

## Sport and recreation potential analysis of natural parks

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### Abstract

This study is conducted in order to determine the potential of Beskayalar Natural Park located in the province of Kocaeli of Marmara Region of Turkey with respect to natural resource values and outdoor sports and recreation facilities.

Beskayalar Natural Park which is the subject of the study is 1154 hectares. Beskayalar located within the boundaries of Kocaeli Province is a remarkable place with its feature in where largest population of Turkey lives and large and big industrial organizations has been established with also close proximity to major cities of the country. This national park is 25 km from Kocaeli Province and 116 km from Istanbul which is the most populous province of Turkey and 140 km from Bursa and 60 km from Adapazari and approximately 25 to 30 km from Iznik.

A common evaluation form has been created by making adaptations and changes in accordance with the subject of the research depending on the method of forest sports and recreation potential evaluation method developed by Gulez and adapted by Calik in 2005 in determination and analysis of outdoor sports and recreation potential and these changes were adapted to this Nature Park. The evaluation criteria consist of value for sports and recreation, landscape value, climate value, accessibility and negative factors. In consequence of the research; Beskayalar Nature Park was found to have a potential of 87% with regard to the forest outdoor sports and recreation activities as a result of its natural resource values. As a result of the evaluation, hiking, rock climbing, camping and off-road has been become prominent as the most conducive outdoor sports and recreation activities in accordance with the appropriateness of the use of natural resources of the Nature Park.

**Keywords:** *Natural Park, Recreation Potential, Outdoor Sports*

### Introduction

Turkey has an elevation and geographical structure above the average of the world. Turkey with different geological formations is a unique and magnificent nature park with its lakes, rivers and mountains surrounded on three sides by seas. Thus, the number of National Parks and similar natural reserve areas is increasing day by day. Use of natural resources with the purpose of recreational activities has gathered pace in conjunction with increasing rate of urbanization, technological advances and decreasing urban environmental factors. Negative and unfavorable conditions of urban spaces caused people to gravitate to country and outlying outdoor sports and recreation activities. Thus, natural areas have provided basis for many alternative activities with regard to outdoor sports and recreation activities. The most important factor that reveals the value of especially mountains, rocky terrain and forests etc. in regard them to be used for the purpose of outdoor sports and recreation activities of natural resources, constitutes the natural landscape values of these areas depending on the number of options that this place offers to its users. The necessity of biological factors creating and forming the richness of forests, meadows, lawns, agricultural landscape, wild life, flora and fauna with geomorphological factors such as alpine/sub-alpine zones, glacier lakes, streams, rivers, waterfalls, hills, plateaus, highlands, valleys, slopes, canyons, rocky terrains, caves, straits, lakes, different exposures, slopes and gradients, elevations and ruggedness reveal the landscape values of these kinds of areas. These kinds of areas allows and enables many outdoor recreation activities including climbing, hiking, skiing and paragliding etc (Aslan et al,2002). UNESCO's "Man and the Biosphere Programme (MaB)" has been launched in 1970 and put 14 projects into effect. The project no.8 serves the purpose of conservation of natural areas by establishing a worldwide network of biosphere reserve areas. The main purpose of the programme is the conservation and maintaining the diversity of biotic plant and animal communities in natural ecosystems for present and future use (Demir,2001). One of the areas that participants of recreation activities mostly benefit of is parks. National parks have a different significant importance among all concepts of parks.National parks are defined and described as nature tracts including conservation, recreation and tourism areas with natural and cultural resource values which can be rarely found in terms of national and international values in scientific and aesthetical terms. There are 41 National parks and 193 nature parks in Turkey according to the recent data of the Directorate of Nature Conservation and National Parks

