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Study on the Excessive Use of Leisure Sites: The Case of Oze, Nikko National Park

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Introduction

The Oze Area of Nikko National Park is one of Japan's most important parks, with marshes and wetlands surrounded by mountains, and with many rare flora and fauna. It covers an area of 87.11 square kilometers. There are no roads into the area. However, there is a pathway at the foot of Hatomachi Pass and Numayama Pass which leads to a roadway connecting to wooden pathways that go through the marshes. As it is located close to the Tokyo metropolis, many visitors come, sometimes treading on alpine flora and causing a great deal of damage. Also, many people carelessly throw their trash and garbage into the streams, causing water pollution.

To solve these problems, traffic restrictions are now exercised during peak seasons and facilities for waste disposal are provided. This has improved the manners of the visitors to some extent. In addition to these measures, however, it is necessary to consider what further actions should be taken to restrict the numbers of climbers, and to ask the question of who should pay for the expenses incurred for the maintenance of the drainage facilities.

In this report, I attempt to find ways and means for the appropriate utilization of the national parks, keeping the Nikko National Park in mind as a model. Relevant questionnaires were distributed to find out whether imposing a toll fee would help stem the overflow of visitors, and what amount would be reasonable as a utility fee for the maintenance of the facilities provided.

Parks in Japan, including National Parks and quasi-national parks, are open to the general public at no charge. However, campers who pitch tents on the premises are generally charged ¥500 or ¥1,000 per person per night. The lands of legally-designated National Parks belong to the Forestry Agency, the Environment Agency as well as to private sector entities. The spring water in those parks is generally potable. However, in some areas the water is contaminated and unfit for human consumption.

I. History of Natural Preservation

1. Proposals for Tolls

The attached table contains a summary listing the special feature of Oze. Tokyo Electric Power Co. has been influential in the area. It is Japan's largest electric power supplier, and owns most of the land in the area as the result of a dam construction project.

The idea of the imposition of fees to enter Oze was first proposed on May 31, 1988, by a discussion group organized by Diet members, scholars, and intellectuals. The chairperson

was a former director of the Environment Agency.

The details of the proposal were as follows:

(1) Automobiles (taxis, private cars, sightseeing buses, minibuses, etc.) should not be allowed to enter the Oze water basin; they should be parked at the entrances at Tokura, Oshimizu, Miike, Tunaki or Fujimishita that many climbers use.

(2) Vacationers should be required to pay a preservation fee of ¥2,000 per adult and ¥1,000 per child.

(3) In order to enforce (1) and (2), toll gates should be set up at Tokura, Oshimizu, Miike, Tunaki and Fujimishita, and rangers should be posted. Incidentally, rangers in Japan have no right to arrest or detain people for questioning.

(4) Every effort should be made to drain sewage and polluted water from the water basin. Measures should be taken against the negative effects on the ecosystem.

(5) Camping and skiing should be prohibited in the areas.

(6) Visitor centers should be established in Tokura and Hinoemata, in order to provide instructions to climbers beforehand.

(7) The number of rangers should be increased. In Japan, 28 National Parks covering an area of 20,474 square kilometers are managed by about 200 or so rangers.

(8) The mountain paths leading from Shibutsuzan to Ozegahara should be temporarily closed in an attempt to preserve the flora and fauna in the area.

(9) To remove the wooden paths built over the wetlands to the outskirts of the area.

(10) The special protected areas should be expanded to the north to Shibusawa Bunadaira; to the south to Tsunaki; to the east to Ichinose; and to the west to Kasagatake.

(11) Visitors should be required to take back their trash and garbage.

(12) The above-mentioned measures should be taken immediately and actively. Moreover, if necessary a foundation should be established, tentatively called the "Association for the Preservation of Oze."

Future plans

(a) Tourism ads should be restricted.

(b) The numbers of visitors should be regulated.

(c) Positive attempts should be made to restore the flora and fauna.

(d) If feasible, the present lodging facilities and visitor-centers should be moved to the outskirts of the area as soon as possible.

In a survey, 90% of the readers of a magazine for climbers (*Yamato Keikoku*) agreed with the proposal, and only three readers were against it.

The magazine quoted a member of the advisory panel as saying that the proposal may have been made in research organized by young staff of the Environment Agency.

At present, some measures have been taken on proposals (1), (4), (8), (11) and (12). With regard to (a), advertisements advising people to avoid specified crowded days have been put up. Proposal (c) has been carried out, and there have been signs of improvement, though there are some differences of opinion.

According to the newspaper *Kahoku Shimpo*, the "Nikko National Park Oze Maintenance measures promotion conference" was held on August 8, 1989 at the Environment Agency, and was attended by representatives from three prefectures and three villages. Here, for the first time, the Environment Agency officially announced a plan for a "fee," which would involve asking users to pay a part of the expenses for the maintenance and management of drainage. The Agency also announced that it would install "sewage disposal

tanks” in 16 cottages and seven public rest rooms, and that it wanted users to pay for the management and maintenance expense of the wooden paths. However, the local opinion was that concrete maintenance measures should be the top priority, and so they decided to take time for a full investigation.

An article in the same newspaper, dated August 14, reported on the first opposition to the plan, in Hinoemata Village, Fukushima Prefecture. The opponents argued that collecting fees would lead to a decrease in visitors, which could be a matter of life and death for the village economy. Most of the 700 villagers depended on Ozenuma for their livelihoods. Katashina Village also expressed its opposition. On the other hand, Kazukage Hoshi, the chairman of the Nature Conservation Association said that it would be a problem if the entrance fee alone is collected, but would be reasonable if the visitors were also levied a fee for utilities. At the same time, in order to thoroughly preserve the ecosystem, he said that it might be necessary in the end to remove the cottages from the area. This made the issue complicated. He said he considered charging fees and removing the cottages to be linked; the managers of the cottages were opposed to this. At the conference on August 8, the Agency reported that efforts had been made to clarify a policy under which the cottages would be maintained and the problems mitigated.

An article in the *Yomiuri Shimbun*, dated April 10, 1990, reported on a bill for allowing charges in national parks (Special measures on natural environmental preservation and the environmental security of users), saying it would be impossible for the government to collect fees for maintenance in Oze alone, and that it have to start charging in all national parks.

The proposal by the “Discussion Group,” which aims to control the number of visitors by charging fees, has a different nuance from that of the Environment Agency, which aims to charge for the utility of the facilities. This problem has not yet been resolved. Issue 78 of *Japan Nature Preservation Association* introduced the details, but a concrete examination remains to be done.

