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LASSEN VOLCANIC
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EVALUATION OF MT. LASSEN SKI AREA
FEASIBILITY STUDY

A Paper
Presented
To Dr. Dickenson
California State University, Chico

In Partial Fulfillment
of the Requirements for
Economics 181

by
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Fall 1977

LASSEN VOLCANIC NATIONAL PARK
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Lassen Volcanic National Park
Mineral, California 96063

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BACKGROUND

The following paper is an evaluation of a report compiled by a research team from the School of Business at California State University, Chico. (Lassen Volcanic NP, 1977) The purpose of this paper is to evaluate the "objective feasibility analysis" done by this team on the Friends of Lassen Ski Area plan. (Friends of Lassen, 1977) Before analyzing the work done by the Chico research team it is necessary to discuss several proposals which greatly affected the outcome of the team's analysis.

Lassen Park Ski Area Comprehensive Plan

This proposal, by Friends of Lassen ski area, was released August 1, 1977. Basically the plan called for expansion of the relatively small Lassen ski area to "fill the need of the family ski market by slight alterations of the existing facilities." (Friends of Lassen, 1977) These "slight" alterations include construction of a new triple chairlift; lengthening and relocating existing poma lifts; relocation of rope tow; development of adequate base facilities thru upgrading and expanding existing facilities (i.e. rental shop, ski shop, kitchen cafeteria, ranger services and maintenance area); provide adequate parking to meet peak demand by improvement of facilities; utility improvements; proposed sewer plant, commercial power installation, slight tree falling and light grading for access road to top terminal of the new chair lift area. From the above "substantial additional employment in an economically depressed area will be provided."

(p. 3 FOL, 1977) New full-time jobs are estimated at 26 in addition to possibly 20 part-timers. (Appendix p. 2 FOL, 1977)

At present, the Lassen ski area consists of relatively little facilities. Its actual ski operation utilizes only one poma and several rope tow lifts. Additionally, there is a small chalet and parking area. The ski area is operated by a concessionaire under contract with the National Park Service. It operated on a day use basis Friday through Sunday, with its season beginning approximately in the middle of November thru Easter. (p. 4, Lassen Volcanic NP, 1977) The actual number of days in the season, however, are often limited due to bad weather conditions, which often reduce the season to 50 or 60 days. (Lassen Volcanic NP, 1977)

Though Lassen has received decreases in visitation since 1973, both the research team and the General Plan Supplement contend that the overall picture is one of growth:

"The declining visitation since 1973 precludes the use of statistical technique to project future ski recreation demand. However, the long-term trend is one of growth. Recent estimates indicate that skiing is increasing nationally at about 8% annually. Consequently, a growing ski population seems assured for any ski facility in the region." (p. 4 Lassen General Supplement)

This technique of utilizing national trends for the specific resource area--Lassen, is used by both the authors of the Lassen draft General Management plan and the Chico research team. This technique will be discussed later, however, suffice to say that:

In planning a park system for a state or other region, or in planning for a specific facility, it is most unwise to take national trends or national levels of recreation intensity as the chief or sole guide. Both level and trend may be very different regionally or locally than they are nationally." (p. 140 Clawson and Knetsch, 1966)

The Lassen ski area's contract with NPS mandates that the management maximize a "family atmosphere". This atmosphere plus

low lift ticket prices, made possible by the National Parks subsidizing of the concession, are hoped to justify the presence of such a recreational activity in a resource-based National Park, where such activity is often criticized.

Often it is forgotten by both the public and park personnel, that the National Park system's original mission is "the preservation and interpretation of national landscapes and ecosystems." (p. 9 National Parks for the Future) In order to accomplish this mission more emphasis should be given to visitors services and less to visitor facilities (National Parks for the Future)

National Park Supplement to General Management Plan

The National Park, in its general plan supplement has also discussed the expansion of the ski area. This discussion should be kept in mind when later evaluating the Chico research team's analysis.

The authors of the draft general management supplement state that expansion of the ski area would cost the Park Service an investment of \$586,140 in concessioner operated facilities:

"This would result in a minimum charge to the concessioner of \$58,614 per annum. To retain the same level of profit, the number of skiers would have to increase from the present 16-25000 annually to 126,246 skiers annually at present lift ticket rates."

