

MANAGEMENT OF MUNICIPAL WASTE IN NATIONAL PARKS OF EUROPE¹

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Summary. The aim of the publication is to provide a system of municipal waste management in national parks in Europe. An attempt, which was made, is to look at natural value areas in terms of law, environmental engineering and management sciences. The authors of the work carried out surveys on the boards of national parks and environmental information centers in five European countries (France, England, Scotland, Wales, Germany). By e-mail was sent a questionnaire with five questions on the issue of waste and their disposal.

The preservation and maintenance of landscape and biological diversity in national parks is consistent with the idea of sustainable development. Fair access to natural resources is one of the important principles of inter-generation justice. By consciously reducing the scale of use of each resource, including natural, you can reduce the devastation of the environment.

Management of waste management in national parks in the European countries is under condition of environmental law, which sets the goal of protecting wildlife and cultural heritage. In many cases the law is uniform, but it happens often that different regions (France, Germany) bring their own regulation and guided them on difficult issues in waste management. In France there is no regulation to prohibit composting, incineration and recycling, but none of the parks board does not use this omission to the detriment of the environment.

All boards have confirmed the existence of the act, prohibiting the storage of waste in a national park. Only in the Yorkshire Dales NP (England) and NP Loch Lomond and the Trossachs (Scotland), there is no prohibition on the landfill of waste other than inert. There are reports of the use of biodegradable waste for agricultural purposes (England, Scotland) or the materials fit for reusing and recycling (Scotland). However, nowhere are using the methods of waste incineration in a national park. A very interesting initiative is the complete withdrawal of rubbish bins from the area a national park.

For non-compliance on cleanliness in the national parks were introduced harsh penalties (Mercantour NP – France, Cevennes NP – France) Strict laws and their enforcement unconditional allow efficient management of waste management. This model solution has application in many countries with high ecological culture.

Only one of the parks board (PN Cairngorms – Scotland) drew attention to a very important and easy way to solve the problem of waste: universal education and the formation of ecological awareness.

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The study confirmed the suitable way of waste management in national parks in selected European countries. This model should become widespread in Polish national parks (as so far they are sporadic cases).

Key words: national park, municipal waste management, environmental protection

INTRODUCTION

The preservation and maintenance of landscape and biological diversity in the national parks of the world is consistent with the idea of sustainable development [Wilson 2001, Sobczyk and Biedrawa 2010, Pawul and Sobczyk 2011]. Fair access to natural resources is one of the important principles of sustainability, namely the principle of intergenerational justice. By consciously reducing the scale of use of each resource, including natural, one can reduce the devastation of the environment [Białecka 2010]. Areas of valuable nature have their own characteristics, they are of high value, conditional on a variety of resources, items, and values of animate and inanimate nature. Waste management in these areas requires additional, special conditions.

METHODOLOGY

A questionnaire with five questions has been sent to national park authorities of some European countries in order to collect information on waste management principles. The questions were as follows:

1. Is there a legal regime that prohibits the landfilling of waste in the national park?
2. Is there a legal regime that prohibits other forms of waste management (incineration, recycling, composting) in the national park?
3. Is the law prohibiting the landfilling of waste respected in the national park?
4. How do you solve the problem of waste and its management?
5. Are there any landfills within the national park?

Principles of waste management have been based on responses received from authority boards of national parks and environmental information centres located in five European countries (outside Polish territory) [Biedrawa 2011].

ANALYSIS OF RESULTS

The United Kingdom

A questionnaire with five questions on the principles of waste management has been sent to 10 national parks. Responses have been received from 7 national park authorities: the Yorkshire Dales National Park, the Peak District Na-

tional Park, the Lake District National Park, the Exmoor National Park, the New Forest's National Park, the Cairngorms National Park, the Loch Lomond & the Trossachs National Park.

England

There is no total ban on the disposal of waste in the national parks in England, although it is unlikely to harmonise the regulations. According to the statement made by Mr. Dave Parrish, officer in the Yorkshire Dales National Park (06 2010), there is no waste disposal sites. There are though landfills in other national parks, for example in the North York Moors National Park. These are mostly old municipal waste landfills, located in disused opencast mines. Due to pressure for reducing the impact on the environment, landfills have been replaced by incineration and recycling facilities, situated outside the national parks.

