

WAKE PARKS IN POLAND – CURRENT STATE, CONDITIONS AND PROSPECTS FOR DEVELOPMENT

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A b s t r a c t

Wake parks are structures for recreational and professional wakeboarding, a sport where a person rides on a towed board. The cradle of wakeboarding started in the USA, where the beginnings of this sport can be traced back to the mid-1980s. The first Polish wake part was opened in Augustów in 1999. Our aim was to collate information about wake parks in Poland, and to analyse the environmental as well as legal grounds for their development. The history of Polish wakeboarding is short but dynamic. Most wake parks with cable systems were created in 2013–2014. Today, there are over 40 wake parks across the country. This growth is stimulated by newer and less expensive technical solutions. Most constructions are based on mobile, two-tower installations, which are easy to assemble and maintain. Wake parks attract visitors to regions which until now have not been perceived as destinations for water tourism and recreation. However, building a wake park on a lake or other water body must comply with legal regulations pertaining to nature conservation. Two-tower wakeboarding installation is eco-friendly and can be installed in silence zones as well as nature protected areas.

WAKEPARKI W POLSCE – UWARUNKOWANIA I PERSPEKTYWY ROZWOJU

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Abstrakt

Wakeparki są to konstrukcje przeznaczone do rekreacyjno-sportowego uprawiania wakeboardingu, czyli pływania na holowanej desce. Kolebką światowego wakeboardu są Stany Zjednoczone, a jego początki datowane na połowę lat 80. W Polsce pierwszy wakepark powstał w 1999 r. w Augustowie.

Celem pracy była charakterystyka wakeparków w Polsce oraz analiza środowiskowych i formalno-prawnych uwarunkowań ich rozwoju. Historia polskiego wakeboardingu jest krótka, ale rozwój bardzo dynamiczny. Większość wakeparków z wyciągami linowymi do sportów wodnych powstała w latach 2013–2014. W Polsce funkcjonuje obecnie ponad 40 takich obiektów. Sprzyja temu wprowadzanie nowych i tańszych rozwiązań konstrukcyjnych. Większość instalacji oparta jest na mobilnym i prostym w obsłudze systemie dwusłupowym. Wakeparki stają się atrakcją w regionach, które dotąd nie były kojarzone z turystyką i rekreacją wodną. Czynnikiem warunkującymi ich rozwój i lokalizację w obrębie naturalnych zbiorników wodnych są m.in. regulacje związane z ochroną środowiska. System dwuwieżowy jest przyjazny dla środowiska. Można go instalować w strefach ciszy i na obszarach chronionych.

Introduction

Wake parks are installations and constructions created for recreational and professional wakeboarding. The name “wakeboarding” coins two words: “a wake” (a track left by a ship in water) and “a board”. Wakeboarding can be defined as “riding on a board behind a motorboat”. The sport was created by combining water skiing, snowboarding and surfing. It is not easy to think of a good word in Polish for a wake park, but the name can be understood as a cable water park. What all wake parks have in common is a system for pulling or lifting. Other elements are various water features, such as jumps, kicks, platforms, etc., located on both sides of the cableway.

The cradle of wakeboarding is the United States of America, and the beginnings of this sport date back to the mid-1980s. In 1985, Tony Finn, a surfer from San Diego, invented “a skurfer”, which was a combination of a surfing board and water skis. The prototype lacked foot straps, but once they were added, various maneuvers began to be developed. First, skiboarding appeared. In 1990, the first US championships in surfer riding were aired on television. In the years to come, new materials and construction solutions have been tried in board making. With time, “wakeboarding” was adopted as the official name of the new sport (E-WAKEBOARD 2014).

Wakeboard as a sports discipline was officially recognised in 1992. In 1993, the World Publications issued the first “Wakeboarding” magazine. Soon, other magazines appeared (E-WAKEBOARD 2014). A turning point for wakeboarding was in 2000, when various obstacles were created, and these added the so-called “street-like atmosphere” to the sport. Work continues on constructions which will allow wakeboard riders to perform new and more advanced tricks. In 2005, wakeboarding became part of the World Championships. For

many young people, this sport is a lifestyle and therefore can be seen as part of a youth culture (NAORNIAKOWSKI 2011).