The National Park supplement feels these kinds of increases could not be realistic for Lassen. Further they suggest increasing the price of the ticket may very likely reduce usage. They conclude the only modifications they recommend are those that "will relieve congestion and solve major environmental problems." (p. 6 Lassen Volcanic N.P.

Evaluation of Mt. Lassen Ski Area

Feasibility Study

The following page will be devoted to the general analysis and data collected by a research team from the School of Business at California State University Chico. As stated in their report, "the goal of the research team was to make an objective feasibility analysis of the proposed plan for the expansion of the Mt. Lassen ski area." Additionally it is suggested the "main reason for the research study was to obtain information, making it possible to predict the usership of an improved Lassen Ski Park." (p. 39 Chico Research Study) The use of the word predict, a precise statement of fact, as opposed to project, a reasonable estimate, is a serious fault and typifies the language and techniques utilized thru-out the study.

The study concludes that the amount of positive response to the Friends of Lassen proposal indicates the "need" for this expansion. It is important to remember here that need is not synonymous to demand which implies the ability to pay for something. Additionally, it suggests that by expansion of facilities, the decongestion of slopes and relative improved ease of skiing Lassen, could increase from the current 0-5 times per year per skier of Lassen to 15 times per year per skier in a good season. (p. 40 Chico Research Team) However, one might be tempted to question whether increased supply might not lead to increased demand with congestion. Staying relatively the same or heavier, and if not, would enough profits be generated to make expansion economically feasible?

The research report was written in two sections. The first section contained analysis of three major criteria areas affecting

the ski area proposal: 1) environmental feasibility, 2) ecological feasibility and 3) economic feasibility. The second section dealt with the attitudinal study, its design, distribution, findings and recommendations.

This first section consisted of secondary data which the team felt was "supportive...for the primary data gathered by the researchers." (Introduction, Chico Research Study) The introduction stresses the objective manner in consideration of each, "independent of the attitudinal study" which comprises the second half of the report. Additionally this segregation of primary and secondary data was felt to "impose as little bias and speculation as possible." These words are important to remember as one evaluates the methodology.

The attitudinal study in Section two was geared solely at the skier population "contained in the target market area of Mt. Lassen Park ski area, independent of whether or not the skier utilizes the Lassen facility." (p. 2) There is some doubt as to the validity of response when utilizing this approach. Knetsch and Davis (1974) state that a user may bid up his apparent benefits in order to make a case for a personally favored proposal. Further they advise:

"The respondent ought to be a consumer of the product rather than a potential customer, and it may be..... preferable to impose the conditions on the interview that it occur at a time when the respondent is engaged in the activity. This may contribute to the accuracy of responses by reducing the requirement that he project from one situation to another." (p. 181)

Additional problems are more obvious in the survey design. There was absolutely no cost information obtained from users. One cannot determine demand for a resource or recreation activity without some idea of the price outlay the consumer is willing to accept.

"Personal values of recreation are reflected by what people are willing to give up to obtain them. (Clawson and Knetsch p. 46)

Clearly, if such expansion as suggested earlier is implemented the price of the lift ticket may also expand. Parks and recreation areas are considered necessities by some but luxuries to others; willingness and ability to pay may be more critical than need. Unfortunately demand has been misconstrued and incorrectly applied. Too often it is cited as it is here, referring to the demand at the activity's current price. But if prices were raised, a very different quantity would be demanded. (Knetsch 1974)

The second major problem concerns those questioned and the method used. The Chico team used a self administered questionnaire distributed to retail ski shops thru out the counties "primarily affected by Mt. Lassen Ski area." (p. 19) The study states 900 were distributed, but with a total response of 249, this indicates a rather poor return rate. Of further interest, was the distribution of the questionnaire to the Chico State Ski club of which the study claims has an enrollment of over 100. Kerlinger (1973). stated

"The smaller the sample the larger the error, and the larger the sample the smaller the error." (p. 127)

This is to say nothing of the non-random, non systematic method of giving questionnaires to the ski club of whom are known supporters of the Friends of Lassen plan.

Finally, the report failed to contribute any information as to the length and time the survey was administered. This information is critical in determining validity of the response. (Shafer 1969) Aside from the many sub-problems related to these facts it is important to keep both the lack of cost data and ski team bias in mind thru the following analysis.

Environmental Feasibility

External

The term environmental as far as I can conjecture, relates to social and cultural conditions that influence the life of an individual or community. The report does not follow this definition precisely but due to lack of operational definitions, I have assumed this.