of the Ministry of Forestry and Water Affairs. The founding of Yellowstone National Park (USA) in 1872 began a worldwide national park movement and Australia in 1879, Canada in 1885 and New Zealand in 1894 followed this country in quick succession. National parks have been founded in Argentina, Sweden and Switzerland until 1914. The first national park was found in Australia in 1879 by the declaration of the state which announces that state territory close to Sidney has been made national park and the name of this area was changed to the Royal National Park in 1955. The beginning of establishment of national parks in Canada dates back to 1885s. Establishment of a small natural reserve area in the Rocky Mountains and conversion of this area into Banff National Park are the facts of Canada's National Park adventure. Through the early years, nature parks of Canada adopted using their areas as wild life conservation reserves as well as using them with leisure purposes such as hotels, tennis courts, golf, bowling and skiing center. Wood Buffalo National Park located in Alberta City of Canada, is the world's largest national park with its surface area of 45,000 square kilometers. This surface area is larger than the surface areas of Denmark and the Netherlands. The first national park of New Zealand which is one of the leaders of National Parks Movement was established in 1887 under the name of Tongarrio. Nowadays, there are 12 national parks covering 8% of the surface area of the country in New Zealand. Costa Rica is the latest country which established the national park system in the Western Hemisphere. There are 17 national parks in Costa Rica today and the park system developed by this country is different from the park system of USA in spite of strong state control and state ownership of these national parks. Conservation of biological diversity is essential rather than recreational activities and accommodation, visitor service units, commercial services and wide roads are all located outside of the national park in park system of Costa Rica (Demir,2001). National Parks Law was ruled with Law No.2873 which was introduced in 1983. According to this law; nature park is defined as nature tracts with the characteristics of vegetation cover and wild life which are appropriate to relaxation and recreation activities of public in a scenic integrity (Doganay,2001). The definition of the term of Nature Park was ruled with National Parks Law Article No.2873 which was introduced in 1983. According to this law; Nature Park is defined as nature tracts with the characteristics of vegetation cover and wild life which are appropriate to relaxation and recreation activities of public in a scenic integrity. For a better understanding of terms and concepts in this definition, it is useful to know some topics such as Nature, Vegetation Cover, Wild Life, Scenic Integrity, and Nature Tract. (Doganay,2001). A study conducted by the American Automobile Owners Association indicates that there is an increase of 70% in weekend trips of the Americans between the years of 1986 and 1996. About half of young people living in USA (31 million people) was determined and founded to participate in adventure trips within previous five years and preferred activities such as rafting, scuba diving and mountain bike riding which are quite difficult and dangerous activities (Demir, 2001). The purposes of hiking, bird watching, wild life watching, biking and family get-together activities among land based recreational activities were determined to be placed on the top between the years of 1994 and 1995 and these activities appeared to form the activity days more than one million per each (Demir, 2001). Visiting coasts and waterfronts, swimming in pools, lakes, rivers and oceans has taken place in four water based activities with more than one million activity days. Surfing and swimming in pools took place in sports activities (Demir, 2001). The most desired ones among the land based recreational activities are hiking and bird watching (Demir, 2001). Along with the markedly change in recreational lifestyles for Americans, participation to some activities showed a rapid increase (bike riding, camping, swimming, skiing, etc.). 75% of those who are 26 years and over in various countries prefer recreation activities. Average of 69% of Americans participates in outdoor recreation activities and 95.5% of the population of USA is known to participate in at least one recreation activity within the last year (Demir, 2001). Kure Mountains National Park located within the boundaries of provinces of Kastamonu and Bartın in the west part of the Black Sea Region is surrounded by Senpazar to the northeast and Azdavay and Pınarbaşı to the southeast and Amasra to northwest and Cide to the north. Kure Mountains increase the diversity of recreational activities thanks to its biological richness and geological structure. The National Park offers a very suitable environment in terms of wildlife watching, hiking, canyoning, rafting, caving, landscape watching, photo safari, mountain camping activities. (Ozturk, 2005). The sub-district of Beskonak of the district of Serik of the province of Antalya is located in the south of Koprulu Canyon National Park. The province of Antalya is 63 km from the National Park and to the southeast. The valleys and canyons of Koprulu River which is flowing into the sea below the historical region of Aspendos by coming into the world from the Taurus Mountains and flowing 120 km to the south are within the boundaries of the National Park. Bozburun Mountain (estimated 2500 m) in the west and Dipoyraz Mountain (estimated 2890 m) are the most important elevations of the region. Koprulu Canyon National Park is quite suitable for nature (outdoor) sports with its history, archaeological structure, vegetation cover, animals, natural beauty. Especially, the canyon hosts many outdoor sports such as rafting, camping, hiking, caving, rock climbing and mountaineering (Yalcinkaya,1995). Ilgaz Mountain National Park is located on Ilgaz Mountains which is Northwest Anatolia's largest mountain range forming the transition zone of the Central Anatolia. The National Park is on the highway of Cankiri - Kastamonu and 200 km from Ankara and 75 km from Cankiri and 40 km from Kastamonu. The elevation of the Park is between 1600 meters and 2000 meters from sea level and there are two ski tracks with the lengths of 800 meters and 1500 meters respectively in the National Park. Ilgaz National Park is an ideal area likely to respond the needs of day trippers by offering them some recreational activities such as nature treks, botanic field trips, bicycle tours, mountain climbs, running and photo shooting and skiing