Wakeboarding came to Poland in the 1990s. Prior to that, water skiing, another form of water sport, had been practised in our country. Waterskiing as a recreational activity appeared in the 1950s, although the first public show of riding on two water skis took place back in the 1920s (NAORNIAKOWSKI 2011). The first sports clubs associating water skiers were established in the 1960s, and the following developed most vigorously: KSW „Hutnik” Pogoria, AKS “Sparta” Augustów, LOK Szczecin and LOK Bytom. Precursors of waterskiing in Poland were Zbigniew Naorniakowski, Bolesław Talago, Zygmunt Kowalik, Jurand Jarecki and Krystyna Jarecka. Owing to their effort, the first Polish Waterskiing Competition was held in Augustów in 1965. At that time, water-skiing lifts were very rare, so riders were towed by motorboats (NAORNIAKOWSKI 2011). The first waterskiing lift was constructed in Augustów, in 1999. Today, it is also used for wakeboarding. The last years of the 20th century witnessed a dynamic growth of cable water sports across Europe. Waterskiing and wakeboarding were no longer an elite form of recreation and amateur sport. Once the equipment became more easily available, wakeboarding gained popularity. For several years, the European Championships and – more recently – the Polish Chamionships have been held regularly (NAORNIAKOWSKI 2011).

Our aim has been to find out the current number of wake parks in Poland and to explore what technical solutions they employ. Another purpose has been to analyse the underlying conditions for wake park building and development.

Materials and Methods

Wake parks are a relatively new concept in Europe. Such issues as their location, underlying development conditions and impact on nature have not been researched thoroughly thus far. Hence, a lack of analytical descriptions or reviews concerning these problems. There was applied factual analysis method in this study. This method is commonly used in the socio-economic research, including those based on archival materials (OLENSKI 2001, KLESZCZOWA and GWOŹDZIK 2009). Factual material was collected by query of the literature sources and materials dispersed in the websites. Literature sources and materials dispersed in the websites are commonly used to determine the status of objects, processes or events (OLENSKI 2001, FRAN CZAK 2014). The data resources were: electronic databases of libraries, databases of legal regulations, websites and web portals designed for wakeboarding enthusiasts (<http://pl.youcanwake.com>; <http://wakestyle.pl>; <http://wakefocus.ibiss.pl>;

<http://iwakeboard.weebly.com>; <http://e-wakeboard>). Information was also obtained through direct interviews with investors and representatives of companies that sell and service cable water lifts (Wakepark SA.; SesitecPolska; WakeStation Polska).

Results and Discussion

Engineering solutions in wake parks

Currently, there are two types of constructions built in wake parks: a full size cable system and a two-tower installation (2.0 system). A full size cable system typically consists of 4, 5 or 6 towers, which can be 14 meters high. The cables and anchors ensure the stability of the whole construction. Because of the size of a whole installation, the minimum surface area of a water body is 5 to 10 ha. Artificial water basins of at least 1.2 m in depth are preferred. Special constructions for anchoring the towers may be required when the depth exceeds 10 meters. Also, when water levels fluctuate within 1 meter or so, the starting platform may need special engineering solutions. A full-size cable lift is typically an immovable installation. Depending on the size of an installation and local conditions, it usually takes 3 to 4 weeks to assemble the whole structure. Six-tower systems are most popular among riders because they ensure high comfort of wakeboarding rides. The cable is usually well stretched and does not jerk a rider who is passing a turning point. While the average speed of the running cable is 30 km/h, it can be adjusted within the range of 0 to 60 km/h (SESITEC 2015a).

A two-tower system (2.0) is a light and portable construction, which does not require to install the supporting structures in water. A two-tower installation can be used alone or as an additional facility in larger water parks. System 2.0 has been specially designed for wakeboarding and allows for a continuous ride over several runs. The installation consists of two towers (pylons) standing on land or in water (on the bottom of a lake). They are immobilised with concrete anchors, each approximately 1.5 x 1.5 x 1.5 m in size. Towers up to 7 m high require two anchors, each weighing 5.5 tons. Higher towers will need heavier anchors, 8 tons each. The towers can be raised on two opposite shores of a water body or along the shoreline. It is recommended to install two-tower systems in water bodies of the minimum depth of 1 m, 9–230 meters long and 25–36 meters wide. The minimum length is 60 m. The whole system is powered by a three-phase (400 V) or two-phase (230 V) electricity current, and the latter requires a phase convertor and transformer. The installation takes up to 2 days. This is a modular construction, which makes it mobile and multi-

functional. Technical solutions also include automated maintenance and a remote control, which can be operated from a distance of around 100 meters away from the engine tower. Electronic control systems guarantee efficient operation of the wakeboarding system (YOU CAN WAKE 2014a).