The discussion in this section leans heavily on the use of national standards. For example, 1977 figures projecting that 3.6% of the total California and Nevada populations ski at least two times a year, 1.5% ski ten times a years and an 8% increase in the U.S. annually, (Lassen Volcanic NP, p. 4), are utilized along with other various optimistic projections in skiing for the nation. This practice, discussed earlier, is questionable at least for national or state trends. Clawson and Knetsch (1966) state:

"Although trends in leisure are also pervasive, yet differences do exist between regions or localities. In particular, some areas attract summer vacationists, others attract winter vacationists, and still others have large numbers of retired persons." (p. 139)

The question of the percentage of retired or elderly people in the survey's target population is not addressed. Socioeconomic material was not used when adding up the populations of the target counties and multiplying this figure by the questionable 3.6% to arrive at theoretical skier days. (see appendix) This is an important oversight in that much speculation has surfaced suggesting future population growth of these areas, (Chico included), may be predominantly retired couples.

The study states that "the counties surrounding the park have higher ski ratios per total population than most other California

counties" (p. 5) This again may be misleading for clearly these populations (Butte, Tehama, Shasta, Lassen and Plumas) exercise a geographical advantage as to their accessibility to ski areas.

It is assumed that in the five surrounding counties there is a large number of potential clientele to support operations at Lassen (p. 5) This assumption rests on the clearly subjective statement that: "it is considered the average skier goes skiing ten times or more a year." (p. 5) There is no support for this statement and it seems to contradict the previous figure of 1.5%.

This section then discusses the potential draw from several schools in the North Valley; mainly Chico State. The report extolls the benefits of easy access, one day skiing affords the student but neglects to mention this elimination of the need to find lodging, food and possibly gas may effect the rise in local business operations, projected later in the study.

Typifying the assumptions scattered thru out the report, it is stated:

"The greater the population, the greater the number of skiers." (p. 6)

This is a disasterous sort of assumption taking in mind neither the causal factors involved in this growth trend, nor the difficulty in accessing the impact of changes in people's interests and goals which may cause their recreation preferences to shift in the future.

Finally it is assumed that the growth in the ski industry in the North Valley reflects expansion. However the change from "2 ski shops to 5 full-time shops ", (p. 7), ignores the fact that these shops are not merely ski shops, but rather, offer other sporting goods such as backpacking gear and tennis equipment.

Internal Environmental Data

Internal environmental data, that which relates to Mt. Lassen ski area's operation, discusses the limited attractions of the park for winter use. The researchers go so far as to state that "on the South side the ski facility is the only attraction available." (p. 7) This appears a gross value judgement unless one defines attraction as synonymous with recreation facility. Clearly the attraction of the park in the winter may be for various reasons which may have nothing to do with skiing.

From this assumption they question the ability of Lassen to meet the neighboring communities needs. Grounds for this theory is that "the residents of the North Valley have shown their support of the Lassen Ski Area," (p. 7), this based on increased visitation in 1968-69 and 1972-73. But, again this is an assumption, use does not indicate some demand or potential demand for the resource and plainly does not indicate their support for expansion.

The second major assumption in this data borders on the recent California drought situation. The researchers dismiss poor weather conditions as an unimportant consideration in the feasibility study even though the percent of increased visitation has been declining for the past four years. (See appendix for winter use statistics.)

The third assumption is that due to the use of the graduated length method of skiing (GLM) people learn "to ski more difficult slopes much easier and faster", therefore, "new facilities at Mt. Lassen Park Ski area would provide the slopes to accommodate this class of skier." (p. 8) It is important to perceive: 1) The authors expect an increase in advanced skiers. and 2) Expansion of facilities at Lassen will increase provision of difficult runs in

what now is a beginning to intermediate level ski area. From this I refer to personal correspondence with the Chief Park Naturalist who confirmed the parks views on this possibility.

"It is highly doubtful that any significant amount of advanced skiing could be added within the expansion proposed by the Friends of Lassen. I believe that they are anticipating the greatest increase in intermediate potential." (R. Vance CPN, Nov. 8, 1977)

So, if expansion of intermediate runs is the goal then how satisfying will this experience be after a few trips if skiers are becoming advanced much more quickly? This is questioned further if one accepts the researcher's statement:

"Since most people see themselves as intermediate skiers, they desire a ski area that will be challenging to their present ability." (p. 22)

The final assumption in the environmental data addressed aesthetics and its validity speaks for itself:

"Adding new facilities at the ski park, such as a chair-lift, would also help the skier to appreciate the beauty of the surrounding area." (p. 8)

One might tend to ask for supporting data on this observation--none is given.