opportunities (Erduran, 2002). Aladaglar National Park was established on an area of 54524 hectares within the boundaries of provinces of Kayseri, Nigde and Adana. 31358 hectares of this area takes place in the province of Kayseri, 11702 hectares in the province of Adana and the remaining 11464 hectares in the province of Nigde. Seven Lakes, Hacer Forest and Kapuzbasi Team Waterfalls which attract most of tourists within the boundaries of Aladaglar National Park is located in the administrative boundaries of district of Yahyali of the province of Kayseri. Aladaglar National Park is a unique place with deep valleys, unique peaks, steep cliffs, caves waiting to be explored, majestic canyons and natural scenery and waterfalls with high flow rates and heights of drop.

**Method**

This study was conducted in Beskayalar Nature Park located within the boundaries of district of Golcuk of the province of Kocaeli in Turkey. The suitability of the Nature Park for the outdoor recreation potential was evaluated with "Gulez Method" (1990) which was adapted to this subject by (Calik, 2014). In addition, 1:25000 scale geomorphological map of Beskayalar Nature Park was used in the study. The obtained data was evaluated with numerical data in accordance with the scale. In addition to this, it has been also benefited from examination and survey studies, photography, literature screening of the region and documents of the institutions and organizations. The study is limited by the area of 1154 hectares of the Nature Park. "Gulez Method" (1990) was taken as the basis model in determination of forest outdoor sports and recreation potential and survey and land examination of the Nature Park and recreational sports and characteristics of these sports which are realized extensively in rural areas. Thus, a common evaluation form has been created by making adaptations and changes in accordance with the subject of the research and adapted and applied to Beskayalar Nature Park.

**Gulez Method and Reviews**

The method of Gulez (1990) which has been developed by him in accordance with the conditions of Turkey and easily enables to determine the forest recreation potential was used in the study (Akten,2003). In addition, a common model was created and formed in this study by adapting the previous method in order to examine the use of current natural resources of the Beskayalar Nature Park for the purpose of outdoor sports and recreation activities which constitutes the basis of the study. The symbol that was specified as "Recreational Facilities" in the evaluation system developed by Prof. Dr. Sümer GÜLEZ and determined and specified in the formula of the Gulez method in order to obtain the desired results was adapted to this study by changing the element of value for *Recreation facilities* which is at the top place in weightings and constitutes the subject of the research as *value for Sports and Recreation Facilities (SRFV)* and added to the Table. A simple calculation system has been formulated by this way. This study conducted by having the permission of Prof. Dr. Sümer GÜLEZ.

$$SRFV+LV+CV+A+NF= \% RP$$

The weighted scores of the symbols specified in the formula was shown in Table 1. These points are the maximum values that specified symbols can have. The total of this values can be maximum 100 that the sum total of the values specified in the formula will give the forest outdoor sports and recreation potential of the area in percentage (%).