Wake parks in Poland – the current state

The history of wake parks in Poland goes back to the turn of the 20th and 21st century. The first wake park was created on Necko Lake in Augustów, in 1999. The second, started in 2001, was constructed on Zalew Zemborzycki, an artificial water basin in Lublin. In the late 2000s, there were five wake parks in Poland, and they were all equipped with a by 4- or 5-tower cable installation made by the German company Sesitec (Table 1). The length of riding runs varied from 680 m in Augustów to 1100 m on Trzesicko Lake in Szczecinek. The latter wake park was opened in 2008 and it is still one of the longest wakeboarding systems in Europe. In total, 12 riders can use the cable system simultaneously. The sixth full-size system was installed in 2014, in the wake park Rueda Januszkowice. This was the first, and still remains the only six-tower system in Poland. The installation is part of a large recreational and sports centre located on Zbiornik Januszkowicki (an artificial water body), which features many cafes and accommodation facilities. Next to the six-tower cable system, Rueda Januszkowice Wake Park has a 2.0 system installed, which is used for learning and improving wakeboarding skills as well as for sporting events (KOMPLEKS RUEDA 2015).

Table 1

Wake parks in Poland, equipped with Sesitec cable systems

No. of wake park	Year of installing the system	Name and location of the wake park
1.	1999	Augustów
2.	2001	Reland Lublin
3.	2008	Ostróda
4.	2008	Szczecinek
5.	2010	Margonin near Chodzież
6.	2014	Rueda Januszkowice near Opole

The vast majority of the Polish wake parks have two-tower systems (2.0). Such installations first appeared in Poland in the early 2010s (Table 2). In 2011–2012, there were 12 two-tower installations built, all employing System 2.0 developed by Sesitec. Twelve more wake parks were created in 2013,

Table 2

Wake parks in Poland with two-tower installation system

Number of wake park	Year of system installation	Name and location of the wake park
1.	2011	Port Rynia near Warszawa*
2.	2011	Żukowo near Gdańsk*
3.	2011	Wakeprojekt Sławutówko near Rumia*
4.	2011	Wierzbowe Ranczo – Wakehouse near Grodzisk Maz.*
5.	2011	Wrocław*
6.	2011	Kraków Kryspinów*
7.	2012	Bydgoszcz Mysłęcinek*
8.	2012	Wakespot Poznań*
9.	2012	Szczecin – Floating Park Głęboke*
10.	2012	Wake up Silesia Świętochłowice*
11.	2012	Wakepoint Kraków Bagry*
12.	2012	Opole*
13.	2013	Wakecity Sęszew*
14.	2013	Wakefamily Trzciany near Warszawa**
15.	2013	Łomianki***
16.	2013	Solina**
17.	2013	Wake Roll near Łódź**
18.	2013	Wakeart Krubin near Legionowo**
19.	2013	Kapitan wake Rokitnica near Łódź**
20.	2013	Wake Lake Hubertus near Katowice*
21.	2013	Skorzęcin near Gniezno*
22.	2013	Wakeport Kaniów near Kielce*
23.	2013	Wakeplace Śrem*
24.	2013	Wawa Wake Konstancin Jeziorna***
25.	2014	Rueda Januszkowice near Opole*
26.	2014	Giżycko**
27.	2014	Wisła Zalesie near Piaseczno***
28.	2014	Wake up Radzymin**
29.	2014	Wake for Friends Adamów near Grodzisk Maz.*
30.	2014	Wake Skate Park Książenice near Warszawa*
31.	2014	Czeszki Gliwice*
32.	2014	Wake Zone Stawiki near Sosnowiec*
33.	2014	Koszalin**
34.	2014	Kuwaka Pobiedziska**
35.	2015	Nice Bay Olsztyn**

* – Sesitec; ** – Primus Cable; *** – Wakestation

and seven of these used installations offered by manufacturers other than Sesitec. There were five installations with system called Primus Duo, made by Polish branch of American company Primus Cable, and two of them – with two-tower straight-line cablesystem created by the Lithuanian company Wakestation.

In 2014, ten new installations with two-tower system were started, half of which were manufactured by Sesitec, while one was supplied by Wakestation. Just one more new wake park was found to open in the first half of 2015. This wake park, called Nice Bay, was created in Olsztyn and equipped with a two-tower system construction made by Primus Cable. All across Poland, new wake parks are being planned and prepared to be opened.

