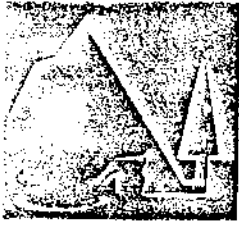


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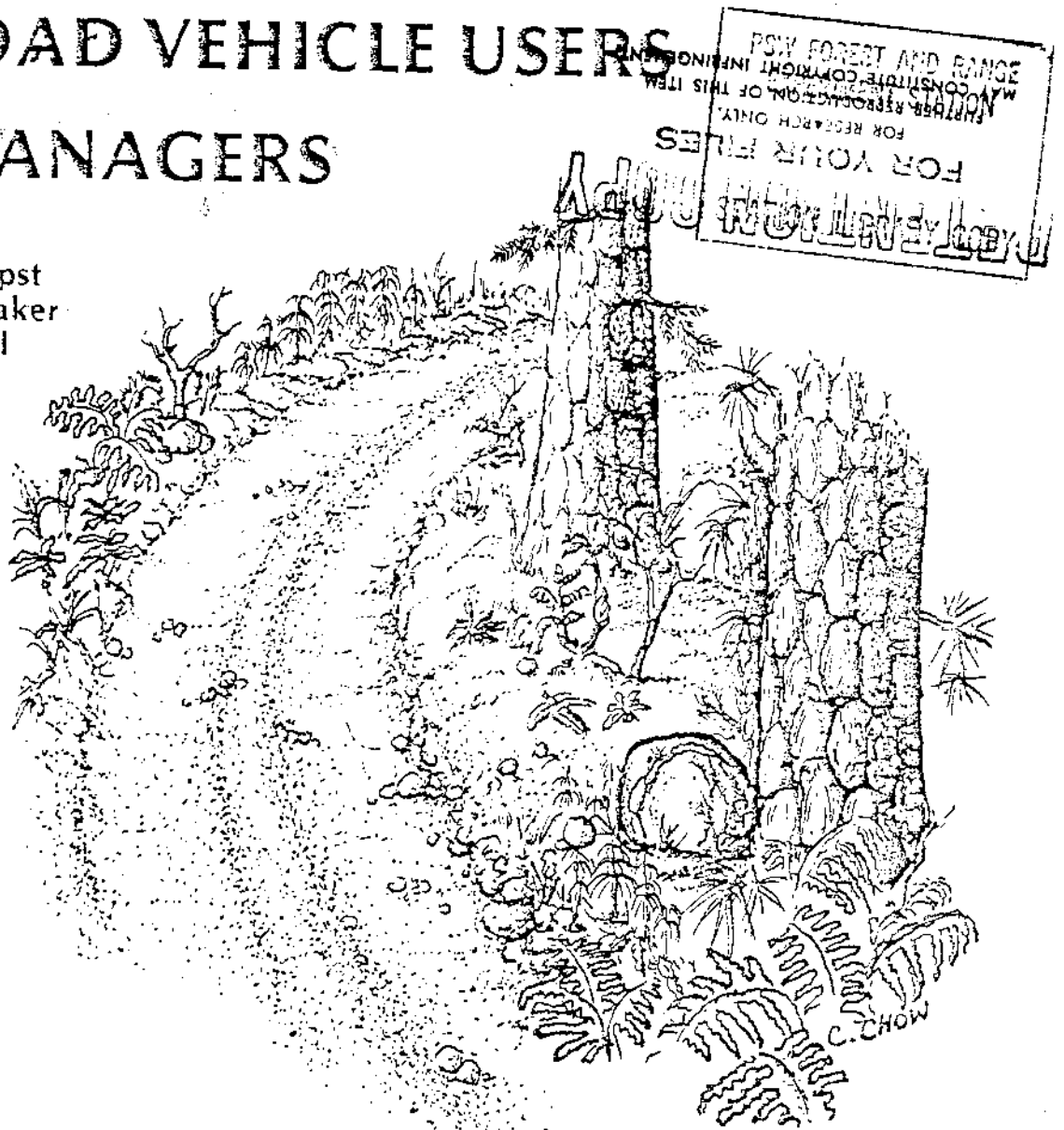
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# ATTITUDES OF IDAHO OFF-ROAD VEHICLE USERS AND MANAGERS

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## INTRODUCTION

In an April 14, 1971 press release, former Secretary of the Interior Rogers C.B. Morton recognized off-road vehicle (ORV) use to be one of the legitimate uses of federally-owned land. At the same time, Secretary Morton recognized that certain areas are being adversely affected by vehicular use of this type. He then established the Department of Interior Task Force on Off-Road Recreation Vehicles, whose major duty was to conduct the first nationwide study of this recreational activity (U.S. Department of Interior 1971).

President Richard M. Nixon confirmed the statements of the Secretary on February 8, 1972 by issuing Executive Order 11644, calling for the appropriate management and regulation of off-road vehicles on federal land. Thus, federal agencies have been charged with the difficult task of providing ORV opportunities and at the same time protecting the resources, eliminating user hazards and minimizing user conflicts. The increasing demand for ORV opportunities in proximity to urban areas has placed planning and management pressures upon state, county and municipal governments, as well as upon federal agencies.

### Statement of the Problem

Since 1960 the popularity of off-road recreational vehicles has grown at a phenomenal rate. For example, the 1971 Department of Interior Task Force study indicated that from 1960 to 1970 motorcycle sales in the United States increased from 60,000 to 1,430,000 units; from 1967 to 1971 snowmobile sales increased from 2,000

to 18,000 machines. Dune buggy sales also have risen sharply since 1960. By totalling these and other figures, the Task Force estimated that there were over five million ORVs in use in the United States in 1970 (U.S. Department of Interior 1971). This figure includes approximately 2.5 million trail bikes, 1.4 million snowmobiles, 200,000 dune buggies, and 50,000 all-terrain vehicles (Hope 1972). Estimates indicate that 6 million *more* ORVs will be in use in this country by the late 1970s (Hope 1972).

The mass production of ORVs has provided millions of Americans the chance to enjoy previously unknown and unused recreational opportunities on public lands in the West. The ORV has also extended the recreation season for many users. Instead of being snowbound or forced to travel to warmer climates in the winter months, many snowbelt recreationists can now use their snowmobiles to enjoy the opportunities of the winter landscape. Technological advances in ORVs have made even more possible man's dream of pitting his strength against the forces of nature (U.S. Department of Interior 1971).

Along with these benefits, the mushrooming use of ORVs has created certain environmental and social problems. The ORV phenomenon involves some of man's basic conflicts: rights of individuals versus rights of the state, individual property rights versus common public rights, and economic growth versus the quality of life (Dunn 1970). Numerous accusations have been levelled at ORV users for starting fires, causing soil compaction and erosion, damaging vegetation, harassing and killing wildlife, and creating noise and air pollution (Dunn 1970). The machines provide opportunities for the increase of depreciative behavior and of hazards to the user (Baldwin 1970). Conflicts between ORV users and the traditional recreationists, such as backpackers, snowshoers and cross-country skiers, have also increased. Cattlemen and sheepmen complain of livestock harassment. Finally, archaeologists report increases in illegal hunting of artifacts and destruction of archaeological sites resulting from the increased mobility the ORV affords (Baldwin 1970).

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## TABLE OF CONTENTS

Introduction	1
Methodology	2
Results and Discussion	3
Summary and Conclusions	11
Literature Cited	13
Appendix	15

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Off-road vehicle enthusiasts reply by saying that most of these accusations are false. The ORV user feels that he has as much right to use and enjoy public lands for recreation as the traditional recreationist, that he has been unreasonably restricted, and that it is unfair to condemn all ORV enthusiasts because of the actions of an irresponsible minority (Roggenbuck and McCool 1974). Compounding all these issues is the minimal amount of well-documented research of far-reaching geographic or social applicability.

Within the major off-road vehicle issues, the need for research in the area of attitudes and perceptions of ORV users is particularly acute. Two recent studies document this need. First, McCool and Roggenbuck (1974) conducted a study in which research questions related to managing ORVs in the West were identified and ranked. Eighty-nine federal and state land managers, representatives from ORV user groups and conservation organizations, academicians, and other public land resource users participated in the study. A little over one-third of the original 441 questions identified dealt with behavioral matters. Following the final ranking process, 2 of the 10 most significant ORV questions were behavioral, 3 were environmental, and 5 were administrative. In order to manage and regulate ORV use on public land in the West more effectively, therefore, a three-phase research program is necessary, with research on behavioral issues being one of the phases.

Second, Bury, McCool and Wendling (1974) reviewed the best of the available research publications on ORVs. From their report, it is readily apparent that little documented research on the attitudes and perceptions of ORV users exists. The meager evidence which is available is either extremely localized or limited to only one user group, usually snowmobilers.

Not too surprisingly, ORV user groups consider behavioral issues to be much more important than do resource planners and managers (McCool and Roggenbuck 1974). Resource planners and managers, on the other hand, place more emphasis on environmental issues than do ORV user groups. However, according to McCool and Roggenbuck (1974), most of the real or alleged administrative and environmental ORV problems on public lands involve behavioral issues. They state that the depreciative behavior of ORV users can be attributed in large part to their attitudes toward the environment and regulations, to their perceptions of the resources on public lands and the impact of their behavior on public land, and to their desired recreational experience. One reason for user conflicts on public lands is that the actions of ORV users are perceived by other resource users as being incompatible with their own particular needs. In contrast, the ORV user perceives his machine as being an appropriate vehicle for seeking recreational opportunities on public lands (McCool and Roggenbuck 1974).

## Objectives

Since attitudes and perceptions are important behavior-influencing characteristics, a knowledge of these characteristics is a necessary tool for the effective management and regulation of ORV use on public land. In this study we analyze and discuss the attitudes and perceptions of ORV users and public land managers within the state of Idaho.

One of our objectives was to determine the attitudes of Idaho snowmobilers, motorcyclists, 4-wheelers and public land managers toward the physical environment, noise, management strategies and regulations. A second objective was to determine the perceptions of these same ORV users and public land managers regarding other recreationists, other ORV users and other uses of the public lands.

## METHODOLOGY

Data for this report came from questionnaires mailed to ORV owners and public land managers in Idaho.

### User Study Design

The user populations were defined as all registered snowmobile owners, motorcycle and trailbike owners, and 4-wheel drive vehicle owners. Based on the Idaho Department of Law Enforcement records, it was estimated that in 1973 there were approximately 90,000 licensed snowmobiles, motorcycles and 4-wheel drive vehicles in the state. An unknown number of ORVs in Idaho are not registered. It was assumed that ORV owners who registered their vehicles were identical to non-registrants. It is possible, of course, that unregistered owners possess significantly different attitudes than the registered owners. The degree to which there is a difference will introduce bias in the findings. The ORV owner samples were obtained in a systematic random design from the Department of Law Enforcement vehicle registration records in Boise, Idaho (Propst 1976).

Questionnaires were mailed to 1713 registered ORV owners over a 1-year period from June 1974 through May 1975. The questionnaires were distributed on a monthly basis according to the expected relative use of each type of ORV. Thus, most of the snowmobile questionnaires were mailed in the winter, the trailbike questionnaires in the summer and the 4-wheel drive questionnaires in the summer and fall.

A pre-mailing and a follow-up mailing were used to increase the user response rate. Sampling and response rates for the ORV users are summarized in Table 1. We obtained 35 percent over-all response rate in the user study.

To test for non-response bias, we randomly selected and contacted 75 of the non-respondents by telephone and asked 14 questions identical to certain questions asked

Table 1. Estimated 1973 population of Idaho off-road vehicles (ORVs) and actual sample sizes used to conduct the ORV user study.