**Table 1. Elements of Formula and the Maximum Points**

Symbols	Elements	Maximum Points (Weighted Scores)
SRFV	Value for Sports and Recreation Facilities	35
LV	Landscape Value	25
CV	Climate Value	25
A	Accessibility	15
NF	Negative Factors	0 (Minimum-10)
%PR	Recreation Potential	100

**“SRFV” Value for Sports and Recreation Facilities”**

The prior thing to be determined is the suitability of existing natural resources of the area to forest outdoor sports and recreation activities. For this purpose, by taking overall physical characteristics and natural resource values of the study area into consideration, sports and recreation activities carried out in rural areas were determined. Rock climbing, Camping, Hiking, Orienteering, Caving, Mountain Biking, Canyoning, Off-road and Mountaineering were taken into evaluation and assessment in order to determine the sports and recreation potential of the area. Therefore, the value for Sports and Recreation took place in Table 2 with scoring of 35%.

**Table 2. Determination of Outdoor Sports and Recreation Potential**

Elements in the Formula	Characteristics of the Elements	Maximum Points	Further Characteristics of the Elements	
Value for Sports and Recreation Facilities (SRFV)	Hiking	5	Walking paths, lands appropriate for hiking, water resources, visuality, distance	1-5
	Camping	5	The ability to establish tented camp, proximity to water resources, security	1-5
	Mountain Biking	5	Features of trails (muddy, dusty, stony, etc.), road condition, distance, level of difficulty, etc.	1-5
	Rock Climbing	5	Bolted route (fixed line) or surfaces suitable for traditional climbing, etc.	1-5
	Off-road	5	The applicability of basic mountaineering knowledge and techniques (abseiling, station-setting, surfaces suitable for traditional climbing, etc.)	1-5
	Orienteering	4	The state of the landscape, vegetation cover, topographic characteristics, distance	1-4
	Caving	3	Depth, length and preservation status of the cave, based on characteristics (scientific study)	1-3
	Mountaineering	3	Natural formations (waterfalls, rocks, cracks, etc.) depth, distance, water flow	1-3
<b>Sum Total:</b>		<b>35</b>		

**Findings**

Beskayalar Nature Park located within the boundaries of district of Golcuk of the province of Kocaeli in the Marmara Region of Turkey is situated at the region of Beskayalar of the Servetiye Village within the administrative boundaries of Adapazari Regional Directorate of Forestry and Golcuk Forestry Operation Directorate and 26 km away from the center of the province of Kocaeli. A portion of the road which enables access to the Nature Park is asphalt and the rest portion is stabilized. This national park is 25 km from Kocaeli Province and 116 km from Istanbul and 140 km from Bursa and 60 km from Adapazari and approximately 25 to 30 km from Iznik. The results obtained in determination of sports and recreation potentials of Beskayalar Nature Park was presented in tables below as total % values. A scoring method with determination of the most appropriate characteristic in accordance with the evaluation criteria was used in determination of recreational structure of the study are in this examination. The result of determination of forest outdoor sports and recreation potential according to Gulez Method developed by (Gulez, 1990) is as follows;  $SRFV(28\%) + LV(23\%) + CV(18\%) + A(15\%) - NF(-3\%) = 81\%$ . The score of Negative Factors (NF) was removed from the calculation of the formula as set out previously and also reduced from the value of total sum. According to this result, the recreation potential of the area has been found at a high level according to Table 3.

**Table - 3. Values for Sports and Recreation “SRFV”**

Evaluation Criteria	Characteristics of the Elements	Beşkayalar Nature Park	
		Maximum Points	Evaluation Points
Value for Sports and Recreation Facilities (SRFV)	Hiking	5	5
	Mountain Biking	5	2
	Mountaineering	5	3
	Rock Climbing	5	5
	Camping	5	5
	Canyoning	3	2
	Off-road	3	3
	Orienteering	4	3
<b>Total</b>		<b>35%</b>	<b>28 %</b>

Value for Sports and Recreation Facilities (SRFV) got the highest level with 28%. Accordingly, Rock Climbing, Camping, Hiking and Off-road that was determined in conjunction with the use of natural resources of study area previously have shown more significance and suitability when compared with the other sports branches as a result of this scoring (Table 3).