At the moment, there are 41 wake parks operating in Poland, of which 35 have two-tower systems. Noteworthy are wake parks with double two-tower systems, such as Wrocław, Kraków (Kryspinów), Wake City Stęszew and Wake Up.

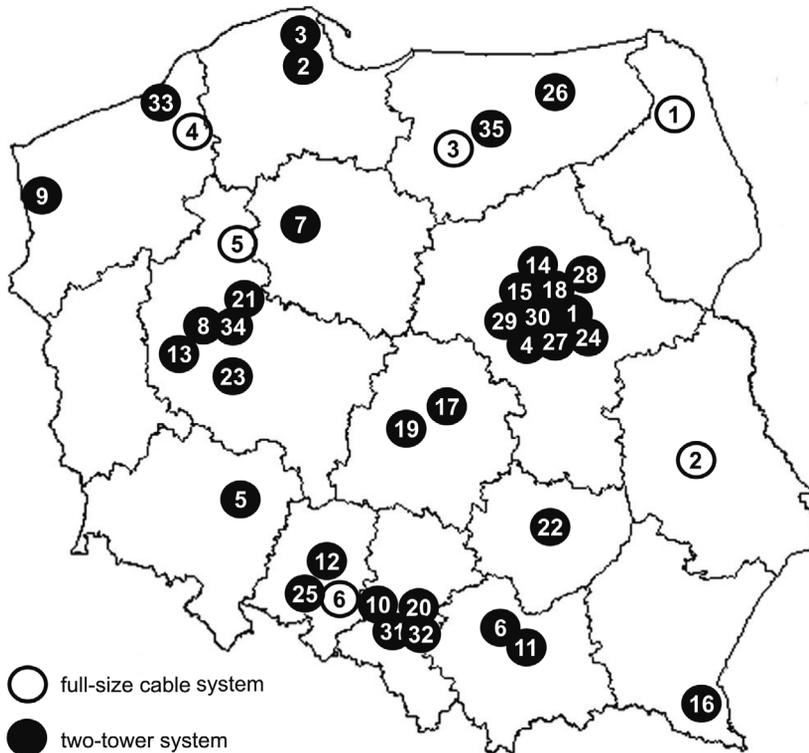


Fig. 1. Location of wake parks in Poland (numbers on the map correspond to the numbers in Table 1 and Table 2)

Source: the authors, based on analysis of scattered information sources

Besides, Wakepark Wrocław plans to add a full-size cable installation. Currently, most wake parks are situated in central Poland, in Mazowsze (10 two-tower systems within less than 100 km distance from Warsaw), and in the west, in Wielkopolska (5 two-tower systems less than 100 km from Poznań, and one full-size cable system in Margonin) – Figure 1.

The environmental, formal and legal considerations in wake park development

Obviously, investors intending to build a wake park need enough capital, but equally important they must comply with all formal and legal requirements. While each project is a specific case, most procedures are standard. The choice of a location and a water body, including its surface area, depth, water quality and current tourist and recreational functions, is of strategic importance. When looking for the best location, the key question is the transport accessibility of the immediate surroundings and the quality of existing infrastructure. Equally important is to explore the possibilities of buying or leasing the land. The subsequent stage is to make an inventory of the natural and man-made features. The investment project cannot violate the provisions of the binding spatial management plans or legal regulations governing nature conservation (Ustawa z 27 marca 2003 r... Dz.U. 2015 poz. 528). The fact that water skiing installations are classified as ones which potentially produce significant impact on nature (Rozporządzenie Rady Ministrów... Dz.U. 2010 nr 213 poz. 1397) gives rise to significant legal consequences. As a result, it is mandatory to obtain a decision on environmental conditions (Ustawa z 3 października 2008 r... Dz.U. 2013 poz. 1235). In line with the so-called screening procedure, it is verified whether a Report on Environmental Impact will be in order. This procedure entails an assessment of the type and specification of an investment project (here, construction of a wake park), its location as well as the type and extend of potential impact on the environment. Such a report is one of the steps in the general environmental impact evaluation. It can also be included in the proceeding for issuing a decision about environmental conditions.

If a location chosen for a future wake park lies in a nature protected area (a national park, a nature reserve, a landscape park, a protected landscape area, Natura 2000 sites, ecological utility, a nature and landscape complex, a documentation site), it is obligatory to make an inventory and assessment of nature resources. It is also required to analyse the impact of a planned investment on the environment. Additionally, it is necessary to take into account the influence of the project on ecological corridors, especially in terms of the cohesion of Natura 2000 network.