ORV	Estimated <sup>a</sup> Population (N)	Questionnaires Mailed (M)	Questionnaires <sup>b</sup> Returned (n)	$\frac{n}{M}$	$\frac{n}{N}$
Snowmobiles	17,816	513	240	.47	.013
Motorbikes	35,144 <sup>c</sup>	574	183	.32	.005
4-Wheel Drives	34,200 <sup>d</sup>	626	173	.28	.005
Total	87,160	1,713	596	.35	.007

<sup>a</sup> Includes registered vehicles only.

<sup>b</sup> Excludes respondents who did not use their ORVs for recreational purposes. There were 39 motorbike owners and 50 4-wheel drive owners in this category.

<sup>c</sup> Assumes 75% ORV use of 43,150 street bikes, plus 2,781 registered trailbikes.

<sup>d</sup> The 4-wheel drive population estimate was derived by taking a subsample of 6,786 passenger vehicle registration cards on a proportional basis from each county, estimating the population of 4-wheel drives in the counties, and summing.

in the original mailing. The non-response bias among ORV users in this study was considered minimal based upon a comparison of respondent and non-respondent answers (Propst 1976).

#### Manager Study Design

Three agencies have major responsibility for the provision and management of ORV opportunities in Idaho: the United States Forest Service, the Bureau of Land Management (BLM), and the Idaho Department of Parks and Recreation. All district rangers in the Forest Service, district managers in the Bureau of Land Management, and park managers in the Idaho Department of Parks and Recreation received questionnaires during April 1974. One follow-up letter was utilized to increase the manager response rate and to determine if there was any intention of responding. A common reason for not intending to respond was insufficient time to fill out the questionnaire. A 69 percent response rate was obtained for the three agencies (Table 2). Manager non-response bias was not tested.

#### Data Analysis

The questionnaire items used in this study and the responses are presented in the appendix. The next section discusses the major findings in various subject categories. The reader should consult the appendix for detailed results and analysis.

In general, the analytical process consisted of comparing user group and manager group responses with a chi-square procedure. Because of the requirements of the chi-square test of independence, the five BLM managers and the 38 Forest Service managers were combined into one group, federal land managers. Before managers were compared with users, differences between manager groups (federal land managers and Idaho State Parks and Recrea-

tion managers) and among user groups (snowmobilers, trailbikers, 4-wheelers) were sought. If the responses to a given item were independent of user or manager category at the .05 probability level, the various categories were combined into groups of "All Managers" or "All Users."

Table 2. Population (1973) and responses of the three Idaho off-road vehicle managing agencies used in ORV study analysis.

Agency	Questionnaires Mailed <sup>a</sup> and Population (N)	Questionnaires Returned (n)	$\frac{n}{N}$
U.S. Forest Service	60	38	.63
Bureau of Land Management	6	5	.83
Idaho Department of Parks and Recreation	14	12	.86
TOTAL	80	55	.69

<sup>a</sup> Questionnaires mailed and population size are the same.

## RESULTS AND DISCUSSION

This section contains a general presentation and discussion of the results of the survey. The questionnaire items have been grouped into subject-matter categories and presented below as subsections.

#### Advertising, Education and Communication

Most public land managers feel that ORV advertising encourages misuse of public lands by the ORV users, while a majority of the users in the three groups do not believe this to be the case. Among the three user groups, 4-wheelers

are more in agreement with the negative impact resulting from ORV advertising than the other two groups. This general attitude of 4-wheelers was confirmed by spontaneous remarks on some of the returned questionnaires. Several of the 4-wheeler respondents stated that 4-wheel drive vehicles should not be studied with snowmobiles and trailbikes. It was clear from their remarks that they saw more problems with snowmobiles and trailbikes than with their own vehicles.

With respect to two proposed education efforts, land managers think that an advertising campaign against irresponsible ORV use would be more effective in stopping environmental degradation than environmental education programs. In general, the three user groups agree among themselves and favor both solutions. The users view environmental education efforts as being potentially more successful than do the managers:

About 90 percent of the users and managers sampled agree that the manner in which messages and regulations are posted can encourage cooperation by ORV users. Consistent with this belief, a majority of both groups disagree with the statement that no effective manner exists to inform users of public/private land boundaries.

A large majority of users and managers favor and consider workable the use of an advertising campaign and some type of uniform information system to inform ORV users about regulations and safety techniques.

#### Clubs

A general conclusion drawn from the survey is that users and managers believe the preferences and attitudes of the leaders of ORV clubs do not represent those of

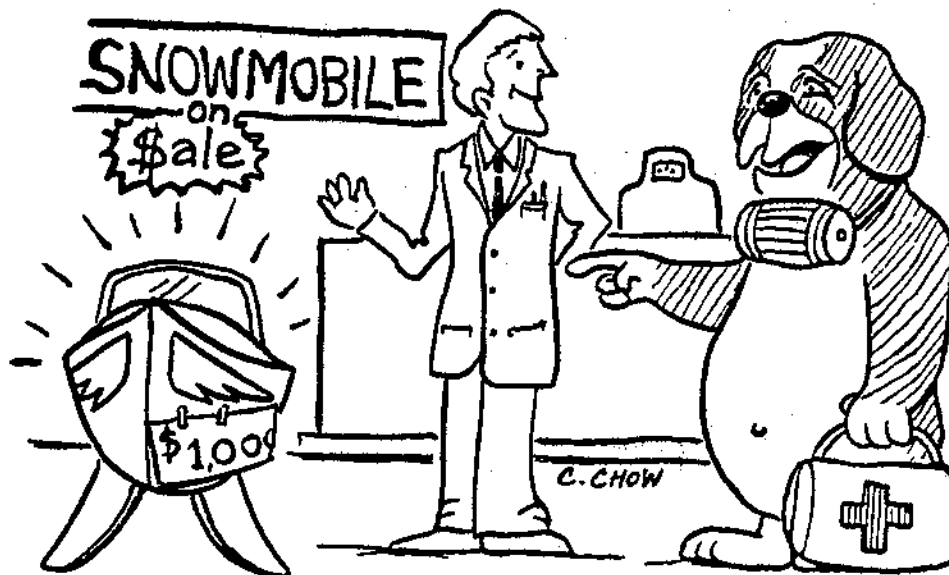
other club members or non-members. That is, a manager who deals with an ORV club officer may feel that the person he is dealing with is a special kind of ORV enthusiast. Among the three user groups, more snowmobilers see similarity between leaders and members than do trailbikers or 4-wheelers.

There is a difference between managers and users with respect to their views on club members' and non-members' concern for environmental impact. Most users (62%) disagree that unorganized ORV users are less concerned than organized users about environmental impacts. In contrast, a large majority (81%) of the managers agree. Finally, all three user groups and all managers favor and think workable the use of ORV clubs for search and rescue operations.

*Club Members and Non-Members.* Off-road vehicle club membership was studied with respect to responses to the following statements:

- 1) Unorganized ORV users are less concerned about environmental impact than organized ORV user groups;
- 2) ORV clubs could be used for search and rescue;
- 3) The preferences and attitudes of the leaders of organized ORV clubs adequately represent those of the rank and file members or the non-organized user.

Most users who are members of snowmobile or 4-wheel drive clubs (67% and 80%, respectively) agree that unorganized users are less concerned than organized users



about environmental impact while most of the non-members (67% and 65%, respectively) disagree. Response to the same item was independent of trailbike membership; that is, about 62 percent of the members and non-members disagree with the statement.

### Public Spending

A large percentage of both users and managers feel that it is a proper use of public monies to spend appropriated funds on ORV facility development or rehabilitation. However, a significantly greater percentage of managers go along with this notion than of users (91% and 77%, respectively).

All of the responding Idaho Parks and Recreation managers favor spending ORV funds derived from the fuel tax for land acquisition, planning, development, maintenance and research, whereas only 60 percent of Forest Service and BLM managers favor such spending. The Idaho managers' support for such a program may be a simple endorsement of the current ORV tax program in Idaho. About 7 out of 10 ORV users favor spending ORV funds in this manner. A large majority in both user and manager groups think spending of the fuel tax revenue would work, but a significantly higher percentage of managers are convinced of the workability (79% and 91%, respectively).

Compared with the managers, snowmobilers and 4-wheelers are more opposed to and consider less workable the idea of public purchase of urban land areas for ORV use. There is no difference between trailbikers and managers on either the favorability or the workability of public purchase of urban land. The differences among user groups may reflect what has already become the custom in many cities; that is, many cities have small, usually unofficial, trailbike riding areas nearby. Similar areas generally do not exist for snowmobiles and 4-wheel drive vehicles.

### Environmental Impact

First, over 50 percent of the managers feel that ORV users are not concerned about the environmental impacts of their machines, while a large percentage of all three user groups feel that such an assessment is not valid. Among the three user groups, 4-wheelers think lack of concern is more of a problem than do snowmobilers or trailbikers (30% versus 18% and 23%, respectively).

Second, a large majority (85%) of managers agree that ORV impact upon natural ecosystems is greater than that of other recreational activities; most of the three user groups do not think this is true. Among the three user groups, snowmobilers find less agreement with this statement than do trailbikers and 4-wheelers (33% versus 44% and 44%, respectively). This is not surprising when one

realizes that environmental impact of snowmobiles is not as immediately and readily apparent as trailbike and 4-wheel drive impact.

Third, both users and managers agree that environmental awareness among ORV users is increasing, but more users agree than managers (89% and 78%, respectively).

Finally, approximately 90 percent of both groups agree that much of the environmental impact of ORVs is a result of user ignorance and/or callousness.

The four responses in this subsection indicate that a gap still exists between managers' and users' perceptions of the environmental impact of ORVs. Most managers feel that ORVs degrade the natural environment and that more of this degradation is created by ORVs than by other recreational activities. Most users hold the opposite viewpoint. Managers attribute most of the impacts of ORVs to the user and to the machine, but agree, however, that the ORV user is becoming more environmentally concerned.

### Uses of ORVs

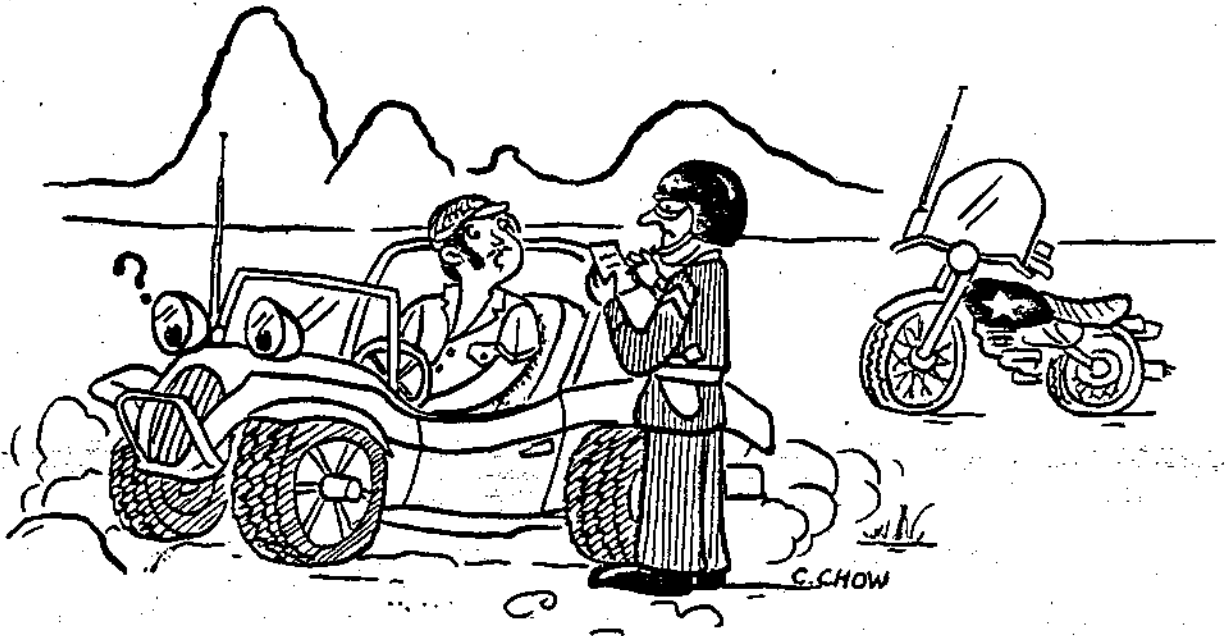
All three user groups think that most off-road vehicle use is for family recreation. Managers, however, are almost evenly split, with 51 percent agreeing and 49 percent disagreeing with the statement.