As can be understood from studies conducted by (Calik, 2010) who used the Gulez Method (Gulez, 2010) as the basis method of his study, landscape value was stated as one of the most important factors supporting participation to recreational activities in preference of an area.

**Table – 5: Landscape Values “LV”**

Evaluation Criteria	Characteristics of the Elements	Ballikayalar Valley Nature Park	
		Maximum Points	Evaluation Points
Landscape Value (LV)	Size of the Area	3	3
	Vegetation Cover	5	4
	Open Water (Sea and Streams)	5	5
	Land Form (Topography)	3	2
	Visual Quality	4	4
	Other Characteristics	5	5
<b>Total</b>		<b>25 %</b>	<b>23%</b>

Landscape Value (Lv) was found 23% and took second place in the rankings. panoramic view of the land, stream flowing along with the valley and sporadic small ponds and imposing rock blocks in different attitudes and wild life features are drawing attention as being the most important factors that increase the attractiveness of the area (Table 5).

**Table – 6: Climate Values "CV"**

Evaluation Criteria	Characteristics of the Elements	Beskayalar Nature Park	
		Maximum Points	Evaluation Points
Climate Value (Cv)	Temperature	10	8
	Precipitation	8	6
	Sunshine (Cloudiness)	5	3
	Windiness	2	1
<b>Total</b>		<b>%25</b>	<b>18%</b>

Climate is one of the important elements to be considered in planning and implementation of recreational activities. Climate Value (Cv) was found 18%. Precipitation and temperature was appeared to be more effective in valley when compared with sunshine (cloudiness) and windiness for the specified periods (Table 6).

**Table – 7: Accessibility “A”**

Evaluation Criteria	Characteristics of the Elements	Beskayalar Nature Park	
		Maximum Points	Evaluation Points
Accessibility (A)	Importance of Tourism of the Region in which the area is located	3	3
	Proximity to cities	4	4
	Travel time	4	4
	Transport (except taxi and private car)	2	2
	Other Means of Access	2	2
<b>Total</b>		<b>15%</b>	<b>15%</b>

Accessibility is also another important factor affecting participation to recreational activities. Use of existing resources can only be realized by accessibility. Accessibility (A) was found 15%. Proximity of the valley to neighboring cities, type of transport (car, etc.) and short period of time spent on the road while accessing the region makes the area conducive for forest outdoor sports and recreation activities (Table 7).

**Table 8. Negative Factors “NF”**

Evaluation Criteria	Characteristics of the Elements	Beskayalar Nature Park	
		Maximum Points	Evaluation Points
Negative Factors (NF)	Air Pollution	-3	-
	State of Insecurity	-2	1
	Water pollution	-1	-
	Lack of Clearing Service	-1	1
	Noise	-1	-
	Other negative factors	-2	-1
<b>Total</b>		<b>-10%</b>	<b>%-3</b>

Negative factors cause and lead to the destruction of existing natural resources and limitation of recreational use. Negative factors (NF) was found 3%. There are some negative factors such as insecurity and trails and pathways passing through high rock blocks which are often used by day trippers and having risk especially in Beskayalar Nature Park. The boulders endanger people who are hiking through the valley and athletes who come here with the purpose of rock climbing (Table 8).

**Conclusions and Recommendations**

Urban life devoid of green spaces, obstacles people to meet their both spiritual and physical requirements. It makes the realization of outdoor sports and recreation activities which is the most effective of recreational activities imperative especially. It is known that National Parks, Nature Parks and similar reserve areas have a significant impact in the realization of these kinds of activities.