The Government's Planning Policy Statements (PPS) have to accomplish two most important tasks. These are: PPS 7 on Sustainable Development in Rural Areas, and PPS 10 on Sustainable Waste Management [www.yorkshiredales].

The environmental policy on waste management in the Yorkshire Dales National Park is characterised primarily by its opposition to the disposal of waste other than inert within the national park. It is projected though to manage inert waste generated on the Park premises [www.communities].

In October 2010, the Lake District National Park introduced the latest model of waste management (*Policy CS 31: Waste Management*).

The scheme of waste management in the Lake District National Park does not allow the landfilling of waste in the Park, except for the collection of waste improving the quality of agricultural land.

The Lake District National Park has no other regulations than the national, regional and local environmental policy scheme. However, where necessary, a planning policy is developed in order to facilitate waste management. The park generates waste of any kind. The task of the Park services is to reduce the weight of construction and demolition waste. Currently, the environmental policy prohibits the building of new landfills in the National Park.

Scotland

The law on waste management has been approved by the Scottish Government, based in Edinburgh. The Scottish Environment Protection Agency (SEPA) issues licenses for the treatment and transport of waste. In Scotland, there is a practical advice to households, while all companies have to bear the costs of waste treatment in line with the law.

The recycling system is very interesting. In the municipality of Highland the recycling scheme works in accordance with the principle of 'bring-sites' (areas in every city where public can deposit recyclable materials). According to the relation of John Thorne, the Economic Development Officer in the Cairngorms National Park (04 2010), the municipal law of the town of Aberdeenshire, Moray and

Angus, situated within the Cairngorms National Park, will not allow it. The Ritchies company, in Aviemore, provides private services for recycling. Approximately 35% of household waste is subject to re-use, the rest is incinerated or landfilled. Efforts are being made that this figure reach 40% in a few years. The Park authorities maintain that it takes a lot of work to reach the level observed in the countries of continental Europe.

The Cairngorms National Park Authority is particularly interested in recycling, which is associated with the main objective: the protection of Park resources. Reusing, and then recycling, are more advantageous than the transport of waste over long distances and the creation of landfills.

The Cairngorms National Park supports the idea of „zero waste” with a closed-cycle production of waste (everything is suitable for reuse or recycling). The environmental policy of the Park is to disseminate knowledge about what people and companies can and should do. The task is also to promote best practice in environmental protection and growing economy through better use of resources (sustainable development).

The Loch Lomond & the Trossachs National Park, in Scotland, has no regulation that forbids waste landfilling. Interestingly, no legal regulation or statute prohibits the use of other forms of management, such as waste incineration, recycling and composting facilities within the park.

How then do the national parks cope with the problem of waste? The Loch Lomond & The Trossachs National Park applies national and local legislation [Town... 1997, Planning 2006]. In the WAS2 on Waste Management Facilities, pages 89–90, we read that the Loch Lomond & The Trossachs National Park has no active landfills. Every kind of waste not recyclable is transported to the nearest landfill, outside the Park. However, there are two recycling centres within the park: Callander and Killin, where all the waste collected from the households situated in the Park can be transported.

France

The questionnaire has been sent to 9 national parks in France. Responses have been received from 3 park authorities: Vanoise, Mercantour and Cévennes.

Factual information about the Vanoise National Park was given by Mr. Jean-Luc Gosselin, *Chargé de Mission Développement durable Parc National de la Vanoise*, (06 2010). General Legislation on the French parks is included in a legal provision no 2006-436 of 14 April 2006 [www.parcsnationaux]. Its application to the Vanoise National Park is set in the Decree No. 2009-437 of 21 April 2009. Both acts can be found in the Code of Environmental Law (*Code de l'environnement*) [La legislation 2006].

When asked whether any legal regulation prohibits the landfilling of waste within the national park, the employee of the Vanoise Park Authority Board said that, according to the Decree No. 2009-437 of 21 April 2009, paragraph 3, it is prohibited to store, drop or throw away (except for strictly delimited areas)

wastes and any objects in a public or private place, even if the person is the owner of the area or have permission from the owner. The reference is, *inter alia*, to the Park workers who spend every day in the protected area. At the same time, it was pointed out that there is no government legislation prohibiting the use of other methods of waste disposal such as incineration or composting. When asked if the rules are being respected, Mr. Gosselin gave an affirmative answer, stating that in the event of breaches severe restrictions are applied. In such situations the police of the Park guards (*police des gardes moniteurs assermentés*) move in.