A majority (75%) of the users see ORVs as necessary for proper game and forest management, whereas a majority (61%) of the managers disagree. That is, recreational users of the machines see them as more useful than do the managers who might use them in their profession.

### Causes of Conflicts

Among the three user groups, more snowmobilers than trailbikers or 4-wheelers agree that "ORV users are being blamed for impacts and conflicts not caused by them." Within the two manager groups, more Idaho Parks and Recreation managers than Forest Service and BLM managers agree with the same statement. When comparing each user group with federal land managers, it is obvious that the majority of each user group believes that ORV users are being unjustly blamed; Forest Service and BLM managers see the blame as justified.

When compared with Idaho Parks and Recreation managers, none of the three user groups shows any important percentage difference; that is, state parks managers agree with the user groups that ORV users are being unjustly blamed for conflicts and impacts. Both groups agree that the nature of the term "off-road vehicle" contributes to many misunderstandings, but a greater percentage of users agree than of managers (71% and 54%, respectively).



More than 90 percent of the users and managers agree that "better communication between users and non-users would reduce conflicts between the two groups."

#### Enforcement, Regulation and Restriction

About two-thirds of both users and managers favor and consider workable a reward system and the deputizing of ORV club members as two methods of regulation enforcement. Users and managers, however, oppose leaving regulation enforcement solely up to the ORV users; a greater percentage of managers than of users are opposed to this idea (81% and 54%, respectively). In addition, there is disagreement over the workability of this method. Only 28 percent of the managers think self-imposed enforcement is workable, compared with 56 percent of the users who see self-policing as workable.

Both users and managers agree with the following statements related to regulations:

- 1) Unenforceable ORV regulations encourage increased misuse of the land;
- 2) ORV regulations should be specific to each type of ORV and to each type of ORV use;
- 3) Under certain conditions ORV policies and regulations of one public agency may be detrimental to the enforcement of those of another public agency.

All three user groups agree that the most effective regulation in ORV management is to consider an area open

unless designated closed, but snowmobilers and trailbikers show a significantly larger percentage agreement than do 4-wheelers. A smaller percentage of managers than of snowmobilers and trailbikers agree with this approach to regulation, but there is little percentage difference when managers are compared with 4-wheelers.

Both users and managers agree on the need for standardization and coordination of ORV regulations, but a larger percentage of managers show agreement than of users (98% and 83%, respectively). When asked specifically if local managers should establish their own regulations, only about half of the managers and users favored such an arrangement. Snowmobilers were a little more likely to think locally established regulations were workable than were other users or managers.

Many differences in attitudes toward vehicle design restrictions exist between users and managers. Both groups disagree with using restrictions on engine size and vehicle weight as a viable method for reducing environmental impact, but a greater percentage of users disagree than of managers (75% and 55%, respectively). A slim majority of managers both favor (52%) and consider workable (57%) the requirement of power restrictions for all ORVs. Most users oppose such restrictions and consider them unworkable.

Attitudes toward noise restrictions are fairly similar. Users and managers favor and think workable the imposition of strict noise restrictions on all ORVs. Relatively more managers than users, however, favor this restriction (95% and 75%, respectively). Both users and managers agree that the reduction of noise levels would help decrease animosity toward ORV use.

There are a variety of feelings about regulating use according to "model" classes for each make or type of ORV. All three user groups and all managers oppose such a regulation, but a greater percentage of snowmobilers (77%) and trailbikers (74%) oppose it than of managers (57%). Four-wheelers (39%) favor this strategy most and do not differ significantly from the managers. Most 4-wheelers (55%) also think regulating use according to "model" classes is a workable strategy, while most snowmobilers and trailbikers do not (64% and 58%, respectively).

A majority of users (63%) agree that fees and restrictions cause a decrease in cooperation between managers and users and a subsequent increase in ORV impacts and conflicts; a majority of managers (65%) disagree.

The three user groups differ among themselves concerning the use of a reservation system at ORV facilities. Although all three groups oppose such a strategy, a greater percentage of snowmobilers are opposed to the use of a reservation system and consider it unworkable. There is no difference between managers and the three user groups concerning favorability of a reservation system. That is, a similar percentage of managers also oppose such a strategy. Concerning workability, the only significant disparity is between managers and snowmobilers; most managers (53%) believe a reservation system is workable, whereas most snowmobilers (69%) do not.

Most users oppose restricting use to the biological and social carrying capacity or using a quota system to control use; most managers favor these two strategies. In addition, the two groups feel differently about the workability of these two methods; managers, in general, think the strategies are workable, while users do not. It should be noted, nevertheless, that a slim majority of users (52%) think restricting use to the carrying capacity would be workable even though they oppose (59%) such a tactic. The large differences between users' and managers' responses may be due to the users' lack of understanding of the rather technical term "biological and social carrying capacity." Respondents may have been reacting to the "restricting" part of the item rather than to the "carrying capacity" idea.

Finally, most users and managers oppose and consider unworkable the use of a pricing system to control overuse and misuse of public lands.

Legal restrictions such as minimum age requirements, special licensing and mandatory training were evaluated by the respondents. There is significant disagreement between users and managers concerning all legal restrictions on ORVs. In general, managers agree with, favor and find all legal restrictions workable, while users disagree with, oppose and find them unworkable. The only exception to this generalization is that both users and managers think special licensing of ORVs is a workable restriction, but

all managers find this restriction workable, while only 61 percent of the users concur.

On several of these restrictions, the three user groups differ considerably among themselves. A greater percentage of snowmobilers than of trailbikers or 4-wheelers agree that "there should be a way of making individual ORV ownership easily recognizable and identifiable in the field" (64% versus 55% and 46%, respectively). A majority of snowmobilers (55%) and 4-wheelers (68%) agree that there should be a minimum age for all ORV users; a majority (56%) of trailbikers disagree. These attitudes may reflect current practice, in that many children may already be riding trailbikes. Finally, all three user groups oppose special licensing of ORVs, but trailbikers and 4-wheelers show a higher percentage of opposition to this restriction than do snowmobilers (66% and 70% versus 54%, respectively).

#### Trail-Related Attitudes

There are a variety of attitudinal differences relating to ORV trails. First, users and managers agree that the construction of ORV trails reduces the environmental impact of ORVs. Among the three user groups, however, fewer 4-wheelers (70%) agree with the statement than snowmobilers or trailbikers (78% and 81%, respectively).

Second, there is considerable disagreement between the federal managers and the state park managers over trail issues. Seventy-five percent of the state park managers agree that "non-ORV recreational activities cannot safely take place on trails or in areas which are simultaneously being used by ORVs." Sixty-nine percent of the federal managers, however, think that ORV and non-ORV activities can take place on the same trails or areas. In this instance, users agree with the federal managers. Idaho Parks and Recreation managers find the restriction of trails to one-way travel a favorable and workable strategy; Forest Service and BLM managers find such a strategy unfavorable and unworkable. Once again user attitudes very closely resemble those of the Forest Service and BLM managers, but not those of Idaho Parks and Recreation managers. On a third issue, a slim majority (51%) of federal managers oppose the establishment of off-road corridors for cross-country ORV use, whereas a large majority (92%) of state park managers favor such action. In this situation, user attitudes more closely resemble those of state park managers. A large majority of both users and managers feel that the establishment of off-road corridors would be a workable strategy (81% and 75%, respectively).

Users and managers agree that "adequate trail rehabilitation will encourage ORV users to stay on developed trails." All three user groups favor and consider workable the retention of all existing roads and trails in ORV management plans. On the other hand, most managers (63%) oppose such retention and consider it less workable than do the user groups. Among the three user groups,

relatively more 4-wheelers than snowmobilers or trailbikers oppose the issue and consider it less workable. Users and managers favor and consider workable the construction of new ORV trails. More 4-wheelers (30%) oppose such a strategy than snowmobilers or trailbikers (23% and 18%, respectively). Users and managers favor and find workable the strategy of facility "classing" to indicate the level of difficulty of a particular facility. Users and managers favor the construction of single trails for multiple ORV use, but a greater percentage of managers favor this tactic than of users (71% and 55%, respectively). Both groups think that multiple use trails are workable.

### Specific ORV Areas

The manager groups differ in two instances concerning area-related issues. First, a greater percentage of state park managers than of federal managers agree that "criteria for deciding whether an area should be open, restricted or closed to ORV use are not adequately established" (100% and 65%, respectively). That is, at least some federal managers believe the criteria are well enough established now. There is a very high agreement with the above statement among the three user groups, with 4-wheelers being in nearly 100 percent agreement. When compared with each manager group, each user group displays a significantly higher percentage of agreement with Idaho Parks and Recreation managers than with Forest Service and BLM managers.

Second, most state park managers (75%) favor concentrating ORV use in specified areas; most federal managers (65%) oppose this strategy. Users also oppose this strategy, but to a greater extent than either manager group. As a whole, most managers (62%) think concentration of ORV use would be a workable tactic, whereas most users (77%) disagree.

Exactly half of the managers agree that it is wiser to concentrate ORV use than to disperse it; a large percentage of each user group, however, disagree. Among the three user groups, more snowmobilers disagree than trailbikers or 4-wheelers.

A majority of users and managers agree that "most of the current use of heavy-use ORV areas is due simply to habit rather than to the intrinsic resources of the site itself," and that "most ORV users would accept total or seasonal closure of currently misused or overused areas."

Most trailbikers, 4-wheelers and managers favor and consider workable the establishment of land rest-rotation schedules for ORV users. Most snowmobilers (52%), on the other hand, oppose such a strategy and more than any of the other groups consider it to be unworkable.

A large percentage of users and managers oppose the forced distribution of ORVs to lightly used areas, but

more users oppose this strategy than managers (86% and 73%, respectively). A majority of neither managers nor users consider forced distribution to be a workable solution, but relatively fewer snowmobilers deem this strategy to be workable than trailbikers, 4-wheelers or managers.

In general, 60 to 65 percent of the users oppose spatial and temporal zoning of land areas for specific ORV use, while 90 percent of the managers favor such zoning. Managers are also more likely than users to consider zoning to be a workable solution to ORV problems.

Slightly more than half of the users favor the assignment of "useless" areas to ORVs, while only 41 percent of the managers favor such action; however, this discrepancy is not large enough to yield a probability of less than .05. On the other hand, a majority of users (66%) and managers (62%) consider this strategy to be workable. Finally, a large majority of users and managers favor and consider workable the development of ORV "play" areas.

### Other Topics

*ORV Rangers.* Both users and managers are in agreement concerning ORV rangers: a majority of both groups (77% and 86%, respectively) agree that ORV rangers would be effective in providing information, in distributing ORV use, enforcing regulations, removing litter, and in search and rescue operations.

*Public Involvement.* All three user groups and all managers agree that there is a need for more public involvement in ORV land use decisions. There are differences, however, in that more managers and 4-wheelers agree with the statement than do snowmobilers or trailbikers.

*Environmental Impact Statements.* There is a difference between the two manager groups concerning the requirement of environmental impact statements on all ORV resource and facility developments: all Idaho Parks and Recreation managers agree that impact statements should be required, while only about half of the Forest Service and BLM managers agree.