Ecological Feasibility

Though explicitly presented as a discussion of the ecology of the proposed expansion, a great deal of space is used in discussing its safety features. Perhaps this again is a misleading label due to lack of operational definitions.

Of interest in this section is the accusation that the majority of adverse reaction to the "visual intrusion" of expanded ski facilities came from "special interest groups." (p. 10) This seems highly hypocritical when the support for expansion came from special interest groups--which includes the Chico State University Ski

Team, who were a substantial portion of the survey sample. But the researchers felt these visual objections, due to the proposals' "low degree of impact," need not be analyzed as a real ecological factor. Needless to say, personal opinions and assumptions play a large role in this report.

One is tempted to assume the researchers are using what Clawson and Knetsch term "The Judgement Approach," a method of making use of all data and all analyses available but the final estimate is based on ^{subjective} estimates. Their introduction contradicts this as they define the report to be an "objective unbiased feasibility analysis." Additionally they only make use of data supportive of their primary data.

The conclusion of the ecological analysis is that the:

"proposed plan appears to make much better use of the natural resources of the park, both in terms of preserving the parks natural resources for the enjoyment of future generations and for effectively meeting the needs of the skier population of Northern California."

(p. 10)

There are two important consequences here; first, the assumption that the Friends of Lassen proposal would be less damaging than some other plan for ski area expansion, plainly disregarding the root question of whether or not expansion in any form is conducive with the organic law of the National Park Service. Since Dr. Starker Leopold's research for the NPS in 1962, the National Park Service has adopted an overall policy for managing park resources:

"a National Park should represent a vignette of primitive America." (Dr. Leopold, p. 59, The National Park Service)

Secondly, the authors are actually stating such a plan will "effectively" meet the skiers of Northern California's needs. This is a dangerous statement when no supporting data has been

given yet and, as I'll mention later is not convincingly given thru out the entire report.

Economic Feasibility

Here again national trends are used as indicators for Mt. Lassen. The team states that continuing ski sales in years of poor weather show there is no decline in the industry, even though there has been some slow down in the use of ski areas. This seems closely akin to the "gross expenditures method" which attempts to measure the value of recreation to the recreationist in terms of total amounts spent on recreation by the user, (p. 178, Knetsch and Davis 1974), rather than measuring the "net increase in value over and above what would occur in the absence of a particular recreation opportunity." (Ibid) Consideration of expenditures must measure those that will stay in the community and not sucked out.

The most important observation in this section deals with the depressed economy of the target area--especially during the winter months. However, after stating this the researchers fail to answer the question of whether this depressed economy may yield a negative impact on visitation. Instead they examine the potential "increased economic activity on the part of local business." (p. 14) Again I refer back to the extended environmental analysis that promotes the expansion due to its easy accessibility and the elimination of the need to find lodging, food and possibly gas.

Further the basic question of user's willingness to pay is ignored. Potential jobs are estimated at 26 full-time jobs. It is questionable that these few jobs (full-time being six months),

could greatly relieve the depressed economy. And, there is some doubt in my mind that these jobs would in fact go to the locals rather than transitory young individuals, who often comprise the majority of employees at ski resorts.

In reference to the Park Service, the researchers state the Park's reasoning behind opposing Friends of Lassen's proposal for expansion is because of the lack of overnight accommodations within a reasonable distance. This is clearly fallacious! As earlier stated their concern is with the limited opportunities the terrain affords for increased difficulty of runs, and the fear that the raised lift ticket prices will decrease the family atmosphere. But the researchers ignore these questions and go on to quiet what they perceive as the Park's fears by proposing Redding:

"Redding is approximately 50 miles from Mt. Lassen Ski area and is within a close enough radius to serve potential clientele." (p. 14)

Of first importance here is that during the winter the trip to Redding from the Mineral entrance where the ski facility is, is not 50 miles, but rather, much longer due to winter closure of highway 89.

Additionally the researchers state that: "if the skier volume increased sufficiently to make winter operations feasible," (p. 14), local lodges would be interested in opening for winter use.