As we know, every national park consists of two large zones: the heart of the park (*cœur du parc national*), where strict special rules are applied, and the peripheral zone (*ex zone périphérique*; in Poland – the buffer zone) with liberal rules. Let us remember that the buffer zone is a legal concept, defined as the zone bordering the form of nature conservation, designated individually for forms of nature conservation in order to protect it against external threats resulting from human activities. The buffer zone is mandatory only around national parks. In the peripheral zone, each municipality manages waste disposal at its own discretion. In practice, operating landfills can be found in a short distance from the heart of the Park. However, nothing prevents their existence, if the operation and maintenance are in accordance with government regulations.

There are no active or closed landfills in the heart of the Park, while in the peripheral zone there are no special restrictions except those which are contained in the Code of the Environment. More information on French legislation can be found on the website www.legifrance.gouv.fr. Data on the Vanoise National Park can be found on the website www.vanoise.com.

The information on waste management in the Mercantour National Park was provided by Mr. Thomas Lebard, employee in the Roy-Bever sector of the Mercantour Park (06 2010).

All legislation concerning waste is contained in the Environmental Code, Book V, paragraph 1 [Le Décret Vanoise 2009]. Landfilling and treatment of waste are regulated by law, the rules though vary depending on the origin and characteristics of the waste.

There is a law which prohibits the incineration of certain types of waste (for example, incineration of health care wastes is strictly prohibited.) There is also a ban on open-air landfills [Code 2010]. The diversion of waste from the site of the Park is the operational responsibility of the municipality on whose territory it is situated. There are thus no regulations for wastes generated in the heart of the Park. The Mercantour National Park is inhabited by a few people. These people deposit their waste in designated containers. The treatment of waste takes place outside the park, while composting of waste is permitted within the Park.

Generally speaking, the provisions prohibiting the landfilling of waste within the Park are respected. The biggest problem of the Mercantour Park are the remnants of picnics left by tourists. Possibilities of punishment, however, are limited, as to be applicable, the person must be caught red-handed, and it is very difficult.

Municipalities do not have any special obligations arising from the presence on their territory of objects or valuable natural areas. Like any other municipalities in France, they must comply with the legislation of the State.

The penalty for abandonment of waste in the park without the use of a vehicle is provided in the article of legislation: a legal decree of the Mercantour Park, No. 2009-486, Article 3, verse 18, as amended by Art. R-331-64/1. The fine of third class amounts from 68 to 450 euros. However, the penalty for abandonment of waste in the park with the use of a vehicle (importation of waste) is governed by a legal decree No. 2009-486 of the Mercantour Park, Article 3, verse 18, as amended by the R-331-67/1. The fine of fifth class may be as high as 1,500 euros [Le Décret Mercantour 2009].

In France, the choice of methods for waste management in protected areas goes to the municipality. The Mercantour Park is located within the 28 municipalities (sic!) and there is no common policy in the realm of waste management. Only a few municipalities located within the Mercantour Park have introduced a partial selection of recycled materials (paper, glass, metal).

Mrs. Ségolène Dubois, head of research, conservation and sustainable development department in the Cévennes National Park (Fig. 1), states (06 2010) that there is no active landfills in the heart of the Park. There are though closed landfills in close proximity to the protected area, with plans for their renewal.



Fig. 1. The National Park of Cévennes (photo by D.&M. Hobgarski)

The Hunters Association has introduced an initiative to collect waste arising from hunting (skin, entrails, bones of dead animals, mainly wild boar, deer and roe deer), for these wastes do not pose a risk to the environment. The Park supports this initiative in a financial sense. The Authorities of the Park are interested in wastes generated by mining activities, which took place in the 1950–1960. Studies have been carried out in one of the places in the heart of the Park regarding the possibility of removal and treatment of these wastes.