Outdoor sports and recreation activities best suited to natural resources reserves of nature park were researched by examining forest outdoor sports and recreation activities of Beskayalar Nature Park in this study. The feature that the study area is a nature park has also importance in terms of balance of conservation and use. The assets and natural richnesses of Beskayalar Nature Park has revealed that existing natural resources can meet the sports and recreational needs of people within the sense of modern national parking. The suitability of research area to sports and recreation activities was found as follows based on a common model created and formed depending on Gulez Method (1990);

$SRFV (28\%) + LV (23\%) + CV (18\%) + A (15\%) - NF (-3\%) = \mathbf{81\%}$ . According to this result, forest outdoor sports and recreation potential was found at a high level according to Table 4.

The most probable outdoor sports and recreation activities were determined by considering which can be done according to natural resources values of Nature Park forming the basis of the topic of the research. The value for Sports and Recreation (SRFV) was found 28% according to the result of evaluation as shown in Table 3. As a result of survey studies, the Nature Park has been found to have enough potential to meet the demands and needs of visitors of valley, day trippers and those who hike in the valley and on the plateaus by staying overnight as the result of evaluation and weighted scoring. Camping activities are evenly successful in scoring. Although camping areas are limited in the valley and on the slopes, mouth of valley and plateaus above and low-lying areas in the direction of north-south are used as camping areas because they are suitable for camping. Another important activities that have taken place in scoring are Orienteering and Off-road sports. Mountaineering attracts attention as being another important and significant outdoor sports and recreation activity in the evaluation. Mountain biking may be done on the stabilized roads passing through the Park area and ring roads neighboring the Park. In addition, rough, rugged and wavy forest paths and roads on the valley are also suitable trails for mountain biking. The valley having the nature of a canyon that has been found as a result of survey studies conducted suggests the applicability of sports branch of canyoning, too. However, this canyon can only be used for those who are the beginners of this sports branch in order to get them gain some technical skills specific to sports in general sense at only some surfaces of the valley requiring technical skills only to be considered as a result of rising flow rate at certain periods. Off-road competitions are held in this region. The park is suitable for these kinds of activities. The landscape value (LV) was found 23% as shown in Table 5 according to the field studies conducted for the Nature Park. Considering the conditions of the landscape; endemic species found in Beskayalar Forests and canyons with large trees make this place suitable for

enthusiasts who want to hike at weekends in terms of sports and recreation. However, the streams passing through the valley is not suitable for sports branches such as rafting. Another characteristic of the valley is its vegetation cover. Because of the reason that many sports activities are due to the vegetation cover of the area that this vegetation cover of the Park may cause a number of limitations. Another important factor in realization of sports and recreation activities is the climatic characteristics. Climate value (CV) was found 18% according to the result of the evaluation as shown in Table 6. In general, the area of the Natural Park was found little-rainy and rainy as of the summer months and cloudy up to 4 to 6 weeks and windiness was found 1-3m/sec in the direction of north to south. The valley seems to be suitable for sports activities at every season of year in general. Accessibility (A) was found 15% according to the result of the examination as shown in Table 7. Due to the close proximity of the Nature Park to industrial cities of Turkey such as Istanbul, Bursa, Kocaeli and Sakarya which are very crowded cities of Turkey led to an increase in demand. The access to the valley is approximately 1 hour from Tavsanlı Village by foot. This distance takes shorter time with a private vehicle.

Negative factors (NF) was found -3% according to the result of the examination as shown in Table 3. Some obstacles were found to be existing that limit recreational activities and disturb visitors who use existing natural resources. The Nature Park is haunt of day trippers who often and extensively come at weekends for to have a picnic. Therefore, there are some partly polluted places in some areas of the Park. In addition to this, unconscious use of valley and plateaus by visitors for the purpose of hiking disturb and annoy visitors who use the valley for sports activities. Especially rock climbing athletes are exposed to dangers such as falling stones which may result to serious injuries and even death.