2. The Proposal to Charge Fees and Afterward

In fiscal year 1995, the Oze Protection Foundation issued an *Investigation Report for a System for the Proper Use of National Parks*, under commission from the Environment Agency. The report cites the following problems caused by the concentration of users: (1) natural destruction caused by stepping on the mountain roads and marshlands; (2) natural destruction by unsystematic riding such as private cars; (3) worsening behavior such as picking flora and fauna, and throwing away garbage; (4) unpleasantness due to crowds or congestion at restrooms following an increase in garbage and the deterioration of water quality; and (5) the ruining of quiet environment and safety of use. The report found it necessary to examine these problems immediately and to discourage the concentration of users.

In 1996, the Oze Foundation produced and released “1996 Instructors’ Guidance Manual” for users, based on this report. A questionnaire survey on the actual state of Oze users was conducted. As a result of analysis, the Foundation concluded that charging fee for visitors and using restrooms should be examined. After looking at practices overseas and in another regions, we should immediately begin to examine the impositions of restrictions and fees on a realistic basis. It will be necessary to carefully discuss these matters with visitors, lodge managers, local people, and people who deal in the tourism business.

On June 1, 1998 a subsidiary body of the Oze Protection Foundation, the Committee of

Oze Visitors, whose chairman was Kotaro Hikabe, the chairman of the National Park Foundation, published a report based on the control of visitors. It proposed that on specified days (when over 10,000 visitors were expected), traffic access or transportation toward both entrances (Numayama and Hatomachi Pass) be reviewed, and appropriate means taken to control the total numbers of vehicles. This would apply to all forms of transportation, such as private cars, large-size tour buses, and shuttle buses. It found that traffic control would be made more effective by maintaining the road conditions and the parking lots. Furthermore traffic regulations need to be adjusted.

Next, public education and the improvement of services (guides with videos and explanations, etc., provided by the staff) to visitors were listed. Finally, for the protection and use of Oze, there are problems involving the control of the number of visitors. It concludes that, in order to use the present system properly under various conditions, there is great room for adjustment.

In addition to these activities, on July 4, 1995, a report entitled "A plan to give people a chance to get in touch with nature at wildlife parks" was submitted by the Planning Department of the Nature Conservation Bureau, the Environment Agency.

A Brief Chronology of nature conservation at Oze District, Nikko National Park

1878/7 Former U.S. President Ulysses S. Grant, who signed the document for the designation of Yellowstone National Park as his country's first national park, visits Nikko and expresses his admiration for the scenic spots.

1889 Chozo Hirano builds an ascetic hut at Ozenuma Numajiri.

1894 Gunma Pref. "The Tone riverhead exploration corps" passes Oze.

1898 Bunzo Hayata founds "SUNDEW" in Ozenuma Numajiri.

1903 Plan for Ozegahara Power Generation plant is announced.

1910 Chozo Hirano constructs Chozo Cottage in Numajiri.

1922 Kanto Suiden, the predecessor of Tokyo EPC, acquires water rights to the area.

1930 Authorization is given to designate the area as a "No Fishing Area."

1931/10/1 The National Park Law is enforced. Nikko district is not designated because the hydropower problem of Oze is not settled.

1934/12/4 Designated as Japan's fourth national park.

1935/10 Tokyo Light's Ozegahara dam plan is announced. An opposition movement led by the Japanese scenery society (Japan Alpine Club) opposes the plan.

1938 Nikko National Park Special Region is designated.

1940 A plan is introduced to make the former Numata highway into a prefectural road running between Numata and Tajima.

1944 Ozenuma Shusui Power generation plan is announced.

1948 Announcement is made for plans for a power generation dam plan 100 meters in height in Ozegahara.

1949/11/11 Ozenuma Shusui Dam construction is completed.

1950/11/15 NHK broadcasts the popular song "Natu no Omoide," which is inspired by Oze. Academics, intellectuals, and mountain climbers organize the Oze Preservation Resolution Alliance.

1950-52 The first co-ordinated scientific investigation on Oze is conducted.

1951 The Alliance is disbanded and the Japan Nature Preservation Association formed.

1952 The wooden paths are opened to visitors.

1953 Nikko National park is designated as a special protection region.

1956 Designated by the government as a natural monument.

- 1958 National park management members are selected.
- 1959 National park office opens.
- 1960 Designated as a special natural monument by the government.
- 1964 Environment Agency Ozenuma Visitor Center is established.
- 1965 A road between Miike and Numayama Pass is opened.
- 1966 Gunma Prefecture Protection management center is opened. Gunma and Fukushima Prefectures begin restoration work on the iris marshland. Prefectural road repair construction begins.
- 1967 The park plan of the Oze district calls for the “protection of Oze.”
- 1971 Roadway construction work is suspended.
- 1972 The take-home-garbage movement starts (National Park Association). Gunma Prefecture Oze Charter is enacted.
- 1974 Private car restrictions are implemented during congested periods.
- 1977–79 The second co-ordinated scientific investigation on Oze is conducted.
- 1984 The Environment Agency approves an “Oze region management plan,” including a “freeze” on accommodation facilities, etc.
- 1985 The Association to Protect the Oze calls for the protection of nature.
- 1986 The meeting to Protect the Oze is held by scholars, intellectuals and politicians.
- 1988 The proposal of the meeting is issued, including calls to protect the Oze, including a maintenance fee proposal issued by the Maintenance Measures Report Conference (MMRC) in the Environment Agency along with three prefectures and three villages.
- 1989 MMRC closes the mountain climbing path on the east side of Shibusan. Visitors are checked at four check points: Hatomachi pass, Oshimizu, Numayama pass, and Miike. A weighted system for users is announced. Users are asked to pay a part of maintenance expenses for the installation of urinals and gray water processing tanks in 16 lodges, seven public rest rooms, as well as for wooden roads.
- 1990 It is reported that the Environment Agency has abandoned plans for visitors’ fees. MMRC decides to set Oze district maintenance measures.
- 1992 Oze Summit is held by three prefectural governors.
- 1993 Sewage processing with amalgamated septic tanks gradually begins. Tanks are introduced at all the lodges in Oze by 1995. Sewage is carried out through a pipeline to outside Oze. Therefore, all the lodges adopt reservation systems.
- 1994–96 The third co-ordinated scientific investigation on Oze is conducted.
- 1994 The Oze Protection Foundation is established.
- 1997 The eastern mountain climbing path from Shibusan is reopened.