*Changing Trends.* A large majority of both users and managers agree that ORV users' preferences for kinds and sizes of vehicles and for kinds of trails and terrain change as the users become more experienced.

*Private Management.* Both users and managers oppose private management of public ORV areas. Most users (54%) think private management would work, while most managers (57%) do not. In neither case is there a large enough spread for there to be a meaningful discrepancy between user and manager responses.

### Perceived Problems Associated with ORV Operations

For purposes of discussion, four sub-categories of perceived problems are considered: *machine operation*, *depreciative behavior*, *timber and grazing* and *wildlife*. In all instances, a larger percentage of managers than of users perceive the existence of problems in each sub-category. In only a few situations do managers and users agree that certain problems are not created by ORV use.

**Machine Operation.** With only one exception, a greater percentage of managers than of snowmobilers, trailbikers or 4-wheelers perceive ORV use as creating the following problems: erratic hours of operation, racing and irresponsible driving, careless and dangerous handling of the ORV unit, and excessive noise. The one exception is related to the problem of "racing and irresponsible driving in or near parking lots, campgrounds and picnic areas." Although more managers (57%) than snowmobilers (44%) perceive this to be a problem created by snowmobile use, the disparity is not large enough to be meaningful at the .05 criterion level.

A large percentage of managers (greater than 75%) perceive careless and dangerous handling to be a problem created by all three types of ORVs, excessive noise to be a problem created by snowmobiling and trailbiking, and racing and irresponsible driving to be a problem created by trailbiking.

It is interesting to note that of the three user groups, only trailbikers show any perception of their machines being responsible for problems. A majority of trailbikers do feel that racing and irresponsible driving, careless and dangerous handling, and excessive noise are problems created by trailbike use.

In certain instances, managers are not as critical of 4-wheelers as they are of snowmobilers and trailbikers. Less than half of the managers perceive erratic hours of operation and excessive noise to be problems created by 4-wheeling.

**Depreciative Behavior.** At least 75 percent of the managers perceive littering and trespass on private property to be problems caused by all three types of ORV activity, damage to scenery and aesthetics and misuse and abuse of land to be caused by trailbiking and 4-wheeling, and vandalism to be caused by snowmobiling and trailbiking. A very low percentage of managers (less than 27%) think that damage to scenery and aesthetics, illegal artifact hunting, and forest and range fires are problems created by snowmobiling. Finally, about half the members of all three user groups perceive littering and trespass on private property to be problems created by the use of their respective vehicles.

**Timber and Grazing.** In general, fewer than one-third of the members of all three user groups perceive their

respective vehicles as having any deleterious effects on timber or range resources.

More than 75 percent of the managers perceive 4-wheelers as causing negative impacts on grazing lands. Fewer than 10 percent of the managers think negative impacts on grazing lands and harassment of cattle and sheep are problems caused by snowmobilers; snowmobilers concur with this perception. Also, only a small percentage of the managers attribute negative timber impacts to trailbikers.

**Wildlife.** In general, fewer than 25 percent of the members of user groups perceive the disturbance of migratory routes of birds and other wildlife, disturbance and destruction of wildlife nesting areas, impact on rare and endangered wildlife species, and excessive harvest of wildlife as being problems created by use of their respective machines. The only exception is that one-third of the 4-wheelers perceive their activities as causing an excessive harvest of wildlife.

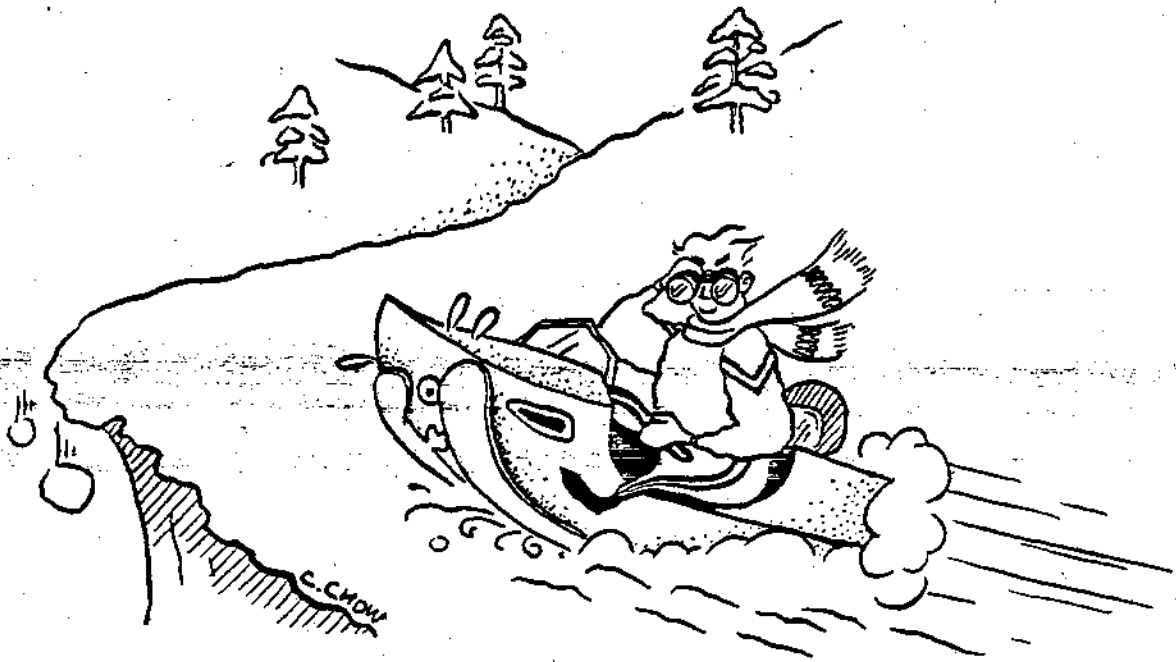
There is only one instance in which managers wholeheartedly agree that a wildlife problem is created by ORV use; that is, 93 percent of the managers perceive snowmobiling as causing a problem with the harassment of game and non-game species. Two-thirds of the managers also feel that harassment of wildlife by trailbikers is a problem. For most categories, however, fewer than half of the managers feel that ORVs are the cause of wildlife-related problems.

### Conflicts Between Off-Road Vehicle Use and Other Land Uses

In general, in comparison with the three user groups, a larger proportion of managers perceive conflicts between each type of vehicular activity and other land uses. Most often, the disparities in perceived conflicts are noticeably large.

For example, more than 85 percent of the managers perceive conflicts between snowmobiling and downhill and cross-country skiing. Fewer than 25 percent of the managers, however, perceive conflicts between snowmobiling and range operations, mining operations or fishing. On the other hand, with one exception, a very small percentage of snowmobilers (less than 29%) perceive their activity as conflicting with the other land uses. The one exception is that 47 percent of the snowmobilers do think that snowmobiling conflicts with downhill skiing.

A large percentage of the managers (more than two-thirds) think that trailbiking conflicts with range operations, hiking and backpacking, horse trailriding, hunting and campground camping. Fewer than one-third of the managers, on the other hand, think trailbiking conflicts with mining operations, cross-country skiing, downhill skiing or fishing. Of course, it is obvious that there would be little conflict between trailbiking and skiing. In only



one instance do a fairly large percentage of trailbikers perceive a conflict; that is, 54 percent of the trailbikers see a conflict between trailbiking and horse trailriding.

Finally, over 75 percent of the managers perceive conflicts between 4-wheeling and range operations, hiking and backpacking, and horse trailriding. In all situations, however, fewer than one-third of the 4-wheelers perceive any conflict between their activity and any other land use. In fact, more than two-thirds of the 4-wheelers see their activity as being harmonious with logging operations, campground camping, hunting and fishing. When considering potential conflicts among the three types of ORV uses, more than two-thirds of the users and managers perceived each type of ORV activity to be compatible with every other type of ORV activity.

#### Reasons for Participation in ORV Activities

**Snowmobiling.** A little over one-third of the snowmobilers said that they participated in snowmobiling for reasons related to recreation per se — that is, enjoyment, pleasure, relaxation. The next four most frequent reasons given for participation in snowmobiling were scenery (16.7%), togetherness (17.1%), personal transportation (11.7%) and recreation transportation (11.5%). Generally, managers think snowmobilers participate in snowmobiling for the same reasons. The managers, however, place less

emphasis on recreation per se than did the snowmobilers and more emphasis on competition and on personal recreation and transportation.

**Trailbiking.** Again, the largest percentage of trailbikers said that they engage in their activity for reasons related to recreation per se (28.5%). The next most frequent responses given were recreation transportation (18.7%), personal transportation (17.5%) and scenery (14.1%). As with snowmobiling, managers tend to de-emphasize recreation per se and focus on competition and on personal recreation and transportation as reasons why people ride trailbikes.

**4-Wheeling.** Four-wheelers differ markedly from the other two user groups in their reasons given for participation in 4-wheeling activities. Over 40 percent of the 4-wheelers said the reason they use their 4-wheel drive vehicles is for personal transportation. The next most popular responses given by 4-wheelers were recreation transportation (29.3%) and business transportation (11.0%). As with the first two observations, managers tend to view competition as an important part of 4-wheeling in contrast to very few 4-wheelers seeing this as an important reason to use the vehicle. Managers and users are in agreement that recreation per se is not a major reason for 4-wheeling.

## SUMMARY AND CONCLUSIONS

The following two objectives were used to guide this study:

1. To determine the attitudes of Idaho ORV users (snowmobilers, motorcyclists and 4-wheelers) and public land managers toward the physical environment, noise, management strategies and regulations.
2. To determine the perceptions of Idaho ORV users and public land managers regarding other recreationists, other ORV users and other uses of the public lands.

Data needed to satisfy these objectives were obtained from approximately 596 questionnaires returned by ORV owners and 55 questionnaires returned by ORV managers in the State of Idaho. The main focus of this study was a comparison of ORV user and manager responses to 73 attitudinal and 32 perceptual questionnaire items. User attitudes toward ORV clubs were examined for club members and non-members. Data analysis procedures included 1) the chi-square test of significance to indicate the existence of relationships between the two variables within two-way contingency tables and 2) the uncertainty coefficient and percentage comparisons to indicate the relative strengths of the existing relationships. Finally, users' reasons for participating in their respective activities were compared to the land managers' perceptions of the reasons for user participation in various ORV activities. Non-response bias among the ORV users, as measured through telephone interviews, was determined to be minimal in this study.

Although the major focus of this study was to compare users and managers, some comparisons were also made within the user and manager groups; that is, where the user or the manager groups differed among themselves, these differences were analyzed and discussed. The remainder of this section will be devoted to explaining possible sources of attitudinal and perceptual variations and to summarizing these variations in terms of implications for ORV planning and management in Idaho.

### Inter-Group Variation

That public land managers and private users possess different attitudes and perceptions toward off-road vehicle use on public land in Idaho is a recurrent theme manifested in this report. Managers generally associate more problems with ORV use than do the users. Since individual value systems, self-interest and past experiences strongly influence our attitudes and perceptions, such a disparity would be expected to exist. In this study, these differential attitudes and perceptions may be largely explained by the characteristics of the two groups involved and the nature

of the issues presented in the questionnaires. Roggenbuck and McCool (1974) observed that resource managers and planners customarily have been trained in the natural sciences, especially in natural resource management. This education, along with the training of the resource agencies and strong positive feelings toward the natural environment, has instilled a naturalistic value system. Perceptions of appropriate uses of public lands have developed out of this value system (Roggenbuck and McCool 1974). Not too surprisingly, then, the advent of the off-road vehicle has presented a threat generally viewed by resource managers as a challenge to resource protection.