A central organization will have to be established in order to carry out the continuous and effective supervision of the implementation as well as exploration, surveying and inventory and planning and project designing services. Establishment of facilities or centers in order to introduce the characteristics of Beskayalar Nature Park in terms of forest outdoor sports and recreation activities as well as overall natural resources reserves is a must. Holding promotional and introductory programs and organizing activities such as exhibitions and printing brochures etc. about outdoor sports and recreation activities of the Park are also another necessities to be carried out. Providing promotional and educational services accompanied with expert guides and instructors trained in each sports branch who know the geography of the area very well for all sports activities that can be done in the Nature Park is important for the future of the Park. In this regard, it is required to get support from federations of relevant sport branches and departments of recreation of universities. Health professionals may take place and provide service as teams in order to response all kinds of accidents that may occur in all branches of recreational sports including the element of risk in facilities that may be established in the Nature Park. Signs with warning statements and notices containing effective slogans, caution plates and mapped signs and plates in which you can see the areas of the Park open to recreational activities should be provided and placed to appropriate places in order to make the Park more useful for visitors and athletes and the Nature Park to be used by them more effectively and beneficially. Thus, both the destruction of flora and fauna of the nature and the disturbance of visitors using the area for the purpose of doing sports activities will be prevented. Especially, the areas where different outdoor sports and recreation activities can be performed should be separated into sections and by this way, it can be facilitated athletes to choose their sections easily when they want to do any branch of sports.

Some new locations alternative to these areas which have been used as long-term camping areas and hiking trails should be found. Thus, the natural life in camping areas and hiking trails can be preserved.

Due to the reason that Nature Park will be open to visitors on weekdays and weekend, the density of visitors of the Nature Park will increase. Therefore, the bearing capacity should be determined to preserve natural resources, flora and fauna and some limitations and restrictions may be imposed and instructed for both sports activities and day trippers.

## Referencess

- AKTEN, Murat, (2000), *Ormanici Rekreyonu Ve Isparta Đlindeki Bazı Rekreyon Alanlarının Mevcut Potansiyellerinin Belirlenmesi*, Yuksek Lisans Tezi, Isparta Suleyman Demirel Universitesi Fen Bilimleri Enstitusu.
- AKESEN, Aytuđ, (2002), *Milli Park ve Esdeđer Korunan Alanların Sürdürülebilir Yontemi, Politika ve Đlkeleri*, Turkiye Dađları 1. Ulusal Sempozyumu :Bildiriler, 1. Basım T.C Orman Bakanlıđı Yayını, Ankara.
- ASLAN, Mukerrem, Didem Goyun, Burcu Yiđit, Serhat Zehir, (2002), *Dađ Milli Parklarından Rekreyon Ve Turizm Olanaklarının Deđerlendirilmesi*, Turkiye Dađları 1. Ulusal Sempozyumu: Bildiriler, 1. Basım, Orman Bakanlıđı Yayını, Ankara.
- BULUT, Yahya, (2000), *Tercan Baraj Golu Ve Cevresinin Rekreyonel Alan Kullanım Potansiyelinin Belirlenmesi Uzerine Bir Arastırma*, Doktora Tezi, Erzurum Ataturk Universitesi Fen Bilimleri Enstitusu.
- BUZBAS, Ozge, (2005), *Yukseklar*, 1. Basım, Buke Yayınları, Đstanbul.