II. The Actual Number of Climbers in Recent Years

Since 1989, the Ministry of the Environment has conducted annual surveys on the number of climbers for the roughly five and a half months when there is no snowfall. Figure 1 shows the numbers. The worst ten days of congestion each year are shown in Table 1. The concentration level ranges from a maximum of 22.6% to a minimum of 19.2%. 20% of visitors are generally concentrated in a period of ten days, which is equal to 0.6% or more of the days surveyed. The ratio according to entrances is shown in Figure 2. Accordingly, the days of congestion and of crowded courses seem to coincide. This results in overcrowding at Oze.

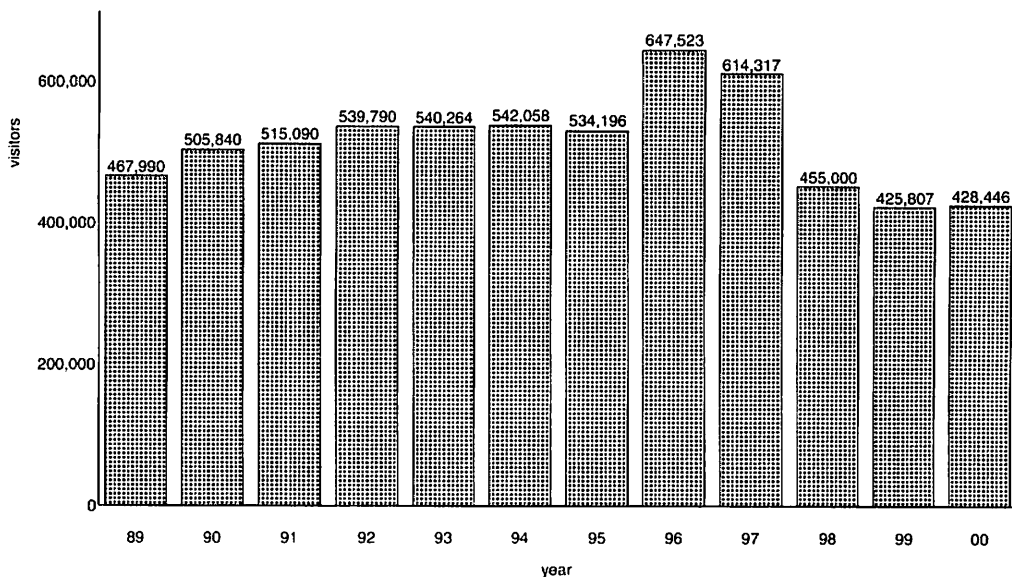


Figure 1. Annual transition of climbers (Depend on the Environment Agency investigation)

Table 1. Climbers per day High-ranking ten days

Year	1992		1993		1994		1995		1996	
First	June 7	15,140	June 12	22,633	June 11	22,198	June 10	22,550	July 20	19,092
Second	June 6	14,073	June 6	12,315	June 4	14,395	June 11	15,525	June 22	18,710
Third	June 13	11,458	Oct. 10	12,070	June 5	12,552	June 3	14,096	July 27	13,837
Fourth	June 14	10,750	June 5	11,970	Oct. 9	12,183	July 22	11,675	June 15	12,762
Fifth	May 31	10,311	June 13	10,806	June 12	11,516	July 29	10,304	June 23	11,947
Sixth	July 19	9,024	July 24	9,124	July 23	11,236	June 17	9,898	June 16	11,776
Seventh	Oct. 10	8,975	Oct. 9	8,700	July 24	10,897	June 24	9,748	July 13	11,400
Eighth	July 25	8,539	June 9	8,335	July 9	9,234	May 27	9,433	June 8	11,216
Ninth	July 26	7,641	July 10	8,061	July 17	8,296	July 8	8,938	Oct. 10	10,855
Tenth	May 30	7,569	July 31	8,053	June 18	7,716	Oct. 10	8,597	Oct. 12	10,500
Ten days total	103,480 (19.2%)		112,067 (20.7%)		120,223 (22.2%)		120,764 (22.6%)		132,095 (20.4%)	

Year	1997		1998		1999		2000	
First	June 14	20,049	July 19	13,799	June 12	11,883	June 10	11,750
Second	July 20	16,891	Oct. 10	10,976	June 5	11,257	Oct. 8	10,891
Third	June 7	15,839	June 13	10,687	Oct. 10	10,733	July 22	9,491
Fourth	Oct. 10	14,169	July 11	10,222	May 29	8,867	July 20	8,719
Fifth	June 8	12,753	June 6	9,438	June 6	8,560	Oct. 7	8,673
Sixth	Oct. 11	12,331	July 18	8,513	Oct. 9	8,170	June 17	7,955
Seventh	July 19	10,671	June 7	7,748	July 24	7,848	June 4	7,861
Eighth	June 15	10,411	Oct. 3	7,465	June 4	6,572	July 23	7,478
Ninth	June 1	10,235	May 23	7,261	May 30	6,129	July 29	7,431
Tenth	July 21	9,568	May 31	6,879	July 10	6,066	June 11	7,253
Ten days total	132,917 (21.6%)		92,988 (20.4%)		86,085 (20.2%)		87,502 (20.4%)	

() a proportion in the climbers a year: the Environment Agency

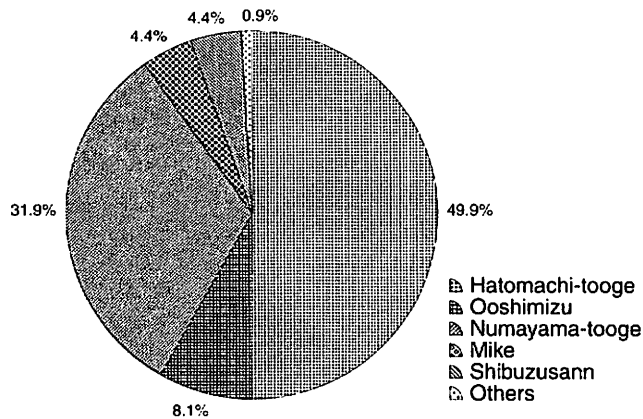


Figure 2. Climbers' ratio to the entrances (the Environment Agency) N = 614,317

III. Questionnaire on Restrictions of Visitors and User Charges

1. Survey Method

Survey area = Ozenuma Visitors Center, Chozo Hut and its surroundings, and Ozenuma mountain villas.

Persons surveyed = Males and females over 16 years old.

Sampling = Not specified but randomly selected from among climbers resting at the survey areas.

Method = Questionnaire filled out by respondents.