On the other hand, the ORV enthusiast probably ~~does not possess such a naturalistic value system. The user perceives his machine as being either an appropriate means or an end in itself for seeking recreational opportunities on public lands.~~ Experiences related to land closures and confrontations with resource managers, traditional recreationists and environmentalists have created in the ORV user a feeling of having his rights unjustly denied and of frustration in his attempts to gain acceptance on public lands.

In harmony with the idea that managers often perceive ORV use as a problem, this study reveals that land managers in Idaho generally favor the use of more restrictive management strategies and regulations, especially as they apply to reduction of environmental impacts created by ORVs. Idaho resource managers attribute negative environmental impacts, conflicts with traditional recreationists and land use conflicts to both vehicle design and user characteristics. Accordingly, most Idaho resource managers sampled favor regulations, vehicle design requirements and use restrictions as methods of curbing ORV impact and conflicts.

In contrast, the Idaho ORV users sampled generally favor the use of less restrictive tactics such as better communications, advertising, environmental education programs and enforcement by ORV clubs. Also, the ORV user generally does not perceive his activity as being incompatible with traditional recreational activities and other land uses.

### Intra-Group Variation

On certain issues some disagreement exists within the manager and user groups. For the managers, this disparity can be interpreted in terms of the types of resources managed. Compared with Forest Service and BLM managers, Idaho state parks managers probably have more opportunities for the imposition and enforcement of stricter management strategies. State parks are relatively small in size, have well-defined boundaries and well-patrolled access roads. Forest Service and BLM lands generally do not share these characteristics, thereby making ORV management more difficult. Thus, at least from a

practical standpoint, state park managers may find it easier to accept such intensive management strategies as one-way trails, separate trails for ORV and non-ORV recreationists and concentration of ORV use in specified areas.

Differential attitudes and perceptions among the users may be attributed to the nature of the vehicle used, season of use or traditional uses of the vehicle. For example, a trailbiker may perceive very little conflict between trailbiking and downhill skiing simply because these two activities generally occur during different times of the year. From various comments written on or attached to the questionnaires, it is apparent that most 4-wheelers do not desire to be connected with a study of snowmobilers and trailbikers. A common response was that the 4-wheel drive vehicle is used in a responsible manner primarily in relation to farm and ranch work and personal transportation in areas where roads are often muddy or snow-covered; therefore, this vehicle should not be considered an ORV. This perception may account for certain differences between 4-wheelers' responses and the responses of the other groups.

#### Implications for ORV Planning and Management

Despite all of the variations and controversies described in this study, there are several implications useful to effective ORV planning and management in Idaho.

It should be kept in mind that ORV users, like other recreationists, want as much freedom as possible and that important differences exist among the various ORV user groups. For instance, since many 4-wheelers indicated that they use their machines for other than recreational purposes, special facilities for 4-wheeling per se may not be needed as yet in Idaho. Based upon manager responses, different opportunities for various ORV types and uses and areas and facilities separate from those used by traditional recreationists are needed. Such opportunities can be provided in "noise parks" and on special ORV trails. Since users and managers agree on the use of single trails for multiple ORV use and that each ORV activity is compatible with every other ORV activity, it is possible to provide opportunities for different types of ORVs within the same area or facility. Users indicated their opposition to any type of zoning by use type, but this may be due only to the bad connotations associated with the word "zoning" in Idaho. An understanding of zoning as it applies to recreation planning might generate more acceptance of

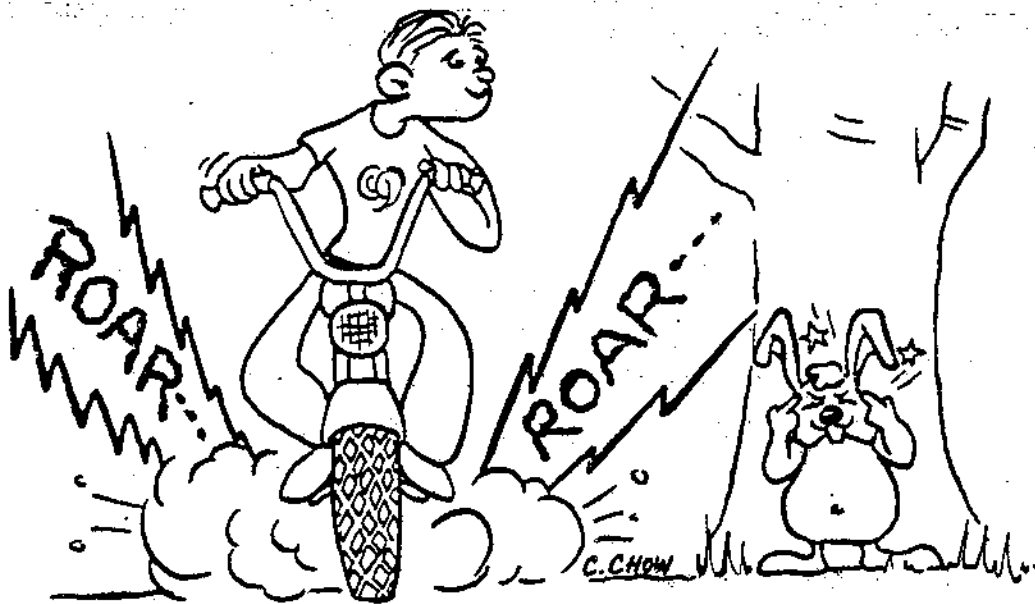
this planning tool among the users. Areas for ORV use can and should be chosen away from unique natural resources, since users indicated the relative unimportance of intrinsic site resources and their support of the assignment of "useless" areas for ORV use. Finally, it is not enough to plan and develop areas and facilities where the use of the machine is an end in itself. Provision must also be made for the use of ORVs as means of participating in hunting, fishing, camping, picnicking and other recreational activities.

An observation with important implications for ORV management is that both users and managers favor the use of better communication techniques to increase cooperation and to inform users about regulations. This is similar to the findings of Roggenbuck and McCool (1974), in which both groups indicated an urgent need for better communication. Second, both groups favor strict noise restrictions and agree that such restrictions would help in reducing animosity toward ORV use. This finding has important implications for reducing conflicts, since noise is considered by many (Bury et al. 1974, U.S. Department of the Interior 1971) to be the greatest source of friction among users, non-users and managers. Third, in certain instances users express their opposition to more restrictive tactics, but then indicate that they think such tactics would work. In such situations, a well-planned public relations effort might be used to convince the public of the need for a specific restriction. User perception of the workability of a given management strategy may outweigh any remaining user opposition and thereby make implementation of the strategy relatively easier to accomplish. Fourth, where possible, a plausible and favorable strategy for regulation enforcement would be for managers to establish a program whereby organized ORV users could police their own members, under supervision of the relevant agency. In this manner, managers could have the resource protected and trails rehabilitated in exchange for the permission to use certain lands. Also, working together in this fashion would give managers and users more opportunities to interact and gain a common ground of understanding.

Thus, in Idaho, better communications and a reduction of noise levels appear to be important steps in effective ORV management. Moreover, better communications may help resource managers and ORV users come to agreement on appropriate ORV uses, management strategies and methods of resolving conflicts.

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## APPENDIX

Planners and managers dealing with off-road vehicle use will have specific concerns not addressed in the general body of the report. This appendix displays the user and manager responses to each questionnaire item to serve as an aid in dealing with specific concerns. The following paragraphs explain the data analysis and format of the appendix tables.

User groups and manager groups were compared using the chi-square values generated by the cross-tabulation subprogram contained in the *Statistical Package for the Social Sciences* (Nie et al. 1975). Only two variables at a time were analyzed. The chi-square analytical procedure is a test of independence between two variables. The two variables analyzed for independence in this report were user and manager groups (independent variable) and their questionnaire responses (dependent variable). The Greek letter  $\alpha$  indicates the probability of a type 1 error (i.e., the probability of rejecting the null hypothesis when it is indeed true). An  $\alpha$  of .05 was chosen as a critical value for this report. This means that there is less than a 5 percent probability of finding the same set of data in the population on repeated measurements; in other words, it is reasonable to assume some dependence or relationship between the two variables being compared. It was felt that a smaller  $\alpha$  would be too restrictive, whereas an  $\alpha$  of .05 produces a great deal of confidence that differences or similarities actually exist. If on the same issue or problem statement the probability was greater than .05 for the users but not for the managers, the three user groups were combined into one category and compared to each of the manager groups. If the probability was greater than .05 for both users and managers, the groups were merged into "All Users" and "All Managers" categories and compared to each other.

For easier analysis and interpretation of the results, the possible responses on the questionnaire were combined into two categories: 1) "strongly agree"/"agree" were combined into one category called "agree," and "strongly disagree"/"disagree" were combined into one category called "disagree"; 2) "strongly favor"/"favor" and "strongly oppose"/"oppose" were combined into categories called "favor" and "oppose," respectively; and 3) "highly workable"/"moderately workable" were combined into a category called "workable." The category "not workable at all" was left as presented in the questionnaire. No recoding was performed for the responses to the remaining items.

Table 1. Responses by Idaho off-road vehicle users and managers to statements on the effectiveness of advertising and education, 1974-75.

Statement	Users				Users/ Managers		Managers				
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$		Agree %	Disagree %	n	$\alpha^c$	
1. ORV advertising encourages misuse of public lands by the ORV user.	.00	Snowmobilers	25.2	74.8	234	.00	All	79.2	20.8	53	.22
		Trailbikers	30.3	69.7	178	.00					
		4-Wheelers	40.7	59.3	167	.00					
2. An advertising campaign against irresponsible ORV use would be effective in reducing impacts on natural areas by ORV users.	.38	All	84.0	16.0	575	.57	All	80.0	20.0	55	.37
3. Negative environmental impacts by ORVs could be solved through environmental education programs.	.19	All	78.6	21.4	576	.00	All	42.6	57.4	54	.58

<sup>a</sup> Refers to the comparison of the 3 user groups.

<sup>b</sup> Refers to comparisons between the user and manager groups.

<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 2. Responses by Idaho off-road vehicle users and managers to statements on communication attitudes, 1974-75.

Statement	Users				Users/ Managers		Managers				
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$		Agree %	Disagree %	n	$\alpha^c$	
1. The manner in which messages and regulations are posted can encourage cooperation among or by ORV users.	.25	All	92.1	7.9	581	.31	All	87.0	13.0	54	.96
2. There is no effective manner by which to inform the ORV user of boundaries between public and private lands.	.18	All	34.2	65.8	571	.78	All	37.0	63.0	54	.27
			<u>Favor</u>	<u>Oppose</u>				<u>Favor</u>	<u>Oppose</u>		
3a. Uniform system to get information on all ORV regulations to everyone.	.14	All	95.8	4.2	552	.92	All	94.5	5.5	55	.82
4a. Advertising campaign to promote safety and to inform the public on ORV rules and regulations.	.72	All	94.6	5.4	558	.42	All	98.1	1.9	54	.46
			<u>Workable</u>	<u>Non-Workable</u>				<u>Workable</u>	<u>Non-Workable</u>		
3b. Uniform system to get information on all ORV regulations to everyone.	.13	All	96.0	4.0	496	.44	All	92.7	7.3	55	.64
4b. Advertising campaign to promote safety and to inform the public on ORV rules and regulations.	.56	All	95.2	4.8	498	.98	All	96.3	3.7	54	.87

<sup>a</sup> Refers to the comparison of the 3 user groups.

<sup>b</sup> Refers to the comparisons between the user and manager groups.

<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 3. Responses by Idaho off-road vehicle users and managers to statements on attitudes toward clubs, 1974-75.