'Sufficiently' is defined as double the current skier days. The researchers conclude that this, and probably a larger increase, will occur with the Friends of Lassen expansion. The projected estimate of 10% by the Park Service and California drought conditions are not considered.

The last and most specious assumption concerns the increased

lift ticket and the park's family atmosphere.

"The researchers feel that an increase to \$8 to \$10 would not necessarily destroy the family appeal of Lassen, since a portion of the family members undoubtedly utilize Tahoe and other such areas because of their chairlifts."
(p. 14)

Why, if this is undoubtedly so, did they fail to include increased cost data in their questionnaire? They project a loss to concessional revenue for the first few years, referring to a survey which pinpoints the third year of operation as the break even point. But, they have ignored the subsidized nature of Lassen's ski area!

Research Study

The objectives of the survey were to get at consumer attitudes on five types of data: 1) attitudes on ski areas, 2) ski facilities, 3) Mt. Lassen, 4) demographics of the consumer and 5* frequencies of ski area use.

Besides the questionable method the researchers used in distributing surveys to the Chico State University Ski Club, questionnaires were also left at retail ski shops thru out the target counties (16 shops total). The number of questionnaires distributed to each was based on:

"The size of the town in which the ski shop was located, the area draw of the town, the relative size of the ski shop, and the distance of the ski shop from the Mt. Lassen Ski area." (p. 20)

Strangely enough however, the largest response was from Chico (60%) when Redding and Red Bluff may be the overall largest in terms of the factors just mentioned. Perhaps this discrepancy is due to poor response linked to the indirect methods of surveying.

Of additional interest is their reason for choosing this methodology:

"The season was not optimum for reaching ski shows or ski areas, and the lack of ski clubs or organizations within the target market geographic area." (p. 19)

This leads to question why there is so few ski clubs, or could it be the lack of a large skier interests in the area? Could it be that this off season survey reached only the small segment of hard-core skiers? And, if so is it a valid representation of the total target area?

The mode age of the questionnaire, (most frequent response), was 18 years of age, and no one was surveyed over the age of 49, with the largest response coming from Chico. The justification for this is fascinating. There is a large number of respondents from Chico "because of the high response by ski clubs, and it is where the study originated." (p. 21) This lends less credibility to the survey. The place of the survey's origin should have little affect on a valid systematic or random sample. All this shows is that the ski team, a definite interest group, gave a high percentage of responses. This assumption is strengthened by the "average skier" the researchers describe based on survey response. The mode age of 18 gives a good indicator of just who was surveyed and certainly doesn't sufficiently describe the family users of Mt. Lassen.

Besides the gross assumption mentioned earlier that most intermediates probably ski 6-10 and 11-15 times a year; and, most people see themselves as intermediate skiers, desiring a challenging ski area to their present ability, the researchers feel that:

"after skiing Lassen 3 or 4 times in its present state,

they may become dissatisfied with the mediocre facilities as compared to other available ski areas within Northern California." (p. 22)

Besides the extremely unobjectivity in this statement, there is an assumption that Lassen ski area, thru expansion, can provide an equal alternative to its competition. This is just not possible. (see appendix, Vance's correspondence)

When analyzing the questions of which ski area the respondents ski most, the team ignored the 56% favoring Tahoe and instead chose to address the favoring of Shasta, (25%), over Lassen (8.8%). They conclude that it is the more desirable road conditions one encounters going to Shasta that makes it more appealing to the users. Even, if this is correct, and is the only deciding factor, then what difference will ski facility expansion provide unless they are suggesting a new road system into Lassen.

Several errors in evaluating questionnaire responses were noted: First, the error of throwing question 8 (where, when visiting Lassen, does the user stay overnite), because they felt there wasn't a high enough response level. All responses no matter how poor should be included for a proper analysis of the data. Secondly thru out the analysis, no response to questions was assumed to mean they had never been to or skied at Lassen before. However, it is not unrealistic to suppose other reasons may have triggered the lack of response, i.e. (didn't understand). Thirdly, in many of the tables presented in the report, statistics did not add up to the 249 questioned which led one to question what happened to the remainder. Lastly, I felt many of the questions were leading, leaving one with the impression that the authors had little background in survey research, a common deficiency in Chico State

University students. One example of such a leading question is "Would you ski Mt. Lassen if a) there was a chairlift, b) more challenging slopes, c) less congested slopes?" (p. 27) Positive response to these questions neither affirms the preference of the skier to these facilities, nor, and much more importantly, their desire to pay the increased cost of such facilities. Additionally, if this question wasn't answered, it was eliminated because the researchers "suspected these people have never skied Lassen before." (p. 27) Of last concern were the crosstabs run on several of the survey questions. Suffice to say if you put invalid data into a computer, invalid data will result.