Period of survey = Two subsequent days (Saturday, June 20 and Sunday, June 21, 1998). This coincides with the season when Japanese skunk cabbages bloom. It is a week of congestion levels 1 and 2. It drizzled on and off on both days.

Valid responses = 310.

The purpose of the survey was to get impressions from climbers, ask them if they thought regulations were necessary to relieve congestion, and also to ask whether the number of climbers should be limited, or if collecting charges would decrease the number of climbers. We added a question about whether they would approve of a facilities-use charge and about a proper amount for the charge.

2. Profile of Respondents

Sex: female, 176 people (56.7%), male 134 (43.2%) Age: under 20 years old, 11 (3.5%), twenties, 83 (26.8%), thirties, 35 (11.3%), forties, 64 (20.7%), fifties, 99 (32.0%), over 60, 17 (5.5%). Ratio of climbers from different areas: 70.9% of visitors were from Tokyo and the six prefectures of the Kanto district, and the rest were from 15 prefectures, ranging from Hokkaido to Fukuoka. Period of stay: day trip or night-train day trip, 153 (49.3%), one-night stay, 122 (39.3%), two-night stay, 32 (10.3%), three-night stay, 2, and four-night stay, 1. Place of stay: lodging house, 56.6%, tent, 14.6%, car or pension house, 28.6%. Number of other people in the party: none, 5 persons, one, 62 persons, two, 37, three, 34, four, 26, more than five, 143, uncertain, 3. Type of party: mountaineering association, 13, hiking club, 17, friends, 142, families, 75, tour groups, 59.

Number of years of climbing: first time, 124, one year, 15, two to three, 71, four to five, 19, six to ten, 39, more than eleven years, 37 (however, some said that Oze did not fit into

the category of a mountain). Frequency of visiting Oze: first time, 180 (58.2%), twice, 63 (20.3%), three times, 23 (7.4%), five times, 18 (5.8%), more than five times, 25 (8.0%). Means of transportation to the entrance of Oze: shuttle bus, 63 (20.3%), sightseeing bus, 166 (53.5%), private car, 69 (22.2%), others, 12 (3.8%). Name of entrance: Hatomachi Pass, 54 (17.4%), Fujimi Pass, 0, Oshimizu, 78 (25.1%), Numayama Pass, 155 (50.0%), Miike 21, (6.7%), Okukinuma, 0, Ginzanko, 2 (0.6%). Name of the exit: Hatomachi Pass, 20 (6.4%), Fujimi Pass, 1 (0.3%), Oshimizu, 115 (37.0%), Numayama Pass, 142 (45.8%), Miike, 30 (9.6%), Ginzanko, 1 (0.3%). We must take consideration of the fact that the investigation was conducted at Chozou hut in Ozenuma, the Visitors Center and its surroundings, Ozenuma Villa, and Tokyo Denryoku Villa. According to a survey by the Environment Agency, about half of the visitors use Hatomachi Pass as an entrance. The specific figures are Hatomachi Pass, 49.9%, Oshimizu, 8.1%, Numayama Pass, 31.9%, Miike, 4.4%, Shibutusan, 4.4%, and others, 0.9%

3. Entrance Fees

The impressions held by respondents about Oze were: [full of nature (satisfied)], 79.6%, [full of people (dissatisfied)], 5.4%, [neither], 14.5%, and others, 0.3%. However, there seems to have been quite a few people who answered [neither], because they had just gotten there and were not in a position to answer the question. Regarding restrictions on mountain climbing to protect nature, they answered: [should not] 31.2%, [necessary to some extent] 68.7%. A total of 67.2% of the [satisfied] group, 68.8% of the [neither] group, and 88.2% of the [dissatisfied] group answered that restrictions were necessary. The [dissatisfied] group seemed to expect more restrictions. However, there were only 17 persons in the [dissatisfied] group. We must take into consideration that the sample was too small.

When we asked the respondents to chose the method for restrictions, their answers were: [control the number of visitors], 39.9%, [use toll fees], 32.8%, and [both], 26.7%. And for the amount of fee per person, the maximum proposed was ¥20,000, the minimum ¥300, and the average amount ¥2,085.

The results are shown in Table 2 and Figures 3, 4, and 5.

Table 3 shows whether differences in sex or view of mountaineering (staying in the Oze area, in a tent or in a cottage: going to the snow capped mountain) or impression had an effect on the amount of the fee shown in Table 3. Those who answered [dissatisfied] and those [staying in the Oze area, and stayed there] tended to cite high entrance fees. The same thing happened in the [tent, to go to the snow capped mountains] group.

The relationship between age and amount of fee was as follows. People under 20 years old gave an average figure of ¥3,000, those in their twenties ¥2,171, those in their thirties ¥2,458, those in their forties ¥2,913, those in their fifties ¥1,376, and those in their sixties ¥2,166. The ¥2,913 cited by people in their forties was the highest. The relation between transportation and fee was as follows: people who came by shuttle bus cited an average figure of ¥1,645, those by sightseeing bus, ¥1,821, and those by private car or others, ¥2,687. This was the highest. The cross total of transportation and impression, and the average amount for fees is shown in Table 4.

In terms of frequency of visits, the sum given by people in the [for the first time] group was ¥2,012, [twice] ¥1,935, [three times] ¥2,500, [five times] ¥2,333, and [more than five times] ¥2,384. There was a tendency for the charge to rise along with the frequency of visits. When this was examined individually, out of 66 persons who were visiting Oze for the first

Table 2. Impression · Attitude to restriction and fees

Impression about Oze	Should not	Necessary to some extent	To control the number of visitors	To control by toll fee (average)	To control the number of visitors and toll fee (average)	Total average
Satisfied	N = 247 79.6%	N = 166 (67.2%)	N = 68	N = 60 ¥2,041	N = 38 ¥1,876	¥1,977
Dissatisfied	N = 17 5.4%	N = 15 (88.2%)	N = 5	N = 5 ¥2,800	N = 5 ¥3,000	¥2,900
Neither	N = 45 14.5%	N = 31 (68.8%)	N = 12	N = 4 ¥2,000	N = 14 ¥2,357	¥2,277
Others	N = 1 0.3%	N = 1 (100%)	N = 0	N = 1 ¥1,000	N = 0 —	¥1,000
Total	N = 310 100%	N = 213 68.7%	N = 85	N = 70 ¥2,078	N = 57 ¥2,092	¥2,085