Statement	Users				Users/ Managers		Managers				
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$		Agree %	Disagree %	n	$\alpha^c$	
1. The preferences and attitudes of the leaders of organized ORV clubs adequately represent those of the "rank and file" members or the non-organized user.		Snowmobilers	43.0	57.0	221	.00					
	.01	Trailbikers	34.1	65.9	167	.01	All	13.2	86.8	53	.29
		4-Wheelers	27.3	72.7	150	.06					
2. Unorganized ORV users are less concerned about environmental impact than organized ORV user groups.	.75	All	37.9	62.1	572	.00	All	81.1	18.9	53	.17
3a. Utilization of ORV clubs for search and rescue.		Snowmobilers	98.2	1.8	227	.08					
	.05	Trailbikers	98.2	1.8	171	.11	All	91.7	7.3	55	.64
		4-Wheelers	94.4	5.6	161	.90					
3b. Utilization of ORV clubs for search and rescue.	.08	All	97.0	3.0	496	.57	All	94.5	5.5	55	.82

- <sup>a</sup> Refers to the comparison of the 3 user groups.  
<sup>b</sup> Refers to comparisons between the user and manager groups.  
<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 4. Responses by Idaho off-road vehicle users and managers to statements on public spending, 1974-75.

Statement	Users				Users/ Managers		Managers				
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$		Agree %	Disagree %	n	$\alpha^c$	
1. It is a misuse of public monies to spend appropriated funds to develop or rehabilitate ORV facilities.	.20	All	23.2	76.8	569	.03	All	9.3	90.7	54	.55
2a. Spend ORV funds derived from the fuel tax for land acquisition, planning, facilities development, maintenance, and research, in this order of priority.	.12	All	Favor	Oppose	568	.22 .06	FS/BLM IDPR	Favor	Oppose	43 12	.02
			70.6	29.4				60.5	39.5		
3a. Public purchase of urban land areas for ORV use.	.05	Snowmobilers	28.1	71.9	224	.00					
		Trailbikers	44.1	55.9	177	.09	All	58.2	41.8	55	.32
		4-Wheelers	30.4	69.6	161	.00					
2b. Spend ORV funds derived from the fuel tax for land acquisition, planning, facilities development, maintenance, and research, in this order of priority.	.35	All	78.6	21.4	515	.05	All	90.9	9.1	55	.50
3b. Public purchase of urban land areas for ORV use.	.04	Snowmobilers	50.2	49.8	203	.00					
		Trailbikers	63.3	36.7	166	.12	All	75.9	24.1	54	.36
		4-Wheelers	53.0	47.0	149	.01					

- <sup>a</sup> Refers to the comparison of the 3 user groups.  
<sup>b</sup> Refers to comparisons between the user and manager groups.  
<sup>c</sup> Refers to the comparison of the 2 manager groups.

FS = U.S. Forest Service  
 BLM = Bureau of Land Management  
 IDPR = Idaho Department of Parks and Recreation

Table 5. Responses by Idaho off-road vehicle users and managers to statements on environmental impact of ORVs, 1974-75.

Statement	Users				Users/ Managers	Managers					
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$	Agree %	Disagree %	n	$\alpha^c$		
1. ORV users are not really concerned about the impact of their machines upon the environment.	.02	Snowmobilers	18.2	81.8	231	.00	All	52.8	47.2	53	.83
		Trailbikers	23.4	76.6	175	.00					
		4-Wheelers	30.1	69.9	163	.00					
2. The impact of ORVs upon natural ecosystems is greater than that of other recreational activities.	.05	Snowmobilers	33.5	66.5	212	.00	All	85.2	14.8	54	.41
		Trailbikers	44.1	55.9	170	.00					
		4-Wheelers	44.2	55.8	154	.00					
3. Environmental awareness among ORV users is increasing.	.15	All	88.8	11.2	587	.03	All	77.8	22.2	54	.44
4. Much of the impact of ORVs upon the environment is due to user ignorance and/or callousness.	.66	All	90.9	9.1	582	.81	All	88.9	11.1	54	.39

<sup>a</sup> Refers to the comparison of the 3 user groups.

<sup>b</sup> Refers to comparisons between the user and manager groups.

<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 6. Responses by Idaho off-road vehicle users and managers to statements on uses of ORVs, 1974-75.

Statement	Users				Users/ Managers	Managers					
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$	Agree %	Disagree %	n	$\alpha^c$		
1. Most ORVs are used for family recreation.	.01	Snowmobilers	90.4	9.6	228	.00	All	50.9	49.1	55	.29
		Trailbikers	80.9	19.1	173	.00					
		4-Wheelers	80.4	19.6	163	.00					
2. ORVs are necessary for proper game and forest management.	.91	All	76.2	23.8	551	.00	All	39.2	60.8	51	.76

<sup>a</sup> Refers to the comparison of the 3 user groups.

<sup>b</sup> Refers to comparisons between the user and manager groups.

<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 7. Responses by Idaho off-road vehicle users and managers to statements on causes of conflicts, 1974-75.

Statement	Users				Users/ Managers		Managers			$\alpha^c$
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$	Agree %	Disagree %	n		
1. ORV users are being blamed for impacts and conflicts not caused by them.	.00	Snowmobilers 77.2	22.8	224		FS/BLM 18.6	81.4	43	.04	
		Trailbikers 67.8	32.2	177		IDPR 54.5	45.5	11		
		4-Wheelers 60.7	39.3	163						
	.00	Snowmobilers 77.2	22.8	224	.00	FS/BLM 18.6	81.4	43		
		Trailbikers 67.8	32.2	177	.00					
		4-Wheelers 60.7	39.3	163	.00					
	.17	Snowmobilers 77.2	22.8	224	.17					
	.56	Trailbikers 67.8	32.2	177	.56	IDPR 54.5	45.5	11		
	.93	4-Wheelers 60.7	39.3	163	.93					
2. The nature of the term "off-road vehicle" contributes to misunderstandings regarding ORV impacts, conflicts, and regulations among land managers and ORV users.	.45	All 70.6	29.4	568	.02	All 53.7	46.3	54	.78	
3. Better communication between ORV users and non-users would reduce conflict between the two groups.	.19	All 95.7	4.3	584	.20	All 90.9	9.1	55	.64	

<sup>a</sup> Refers to the comparison of the 3 user groups.

<sup>b</sup> Refers to comparisons between the user and manager groups.

<sup>c</sup> Refers to the comparison of the 2 manager groups.

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Table 8. Responses by Idaho off-road vehicle users and managers to statements on regulation enforcement, 1974-75.

Statement	Users				Users/ Managers		Managers			$\alpha^c$
	$\alpha^a$	Favor %	Oppose %	n	$\alpha^b$	Favor %	Oppose %	n		
1a. Incentive or reward system for user enforcement of regulations.	.34	All 65.1	34.9	565	.37	All 72.2	27.8	54	.90	
2a. Deputizing ORV club members for regulation enforcement.	.16	All 66.2	33.8	553	.62	All 61.8	38.2	55	.16	
3a. Regulation enforcement left up to the ORV users.	.14	All 46.2	53.8	545	.00	All 18.5	81.5	54	.69	
		<u>Workable</u>	<u>Non-Workable</u>			<u>Workable</u>	<u>Non-Workable</u>			
1b. Incentive or reward system for user enforcement of regulations.	.57	All 68.7	31.3	521	.90	All 68.5	31.5	54	.84	
2b. Deputizing ORV club members for regulation enforcement.	.32	All 71.4	28.6	503	.45	All 65.5	34.5	55	.66	
3b. Regulation enforcement left up to the ORV users.	.36	All 56.1	43.9	499	.00	All 27.8	73.2	54	.74	

<sup>a</sup> Refers to the comparison of the 3 user groups.

<sup>b</sup> Refers to comparisons between the user and manager groups.

<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 9. Responses by Idaho off-road vehicle users and managers to statements on regulations, 1974-75.

Statement	Users				Users/ Managers	Managers					
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$	Agree %	Disagree %	n	$\alpha^c$		
1. The most effective regulation in ORV management is to consider an area open unless designated closed as opposed to considering an area closed unless designated open.	.03	Snowmobilers	83.6	16.4	226	.00	All	61.1	38.9	54	.12
		Trailbikers	82.7	17.3	173	.00					
		4-Wheelers	73.4	26.6	158	.13					
2. Unenforceable ORV regulations encourage increased misuse of the land by ORV users.	.81	All	62.6	37.4	561	.07	All	75.9	24.1	54	.91
3. ORV regulations should be specific to each type of ORV and to each type of ORV use.	.16	All	84.3	15.7	568	.50	All	88.9	11.1	54	.77
4. Under certain conditions the ORV policies and regulations of one public agency may be detrimental to the enforcement of those of another public agency.	.26	All	85.3	14.7	536	.60	All	88.9	11.1	54	.77
5. Standardization and coordination of ORV regulations on all public land, both federal and state, would help to reduce the rate of violations by ORV users.	.61	All	83.0	17.0	571	.01	All	98.2	1.8	55	.49
6a. Allow local managers to establish own regulations.	.00		<u>Favor</u>	<u>Oppose</u>				<u>Favor</u>	<u>Oppose</u>		
		Snowmobilers	58.1	41.9	229	.12	All	45.5	54.5	55	.53
		Trailbikers	40.9	59.1	171	.66					
4-Wheelers	48.1	51.9	160	.85							
6b. Allow local managers to establish own regulations.	.03		<u>Workable</u>	<u>Non-Workable</u>				<u>Workable</u>	<u>Non-Workable</u>		
		Snowmobilers	67.8	32.2	208	.06	All	52.7	47.3	55	.23
		Trailbikers	56.7	43.3	164	.72					
4-Wheelers	55.9	44.1	145	.81							

<sup>a</sup> Refers to the comparison of the 3 user groups.

<sup>b</sup> Refers to comparisons between the user and manager groups.

<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 10. Responses by Idaho off-road vehicle users and managers to statements on vehicle design restrictions, 1974-75.

Statement	Users				Users/ Managers		Managers				
	$\alpha^a$		Agree %	Disagree %	n	$\alpha^b$		Agree %	Disagree %	n	$\alpha^c$
1. Restriction on engine size and vehicle weight would be a viable method of reducing environmental impact.	.07	All	24.5	75.5	564	.00	All	45.5	54.5	55	.18
2. A substantial reduction in vehicular noise levels would be effective in reducing animosity toward ORV use.	.12	All	81.6	18.4	565	.25	All	88.9	11.1	54	.44
			<u>Favor</u>	<u>Oppose</u>				<u>Favor</u>	<u>Oppose</u>		
3a. Regulating ORV use according to "model" classes for each make or type of ORV.	.00	Snowmobilers	22.5	77.5	218	.01					
		Trailbikers	26.2	73.8	168	.03	All	43.1	56.9	51	.40
		4-Wheelers	38.8	61.2	152	.70					
4a. Strict noise restrictions on all ORVs.	.07	All	75.4	24.6	578	.00	All	94.5	5.5	55	.82
5a. Power restrictions for all ORVs.	.13	All	22.4	77.6	540	.00	All	51.9	48.1	54	.86
			<u>Workable</u>	<u>Non-Workable</u>				<u>Workable</u>	<u>Non-Workable</u>		
3b. Regulating ORV use according to "model" classes for each make or type of ORV.	.00	Snowmobilers	35.9	64.1	195	.12					
		Trailbikers	42.2	57.8	154	.49	All	49.0	51.0	51	.26
		4-Wheelers	54.7	45.3	139	.60					
4b. Strict noise restrictions on all ORVs.	.31	All	84.4	15.6	526	.03	All	96.4	3.6	55	.91
5b. Power restrictions for all ORVs.	.25	All	37.0	63.0	481	.01	All	57.4	42.6	54	.80

<sup>a</sup> Refers to the comparison of the 3 user groups.

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<sup>c</sup> Refers to the comparison of the 2 manager groups.



Table 12. Responses by Idaho off-road vehicle users and managers to statements on legal restrictions, 1974-75.