The rules are respected in the heart of the Cévennes National Park. Thirty park guards work here, whose job is to ensure the enforcement of provisions. Their disobedience entails the following penalties:

- the third class fine, only applies to the heart of the park: dropping paper – 35 euros,

- the fifth class fine, both in the heart of the park and throughout the country: if a person who is violating the rules uses a vehicle for the abandonment of waste, judicial proceedings are initiated and then a penalty is imposed, which may be as high as 1.500 euros. There are cases where a car was confiscated.

Germany

The survey questionnaire has been sent to 15 national parks in Germany. Responses have been received from the authorities of 4 parks: the Bavarian Forest National Park, the Hainisch National Park, the Eifel National Park, the Schleswig-Holstein Wattenmeer National Park.

According to the information provided by Mrs. Mary Hußlein, employee of the Office of the Bavarian Forest National Park (09 2010), the management of waste is carried out in accordance with the Federal Nature Conservation Act, the Bavarian Nature Protection Act, as well as with national regulations.

In the Bavarian Forest National Park visitors are required to take their litter with them. The park's guards collect illegally abandoned waste and seek to thwart the illegal discharge of rubbish. Littering the National Park is punishable by a misdemeanour court. Wastes generated on the premises of the Park are reprocessed in accordance with applicable national regulations. Uncontaminated soil, stones and cuttings are usually re-used in the Park according to its own projects.

Within the Bavarian Forest National Park landfills do not exist. Waste from building materials and tar coming from outer layers of roads are gradually removed and recycled. Contaminated sites (e.g. after the former premises of the glass industry) can be incorporated into the National Park area only after proper remediation (replacement of land).

In Germany, each Land has its own law and that law is applied to the management of the economy. The Law of the Hainich National Park, Thuringia (ThürNPHG) prohibits the landfilling of waste. The provision also does not allow waste disposal in any other way. All visitors to the Park are required to take packaging, bottles and any other wastes with them. For this reason, there is no

litter bins disposed in the Park. The Hainich National Park has never had a landfill site (information provided by M. Großmann & P. Seligmann, employees of the National Park Authority, 09 2010).

According to the Act of the State Forest Administration of North Rhine-Westphalia, waste must be collected by visitors to the Park woods and sent to the municipality, which is responsible for their processing. In the Eifel National Park there have never been any landfills, there are no plans to build them either (information provided by D. Möller, Wald und Holz Landesbetrieb NRW, Eifel National Park Forestry Office, 09 2010).

CONCLUSIONS

Waste management within the national parks in different countries and regions of Europe is subject to environmental law, which sets itself the goal of protecting nature and cultural heritage. In many cases the law is uniform. Nonetheless, it happens that different regions (e.g. France, Germany), bring their own regulations and are guided by them in the difficult issues of waste management, arising within the parks. In France, for example, there is no provision on the prohibition of composting, incineration or recycling, but none of the parks authorities uses this omission to the detriment of the environment.

All parks authorities confirmed the existence of a regulation prohibiting the landfilling of waste in a national park. Only employees of the Yorkshire Dales National Park (England) and the Loch Lomond & the Trossachs National Park (Scotland) noticed that in the parks there was no ban on landfilling of waste other than inert.

There are reports of the use of biodegradable waste for agricultural purposes (England, Scotland) or the materials fit for reusing and recycling (Scotland). However, the method of waste incineration within a national park is nowhere applied.

For non-compliance with the provisions on cleanliness in the national parks, harsh penalties have been introduced, e.g. in the Mercantour and the Cévennes National Parks (France).

Only one of the parks authorities (Cairngorms, Scotland) drew attention to a very important and easy way to solve the problem of waste: universal education, which leads to raising public awareness. For the concept of sustainable development be rooted in social consciousness, multidirectional, comprehensive school and educational activities outside school are needed. Social advertising in the media, as part of supplemental education, should take into account all aspects of sustainable development: economic, social and environmental [Sobczyk *et al.* 2010].

Strict laws, severe penalties and their unconditional enforcement allow for efficient management of waste in a park. This model solution works in many countries with high ecological culture.

DRAFTING PROPOSALS

The analysis of waste management carried out in selected national parks in Europe allows a practical look at this issue. Based on the research, a modification may be offered to the legal provisions applicable in Polish national parks: a total elimination of waste bins, the launch of composting packs, the launch of waste treatment plants, the distribution of closed containers for biodegradable waste (protection against spreading by wild animals).