Table 3. Impression vs entrance fee due to sex · climbing form

Impression	Female (average)	Male (average)	A day trip (average)	Stay (average)	Tent (average)	Snow capped mountain (average)
Satisfied	N = 54 ¥1,888	N = 44 ¥2,193	N = 51 ¥1,950	N = 47 ¥2,006	N = 3 ¥2,666	N = 9 ¥2,666
Dissatisfied	N = 3 ¥2,333	N = 7 ¥3,142	N = 3 ¥1,000	N = 7 ¥3,714	N = 1 ¥5,000	N = 2 ¥5,000
Neither	N = 10 ¥2,500	N = 8 ¥2,000	N = 5 ¥1,800	N = 13 ¥2,307	N = 2 ¥3,000	N = 3 ¥2,333
Others	N = 1 ¥1,000	N = 0 —	N = 0 —	N = 1 ¥1,000	N = 0 —	N = 1 ¥1,000
Total average	N = 68 ¥1,985	N = 59 ¥2,279	N = 59 ¥1,838	N = 68 ¥2,225	N = 6 ¥3,500	N = 15 ¥2,800

Table 4. Impression vs transportation, utility fee

Impression	Shuttle bus (average)	Sightseeing bus (average)	Others (average)
Satisfied	N = 19 ¥1,522	N = 55 ¥1,641	N = 24 ¥2,666
Dissatisfied	N = 2 ¥3,000	N = 6 ¥2,833	N = 2 ¥3,000
Neither	N = 2 ¥1,500	N = 10 ¥2,200	N = 6 ¥2,666
Others	N = 1 ¥1,000	N = 0 —	N = 0 —
Total average	N = 24 ¥1,645	N = 71 ¥1,821	N = 32 ¥2,687

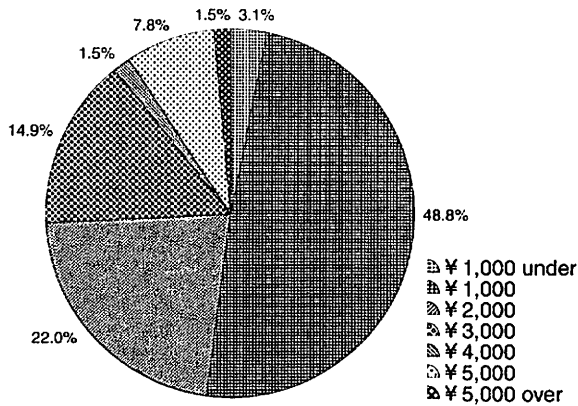


Figure 3. Effective amount of entrance fee per person to reduce the number N = 127

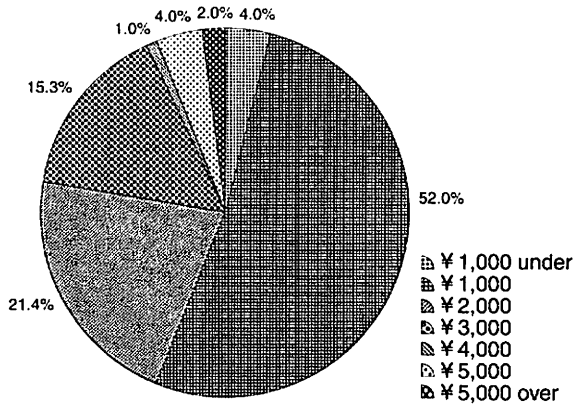


Figure 4. Amount of entrance fee by the [satisfied] N = 98

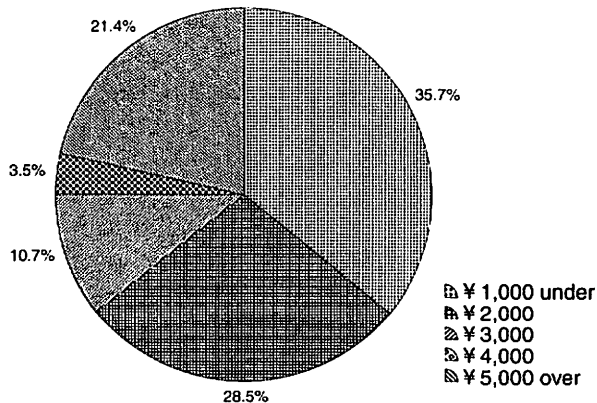


Figure 5. Amount of entrance fee by the [dissatisfied] N = 28

time, 49 answered [satisfied]. The average amount for a charge they cited was ¥2,057, with more than ¥2,500 being given by eight persons who had visited [five times] As for the regions, for Tokyo and the six prefectures in Kanto the average amount was ¥2,294; for other prefectures it was ¥1,661. This tendency becomes even more pronounced when one

looks at the respondents given by the five highest prefectures (Tokyo, Saitama, Kanagawa, Ibaragi, Chiba), whose average amount was ¥2,325. Gunma Prefecture and Tochigi Prefecture had one sample each, with figures cited at ¥1,000.

Next, I would like to look at those who proposed a high fee or the recuperation of all costs. There were ten people in the [¥5,000] group. Of them, 4 were [satisfied], 4 [dissatisfied], and 2 [neither]. The means of transportation was [shuttle bus] 1, [sightseeing bus] 3, [private cars or others] 6, and 9 persons stayed in Oze. Of them, 4 stayed [in a tent], and 4 went [to the snow capped mountain]. For the frequency of visit: only one person was in the category [for the first time]. Climbing experience: [first time/one year] 1 each, two years 1, with the remaining 7 responding over five years. They all lived in the Kanto region except for one who lived in Hokkaido. By occupation, they were all full-time workers, with the exception of one student. Sex: 2 females and 8 males.

Outside of those ten people there were 2 persons who answered ¥10,000 and ¥20,000, respectively, for the entrance fee. Both had visited Oze on a day trip for the first time and were satisfied with it. They were in their forties, with full-time jobs. They had experienced climbing for three, and more than ten years, respectively. The difference was that the woman [¥10,000] went to the snow capped mountain and the man [¥20,000] did not. They lived in Ehime Prefecture and Kanagawa Prefecture, respectively.

The above-mentioned twelve people had climbing experience as well as a high consideration for nature conservation. The [dissatisfied] group tended to cite high figures for entrance fees, which means that they wished to decrease the number of visitors. These results agree with those conducted by Akihiro Kobayashi.