- CEYLAN, Salih, Fehmi Calık, (2002), *Dağcılık Aktivitesinin Gelismesinde Rol Oynayan Uc Temel Motivasyon Kalibi: Sportif Faaliyetler, Klimatizm ve Rekreasyon*, T.C. Orman Bakanlığı Arastırma Planlama ve Koordinasyon Kurulu  
Baskanlığı, Turkiye Dağları 1.Ulusal Sempozyumu :Bildiriler,1.Basım, Orman Bakanlığı Yayını, Ankara. Cevre ve Orman Bakanlığı Doğa Koruma Ve Mili Parklar Genel Mudurluğu Milli Parklar Dairesi Baskanlığı, (2004), *Ballıkayalar Tabiat Parkı 1/25000 Olcekli Uzun Devreli Gelisme Planı Calısması, Analitik Etut Raporu*, Cevre ve Orman Bakanlığı Yayınları, Ankara.
- DEMİR, Cengiz, (2001), *Milli Parklarda Turizm ve Rekreasyon Faaliyetlerinin surdurulebilirliđi: Turkiye'deki Milli Parklara Yonelik bir Uygulama*, Basılmıs Doktora Tezi, Dokuz Eylul Universitesi Sosyal Bilimler Enstitusu.
- GULEZ, Sumer, Oner Demirel,(2004), *An Evaluation Method For The Determination Of Forest Recreation Potential: A Case Study*, Countryside Recreation Volume 12 Number . Autumn/Winter
- GRAYDON, Don ve Kurt Hanson, (2005), *Zirvelerin Ozgurluđu*, Cev.,Tunc FINDIK, Homer Kitapevi Ve Yayıncılık, Đstanbul.
- DOĞANAY, Hayati, (2001), *Turkiye Turizm Coğrafiyası*. 3. Basım, Cizgi Kitapevi Yayınları, Konya.
- ERDURAN, Fusun, (2002), *Ilgaz Dağı Milli Parkı'nın Turizm Rekreasyonel Gelisim Sorunları*, T.C. Orman Bakanlığı ArastırmaPlanlama ve Koordinasyon Kurulu Baskanlığı, Uluslar Arası Dağlar Yılı, Turkiye Dağları 1. Ulusal Sempozyumu  
Bildiriler, 1.Basım, Orman Bakanlığı Yayını, Ankara.
- İBRAHİM, Hilmi, Kathleen A. Cordes, (1993), *Outdoor Recreation*, Wm. C. Brown Communications Inc.Vol.1, No.1,California.
- KORKUT, Aslı, Murat Ozyavuz, (2002), *Isıklar (Ganos) Dağı'nın Rekreasyonel olanaklarının Deđerlendirilmesi*, Turkiye Dağları 1.Ulusal Sempozyumu: Bildiriler,1.Basım, Orman Bakanlığı Yayını, Ankara.
- OZGUC, Nazmiye,(1998), *Turizm Coğrafiyası: Ozellikler Bolgeler*, 2.Basım, Cantay Kitapevi, Đstanbul.
- OZTURK, Sevgi, (2005), *Kastamonu-Bartın Kure Dağları Milli Parkının Rekreasyonel Kaynak Deđerlerinin İrdelenmesi*, Suleyman Demirel Universitesi Orman. Fakultesi Dergisi. Sayı:2. Isparta.
- PALUT, Doğan, Haldun Aydingun, (2002), *Ballıkayalar*, 1. Basım, Homer Kitapevi ev Yayıncılık, Đstanbul.
- SALİHOĐLU, Banu C, (1997), *Artvin Hatila Vadisi Milli Parkı Doğal Kaynak Deđerlerinin Rekreasyonel Niteliđinin İncelenmesi*. Yuksek Lisans Tezi, Karadeniz Teknik Universitesi Fen Bilimleri Enstitusu. T.C Orman Bakanlığı Mili Parklar ve Av-Yaban Hayatı Genel Mudurluđu, (1993), *Cumhuriyetin 70. Yılında Milli Parklar ve Yaban Hayatı*, T.C Orman Bakanlığı Yayınları, Ankara.
- TEKİN, Ali, (2003), *Bir Rekreasyonel Aktivite Olan Doğa Yuruyusu Programına Katılımın İsgorenlerin Uyumu Uzerine Etkisi*, Doktora Tezi, Marmara Universitesi Sađlık Bilimleri Enstitusu. T.C Orman Bakanlığı Milli Parklar ve Av-Yaban Hayatı Genel Mudurluđu, (2003), *Ballıkayalar VadisiKatalogu*, Berkay Ofset, İstanbul.
- YALCINKAYA, Zeynep,(1995), *Antalya Koprulu Kanyon Milli Parkı'nın Doğa Sporlarına Yonelik Olarak Koruma-Kullanım Dengesi Acısından Deđerlendirilmesi Uzerine Bir Arastırma*, Yuksek Lisans Tezi, Anakara Universitesi Fen Bilimleri Enstitusu.