оцінки. Значну увагу приділено застосуванню концепції зони розвитку туризму в цій області і рішень для туристичних послуг, які дають змогу реалізувати зазначену концепцію. Метою дослідження є також застосування передової практики на польських екологічно цінних територіях.

Використано методи аналізу вторинних даних, прямі інтерв'ю з персоналом в Grand Canyon National Park (Національний парк служби) та безпосереднього спостереження.

Ключові слова: Гранд-Каньйон, концепція зони розвитку, аналіз вторинних даних, туристична діяльність.

ПЛАНИРОВАНИЕ ТУРИЗМА НА ПРИРОДООХРАННЫХ ТЕРРИТОРИЯХ НА ПРИМЕРЕ НАЦИОНАЛЬНОГО ПАРКА ГРАНД-КАНЬОН

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Цель исследования заключается в выявлении наиболее важных вопросов, связанных с планированием развития туризма в национальном парке Гранд-Каньон, и их оценки. Особое внимание уделено применению концепции зоны развития туризма в этой области и решениям для туристических услуг, которые позволяют реализовать эту концепцию. Целью исследования является также применение передового опыта на польских экологически ценных территориях.

Использованы методы анализа вторичных данных, прямые интервью с персоналом в Grand Canyon National Park (Национальный парк службы) и непосредственного наблюдения.

Ключевые слова: Гранд-Каньон, концепция зоны развития, анализ вторичных данных, туристическая деятельность.