4. Utility Fees

The next question involved who should bear the expenses for the expansion of the sewage disposal facilities and for the maintenance of wooden paths and ropes etc, in order not to duplicate when collecting fees. Of respondents, those who favored financing [maintenance with utility charges] was 18.3%, [maintenance by the Environment Agency and Prefectures] 31.0%, and [by both users and government] 50.6%. Over 80% seemed to expect something from the government. The average amount of fee called for was ¥941. According to impression, the [satisfied] group answered ¥899, the [dissatisfied] ¥1,464, the [neither] ¥948. The [dissatisfied] group have the higher fee. The results are shown in Table 5, and Figure 6 shows the distribution of the amount of money.

The average amount of money according to age was ¥1,166 for those under 20 years old, ¥972 in their twenties, ¥958 in their thirties, ¥1,000 in their forties, ¥826 in their fifties, and ¥1,076 in their sixties. Utility charges according to form of visit were ¥860 for [a day trip], ¥1,021 for [stay or stayed], ¥1,312 [with tents], and ¥1,166 [to the snow capped mountain]. The [tents] group had the highest figure. The [males] gave a higher figure (¥1,005) than [females] (¥892). In terms of frequency of visits, those in [the first time] category cited ¥867, [twice] ¥1,034, [three times] ¥852, [five times] ¥1,000 and [more than five times] ¥1,236. The charge rose along with frequency of visits. This is shown in Tables 6 and 7.

Divided by means of transportation to Oze, a figure of ¥922 was given by those coming by [shuttle bus], ¥876 by [sightseeing bus] and ¥1,090 by [private car or others]. In terms of area of residence, the average amount of the top five prefectures was ¥963, and that of Tokyo and the six prefectures in Kanto was ¥958. That of other places was ¥907.

Table 5. Relationship between impression and utility fee

Impression	Maintenance with utility charge (average)	Maintenance by the Environment Agency and Prefectures (average)	By both users and administration (average)	Total average
Satisfied	N=247 79.6% ¥951	N=78 (31.5%)	N=128 (51.8%)	¥899
Dissatisfied	N=17 5.4% ¥1,166	N=3 (17.6%)	N=8 (47.0%)	¥1,464
Neither	N=45 14.5% ¥1,000	N=15 (33.3%)	N=20 (44.4%)	¥948
Others	N=1 0.3% —	N=0	N=1 (100%)	¥500
Total average	N=310 100% ¥982	N=96 31.0%	N=157 50.6%	¥920

Table 6. Impression vs utility fee due to sex · climbing form

Impression	Female (average)	Male (average)	A day trip (average)	Stay (average)	Tent (average)	Snow capped mountain (average)
Satisfied	N=96 ¥864	N=73 ¥945	N=87 ¥839	N=82 ¥963	N=6 ¥1,416	N=12 ¥1,041
Dissatisfied	N=4 ¥1,375	N=10 ¥1,500	N=5 ¥900	N=9 ¥1,833	N=2 ¥2,000	N=4 ¥1,875
Neither	N=15 ¥966	N=15 ¥966	N=8 ¥1,062	N=22 ¥931	N=8 ¥1,062	N=4 ¥1,000
Others	N=1 ¥500	N=0	N=0	N=1 ¥500	N=0	N=1 ¥500
Total average	N=116 ¥892	N=98 ¥1,005	N=100 ¥860	N=114 ¥1,021	N=16 ¥1,312	N=21 ¥1,166

Table 7. Impression vs frequency, utility fee

Impression	First (average)	Second (average)	Third (average)	Fifth (average)	Over (average)
Satisfied	N=97 ¥835	N=35 ¥1,000	N=12 ¥750	N=12 ¥1,041	N=13 ¥1,115
Dissatisfied	N=6 ¥1,500	N=3 ¥1,333	N=2 ¥1,500	N=1 ¥500	N=2 ¥2,000
Neither	N=18 ¥833	N=5 ¥1,100	N=2 ¥1,000	N=0	N=4 ¥1,250
Others	N=0	N=0	N=1 ¥500	N=0	N=0
Total average	N=121 ¥867	N=43 ¥1,034	N=17 ¥852	N=13 ¥1,000	N=19 ¥1,236

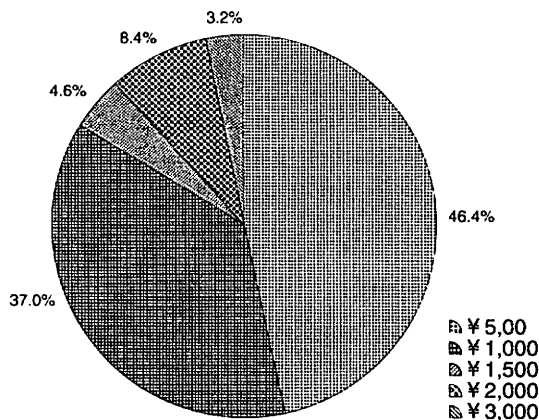


Figure 6. Perferable amount of eatrance fee N = 213

IV. The Possibility of Restrictions and Utility Charges

1. Methods Proposed

I have already presented the fact that 600,000 visitors a year is excessive from the viewpoint of environmental protection and of the ability of people to enjoy a pleasant atmosphere with nature. The big problem is that the crowding in Oze occurs not simply during the season without snow, but during specific periods, as shown in Table 2. Here, I shall examine whether it would be feasible to urge visitors not to congregate on specific days. Ryuji Takigasaki reports that the primary purpose of people visiting Oze is to see the Japanese skunk cabbage flowers, and most of them want to go hiking to Ozegahara or around Ozenuma as a day trip. Since their main purpose is to see skunk cabbage flowers and dew, or autumn leaves, it is considered difficult to disperse them over different days. In order to solve this situation, a maintenance fee to control the number of visitors was proposed by the Discussion Group.

In practice, it is hard to levy [Maintenance for preservation] or [Cooperation money] under the existing legal system, as pointed out by Yasutaka Abe. Mineo Kato proposed in 1990 that the aim of the environmental preservation fee was not “to impose the full expense on polluters” but “to set a fee not so high that it would prevent people from coming.” This means a system to collect part of the expense without causing too much trouble, and not to collect the whole expense from visitors.

He also proposed a new competitive tender system for permits. This proposal would control the number of visitors by means of regulating the influx of transportation into Oze. The method would mean “to examine the possible number of visitors per day, to decide the number of permits to be issued, and to sell them by tender. However, local shuttle buses would be excluded, as they are daily means of transportation for the visitors. Climbers coming in a bus without a permit could be refused entry into Oze by the Environment Agency, and this could help ease some congestion.”

This idea seems perfect in theory. But whether “refusing entry” can be practiced without confusion is the most difficult problem.