The main point here is again the erroneous methodology utilized. The prime example is crosstab five (see appendix) The researchers crosstabulated question six--'what ski area do you frequent the most,' by question 7, 'when skiing Mt. Lassen, what percentage of the time do you stay overnight, or day only.' The error is obvious. As a good friend once said; "You can't crosstabulate apples and oranges." The error here is the same. You cannot take a question concerning a variety of ski areas and measure it against one area in specific. Your results will be completely fallacious.

Conclusion

In conclusion I suggest this report was not an objective, unbiased feasibility analysis, but rather, a lengthy and detailed opinion paper promoted by a relatively small interest group. I believe the observations I have presented thru out my analysis, support this conclusion; gross errors in survey design and sampling, methodology of analysis and finally computer crosstabulations are examples of such observations.

Recommendations for correcting this report are endless. Of major importance, are: 1) Analyze all relevant data available on Mt. Lassen ski area and not just that which supports your conclusions. 2) Use data germane to the area, not national trends which differ considerably. 3) Limit assumptions. 4) Conduct a random sample where no one person questioned affects the choice of the next and each has an equal chance to be questioned. 5) Stratify the sample beforehand by monthly intervals, and if using ski shops, use only those approximately the same in terms of physical factors of size and goods. 6) Get the actual users of Lassen represented by interviewing skiers while they are participating in the activity. 7) Utilize the personal interview method to encourage response rate, with valid, objective questions. 8) Include increased cost data to determine what the real demand (the skier's willingness to pay for the area) actually is. 9) Objectively, determine the environmental feasibility of adding more challenging runs; can it be done given the resources physical constraints? 10) Stay away from the "average skier" profile (p. 37) who often is nonexistent and will lead to problems if it is accepted by the management.

Perhaps with these changes more accurate results could have been provided. I felt that it was necessary to comment on this report because of the support it has received as a valid "feasibility study" from members of the Chico State University faculty, (Dr. Gregg from the Political Science Department and Dr. Davis from the Center for Business and Economic Research at California State University Chico), and the fact it was actually funded by a local grant. However this was more understandable when I discovered the small businesses funding the grant were located on highway 36,

the main route to Mt. Lassen. I hope that the research team will read my criticisms and respond.

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APPENDIX

Appendix One

Crosstabulation

Ski Area You Frequent the Most by Day Only or Overnight

Ski Area	Count Percent	Stay Overnight		Day Only	
Tahoe		14 13.1	93 86.9	107 53.0%	
Shasta		4 7	53 93	57 28.2%	
Lassen		3 14.3	18 85.7	21 10.4%	
Others		3 17.6	14 82.4	17 8.4%	
					202 100%
47 missing observations					

Appendix Two

THEORETICAL SKIER DAYS Northern California Counties

Population by County, Northern California

Butte	121,400
Colusa	12,700
Glenn	19,100
Lassen	18,600
Modoc	8,000
Plumas	14,050
Shasta	90,000
Siskiyou	35,900
Sutter	46,950
Tehama	32,450
Trinity	9,875
Yuba	<u>45,450</u>

$$454,475 \times 3.6\% = 16,361 \text{ skiers}$$

(Source: Borgersen Proposal)

Population of the Five Counties Adjacent to Lassen Park Ski Area

Butte	121,400
Lassen	18,600
Plumas	14,050
Shasta	90,000
Tehama	<u>32,450</u>

$$276,500 \times 3.6\% = 9,954 \text{ skiers}$$

(Source: California County Fact Book)

Appendix Three

Profile of the Average Skier in Northern California

1. Age - 23
 2. Sex - Male or Female, normally single
 3. Class of Skier - Intermediate
 4. Skiing Frequency - 11 to 15 times in an average season
 5. Life Style - Quite mobile, generally economically stable, from middle to upper middle class family; possibly student
 6. Favorite Ski Area - Tahoe, because of its facilities, not convenience
 7. Likes to ski for the day only
 8. Mt. Lassen Attendance - skis Lassen 0-5 times per year
 9. Ski Resort Attributes and Facilities Desired - Desires good ski facilities and challenging slopes; parking, food service and over-night facilities have little importance
 10. Would frequent Mt. Lassen Ski Park more if there were a chairlift, the slopes were more challenging, and if they were less congested
-