Sometimes, the presence of protected animals or plants is discovered after works on the project have been commenced, in which case the investor must apply for a permit to perform action prohibited towards legally protected animal or plant species. The application should be submitted to the proper Regional Directorate for Environmental Protection. If a wakeboarding installation is to be anchored on the bottom of a water body, obtaining a water legal permit is also mandatory. All relevant regulations are comprised in Water Law of 18 July 2010 (Ustawa z 18 lipca 2010 r... Dz.U. 2010 poz. 469).

If the construction of a wake park necessitates the removal of some trees or shrubs, a permit for tree felling has to be sought. The legal regulations governing this issue can be found in the Act on Nature Protection, of 16 April 2004 (Ustawa z 16 kwietnia 2004 r... Dz.U. 2004 poz. 627).

The final step is to obtain a building permit. The legal regulations for submitting an application are specified in Building Law of 7 July 1994 (Ustawa z 7 lipca 1994 r... Dz.U. 1994 poz. 1409).

Having obtained all the required permits and completed all the procedures, an investor can now proceed with the installation, which usually takes a few days and consists of assembling the elements of the supporting construction (towers and anchors) and preparing its installation within the water body or in its immediate surroundings. Depending on the investor's vision, other facilities can be built, such as cafes, scenic platforms, a swimming and sunbathing beach, sports facilities, etc.

Prospects for development of wake parks

The development of wake parks depends on the determination of investors and groups of people interested in the growth of this sports discipline. The latter are often youth culture members, involved in extreme sports and recreational activities. Tourism and extreme sports are gaining popularity owing to mass media, which create the fashion for active lifestyle and extreme experiences (ADAMCZYK 2011). An investment into a wake park reflects the economic situation. New wake parks are likely to be created and existing ones developed if the general economic conditions are favourable. Any risk of decelerated economic growth, decrease in the corporate investment level, or an increase in debt affects negatively the demand (ROGOWSKI and MICHALCZEWSKI 2005). Risk investment analyses were made in 2010, when Wakepark S.A. (WPK) – the first company in Poland directly engaged in wake park development was established. On 28 September 2012, the company appeared on the Warsaw Stock Exchange. Wakepark S.A., which was created by water sports enthusiasts, now manages the WakePark Wrocław. The identified sources of risk in the company's operation are: problems in the acquisition of land for

wake parks and high fixed costs, including rent for leased land; seasonality of the business activity; external, independent factors affecting the financial results; competition on the recreation and sports market. Due to the specific character of the above risk, the company is unable to manage it (WAKEPARK S.A. 2014).

The economic efficiency of all wake parks in Poland depends on weather. The key consideration is the number of sunny days in a year, which is almost impossible to predict when making an economic efficiency analysis of wake parks. The question of weather is closely connected with other risk factors. Another constraint is the seasonal character of wakeboarding, done mostly in summer and during holidays. The maximum duration of a season in wake parks is from mid-April to the end of September.

The first wakeboarding installations that sprung in Poland were full-size cable lifts based on four or five towers. Since 2011, a rapid growth has been observed in the number of lifts based on less expensive and mobile two-tower system constructions. At around the same time, the monopolistic position of Sesitec was undermined by Wakestation, which broke into the European market in 2011. Wakestation offers constructing and servicing full-size (multi-tower) and two-tower system installations. The latter were advertised as solutions which required less red tape and had competitive prices, i.e. 30% lower than prices quoted by their competitors (WAKESTATIONPOLSKA 2015). In mid-2012, a new company entered the Polish market. It was a Polish branch of the American firm Primus Cable. The company offered making repairs and inspections of installations across whole Poland, available in no more than 24 hours, and delivery of spare parts in just a few hours. The biggest advantage was that Primus Cable used such construction solutions that enabled the user to carry out minor maintenance and service works in about an hour. Moreover, the company offered an assortment of wake park features, e.g. aluminium and polyethylene obstacles, which allow wakeboarders to make various tricks (WAKESTYLE 2015). The latest player on the market is a Polish company, Wake Focus, which makes wakeboarding cable systems (WAKEFOCUS 2015).