Keiji Nakajima of the Environment Agency’s national park section said the authorities could never refuse access to visitors over a certain number. Kato himself reported that those who do not have permission are not always well controlled in the United States. Opinion is

divided over whether the people will agree to management in nature parks. This might contradict the policy of improving “contact with nature” by the Environment Agency Nature Conservation Bureau planning department.

At present while there is much criticism regarding the policy of Fujisato-machi Akita Prefecture, which advocates total restriction, and the outcome of the dispute is still in doubt, much discussion will be needed before putting into actual practice the Law pertaining to Natural Parks which denies entry into parks.

2. Limiting the Number of Visitors

In our survey, 27% or more of respondents said they would agree “to limit the number of visitors.” As it would be impractical to simply refuse entrance at the gate simply because a certain number was exceeded, certificates for entry would have to be issued in a certain form, in either order of arrival or by lottery. This, of course, would entail administrative costs. Consequently, visitors would naturally feel that they are paying for something. It would make no difference whether the costs were for entrance fees, utility fees or permits, since in any case they are not free.

With regard to camping fees, campers can understand the fee which compensates for the expense of pitching tents there or using restrooms and water. This is easy for the public to understand. The value of services and expenses is understandable because it is concluded then and there. However, what do they think about entry permits?

Some think the trouble of having to go through procedures beforehand would be effective in decreasing the number of visitors. Considering that more than half of all visitors use sightseeing buses, travel agencies and bus companies would apply for permits together, and the necessary number of permits would be secured. Consequently this would not be an obstacle.

The examples of the United States presented by Kato, where the number of permits is about 200 a day at most and the fee is \$3, cannot be compared with Oze. After all, charging fees in Oze would be related to limiting the number of visitors. Since the expenses involved in the procedure are unclear, it would be difficult to carry out this proposal at present.

3. Opinions regarding Restrictions

The number of respondents in our survey answering [the number of visitors should not be restricted], 31.2%, was similar to the number calling for costs to be borne by [prefectures and the Environment Agency], i.e. 31.0%. A cross analysis of data shows that 43 people, making up 13.8% of 310 people, gave these two answers. On other items, these people answered as follows: [satisfied] 36, [dissatisfied] 0, and [neither] 7. This group was clearly opposed to charging fees, and believed that national parks should be managed by government or administrative bodies without any regulation of visitors. Among the 54 people who were against [regulating visitors] and in favor of [charging fee], there were 53 who answered [some restrictions are needed] meaning that they accepted regulations on visitors but did not want to pay fees. Among them, the average amount of fee proposed, by 21 people, was ¥1,371. Another 11 people chose [restrict by number], and the average fee they proposed was ¥1,604. The fee proposed by 10 people who selected [restrict by fees and by number] was ¥1,230, the lowest amount among the group with at least 10 samples. They seemed to desire [flexible regulation].

According to our survey, those who supported restrictions on visitors were also the groups who proposed high rates for fees. Most of them were in the [dissatisfied] group, and

from the Kanto district. The next largest group was the whole [dissatisfied] group, the third was [neither], the fourth [satisfied] and the fifth [against utility fees] but who accepted [entrance fees].

4. Climbers Don't Care for Crowds

Experts, experienced climbers and people who are strongly interested in nature conservation recognize the obvious fact that Oze is overcrowded on specific days because of an excessive number of visitors. The problem is how to decrease the number of climbers. Ways to deal with this include the “maintenance charge” suggested by the Association to protect nature of Oze and the “tender system” that Kato has proposed.

An excessive number of climbers visit Oze on certain specific days, and this is considered to have a harmful effect on nature conservation. However, to whom does this concern? Kato states that at present, the problem with Oze is more the natural rather than ecosystem capacity, and that the excessive number of climbers is not good for the general visitors.

The Oze protection group has enumerated the following problems. First, there is the effect on nature, and next, the effect on climbers themselves, i.e. the fact that overcrowded roads, increasing waiting times at restrooms, and traffic jams would become hindrances in times of emergency.

Not only the Japan Nature Preservation Association but also the Environment Agency focus on this point. The lodge operators believe that their management efficiency and profit rate would improve if the number of guests remains constant throughout the year and accommodations are always at near full capacity. Therefore, a fixed number of visitors system and the implementation of reduced rates by the Chozo cottage could induce a dispersion of crowds to some degree and could be beneficial to guests, lodge managers and nature conservation alike.

What do visitors think about this matter? Naturally, the successful dispersion of crowds would allow them to take leisurely strolls rather than to watch flowers among crowds along the wooden paths. According to a survey by the Oze Protection Foundation, even though 83.2% of the visitors are aware of the fact that Saturdays and Sundays are crowded, they still swarm in on those days.

In response to a questionnaire (3,523 responses) conducted by the Oze Protection Foundation, 30.4% of respondents who were visiting on a weekday said they [wished they could have avoided the crowds], and 35.0% on weekdays said that they [rested well]. The problem is in Japan's vacation system or social environment.

Next, if climbers feel that crowding is unpleasant, they will naturally avoid visiting Oze on weekends. The results of the present survey showed the following: 42.4% were visiting for the first time, 42.7% 2 to 5 times, and 14.9% more than 5 times. In the Takigasaki report (May 1997, 176 samples, age over 40), over 50% of males and roughly 40% of females said they had visited Oze more than twice, meaning they were repeaters. In our survey, 58.2% had visited for the first time, 20.3% twice, 7.4% three times, 5.8% five times, and 8.0% more than 5 times. Each data set shows a different ratio of repeaters. I would like to focus particular attention on the results of the survey by the Oze Protection Foundation.

In order to review these results, we asked visitors in our survey about their impression, as follow: “Please circle your impression about Oze. A. Full of nature (satisfied) B. Full of people (dissatisfied) C. Neither.” The results, as shown in Table 2, were A: 79.6%, B: 5.4% and C: 14.5%. As mentioned earlier, some people who answered [Neither] might have just

arrived and not yet had an impression.

In the above-mentioned Takigasaki report, the surveyees were over 40 years old. The [very satisfied] group made up 56%, the [somewhat satisfied] 36%, the [somewhat dissatisfied] 7% and the [not satisfied at all] 1%. This means that 90% were satisfied with the present condition of Oze. To the question of whether they wanted to visit Oze again, 42% said [definitely], 49% [if possible], 9% [maybe not] and 0% [never].