Statement	Users				Users/ Managers	Managers						
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$	Agree %	Disagree %	n	$\alpha^c$			
1. There should be a way of making individual ORV ownership easily identifiable and recognizable in the field.	.00	Snowmobilers	64.0	36.0	225	.00	All	98.1	1.9	54	.50	
		Trailbikers	54.7	45.3	170	.00						
		4-Wheelers	46.3	53.8	160	.00						
2. There should be a minimum age for all ORV users.	.00	Snowmobilers	54.9	45.1	226	.00	All	87.3	12.7	55	.34	
		Trailbikers	43.8	56.2	178	.00						
		4-Wheelers	68.1	31.9	163	.01						
3. The requirement of completion of training courses on safety, proper vehicle use, and proper land use in order to obtain a user license would be effective in reducing ORV impacts and conflicts.	.35	All	39.7	60.3	580	.00	All	87.3	12.7	55	.98	
4. Requirement of an ORV license and an operator's license could effectively be used to aid in the arrest of violators.	.75	All	39.9	60.1	567	.00	All	81.8	18.2	55	.79	
5a. Special licensing of all ORVs.	.00		<u>Favor</u>	<u>Oppose</u>				<u>Favor</u>	<u>Oppose</u>			
		Snowmobilers	46.4	53.6	233	.00	All	94.5	5.5	55	.82	
		Trailbikers	33.7	66.3	181	.00						
4-Wheelers	29.8	70.2	168	.00								
6a. Special operator licensing for all ORVs.	.23	All	24.9	75.1	579	.00	All	80.0	20.0	55	.93	
7a. Mandatory training program for all ORV operators.	.23	All	27.7	72.3	574	.00	All	78.2	21.8	55	.38	
5b. Special licensing of all ORVs.	.59	All		<u>Non-Workable</u>				<u>Non-Workable</u>				
				60.9	39.1	530	.00	All	100.0	0.0	55	1.0
				42.4	57.6	523	.00	All	89.1	10.9	55	.84
6b. Special operator licensing for all ORVs.	.21	All	47.1	52.9	524	.00	All	89.1	10.9	55	.84	
7b. Mandatory training program for all ORV operators.	.23	All										

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<sup>c</sup> Refers to the comparison of the 2 manager groups.

Table 13. Responses by Idaho off-road vehicle users and managers to statements on trail related attitudes, 1974-75.

Statement	Users				Users/ Managers		Managers				
	$\alpha^a$	Agree %	Disagree %	n	$\alpha^b$		Agree %	Disagree %	n	$\alpha^c$	
1. Construction of ORV trails actually reduces the environmental impacts of ORVs.	.03	Snowmobilers	78.1	21.9	228	.22	All	69.1	30.9	55	.39
		Trailbikers	81.4	18.6	177	.08					
		4-Wheelers	69.8	30.2	162	.94					
2. Non-ORV recreational activities cannot safely take place on trails or in areas which are simultaneously being used by ORVs.	.61	All	29.6	70.4	564	.99 .00	FS/BLM IDPR	31.0 75.0	69.0 25.0	42 12	.61
3. Adequate trail rehabilitation will encourage ORV users to stay on developed trails.	.29	All	81.3	18.7	562	.01	All	65.5	34.5	55	.66
			Favor	Oppose			Favor	Oppose			
4a. Retention of all existing roads and trails in management plans concerning ORV use.	.01	Snowmobilers	81.6	18.4	207	.00	All	37.3	62.7	51	.32
		Trailbikers	81.8	18.2	159	.00					
		4-Wheelers	69.5	30.5	151	.00					
5a. Initiating program for construction of new ORV trails.	.04	Snowmobilers	77.1	22.9	218	.56	All	81.8	18.2	55	.56
		Trailbikers	81.7	18.3	169	.86					
		4-Wheelers	69.6	30.4	158	.12					
6a. Restrict all trails to one-way travel.	.15	All	15.9	84.1	573	.09 .00	FS/BLM IDPR	4.9 66.7	95.1 33.3	41 12	.00
7a. Establishment of off-road corridors for the cross-country ORV user.	.65	All	73.5	26.5	543	.00 .30	FS/BLM IDPR	48.8 91.7	51.2 8.3	43 12	.02
8a. Facility "classing" to indicate level of difficulty of any particular facility, i.e., beginner, intermediate, advanced.	.26	All	63.3	36.7	529	.13	All	74.5	25.5	55	.68
9a. Single trails designed for multiple ORV use.	.99	All	55.1	44.9	568	.03	All	70.9	29.1	55	.48
			Workable	Non-Workable			Workable	Non-Workable			
4b. Retention of all existing roads and trails in management plans concerning ORV use.	.04	Snowmobilers	88.4	11.6	181	.00	All	56.9	43.1	51	.87
		Trailbikers	89.9	10.1	148	.00					
		4-Wheelers	80.3	19.7	137	.00					
5b. Initiating program for construction of new ORV trails.	.21	All	85.3	14.7	491	.89	All	83.6	16.4	55	.20
6b. Restrict all trails to one-way travel.	.23	All	29.0	71.0	520	.59 .00	FS/BLM IDPR	23.8 91.7	76.2 8.3	42 12	.00
7b. Establishment of off-road corridors for the cross-country ORV user.	.63	All	81.2	18.8	489	.32	All	74.5	25.5	55	.68
8b. Facility "classing" to indicate level of difficulty of any particular facility, i.e., beginner, intermediate, advanced.	.17	All	71.5	28.5	480	.09	All	83.3	16.7	54	.76
9b. Single trails designed for multiple ORV use.	.29	All	66.5	33.5	525	.11	All	78.2	21.8	55	.93

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Table 14. Responses by Idaho off-road vehicle users and managers to statements on specific ORV areas, 1974-75.

Statement	$\alpha^a$	Users			Users/ Managers		Managers			$\alpha^c$	
		Agree %	Disagree %	n	$\alpha^b$	Agree %	Disagree %	n			
1. Criteria for deciding whether an area should be open, restricted, or closed to ORV use are not adequately established.	.02	Snowmobilers	91.4	8.6	221	.00	FS/BLM IDPR	65.1 100.0	34.9 0.0	43 12	.03
		Trailbikers	91.7	8.3	168						
		4-Wheelers	98.1	1.9	159						
		Snowmobilers	91.4	8.6	221	.00	FS/BLM	65.1	34.9	43	
		Trailbikers	91.7	8.3	168	.00					
		4-Wheelers	98.1	1.9	159	.00					
		Snowmobilers	91.4	8.6	221	.60	IDPR	100.0	0.0	12	
		Trailbikers	91.7	8.3	168	.63					
		4-Wheelers	98.1	1.9	159	.51					
2. From an environmental standpoint, it is wiser to concentrate ORV use in relatively small areas rather than to	.00	All	18.3	81.7	230	.01	All	50.0	50.0	52	.72
		Trailbikers	26.9	73.1	171	.39					
		4-Wheelers	33.8	66.2	157	.11					
3. Much of the current use of heavy use ORV areas is simply due to habit rather than due to the intrinsic characteristics of the area.	.21	All	60.0	40.0	528	.33	All	67.9	32.1	53	.76
4. Most ORV users would accept seasonal or total closure of currently misused or overused areas.	.09	All	65.6	34.4	570	.15	All	54.7	45.3	53	.98
			<u>Favor</u>	<u>Oppose</u>				<u>Favor</u>	<u>Oppose</u>		
5a. Establishment of rest-rotation schedules of land for ORV use.	.00	Snowmobilers	47.9	52.1	217	.00	All	72.7	27.3	55	.19
		Trailbikers	70.1	29.9	167	.84					
		4-Wheelers	66.0	34.0	153	.50					
5a. Concentrate all ORV use in specified areas.	.71	All	14.2	85.8	372	.00	FS/BLM IDPR	34.9 75.0	65.1 25.0	43 12	.03
7a. Forced distribution of all ORVs to lightly used areas.	.47	All	13.7	86.3	548	.02	All	26.9	73.1	52	.06
8a. Zoning land to specific uses at specific times.	.11	All	39.7	60.3	569	.00	All	90.9	9.1	55	.50
9a. Zoning of land areas to specific uses.	.17	All	35.4	64.6	562	.00	All	88.7	11.3	53	.43
10a. Assignment of "useless" areas to off-road vehicles.	.86	All	54.7	45.3	565	.07	All	40.7	59.3	54	.08
11a. Development of ORV "play" areas.	.47	All	86.6	13.4	552	.15	All	94.4	5.6	54	.81
			<u>Workable</u>	<u>Non-Workable</u>				<u>Workable</u>	<u>Non-Workable</u>		
5b. Establishment of rest-rotation schedules of land for ORV use.	.00	Snowmobilers	59.3	40.7	194	.03	All	76.4	23.6	55	.30
		Trailbikers	76.6	23.4	154	.88					
		4-Wheelers	70.2	29.8	141	.49					
6b. Concentrate all ORV use in specified areas.	.27	All	23.4	76.6	522	.00	All	61.8	38.2	55	.47
7b. Forced distribution of all ORVs to lightly used areas.	.03	Snowmobilers	24.2	75.8	194	.01	All	45.1	54.9	51	.71
		Trailbikers	37.0	63.0	154	.39					
		4-Wheelers	31.3	68.8	144	.11					
8b. Zoning land to specific uses at specific times.	.58	All	54.8	45.2	520	.00	All	90.7	9.3	54	.49
9b. Zoning of land areas to specific uses.	.42	All	54.2	45.8	518	.00	All	98.1	1.9	53	.47
10b. Assignment of "useless" areas to off-road vehicles.	.74	All	65.8	34.2	520	.66	All	61.8	38.2	55	.16
11b. Development of ORV "play" areas.	.24	All	89.7	10.3	493	.19	All	96.3	3.7	54	.92

<sup>a</sup> Refers to the comparison of the 3 user groups.

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Table 15. Responses by Idaho off-road vehicle users and managers to miscellaneous statements on ORVs, 1974-75.

Statement	Users				Users/ Managers		Managers				
	$\alpha^a$		Agree %	Disagree %	n	$\alpha^b$		Agree %	Disagree %	n	$\alpha^c$
1. ORV rangers would be effective in providing information, in distributing ORV use, in enforcing user regulations, litter removal, and search and rescue projects.	.38	All	77.1	22.9	572	.16	All	86.5	13.5	52	.98
2. The general public should be more effectively involved in decisions dealing with ORV use of public lands.	.04	Snowmobilers	68.3	31.7	224	.00	All	92.7	7.3	55	.64
		Trailbikers	66.7	33.3	174	.00					
		4-Wheelers	78.1	21.9	160	.30					
3. Environmental impact statements should be required with respect to the development of all ORV resources and facilities.	.15	All	69.5	30.5	548	.04 .05	FS/BLM IDPR	53.5 100.0	46.5 0.0	43 12	.01
4. ORV users progress in trend fashion in terms of the kind and size of vehicle they ride and in terms of the kind of trail or terrain they prefer.	.19	All	80.4	19.6	537	.67	All	84.0	16.0	50	.81
5a. Encouraging private management of public ORV areas.	.98	All	Favor	Oppose	537	.10	All	Favor	Oppose	55	.99
			41.5	58.5				29.1	70.9		
5b. Encouraging private management of public ORV areas.	.75	All	Workable	Non-Workable	481	.21	All	Workable	Non-Workable	54	.91
			54.5	45.5				44.4	55.6		

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Table 16. Perceived problems associated with ORV operation as seen by Idaho off-road vehicle users and managers, 1974-75.