The total cost of creating a wake park depends on several factors. The major investment is to build a cable system. The final price will depend on specific conditions in a given location and on the investor's expectations, and is usually considered to be a trade secret. A cable system manufacturer prepares an individual price quotation with a detail specification of costs. Companies frequently offer other services, such as preparing documentation for technical inspection. Building a wake park with a full-size cable system will cost from 450,000 to 800,000 Euros on average. This cost calculation includes making an artificial water reservoir, which on average will cost from 200,000 to 600,000 Euros, depending on a site) as well as: a starting platform, a cable lift, toilets,

and other amenities (YOU CAN WAKE 2014b). The cost of a cable lift itself and its installation is around 300,000 Euros. The net price for a two-tower cable system starts at 22,900 Euros. This solution has many advantages, such as a light construction and just two anchoring points. A tow-tower system can serve a few users at a time. The installation can be used all year round, that is in a wake park in summer and a snow park in winter (SESITEC 2015b). The capacity of a two-tower system is about 300 person-hours a week, operated by 1 to 3 staff members. This equates to the work of about 30 motor boats with 60 boat drivers and boat persons that would have to be engaged to achieve comparable capacity. Two-tower cable system is environmentally friendly because it is emission free. Besides, it can be installed in silence zones, nature protected areas and near swimming beaches. Unlike motor boats, it does not generate waves that damage the shores and reed plants. The manufacturers even claim that a cable system is beneficial to an aquatic environment owing to the constant oxygenation of water through waves created by riders. Two-tower cable system consumes less energy. If a rider is towed by a motor boat, the energy consumption is about 60 kW/h/person. However, a rider using a cable system will use up just 4 kW/hour (WAKEBOARD 2016).

As two-tower cable system is mobile, it is now possible to rent one for a season or for a single event, and such offers include shipment, installation and operation of a cable system. Another advantage is that it can be powered by a diesel power generator, which costs (depending on a manufacturer) from 3,000 to 7,000 Polish zloty to purchase. The total rental cost depends on time, location and installation requirements (land/water). The price is negotiable and, realistically speaking, may be down to 2,000 to 2,500 Polish zloty per day.

Wakeboarding is a relatively new sports discipline. Owing to the growing number of places where it can be trained and by being made increasingly attractive to the general public, wakeboarding is becoming a more popular form of recreational activity. This change inscribes itself in the growing interest among Poles in physical exercise. It also reflects the pro-health policy of the EU countries, development of appropriate infrastructure and promotion of active rest. In 2007 the EU has set up a High Level Group on Nutrition and Physical Activity. Representatives of the governments of all EU countries (plus Norway and Switzerland) jointly seek solutions to health problems associated with obesity (*Zrozumieć politykę...* EC 2014). In the third multiannual program for the financial years 2014–2020 the EU complements and supports national efforts in the area of promoting healthy lifestyles and disease prevention. Projects focused on creating the tourism and recreation based on natural resources are also funded. In this category there are also water parks, marinas and ski lifts (*Rozporządzenie Parlamentu Europejskiego...* Dz.U. UE 2014 rozzd. 21 t. 3).

Conclusions

The appearance of wake parks in Poland is most certainly a manifestation of the popularity of an active lifestyle among young people. Wakeboarding belongs to extreme forms of sports and recreational activities, and is associated with urban youth cultures. Meanwhile, wakeboarding is promoted by mass media, including websites, which effaces its image as an elite sport. The growing number of sports championships and events in wake parks is accompanied by camps and schools for wakeboarding fans. The dynamically developing network of wake parks is mostly supported by two-tower system installations, which assist beginner riders in learning the first steps.

Poland seems to be predisposed to develop water recreation and sports owing to a large number of natural water bodies. In Europe, it is second only to Scandinavia. However, with regard to the formal and legal requirements as well as the specific character of investment into wake parks and the business risk involved, the above considerations appear secondary in importance. The seasonality of wake parks (summer and holiday seasons) favours construction of wake parks on artificial water reservoirs. Moreover, wake parks now concentrate in areas which are not associated with either summer holidays or with water tourism and recreation. The key decision-making factor seems to be the proximity to large urban agglomerations, with good transport access. The conclusion finds support in the distribution of wake parks recently built in whole Poland.

A wake park can be an investment project that will generate numerous benefits for economy and will enhance the tourist appeal of a given site. It contributes to the promotion of a locality, town or region. However, for a wake park to be opened, several formal and legal requirements must be fulfilled. Most frequently, a concept of locating a wake park on a lake creates more red tape. Wakeboarding is an offer addressed to demanding customers. It is highly important to ensure high quality of service and safety. Concentration as well as further development and diversification of a whole range of services concerning leisure time and rest activities are necessary in order to reduce the investment risk and improve the chance of a new wake park to survive on the market.

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