Appendix Four

Unemployment Rates by County, 1975-76

County	1975				1975 Annual Average	1976				1976 Annual Average
	Qtr.1	Qtr.2	Qtr.3	Qtr.4		Qtr.1	Qtr.2	Qtr.3	Qtr.4	
Butte number %	6663 14.7	6091 13.7	5100 11.2	5558 11.9	5845 12.7	7041 15.3	6367 13.5	5558 11.9	5741 12.1	6177 13.2
Lassen number %	1775 25.2	1408 20.3	958 14.5	1208 17.9	1337 19.6	1792 25.0	1050 15.2	800 11.6	1083 15.6	1181 16.9
Plumas number %	1267 24.0	983 18.2	625 11.3	900 17.5	944 17.8	1167 22.8	775 11.6	608 10.7	841 15.8	848 15.9
Shasta number %	7258 18.9	5675 14.9	4708 12.5	5558 14.6	5800 15.3	7133 18.5	5516 14.2	4775 12.3	5050 13.0	5618 14.6
Siskiyou number %	2800 20.4	2058 15.1	1467 10.8 °	1433 10.6	1939 14.3	2667 20.0	1691 12.5	1525 11.0	2041 14.8	1981 14.6
Tehama number %	2350 18.6	1858 14.8	1600 12.5	1758 13.9	1891 14.9	2533 19.7	1850 14.7	1767 13.8	1841 14.1	1998 15.6

(Source: State Employment Development Department)

Appendix Five

COMPARATIVE VISITOR USE - 5 YEAR PERIOD

Type of Use	1976	1975	1974	1973	1972
Camper Days					
Tent Camping	45,282	35,552	44,208	82,537	78,491
Trailer Camping	41,185	28,810	21,900	56,847	46,923
Total	86,467	64,362	66,108	139,384	125,414

Trail Use - Number of Users (Trail use based upon a combination of sampling techniques plus estimation of use).

	1976	1975	1974	1973	1972
Lassen Peak Trail	20,400	20,000	19,247	24,500	28,780
Bumpass Hell Trail	30,600	30,000	23,760	27,756	37,600
Total	51,000	50,000	43,007	52,256	66,380

Winter Use - Number of Visitors for November, December, January, February, March and April.

Season	1975-76	1974-75	1973-74	1972-73	1971-72
Visitors					
Manzanita Lake	20,080	17,715	16,376	16,645	11,127
Sulphur Works	60,864	32,728	31,980	46,280	40,295
*Total	80,944	50,443	48,356	62,925	51,422
Skiers Only	17,316	16,429	18,579	25,099	21,836

*Winter visitors at Manzanita Lake and the Sulphur Works Entrance include all people who come to see and enjoy the winter scenery and winter activities such as skiing, skating, tobogganing, snowshoeing or simply to play in the snow. Skiers include only those of the above totals who participate in skiing at the Lassen Park Ski Area.

Appendix Six



United States Department of the Interior

NATIONAL PARK SERVICE
LASSEN VOLCANIC NATIONAL PARK
MINERAL, CALIFORNIA 96063

IN REPLY REFER TO:

K14

November 8, 1977

Nanci Becker
Box 108A, Cohasset Stage
Chico, California 95926

Dear Nanci:

The following is a month by month total visitation during the summer of 1977:

May	15,825
June	57,270
July	76,416
August	77,084
September	54,426
October	24,671

These are the total special holiday visitation figures for the past year:

Labor Day, 1976	14,110
Columbus Day, 1976	5,563
Memorial Day, 1977	9,194
Fourth of July, 1977	13,884

As to the last question; it is highly doubtful that any significant amount of advanced skiing could be added within the confines of the existing ski area or the expansion proposed by the Friends of Lassen. I believe that they are anticipating the greatest increase in intermediate potential.

It sounds as if you are really getting into this analysis. I will be interested in seeing what you turn up.

Sincerely yours,

Richard L. Vance
Richard L. Vance
Chief Park Naturalist

Enclosure



Save Energy and You Serve America!