From these results, we can see that ordinary people do not seem to mind the crowding in Oze as seriously as experts or people who have a strong interest in nature reservation. This may be similar to what was found in the Kobayashi report: “when there is a big crowd people seem to think of it as smaller than the actual number” and “because they already have expectations that the experience will be unpleasant due to crowding, they may set the limit at a higher level than what would actually cause them discomfort.”

Consequently, the problem is narrowed to whether nature will be damaged to an extent that it will not be able to recover.

Next, we will study this point further. Is it that, because of bad manners, some visitors refuse to follow the specified route and end up trampling on rare Alpine flora and fauna? Some visitors take pictures against regulations, and there are thus a certain percentage of such ill-mannered people. However, the extent of this damage would not matter whether such individuals visit Oze on a weekend or a weekday. It has been reported that “The flora and fauna have been restored and nature is flourishing again. The movement to have visitors take back waste and garbage has become rooted. Filthy water is drained outside of the area through pipelines, as the disposal facilities have been completed.” Thus, there is no problem as long as the number of people does not exceed the capacity of the system to drain off contaminated water.

From the visitors’ point of view, crowding on Saturdays and Sundays during specific periods matters little. The opinion was expressed, however, in a blank answer space in the survey by Oze Protection Foundation, that collecting fees might be a good idea.

Climbers who were satisfied and visited Oze many times said in their answers that some regulations were necessary. I am curious about their true intentions. It must be that they want to see sundew flowers and autumn leaves even if the park is crowded. Actually, they want to avoid visiting on crowded days, but cannot do so because they cannot take days off as they wish.

5. Utility Fees Borne by Beneficiaries

At present, when a climber uses various facilities, some charges are collected as voluntary contributions, etc, but it is regrettable that the amount and contribution rates are not very high in the case of Oze. The utility charge is often collected at specified camping areas in national parks for setting up tents. In Oze, the lodge is used for collecting money commissioned by the Forestry Agency, at ¥400 per night per person. The campers consider this amount to be fair for the services. But criticism may arise if the quality of service is thought to be less than the amount of payment, because they pay money and expect service in exchange.

In addition, some visitors do not take note of the fact that they are walking free of charge on private property, and take it for granted that they don’t have to pay for the maintenance of land which belongs to the private sector. In our survey, 30% of people said they thought it was natural for taxes to cover the maintenance of government-owned land. Oze is managed without much trouble through the efforts of the parties concerned, although

there is some disparity in their opinions. The Tokyo Electric Power Company maintains the wooden paths on its land at its own expense. Some people have voiced the opinion that the lodges should bear the sewage disposal costs since they raise profits.

In our survey, we asked who should cover the cost for “nature conservation.” The result was that more than 70% answered that users also should bear some responsibility. The average amount of money cited was ¥941. Of the 214 respondents, 97 answered that it should be ¥500. A further 79 said it should be ¥1,000, and thus it was only 20% or so of respondents who gave high answers, raising the average. It is obvious that these two groups have different opinions. This can be seen among the “dissatisfied” and those who answered “neither.” They are willing to pay some kind of a fee, but then feel that those who collect the fees must take full responsibility for managing Oze. Some say that this could lead to a lowering of moral standards regarding natural conservation, but there is no cause for worry.

From the above-mentioned data, it seems that collecting a fee of ¥1,000 might be practical if the visitors understand the purpose or if the balance sheet of the income and expense accounts are opened to the public. A problem will remain regarding how to deal with those who do not want to pay.

V. A Preferable Way Forward

Our survey results made clear the average opinion of visitors. They believe that fees should be ¥2,000 for climbers and ¥1,000 for ordinary visitors; they are satisfied with Oze and would like to visit it again in a leisurely way. At the same time, they support the imposition of some restrictions. However, considering the travel expense for getting to Oze, they don't think that charging just ¥2,000 would be an effective measure for decreasing the number of climbers. Charging ¥1,000 for facilities from each visitor would bring income of ¥600 million from the roughly 600,000 visitors a year. It seems that this amount would suffice to operate the facilities. We could study this idea furthermore in the future. The Environment Agency is requesting that contributions be made when restrooms are used; ¥200 for an adult, and ¥100 for a child is charged at Chozo hut and Shimotashiro. Only when the climbers and visitors fully understand why the charges have to be made should the system be started. Another method would be to make the environment such that people don't concentrate into the area, as has been discussed in many fields. In order to carry this out, it would be necessary to consider transport facilities and to regulate traffic.

The environment of Oze has been threatened by dam development and the road construction promoted by the government. Though the dam construction was cancelled, the road construction continued until a major opposition movement arose. “Remote Oze” has become “Accessible Oze.” As a result, some 600,000 visitors yearly come to Oze, which truly has many charms. Recently, with the rise of nature conservation movements, and with greater understanding by the parties concerned about the real state of affairs, government measures appear to have changed. For example, “the extension of the road to Sanpei Pass was cancelled, and there are plans to plant trees on the roadway,” or “some access roads in Oze may be removed,” etc.

Gunma Prefecture admits that its past policies have been failures. It has taken more than a quarter of century, however, to change the policy. If the roads to the both passes, Hatomachi and Numayama, were closed and abolished, the problem of the excessive use of Oze could virtually be solved. According to a case study on woodland paths in the Southern

Alps carried out by Kiuchi, the number of female and middle-aged visitors increased after a path was opened. They were probably traveling in groups or with families. Generally, the easier it is to enter the mountain, the greater the number of visitors. However, when changing policies, it is necessary to get the agreement of people who make a living from tourism and people operating the lodges. Many arguments may arise over access rights to national parks. Compared with Shirouma Sekkei of Shiroumadake, the difference in altitude in Oze is small, and the understanding of the people could be obtained on reviving the old mountain path.

The nature lost due to development projects should be restored to its pristine state; this would make it difficult and time-consuming to climb the mountains. People should not come in a mood for hiking. This would improve the situation of excessive use.

The developments such as roads and rope ways, which cause environmental destruction should no longer be permitted in and around national parks. Physical strength and skill should be necessary to enjoy nature. This is not a strategy for reducing the burden on nature but also a fundamental consideration. The above is the essence of my conclusion, though it is not a spectacular one.

Over the past three years, the number of climbers has been between 450,000 and 420,000 people. The number has settled back down to the level which existed before 1989. Therefore, some of the traffic restriction has been eased through the good intentions of people such as owners of souvenir shops and cottages, whose income depends mainly on tourism.

This thesis is based on "Lejya to Gendai Shakai", published by Hosei University on March 31, 1999. I added recent details and some features of Japanese national parks for the interest of foreigners. If you need more details, please refer to the original thesis.

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