Problem		Snowmobiling					Trailbiking					4-Wheeling				
		Yes <sup>a</sup>	No <sup>b</sup>	NK <sup>c</sup>	n	$\alpha$ <sup>d</sup>	Yes	No	NK	n	$\alpha$	Yes	No	NK	n	$\alpha$
<b>Machine Operation</b>																
Erratic hours of operation	Users <sup>e</sup>	30.8	61.1	8.1	221	.00	31.1	59.9	9.0	167	.00	24.2	63.1	12.7	157	.01
	Managers <sup>f</sup>	60.0	32.7	7.3	55		61.8	29.1	9.1	55		44.4	42.6	13.0	54	
Racing and irresponsible driving in or near parking lots, campgrounds and picnic areas	Users	43.9	47.1	9.0	221	.14	73.4	21.4	5.2	173	.00	19.6	72.2	8.2	158	.00
	Managers	57.4	38.9	3.7	54		96.4	3.6	0.0	55		50.0	48.1	1.9	54	
Careless and dangerous handling of ORV unit	Users	45.9	44.0	10.1	218	.00	52.0	37.4	10.5	171	.00	42.8	45.4	11.8	152	.00
	Managers	90.6	9.4	0.0	55		90.7	7.4	1.9	54		77.4	22.6	0.0	53	
Excessive noise	Users	43.8	52.7	3.6	224	.00	68.0	29.7	2.3	172	.00	18.8	78.6	2.6	154	.00
	Managers	90.9	9.1	0.0	55		96.4	3.6	0.0	55		40.7	55.6	3.7	54	
<b>Depricative Behavior</b>																
Vandalism	Users	35.9	50.2	13.9	223	.00	31.2	52.0	16.8	173	.00	30.5	47.5	22.2	162	.00
	Managers	83.5	9.1	5.5	55		74.5	18.2	7.3	55		64.8	24.1	11.1	54	
Littering	Users	50.2	43.0	6.7	223	.00	44.6	47.6	7.7	168	.00	56.3	34.8	8.9	158	.00
	Managers	83.3	14.8	1.9	54		89.1	10.9	0.0	55		85.2	11.1	3.7	54	
Damage to scenery and aesthetics	Users	12.8	79.5	7.8	219	.00	46.2	47.3	6.5	169	.00	41.8	47.7	10.5	153	.00
	Managers	26.4	71.7	1.9	53		89.1	9.1	1.8	55		90.7	7.4	1.9	54	
Misuse and abuse of land	Users	21.4	73.2	5.5	220	.00	50.6	42.3	7.1	168	.00	45.2	44.5	10.3	155	.00
	Managers	44.4	53.7	1.9	54		94.5	3.6	1.8	55		90.7	7.4	1.9	54	
Illegal artifact hunting and destruction of archaeological ruins	Users	5.4	69.8	24.8	222	.00	22.7	40.7	36.6	172	.00	32.5	29.9	37.6	157	.00
	Managers	5.8	73.1	21.2	52		55.6	18.5	25.9	54		62.3	13.2	24.5	53	
Cause forest and range fires	Users	1.4	89.9	8.7	218	.13	17.6	68.2	14.1	170	.00	25.6	48.7	25.6	156	.00
	Managers	3.7	94.4	1.9	54		67.3	25.5	7.3	55		61.1	33.3	5.6	54	
Trespass on private property	Users	54.5	37.9	7.6	224	.00	59.8	30.8	9.5	169	.00	55.9	35.4	8.7	161	.00
	Managers	85.2	9.3	5.6	54		85.5	9.1	5.5	55		81.5	13.0	5.6	54	
<b>Timber and Grazing</b>																
Negative impact on timber production and harvest	Users	8.6	75.2	16.2	222	.00	7.1	72.9	20.0	170	.00	14.6	57.6	27.8	158	.01
	Managers	33.3	55.6	11.1	54		23.6	63.6	12.7	55		30.9	54.5	14.5	55	
Negative impact on grazing lands	Users	8.3	76.1	15.6	218	.21	24.3	55.6	20.1	169	.00	33.1	45.6	21.3	160	.00
	Managers	14.5	76.4	9.1	55		70.9	21.8	7.3	55		75.9	18.5	5.6	54	
Harassment of cattle and sheep on public land	Users	5.0	84.5	10.5	220	.69	21.8	57.1	21.2	170	.00	22.6	60.4	17.0	159	.00
	Managers	7.3	80.0	12.7	55		63.6	18.2	18.2	55		46.3	35.2	18.5	54	
<b>Wildlife</b>																
Harassment of game and non-game wildlife species	Users	50.0	42.4	7.6	224	.00	34.8	57.3	7.9	164	.00	31.6	62.6	5.8	155	.09
	Managers	92.7	5.5	1.8	55		66.7	29.6	3.7	54		48.1	46.3	5.6	54	
Affect migratory routes of birds and other wildlife	Users	5.9	79.6	14.5	221	.00	8.8	70.8	20.5	171	.00	15.2	58.9	25.9	158	.05
	Managers	40.7	31.5	27.8	54		32.7	40.0	27.3	55		29.6	44.4	25.9	54	
Disturbance and destruction of wildlife nesting areas	Users	9.1	81.4	9.5	220	.00	14.3	59.5	26.2	168	.00	19.7	52.2	28.0	157	.04
	Managers	22.2	50.0	27.8	54		40.0	27.3	32.7	55		33.3	33.3	33.3	54	
Impact on rare and endangered wildlife species	Users	8.6	72.4	19.0	221	.00	13.1	62.5	24.4	168	.00	19.7	52.2	28.0	157	.00
	Managers	40.0	27.3	32.7	55		43.6	27.3	29.1	55		42.6	29.6	27.8	54	
Excessive harvest of wildlife	Users	16.1	72.0	11.9	218	.21	13.1	72.6	14.3	168	.61	33.7	54.6	11.7	163	.91
	Managers	25.9	61.1	13.0	54		18.5	68.5	13.0	54		37.0	51.9	11.1	54	

<sup>a</sup> Response that "yes, problem created by ORV use and/or user."

<sup>b</sup> Response that "no, problem not created by ORV use and/or user."

<sup>c</sup> Response that "have no knowledge upon which to respond."

<sup>d</sup> Probability of a type I error comparing users and managers.

<sup>e</sup> "Users" refers to the specific user group that is being compared with a given type of vehicular activity. That is, in the snowmobiling column the user group is snowmobilers; in trailbiking, trailbikers; in 4-wheeling, 4-wheelers.

<sup>f</sup> "Managers" refers to all managers from the Forest Service, Bureau of Land Management, and Idaho Department of Parks and Recreation.

Table 17. Perceived conflict between off-road vehicle use and other land uses as seen by Idaho off-road vehicle users and managers, 1974-75.

Land Use		Snowmobiling					Trailbiking					4-Wheeling				
		C <sup>a</sup>	H <sup>b</sup>	NK <sup>c</sup>	n	$\alpha$ <sup>d</sup>	C	H	NK	n	$\alpha$	C	H	NK	n	$\alpha$
		%					%					%				
Range Operations	Users <sup>e</sup>	3.4	78.4	18.1	204	.04	24.4	53.8	21.8	156	.00	17.7	56.7	25.5	141	.00
	Managers <sup>f</sup>	11.3	77.4	11.3	53		77.4	18.9	3.8	53		75.5	20.8	3.8	53	
Mining Operations	Users	4.5	51.5	44.0	200	.00	12.2	51.3	36.5	156	.01	7.8	58.9	33.3	141	.00
	Managers	23.1	55.8	21.2	52		30.2	49.1	20.8	53		31.5	48.1	20.4	54	
Logging Operations	Users	13.2	56.4	30.4	204	.00	17.1	63.9	19.0	158	.00	5.6	72.5	21.8	142	.00
	Managers	34.6	57.7	7.7	54		47.2	43.4	9.4	53		53.8	38.5	7.7	52	
Hiking/Backpacking	Users	10.7	70.6	18.8	197	.00	31.8	56.7	11.5	157	.00	30.5	51.8	17.7	141	.00
	Managers	41.5	50.9	7.5	53		92.6	7.4	0.0	54		88.7	11.3	0.0	53	
Horse Trail-Riding	Users	22.2	52.1	25.8	194	.00	53.4	35.0	10.6	160	.00	31.9	45.4	22.7	141	.00
	Managers	44.2	46.2	9.6	52		98.1	1.9	0.0	54		83.0	15.1	1.9	53	
Cameroun Camping	Users	12.4	73.8	13.9	202	.00	38.2	55.4	6.4	157	.00	13.2	78.5	8.3	144	.00
	Managers	39.6	58.5	1.9	53		81.5	18.5	0.0	54		32.2	57.7	0.0	52	
Cross-Country Skiing	Users	25.2	55.0	19.8	202	.00	19.0	30.6	50.3	147	.00	17.1	42.1	40.7	140	.00
	Managers	85.2	9.3	5.6	54		17.3	67.3	15.4	52		26.9	59.6	13.5	52	
Downhill Skiing	Users	46.7	32.2	21.1	199	.00	21.6	30.4	48.0	148	.00	18.6	40.7	40.7	140	.01
	Managers	87.0	11.1	1.9	54		26.9	59.6	13.5	52		26.9	55.8	17.3	52	
Hunting	Users	28.9	64.7	6.5	201	.00	19.6	76.9	4.5	156	.00	10.9	85.0	4.1	147	.00
	Managers	71.2	26.9	1.9	52		68.6	27.5	3.9	51		54.9	41.2	3.9	51	
Fishing	Users	4.9	85.2	9.9	203	.00	3.0	88.3	6.2	161	.00	7.4	88.5	4.1	148	.00
	Managers	19.2	76.9	3.8	52		30.2	69.3	0.0	53		34.0	66.0	0.0	53	

<sup>a</sup> C = Conflict

<sup>b</sup> H = Harmonious (compatible)

<sup>c</sup> NK = Have no knowledge upon which to respond.

<sup>d</sup> Probability of a Type I error comparing users and managers.

<sup>e</sup> "Users" refers to the specific user group that is being compared with a given land use. That is, in the snowmobiling column the user group is snowmobilers; in trailbiking, trailbikers; in 4-wheeling, 4-wheelers.

<sup>f</sup> "Managers" refers to all managers from the Forest Service, Bureau of Land Management, and Idaho Department of Parks and Recreation.

Table 18. Perceived conflict between different types of vehicular activity as seen by Idaho off-road vehicle users and managers, 1974-75.

Vehicular Activity		Snowmobiling					Trailbiking					4-Wheeling				
		C <sup>a</sup>	H <sup>b</sup>	NK <sup>c</sup>	n	$\alpha$ <sup>d</sup>	C	H	NK	n	$\alpha$	C	H	NK	n	$\alpha$
		%					%					%				
Snowmobiling	Users <sup>e</sup>	-	-	-	-	-	6.7	75.0	18.3	120	.18	8.5	68.9	22.6	106	.06
	Managers <sup>f</sup>	-	-	-	-	-	4.1	87.8	8.2	49		22.4	69.4	8.2	49	
Trailbiking	Users	8.8	70.4	20.8	154	.05	-	-	-	-	-	11.2	68.2	20.6	107	.01
	Managers	2.1	87.5	10.4	48		-	-	-	-	-	22.0	74.0	4.0	50	
4-Wheeling	Users	20.9	66.9	12.3	163	.99	17.1	70.7	12.2	123	.03	-	-	-	-	-
	Managers	20.4	67.3	12.2	49		22.0	78.0	0.0	50		-	-	-	-	-

<sup>a</sup> C = Conflict

<sup>b</sup> H = Harmonious (compatible)

<sup>c</sup> NK = Have no knowledge upon which to respond.

<sup>d</sup> Probability of a type I error comparing users and managers.

<sup>e</sup> "Users" refers to the specific user group that is being compared with a given type of vehicular activity. That is, in the snowmobiling column the user group is snowmobilers; in trailbiking, trailbikers; in 4-wheeling, 4-wheelers.

<sup>f</sup> "Managers" refers to all managers from the Forest Service, Bureau of Land Management and Idaho Department of Parks and Recreation.