Composting packs in protected areas would solve the problem of biodegradable waste. Biomass wastes are a significant part of the waste outside urban areas; therefore, their use in national parks would decrease the cost of their removal [The Act of 27 April 2001, The Act of 16 April 2001, The Act of 22 January 2010].

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ZARZĄDZANIE GOSPODARKĄ ODPADAMI KOMUNALNYMI NA TERENIE PARKÓW NARODOWYCH EUROPY

Streszczenie. Celem publikacji jest przedstawienie systemu zarządzania gospodarką odpadami komunalnymi na terenie parków narodowych w Europie. Podjęto próbę spojrzenia na przyrodniczo cenne tereny z punktu widzenia prawa, inżynierii środowiska i nauk o zarządzaniu. Autorki pracy przeprowadziły ankietowanie w zarządach parków narodowych i centrach informacji środowiskowej w ośmiu krajach i regionach Europy (Francja, Anglia, Szkocja, Walia, Niemcy). Pocztą elektroniczną rozesłano kwestionariusz ankiety z pięcioma pytaniami dotyczącymi postawiania odpadów i problemów ich zagospodarowania.

Zachowanie i podtrzymywanie różnorodności krajobrazowej i biologicznej w parkach narodowych jest zgodne z ideą zrównoważonego rozwoju. Uczciwy dostęp do zasobów naturalnych to jedna z ważnych zasad sprawiedliwości międzygeneracyjnej. Poprzez świadome ograniczenie skali użytkowania każdego zasobu, w tym przyrodniczego, można ograniczyć dewastację środowiska naturalnego.

Zarządzanie gospodarką odpadami na terenie parków narodowych w krajach europejskich jest uwarunkowane prawem środowiskowym, które za cel stawia sobie ochronę przyrody i dziedzictwa narodowego. W wielu przypadkach prawo jest jednolite, często jednak zdarza się, że poszczególne regiony (np. we Francji, Niemczech) wprowadzają własne rozporządzenia i kierują się nimi w trudnych kwestiach zagospodarowania odpadów. We Francji nie ustanowiono przepisu o zakazie kompostowania, spalania i recyklingu, lecz żaden z zarządów parków nie wykorzystuje tego przeoczenia na niekorzyść środowiska naturalnego.

Wszystkie zarządy potwierdziły istnienie aktu prawnego, zabraniającego składowania odpadów na terenie parku narodowego. Jedyne w Parku Narodowym Yorkshire Dales (Anglia) oraz w Parku Narodowym Loch Lomond i Trossachs (Szkocja) nie ma zakazu składowania odpadów innych niż obojętne. Znane są przypadki wykorzystania odpadów biodegradowalnych do celów rolniczych (Anglia, Szkocja), bądź materiałów zdatnych do ponownego wykorzystania i recyklingu (Szkocja). Natomiast nigdzie nie stosuje się metody spalania odpadów na terenie parku narodowego. Bardzo ciekawą inicjatywą jest całkowite wycofanie koszy na śmiecie z terenu parku narodowego.

Za nieprzestrzeganie przepisów o utrzymaniu czystości w parkach narodowych wprowadzono surowe kary (np. Park Narodowy Mercantour i Park Narodowy Cevennes). Rygorystyczne przepisy prawne i bezwarunkowa ich egzekucja pozwalają na sprawne zarządzanie gospodarką odpadami. To modelowe rozwiązanie funkcjonuje w wielu krajach o wysokiej kulturze ekologicznej.

Tylko jeden z zarządów parków (PN Cairngorms w Szkocji) zwrócił uwagę na niezwykle ważny i prosty sposób rozwiązymania problemu odpadów: powszechną edukację oraz kształcenie świadomości ekologicznej społeczeństwa.

Badania potwierdziły właściwy sposób gospodarowania odpadami w parkach narodowych wybranych krajów Europy. Warto ten system upowszechnić w polskich parkach narodowych (jak dotychczas są to sporadyczne przypadki).

Słowa kluczowe: park narodowy, zarządzanie odpadami komunalnymi, ochrona środowiska